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EVOLUTION OF SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE: HISTORICAL CONTEXT, MODERN CHALLENGES AND EUROPEAN INTEGRATION

ISBN 979-8-89619-786-7

DOI 10.46299/979-8-89619-786-7

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Monograph

2024

UDC 330.34

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Levchuk K., Boiko Y., Bogatchuk S., Bogatchuk V. Belkin I., Makarov Z., Zhuravlova A. Evolution of socio-economic development of Ukraine: historical context, modern challenges and European integration. Monograph. – Primedia eLaunch, Boston, USA, 2024. – 326 p.

Library of Congress Cataloging-in-Publication Data

ISBN – 9798896197867

DOI – 10.46299/979-8-89619-786-7

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ABSTRACT

The collective monograph is devoted to the study of trends in the development of modern Ukrainian society. The research uses an interdisciplinary approach, which allows analyzing various aspects of the development of social processes in Ukraine and obtaining socially significant scientific results.

Kostyantyn Levchuk's research is aimed at the analysis of public organizations of Ukraine (1985-1996). Ukraine's democratic progress is aimed at creating conditions for the development of civil society, which is defined as a set of non-state relations and institutions. This society should provide citizens with the opportunity to protect their rights, satisfy needs and realize life and social values. The viability of democracy depends on an active dialogue between citizens and state structures, as well as between voters and their representatives in the legislative and executive powers. Such interaction is the basis for the development of democratic principles and ensuring stability in society.

The subject of Yuri Boyko's scientific interests is the consideration of aspects of the demographic manifestation of the regional system of the Forest-Steppe of Ukraine. Its main parametric characteristics (number, density, movement, dynamics of population growth) were reconstructed with the help of cluster analysis methods. For the first time, the explosive administrative "growth" of the population between 1856 and 1858, associated with the beginning of the liquidation of military settlements, was revealed. The main result of the study was a generalized statistical model of the demographic situation in the Ukrainian Forest-Steppe in the middle of the 19th century at the level of not only 6 provinces, but also each of 77 administrative districts.

Svitlana and Vasyl Bogatchuk characterize the Peculiarities of the development of education in Ukraine in the 1950s and 1980s. Issues of education development in Ukraine in the 1950s and 1980s. were associated with the leadership activities of the Communist Party, publications were most often dedicated to public holidays. Today, there is a growing interest in the development of education as an integral part of our society. The school played a significant role in the training of future personnel and

ideological education. In 1984, a new education reform was carried out, according to which the transition to education from the age of six was carried out, secondary schools were transferred to the eleven-year term of education. The greatest impact on the development of pedagogical theory and practice was made by the work of the world-famous teacher V.O. Sukhomlynskyi. In the 60s and 80s of the XX century. the government pursued a policy of Russification of education and suppression of the Ukrainian language.

In his chapter, Ihor Bielkin emphasizes that language etiquette in modern education is an important aspect of communication between students, teachers and administration. It includes rules of politeness, respect and correctness in communication, which contribute to the creation of a positive learning environment. Appropriate language etiquette helps avoid conflicts, improves mutual understanding and forms a culture of communication. The use of adequate forms of communication, the ability to listen to others and compliance with the rules of communication are key elements for a successful educational process. Today, in the conditions of digitalization, it is also important to consider language etiquette in a virtual environment, which opens up new challenges and opportunities.

In the work of Zorislav Makarov, a philosophical and methodological analysis of the problem of disciplinary relations in science is carried out, starting with the revolutionary situation of the formation of non-classics and ending with integrative trends in modern post-non-classical science. Initially, against the background of the crisis of mechanistic determinism in the science of the 19th century. alternatives to positivist, pragmatic and neo-Kantian approaches to the relationship between philosophical and scientific rationality and determinism are revealed, with a conclusion about probabilistic means of scientific description in the role of an interdisciplinary mediator between them. Then the dissemination of probabilistic categories, models and means of description in modern science is investigated based on the mastery and convergence of dynamic and chaotic parameters in the picture of the world with conclusions about the prospect of creating an interdisciplinary theory of nonlinear dynamic description and the meaningful potential of the idea of stochasticity to

overcome methodological dichotomies in the consciousness of the modern scientific community.

The work of Alla Zhuravlyova determines the influence of railway transport on the processes of urbanization and economic development of the south of Ukraine. Railway transport is one of the most important branches of the national economy of Ukraine, a catalyst for economic growth and improving the quality of life of citizens. It provides the needs of production and the population in all types of transport. Railway transport plays a leading role in the implementation of internal and occupies a significant place in the establishment of foreign economic relations of Ukraine. Comprehensive coverage and generalization of the historical process of the formation of the railway transport network on the territory of Ukraine, taking into account the interrelationships of the legislative framework of the state with the construction of railways, makes it possible to identify and analyze the impact of railway transport on urbanization. processes in the South of Ukraine in the second half of the 19th and early 20th centuries.

The content of the collective monograph corresponds to the scientific direction of the Department of History of Ukraine and Philosophy of Vinnytsia National Agrarian University. The monograph is the result of the initiative topic "Investigation of the trends of socio-economic development and consolidation of Ukrainian society in the recent history of Ukraine". State registration number 0122U001425. Head of the topic, Doctor of Science, Professor K. I. Levchuk). The monograph uses: socio-philosophical approach, historical-genetic method, statistical analysis, sociological and economic research methods.

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1. Historiography and source base of studies of public organizations of Ukraine (1985-1996)

Introduction

The democratic progress of Ukraine involves the creation of conditions for the formation of a civil society, which can be defined as a set of non-state social relations and existing institutions that provide citizens with the opportunity to protect their rights, satisfy them and realize needs, life and social values. The viability and strength of democracy depend on constant dialogue between ordinary citizens and state structures, between voters and their representatives in the legislative and executive branches.

Public organizations act as an important tool of self-organization of various layers of society, aimed at the protection and implementation of the rights and freedoms of citizens, and are also a channel of representation of the entire spectrum of public interests in relations between citizens and the government. Thanks to such interdependence, the level of social and political culture of citizens increases, which makes it possible, if necessary, to resist illegal actions of the authorities, to exercise control over the internal and external policy of state structures.

The civilizational choice, which becomes a priority in the development of the Ukrainian state, requires a comprehensive study of the initiative of all layers of Ukrainian society, aimed at creating associations of citizens and participation in their activities.

Understanding the essence of the transformations of Ukrainian society requires taking into account the fact that the transition period from a totalitarian to a democratic regime in Ukraine began with the reforms of M. Gorbachev, was formed against the background of the struggle for the sovereignty and independence of Ukraine, and since 1991 the processes of state formation have unfolded. There was a need to rethink the historical past, develop a statist ideology, adapt social structures to the democratic principles of society's functioning, ensure political and ideological pluralism, create a

multi-system economy, and legislate the rights and freedoms of citizens. Therefore, transformations in Ukraine during 1985-96 meant: a change in the political regime and state system; the transition from the command-administrative planned economy to the market mechanisms of the country's socio-economic development; affirmation of national spiritual and cultural values.

The attention of modern researchers is mainly focused on the processes of Ukrainian state formation, the formation of multi-party system, which, undoubtedly, should continue to occupy an important place in the development of national historical science. However, at the same time insufficient attention is paid to public organizations of Ukraine, their origins, activities, interaction with power structures.

The study of the mentioned topic will provide an opportunity to reveal in depth the causes and consequences of the transformations of Ukrainian society, to find out the contribution of public organizations to Ukraine's achievement of state independence, to the development of civil society.

The first stage (1989-1991)

The accumulation of knowledge about the formation and activity of public organizations in Ukraine in 1985-1996 took place in several stages, directly related to changes and transformations in the political and legal status of the republic, social transformations and the development of democratic processes. Evaluations of public organizations by scientists depended on the socio-political situation, the presence of state and party censorship, pluralism of opinions, and the possibility of using archival and current sources.

The main subject of scientific research was the emergence, formation and activity of fundamentally new associations of citizens - not under the control of the Communist Party apparatus, which became known to the general public as informal organizations. In Soviet times, there could be no unification of citizens legalized as a public organization without a corresponding decision of Communist Party bodies. That is why the recognition of informal organizations in 1985-1990 that arose in Ukraine outside the influence of the Communist Party took place in a kind of legal vacuum, which began to be filled only with the cancellation of Article 6 of the Constitution of

the USSR and the permission of the authorities to register public associations in the fall of 1990.

The first attempts to carry out an analysis of a new social phenomenon - informal organizations - were mostly journalistic and descriptive in nature. At the same time, the pace of socio-political transformations in the republic was ahead of the historiographic novelty of researches, which focused mainly on informal youth associations (V. Kononov, I. Sundiyev, O. Kashcheeva, R. Apersyan, O. Donchenko, S. Shapoval) [1]. Scientists tried to find out the origins and social base of youth associations. They believed that the impetus for the creation of informal associations was the activation of socio-political movements in Ukraine, glasnost and the emergence of the first rudiments of political pluralism. O. Razumkov and S. Khodakovsky noted that informal associations of young people in the field of leisure ("hippies", "rockers") existed in Ukraine since the 1970s. In 1985-1987, the majority of youth informal groups, having felt the weakening of the psychological and administrative pressure of the Komsomol and Communist Party structures, united young people for the purpose of spending leisure time together. Since 1987, the process of formation of organizations of socio-political, national-cultural, ecological direction has been started. The formation of social and political clubs [2] served as an accelerator of the amateur social and political movement of youth. A number of authors (V. Shchegortsov, A. Kochetkov, A. Shchegortsov, L. Dyachenko) considered informal organizations in the context of a spontaneous social movement that operated outside the boundaries of officially existing institutions [3]. A. Gromov and O. Kuzin defined informal associations as voluntary, independent public formations that arose at the initiative of the "grassroots" and acted in the interests of their members, regardless of the purpose and nature of the association [4].

A. Kaminsky considered the activities of human rights defenders, former dissidents in the social and political life of Ukraine, their participation in the creation and activities of the Ukrainian Helsinki Union, the Memorial Society, the Ukrainian Language Society named after Taras Shevchenko. The foreign researcher used the information materials of the Ukrainian service of Radio Liberty, materials of the Soviet

press and self-publishing, which led to a one-sided coverage of events with an emphasis on the political opposition of the newly created organizations to the Communist regime [5].

V. Lytvyn was one of the first to turn to the scientific analysis of social and political formations that arose in the late 1980s and early 1990s in Soviet Ukraine. The author studied the formation of multipartyism in Ukraine, analyzed program documents and the social base of newly created associations [6]. According to V. Lytvyn and O. Smolyannikov, the emergence of politicized public formations is conditioned by the need to express and protect the interests of various segments of the population, the presence of social discontent, opposition to official power, and to satisfy narrow-group and personal aspirations of some political leaders [7].

The formation of multi-party system in Ukraine in 1990-1991 aroused the increased interest of the general public in the program documents of informal associations, prompted researchers to understand the new socio-political phenomenon. A. Haran associated the beginning of multi-party formation with the publication of the Declaration of Principles of the Ukrainian Helsinki Union in the summer of 1988 [8], while A. Slyusarenko and M. Tomenko believed that multi-party formation was initiated during the formation of the People's Movement of Ukraine for Perestroika [9]. In our opinion, the liberalization of the communist regime in 1988-1989 contributed to the spread of glasnost and manifestations of political pluralism. Informal associations, by the very fact of their existence, became opposition to the ruling regime. So until now the formation of political parties in Ukraine combined separate functions of political organizations with statutory activities.

Some historians of the Soviet era, rethinking the nature of the totalitarian state, turned to the process of nationalization of public organizations and found out the negative consequences for society. Thus, A. Bezborodov showed that the Red Cross Society of the USSR was fully subordinated to the decisions of state and Communist Party structures. This created problems with the recognition of the society as a full member of the world movement [10].

At the first stage of the development of the historiography of public organizations, scientists failed to fully reveal the role of informal organizations in the democratization of Ukrainian society, in the formation of the all-Ukrainian liberation movement and the creation of political parties. Scientific searches of the specified period are characterized by the weakness of the source base of research, the absence of a unified terminology, and the rapidity of the unfolding of socio-political transformations.

The second stage (1991-1996)

Only since the end of 1991 did Ukraine have the prerequisites for a thorough study of the processes that took place in the republic in 1985-1991. The researchers' attention was drawn to organizations that were active participants in the Ukrainian national liberation movement, champions of democracy and state sovereignty of Ukraine. One of the first works devoted to the analysis of the conditions and factors that influenced the emergence of politicized public associations in the republic was the monograph by K. Bogomaz [11]. The historian paid considerable attention to the examination of crisis phenomena in the Komsomol, to the analysis of changes occurring in the program documents, forms and directions of activity of nationalized trade unions. At the same time, the work had a number of omissions, in particular, the lack of references to archival materials, a narrow source base of research.

Some aspects of the creation and activity of informal associations were highlighted in the writings of V. Lytvyn, devoted to the formation and evolution of the modern political elite. The author was one of the first to use new arrivals to the state archives, which strengthened the argumentation of his conclusions. At the same time, the researcher provides data on the number of informal organizations in Ukraine for 1986 and 1987, but equates the concept of "informal" with "self-employed", which, in our opinion, is debatable [12].

The subject of A. Rusnachenko's research work was the birth and formation of an independent labor movement in Ukraine in the conditions of perestroika. The author believes that the labor movement was first of all a political movement that put forward socio-economic and general democratic demands. The unification of the labor

movement with national democratic organizations took place in the spring of 1991 under the slogans of the struggle for the independence of Ukraine. However, the author did not pay attention to the emergence of strike committees outside Donbas and the Lviv-Volyn coal basin [13].

A significant contribution to the coverage of the processes of formation of democratic organizations was made by O. Haran[14]. The researcher considered the political aspects of the activity of informal organizations of Ukraine: the Ukrainian Language Society named after Taras Shevchenko, "Memorial" society, "Green World" ecological association. The author summarized the processes of formation of the People's Movement of Ukraine against the background of social transformations that took place in the second half of the 80s of the 20th century. Historian V. Kovtun, through the prism of personal sympathies, described the process of transformation of the People's Movement of Ukraine from a community-wide association that fought for Ukraine's sovereignty and state independence into a political party[15].

Some researchers focused on the contribution of youth associations during the perestroika period to the struggle for the national-democratic revival of Ukraine. Thus, I. Kolyaka believed that the main subject of the youth movement for democratic transformations in the society during perestroika was the Ukrainian student body [16].

Scientists investigated the origins and social base of youth organizations. Most of them believed that transformations in social and political processes, the emergence of pluralism of political opinion, and the abolition of censorship were an important impetus for the creation of youth informal associations. According to V. Golovenko, the politicization of the youth movement deepened after the founding congress of the People's Movement of Ukraine for Perestroika[17]. The researcher, analyzing the causes of the Komsomol crisis in the second half of the 80s of the 20th century, claims that the LKSMU in the conditions of the totalitarian regime acted as a structure that was completely dependent on the ruling communist party[18].

A significant contribution to the study of the youth movement in Ukraine was made by M. Holovaty. The scientist revealed the factors and features of the formation of new youth associations in the process of establishing Ukrainian statehood;

considered the ways of formation, features, character and implementation mechanism of the state youth policy; assessed the place of youth organizations in the political system of modern Ukraine; noted the participation of young people in the development of the economy, spiritual life, activity of legislative and executive structures. Of fundamental importance is the author's conclusion that the state youth policy is a unique mechanism through which state structures enter into relations with young people, contribute to the realization of their interests, requests and needs [19]. At the same time, researchers of the youth movement did not pay close attention to studying the forms and methods of amateur youth associations under the leadership of the Komsomol.

The birth and development of environmental associations in Ukraine in the second half of the 80s and early 90s of the 20th century, their place in the system of social associations were considered in the works of L. Ughrin [20]. Analyzing the peculiarities and trends of the development of informal environmental organizations in the context of the environmental movement, the researcher proposed a new term - "non-traditional public associations" in contrast to the nationalized public organizations (associations), which were a component of the Soviet political system [21]. In our opinion, the definition of "informal organizations" should be understood in the context of socio-political changes during the perestroika period.

S. Kurykin characterizes the period of 1985-1990 as a "buffer", considering Gorbachev's perestroika as nothing more than an attempt to partially liberalize the Soviet regime. The author rightly claims that the organizations that had the status of "public" in Soviet times were instruments in the implementation of party-state policy. Meanwhile, the non-governmental organizations that arose due to a real public initiative were called "informal" by party ideologues. The researcher believes that a special role in the creation of non-governmental organizations was played by associations aiming to protect nature and the environment, in particular the "Green World" association. The author dwells on the transformation in 1988 of the Committee of Youth Organizations of Ukraine, which operated under the auspices of the Central

Committee of the LKSMU. In 1988, almost 50 informal organizations of various directions emerged from its composition [22].

It should be noted that F. Jos, O. Kropyvko, N. Honcharuk, S. Kolomiys, O. Kadenyuk continued the studies focused on evaluating the evolution of public organizations and their place in social and political activity. The chronological boundaries of their works are limited to the first half of the 90s of the 20th century. At the same time, F. Jos defined the definition of "public organization" as a voluntary association of citizens, which is formed mainly based on professional interests and contributes to solving tasks in accordance with their statutory requirements [24]. The researcher focuses on the activities of professional unions, youth and women's organizations, creative unions and associations of consumer cooperation. However, in our opinion, it is problematic to attribute consumer cooperation to public organizations, because the activity of a public organization, as a rule, is directed to the protection of the rights and freedoms of citizens, to the realization of their interests in the non-profit sphere.

O. Kropyvko analyzes the participation of public organizations in the reform of the agro-industrial complex under the conditions of the introduction of market relations. The researcher's statement about belonging to public associations of the Ukrainian Fund for the Support of Peasant (Farm) Farms is debatable. The activity of the fund shows that it is a state specialized structure that performed the functions of implementing the state policy to support peasant (farming) farms. In our opinion, the judgment regarding the impracticality of classifying associations by areas of activity is also controversial, since the registration of public organizations in the Ministry of Justice by name did not reflect their functional focus [25]. Meanwhile, according to the instructions for conducting state statistical reporting, the direction of activity and the socio-demographic composition of the members of the public organization (veteran, charitable, environmental, etc.) must be taken into account. Since a number of public organizations have acquired the right to preferences from the state, this has affected their classification.

Changes in the social and legal status of public associations, the need to summarize the achievements and development problems of individual public organizations contributed to their discussion at scientific conferences, seminars, and "round tables". A prominent place in the discussion was occupied by the problems of the functioning of citizens' associations in the conditions of a market economy, [26] the peculiarities of legislative support for the activities of public organizations, [27] the development of the trade union movement in the conditions of a social and economic crisis [28].

So, the second stage of historiography is characterized by the appearance of historical works, the authors of which sought to summarize the contribution of public organizations to the struggle for Ukraine's independence, studied their role in the democratization of public life, environmental protection, and participation in the reform of industrial relations. The study of historical events on the "hot tracks" enriched the works with the aura of a complicit in the events, but was weakened by the lack of used archival sources.

The third stage (1996 - to date)

The third stage of research into the history of public organizations of Ukraine began in 1996. A number of factors contributed to this: first, the adoption of the Constitution of Ukraine, which guaranteed the right of citizens to join public organizations. Secondly, state archival institutions conducted significant work on summarizing documents and materials of public associations. Researchers had the opportunity to study the events that took place in 1985-1996, using a significant array of source information. Conditions have been created for an in-depth analysis of the processes of emergence and activity of public organizations. Thirdly, an important feature of the new stage was that the authors of the works were not only scientists, but also activists of public associations, workers of non-governmental research institutions.

Thanks to the involvement of Ukrainian researchers in the international scientific and educational space, the level of theoretical generalizations increased. The subject of discussion was the actual topics of the creation and activity of public organizations of entrepreneurs in the conditions of economic transformations, [29] the formation of civil

society in Ukraine, [30] the prospects of cooperation between public organizations and political parties in the context of the Eastern European experience [31].

Thus, at the first Forum of Public Initiatives held in Lviv in October 1998, the concept of the existence of "three sectors" in a democratic society was considered. Forum participants agreed that the public sector should encompass government institutions, provide citizens with national security and social welfare; the private sector should include associations and enterprises operating on the basis of the principles of a market economy, while the "third sector" unites non-governmental, non-profit organizations, each of which is guided by its social, religious or ethnic mission and aims to help citizens in their participation in the democratic process and the development of public initiative [32].

In our opinion, public organizations are an integral part of the "third sector" of Ukraine, but the specifics of legal regulation of their activities require a clear separation of public organizations from other associations of citizens. The lack of a balanced legal approach in the use of commonly used terminology leads to the substitution of concepts. In particular, T. Andrusiak interprets the term "public organization" in a broad and narrow sense. The researcher believes that, in a broad sense, these are all structures that make up the "third sector", which, together with non-state enterprises, form the basis of civil society. They include all religious, professional, cooperative and other organizations, as well as political parties. Public organizations in the narrow sense are organizations whose purpose is to promote the interests of society or the interests of members of this organization in such areas as health care, education, science, culture, art, providing assistance to socially vulnerable sections of the population, environmental protection, human values and human rights [33]. In our opinion, "public organizations in the broad sense" correspond to the definition of "association of citizens", while "public organizations in the narrow sense" are purely public organizations.

The collective monograph "The third sector in Ukraine: problems of formation", prepared by scientists of the Ukrainian Institute of Social Research, highlighted the development of the "third sector" as an integral component of civil society. Special

attention is paid to the political essence of the phenomenon, historical, cultural and legislative conditions of its formation in Ukraine. The identification by researchers of information on the number of public organizations (including local branches) with the number of associations that make up the "third sector" of Ukraine [34] is controversial.

In the study and coverage of the legal status of public organizations, sources of their financing, consequences of activity during the 90s of the XX century. a notable contribution was made by O. Sydorenko [35]. However, the researcher, analyzing the current archives of the State Committee of Statistics of Ukraine, did not pay attention to the significant quantitative discrepancy between registered public organizations and those that reported on their activities, which makes it difficult to objectively assess the development of civic activity during the 1990s.

Analyzing social and political processes in post-Soviet states, scientists come to the conclusion that the peculiarity of their development is the slow transition from totalitarian regime to civil society. In particular, this opinion was expressed by A. Fartushny [36]. American political scientists E. Arato and D. Kogen believe that the concept of "civil society" gained special importance from the mid-70s of the 20th century. They interpret such a social phenomenon as an extraordinary historical achievement, since it provided for "a strategy of transforming dictatorial regimes - first in the East, and later in Latin America - based on ideas about self-organization of society, restructuring of social relations outside the networks of state authoritarianism." D. Pilon, who in the mid-90s of the XX century. was directly involved in the program of the International Foundation for Electoral Systems (IFES), considered it necessary to promote the deployment of broad education in post-communist societies, which would contribute to the acceleration of the construction of civil society. In practice, this meant providing support in the creation of voluntary non-governmental organizations designed to protect and implement the rights and freedoms of citizens[38].

O. Chuardynskyi in his dissertation research emphasizes that the economic basis of civil society consists of various forms of ownership, private capital, and market infrastructure. Whereas a political prerequisite for the formation of a civil society is the presence of political parties, interest groups, public organizations, and non-state mass

media. Their active formation in Ukraine began in the second half of the 80s of the 20th century. and lasted until the beginning of the 21st century[39].

A. Matviychuk considers public organizations as a factor in the formation of civil society in Ukraine. He proposes to define a public organization as a formalized independent (non-governmental) non-profit association of citizens, aimed at the realization of various collective interests and the protection of collective rights, which, in our opinion, does not fundamentally differ from the term used in the Law of Ukraine "On Association of Citizens". The classification of public organizations by areas of activity, in which the author singles out: public associations of entrepreneurs, should be considered debatable. public organizations of social justice and charity; socio-political organizations, movements and human rights organizations; trade unions and creative unions [40].

O. Lavrynovych admits that non-state non-profit public organizations during the 90s of the 20th century. tried to attract the attention of the legislative and executive authorities, as they were in a complete legislative blockade and were unable to develop independently. The author conditionally divides public organizations into two groups. The first group of public organizations used the support of the state, was actually created by state (departmental) structures, taking care of clan or departmental interests. Another group consists of public organizations formed on the basis of the initiative of citizens, their activity and interests [41]. R. Karplych, analyzing the state of development of public initiative in the western region of Ukraine, divides public organizations into three categories: organizations that existed on the territory of Western Ukraine until 1939 and resumed their activities in the conditions of Ukraine's declaration of state sovereignty; public organizations that were created during the Soviet regime and underwent a significant transformation. The third group of organizations was created during the independence of the Ukrainian state, and it develops mainly due to foreign financial and organizational assistance [42].

E. Zakharov took their organizational structure as the basis for the classification of non-governmental organizations. It divides all non-governmental organizations of Ukraine into associations and foundations. Associations include associations of

citizens created to realize their interests, while foundations aim to accumulate funds to achieve certain goals. Classification according to the purpose of activity divides non-governmental associations into two groups: associations that serve public interests (ecology, education, assistance to the poor, health care, human rights) and organizations that seek to protect or realize the rights and freedoms of their members : trade unions, political parties, associations of industrialists, sports associations, etc. Regarding the areas of activity of non-governmental organizations, E. Zakharov singles out: political (parties, socio-political movements, human rights organizations, organizations that take care of elections and referenda); economic (trade unions, unions of entrepreneurs and commodity producers, credit unions); organizations dealing with the spiritual sphere of society (religion, creativity, culture, national relations, science); associations that take care of the social sphere (family and marriage, children, youth, ecology, physical education and sports) [43].

According to L. Kormych and D. Shelest, public associations help state structures in solving various problems of socio-demographic groups. Scientists considered the typology of socio-political associations and movements, emphasizing the public interests of their activities. Based on this approach, the following are distinguished: 1) in the economic sphere (trade unions, business associations); 2) in the social sphere (association of veterans, disabled people, charitable unions); 3) in the field of leisure (sports unions, philatelist unions, etc.); 4) in the field of science, religion and culture (churches, scientific associations, creative unions); 5) organized groups in the political sphere (environmental movements, protection of the rights of women, national minorities, etc.). The researchers rightly noted that under the conditions of the effective functioning of public associations, it is possible to adequately reflect the interests of various socio-demographic groups, access to a legitimate legal space, which increases the level of political balance and stability in society. Under the conditions of the effective activity of public organizations, a counterbalance is created to the strengthening of abuses of power, authoritarian and radical attitudes, ultimately leading to the normal functioning of society [44].

M. Latsiba, analyzing the state of development of civil society in modern Ukraine, came to the conclusion that three main groups of public organizations were formed and continue to operate since the time of the Soviet Union. The first is mass associations of socially vulnerable sections of the population, which were often created at the initiative of the authorities: organizations of veterans, women's associations, organizations of victims of the Chernobyl disaster, etc. The researcher refers to the second group of human rights organizations whose main goals were the fight against totalitarian regimes and the protection of human rights. The third group consisted of environmental organizations, which began to emerge en masse in 1986. During the times of independent Ukraine and the support of international structures, a new generation of non-governmental organizations was grown, tentatively called the "grant sector" since the main source of their funding was international grants [45].

The analysis of the informal movement in Ukraine in 1987-1989, its emergence and activity is carried out in the works of O. Boyk [46]. The author elucidates the reasons for the appearance of informal associations, pointing to the deep essence of this phenomenon - "the development of civil society structures, the formation of relations between people, not mediated by the state [47, p. 62]." Highlighting among informal associations the Ukrainian Language Society named after Taras Shevchenko, the historical and educational society "Memorial", the ecological association "Green World", the researcher is of the opinion about the deployment in Ukraine in the second half of the 80s of the 20th century. of the classical formula of the development of national movements, according to which the first two stages are the return of historical memory and the revival of the language of the people, and the third stage is the emergence of political organizations waging a struggle for national liberation [48].

A. Rusnachenko examines the process of formation of informal associations in Ukraine in the context of the formation of the national opposition, singling out the period of 1985-1991 as the last stage of the Ukrainian national liberation movement. The main organizational structure of the movement became the Ukrainian Language Society named after Taras Shevchenko, the Ukrainian Helsinki Union, which transformed into the Ukrainian Republican Party and the People's Movement of

Ukraine [49]. In our opinion, the social and political activity of the Society of the Ukrainian Language named after Taras Shevchenko should be evaluated in view of the association's statutory goals.

Russian historian A. Sosnylo claims that the informal movement in the USSR began to form in 1986-1989 and became a reaction of society to the changes that occurred during the period of perestroika. The researcher considers 1987 to be the starting point for the formation of political pluralism in the USSR, when, after the January plenum of the Central Committee of the CPSU, which announced the party's course for the democratization of society, the weakening of the political regime began: criminal prosecution for political motives was stopped and the majority of prisoners of conscience were amnestied, practically canceled ideological censorship, and the period of glasnost began in January 1987 [50]. The subject of research by M. Bagmet and S. Soroka was the peculiarities and results of the socio-political activity of informal youth associations of Ukraine in 1985-1991. The authors prove that with the beginning of perestroika, the power structures changed their attitude towards informal youth initiatives, tried to establish ideological and organizational control over them [51].

The Department of History and Ethnology of Ukraine of the Odesa National Polytechnic University, headed by G. Honcharuk, became a real center for studying the formation and activity of the NRU. The political aspects of the movement's activities, its participation in the state-building process, the contribution of the NRU to the development and adoption of the Constitution of Ukraine in 1996, Ukrainian-Russian relations through the prism of the activities of the NRU during 1989-1998 are given in the works of G. Honcharuk, O. Shanovska, Yu. Videnka, O. Mardarenko's dissertation work [52].

Since the second half of the 90s, a number of works on the history of Ukraine of the 20th century have appeared. They were distinguished by a high degree of generalization and considered the activities of public organizations during the period of perestroika through the prism of participation in the national-democratic movement, paying particular attention to political informal associations [53]. Thus, in the collective work "Ukraine: political history of the 20th - beginning of the 21st century."

the main achievements of informal associations were recognized as their active participation in the process of national revival, the publication of new ideas and information on the painful problems of our time, the education of new political leaders, and the expansion of the base of the democratic movement. The process of withdrawal of a part of informal organizations from "culturalism and enlightenment" and the transition to political activity is considered as a natural phenomenon [54].

A significant contribution to the study of the process of formation of public organizations in Ukraine during perestroika is the dissertation research of O. Horbachova, which focuses on the analysis of the socio-political activities of national educational organizations (the Taras Shevchenko Ukrainian Language Society, "Heritage", "Community", Society Lev), environmental ("Green World"), historical and educational ("Memorial", Ukrainian Cultural Club), youth (Ukrainian Student Union, Student Brotherhood, Union of Independent Ukrainian Youth) organizations. A prominent place in the work is devoted to the study of the activities of the Ukrainian Helsinki Union and the People's Movement of Ukraine, and their further transformation into political parties. However, changes in the social and legal status, forms and methods of activity of nationalized public organizations under the influence of social transformations, the process of formation of associations of national minorities, the development of the labor movement, and the creation of women's and veterans' associations remained outside the scope of the study [55].

The journalistic intelligence of V. Pikhovshek and S. Kononchuk should be considered a kind of monitoring of socio-political processes in Ukraine in 1994-1996. The source basis of the study was the informational messages of the Ukrainian mass media and the results of scientific searches of non-governmental research organizations [56].

The dominant trend in the research of public organizations at the third stage of historiography is characterized by the concentration of researchers' efforts on their coverage according to the directions and content of their activities. In particular, a number of scientists focused on the study of youth public organizations. Thus, since April 1991, youth issues became dominant for scientists of the Ukrainian Institute of

Social Research (until October 1997, it was called the Ukrainian Research Institute of Youth Problems). During the first six years of its activity, the staff of the institute implemented more than 150 scientific projects and programs [57].

In 1997, O. Kornievskyi and V. Yakushyk published a scientific report "Youth movement and political associations in modern Ukraine", in which they analyzed the changes that occurred in the socio-political orientation of young people during the years of the state's independence. The authors prove that the crisis situation in Ukrainian society influenced the fact that among the youth environment, the orientation towards solving socio-economic problems by their own efforts began to spread, without hopes for help from state or public structures [58]. The researchers classified youth public organizations according to the main goals and areas of activity, distinguishing the following groups (types): organizations focused on solving multifaceted social and economic problems of youth; youth charitable organizations; youth "stylistic" organizations that intended to protect and implement non-political initiatives (ecological, cultural, artistic, sports, etc.); associations that educated nationally conscious intellectuals; children's and youth organizations; associations of young people who pay the main attention to social and political activities; youth organizations of religious orientation; informal youth organizations and alternative lifestyle groups; youth associations created on a national basis [59]. In our opinion, the disadvantage of the proposed classification is its excessive detail. In addition, practice shows that the statutory principles do not always coincide with the real affairs of the organization.

A number of researchers devoted their work to those public organizations whose activities had a significant impact on the course of social and political processes in Ukraine in the second half of the 80s of the 20th century. I. Kryvdina examined the activities of the Ukrainian Helsinki Union, which the author assesses as a catalyst for democratic processes in Ukraine [60]. Formation of the Donetsk organization of the Ukrainian Language Society named after Taras Shevchenko was described by V. Biletskyi, one of the founders of the enlightenment movement [61]. The history of the "Prosvita" society in Volyn from the time of its creation to the mid-90s of the 20th

century. was studied by B. Savchuk [62]. Ya. Seko emphasizes that during 1988-1989 there was an intertwining of informal cultural organizations with the so-called "official" Soviet intelligentsia, which led to the emergence of a powerful all-Ukrainian organization - the Society of the Ukrainian Language named after Taras Shevchenko [63]. O. Shanovska, analyzing the relationship between the authorities and the intelligentsia during the years of perestroika, singles out two groups of the Ukrainian intelligentsia: the radical-oppositional one, represented by former dissidents and their followers, and the moderate-reformist one. The second group did not have a clear ideological concept and the necessary political experience, which did not allow the intelligentsia to become an active and full-fledged subject of politics [64].

S. Zaremba reviewed the activities of the Ukrainian Society for the Protection of Historical and Cultural Monuments from the moment of its creation until the end of the 90s of the XX century. The researcher noted the special role of the association in preserving the cultural heritage of the Ukrainian people under the conditions of the Soviet regime. At the same time, the causes of crisis phenomena in the activities of the organization during the first years of independence remained outside the scope of the study [65]. V. Taboransky considered the process of revival of the historical and local history movement in Ukraine, which was evidenced by the formation of the All-Ukrainian Union of Local History in March 1990 [66].

The use of charitable organizations to support Ukrainian culture and restore the traditions of charity in Ukraine is analyzed in the articles of O. Hrytsenko, M. Dmytrenko, and O. Yasya. According to researchers, in modern society, various layers of the population are involved in charity, which contributes to the interaction of the state and public organizations in solving social and cultural problems [67].

The national and cultural revival of ethnic minorities of Ukraine was studied by I. Mashchenko [68]. The author proves that the activities of national cultural associations in the 1990s. began to focus on the revival, preservation and development of national traditions, nurturing a caring attitude to cultural heritage, protection and development of the native language.

In the context of building a democratic state, researchers analyze the interethnic relations of Ukrainians and Russians living in Ukraine. M. Shulga, V. Snizhko, O. Rozumkov addressed the study of the interaction of the two ethnic groups, investigating the situation of Russian culture in modern Ukraine, the participation of national cultural and educational organizations in the preservation and development of the culture of the Russian minority, the ethnic origin and linguistic and cultural self-determination of Ukrainians and Russians in borders of Ukraine. O. Rozumkov made a valid statement that the presence of conflict in Ukrainian-Russian interethnic relations exists at the level of public leaders, while at the level of mass public consciousness, the state of relations between peoples remains stable [69].

A significant contribution to the study of the process of self-organization of ethnic minorities was made by L. Loiko, who singles out three stages of the formation and development of the national-cultural movement in Ukraine. The researcher attributes the first stage to the end of the 80s - mid-90s of the 20th century. Its characteristic feature was the desire of ethnic minorities to create national and cultural organizations, expand the network of local associations, and the need to realize the rights and interests of representatives of their national group. At the second stage (the second half of the 1990s - the first years of the 21st century), the tendency of eccentricity and fragmentation of national-cultural societies dominated. While the third stage, which has been unfolding since 2002, is characterized by the active participation of public organizations of a national and cultural orientation in solving national problems [70].

The return and resettlement of the Crimean Tatar people deported in 1944 to Ukraine remains an important factor in achieving historical justice and realizing the ethnic minority's right to live on their land. The formation of the Crimean Tatar human rights movement was considered by O. Volobuev [71]. The study of the process of repatriation and settlement of the Crimean Tatar people in Ukraine and Crimea was carried out by Yu. Tyschenko and V. Pikhovshek. A prominent place in the book is the coverage of the development of the Crimean Tatar movement during the 90s of the 20th century. [72]. The participation of Crimean Tatar public organizations in solving

the national and educational requests of their people, promoting the integration of Crimean Tatars into Ukrainian society during the 90s of the 20th century. are analyzed in the articles of A. Seitmuratova, B. Parakhonskyi, N. Belitzer, V. Prytula, Yu. Bilukha, and A. Yelovych [73]. At the same time, the authors emphasize that Ukraine alone bears the entire burden of expenses related to the accommodation of deportees. Yu. Buznytskyi, L. Lytovchenko examine the sources of financial support for public organizations of the Crimean Tatar people during the 90s of the 20th century. [74].

Formation of the "Afghan" movement during the 1980s and early 1990s. S. Chervonopyskyi, head of the Ukrainian Union of Afghanistan Veterans, is investigating in Ukraine. He focuses on the fact that the official support for the amateur "Afghan" movement was provided only in 1987-1988 and was intended to oppose them to informal associations, to proclaim the organizations of internationalist warriors as carriers of Soviet patriotism [75]. The declaration of Ukraine's independence contributed to the development of a new strategy and tactics for the existence of the "Afghan" organization. "After the events of 1991, we decided to "fight" for our "Afghan" Committee in the parliament, because we understood that without state support, it would be difficult for the veterans' union to fight for its existence," noted S. Chervonopyskyi [76]. So, the head of the public organization admitted that the activity of the Ukrainian National Security Agency in the first years of Ukraine's independence depended on constructive cooperation with state structures.

The work of I. Krasylnikov, S. Grigoriev, H. Galkin, and L. Besarab is dedicated to the development of veteran organizations in the capital of Ukraine [77]. Analytical research on the veteran movement of Ukraine in the 90s of the 20th century, carried out by V. Ablazov, who at that time was the deputy chairman of the Committee for Veterans of War and Military Conflicts under the Cabinet of Ministers of Ukraine, stands out. The author claims that the real level of social protection of veterans and the number of organizations that declare it are not mutually related. The lack of a requirement for public organizations to have a fixed membership in the Law of Ukraine "On Association of Citizens" became the main reason for the emergence of veteran

organizations, which, apart from leaders and management apparatus, do not have real members [78].

The creation of the All-Ukrainian Organization of War Disabled Persons and the Armed Forces in 1993, its organizational structure and participation in the social protection of war disabled persons and the Armed Forces are described by V. Bondaruk, M. Lebedynskyi, P. Mashkovets, and V. Sushkevich [79]. The authors believe that the separation of the association from the Organization of Veterans of Ukraine was aimed at protecting the special status of disabled war veterans and their right to state support, which they had until 1987, when all categories were included among the members of the Ukrainian branch of the All-Union Organization of War and Labor Veterans veterans - war invalids, war veterans, labor veterans, pensioners. The authors objectively assess the organization's capabilities, pointing out that the main source of funding remains budget revenues.

The situation with social protection of victims of the Chernobyl disaster was considered in the works of V. Pylypenko, G. Mimandusova, and O. Vyshniak. The researchers focused on studying the socio-psychological condition of the victims, analyzed the sources of assistance to the liquidators of the accident and resettlers from the exclusion zone. At the same time, the process of formation of public organizations that united the victims of the Chernobyl disaster, their participation in the legislative process aimed at solving the social problems of "Chernobyl residents", and protecting their legitimate interests [80] remained out of the attention of researchers.

The strike movement of Ukrainian miners in 1989-1999 was studied by S. Kuzmina. The author identified the socio-economic, political and psychological reasons for the emergence of the labor strike movement within the framework of the unified Soviet state, in the conditions of the development of Ukrainian statehood and in the years of independence. According to the researcher, an important consequence of the first period (1989-1991) of the labor movement was the formation of trade union organizations independent of the party-state bureaucracy [81].

The research of H. Stoyan was devoted to the clarification of the forms and methods of activity of the Federation of Trade Unions of Ukraine, the role of the trade

union movement in the process of socio-economic transformations in Ukraine during 1992-1997. The researcher emphasizes that the union remained the main trade union organization with which the government structures were reckoned and which influenced the socio-economic life of the state [82]. A qualitatively new period in the history of the trade union movement, marked by its return to the original purpose of trade unions - the social protection of workers' rights, began in 1990 - believes O. Stoyan, who is a co-author of the fundamental historical study "Essays on the History of Trade Unions of Ukraine" [83]. The author paid the main attention to the analysis of the strategy and tactics of the trade union in the conditions of the introduction of market relations. The difficult dialectic of trade union centers' relations with state structures is highlighted. At the same time, the study did not pay attention to the creation and activity of trade unions that were not part of the FPU. The lacuna in the history of the trade union movement was filled by O. Golubutskyi, Yu. Dokukin, and V. Kulyk, who studied the history of formation and peculiarities of the relationship between the FPU and alternative trade unions in Ukraine during the first years of independence [84].

I. Usichenko, Yu. Vilenskyi, A. Khabarova, O. Zagranichnyi examined the activity of a charitable public organization - the Red Cross Society of Ukraine. The authors point out that only with the declaration of independence of Ukraine, the Society was able to become an independent non-governmental and non-party organization and integrate into the international structures of the Red Cross, but they do not analyze the reasons for the significant decrease in the number of members of the organization during the 90s of the XX century, the reorientation of the Society to the use mostly financial assistance from international charitable structures, changing the forms and directions of interaction between the state and the Society in providing assistance to the needy [85].

L. Smolyar devoted her works to the emergence of new women's associations of Ukraine. The researcher emphasizes that the development of democratic processes since the second half of the 80s of the 20th century, the emergence of new political and public structures became the real basis for the activation of the women's movement in Ukraine. L. Smolyar singles out four groups of women's organizations: a) traditional

women's associations that emerged on the basis of those organizations that operated in Ukraine at different times and in different areas; b) socially oriented women's organizations; c) organizations of business women; d) organizations of a feminist orientation. In our opinion, the separation of business women's organizations into a separate group has a declarative, gender-specific nature to a large extent, these associations essentially belong to organizations of a feminist orientation [86].

O. Yarosh examines the role and place of women's associations in the social and political life of Ukraine in the 90s of the 20th century, focusing on their participation in the processes of state formation [87]. According to G. Laktionova, the activities of many women's organizations are too politicized, since the organizations are focused on supporting certain political parties and fulfill their orders. According to the author, the women's movement stands out not because women participate in it, but because it has specific, special goals and tasks, the implementation of which helps women gain the freedom to choose their life path, realize themselves as individuals, and create normal living conditions for themselves and their children [88].

The socio-ecological problems of Ukraine in the second half of the 80s and the beginning of the 90s became the object of research by S. Vasyuta and I. Pogribny. Scientists evaluate the environmental policy in Ukraine during the time of Soviet power as a state-imperial one, reveal the consequences of the Chernobyl tragedy for the environment and the health of the population, dwell on the social causes of the environmental crisis. According to the researchers, the lack of effective agreement between the authorities and public organizations does not contribute to the greening of various spheres of life in our country [89].

M. Aleksievets believes that the association "Green World" during the 90s of the 20th century. was a kind of coordinator of the efforts of environmental organizations and influenced public opinion and the consciousness of citizens [90]. Such a statement has little evidence, since the peak of popularity and influence on the public consciousness of the "Green World" association fell at the end of the 80s of the 20th century. S. Fedorynchyk justifiably emphasizes that during the 90s of the 20th century. the environmental movement had no clear leader and was largely dependent on

financial assistance from Western charitable foundations and organizations [91]. At the same time, representatives of Western funds were poorly acquainted with Ukrainian realities, so the efficiency of using the provided funds was not high.

Research sources and their characteristics

The study and coverage of the history of the formation, development, and transformation of public associations in Ukraine from the time of perestroika to 1996 became possible thanks to the use of documents and materials of different origins that make up the source base of the research. The basis of the source base is archival and published documents, which are supplemented by materials of the State Committee of Statistics of Ukraine, periodical publications of public organizations, and sociological research data.

It is advisable to classify the used sources into several groups. The first group consists of the Constitution of Ukraine, legislative acts and normative-legal documents of the highest state authorities of Ukraine - the Verkhovna Rada, the Cabinet of Ministers, Decrees of the President of Ukraine, which form the legal basis of society, and also regulate the activities of public organizations of Ukraine. In turn, two subgroups should be distinguished from the first group of sources:

1) laws and regulatory acts that determined the legal status and powers of public organizations in 1985-1991. Until October 1990, the procedure for the formation and operation of public organizations was determined by legal acts of the early 1930s, which restrained public initiative, did not correspond to the pace of social transformations, and protected the totalitarian and repressive government [92]. The initiated democratization and glasnost policy in the times of perestroika contributed to the formation and development of the informal movement, caused the need for a significant update of the legislative support for the activities of public associations [93];

2) legal documents that regulated the process of formation and activity of public organizations in the conditions of independent Ukraine. These are, first of all, the Law of Ukraine "On Associations of Citizens", [94] Government Resolutions that regulated the procedure for legalizing associations of citizens and registering their symbols [95].

The researcher analyzed normative legal acts that provided preferences for certain types of public organizations [96]. The used legislative acts are published in the Bulletin of the Verkhovna Rada of Ukraine, newspapers, separate brochures, in thematic collections of legislative and normative acts.

The second group of sources includes materials stored in state archives, collections of documents, materials of current archives of public organizations. The archives of Ukraine provide a wide opportunity to study the documentary heritage of the creation and activity of public associations in Ukraine in 1985-1996. Most of the documents on this issue are stored in the Central State Archive of Public Associations of Ukraine (CSAVO of Ukraine), the Central State Archive of Higher Authorities and Administrations (CSAVO of Ukraine) and in regional state archives.

A significant array of archival materials and documents from the period 1986-1991 is concentrated in the Central Committee of Ukraine (fund 1 "Central Committee of the Communist Party of Ukraine" and fund 7 "Central Committee of the Communist Party of Ukraine"). During the preparation of the study, the following were analyzed:

1) Official documents of the Communist Party and Komsomol structures (minutes of meetings of the Politburo of the Central Committee of the Communist Party of Ukraine; reference materials for the speeches of the leaders of the Central Committee of the Communist Party of Ukraine; minutes of the Secretariat of the Central Committee of the Communist Party of Ukraine and the Bureau of the Central Committee of the Communist Party of Ukraine; materials of congresses, conferences, plenums of the Central Committee of the Communist Party of Ukraine, regional committees and the Kyiv City Committee of the Communist Party of Ukraine);

2) Informational and analytical documents (information from the Central Committee of the Communist Party of Ukraine to the Central Committee of the CPSU; reports from regional committees of the Communist Party of Ukraine, Kyiv City Committee of the Communist Party of Ukraine on the implementation of resolutions of the Central Committee of the Communist Party of Ukraine; reports on the social and political situation in the republic, prepared by departments of the Central Committee

of the Communist Party of Ukraine; results of sociological studies; analysis of the activities of opposition parties to the Communist Party of Ukraine associations);

3) Materials of state bodies and nationalized public organizations (information and certificates of the heads of state structures and public organizations - the Verkhovna Rada, the Ministry of Internal Affairs, the KGB, the prosecutor's office, the Central Committee of the Ukrainian SSR, trade unions, the Ministry of Culture of the Ukrainian SSR, scientific institutions of the republic, the Red Cross Society of the Ukrainian SSR, the Charity and Health Fund "I, the Republican Council of Women, etc.);

4) Materials of public associations not controlled by the Communist Party of Ukraine (statutes, programs, statements, declarations, materials of congresses and conferences, speeches of opposition representatives).

Materials on the development of the informal movement in Ukraine are thematically important. The author analyzed information from regional committees of LKSU on informal youth associations for 1987 (f. 7, d. 20) and analytical report notes to the minutes of meetings of the Secretariat of the Central Committee of LKSU (f. 7, d. 18), which discussed the facts of anti-communist activity informal youth groups during 1984-1987, as well as statements, manifestos, draft programs, proposals of youth socio-political clubs operating in 1987-1988. Fund 1 (description 11) analyzed the information of the Central Committee of the Communist Party of Ukraine to the Central Committee of the CPSU, references of regional committees of the Communist Party of Ukraine, the Council of Trade Unions of the Ukrainian SSR, the Central Committee of the LKSMU, the Ministry of Culture of the Ukrainian SSR about the development of amateur associations in Ukraine and their participation in social and political life during April 1988 - December 1989 years

Information from the Ministry of Internal Affairs, the KGB, regional committees of the Communist Party of Ukraine, reports, materials for the speeches of secretaries of the Central Committee of the Communist Party of Ukraine about the socio-political situation in the republic, about the actions of national-democratic forces, the holding

of rallies, pickets, and student hunger strikes in October 1990 are in the Central Committee of Ukraine.

It should be noted that the main attention of Communist Party analysts was paid to associations that were considered politicized, and their activities undermined the Communist Party's monopoly on power. They included: the Ukrainian Helsinki Union, the People's Movement of Ukraine, the "Memorial" society, the Society of the Ukrainian Language named after Taras Shevchenko. The CDAGO of Ukraine concentrates information on constituent congresses, conferences of public and political organizations, the draft program and statute of the People's Movement of Ukraine, an analysis of the social base of supporters of the Rukx, information of regional committees of the Communist Party of Ukraine on the creation and activity of regional organizations of the Rukx during 1989-1991. A significant number of cases contain information on the elections of the People's Deputies of the USSR in 1989 and on the preparation and conduct of the elections to the Verkhovna Rada and local authorities of Ukraine in 1990. They contain recommendations of party-communist bodies on opposing representatives of opposition social and political organizations, which won a majority in local council elections in a number of regions of Ukraine.

Fund 1 (description 32) of the Ukrainian Labor and Social Committee contains materials testifying to the course of the miners' strike in 1989, in particular, detailed information sent to the republican bodies of the Central Committee of the CPSU about the union of strike committees of Donbas, a joint meeting in Moscow in August 1989 of strike committees and workers' committees of Kuzbass, Donbas, Kemerovo, Prokop'ivska, about the participation of the national-democratic forces of Ukraine in the creation of strike committees in the regions of the republic, the emergence of independent trade unions, reforming of traditional trade union structures.

The aggravation of inter-ethnic conflicts in the USSR at the end of the 80s of the 20th century. encouraged the Central Committee of the Communist Party of Ukraine to take a more objective approach to the study of the national and cultural requests of the national minorities of Ukraine. In fund 1 (description 32) of the Ukrainian National Center for Social and Economic Affairs, there are proposals from the Institute of Social

and Economic Problems of Foreign Countries on problems of international relations; working materials of the Society of Hungarian Culture of Transcarpathia. The archive contains information from the Anti-Zionist Committee of the Soviet public about the creation of the Jewish cultural societies in Ukraine, information about the situation in the republic's national and cultural associations; about the Kurultai of the Crimean Tatar people. Available reports of the Presidium of the Verkhovna Rada of the Ukrainian SSR and the Council of Ministers of the Ukrainian SSR testify to the growing attention of state structures to the rights of national minorities in the republic.

Information on the development of the environmental movement in Ukraine, on the environmental situation in the Ukrainian SSR, the texts of the speeches of the leaders of environmental organizations, the demands of the participants of environmental rallies, the charter of the "Chornobyl Union", materials of the conference, congresses of the environmental association were analyzed in the TsDAGO of Ukraine (fund 1, description 32) "Green World" and the Constituent Congress of the Green Party of Ukraine.

The study of archival sources shows that the emergence of socio-political organizations not under the control of Communist Party structures, the aggravation of the political confrontation between national-democratic organizations and the ruling party in 1989-1991 prompted the leadership of the Communist Party of Ukraine to search for new forms and methods of interaction with public organizations. Changes were taking place in the structure of the party committee apparatus of the Communist Party of the Republic, centralized control over regional departments of the Ministry of Internal Affairs, television and radio broadcasting, and publishing was strengthened. A number of materials testify to the participation of employees of the Central Committee of the Communist Party of Ukraine in the creation of satellite public associations.

In fund 1 (description 32), materials, analytical references, information on the formation of the youth student movement, theses of the speeches of activists of student public associations at the founding congress of the Ukrainian Student Union were studied.

Documentary materials characterizing the activities of LKSM during 1985-1991 were analyzed in Fund 7 "Central Committee of LKSM of Ukraine". Most of the materials consist of transcripts, protocols, and reference materials of Komsomol congresses, plenums, and meetings of the bureau of the republican Komsomol organization (description 18). As well as protocols, resolutions of plenums of regional committees and the Kyiv City Komsomol Committee (op. 19), which contain materials on the creation of democratic youth unions in Lviv and Ivano-Frankivsk regions; speeches by members of the reformist wing of the LKSU; resolutions of regional Komsomol organizations regarding the assessment of the socio-political situation in the republic and statements in support of the demands of starving students. The materials of the fund reflect the strengthening of the Communist Party's control over the activities of the regional committees of the LKSU at the beginning of 1991.

Materials on the activities of public organizations of Ukraine in the period 1985-1996 were studied in the funds of the Central State Archive of Higher Authorities and Administration of Ukraine (CSAVO of Ukraine). Regarding the information load, the documents are divided into two groups. The first includes funds of public organizations of Ukraine, which for a long time were a component of the political system of the USSR, in particular, fund 4760 "Ukrainian Republican Society for the Protection of Historical and Cultural Monuments". The fund stores the materials of the V congress of the society (December 1986) - the report of the chairman of the board academician P. Tronko, transcripts and resolutions of the congress. An important source of the society's monument protection activities during 1986-1987 are letters, appeals, reports to the Council of Ministers of the USSR, the Council of Ministers of the Ukrainian SSR, the Chairman of the Board of the Soviet Cultural Fund. Documents and materials revealing the activities of the Red Cross Society of Ukraine during 1985-1990 are stored in fund 4616 "Central Committee of the Red Cross Society of the Ukrainian SSR". They include data on the number of primary organizations, the numerical composition of the society during 1985-1987; activities of the Red Cross charity service; the main methods of informational and propaganda activities of the society during the perestroika period; critical remarks of activists, reports on the society's

activities in 1988. Available documents testify to the activity of the charity service of the society in the regions of Ukraine, participation in helping victims of the accident at the Chernobyl nuclear power plant during 1990.

The second group of materials is concentrated in fund 1 "Verkhovna Rada of Ukraine". The researcher's attention was drawn to description 22 (Department of Commissions), which reflects the participation of public organizations in law-making activities in 1991-1996. The fund contains documents on public participation in the preparation of draft laws, which became the basis of legal support for the functioning of citizens' associations in Ukraine. In particular, proposals and comments of political parties, people's deputies of Ukraine, public organizations regarding the Law of Ukraine "On Association of Citizens". The files contain proposals and comments regarding the resolution of the Law of Ukraine "On Charitable Activities and Charitable Organizations", an alternative draft of the Law "On Non-Profit Public Organizations and Their Activities", which were prepared by activists of public organizations. Drafts of the Law of Ukraine "On Professional Creative Workers and Creative Unions" are stored together with the minutes of the meetings of the Verkhovna Rada Commission on Culture and Spirituality.

Local associations of the Association of Farmers of Ukraine took an active part in the development of bills aimed at the development of new forms of farming in the countryside and the support of the farming movement, which is reflected in Spr. 1873 and 1884 of the same description.

Description 22 contains materials on the participation of public organizations in the development and introduction of changes to the Laws of Ukraine, which determined the special legal status and preferences of the state for the most vulnerable sections of the population of Ukraine in the context of the economic crisis. In particular, the proposals of disabled people's organizations, the decisions of the Commission on Social Policy and Labor, the speeches of people's deputies, are directed to the development of changes to the Law of Ukraine "On the Basics of Social Protection of Disabled People in the Ukrainian SSR". A significant array of information is contained on the development of draft laws on the status of war veterans and guarantees of their

social protection. Public organizations of victims of the Chernobyl disaster were particularly active in law-making activities. All-Ukrainian public organization "Soyuz Chornobyl of Ukraine", other public organizations expressed wishes for improvement of the legislation, informed state structures about misuse of public funds intended to help the victims.

Appeals of public organizations to the Verkhovna Rada of Ukraine, in particular, regarding the difficult socio-economic situation of pensioners and veterans, are stored in fund 1 of the Central Committee of Ukraine; of environmental organizations with appeals to the Commission on Environmental Policy to establish cooperation in environmental protection, to facilitate environmental expertise in the area of a possible environmental disaster.

The activities of public associations in the regions of Ukraine are reflected in the materials of the funds of regional state archives of Ukraine. Fund P-3 "Lviv Regional Committee of the Communist Party of Ukraine" of the State Archive of the Lviv Region stands out for its special information content. Documents and materials from their archive were used:

1) information from official government structures about the deployment of an informal movement, information about the socio-political situation in the Lviv region, about the creation of strike committees at enterprises and educational institutions, holding rallies and demonstrations by national democratic organizations; reference materials on the Union of Independent Ukrainian Youth, youth associations "Plast" and "Sich", the activities of the "Student Brotherhood", the Democratic Union of Youth of the Lviv region, on the revival of the "Native School" society, materials of Russian national and cultural societies of the Lviv region were analyzed;

2) analytical materials of Communist Party structures, which make it possible to find out the opinion of the public of the region regarding informal public organizations and the activities of Communist Party functionaries; consequences of elections to the Verkhovna Rada and local authorities; development of the political situation after the elections. The fund stores information on republican sociological research, in

particular, the analytical reference "The Communist Party of Ukraine in the Stage of Renewal", which was prepared in April-May 1990 under the label "Secretly".

3) materials of public organizations - statements, declarations, statutes of the Ukrainian Helsinki Union, regional society of the Ukrainian language named after Taras Shevchenko, the Memorial Society, the Union of Internationalist Warriors of Ukraine, the Ukrainian Confederation of Free Trade Unions, the Lviv Regional Union for the Protection of Citizens' Rights (strike committee), the Lviv Oblast Women's Association, the draft statute of the Union of Women of Ukraine, the statute of the Union of Ukrainian Women, the final statement of the Lviv Meeting of Representatives of National democratic forces of the USSR (April 1988).

In the fund PR-102 of the State Archive of the Zaporizhzhia region, materials on amateur formations that operated in the region in 1986-1989 were analyzed. Information about the deployment of regional structures of the NRU, TUM named after Taras Shevchenko, women's associations; materials of the founding conference of the Society of Russian Culture "Rus", which took place in Kyiv in March 1990. The materials of the PR-157 fund were studied, where the minutes of the meetings of the office of the Zaporizhzhia City Committee of the Communist Party of Ukraine, information about the support of the leadership of the Communist Party of Ukraine to the initiative of veterans of the Great Patriotic War regarding the holding of the "Brotherhood" march in the summer of 1991 were studied. The PR-24 fund of the same archive stores the minutes of conferences and plenums of the Zaporizhzhia regional committee of the LKSMU. The researcher analyzed documents about the emergence of military-patriotic associations and clubs among teenagers during 1985-1989, the results of sociological surveys of young people conducted in 1989-1991, materials of the last XXVI regional conference of the LKSMU from October 26, 1991, and the creation on its basis Zaporizhzhia Union of Youth.

The materials and documents stored in the State Archive of the Vinnytsia region were used, in particular, the minutes of conferences and plenums of the Vinnytsia City Committee of the LKSMU were analyzed, located in the fund P-399 "Vinnytsia City Committee of the LKSMU". Worthy of attention is the information about the

unification of youth clubs created under the city committee of LKSMU, as well as the materials of the extraordinary conference of the Vinnytsia City Komsomol Committee, at which a decision was made to rename the city Komsomol organization to the Democratic Youth Union of Vinnytsia. Fund P-136 "Vinnytsia regional committee of the Communist Party of Ukraine" stores materials on the development of the informal movement in the region, instructions to party committees on forms and methods of countering the structures of the People's Movement, recommendations to law enforcement agencies on responding to unauthorized rallies of democratic forces.

In fund P-6119 "Vinnytsia Regional Organization of the Ukrainian Society of the Blind "UTOS" of the same archive, the statute and conference minutes of the Charity and Health Fund, created by the Vinnytsia Territorial Organization of the UTOS in 1993, were analyzed. The documents used inform about the existence of problems in the relationship between public organizations and state structures in the conditions of independent Ukraine.

Documents and materials that reveal the mechanism of formation of the republican organization of veterans of war, labor and the Armed Forces and the transformation of the association into the Organization of Veterans of Ukraine are located in fund P-6156 "Vinnytsia Regional Council of War and Labor Veterans".

In fund P-4956 "Vinnytsia Regional Committee of the Red Cross Society of Ukraine", the researcher used the materials of the annual consolidated reports on the activities of local organizations of the society from 1986 to 1996, which made it possible to outline changes in the organization's status, forms and methods of activity in the first years of independent activity organizations. The fund contains certificates of the regional organization of the Society on providing assistance to victims of the accident at the Chernobyl nuclear power plant for the years 1989-1997. Resolutions of the Presidium of the Central Committee of the Red Cross Society of the Ukrainian SSR, which are stored in the same fund, became an important source of information about the results of the activities of the Red Cross Society of the Ukrainian SSR in 1985-1986.

Analysis of the composition of the regional organization of the "Knowledge" society, references, information on the topic of lecture propaganda, implementation of the organization's financial plan during 1985-1986 are in the fund R.-5346 "Vinnytsia Regional Organization of the "Knowledge" Society. The speeches of the organization's activists, the resolutions of the plenum meetings of the board of the regional organization of the society, the transcript of the discussion of the new charter of the republican organization (1990) are stored there.

In the fund P-4197 "Zhytomyr Regional Organization of the Society "Znannia" of the State Archive of Zhytomyr Region, the materials of the plenums of the board of the organization for the years 1990-1991 were used, which reflect changes in the activities of the local organization in the conditions of the democratization of Ukrainian society.

Fund P-3853 of the Zhytomyr Regional Committee of the Red Cross acquaints us with new forms and methods of TCH activity in conditions of independence, indicators of cooperation with government structures in order to improve medical and social assistance to the population of Ukraine.

In the State Archives of the Kyiv Region, the materials of the P-1 fund "Kyiv City Committee of the Communist Party of Ukraine" were analyzed, in particular, an appeal to the participants of the 19th All-Union Conference of the CPSU, representatives of the Ukrainian intelligentsia, the Ukrainian studies club "Heritage" with a call to restore the state status of the Ukrainian language in the republic. There is also information on the development of the informal movement in Kyiv, materials on the creation of women's councils, information on rallies and demonstrations in Kyiv during 1990 - the first half of 1991 (description 88). In the fund P-5 "Kyiv Regional Committee of the Communist Party of Ukraine" of the same archive, an analytical note was analyzed, which refers to the results of an all-Union sociological survey conducted in November 1989, a certificate on the celebration of the 500th anniversary of the Ukrainian Cossacks in the Dnipropetrovsk and Zaporizhzhia regions. Available materials on the socio-political situation in Kyiv (January-June 1991), the development

of the women's movement in the Kyiv region (description 117) and materials of the founding conference of the Chernobyl Echo Union (description 118) were also used.

In the funds P-1 "Crimean Regional Committee of the Communist Party of Ukraine" and P-147 "Crimean Regional Committee of the Communist Party of Ukraine", which are preserved in the State Archives in the Autonomous Republic of Crimea, the researcher's attention was drawn to materials about the deployment of an informal movement in the Crimean region and attempts to counter the Communist Party structures for the return of Crimean Tatars to their homeland, which led to confrontation with Crimean Tatar organizations and complicated international relations. Materials on the preparation and holding of the referendum (January 20, 1991) on the status of Crimea and the relationship to the Union Treaty indicate that the local Communist Party leadership was the organizer of the action that threatened the territorial integrity of Ukraine, deliberately prepared public opinion for a possible confrontation with the authorities of the republic, if it did not will sign the Union Treaty.

Information about the participation of the public in the struggle to stop the construction of the Crimean nuclear power plant and the implementation of a comprehensive environmental examination of the project confirms the influence of the environmental movement in 1988-1989, with which not only local but also all-Union power structures were forced to reckon with.

The work uses materials and documents included in collections. Among them is the collection "Modern Political Parties and Movements in Ukraine", compiled in 1991 by employees of the Institute of Political Studies under the leadership of I. Kuras. The collection includes program documents and statutes of the parties and a number of socio-political organizations created at the time of the release of the collection (NRU, Peasant Union, Union of Workers of Ukraine for Socialist Reconstruction, LKSU, Plast, Union of Independent Ukrainian Youth, Student Brotherhood, Ukrainian Student Union) [97].

A significant source of information on the development of youth organizations in Ukraine during the period of perestroika is the collection of materials on youth

associations active in Ukraine in 1991 [98], prepared by V. Golovenko and M. Pashkov, and the handbook "Youth Movement in Ukraine", published by the collective of the Ukrainian of the Institute of Social Research, which contains information about all-Ukrainian youth public organizations, including their programs and statutes, which actively declared themselves as of July 1, 1997 [99]. Documents and materials about the situation of youth in Ukraine during the 90s of the XX century, the development of the network of youth organizations, the analysis of political preferences and participation of youth in social processes are included in the results of annual research of the aforementioned institute [100].

Based on the data of the State Committee of Statistics of Ukraine, the author's team under the general leadership of V. Lytvyn prepared the text of the Message of the President of Ukraine to the Verkhovna Rada of Ukraine on the internal and external situation of the state in 2000. The Message reviewed the results of the socio-economic development of Ukraine for 1990-1999, which made it possible to use official information about the consequences of the crisis for the Ukrainian economy and citizens. A significant part of the Message is occupied by statistical tables, in particular, the table "Number of legalized associations of citizens (1992-1999)" is included, the name of which is not correct. It contains data only on the number of political parties, all-Ukrainian and international organizations, while the absolute majority of public organizations operated at the local level [101].

In the collection "National relations in Ukraine in the 20th century." used documents that characterize the formation of public organizations of national minorities of Ukraine: Resolution of the Presidium of the Verkhovna Rada of the Ukrainian SSR dated February 22, 1991 "On the state of work of state administration bodies to create conditions for the development of the cultures of national minorities of Ukraine", Declaration of the Rights of Nationalities of Ukraine dated November 1, 1991, Resolution of the first All-Ukrainian International Congress [102]. The collection "National Processes in Ukraine: History and Modernity" used information on the number of national and cultural societies in Ukraine at the beginning of 1995, the ethnic composition of the population of Ukraine as of 1989 [103].

In 1998, a collection of documents and materials dedicated to the 130th anniversary of Prosvit named after Taras Shevchenko [104]. The collection contains information on the activities of the Language Commission of the Writers' Union of Ukraine, a report on the founding conference of the TUM named after Taras Shevchenko, texts of speeches at conferences by O. Honchar, D. Pavlychuk, R. Ivanychuk, the Society's statutes, materials of the 5th congress of the educational organization, etc.

An important source of information about the reaction of public organizations to the attempted coup d'état in the USSR (August 19-21, 1991) was the collection "Chronicle of Resistance" (edited by L. Tanyuk), in which official documents of state structures, informational materials, appeals, appeals, statements were selected movements, parties and organizations opposed to the communist regime [105].

Information reflecting the development of public associations during the years of independence is stored in the current archive of the State Statistics Committee of Ukraine. Reporting form No. 1-OG (tables No. 5-8) provides analytical information on the sources of funding and expenses of citizens' associations, the total number of members of organizations and the composition of management staff, the activities of citizens' associations and the number of official events held by them during 1996-2000 years. The archive contains consolidated data on legalized public organizations with international, all-Ukrainian and local status (including local branches).

The author used the results of sociological research, materials of the current archives of non-governmental research organizations of Ukraine, in particular, the research of the Innovation and Development Center "Development trends of the third sector in Ukraine", which reflects the registration of public organizations in Ukraine during 1991-1999. The results of the annual all-Ukrainian polls of the Democratic Initiatives Foundation - "Ukrainian Society 1994-2000" allow to assess the state of public activity of Ukrainians and their membership in public and political organizations. A survey of public opinion (July 1999), conducted by the Center for Innovation and Development with the support of the Ch.S. Mott Foundation, made it possible to analyze the attitude of the population to public and charitable organizations.

The lack of new arrivals to archival institutions was partially compensated by materials from the current archives of local organizations. In particular, the research used documents about the activities of the Red Cross Society of Ukraine in 1993, materials of the organization's XVIII congress, analysis of the experience of local branches during the 90s of the 20th century.

An important group of sources consists of bulletins, newsletters and periodicals, the founders of which are public organizations. In particular, materials about the activities of the RCS of Ukraine can be found in the columns of the Information Bulletin of the National Committee of the RCS of Ukraine for the years 1990-1993. Information about the development of the informal movement in 1987-1990 was included in the self-published press. The materials of the People's Union for the Promotion of Perestroika, the "Union of Marxists", the Kyiv association "Vyborets" are published in the columns of the non-partisan magazine "Paths" (Kyiv, 1989). The formation of the NRU structures and their participation in the struggle for the independence of Ukraine are discussed in the NRU publications "Free Speech" and "Studentsky Visnyk". The program of the Kyiv SNUM organization was printed in the self-publishing company "Zamkova Gora". Literary Ukraine was the real mouthpiece of the opposition forces to the CPSU-CPU during the perestroika period, which gave the general public the opportunity to familiarize themselves with the materials of the NRU congresses and the speeches of leading Ukrainian poets and writers. The newspaper published program materials and statutes of TUM named after Taras Shevchenko, "Green World" association, "Memorial" society, program documents of the Ukrainian Scientific Association, appeals, appeals and appeals, information from constituent meetings, etc.

Resolutions of congresses, congresses, decisions of plenums, concepts of further development and speeches of activists of public organizations during the first half of the 90s of the 20th century. were included in various periodicals: "Tribune" (Znannia Society), "Monuments of Ukraine" (Society for the Protection of Historical and Cultural Monuments), "Tretiy Tost" (Ukrainian Union of Veterans of Afghanistan), "Veteran of Ukraine" (Organization Veterans of Ukraine), "Herald of Chornobyl"

(Soyuz Chornobyl Ukraine), "Nash Chas" (Association of Farmers of Ukraine), "Profspilkova Gazeta" (Federation of Trade Unions of Ukraine), "Selyanska Spilka" (Peasant Union).

Conclusions

Thus, the accumulation of knowledge on the history of the emergence and activity of public organizations of Ukraine in 1985-1996 took place in three stages. The first stage - 1989-1991. The attention of scientists was focused on the analysis of youth informal organizations and on highlighting the goals and tasks of new politicized public associations. Journalism, descriptiveness, fragmentation, weakness of the source base, and political aggravation are characteristic of contemporary scientific intelligence.

At the second stage (1991-1996), researchers, using materials from current archives and periodicals, highlighted the political aspects of the activities of public organizations, their participation in national-democratic transformations, the struggle for sovereignty and independence of Ukraine. The first studies devoted to associations of citizens by types and directions of their activity appear. Governmental and non-governmental research organizations - the Ukrainian Research Institute of Youth Problems (later the Ukrainian Institute of Social Research), the Ukrainian Independent Center for Political Research, and the Democratic Initiatives Foundation - are beginning to study the civic activity of the population and the political situation in the country.

At the third stage (1996 - the beginning of the 21st century), a significant number of documents and archive materials are introduced into scientific circulation, further detailing, classification and filling of gaps in the study of the history of certain types of public organizations (environmental, youth, women's, etc.) are carried out. In the scientific literature, a wide debate has unfolded about the role and place of public organizations of Ukraine in the formation of civil society. Using financial assistance from foreign foundations and organizations, non-governmental research organizations studied the state of development of Ukrainian civil society organizations, their relations with the state and business structures (Center for Innovation and Development),

analyzed legislative acts that determined the development of public organizations (Pylip Orlyk Institute of Democracy, Institute for the Transformation of Society).

It was established that during the 90s of the XX century. scientific centers for the study of public organizations began to be formed. Thus, H. Goncharuk, having initiated in Odesa a study of the history of the formation of the NRU, its participation in state-building processes, thematically united a number of young researchers. In the Academy of Labor and Social Relations of the Federation of Trade Unions of Ukraine, the history of trade unions of Ukraine is studied. The current state, history of the emergence and activity of youth organizations remains the object of research by scientists of the Ukrainian Institute of Social Research. The Ukrainian Independent Center for Political Studies examines the legal aspects of the activities of citizens' associations in Ukraine, the cooperation of civil society organizations and state structures.

However, important aspects of the history of public organizations in Ukraine remained out of the attention of the research community, in particular: the regional aspect of the emergence of citizen associations in 1985-1989; causes of the crisis of nationalized public organizations; transformation of public organizations of the Soviet system into structures independent of Communist Party influence; attempts by the leadership of the CPSU-CPU in the conditions of political pluralism to create public associations that would be under the influence of the ruling party; need analysis of achievements and miscalculations of public organizations in the first years of Ukraine's independence; interaction of public organizations and newly created political parties in socio-political processes; the activity of public organizations in the social protection of the population of Ukraine in the conditions of the economic crisis of the 90s of the 20th century. and during the formation of market relations; legal institutionalization of public organizations in independent Ukraine; financial, material and organizational influence of power structures, international funds on the development of public initiative in Ukraine during the first half of the 90s of the 20th century.

The analysis of primary sources shows that they provide the necessary basis for an objective scientific study of the history of the emergence and activity of public

organizations in the conditions of the transformation of Ukrainian society and the development of a democratic country. It should be noted that documents and materials of the period 1985-1991 became available to researchers mostly from the second half of the 90s of the 20th century. The management of most public organizations, which were created and operated during 1991-1996, did not comply with the requirements of the legislation regarding the archiving of documents. Therefore, the author filled the gaps in information about the activities of public organizations based on current archives, data of the State Committee of Statistics of Ukraine and periodicals. The author believes that the available sources make it possible to define the research task and successfully solve it.

References:

1. Kononov V. M. Perestroika: molodyozh i sotsialnie initsiativi. // *Neformalnaya volna* : sb. nauch. tr. Moskva : Kniga, 1990. S. 39-48; Kashcheeva Ye. V. Obshchestvenno-politicheskoe samodeyatelnoe dvizhenie molodyozhi. // S. 70-80; Aspersyan R. G. Nemolodyozhnie problemi molodyozhnogo dvizheniya. // *Obshchestvennie samodeyatelnie dvizheniya: problemi i perspektivi* : Sb. nauch. tr. Moskva : NII kulturi, 1990. S. 56-70. Sundiev I. Yu. Molodyozhnie dvizheniya v kontekste sotsialnoi samodeyatelnosti. // *Obshchestvennie samodeyatelnie dvizheniya: problemi i perspektivi* : Sb. nauch. tr. Moskva : NII kulturi, 1990. S. 20-31; Donchenko O. A., Shapoval A.I. Molod: dzherela nihilizmu i sotsialnoi apatii. // *Filosofska i sotsiolohichna dumka*. 1989. № 9. S. 13-21.

2. Samodeyatelnie obedineniya molodyozhi: voprosi i otveti. Kiev : O-vo «Znanie» USSR, 1989. 32 s. (Ser. 10 «Teoriya i praktika kommunisticheskogo vospitaniya». № 8).

3. Neformalnoe obshchestvennoe dvizhenie: shtrikhi k protretu / Dyachenko L. Ya., Kochetkov A. P., Shchegortsov A. A., Shchegortsov V. A. Belgorod : RIO Uprpoligrafizdata, 1990. 128 s.

4. Gromov A. V., Kuzin O.S. Neformali: kto yest kto. Moskva : Misl, 1990. 269 s.

5. Kaminskyi A. Na perekhidnomu etapi. «Demokratyzatsiia», «hlasnist», «perebudova» na Ukraini. Miunkhen : Ukrainskyi vilnyi universytet, 1990. 624 s.
6. Lytvyn V. M. Asotsiatsiia «Zelenyi svit» i partiia Zelenykh Ukrainy // Polityka i chas. 1991. № 9. S. 53-57; Lytvyn V. M. Hromadsko-politychni formuvannia na Ukraini: stanovlennia, tendentsii rozvytku. // Pid praporom leninizmu. 1990. № 23. S. 44-55; Lytvyn V. M. Molodizhni hromadsko-politychni orhanizatsii. // Polityka i chas. 1991. № 3. S. 53-58.
7. Lytvyn V. M. Smoliannikov O.P. Vid «demokratychnoi» frazy do vidkrytoi politychnoi borotby. // Komunist Ukrainy. 1991. № 4. S. 50-60.
8. Ukraina bahatopartiina: prohramni dokumenty novykh partii / Peredmov, uporiadkuvannia: O. V. Haran. Kyiv : MP «Pamiatky Ukrainy», 1991. 192 s.
9. Sliusarenko A. H. Tomenko M. V. Novi politychni partii Ukrainy: dovidnyk. Kyiv : T-vo «Znannia» URSS, 1990. 48 s. (Ser. 1. «Chas i suspilstvo» №12).
10. Bezborodov A. B. Protivorechiya sovetskogo krasnokrestnogo dvizheniya v 50-60-e gg. // Informatsionnii byulleten o deyatelnosti SOKK i KP SSSR. 1990. № 2 (13). S. 75-84.
11. Bohomaz K. Yu. Politychni partii ta hromadski orhanizatsii na Ukraini (druha polovyna 80-kh – pochatok 90-kh rokiv KhKh st.). Kyiv : IPK pry KHU, 1992. 144 s.
12. Lytvyn V. M. Politychna arena Ukrainy: Diiovi osoby ta vykonavtsi. Kyiv : Abrys, 1994. 495 s.; Lytvyn V. M. Ukrayna: polytyka, polytyky, vlast. Na fone polytycheskoho portreta L. Kravchuka. Kyiv : «Alternatyvi», 1997. 336 s.
13. Rusnachenko A. M. Probudzhennia: robitnychi rukh v Ukraini v 1989-1993 rokakh. Kyiv : Vyd. dim «KM Academia», 1995. 228 s.
14. Haran O. V. Ubyty drakona. Z istorii Rukhu ta novykh partii Ukrainy Kyiv : Lybid, 1993. 200 s.
15. Kovtun V. H. Istoriia Narodnoho Rukhu Ukrainy. Kyiv : Fakt, 1995. 382 s.
16. Koliaka I. V. Studentskyi rukh v Ukraini (kinets 80-kh – pochatok 90-kh rokiv KhKh st.) : avtoref. dys. na zdobuttia nauk. stupenia kand. ist. nauk : spets. 07.00.01 «Istoriia Ukrainy». Kyiv, 1994. 20 s.

17. Holovenko V. A. Ukrainskyi molodizhnyi rukh u KhKh stolitti. Kyiv : A.L.D., 1996. 160 s.
18. Holovenko V. A. Suchasni tendentsii ta henezys molodizhnoho rukhu v Ukraini. // Molod Ukrainy: stan, problemy, shliakhy rozviazannia: zb. nauk. pr. Kyiv : UNDI problem molodi, 1993. S. 53-66.
19. Holovatyi M. F. Molodizhna polityka v Ukraini: problemy onovlennia. Kyiv : «Naukova dumka», 1993. 236 s.; Holovatyi M. F. Molodizhnyi rukh yak obiektyvna peredumova rozrobky i zdiisnennia derzhavnoi molodizhnoi polityky v Ukraini. // Molodizhnyi i dytiachyi rukh v Ukraini: istoriia ta henezys: zb. nauk. pr. Kyiv : UNDI problem molodi, 1993. S. 8-24.
20. Uhryn L. Ya. Ekolohichni rukh Ukrainy: osoblyvosti i tendentsii rozvytku. // Visnyk Lvivskoho universytetu: Seriiia suspilnykh nauk. Lviv, 1992. Vyp. 30. S. 54-59.
21. Uhryn L. Ya. Ekolohichni orhanizatsii, rukhy ta partii v systemi suspilnykh obiednan Ukrainy : avtoref. dys. na zdobuttia nauk. stupenia kand. pol. nauk : spets. 23.00.02 „Politychni instytuty i protsesy”. Lviv, 1994. – 18 s.
22. Kurykin S. Neuriadovi orhanizatsii, politychni partii ta bufernyi period v Ukraini. // Neuriadovi orhanizatsii v umovakh rynkovoï ekonomiky: riznobichchia dosvidu, problem, perspektyv : materialy Vseukr. konf., (Kyiv, 19–21 veres. 1995 r.). Kyiv : Asotsiatsiia «Boston-Kyiv – mista-pobratymy», 1995. S. 10-14.
23. Hromadski orhanizatsii: yikh rol u suspilno-politychnomu zhytti Ukrainy: dovidkovo-statystychnyi material / Dzhos F. Kh., Honcharuk N. B., Kadeniuk O. S., Kolomiiets S. S. Kyiv : TOV «Mizhnarodna finansova ahentsiia», 1997. 48 c.
24. Hromadski obiednannia: yikh rol u suspilno-politychnomu i sotsialno-ekonomichnomu zhytti krainy / Dzhos F. Kh., Honcharuk N. B., Kadeniuk O. S., Kolomiiets S. S., Kyiv : «VIPOL», 1997. 194 s.
25. Kropyvko O. M. Hromadski obiednannia Ukrainy v umovakh reformuvannia ahrarnoho sektora APK (1991-1996 roky) : avtoref. dys. na zdobuttia nauk. stupenia kand. ist. nauk : spets. 07.00.01 «Istoriia Ukrainy». Kyiv. 1997. 19 s.

26. Neuriadovi orhanizatsii v umovakh rynkovoï ekonomiky: riznobichchia dosvidu, problem, perspektyv : materialy Vseukr. konf., (Kyiv, 19–21 veresnia 1995 r.). Kyiv : Asotsiatsiia «Boston-Kyiv – mista-pobratymy», 1995. 87 s.

27. Rozvytok nederzhavnykh orhanizatsii cherez pravovi reformy : Seminar. (Kyiv, 28–29 serp. 1996 r.) / Svitovyi konhres ukraïnskykh yurystiv; Mizhnarodna fundatsiia vyborchkykh system. Kyiv: AT «KoDr», 1996. 222 s.

28. 90 rokiv vynyknennia masovoho profspilkovoho rukhu v Ukraini : m-ly nauk. konferentsii „Profspilkovyi rukh v Ukraini: aktualni problemy teorii, istorii i suchasnosti” / Federatsiia profspilok Ukrainy, Akademiia pratsi i suspilnykh vidnosyn. Kyiv : Lohos, 1996. 248 s.

29. Hromadski obiednannia pidpryiemtsiv v suchasniï rynkovii ekonomitsi : materialy piatoho zasidannia kruhloho stolu «Bezpeka ekonomichnykh transformatsii», (Kyiv, 14 kvitnia 1999 r.) / Red. Ya. A. Zhalilo. Kyiv : ChP «Kolehium», 1999. 63 s.

30. Hromadski obiednannia pidpryiemtsiv v suchasniï rynkovii ekonomitsi : materialy piatoho zasidannia kruhloho stolu «Bezpeka ekonomichnykh transformatsii», (Kyiv, 14 kvitnia 1999 r.) / Red. Ya. A. Zhalilo. Kyiv : ChP «Kolehium», 1999. 63 s.

31. Problemy i perspektyvy spivpratsi hromadskykh orhanizatsii ta politychnykh partii : materialy konf., (Kyiv, 22 chervnia 2002 r.) / Laboratoriia zakonodavchykh initsiatyv. Kyiv : Milenium, 2002. 102 s.

32. Romaniuk A. Shcho take hromadska orhanizatsiia? // Hromadski initsiatyvy. 1998. № 7. S. 5-7.

33. Andrusiak T. Hromadski orhanizatsii v Ukraini: pravovi osnovy stvorennia ta diialnosti. // Hromadski initsiatyvy. 1998. № 7. S. 6-9.

34. Tretii sektor v Ukraini: problemy stanovlennia / M. F. Shevchenko (ker. avt. kol.), V. A. Holovenko, Yu. M. Halustian ta in. Kyiv : Ukr. in-t sots. doslidzh., 2001. 173 s.

35. Sydorenko O. Hromadski i blahodiini orhanizatsii Ukrainy // Perekhrestia. 2000. № 2(7). S. 20-21; Sydorenko O. Hromadski orhanizatsii v Ukraini: movoiu

ofitsiinoi statystyky. // Perekhrestia. 2000. № 5(10). S. 4-7; Sydorenko O. Chy znaiemo my, shcho take naspravdi ukrainskyi «tretii sektor»? // Perekhrestia. – 2000. № 4(9). S. 4-7.

36. Fartushnyi A. Hromadianske suspilstvo ta postradianski realii. // Hromadianske suspilstvo yak zdiisnennia svobody: tsentralno-skhidnoievropeiskyi dosvid : zb. nauk. prats / Za red. A. Karasia. Lviv : Lvivskiy natsionalnyi universytet im. Ivana Franka, 1999. S. 241-254.

37. Demony myru ta bohy viiny. Sotsialni konflikty postkomunistychnoi doby / S. Makeiev (kerivnyk avt. kolektyvu). Kyiv : Politychna dumka, 1997. 468 s.

38. Pilon D. D. Hlobalna revoliutsiia ta potreba u hromadskii osviti u kolyshnomu Radianskomu blotsi. Kyiv : Mizhnarodna Fundatsiia Vyborych System (IFES), 1995. 23 s.

39. Chuvardynskiy O. H. Hromadianske suspilstvo v Ukraini: stanovlennia, funktsionuvannia, perspektyvy rozvytku: dys ... doktora polit. nauk : 23.00.02. Lviv, 2008. 398 s.

40. Matviichuk A. V. Hromadski orhanizatsii yak chynnyk stanovlennia hromadianskoho suspilstva: avtoref. dys. na zdobuttia nauk stupenia kand. polit. nauk : spets. 23.00.02 «Politychni instytuty ta protsesy» Kyiv, 2008. S. 6-7.

41. Lavrynovych O. Chy mozhlyve v Ukraini hromadianske suspilstvo? // Hromadski initsiatyvy. 1999. № 2. S. 3-6.

42. Karplych R. Tretii sektor u poli tiazhinnia Volynskoho resursnoho tsentru rozvytku NDO. // Nova hromada. 1998. № 4. S. 24-26.

43. Zakharov E. Nehosudarstvennie orhanyzatsyy v Ukrayne y ykh vzaymootnosheniya s orhanamy vlasty. Pravozashchytnie obshchestvennie orhanyzatsyy. // Prava cheloveka. 1996. Mai. S. 2-14.

44. Kormych L. I., Shelest D.S. Hromadski obiednannia ta politychni partii suchasnoi Ukrainy. Kyiv : AVRIO, 2004. 262 s.

45. Priorytety rozvytku hromadianskoho suspilstva v Ukraini / Vinnikov O. Yu., Latsyba M. V., Sidielnik L. L., Ukrainskyi D. Ya. Kyiv : UNTsPD, 2008. S. 22-23.

46. Boiko O. D. Dosvid ta uroky suspilno-politychnoi transformatsii Ukrainy u dobu perebudovy (kviten 1985r. – serpen 1991r.). // Nova polityka. 1998. №2. S. 32-35; Boiko O. D. Ukraina v 1985 – 1991 rr.: osnovni tendentsii suspilno-politychnoho rozvytku : monohrafiia. Kyiv : IPIEND, 2002. 306 s.

47. Boiko O. D. Ne vsi neformaly vybyvaiutsia v liudy. // Viche. 2003. № 7. S. 61-65.

48. Boiko O. D. Predtecha Rukhu: neformalni orhanizatsii yak faktor hromadsko-politychnoho zhyttia Ukrainy u period perebudovy. // Liudyna i polityka. 2001. № 1. S. 44-57.

49. Rusnachenko A. M. Natsionalno-vyzvolnyi rukh v Ukraini (seredyna 1950-kh – pochatok 1990-kh rokiv). Kyiv. : Vyd. im. Oleny Telihi, 1998. 720 s.

50. Sosnylo A. Y. Stanovlenye mnohohpartyinoi systemy v Rossyiskoi Federatsyy (konets XX – nachalo XXI vv.) : avtoref. dys. na soyskanye nauchn. stepeny kand. yst. nauk : spets. 07.00.02 «Otechestvennaia ystoriia» Sankt-Peterburh, 2008. 30 s.

51. Bahmet M. Komsomol ta neformalni obiednannia Ukrainy v period «perebudovy» // Politychnyi menedzhment. 2006. № 5. S. 164–181.

52. Honcharuk H. Narodnyi Rukh Ukrainy. Istoriia. Odesa : Astroprynt, 1997. 379 s.; Honcharuk H. I., Shanovska O.A. Natsionalna ideia i Narodnyi Rukh Ukrainy. Odesa : Astroprynt, 2004. 170 s.; Didenko Yu. V. Narodnyi Rukh u derzhavotvorchykh protsesakh Ukrainy (1989-2002) : Monohrafiia. Odesa: Astroprynt, 2006. 176 s.; Mardarenko O. V. Ukrainsko-rosiiski vidnosyny u politychnii diialnosti Narodnoho Rukhu Ukrainy (1989-1998 rr.) : dys. ... kand. ist. nauk : spets. 07.00.01. Odesa, 2007. 217 s.

53. Baran V. Ukraina v umovakh systemnoi kryzy (1946-1980-i rr.) / V. Baran, V. Danylenko. // Ukraina kriz viky v 15-ty tomakh / Za red. V. Smoliia. Kyiv : Alternatyvy, 1999. T. 13. 304 s.; Baran V. Ukraina: novitnia istoriia (1945-1991 rr.). Lviv : In-t ukrainoznavstva im. I. Krypiakevycha NAN Ukrainy, 2003. 670 s.; Lytvyn V. Ukraina na mezhi tysiacholit (1991-2000 rr.) // Ukraina kriz viky v 15-ty tomakh / Za red. V. Smoliia. Kyiv : Alternatyvy, 2000. T. 14. 360 s.

54. Ukraina: politychna istoriia. KhKh – pochatok KhKhI st. / Baran V., Boiko O., Verstiuk V. ta in. ; Redrada V. M. Lytvyn (holova) ta in. Redkol. : V. A. Smolii, Yu. A. Levenets (spivholova) ta in. Kyiv : Parlamentske vyd-vo, 2007. 1028 s.

55. Horbachova O. S. Hromadski orhanizatsii v Ukraini druhoi polovyny 80-kh – pochatku 90-kh rr. KhKh st. : protses stanovlennia ta rozvytku : dys ... kandydata ist. nauk : 07.00.01. / Horbachova Olha Serhiivna. Kyiv, 2008. 218 s.

56. Pikhovshek V., Kononchuk S. Rozvytok demokratii v Ukraini 1994-1996 roky. Kyiv : «Ahentstvo Ukraina», 1998. 452 s.

57. Holovenko V. A. Molodizhnyi rukh v alhorytmi suspilnoho zhyttia Ukrainy // Molodizhnyi rukh Ukrainy: istoriia ta suchasnist / V. A. Holovenko, V. L. Riabika. Kyiv : NVF «Studtsentr»/ „Nika-Tsentr”, 1998. – S. 9.

58. Korniiievskiyi O. A. Molod u stratehii diialnosti suchasnykh politychnykh hromadskykh obiednan / O. A. Korniiievskiyi , V. M. Yakushyk. // Hromadski initsiatyvy. 1998. № 10. S.2-3.

59. Korniiievskiyi O. A. Osnovni riznovydy molodizhnykh hromadskykh obiednan u suchasni Ukraini / O. A. Korniiievskiyi, V. M. Yakushyk. // Hromadski initsiatyvy. 1998. № 8. S. 2-5.

60. Kryvdina I. B. Dysydeny-pravozakhysnyky v borotbi za nezalezhnist Ukrainy (ostannia chvert KhKh stolittia). // Naukovi zapysky istorychnoho fakultetu. Odesa, 2001. Vypusk 11. S. 292-298.

61. Biletskyi V. My ydemo! Narysy z istorii Donetskoho oblasnoho TUMu im. T. Shevchenka – pershoi masovoi natsionalno-demokratychnoi hromadskoi orhanizatsii Donechchyny. Donetsk : Ukrainyskyi kulturolohichnyi tsentr. 1998. 223 s.

62. Savchuk B. Volynska «Prosvita» Rivne : Vydavnycha firma «Lista», 1996. 154 s.

63. Seko Ya. Diialnist VUT „Prosvita” v umovakh novitnoi istorii Ukrainy. // Naukovi zapysky Ternopilskoho derzhavnoho pedahohichnoho universytetu im. Volodymyra Hnatiuka. Serii «Istoriia». Ternopil, 2002. Vypusk 3. S. 74-79; Seko Ya. Tovarystvo ukrainskoi movy imeni Tarasa Shevchenka v systemi natsionalnykh orhanizatsii periodu borotby za nezalezhnist (1989-1991). // «Prosvita» v dukhovno-

kulturnomu pidnesenni Ukrainy / Za red. V.P. Matska. Khmelnytskyi: Prosvita, 2005. S. 27-33.

64. Shanovska O. A. Intelihentsiia i vlada v Ukraini doby perebudovy: problema vzaiemovidnosyn. // Naukovi zapysky Vinnytskoho derzhavnoho pedahohichnoho universytetu imeni Mykhaila Kotsiubynskoho. Serii: Istorii: Zb. nauk. prats. Vinnytsia, 2009. Vyp. 15. S. 154-160.

65. Zaremba S. Z. Ukrainske tovarystvo okhorony pamiatok istorii ta kultury. Istorychnyi narys. Kyiv : Lohos, 1998. 241 s.

66. Taboranskyi V. P. Zdobutky ta problemy istoryko-kraieznavchoho rukhu hromadskosti Serednoho Podniprovia u roky nezalezhnosti Ukrainy / V. P. Taboranskyi. // Visnyk Kyivskoho slavistychnoho universytetu. Kyiv, 2006. № 27. S. 187-199.

67. Hrytsenko O. Dobrochynni fundatsii yak mekhanizm pidtrymky kultury // Kulturna polityka: metodolohichni, pravovi, ekonomichni problemy : zb. nauk. prats / Ukrainyskyi tsentr kulturnykh doslidzhen; Instytut kulturnoi polityky / red. O. A. Hrytsenko. Kyiv : [B.V.], 1995. S. 42-50; Dmytriienko M. Blahodiinist yak atrybut hromadianskoho suspilstva: istoriia ta suchasnist / M. Dmytriienko, O. Yas. // Rozbudova derzhavy. 1994. №6. S. 37-44.

68. Mashchenko I. Yu. Diialnist natsionalno–kulturnykh obiednan etnichnykh menshyn na terytorii Tsentralnoi Ukrainy: 90-ti roky KhKh stolittia. // Mizhnarodni zviazky Ukrainy : naukovi poshuky i znakhidky. Kyiv : Instytut istorii Ukrainy NAN Ukrainy, 2002. Vyp. 11. S. 235-244.

69. Shulga N. A. Russkaya kultura v Ukraine: politiko-pravovoi, sotsialnii i tsennostnoi status. // Dialog ukrainskoi i russkoi kultur v Ukraine : m-li II mezhdunarodnoi nauch. prakt. konf., (30-31 oktyabrya 1997 g., g. Kiev). Kiiv : Fond podderzhki russkoi kulturi v Ukraine (Rusfond), 1998. S. 9-18; Snezhko V. N. Razvitie kulturi russkogo menshinstva v usloviyakh nezavisimoi Ukraini. // Dialog ukrainskoi i russkoi kultur v Ukraine : m-li II mezhdunarodnoi nauch. prakt. konf., (30-31 oktyabrya 1997 g., g. Kiev). Kiiv : Fond podderzhki russkoi kulturi v Ukraine (Rusfond), 1998. S. 200-203; Razumkov A. V. Mezhetnicheskoe soglasie kak faktor

natsionalnoi bezopasnosti Ukraini. // Dialog ukrainskoi i russkoi kultur v Ukraine: m-
li III mezhdunarodnoi nauch. prakt. konf. (12-13 noyabrya 1998 g., g. Kiev). Kiïv :
Fond podderzhki russkoi kulturi v Ukraine (Rusfond), 1999. S. 18-22.

70. Loiko L. I. Hromadski orhanizatsii etnichnykh menshyn Ukrainy: pryroda,
lehitymnist, diialnist. Kyiv : PTs «Foliant», 2005. 634 s.

71. Volobuev O. V. Krymskotatarskii vopros po dokumentam TsK KPSS
(Vtoraya polovina 50-kh – seredina 80-kh g.g. XX v.). // Otechestvennyia istoriia.
1994. № 2. S. 158-169.

72. Pikhovshek V. Povernennia krymskykh tatar. Khronika podii. / V.
Pikhovshek, Yu. Tyshchenko. Kyiv : UNTsPD, 1999. 344 s.

73. Seytmuratova A. Sotsyalnaia zashchyta odynokyykh, prestarelykh hrazhdan
krimskykh tatar. // Neuriadovi orhanizatsii v umovakh rynkovoï ekonomiky:
riznobichchia dosvidu, problem, perspektyv: materialy Vseukr. konf., tezy vystupiv. –
K. : Asotsiatsiia «Boston-Kyiv – mista-pobratymy», 1995. S. 77-78; Parakhonskyi B.
Krymskotatarska problema: suchasnyi stan i perspektyvy yii vyrishennia. // Krymski
studii. Informatsiinyi biuleten. 2000. №1. S. 29-36; Belitser N. Prykhovana
intehratsiia. // NUO novyny. 1999. № 13 S. 8; Bilukha Yu. Analitychno-dovidkovyi
material z pytan povernennia v Ukrainu ta oblashtuvannia deportovanykh za
natsionalnoiu oznakoiu osib. // Krymski studii. Informatsiinyi biuleten. 2000. №2. S.
19-24

74. Buznytskyi Yu. Mizhnarodnyi fond «Vidrozhennia» – vnesok v rozbudovu
demokratychnoho, tolerantnoho suspilstva v Krymu. // Krymski studii: informatsiinyi
biuleten. 2000. № 2. S. 25-38; Lytovchenko L. Konsortsium obyraie Krym. //
Perekhrestia. 1999. № 2. S. 37.

75. Chervonopyskyi S. Stanovlennia „afhanskoho” rukhu v URSR (1980-1991
rr.). // Politychnyi menedzhment. 2005. № 6(15). S. 66-81; Chervonopyskyi S. Bilia
ostannoï mezhi. // Politychnyi menedzhment. 2005. № 4(13). S. 82-98.

76. Chervonopyskyi S. V. Ukrainskyi fenomen «afhanskoho rukhu» //
Orhanizovanyi «afhanskyi» rukh v Ukraini: stanovlennia ta rozvytok: zb. st. / S. V.
Chervonopyskyi. Kyiv : Mizhrehionalnyi vyd. tsentr «Medinform», 2007. S. 72-89.

77. Veteranski orhanizatsii mista-heroia Kyieva / Krasyl'nikov I. M., Hryhoriev S. V., Halkin H. P. ta in. Kyiv : Prosvita, 2003. 420 s.
78. Ablazov V. Veterany viiny Ukrainy ta yikhni hromadski orhanizatsii. // Tretii Tost. 1998. № 15-16. S. 5-8 .
79. Vseukrainska orhanizatsiia invalidiv viiny ta Zbroinykh Syl : narysy istorii / P. L. Mashkovets, V. P. Bondarchuk, M. A. Lebedynskyi ta in. Kyiv : Zhnets, 2005. 200 s.
80. Vyshniak O. Sotsialnyi zakhyst postrazhdal'nykh vid avarii na ChAES / O. Vyshniak, H. Mimandusova, V. Pylypenko. // Chornobyl i sotsium. Kyiv, 1997. Vypusk 3. S. 244-253; Vyshniak O. Chornobyl'ska katastrofa: problemy sotsialnoho zakhystu poterpiloho naselennia. / O. Vyshniak, H. Mimandusova, V. Pylypenko. // Postchornobyl'skyi syndrom: 15 rokiv po avarii. Kyiv : IS NANU, 2000. S. 220-236;
81. Kuzmina S. V. Samoorhanizatsiia robitnychoho rukhu Donbasu naprykintsi 80-kh – na pochatku 90-kh rokiv KhKh stolittia. // Istorychni i politolohichni doslidzhennia: Zb. statei. / Hol. red. P. V. Dobrov. Donetsk: Vyd-vo DonNU, 2002. №3/4 (11-12). S.185-189; Kuzmina S. V. Spad robochoho straikovoho rukhu Donbasu v 1994-1995 rokakh: prychny ta problemy. // Novi storinky istorii Donbasu: Zb. statei. / Hol. red. Z. H. Lykholobova. Donetsk: DonNU, 2003. Kn.10. S. 85-94.
82. Stoian H. O. Profesiini spilky Ukrainy (1992-1997 rr.) : avtoref. dys. na zdobuttia nauk. stupenia kand. ist. nauk : spets. 07.00.01 «Istoriia Ukrainy» Donetsk, 1998. 16 s.
83. Narysy istorii profesiinykh spilok Ukrainy : / Hol. red. O. M. Stoian; kerivnyk avtorskoho kol. O. P. Reient. Kyiv : VVP «Misioner», 2002. 732 s.
84. Holubutskyi O. Suchasnyi profspilkovy rukh v Ukraini / O. Holubutskyi, Yu. Dokukin, V. Kulyk. Kyiv : Ukrainska perspektyva, 1996. 63 s.
85. Usychenko Y. Y. S oryentyrom na cheloveka // Sovetskyi Krasni Krest. №2. 1990. S. 3-5; Usichenko I. I dobrota, i myloserdia / I. Usichenko, Yu. Vilenskyi, O. Zahranychnyi. Kyiv : Tovarystvo Chervonoho Khresta Ukrainy, 2001. 63 s.; Khabarova A. Myloserdia bez mezh ta kordoniv. // Zhinka. 1998. Kviten. S. 3-4.

86. Smoliar L. O. Zhinochy rukh Ukrainy yak chynnyk gendernoi rivnovahy ta gendernoi demokratii. // Perekhrestia. 2000. №3. S. 20-25; №4. S. 15-20; №5. S. 8-12; №6. S. 12-17.

87. Yarosh O. B. Zhinochi obiednannia Ukrainy yak subiekt derzhavotvorennia kintsia KhKh stolittia : dys. ... kand. polit. nauk : 23.00.02 / Yarosh Oksana Bohdanivna. Lutsk, 2000. 195 s.

88. Laktyonova H. M. Sotsyalno-pedahohycheskaia rabota s zhenskoi molodyozhiu v krupnom horode : teoretyko-metodolohycheskye osnovi. Kyiv : Ukraynskyi tsentr dukhovnoi kulturi, 1998. 322 s.

89. Vasiuta S. I. Postchornobylskyi period v Ukraini – natsionalnyi dosvid v konteksti tsyvilizatsiinykh stratehii. Kyia : NAN Ukrainy, instytut istorii Ukrainy, 2001. 132 s.; Vasiuta S. I. Chornobylska trahediia: natsionalnyi dosvid ta hlobalni imperatyvy / S. I. Vasiuta, I. P. Pohribnyi. – Kyiv : KyMU, 2003. 276 s.

90. Aleksiievets M. Ya. Ekolohichnyi rukh v Ukraini. Ternopil : Lileia, 1999. 275 s.

91. Fedorynchyk S. Uchast hromadskosti u stalomu rozvytku v Ukraini // Svit u doloniakh. 1999. № 1(6). S. 27-31.

92. Instruksiiia Sekretariatu Prezydii VUTsVK vid 16 lypnia 1932 r. «Yak reiestruvaty statuty tovarystv i spilok, shcho ne maiut na meti dobuyaty zysk, ta nahliadaty za yikh diialnistiu» // Khronolohichne zibrannia zakoniv, ukaziv Prezydii Verkhovnoi Rady, postanov i rozporiadzhen uriadu Ukrainskoi RSR : V 2 t. Kyiv : Derzhpolityvdav URSR, 1963. T.1. S. 499-503; Postanova VUTsVK i RNK Ukrainskoi SRR vid 20 liutoho 1933 r. «Pro orhany, yaki provodiat reiestratsiiu statutiv tovarystv i spilok, shcho diiut ne dlia zysku» // Tam samo. S. 521-522.

93. Zakon SRSR «Ob obshchestvennikh ob'edyneniakh» // Novie zakoni SSSR. – M.: Yurydycheskaia lyteratura, 1991. Вып. 3. S.18-30; Postanova Prezydii Verkhovnoi Rady Ukrainskoi RSR «Pro poriadok reiestratsii hromadskykh obiednan» // Vidomosti Verkhovnoi Rady URSR. № 49. S. 640; Postanova Prezydii Verkhovnoi Rady Ukrainskoi RSR «Pro dopovnennia Postanovy Prezydii Verkhovnoi Rady

Ukrainskoi RSR vid 29 veresnia 1990 roku «Pro poriadok reiestratsii hromadskykh obiednan» // Vidomosti Verkhovnoi Rady URSR. № 49. S. 641.

94. Zakon Ukrainy «Pro obiednannia hromadian» // Normatyvno-pravova baza diialnosti hromadskykh molodizhnykh orhanizatsii. Kyiv : Chetverta khvyliia, 2001. S. 55-67.

95. Postanova Kabinetu Ministriv Ukrainy «Pro zatverdzhennia Polozhennia pro poriadok lehalizatsii obiednan hromadian» vid 26 liutoho 1993 r. № 140 // Normatyvno-pravova baza diialnosti hromadskykh molodizhnykh orhanizatsii. Kyiv : Chetverta khvyliia, 2001. S. 249-254; Postanova Kabinetu Ministriv Ukrainy «Pro poriadok reiestratsii symvoliky obiednan hromadian» vid 26 liutoho 1993 roku // Tam samo – S. 254-258.

96. Ukaz Prezydenta Ukrainy «Pro Tovarystvo Chervonoho Khresta Ukrainy» vid 28 zhovtnia 1992 roku № 548/92 // Informatsiinyi visnyk TChKh Ukrainy. 1993. №3. S. 2; Postanova Kabinetu Ministriv Ukrainy «Pro spryiannia diialnosti Ukrainskoi Spilky veteraniv Afhanistanu» vid 2 kvitnia 1993 r. №238 // Tretii tost. 1993. № 6(7). Kviten; Postanova Kabinetu Ministriv Ukrainy «Pro spryiannia diialnosti Ukrainskoho natsionalnoho komitetu molodizhnykh orhanizatsii» vid 22 serpnia 1996 r. № 991 // Normatyvno-pravova baza diialnosti hromadskykh molodizhnykh orhanizatsii. Kyiv : Chetverta khvyliia, 2001. S. 258-259; Postanova Kabinetu Ministriv Ukrainy «Pro zatverdzhennia pereliku vseukrainskykh ta mizhnarodnykh obiednan hromadian, yaki postrazhdaly vnaslidok Chornobylskoi katastrofy» vid 22 zhovtnia 1996 r. № 1279 // Visnyk Chornobyliia. 1996. 23 lystopada.

97. Suchasni politychni partii ta rukhy na Ukraini (informatsiino-dovidkovi materialy) / I. F. Kuras, F. M. Rudych, O. P. Smoliannykov, O. A. Spirin. Kyiv : Instytut politychnykh doslidzhen, 1991. 351 s.

98. Holovenko V. A. Zbirnyk materialiv pro molodizhni obiednannia Ukrainy / V. A. Holovenko, M. Yu. Pashkov. Kyiv : UNDIPM, 1991. 143 s.

99. Molodizhnyi rukh v Ukraini : dovidnyk / [pid red. V. A. Holovenko] – Kyiv : «Stolytsia», 1998. Ch. 1. 251 s.

100. Pro stanovyshe molodi v Ukraini (za pidsumkamy 1997 roku) : Shchorichna dopovid Prezydentovi Ukrainy, Verkhovni Radi Ukrainy, Kabinetu Ministriv Ukrainy. Kyiv : NVF «Studtsentr»/ NIKA Tsent, 1998. 148 s.; Pro stanovyshe molodi v Ukraini (za pidsumkamy 1998 roku). Shchorichna dopovid Prezydentovi Ukrainy, Verkhovni Radi Ukrainy, Kabinetu Ministriv Ukrainy – K. : TM Printiks Pres, 1999. 154 s.

101. Poslannia Prezidenta Ukrainy do Verkhovnoi Rady Ukrainy pro vnutrishnie i zovnishnie stanovyshe Ukrainy u 2000 rotsi. Kyiv : Informatsiino-vydavnychi tsestr Derzhkomstatu Ukrainy, 2001. 404 s.

102. Natsionalni vidnosyny v Ukraini u KhKh st.: zbirnyk dokumentiv ta materialiv / Uporiad. M. I. Panchuk ta in.; Redkol.: I. F. Kuras (holova) ta in. Kyiv : Naukova dumka, 1994. 557 s.

103. Natsionalni protsesy v Ukraini: istoriia ta suchasnist. Dokumenty i materialy: dovidnyk / Uporiad.: I. O. Kresina, V. F. Panibudlaska. / za red. V. F. Panibudlasky. Kyiv : Vyshcha shkola, 1997. Ch. 2. 1997. 704 s.

104. «Prosvita»: istoriia ta suchasnist (1868-1998): zb. materialiv ta dokumentiv, prysviachenykh 130-richchii VUT «Prosvita» im. Tarasa Shevchenka / Uporiad., red., V. Hermana. Kyiv : Vyd. tsestr «Prosvita», Vyd. «Veselka», 1998. 488 s.

105. Khronika oporu. Dokumenty, inshi ofitsiini materialy, svidchennia presy pro sprobu derzhavnoho perevorotu, vchynenu u serpni 1991 roku tak zvanym HKChP / Uporiad. L. Taniuk. Kyiv : Vik. Dnipro, 1991. 455 s.

2. Demography of Kyiv, Podillia, Volyn, Poltava, Chernihiv, and Kharkiv provinces in the middle of the 19th century

2.1 Sources, research history

In the middle of the 19th century in the Russian Empire, three different methods of counting the population were used at the same time: 1) so-called "Revisions"; 2) short-term censuses of the existing population based on the example of Western European countries through statistical institutions with the participation of the population itself; 3) administrative and police methods of population accounting through statistical committees and commissions, police and parish offices.

Revision is a form of population calculation held sporadically by the government exclusively for fiscal purposes under the conditions of a per capita taxation system. It only covered taxable categories of the population, or rather only male "souls", leaving women and representatives of other non-taxable sections of the population on the periphery. Such data were added later and only "for information", as usual. There were no correct methods of counting residents during audits, lists of residents were kept carelessly, and the facts of hiding "souls" were not rare [1, p. VIII].

The first unsuccessful attempt to conduct a demographic Revision was started by Peter I in 1718 and formally continued until 1721. However, various clarifications and checks on this matter were stopped only by Catherine II. Gradually, nobles, clergy, and military were removed from the list of those to be transcribed, and leaving only taxable classes in it gave the whole event a distinct fiscal character. The Second Revision of 1742 – 1747 (additions were received until 1756) repeated the main shortcomings of the first one. Still, it confirmed Peter's ban on attaching "Little Russians" to the land and the order to account for them only formally without imposing new taxes. The Third Revision was prepared and carried out during the reign of Catherine II in 1761 – 1765. However, it was originally planned to be completed in five months, and was accompanied by the Pugachev uprising. The latter did not contribute to the successful completion of the entire event. The final result of the first

three Revisions was the lowering of the social role of the peasantry, its equalization with serfs through the poll tax, and the spread of serfdom. The Fourth Revision (1781 – 1787) was accompanied by the spread of serfdom to a part of the peasants of Slobidska Ukraine and Little Russia, the Fifth Revision lasted from 1791 to 1808 due to huge inconsistencies with the real number of the taxable population in the data of "Revision reports" coming from the governors. For the first time, information on the population of the recently annexed Right-Bank Ukraine was recorded. The Sixth Revision was carried out in 1811 according to the standards of the previous one, the Seventh was started in 1815 and continued until 1822, but it turned out to be as unsuccessful as the previous ones. The Eighth Revision was scheduled for 1833 with the calculation of its completion in 1834. The relevant manifesto emphasized that the calculation is subject to "the entire population of taxable categories, of any age, sex, clan or tribe, not excluding those in the service or performing other state duties instead of per capita tax. On this basis, people are included in the census either to pay taxes or to perform other duties, or only for counting population". This was the first time that the need for full population accounting was expressed, as opposed to the previous system of audits. The Ninth Revision was carried out in 1850 – 1851. In its statutes, for the first time, categories of the population that did not pay taxes and were not subject to accounting were listed: the clergy, nobles, officials, home teachers, military ranks, honorary citizens, children of Protestant-Lutheran priests, retired clerks who retired before 1828, people of postal and theater departments, courtiers and many others. The Tenth Revision was appointed after the end of the Crimean (Eastern) War in 1856 and lasted until 1860. The principles of its organization completely repeated the previous one [2, pp. 119–145; 3, pp. 42–45, 92–94]. In the process of preparing for the implementation of the peasant reform, a sudden and noticeable increase in the population was observed in some places due to the legalization of a part of runaway peasants, the return of "salaried workers", changes in the departmental subordination of military settlers, etc. Below, we will verify this with specific examples from the demographic history of the Forest-Steppe Ukraine in 1856–1858.

Short-term censuses were introduced in England from 1760, in France from 1791, in Prussia, Belgium, Holland, and Germany from the 1830s, while in the Russian Empire, they were practiced selectively. In particular, at the beginning of the 1860s, such censuses were conducted only in four Russian provinces (S.-Petersburg, Simbirsk, Ufa, Yaroslavl) and several cities, including Ekaterinoslav, Kyiv, Kharkiv, Mykolaiv, Chernihiv, Odesa [1, 1866, pp. IX–XV; 3, p. 115]. Difficulties in organizing such a census of the bulk of the rural population of Russia at that time proved to be insurmountable.

Statistical data obtained from local administrations were considered the most reliable among experts. They were based on yard lists of residents, which were updated annually, taking into account the dead and new arrivals, as well as those absent on long-term passports. In general, population lists in the Russian Empire at that time were divided into three categories: 1) lists determined by state acts; 2) fiscal or payroll lists; and 3) police lists. Lists of the first category were kept for three social groups of the population – the nobility, the clergy, and the bourgeoisie. For hereditary nobles, their role was fulfilled by provincial genealogical books, but they included only those who owned estates or yards in this province with the peasants who inhabited them. Hereditary nobles by merit did not always get into such books, and women were not included there at all. The Orthodox clergy were registered according to the consistorial lists, for other denominations the lists of the Department of Foreign Religions of the Ministry of Internal Affairs were kept. The so-called "citizen's book" was intended for urban dwellers. All city residents were included in it, not only the owners of city real estate, but also personal nobles, honorary citizens, guild merchants, guild craftsmen, and those who had their own business in the city but did not live there permanently. Financial lists were represented by "wage books" that were kept separately for householders, taxable townspeople, and rural taxable estates. Police lists that existed exclusively for cities provided information about the population and its movement, regardless of status [2, pp. 153–157].

The natural movement of the population (births, deaths, marriages) was reflected by records in metric books, which were to be kept by representatives of the clergy of

all religions. According to the law of February 20, 1784, each parish priest had to have three books according to the established form: about those who were born, about those who got married, and about the dead. In the first, the year, month, and day of birth, the legality of birth, names, surnames, gender of parents, and name of the midwife was entered. Marriage records included information about the year, month, and date of the wedding, names, surnames, age, religion, and social status of the young people and witnesses. The time of death, name, religion, sex, age, rank, disease, and type of death of the deceased were recorded in the book about the deceased [4, pp. 365–369]. Priests received these books from civil district administrations numbered, laced, with a seal. Control over their management was carried out by both spiritual and secular authorities. Based on these books, parish priests annually compiled report cards on the population movement according to the established model. No later than October, information from the parishes was sent to the district and recruitment commissions, where it was analyzed, summarized, and sent to the provincial administration, and from there to the Ministry of Internal Affairs. In addition to metric books, important information about the male part of the population was contained in the recruitment lists, where the entire male population of the recruitment district was entered [5, pp. 87–89]. Orthodox metric books were kept since 1722, Lutheran since 1764, Catholic since 1826, Muslim since 1828, and Jewish since 1835 [6, p. 15].

The fixation of representatives of some denominations, in particular Jews, who tried to avoid fiscal auditing, and Old Believers, who did not accept censuses at all, was problematic. The confusion of social status gradation in the Russian Empire also did not contribute to the accuracy of demographic statistics [1, pp. XIX – XXI].

The gradual accumulation of statistical data required their scientific processing. One of the first to undertake this difficult task was E. Zyablovsky (1764 – 1846). In the statistical description of the Russian Empire, he, in particular, based on the data of the Sixth Revision (1811 – 1812) and other sources, calculated the total population of the state at 4,548,5712 people, the approximate quantitative ratio of social statuses and groups, population growth, and the density of its settlement. For the first time, he published information on the number of inhabitants of the Ukrainian provinces: Poltava

– 1,625,000, Podillia – 1,297,787, Chernihiv – 1,260,000, Slobidska Ukraine (Kharkiv) – 1,030,000, Kyiv – 1,066,198, Volyn – 1,212,846, Ekaterinoslav – 666,163, Kherson – 370,430 or 254,931 [7, pp. 136–148]. Almost simultaneously was published the work of the future academician of two Russian academies K. Arsenyev (1789 – 1865), who relied, in particular, on the data of the Seventh National Revision. The author supported E. Zyablovsky's calculations regarding the total population of the Russian Empire, as being close to 45 million, taking into account a decrease of almost 700,000 as a result of the Napoleonic wars. In general, the data given by K. Arsenyev in this work, are close to those submitted by Zyablovsky, but are more rounded, taking into account the inaccuracy of statistical information about the population. Among the nine most populated provinces, the author included three Ukrainian ones - Chernihiv, Poltava, and Podillia. In addition, the statistician scientist proposed a system for classifying cities by the number of inhabitants. Ukrainian provincial cities were distributed as follows: 2nd class – Kyiv, Kharkiv, Poltava (10,000 – 30,000); 3rd grade – Kherson, Ekaterinoslav, Zhytomyr (5 – 10 thousand); 4th grade – Chernihiv, Kamianets-Podilskyi (2 – 5 thousand) [8, pp. 47-74]. After 30 years, the already well-known researcher resorted to a new generalization of statistical data from the life of the Russian Empire, emphasizing the issues of economic geography and operating mainly with the materials of governors' reports. To them, 9,229,790 people lived in Forest-Steppe Ukraine in 1846 [9, p. 495], or 1,740,000 more than in 1815-1818 (see above).

The first attempt to generalize data on the increase (increase in the number) of the population of the Russian Empire during the three decades between 1804 and 1833 was the study of I. Link. Using primarily the lists of Orthodox dioceses, he tried to establish regularities in the ratio of births and deaths, and the gender of those registered [10]. The work in this direction was continued by A. Roslavsky, who determined the term of the change of demographic generations in the Russian Empire among the Orthodox population at 32 years (39 for France and 46 years for Belgium), calculated the ratio of the working-age population of Belgium, Russia and France in the proportion of 1.29: 1:0.56 [11, pp. 217, 222, 223, 227].

Interesting data on the growth of the Ukrainian province's population by social groups between the Seventh and Eighth Revisions was processed by S. Korsakov: the population of Ekaterinoslav (by 23%), Podillia, Kharkiv, and Chernihiv (by 18 – 19%) provinces grew the fastest. The population of Poltava, Volyn, and Kyiv provinces grew more slowly (by 13 – 14%). In Poltava and Podillia provinces, the number of merchants increased by 97 – 100%. The number of state peasants in Volyn (197%) and Podillia (122%) provinces increased significantly due to state confiscations of the estates of active participants in the Polish uprising of 1830-1831 [12].

A positive role in the accumulation of statistical sources on demography was played by the publication of the results of the Eighth Revision with details by provinces and districts as of 1838, carried out by Academician P. Köppen (1793 – 1864). The most populated districts in the Ukrainian Forest Steppe were Zhytomyrskyi (95,795 people – Volyn pr.¹), Vasylkivskyi (71,144 – Kyiv pr.), Kamianetskyi (68,345 – Podillia pr.), Starobilskyi (68,359 – Kharkiv pr.), and Novozybkivskyi (50,332 – Chernihiv pr.). The researcher considered the total population of the Russian Empire close to 62 million [13, pp. 4, 6, 10, 14, 16]. Subsequently, K. Arsenyev published data on the population of the Russian Empire in 1846 according to the same principle based on the reports of governors [14]. This small brochure became the basis for the first monographic analysis of the demographic situation in the Russian Empire in the mid-1840s. Its author was the outstanding philosopher, culturologist, and demographer of the 19th century N. Danilevsky (1822 – 1885). The program developed by him provided consideration of the following issues: the total population by provinces and districts, population density, the number of male and female residents and the ratio between them, the number and proportion of births, the sex of births, the number and proportion of deaths, the ratio of deaths by sex, the ratio births and deaths (population growth or decline), sexual aspects of population growth or decline, number and share of marriages. In terms of population, the author classified three Ukrainian provinces (Kyiv, Poltava, Podillia) into the 2nd category with a population of 1.5 million or more.

¹ pr. – province.

Three other forest-steppe provinces (Kharkiv, Volyn, Chernihiv) got to the 3rd category with a population of 1.25 – 1.50 million. Only the Kursk province from the Russian Black Earth Belt (1,773,806 inhabitants) was included in the 1st category. The total population of the Empire N. Danilevsky identified as about 65 million, including about 49 million Orthodox, 7.5 million Catholics, 3.5 million Protestants, 2.4 million Muslims, and 1.2 million Jews. In his opinion, the main population groups according to linguistic and ethnic characteristics were "Great Russians" (33 million), "Little Russians" (11.2 million), "Belarusians" (3.6 million), "Poles and Lithuanians" (7 million), Jews (1.5 million), "Finno-Latvians" (3.3 million), "Tatars" (2.4 million), "German colonists" (0.6 million). In terms of population density, the first two positions belonged to the Moscow and Tula provinces, whose population density was four times higher than the average in European Russia; the 4th, 5th, and 6th positions, after the Kursk province, were shared by the Ukrainian forest-steppe provinces of Poltava, Podillia and Kyiv (where the population density was three times higher than the average), the 11th and 13th places belonged to the Kharkiv and Chernihiv provinces (the population density was twice the average). The least populated Volyn occupied 21st position with a density index of 1.84 from the average [15, part 34, pp. 117 – 119, 121 – 124, 138 – 139]. According to the share of births in 1846, the named Ukrainian provinces were distributed as follows: Poltava (5.0%), Kyiv (4.6%), Chernihiv (4.5%), Podillia and Kharkiv (4.3%), Volyn (4.0%). According to the mortality rate, the same provinces were located in a different order: Podillia (2.8%), Volyn (2.9%), Kyiv and Kharkiv (3.1%), Poltava (3.6%), Chernihiv (4.3%) [Ibid., pp. 203 – 205, 360 – 363]. According to the income of the population, almost all Forest-Steppe provinces were assigned to the 1st class with indicators higher than the average for European Russia (1.04%): Kyiv 1.5%, Podillia and Poltava 1.4%, Kharkiv 1.2%, Volyn 1.1% Only the Chernihiv province with a population gain of 0.2% got into the II class out of 10 provinces with the minimum positive ratio of the number of births and deaths [Ibid., part 35, p. 4]. The advantage of the method used by N. Danilevsky, it should be considered a wide and equal use of statistical data of the provinces and districts' levels of origin, which is being observed for the first time in such an organic form.

Understanding the initial limitations of statistical sources, the researcher developed a system of indirect indicators to model the main, in his opinion, patterns of system organization. The flaws of the work include the inconsistency of the globality of the author's conclusions with the source base he used, which is represented by demographic statistics of only one year in 1846, as well as excessive fascination with the ideas of geographic determinism.

The turning point of the 1840s – 1850s became the final stage in the process of understanding the results of the Eighth National Revision. Talented statistician M. Zablotsky-Desiatovsky (1816 – 1858) processed data on the social structure of the population based on 1836. For our research, the most useful feature of this publication is that for the first time, we find a clear correlation between various social groups of the then-Ukrainian society and the main legal social categories of the Russian Empire [16, pp. 54–57]. At the same time, his brother and also an outstanding statistician of his time, A. Zablotsky-Desiatovsky (1807 – 1881) traced the demographic movement of the population from 1838 to 1847 based on the reports of Orthodox dioceses and information from the Department of Foreign Religions of the Ministry of Internal Affairs. This case was later continued by E. Kaipsha, who based on the method of his predecessor, proved the calculations until 1852 [17]. Both works became an important source in the study of fluctuations in population growth in Ukrainian provinces in the late 1830s – early 1850s.

Increasing the role and importance of provincial statistics contributed to the fact that historical and statistical descriptions of some provinces were created on behalf of the Statistical Department of the Ministry of Internal Affairs. The first were descriptions of the Kharkiv and Kherson provinces, prepared according to the same plan: history, geography, administrative division, population, and economy [18; 19]. Unsurpassed throughout the 19th century was the multi-volume statistical description of the Kyiv province, brought by the creators in the middle of 1848 [20]. This became possible thanks to the lucky combination of talents of the outstanding Ukrainian statistician-economist D. Zhuravsky (1810 – 1856) with the administrative and financial capabilities of the long-time Kyiv civil governor I. Fundukley (1799 – 1880).

Initially, the publication was planned in four parts: I. Overview of the territory, population, inhabited places, and communication routes; II. Review of agriculture and land ownership; III. Review of industry and trade; IV. Review of local administration and government institutions. However, the last part was never prepared for printing, most unlikely due to the transfer of I. Fundukley to another high position in St.-Peterburg. During the work on this regional project, D. Zhuravsky widely used the method of continuous observation, summarizing indicators, and statistical grouping. He divided the population into groups based on gender, religious affiliation, and social affiliation (nobility, clergy, urban tax estates, various free estates, and serfs) [21, pp. 76 – 77].

The "Notes on Poltava Province", was compiled in 1846 in three parts and published in 1849 – 1852 by the then manager of the Poltava Chamber of State Property, and a few years later the Archangel civil governor N. Arandarenko (1795 – 1867). For our work, the most interesting is the second part, which contains information on the history of the Poltava region, its administrative structure, the social composition of the population, and the economy of the region, as well as the third part with a description of the districts of the Poltava province [22; 23]. In the South of Ukraine, the head of the statistical committee in Odesa, A. Skalkovsky (1808 – 1898) in 1850 – 1853 began publishing his statistical description of the Novorossiysk region. Of the four parts planned by the author, two came out: "Geography, Ethnography and Population" (1850) and "Economic Statistics of the Novorossiya Territory" (1853) [24; 25].

The results of the Ninth National Revision (1850 – 1851) were elaborated and published by P. Köppen first in the form of a brochure [26], and later as a separate monograph [27]. The latter marked a new stage in domestic statistics and to this day remains a desk book for anyone interested in the socio-demographic history of the 19th century.

The need to reform the system of state statistics was ripe in the 1830s, but the process stretched for almost two decades. The first concrete results were achieved by the military. The military-topographical survey of the Empire, which began in the mid-

1830s, by the end of the 1840s was formalized in a serial publication entitled "Military-statistical survey of the provinces and regions of the Russian Empire." On October 1, 1848, the minister of war approved the program of the project, which contained such mandatory sections as I. General information; II. Locality; III. Residents; IV. Industry; V. Education; VI. Special information on the military department. It was planned to publish a total of 18 volumes with descriptions of 80 provinces and regions. Descriptions of Ukrainian provinces were included in the 10th (Kyiv, Podillia, Volyn), 11th (Ekaterinoslav, Kherson, Tavrian, Bessarabian and Don Army), 12th (Poltava, Chernihiv, Kharkiv) volumes [29; 29; 30; 31; 32; 33; 34; 35; 36]. It should only be noted that the advantages and disadvantages of the descriptions of each province of Ukraine in this project did not depend on the qualifications of the compilers, because all of them were officers of the General Staff with military academic education and worked by the expedition method with field visits, but on the quality of the information provided by the provincial administration. In general, all eleven books of the three "Ukrainian" volumes contain descriptive and statistical data on the demography, social composition, economic, and cultural life of the inhabitants of Right-Bank, Left-Bank, and Southern Ukraine in the period between 1845 and 1849. An overview of this group of sources can be found in the works of modern authors, in particular [37; 38, pp. 250 – 327; 39], etc. The publication of the series was stopped in 1854 during the Crimean (Eastern) War. In 1859 – 1868, "Materials for the Geography and Statistics of Russia, collected by officers of the General Staff" were published. In each volume, the history of the described region, the formation and settlement of cities, demography, ethnography, administrative structure, and the economic and spiritual life of the inhabitants were considered. Volumes devoted to the Ekaterinoslav region, Kherson region, and Chernihiv region emerged from the Ukrainian theme, and the materials included in them covered the years 1857 – 1860 [40; 41; 42]. The quality of the used sources, including statistical ones, was higher than in the previous series. Unfortunately, this work was not completed.

In the process of reforming civil institutions of state statistics, provincial statistical committees were first created (1834). The provincial committees had their

publications, among which the "Collection of statistical data on the Kyiv province for 1859" [43] and "Commemorative books" of the Kyiv (1857, 1858), Podillia (1859), Poltava (1865), Kharkiv (1864) provinces which contain important statistical data on various aspects of their lives and together cover the period of 1855 –1863 [44; 45; 46; 47; 48; 49].

An important event was the founding of the Russian Geographical Society in 1845, among the organizing members of which were the aforementioned P. Köppen and K. Arsenyev. This is not surprising, since initially the society was planned as a geographical and statistical one under the Ministry of Internal Affairs, but by order of the emperor, it became a Geographical one (since 1849, the Imperial Geographical, which gave it state status with the possibility of budget financing, and the form of the society allowed attracting funds from patrons). Academician P. Köppen became the first head of the Department of Statistics, who was soon replaced in this position by A. Zablotsky-Desiatovsky [50, pp. 11–14]. The efforts of the employees of the Statistical Department of the Geographical Society prepared the first collective work on domestic statistics – "Collection of statistical information about Russia", which was published in three volumes and became, in particular, an important collection of scientifically processed sources from the demographic, social, and economic history of Ukraine at the end of the first half of the 19th century [51; 52; 53].

The Statistical Department of the Geographical Society closely cooperated with the Statistical Committee under the Ministry of Internal Affairs, transformed in 1858 into the Central Statistical Committee with a division into statistical and zemstvo departments. The statistical department, continuing the publication of statistical sources, prepared "Statistical Tables of the Russian Empire" for 1856 and 1858. The second issue became the publication of the results of the Tenth National Revision [54; 2]. Based on the materials of the same Revision, a monograph, dedicated to the condition of serfs in the Russian Empire, was published by the head of the Statistical Department, comrade (deputy) Minister of Internal Affairs, and active member of the committee on preparation for the release of peasants A. Troynitskyi (1807 – 1871). In it, among other problems, there is a gradation of Ukrainian provinces according to the

percentage of serfs among the total population, ranging by occupied places among all the provinces of the Empire: 7. Podillia (59.5%); 10. Kyiv (57.7%); 14. Volyn (56.5%); 28. Chernihiv (37.6%); 29. Poltava (37.5%); 34. Kharkiv (29.8%) (by the way, this indicator was the highest in Smolensk province (69.1%), and the lowest in Bessarabia region (1.2%)). The largest number of peasant serfs was concentrated in the three Right-Bank provinces – Kyiv, Podillia, and Volyn [55, p. 85]. Finally, in 1866, through the efforts of the Statistical Department of the Central Statistical Committee, the first complete statistical description of the state based on data from 1860 to 1863 was published – "Statistical Chronicle of the Russian Empire" edited by K. Arsenyev. It contained detailed statistical information on the Empire territory and population by provinces, districts, cities and rural settlements, religions, social groups, population movement; statistical characteristics of different types of settlements; data on the distribution of land plots by category; industrial and commercial information by branches of production and types of trade, by factories and plants, on inland shipping, on the movement of goods by railways, on fair trade, on guild and industrial certificates, finance and the banking system, joint-stock companies, foreign trade, on the number of livestock; data of judicial statistics, public education, state financial statistics, military statistics. Each chapter was accompanied by a preface and comments [56]. The publication continued successfully until 1890, but subsequent issues of "Vremennik" already go beyond the chronological framework of our research.

Important sources in studying the ethnic-confessional composition of the Ukraine population in the middle – second half of the 19th century became the works of the General Staff Lieutenant Colonel (later General) A. Rittih. On behalf of the Geographical Society, he compiled an ethnographic map of European Russia based on data from the Tenth Revision of 1858 and other statistical sources from the early 1860s [57]. At the Ministry of Internal Affairs, the specialist prepared two editions (1851 and 1864) of the "Atlas of the Population of the Western Russian Territory by Religion", which contains statistical information not only about the confessional but also the ethnic and even social affiliation of the of Right-Bank Ukraine inhabitants by provinces [58].

Concluding our review of the sources, we cannot help but dwell on one more edition, which absorbed the best developments of statistical science and practice of the middle of the last century. This refers to the 4th issue of the "Military Statistical Collection", dedicated to the Russian Empire [59]. Compared to "Vremennik", the demographic section of "Collection" was significantly supplemented and corrected, the tables are accompanied by ratio calculations and conclusions. The table of population movements in 1859–1863 by provinces was compiled based on previously unpublished materials of the Central Statistical Committee of the Ministry of Internal Affairs; a table of violent deaths selected from provincial records; the distribution of the population of the European part of the Empire was calculated according to the tables of Academician V. Bunyakovsky [Ibid., p. XIX].

Thus, from the mid-1830s to the beginning of the peasant reform of the 19th century a variety of statistical sources from various aspects of the life of Ukrainian society within the Russian Empire were accumulated, and some experience of their systematization and scientific generalization was gained. The most active work in this direction began in the mid-1840s, as a result of it, at the turn of the 1850s and 1860s, a number of the best examples of comprehensive publication and scientific understanding of the socio-economic statistical information appeared.

Turning to the present, we note that an outline of the formation of demographic thought in Ukraine in the 18th and 19th centuries can be found, in particular, in the publication of I. Prybytkova [60].

Among the works of modern researchers of Ukraine's historical demography, the works of V. Kabuzan (1932 – 2008) are outstanding. The data on the dynamics of the number and settlement of Ukrainians in the first half of the 19th century, given by the author based on Revision's materials, deserve our attention [61, pp. 16 – 19, Table 1, 2; 62, Table 6, 7]. At the same time, it should be remembered that there was no column on the ethnicity of the auditees in the form of any Revision. "Malorossians" for purely fiscal reasons, as we talked about above, were accounted for separately only in Poltava, Kharkiv, and Kursk provinces until the Eighth Revision. A monograph of A. Rashin, widely known at the previous time, was more official. It draws attention to the section

dedicated to the study of the dynamics of the population of European Russia in the period 1811 – 1863, built on the thorough statistical sources described by us above [63, pp. 27–42, Table 10, 13, 17].

The research on the ethnic composition of the Right-Bank Ukraine population from the entry of the region into the Russian Empire until the beginning of the 20th century, was carried out recently by Yu. Polishchuk is noteworthy [64]. In recent years, some historians are fruitfully working in this direction: well-known researchers M. Krykun [65], A. Filiniuk [66], young scientists – O. Kuzema [67], A. Bogutska [68], V. Kundelskyi [69; 70] and others.

2.2 Quantitative distribution of the Forest-Steppe Ukraine population in the 40s – 60s of the 19th century

Population and people are the main resource of Ukrainian society in the pre-reform period of the 19th century with a late-feudal model of social relations, almost non-mechanized production, and a per capita system of fiscal taxation. It is not for nothing that the owners of "populated estates" were considered real nobles, the elite, and their wealth was measured not so much by the size of the land, but by the number of "souls" of the dependent population. In the same way, the state first began to make significant efforts to count the number of residents, primarily male, able to work physically, serve in the army, and pay taxes, and only then began to accurately measure its territory.

In the middle of the 19th century, six provinces of the Forest-Steppe Ukraine were one of the most populated territories in Eastern Europe. In 1862 – 1863 10,473,800 people lived here, which was about 17% of the Russian Empire's European part population, and by almost 730 thousand it exceeded the Kingdom of Poland and Siberia, taken together [59, p. 46]. For comparison with other countries, in our case, Turkey at that time was best suited, where in the indigenous lands of Asia Minor without the territories of European vassals, there were also about 10.5 million people

[71, p. 58]. It is clear that the Ukrainian demographic potential did not arise immediately, and the process of its formation was not always straightforward.

Tables 2.1; 2.2 were created to organize the statistical data we collected from the source about the population of Forest-Steppe Ukraine between 1846 and 1863, which corresponds to the division of the Forest-Steppe historical-geographical province of Eastern Europe into two regions – Right-Bank and Left-Bank. The structure of the tables includes information about the time of the population census (1846, 1851, 1856, 1858, 1863), spatial factors of the organization of the system (6 provinces and 77 districts), information about the number of residents of cities and military settlements.

Different methods are required to study statistical sources with different levels of organization. For example, the Right-Bank was ahead of the Left-Bank in terms of the number of inhabitants: in 1846 167,448 people, in 1851 by 274,606, in 1856 by 347,737, in 1858 by 348,106, in 1863 by 493,529. To do this, it is only necessary to compare the data by provinces in the table and in the diagram in Figure 2.1, and most historians confine themselves to such simple operations on statistical sources. But for a deeper understanding of the course of demographic processes, this is no longer enough, since we are not dealing with exhaustive information about the population of the province (district, settlement) at a certain point in time, but only with data on residents recorded in the course of accounting activities. In our case, this is the Forest-Steppe Ukraine, within which the centralized calculation of the population was carried out between 1846 and 1863 five times – twice according to the data of national audits (1851, 1858), three times according to provincial reports and using other sources. The number of inhabitants determined each time did not exactly coincide with the real population, but only reflected it with a certain degree of probability. Such statistical reflections of the real state of affairs are the object of our study since we will never be able to verify the original data. To denote this phenomenon, we propose to introduce the concept of "calculated demographic mass" (CDM), which is close to, but not identical to "population", a more complex and multifaceted phenomenon. The situation is complicated by the fact that significant demographic fluctuations are observed within the period: the population of 1851 was less than the population of 1846 by 1.15%, and

the population of 1858 increased by 4.3% compared to the population of 1856. In real terms, it amounted to - (minus) 106,339 people in five years and +416,391 in two years. As for the provinces, significant fluctuations in the CDM were observed first of all in Kyiv and Kharkiv provinces. Kyiv province lost 93,262 people between 1846 and 1851 (-1.01% from the 1846 data) but increased its population by 160,799 people between 1856 and 1858 (+9.02% to the 1856 data). In the Kharkiv province, the CDM of 1851 was less than the CDM of 1846 by 4.14% but increased by 9.95% in 1856. There were also demographic fluctuations in other provinces, but they are less noticeable against the general background (Figure 2.1).

The reasons for such phenomena could be different, from natural changes in fertility and mortality, the consequences of weather disasters, crop failures, and epidemics, to social factors such as organized or spontaneous migrations, and even changes in departmental subordination and the system of accounting for large groups of the population. In the latter case, we mean military settlements and military settlers.

Within the studied territory in the middle of the 19th century, there were two military settlements – Kyiv-Podillia on the Right-Bank and Slobidsko-Ukrainian on the southeast of the Left-Bank.

The Kyiv-Podillia military settlement of the cavalry was formed during 1831 – 1843. In 1836, the confiscated property of the insurgent Poles in the Kyiv and Podillia provinces was transferred to the Ministry of War, and 5 districts and 2 separate volosts of a military settlement with a population of 86,000 were formed from them to house a light cavalry division and a horse-artillery brigade. Among those sequestered were the estates of tycoons Vladimir, Aleksandr, Herman and Joseph Pototski, Adam Chartoryiski, Vaclav Rzhevuski, Aleksandr Sabanski, and others. In 1840 to eliminate agrarian overpopulation, 13,974 peasants were evicted from here, partly to the districts of the Novorossiysk military settlement, partly transferred to the composition of labor companies. In 1853, there were 117,528 military settlers, and in 1856, 124,176 people. The military settlement occupied an area of 70 geographical (German) square miles, consisted of 2 cities, 9 towns, and 83 settlements in Umanskyi and Zvenihorodskyi districts in Kyiv province, Baltskyi, Olhopolskyi, Haisynskyi, and Letychivskyi

districts in Podillia [72, p. 86; 73 pp. 61–62; 74, pp. 59–60; 75, pp. 80–81; 54, pp. 50, 100].

The Ukrainian military settlement in Slobozhanshchyna was established in 1817. Eight districts of the settlement were located on the territory of Starobilskyi, Kupianskyi, Iziumskyi, Zmiivskyi, and Vovchanskyi districts of Kharkiv province, surrounded by landlord and state estates: 148 square geographical miles of land were set aside for the placement of the 2nd Lancer and 2nd Cuirassier divisions, in 1855 207,362 people lived there [76, pp. 81–82; 75, pp. 65 – 79, Table 24; 54, p. 144].

The patrimonies of military settlements did not constitute an integral array, and districts and volosts did not coincide with the administrative division of the province, in addition, military settlements were under the jurisdiction of the Military Ministry, where reports were received about them. Their population in the statistical tables was a separate line in the total number of residents of Kyiv, Podillia, and Kharkiv provinces (Table 2.1, 2.2), but not by districts, which greatly complicates the processing of the district's demographic statistics of 1846 and 1851. Later, with the beginning of the liquidation of military settlements, the situation changes. Since 1856, a process of statistical "legalization" of military settlers has been observed, and most likely not only them, which is accompanied by a rapid increase in the civilian population of provinces with military settlements, starting from the district level of statistical accounting. This was reflected in the materials of the People Revision of 1858, the last one before the reforms of the 1860s. The fact is that the beginning of the liquidation of the military settlements of the cavalry was accompanied by the granting of the rights of the imperial family's peasants to the former settlers and the reform of the land tax, so the treasury was interested in having reliable information about the number and demographic composition of the settlers themselves. For a better understanding of the situation, here are some excerpts from the relevant normative documents in our translation:

"§3. To pay taxes and send other state duties, the following are included in the census: 7) Peasant-soldiers, except for those renamed to this rank from military settlers, whose census is provided to their leadership. Note: peasant-soldiers who entered the

special department are included in the census on the same terms as other peasants of this department" [77, p. 435].

"50. Military settlers enjoy the same rights as defined by the decree of March 14, 1857, for peasants (former peasant soldiers) who are under the jurisdiction of a special department. <...> 67. Instead of all the work and duties that peasants are now obliged to perform, and monetary dues paid by state peasants, a land tax is established for them on each tithe of land owned by peasant communities Note: the land tax comes into force on January 1, 1859. <...>. 68. The allocation of land to rural communities is equalized, if possible, in such a way that for every Revision soul, there are four to five desiatinas² of arable land and hayloft" [78, pp. 475, 477].

An excursion into the history of military settlements shows that it is much more difficult to compare, for example, the CDM of Vinnytskyi and Zvenyhorodskyi districts than Podillia and Kyiv provinces as a whole, since for a long time there were many military settlers in Zvenyhorodskyi district, who existed in the "hidden" form from civilian statistics status until their sudden "appearance" at the turn of the 1850s and 1860s. This problem affects every fourth district of Kyiv and Podillia provinces and almost half of Kharkiv province's districts. All of the above prompts us to develop a special methodology for the preparation and analysis of statistical data, which are incomplete by the methods of accumulation and partially deformed under the influence of various circumstances. The basis of this methodology is the calculation of descriptive statistics of the quantitative characteristics of the studied phenomena with the following meaningful classification of objects using multidimensional statistical analysis, methods of socio-economic mapping, and others.

Descriptive statistics of the quantitative distribution of the population (more precisely, CDM) by provinces and districts of the Forest-Steppe Ukraine are presented in Tables 2.3 and 2.4. For the convenience of analyzing the results, we will list the obtained values of the "minimum", "maximum", and "average" indicators as deviations (%) from the average sample values (Table 2.5).

² Desiatina ("one tenth") – old Russian unit of land area, equal to about 1.09 hectares.

Vynnytskyi (0.6%, 1856) and Haisynskyi (0.8%, 1851) districts in Podillia were the closest to the sample average in terms of the minimum number of populations. In 37 cases (48% of the sample), deviations were positive, and 29 (38%) of such districts were located on the Right-Bank and only 8 (10%) on the Left-Bank of the Dnieper. In this regard, on the Right-Bank a kind of leaders became Kyivskyi (32.9%, 1851), Berdychivskyi (31.5%, 1851), Vasylkivskyi (41.7%, 1846), Radomyshl'skyi (25.6 %, 1851), Cherkaskyi (25.4%, 1851) of Kyiv pr.; Zhytomyr'skyi (50.0%, 1851), Novohradvolyn'skyi (32.6%, 1846) in Volyn pr.; Kamianetspodil'skyi (29.5%, 1851), Olhopol'skyi (25.2%, 1851) of Podillia pr. On the Left-Bank, there was Zolotonoshskyi district (25.2%, 1846, 1851) in Poltava pr.; Starobil'skyi (18.7%, 1846) and Iziurn'skyi (18.4%, 1851) districts in Kharkiv pr. The lowest values of the indicator were for the districts of Letychivskyi (-26.6%, 1851) in Podillia pr., Ovrutskyi (-25.8%, 1846) in Volyn pr., Lubenskyi (-30.4%, 1846) in Poltava pr. The value of the indicator was negative for the entire Chernihiv pr., and the most in Osterskyi district (-33.9%, 1858), and in 9 out of 11 districts of Kharkiv pr.

The average sample value of the indicator of the maximum number of population (CDM) found full correspondence in Zaslavskyi district (0.0%, 1858) of Volyn pr., it turned out to be close to it in Litynskyi (0.6%, 1863) district of Podillia and Chyhyryn'skyi (-0.8%, 1863) district in Kyiv provinces. In 34 districts (44%) deviations from the forest-steppe average had a positive value, including 22 (29%) cases recorded on the Right-Bank and 12 (16%) on the Left-Bank of the Dnieper. They were the largest in Kyivskyi (58.8%, 1863), Berdychivskyi (40.4%, 1863), and Cherkaskyi (30.4%, 1863) districts of Kyiv pr.; Kamianetspodil'skyi (36.3%, 1863), Balt'skyi (52.5%, 1863) districts of Podillia pr.; Zhytomyr'skyi district (64.5%, 1863) of Volyn pr.; in Starobil'skyi (105.1%, 1863) and Iziurn'skyi (33.4%, 1863) districts of Kharkiv pr. Negative values of deviations of the indicator in Kyiv province occur twice and do not go beyond the standard error for the sample as a whole, also twice in the Podillia province, but here their sizes are more significant: -4.7% in Vynnytskyi (1863) and -20.7% in Letychivskyi (1863) districts. In Volyn province, the maximum population of half of the districts was smaller than the average in the Ukrainian Forest-Steppe, in

Poltava province there were 9 out of 15 such districts, in Kharkiv province 5 out of 11, in Chernihiv province all 15 (Table 2.5).

The average number of population (average CDM) for the entire period of observation was close to the average sample value in Chyhyrskyi (1.2%), Starokonstantynivskyi (1.3%) and Sumskyi (1.7%) districts in Kyiv, Poltava, and Kharkiv provinces. The positive value of the indicator is observed in all 12 districts of Kyiv province, in 10 out of 12 districts of Podillia, in 6 out of 12 districts of Volyn, in 6 out of 15 districts of Poltava province, in 3 out of 11 districts of Kharkiv province, where the largest deviation from the calculated standard is recorded in Starobilskyi district (65.7%). In the Chernihiv province, all district's values of the indicator were negative, and in the Osterskyi district it was the lowest in the entire sample (-38.2%) (Table 2.5).

The "standard deviation" indicator makes it possible to assess the intensity of fluctuations in the number of district population (CDM), or, in other words, the stability of the process. In our sample, the demographic situation in the Radomyshlskyi and Vasylkivskyi districts of Kyiv pr. was fairly stable and positive as in some others: Litynskyi, Mohylivpodilskyi, Proskurivskyi of Podillia pr.; Kremenetskyi, Novohradvolynskyi in Volyn pr.; Zolotonoshskyi, Prylutskyi, Romenskyi in Poltava province. The situation in the Vinnytsia district in Podillia pr. was permanently unstable. A similar situation was seen in Dubenskyi, Kovel'skyi, Lutskyi, Ovrutskyi, and Ostrozhskyi districts in Volyn pr.; Hadiatskyi, Zenkivskyi, Konstantynohradskyi, Lokhvytskyi, Lubenskyi, Myrhorodskyi, Pyriatynskyi, Khorolskyi districts in Poltava pr.; for all districts in Chernihiv pr., first of all, Kozelskyi, Mhlynskyi, Novhorodsiverskyi, Novozybkivskyi, Osterskyi, Starodubskyi; also, in Akhtyrskyi, Bogodukhivskyi, and Valkivskyi districts of Kharkiv province. The largest values of the standard deviation of demographic indicators (in the range from 19205.22 to 36775.78) were observed in Kyivskyi, Zvenihorodskyi, Tarashchansky, and Umanskyi districts of Kyiv pr.; Baltskyi, Haisynskyi on the Podillia; Zhytomyrskyi in Volyn; Kharkivskyi, Zmiivskyi, Iziurnskyi, Kupianskyi districts in Kharkiv pr. and

Starobilskiyi, where the standard deviation was 64727.65(!) (Table 2.5). Significantly, this list includes all territories of Kyiv-Podillia and Ukrainian military settlements.

Preliminary analysis of the quantitative distribution of the population in Forest-Steppe Ukraine with the help of descriptive statistics indicates that demographic processes developed most actively in the districts of Kyiv and Podillia provinces, had a depressive character in Chernihiv and most of Kharkiv provinces, while Volyn and Poltava provinces occupied an intermediate position between them.

The indicators of descriptive statistics (Table 2.3; 2.4) served as an initial matrix for multidimensional statistical cluster analysis of population distribution in the districts of the Ukrainian Forest Steppe, conducted to obtain qualitatively homogeneous groups of primary taxa of the organization of demographic sources. In that way 5 cluster groups of districts in the Forest-Steppe provinces of Ukraine were selected (Figure 2.3; Table 2.6), the numbering of which coincided with the growth of the average group values of descriptive statistics indicators (Figure 2.4).

Cluster group 1. It includes 36 districts with the lowest average group values of average indicators of descriptive statistics. Among them, 6 (17%) were located in the Right-Bank area (Figure 2.5). They are Letychivskiyi in Podillia; Ovrutskiyi, Ostrozhskiyi, Dubenskiyi, Lutskiyi, Kovel'skiyi in Volyn. The rest belonged to the Left-Bank provinces, namely: 8 to Poltava, 15 to Chernihiv, and 7 to Kharkiv.

Cluster group 2 consists of 10 districts (Table 2.6; Figure 2.4). Among them, 7 were located on the Right-Bank (70%): Chyhyrskyi in Kyiv pr.; Vinnytskyi, Litynskiyi and Mohylivpodil'skiyi in Podillia pr.; Zaslavskiyi, Starokonstantynivskiyi, Rivnenskiyi in Volyn pr. The remaining 3 districts (30%) were located on the Left-Bank: Prylutskiyi, Pereiaslavskiyi in Poltava pr. and Lebedynskiyi in Kharkiv province (Figure 2.5).

Cluster group 3 united 16 districts from both banks of the Dnieper (Table 1.2.6; Figure 2.4). Among them, 10 (63%) were on the Right-Bank (Figure 2.5): Kanivskiyi, Lypovetskiyi, Radomyshl'skiyi, Skvyrskiyi (Kyiv pr.); Haisynskiyi, Bratslavskiyi, Novoushytskyi, Proskurivskiyi (Podillia pr.); Kremenetskiyi, Volodymyrvolynskiyi (Volyn pr.). The other 6 Left-Bank districts (44%) were located mainly in Poltava pr.

(Kobeliakskyi, Poltavskyi, Romenskyi, Kremenchukskyi, Zolotonoshkyi) and only 1 in Kharkiv pr. (Kharkivskyi).

Cluster group 4 absorbed 10 districts (Table 2.6; Figure 2.4). Of them, 9 (90%) located on the Right-Bank: Vasytkivskyi, Cherkaskyi, Zvenihorodskyi, Tarashchansky, Umanskyi in Kyiv pr.; Olhopolskyi, Kamianetspodilskyi, Yampilskyi on Podillia; Novohradvolynskyi in Volyn pr.; and only 1 the Left-Bank's district, Iziunskyi, was in Kharkiv province (Figure 2.5).

Cluster group 5 united the five largest by population districts of the Forest-Steppe Ukraine (Table 2.6; Figure 2.4): Kyivskyi and Berdychivskyi in Kyiv pr.; Zhytomyrskyi on Volyn; Baltskyi on Podillia; Starobilskyi in Kharkiv province (Figure 2.5).

We can distinguish three options for the quantitative distribution of the population of Ukrainian Forest-Steppe provinces by districts in the middle of the 19th century: Kyiv-Podillia, Volyn-Poltava-Kharkiv, and Chernihiv (Figure 2.5; 2.6). The 3rd and 4th cluster groups of districts dominated in Kyiv and Podillia provinces (75% and 59% respectively). On Volyn and the Left-Bank area districts with a relatively small population of the 1st cluster group prevailed (42% in Volyn, 53% in Poltava, 64% in Kharkiv, and 100% in Chernihiv provinces). Each of these local options had a military settlement and a regional center in the process of formation – Kyiv on the Right-Bank and Kharkiv on the Left-Bank. As one can see, a feature of the Chernihiv province was the absence of other options for the quantitative distribution of the population.

Table 2.1

**Distribution of the Right-Bank Ukraine population by provinces and districts
(1846–1863)**

Code	Provinces/districts	Population				
		1846	1851	1856	1858	1863
	<i>Kyiv prov.</i>	<i>1730101</i>	<i>1636839</i>	<i>1783535</i>	<i>1944334</i>	<i>2012095</i>
R1	Kyivskyi	176281	147133	162304	209551	218806
R2	Berdychivskyi	170798	145573	178881	186603	193428
R3	Vasytkivskyi	156916	160370	158347	171767	177518
R4	Zvenyhorodskyi	130649	135017	152595	174072	166353
R5	Kanivskyi	140327	142231	145344	157148	167606

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Continuation of table 2.1

R6	Lypovetskyi	122895	117405	134165	134610	130449
R7	Radomyshl'skyi	146336	139063	145320	152972	156491
R8	Skvyrskyi	136353	126272	131058	141571	147432
R9	Taraschanskyi	135124	125223	126016	149595	160399
R10	Umanskyi	114541	102849	124021	166762	177273
R11	Cherkaskyi	139496	138811	148258	163831	179710
R12	Chyhyrskyi	113475	115280	123880	135862	136630
<i>Including cities</i>		<i>161617</i>	<i>no data</i>	<i>196548</i>	<i>203612</i>	<i>224531</i>
<i>Kyiv-Podillia military settlement</i>		<i>46910</i>	<i>41612</i>	<i>53346</i>	<i>cancelled</i>	<i>cancelled</i>
<i>Podillia prov.</i>		<i>1540254</i>	<i>1577966</i>	<i>1730827</i>	<i>1748466</i>	<i>1868857</i>
R13	Kamianetspodil'skyi	145072	143324	155230	160993	187815
R14	Baltskyi	130508	142657	178703	194699	210069
R15	Bratslavskyi	126495	131447	129713	148190	157165
R16	Vinnitskyi	115494	118999	111378	123460	131294
R17	Haisynskyi	129281	111571	131948	154470	163891
R18	Letychivskyi	99805	81221	99711	104460	109185
R19	Litynskyi	122032	124057	135213	130405	138535
R20	Mohylivpodil'skyi	130453	121615	119654	131032	140028
R21	Novoushytskyi	116228	130620	157895	143230	150033
R22	Olhopolskyi	146688	138598	159994	163837	177126
R23	Proskurivskyi	129468	131920	137394	138007	147454
R24	Yampil'skyi	130294	138534	144670	155653	166362
<i>Including cities</i>		<i>70476</i>	<i>no data</i>	<i>103494</i>	<i>120822</i>	<i>130370</i>
<i>Kyiv-Podillia military settlement</i>		<i>18436</i>	<i>63403</i>	<i>69324</i>	<i>cancelled</i>	<i>cancelled</i>
<i>Volyn prov.</i>		<i>1413485</i>	<i>1469442</i>	<i>1498387</i>	<i>1528328</i>	<i>1602715</i>
R25	Zhytomyr'skyi	167908	166026	170176	194515	226654
R26	Volodymyrvolyn'skyi	131255	145833	146664	135237	139912
R27	Dubenskyi	99811	99080	100822	98115	104261
R28	Zaslavskyi	118205	123147	125444	137776	135284
R29	Kovel'skyi	102479	115411	116542	103284	112253
R30	Kremenetskyi	140290	130530	132884	139634	147852
R31	Lutskyi	102036	105538	108915	112187	109309
R32	Novohradvolyn'skyi	146799	149626	154079	160702	158429
R33	Ovrutskyi	82196	93988	97299	103937	103993
R34	Ostrozhskyi	95367	97782	98233	100758	104416
R35	Rivnenskyi	117227	120961	122920	116160	126342
R36	Starokonstantynivskyi	119915	121475	124419	125997	134010
<i>Including cities</i>		<i>103418</i>	<i>no data</i>	<i>103569</i>	<i>110245</i>	<i>146041</i>
Right-Bank Ukraine		4683863	4684247	5012749	5221128	5483667

Sources: calculated by the author according to [28, Table 2, 3; 30, Table 5, 6, 14; 27, 1857, pp. 16, 33, 69, 106; 54, p. 20–23, 50–53, 100–103; 2, pp. 27, 28, 30, 38, 160, 163, 168, 182; 84, pp. 4–5, 10–11, 14–15, 22–23].

Table 2.2

**Distribution of the Left-Bank Ukraine population by provinces and districts
(1846–1863)**

Code	Provinces / districts	Population				
		1846	1851	1856	1858	1863
<i>Poltava prov.</i>		<i>1688053</i>	<i>1668704</i>	<i>1761027</i>	<i>1818765</i>	<i>1911802</i>
L1	Poltavskyi	129564	129429	135044	142715	153774
L2	Hadiatskyi	94436	92776	96498	102202	110418
L3	Zenkivskyi	105801	94964	101837	105219	117771
L4	Zolotonoshskyi	138703	138613	146890	149226	147155
L5	Kobeliakskyi	116857	120136	131028	134212	158018
L6	Konstantynohradskyi	103118	109126	114469	119140	120027
L7	Kremenchukskyi	123955	122251	133547	135144	148292
L8	Lokhvytskyi	119672	103798	119111	115249	117524
L9	Lubenskyi	77075	81377	82098	86786	91612
L10	Myrhorodskyi	103754	104560	109050	113494	115845
L11	Pereiaslavskyi	113064	113574	115664	122634	127211
L12	Pyriatynskyi	103019	102281	106488	107874	105510
L13	Prylutskyi	124823	124374	129220	134206	140236
L14	Romenskyi	131009	128990	133432	138223	139710
L15	Khorolskyi	103203	102455	106651	112441	118699
<i>Including cities</i>		<i>119795</i>	<i>no data</i>	<i>130366</i>	<i>143917</i>	<i>157047</i>
<i>Chernihiv prov.</i>		<i>1403083</i>	<i>1374749</i>	<i>1401843</i>	<i>1471866</i>	<i>1487399</i>
L16	Chernihivskyi	94596	92039	89956	108955	100253
L17	Borznianskyi	89489	91688	94752	96229	105818
L18	Hlukhivskyi	84890	84639	89419	88007	94816
L19	Horodianskyi	86462	84417	86708	96173	101496
L20	Kozelskyi	80772	81251	80833	84644	85322
L21	Konotopskyi	100267	88773	95798	102229	84128
L22	Krolevetskyi	85976	82445	86292	99219	98826
L23	Mhlynskyi	93587	88586	88965	91136	94990
L24	Nijinskyi	105745	99097	99288	103653	111824
L25	Novhorodsiverskyi	90995	88598	87506	91800	86616
L26	Novozybkivskyi	107966	110723	112326	112150	114111
L27	Osterskyi	76977	77162	77583	73146	76655
L28	Sosnytskyi	101076	95682	98418	109423	110057
L29	Starodubskyi	104205	106759	105769	105647	108849
L30	Surazhskyi	100080	102890	108230	109455	113638
<i>Including cities</i>		<i>no data</i>	<i>no data</i>	<i>118739</i>	<i>139965</i>	<i>140574</i>
<i>Kharkiv prov.</i>		<i>1425256</i>	<i>1366188</i>	<i>1502142</i>	<i>1582391</i>	<i>1590937</i>
L31	Kharkivskyi	108613	128033	139419	157301	169884
L32	Akhtyrskyi	84555	93416	98318	99035	101171
L33	Bohoduhivskyi	96008	93400	101703	105024	100828
L34	Valkivskyi	82717	84813	93411	90775	96926
L35	Vovchanskyi	83637	82097	88363	112723	109273
L36	Zmiivskyi	84444	78275	84265	151443	147074
L37	Iziumskyi	147495	131096	143727	174156	183795
L38	Kupianskyi	80967	86044	93237	151159	152290

Continuation of table 2.2

L39	Lebedynskiy	128512	105910	113155	133427	116793
L40	Starobilskiy	131400	164042	185739	260081	282619
L41	Sumskiy	96988	121891	131663	147267	130284
<i>Including cities</i>		<i>144151</i>	<i>no data</i>	<i>161981</i>	<i>179096</i>	<i>197030</i>
<i>Ukrainian military settlement</i>		<i>231769</i>	<i>197171</i>	<i>229142</i>	<i>cancelled</i>	<i>cancelled</i>
Left-Bank Ukraine		4516392	4409641	4665003	4873022	4990138

Sources: calculated by the author according to [29, p. 37; 34, Table 3, 4, 5; 27, pp. 14, 108, 148, 152; 54, pp. 104-107, 144-147, 154-157; 2, pp. 168 – 169, 173 – 174, 182; 84, pp. 22-24, 28].

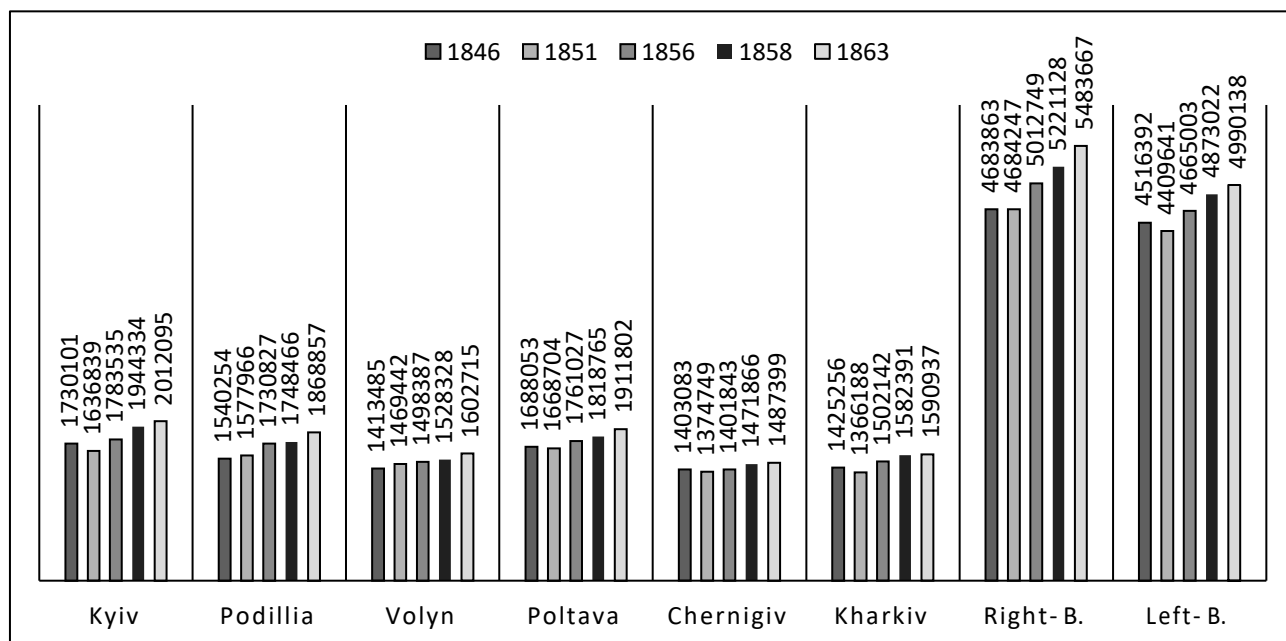


Figure 2.1

**Changes in the population of the Forest-Steppe Ukraine provinces
(1846 – 1863)**

Table 2.3

**Descriptive statistics of the Right-Bank Ukraine population quantitative
distribution by districts (1846–1863)**

Code	Districts	Descriptive statistics of the population			
		Minimum	Maximum	Average	Standard deviation
R1	Kyivskiy	147133.0	218806.0	182815.0	30605.4
R2	Berdychivskiy	145573.0	193428.0	175056.6	18526.1
R3	Vasylkivskiy	156916.0	177518.0	167217.6	6192.2
R4	Zvenyhorodskiy	130649.0	174072.0	152360.2	19205.2
R5	Kanivskiy	130449.0	167606.0	149027.5	9629.1
R6	Lypovetskiy	117405.0	134610.0	126007.5	15008.6

Continuation of table 2.3

R7	Radomyshl'skyi	139063.0	156491.0	147777.0	4997.5
R8	Skvyr'skyi	126272.0	147432.0	136852.0	13195.9
R9	Taraschanskyi	125223.0	160399.0	142811.0	21702.6
R10	Umanskyi	102849.0	177273.0	140061.6	33717.2
R11	Cherkaskyi	138811.0	179710.0	154021.2	17547.7
R12	Chyhyrnskyi	113475.0	136630.0	125025.4	10974.9
R13	Kamianetspodil'skyi	143324.0	187815.0	158486.8	17936.7
R14	Baltskyi	130508.0	210069.0	171327.2	33873.9
R15	Bratslavskyi	126495.0	157165.0	138602.0	13353.9
R16	Vynnytskyi	111378.0	131294.0	120125.0	7666.4
R17	Haisynskyi	111571.0	163891.0	138232.2	20931.3
R18	Letychivskyi	81221.0	109185.0	98876.4	10615.0
R19	Litynskyi	122032.0	138535.0	130048.4	7053.1
R20	Mohylivpodil'skyi	119654.0	140028.0	128556.4	8196.9
R21	Novoushytskyi	116228.0	157895.0	139601.2	16459.2
R22	Olhopolskyi	138598.0	177126.0	157248.6	15045.2
R23	Proskurivskyi	129468.0	147454.0	136848.6	6944.0
R24	Yampil'skyi	130294.0	166362.0	147102.6	14194.2
R25	Zhytomyr'skyi	166026.0	226654.0	185055.8	25968.6
R26	Volodymyrvolyn'skyi	131255.0	146664.0	139780.2	6658.8
R27	Dubenskyi	98115.0	104261.0	100417.8	2366.1
R28	Zaslavskyi	118205.0	137776.0	127971.2	8286.3
R29	Kovelskyi	102479.0	116542.0	109993.8	6686.2
R30	Kremenetskyi	130530.0	147852.0	138238.0	6831.3
R31	Lutskyi	102036.0	112187.0	107597.0	3901.9
R32	Novohradvolyn'skyi	146799.0	160702.0	153927.0	5820.2
R33	Ovrutskyi	82196.0	103993.0	96282.6	8982.9
R34	Ostrozhskyi	95367.0	104416.0	99311.2	3435.5
R35	Rivnenskyi	116160.0	126342.0	120722.0	4168.3
R36	Starokonstantynivskyi	119915.0	134010.0	125163.2	5492.3

Table 2.4

**Descriptive statistics of the Left-Bank Ukraine population quantitative
distribution by districts (1846–1863)**

Code	Districts	Descriptive statistics of the population			
		Minimum	Maximum	Average	Standard deviation
L1	Poltavskyi	129429.0	153774.0	138105.2	10300.0
L2	Hadiatskyi	92776.0	110418.0	99266.0	7178.1
L3	Zenkivskyi	94964.0	117771.0	105118.4	8283.2

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Continuation of table 2.4

L4	Zolotonoshskiyi	138613.0	149226.0	144117.4	5065.2
L5	Kobeliakskiyi	116857.0	158018.0	132050.2	16223.6
L6	Konstantynohradskiyi	103118.0	120027.0	113176.0	7101.8
L7	Kremenchukskiyi	122251.0	148292.0	132637.8	10433.6
L8	Lokhvytskyi	103798.0	119672.0	115070.8	6531.1
L9	Lubenskiy	77075.0	91612.0	83789.6	5566.3
L10	Myrhorodskiyi	103754.0	115845.0	109340.6	5331.7
L11	Pereiaslavskiyi	113064.0	127211.0	118429.4	6221.0
L12	Pyriatynskiyi	102281.0	107874.0	105034.4	2347.6
L13	Prylutskiy	124374.0	140236.0	130571.8	6706.2
L14	Romenskiy	128990.0	139710.0	134272.8	4594.4
L15	Khorol'skiy	102455.0	118699.0	108689.8	6844.5
L16	Chernihivskiyi	89956.0	108955.0	97159.8	7638.5
L17	Borznianskiy	89489.0	105818.0	95595.2	6288.3
L18	Hlukhivskiyi	84639.0	94816.0	88354.2	4147.7
L19	Horodianskiy	84417.0	101496.0	91051.2	7403.8
L20	Kozelskiy	80772.0	85322.0	82564.4	2228.5
L21	Konotop'skiy	84128.0	102229.0	94239.0	7660.2
L22	Krolevetskiy	82445.0	99219.0	90551.6	7880.2
L23	Mhlynskiy	88586.0	94990.0	91452.8	2809.6
L24	Nizhynskiy	99097.0	111824.0	103921.4	5258.1
L25	Novhorod'siverskiy	86616.0	91800.0	89103.0	2227.3
L26	Novozybkivskiy	107966.0	114111.0	111455.2	2291.6
L27	Osterskiy	73146.0	77583.0	76304.6	1797.3
L28	Sosnytskiy	95682.0	110057.0	102931.2	6505.4
L29	Starodub'skiy	104205.0	108849.0	106245.8	1716.9
L30	Surazhskiy	100080.0	113638.0	106858.6	5391.7
L31	Kharkivskiy	108613.0	169884.0	140650.0	24077.8
L32	Akhtyrskiy	84555.0	101171.0	95299.0	6643.3
L33	Bohoduhi'vskiy	93400.0	105024.0	99392.6	4649.7
L34	Valkivskiy	82717.0	96926.0	89728.4	5911.5
L35	Vovchanskiy	82097.0	112723.0	95218.6	14639.3
L36	Zmiivskiy	78275.0	151443.0	109100.2	36775.8
L37	Iziumskiy	131096.0	183795.0	156053.8	22053.1
L38	Kupianskiy	80967.0	152290.0	112739.4	35856.6
L39	Lebedynskiy	105910.0	133427.0	119559.4	11263.2
L40	Starobil'skiy	131400.0	282619.0	204776.2	64272.6
L41	Sum'skiy	96988.0	147267.0	125618.6	18442.9

Sources to the Table 1.2.3; 1.2.4: calculated by the author according to the Table 1.2.1; 1.2.2.

Table 2.5

**The descriptive statistics deviation of the Forest-Steppe Ukraine population
distribution by districts from the average sample values (1846 – 1863)**

n	Districts	Minimum ± %	Maximum ± %	Average ± %	Standard deviation (Table 1.2.3; 1.2.4)
1	Kyivskiy	32.9	58.8	48.0	30605.41
2	Berdychivskiy	31.5	40.4	41.7	18526.14
3	Vasylkivskiy	41.7	28.9	35.3	6192.22
4	Zvenyhorodskiy	18.0	26.4	23.3	19205.22
5	Kanivskiy	17.8	21.7	20.6	9629.05
6	Lypovetskyi	6.0	-2.3	2.0	15008.56
7	Radomyshl'skyi	25.6	13.6	19.6	4997.52
8	Skvyr'skyi	14.1	7.0	10.8	13195.89
9	Taraschanskyi	13.1	16.4	15.6	21702.63
10	Umanskyi	-7.1	28.7	13.4	33717.24
11	Cherkaskiy	25.4	30.4	24.7	17547.74
12	Chyhyr'skyi	2.5	-0.8	1.2	10974.92
13	Kamianetspodil'skyi	29.5	36.3	28.3	17936.68
14	Bal'tskiy	17.9	52.5	38.7	33873.88
15	Bratslavskiy	14.3	14.1	12.2	13353.86
16	Vinn'ytskyi	0.6	-4.7	-2.8	7666.37
17	Haisyn'skyi	0.8	19.0	11.9	20931.29
18	Letychivskiy	-26.6	-20.7	-20.0	10615.03
19	Lityn'skyi	10.2	0.6	5.3	7053.05
20	Mohylivpodil'skyi	8.1	1.6	4.0	8196.94
21	Novoushytskyi	5.0	14.6	13.0	16459.21
22	Olhopol'skyi	25.2	28.6	27.3	15045.15
23	Proskurivskiy	16.9	7.0	10.8	6944.03
24	Yampil'skyi	17.7	20.8	19.1	14194.20
25	Zhytomyr'skyi	50.0	64.5	49.8	25968.61
26	Volodymyr'volyn'skyi	18.6	6.5	13.1	6658.83
27	Dubenskyi	-11.4	-24.3	-18.7	2366.13
28	Zaslav'skyi	6.8	0.0	3.6	8286.28
29	Kovel'skyi	-7.4	-15.4	-11.0	6686.23
30	Kremenetskyi	17.9	7.3	11.9	6831.31
31	Lut'skyi	-7.8	-18.6	-12.9	3901.93
32	Novohrad'volyn'skyi	32.6	16.7	24.6	5820.20
33	Ovrut'skyi	-25.8	-24.5	-22.1	8982.91
34	Ostrozhs'kyi	-13.9	-24.2	-19.6	3435.47
35	Rivnenskyi	4.9	-8.3	-2.3	4168.32
36	Starokonstantyniv'skyi	8.3	-2.7	1.3	5492.30
37	Poltav'skyi	16.9	11.6	11.8	1030.01
38	Hadiatskyi	-16.2	-19.8	-19.7	7178.06
39	Zenkiv'skyi	-14.2	-14.5	-14.9	8283.17
40	Zolotonosh'skyi	25.2	8.3	16.6	5065.23

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Continuation of table 2.5

41	Kobeliakskyi	5.6	14.7	6.9	16223.64
42	Konstantynohradskyi	-6.9	-12.9	-8.4	7101.82
43	Kremenchukskyi	10.4	7.6	7.3	10433.58
44	Lokhvytskyi	-6.2	-13.1	-6.9	6531.08
45	Lubenskyi	-30.4	-33.5	-32.2	5566.34
46	Myrhorodskyi	-6.3	-15.9	-11.5	5331.67
47	Pereiaslavskyi	2.1	-7.7	-4.2	6221.03
48	Pyriatynskyi	-7.6	-21.7	-15.0	2347.63
49	Prylutskyi	12.3	1.8	5.7	6706,21
50	Romenskyi	16.5	1.4	8.7	4594.41
51	Khorol'skyi	-7.5	-13.8	-12.0	6844.52
52	Chernihivskyi	-18.7	-20.9	-21.4	7638.47
53	Borznianskyi	-19.2	-23.2	-22.6	6288.29
54	Hlukhivskyi	-23.5	-31.2	-28.5	4147.67
55	Horodianskyi	-23.8	-26.3	-26.3	7403.77
56	Kozelskyi	-27.0	-38.1	-33.2	2228.48
57	Konotop'skyi	-24.0	-25.8	-23.7	7660.24
58	Krolevetskyi	-25.5	-28.0	-26.7	7880,15
59	Mhlynskyi	-20.0	-31.0	-26.0	2809,57
60	Nizhynskyi	-10.5	-18.8	-15.9	5258.13
61	Novhorod'siverskyi	-21.8	-33.4	-27.9	2227.33
62	Novozybkivskyi	-2.5	-17.2	-9.8	2291,56
63	Osterskyi	-33.9	-43.7	-38.2	1797.30
64	Sosnytskyi	-13.6	-20.1	-16.7	6505.42
65	Starodub'skyi	-5.9	-21.0	-14.0	1716.89
66	Surazh'skyi	-9.6	-17.5	-13.5	5391.69
67	Kharkiv'skyi	-1.9	23.3	13.8	24077.77
68	Akhtyr'skyi	-23.6	-26.6	-22.9	6643.26
69	Bohodukhiv'skyi	-15.6	-23.8	-19.6	4649,67
70	Valkiv'skyi	-25.3	-29.6	-27.4	5911.50
71	Vovchanskyi	-25.8	-18.2	-22.9	14639.32
72	Zmiiv'skyi	-29.3	9.9	-11.7	36775.78
73	Izium'skyi	18.4	33.4	26.3	22053.11
74	Kupianskyi	-26.9	10.5	-8.8	35856.62
75	Lebedyn'skyi	-4.3	-3.1	-3.2	11263.16
76	Starobil'skyi	18.7	105.1	65.7	64272.62
77	Sum'skyi	-12.4	6.9	1.7	18442.89

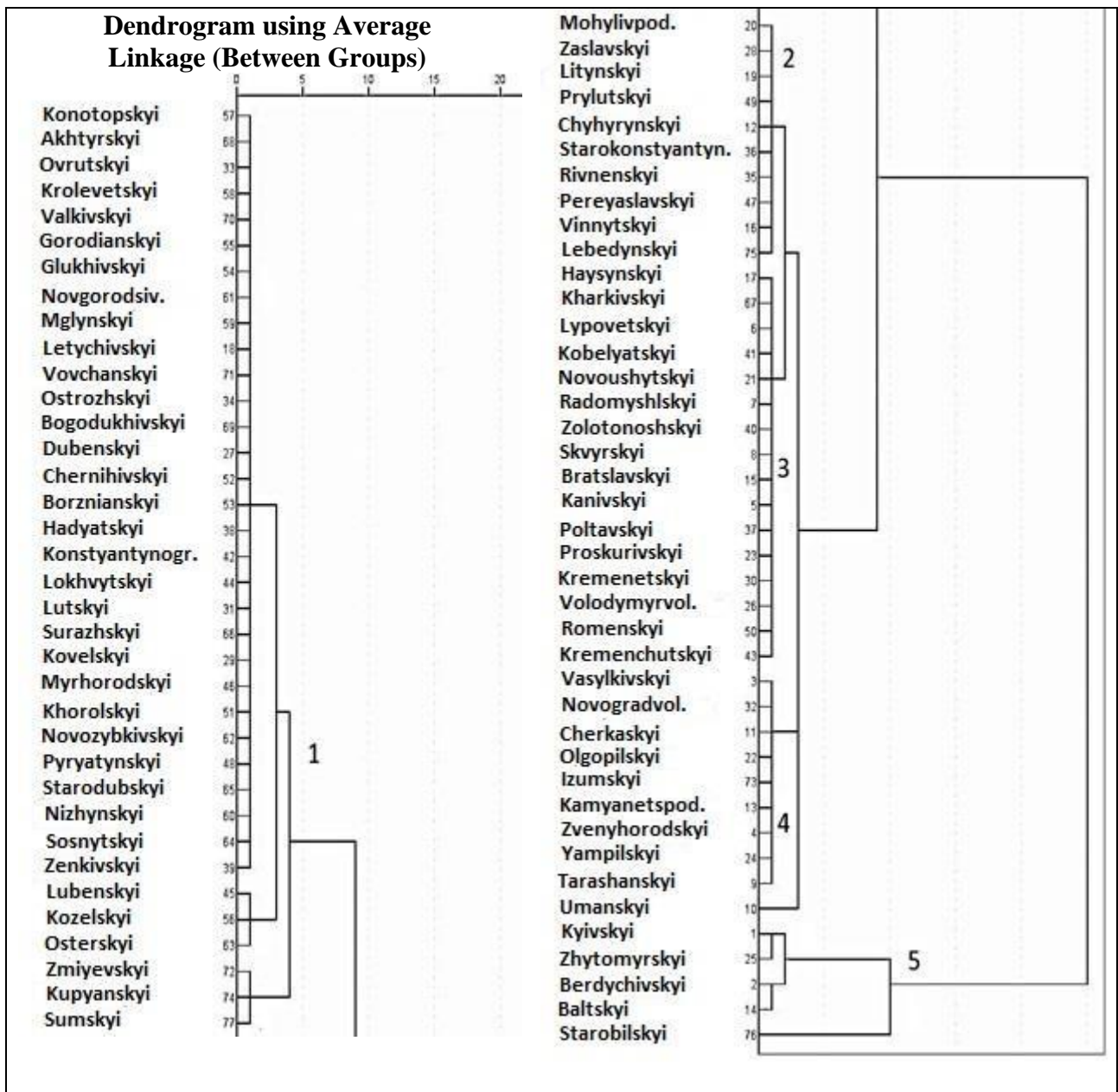


Figure 2.3
Cluster analysis of the Forest-Steppe Ukraine population quantitative distribution by districts (1846 – 1863)

Table 2.6

**The results of the Forest-Steppe Ukraine districts' population distribution by
cluster groups**

n	Groups / districts	Descriptive population statistics			
		Minimum	Maximum	Average	Standard deviation
Group 1 (average group)		91440.5	109445.9	100190.26	-
57	Konotopskyi	84128.00	102229.00	94239.00	7660.24
68	Akhtyrskyi	84555.00	101171.00	95299.00	6643.26
33	Ovrutskyi	82196.00	103993.00	96282.60	8982.91
29	Kovelskyi	82445.00	99219.00	90551.60	7880.15
70	Valkivskyi	82717.00	96926.00	89728.40	5911.49
55	Horodianskyi	84417.00	101496.00	91051.20	7403.77
54	Hlukhivskyi	84639.00	94816.00	88354.20	4147.67
21	Novhorodsiverskyi	86616.00	91800.00	89103.00	2227.33
59	Mhlynskyi	88586.00	94990.00	91452.80	2809.56
18	Letychivskyi	81221.00	109185.00	98876.40	10615.03
71	Vovchanskyi	82097.00	112723.00	95218.60	14639.32
34	Ostrozhsykyi	95367.00	104416.00	99311.20	3435.47
69	Bohodukhivskyi	93400.00	105024.00	99392.60	4649.67
27	Dubenskyi	98115.00	104261.00	100417.80	2366.13
52	Chernihivskyi	89956.00	108955.00	97159.80	7638.47
53	Borznianskyi	89489.00	105818.00	95595.20	6288.28
38	Hadiatskyi	92776.00	110418.00	99266.00	7178.06
42	Konstantynohradskyi	103118.00	120027.00	113176.00	7101.82
44	Lokhvytskyi	103798.00	119672.00	115070.80	6531.08
31	Lutskyi	102036.00	112187.00	107597.00	3901.93
66	Surazhsykyi	100080.00	113638.00	106858.60	5391.69
29	Kovelskyi	102479.00	116542.00	109993.80	6686.23
46	Myrhorodskyi	103754.00	115845.00	109340.60	5331.67
51	Khorolskyi	102455.00	118699.00	108689.80	6844.52
21	Novoushytskyi	107966.00	114111.00	111455.20	2291.56
48	Pyriatynskyi	102281.00	107874.00	105034.40	2347.63
65	Starodubskyi	104205.00	108849.00	106245.80	1716.89
60	Nizhynskyi	99097.00	111824.00	103921.40	5258.13
64	Sosnytskyi	95682.00	110057.00	102931.20	6505.42
39	Zenkivskyi	94964.00	117771.00	105118.40	8283.17
45	Lubenskyi	77075.00	91612.00	83789.60	5566.34
56	Kozelskyi	80772.00	85322.00	82564.40	2228.48
63	Osterskyi	73146.00	77583.00	76304.60	1797.29
72	Zmiivskyi	78275.00	151443.00	109100.20	36775.77
74	Kupianskyi	80967.00	152290.00	112739.40	35856.62
77	Sumskyi	96988.00	147267.00	125618.60	7602.85
Group 2 (average group)		116416.70	134548.90	124617.22	-
20	Mohylivpodilskyi	119654.00	140028.00	128556.40	8196.94
28	Zaslavskyi	118205.00	137776.00	127971.20	8286.28
19	Litynskyi	122032.00	138535.00	130048.40	7053.05
49	Prylutskyi	124374.00	140236.00	130571.80	6706.21

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Continuation of table 2.6

12	Chyhyrskyi	113475.00	136630.00	125025.40	10974.92
36	Starokonstantynivskyi	119915.00	134010.00	125163.20	5492.29
35	Rivnenskyi	116160.00	126342.00	120722.00	4168.32
47	Pereiaslavskyi	113064.00	127211.00	118429.40	6221.03
16	Vynnytskyi	111378.00	131294.00	120125.00	7666.37
75	Lebedynskyi	105910.00	133427.00	119559.40	11263.16
Group 3 (average group)		125218.06	154177.19	138422.74	-
17	Haisynskyi	111571.00	163891.00	138232.20	20931.29
67	Kharkivskyi	108613.00	169884.00	140650.00	24077.76
6	Lypovetskyi	117405.00	156491.00	133113.20	15008.56
41	Kobeliakskyi	116857.00	158018.00	132050.20	16223.64
21	Novoushytskyi	116228.00	157895.00	139601.20	16459.21
7	Radomyshl'skyi	139063.00	156491.00	147777.00	4997.52
40	Zolotonoshs'kyi	138613.00	149226.00	144117.40	5065.23
8	Skvyrs'kyi	126272.00	147432.00	136852.00	13195.89
15	Bratslavskyi	126495.00	157165.00	138602.00	13353.86
5	Kanivskyi	130449.00	167606.00	149027.50	9629.049
37	Poltavskyi	129429.00	153774.00	138105.20	10300.01
23	Proskurivskyi	129468.00	147454.00	136848.60	6944.03
30	Kremenetskyi	130530.00	147852.00	138238.00	6831.31
26	Volodymyrvoles'kyi	131255.00	146664.00	139780.20	6658.83
50	Romenskyi	128990.00	139710.00	134272.80	4594.41
30	Kremenetskyi	122251.00	148292.00	132637.80	10433.58
Group 4 (average group)		134455.90	175833.20	152180.12	-
3	Vasylkivskyi	156916.00	171767.00	162750.60	6192.22
32	Novohradvoles'kyi	146799.00	160702.00	153927.00	5820.19
11	Cherkaskyi	138811.00	179710.00	154021.20	17547.74
22	Olhopolskyi	138598.00	177126.00	157248.60	15045.15
73	Iziumskyi	131096.00	183795.00	156053.80	22053.11
13	Kamianetspodil'skyi	143324.00	187815.00	158486.80	17936.68
4	Zvenyhorodskyi	130649.00	174072.00	151987.80	19205.22
24	Yampil'skyi	130294.00	166362.00	147102.60	14194.20
9	Taraschanskyi	125223.00	160399.00	142811.00	21702.63
10	Umanskyi	102849.00	177273.00	137576.60	33717.24
Group 5 (average group)		144128.00	226315.20	183806.16	-
1	Kyivskyi	147133.00	218806.00	182815.00	30605.41
25	Zhytomyrskyi	166026.00	226654.00	185055.80	25968.61
2	Berdychivskyi	145573.00	193428.00	175056.60	18526.14
14	Baltskyi	130508.00	210069.00	171327.20	33873.88
76	Starobil'skyi	131400.00	282619.00	204776.20	64272.62

Sources: calculated by the author according to the Table 2.3; 2.4.

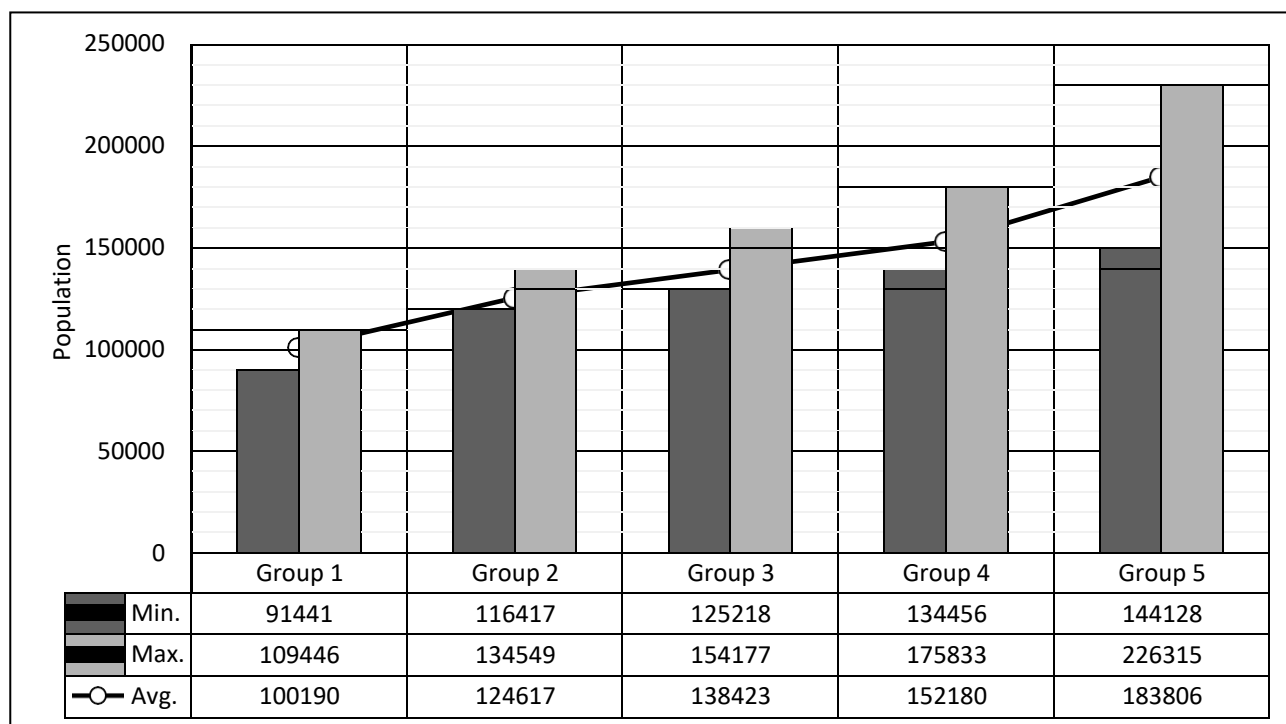


Figure 2.4

Diagram of the Forest-Steppe Ukraine population distribution by cluster groups (1846 – 1863)

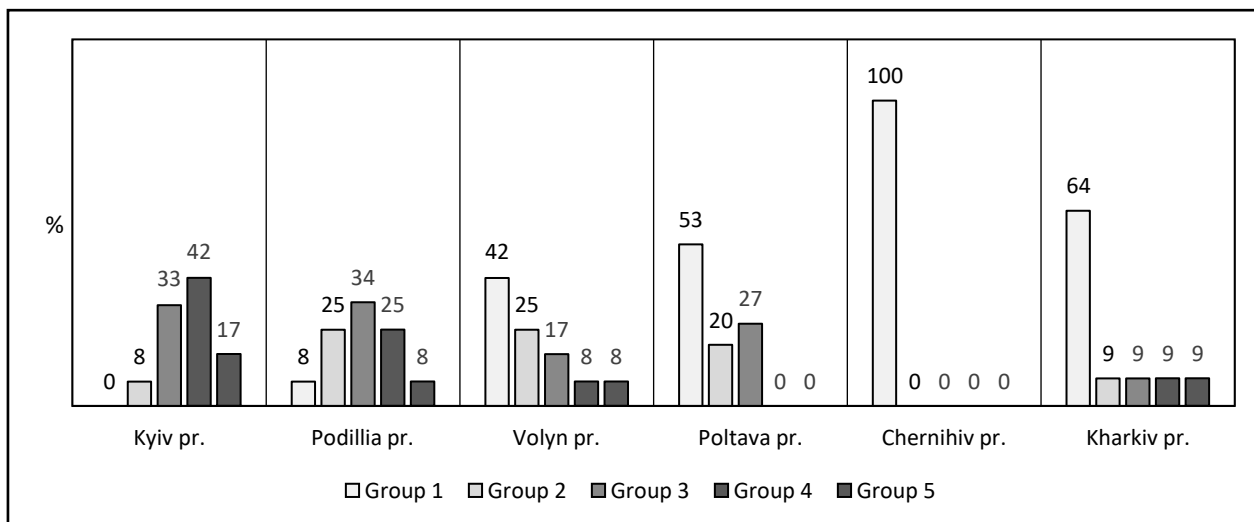
Sources: calculated by the author according to the Table 2.6.

Table 2.7

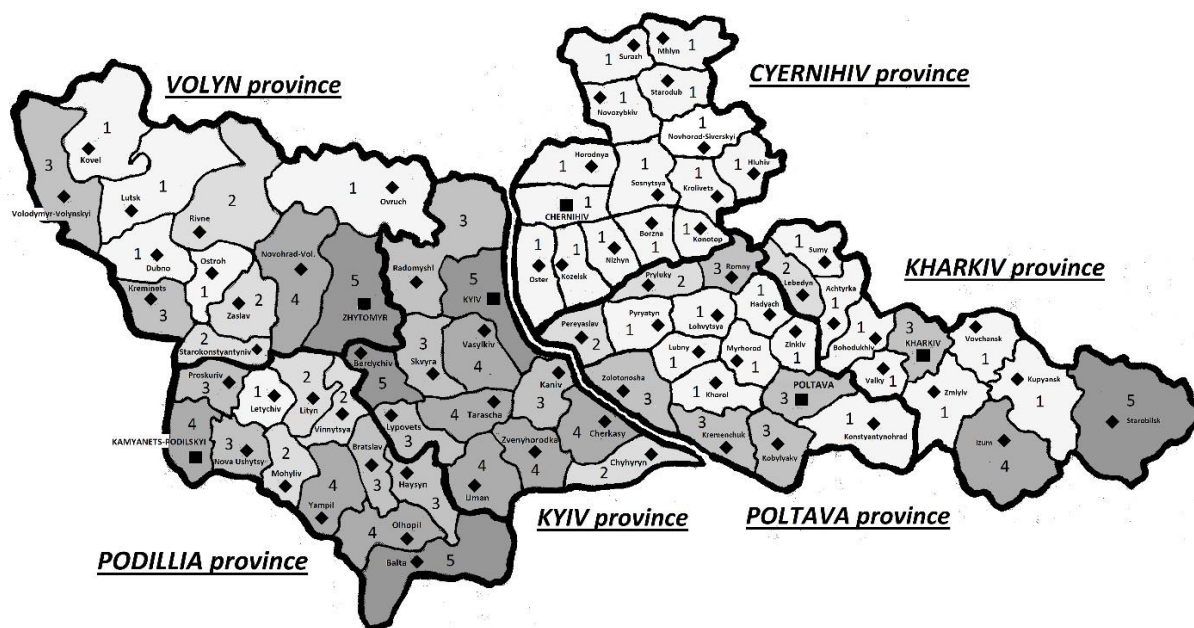
Correlation between the feature "district area" and the features of descriptive population statistics

n	Observation	Pearson correlation between value vectors				
		1	2	3	4	5
1	District area	1.0	0.1	0.1	0.1	0.1
2	Minimum of population	0.1	1.0	0.8	0.9	0.3
3	Maximum of population	0.1	0.8	1.0	1.0	0.8
4	Average of population	0.1	0.9	1.0	1.0	0.6
5	Standard deviation	0.1	0.3	0.8	0.6	1.0

Sources: calculated by the author according to the Table 2.1; 2.2;.3.3;.3.4.



The structure of the population's cluster groups ratio in provinces (%)



Distribution of population's cluster groups by district of provinces

Figure 2.5
Spatial distribution of the Forest-Steppe Ukraine population's cluster groups by districts and provinces (1846 – 1863)

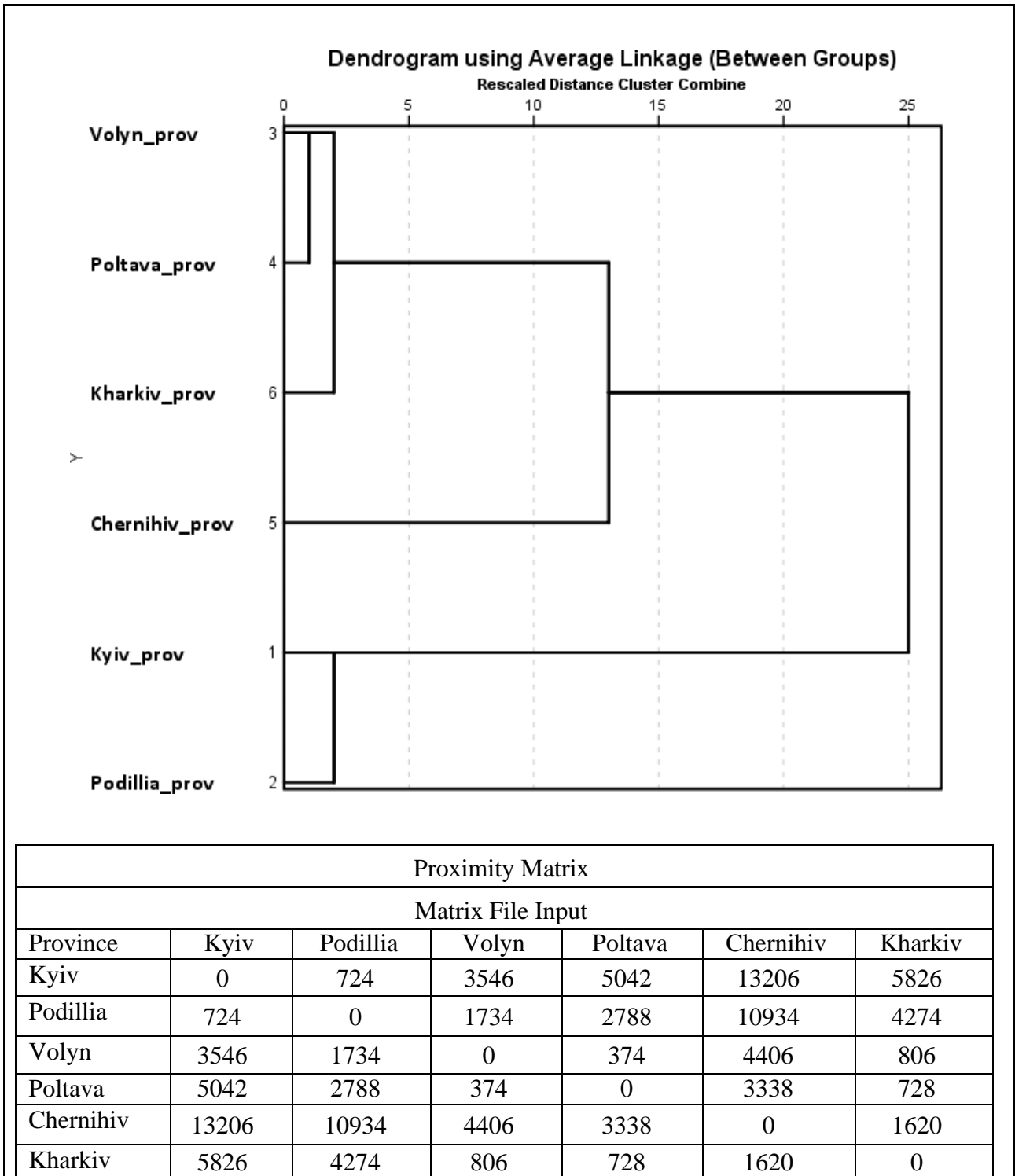


Figure 2.6

Classification of the Forest-Steppe Ukraine provinces according to the interrelation of cluster groups of the quantitative distribution of the population

2.3 Population density of the Forest-Steppe Ukraine in the 1840s – 1860s

Population density is an indicator calculated as a mathematical ratio of the number of the permanent population to the size of the territory of residence, which allows for measuring the distribution of the spatial concentration of the population itself. In our research, it is used as a supplement to the results of the above analysis of the quantitative distribution of the population of the Forest-Steppe Ukraine by the main units of its territorial-administrative division. Above, we got acquainted with the problems of the accuracy of measuring the number of the population according to the data of the middle of the 19th century, no less difficulties await us concerning the spatial characteristics of the studied territory.

In the Muscovite State, the territory was measured through "general demarcation". From the 80s of the 17th century for this, they began to use a single general measure named "desiatina" – a plot measuring 80x30 three-arshin fathoms. Geometric demarcation was introduced only in 1754 by decree of Empress Elizaveta Petrovna. Measurements began to be made not with ropes and arshins, but with chains 10 fathoms long. At the end of the reign of Nicholas I, in the European part of the Empire, the provinces of Kyiv, Podillia, Volyn, Grodno, Kovel, and Minsk remained unmarked, where "inventories" had existed since the days of the Polish-Lithuanian Commonwealth, as well as the provinces of Chernihiv and Poltava on the Left-Bank Ukraine. Calculating the territory according to geographical maps was less accurate for a long time. Only in 1844, the Academy of Sciences, at the insistence of P. Köppen, carried out geometric calculations of territories based on Schubert's map, the most advanced at that time. In 1856 – 1858, new calculations were made using the planimetric method under the guidance of the astronomer Schweitzer, with the determination of the sizes of provinces and districts. Starting from 1849, the methods of general surveying and cartographic measurement began to be supplemented with more accurate triangulation tablet surveys. The results of military topographical surveying became more accurate at the end of the 50s – the beginning of the 60s of the

19th century. In practice, in statistical publications, the sizes of provinces and districts were given according to Schweitzer's calculations, replacing them, as they were received, with data from military topographic measurements [STRI, 1863, pp. 5–23].

According to data published in 1858 – 1863, the total area of six provinces of the Forest-Steppe Ukraine was 282,230 square vestas (sq. v.), of which 144,690 sq. v. (51.3%) were on the Right-Bank and 137,540 sq. v. (49.7%) on the Left-Bank of Ukraine. Among the provinces, the largest area had Volyn (62,677 sq. v., 22%), followed by Kharkiv (47,836 sq. v., 17%), after it was Chernihiv and Kyiv (46,042 and 44,713 sq. v., 16% each of them), next Poltava (43,662 sq. v., 15%), and the last in the row was Podillia province (37,300 sq. v., 13%) (Table 3.1; 3.2).

The areas of the Right-Bank districts varied from 2,270 sq. v. (Letychivskiyi, Podillia pr.) to 9,329 sq. v. (Novohradvolynskiyi, Volyn pr.). The same was observed on the Left-Bank – from 2,001 sq. v. (Zinkivskiyi, Poltava pr.) to 10,868 sq. v. (Starobilskiyi, Kharkiv pr.). On average this indicator was 3,665 sq. v. and only 15 districts (19.5%) exceeded it. Districts of significant size were concentrated in Volyn (Novohradvolynskiyi, Ovrutskiyi, Zhytomyrskiyi, Kovelskiy, Dubenskiy, Kremenskiy) and Kharkiv province (Zmiivskiyi, Iziumskiyi, Kupianskiy, Starobilskiyi). In other provinces, there was one such district each: Radomyshl'skiy in Kyiv, Balt'skiy in Podillia, and Konstiantynohrad'skiy in Poltava provinces (Table 3.1; 3.2).

During the studied period, the population density gradually increased in all provinces due to the increase in the number of residents (CDM), but the process itself proceeded at different rates (Figure 3.1). On the Right-Bank, the average values of the indicators in Podillia and Kyiv provinces were higher than the regional values; on the Left-Bank, Poltava province was among the leaders. In these provinces, between 1846 and 1863, the population density increased in Podillia (+21.3%), Kyiv (+16.3%), Volyn (+14.2%), Poltava (+13.2%), Kharkiv (+11.7%), Chernihiv (+5.9%). In general, it rose by 17% in the Right-Bank and by 10.7% in the Left-Bank. It is interesting that in 1846 – 1856 the population density of Kyiv and Poltava provinces was the same, differences appeared only from the end of the 1850s.

Hierarchical cluster analysis of district distribution according to indicators of territory size and descriptive statistics of population density (Table 3.3; 3.4) made it possible to identify 7 groups of territorial taxa. The numbering of the groups is end-to-end, and the groups themselves are assigned ordinal numbers following the growth of the average population density (Figure 3.2; Table 3.5). For the convenience of comparative analysis, the final results are normalized according to the average sample values of the relevant indicators and given in % (Figure 3.3). The sparsely populated category includes 15 large districts of cluster groups 6 and 7; most of the 35 districts of the 11th and 12th groups should be considered overpopulated by average sampling standards. Three districts of group 9, which together with groups 8 and 10 form a total of 27 districts, where the ratio of population and territory approached the optimum, are almost perfectly under the average sample values (Figure 3.4).

The structural analysis of the distribution of these three categories of cluster groups of districts by provinces (Figure 3.5) shows that overpopulation was primarily in Podillia (92%), Kyiv (75%), Poltava (69%) provinces, and all of them can be attributed to common local macrogroup of the Ukrainian Forest-Steppe provinces in terms of population density (Figure 3.6). Chernihiv province, divided into one and a half dozen small districts (Table 3.2), was populated fairly evenly, taking into account the features of the landscape in the north and south parts, forming another local version of the provincial structure in terms of the population density (Figure 3.4; 3.5; 3.6).

Volyn and Kharkiv province demonstrate else one local variant of the provincial structures in the Ukrainian Forest-Steppe according to the population density (Figure 3.4; 3.6). As to Volyn, most of the districts (59%) were formally "underpopulated", and a quarter were overpopulated. In Kharkiv province, signs of possible overpopulation were observed in three out of eleven districts, in four the population density appeared to be optimal, and four more, assigned to the Ukrainian military settlement, demonstrated artificial "underpopulation" (Figure 3.5) to create normative land funds for the maintenance of significant cavalry formations [75, pp. 212–220]. Thus, according to the staff of 1833, there were 14,824 soldiers and 10,112 service horses in 8 regiments with added units of the 2nd cuirassier and 2nd lance divisions

[79, pp. LV – LVI]. To provide them with provisions and fodder 207,360 military settlers were concentrated in the southeast of Kharkiv province on an area of 758,574 desiatinas (7,282 sq. v., in terms of the area something similar to districts Baltskiy on Podillia or Ovrutskiy on Volyn) in 1855 – 1857 [76, pp. 82 – 83]. The population density here was close to 28 people. per sq. v., which corresponds to the average indicator for cluster group 8. In the remaining territories of the five "settled" districts (almost 24,849 sq. v. in total), 595,330 "civil" residents lived in 1856 (Table 2.2; 3.2) with an average density of 24 persons per sq. v. (actually from 19 in Kupianskiy and Starobilskiy to almost 42 in Valkivskiy districts).

In the Kyiv-Podillia settlement, as of 1856, on the territory of almost 3,235 sq. v. 124,180 people were accommodated [74, pp. 59 – 61], or 38 persons per sq. v., which corresponds to cluster group 10. At that time, the settlement covered parts of Umanskiy, Haisynskiy, Proskurivskiy, Letychivskiy, Olhopolskiy, Baltskiy districts, where on an area of 18,642 sq. v. (without military settlement lands) 720,150 civilians lived (Table 2.1; 3.1) at an average density of 39 people per sq. v. (actually from 25 in Baltskiy to 62 in Letychivskiy districts) (Table 3.3).

The last examples are given to once again emphasize the difficulties of calculating demographic indicators for areas with military settlements. At the same time, we were able to make sure of the effectiveness of the applied methodology and the reliability of the obtained results, since the optimal interval of demographic pressure on the ecosystem determined by us is 28 – 38 people per sq.v. (groups 8 – 10) of the Ukrainian Forest-Steppe in the middle of the 19th century, coincides with the calculations implemented in practice in those distant times by economists of the Ministry of War Military Settlement's Department.

Table 3. 1

**Population density of the Right-Bank Ukraine by provinces and districts
(1846–1863)**

Code	Provinces/districts	Area (sq.v.)	Population density				
			1846	1851	1856	1858	1863
<i>Kyiv prov.</i>		$\Sigma 44713$	<i>avg.38.7</i>	<i>avg.36.6</i>	<i>avg.40.1</i>	<i>avg.43.5</i>	<i>avg.45.0</i>
R1	Kyivskyi	4958	35.6	29.7	32.8	42.3	44.1
R2	Berdychivskyi	2992	57.1	48.7	59.8	62.4	64.6
R3	Vasylkivskyi	3647	43.0	44.0	43.4	47.1	48.6
R4	Zvenyhorodskyi	2904	45.0	53.7	61.7	60.1	57.7
R5	Kanivskyi	2909	48.2	48.9	50.0	54.0	57.6
R6	Lypovetskyi	2523	48.7	46.5	53.2	53.4	51.7
R7	Radomyshl'skyi	8399	17.4	16.6	17.3	18.2	18.6
R8	Skvyrskyi	3228	42.2	39.1	40.6	43.9	45.6
R9	Taraschanskyi	2884	46.7	43.4	43.7	51.9	55.6
R10	Umanskyi	3859	29.7	32.0	42.0	43.2	45.9
R11	Cherkaskyi	3466	40.2	40.0	42.8	47.3	51.8
R12	Chyhyrskyi	2944	38.5	39.2	42.1	46.1	46.4
<i>Podillia prov.</i>		$\Sigma 37300$	<i>avg.41.3</i>	<i>avg.42.3</i>	<i>avg.46.4</i>	<i>avg.49.9</i>	<i>avg.50.1</i>
R13	Kamianetspodil'skyi	2499	58.1	57.4	62.1	64.3	75.1
R14	Baltskyi	7048	18.5	22.0	25.4	27.6	29.8
R15	Bratslavskyi	2787	45.4	50.8	46.5	53.2	56.4
R16	Vinnytskyi	2844	45.5	41.8	39.2	43.4	46.2
R17	Haisynskyi	2975	38.8	41.8	53.0	51.9	55.1
R18	Letychivskyi	2270	57.0	35.8	54.4	46.0	48.1
R19	Litynskyi	2933	34.0	46.6	46.1	44.5	47.2
R20	Mohylivpodil'skyi	2469	49.4	49.3	48.5	53.1	56.7
R21	Novoushytskyi	2509	52.0	52.1	52.9	62.9	59.8
R22	Olhopolskyi	3434	33.8	44.1	46.6	47.7	51.6
R23	Proskurivskyi	2291	64.0	63.1	60.0	60.2	64.4
R24	Yampil'skyi	3241	40.2	42.8	44.6	48.0	51.3
<i>Volyn prov.</i>		$\Sigma 62677$	<i>avg.22.4</i>	<i>avg.23.4</i>	<i>avg.23.9</i>	<i>avg.24.4</i>	<i>avg.25.6</i>
R25	Zhytomyrskyi	6726	25.0	24.7	25.3	30.2	33.7
R26	Dubenskyi	3447	29.0	28.7	29.2	17.9	30.2
R27	Kovelskyi	6375	16.3	18.4	18.6	16.2	17.9
R28	Kremenetskyi	2884	48.6	45.3	46.1	46.7	51.3
R29	Lutskyi	6563	15.6	16.1	16.6	17.1	16.7
R30	Novohradvolyn'skyi	6248	23.5	23.9	24.7	25.7	25.4
R31	Ostrozhskyi	2647	36.0	36.9	37.1	38.1	39.4
R32	Ovrutskyi	9329	8.8	10.1	10.4	11.1	11.1
R33	Rivnenskyi	7529	15.6	16.1	16.3	15.4	16.8
R34	Starokonstantynivsk.	2293	52.3	53.0	54.3	54.9	58.4
R35	Volodymyrvolyn'skyi	5638	23.3	25.9	26.0	24.0	24.8
R36	Zaslavskyi	2998	39.4	41.1	41.8	46.0	45.1
Right-Bank Ukraine		$\Sigma 144690$	<i>avg.32.4</i>	<i>avg.32.4</i>	<i>avg.34.7</i>	<i>avg.36.1</i>	<i>avg.37.9</i>

Table 3.2

**Population density of the Left-Bank Ukraine by provinces and districts
(1846–1863)**

Code	Provinces/districts	Area (sq. v.)	Population density				
			1846	1851	1856	1858	1863
<i>Poltava prov.</i>		Σ43662	<i>avg.38.7</i>	<i>avg.38.2</i>	<i>avg.40.3</i>	<i>avg.41.7</i>	<i>avg.43.8</i>
L1	Poltavskiyi	3030	42.8	42.7	44.6	47.1	50.8
L2	Hadiatskiy	2166	43.6	42.8	44.6	47.2	51.0
L3	Zenkivskiyi	2001	52.9	47.5	50.9	52.6	58.9
L4	Zolotonoshskiyi	3869	35.8	35.8	38.0	38.6	38.0
L5	Kobeliakskiyi	3120	37.5	38.5	42.0	43.0	50.6
L6	Konstantynohradskiyi	5269	19.6	20.7	21.7	22.6	22.8
L7	Kremenchukskiyi	3061	40.5	40.0	43.6	44.2	48.5
L8	Lokhvitskiy	2328	51.4	44.6	51.2	49.5	50.5
L9	Lubenskiy	2065	37.3	39.4	39.8	42.0	44.4
L10	Myrhorodskiyi	2358	44.0	44.3	46.2	48.1	49.1
L11	Pereiaslavskiyi	3522	32.1	32.2	32.8	34.8	36.1
L12	Pyriatynskiyi	2830	36.4	36.1	37.6	38.1	37.3
L13	Prylutskiy	2810	44.4	44.3	46.0	47.8	50.0
L14	Romenskiy	2335	56.1	55.2	57.1	59.2	59.8
L15	Khorolskiy	2898	35.6	35.4	36.8	38.8	41.0
<i>Chernihiv prov.</i>		Σ46042	<i>avg.30.5</i>	<i>avg.29.9</i>	<i>avg.30.5</i>	<i>avg.32.0</i>	<i>avg.32.3</i>
L16	Chernihivskiyi	3215	29.4	28.6	28.0	33.9	31.2
L17	Borznianskii	2464	36.3	37.2	38.5	39.1	42.9
L18	Hlukhivskiyi	2722	31.2	31.1	32.9	32.3	34.8
L19	Horodianskiy	3509	24.6	24.1	24.7	27.4	28.9
L20	Kozelskiy	2788	29.0	29.1	29.0	30.4	30.6
L21	Konotopskiy	2073	36.0	31.8	34.4	36.7	30.2
L22	Krolevetskiy	2366	36.3	34.8	36.7	41.9	41.8
L23	Mhlynskiy	3296	28.4	26.9	27.0	27.6	28.8
L24	Nizhynskiy	2492	42.4	39.8	39.8	41.6	44.9
L25	Novhorodsiverskiy	3347	27.2	26.5	26.1	27.4	25.9
L26	Novozybkivskiy	3376	32.0	32.8	33.3	33.2	33.8
L27	Osterskiy	3963	19.4	19.5	19.6	18.5	19.3
L28	Sosnytskiy	3832	26.4	25.0	25.7	28.6	28.7
L29	Starodubskiy	2928	35.6	36.5	36.1	36.1	37.2
L30	Surazhskiy	3671	27.3	28.0	29.5	29.8	31.0
<i>Kharkiv prov.</i>		Σ47836	<i>avg.29.8</i>	<i>avg.28.6</i>	<i>avg.31.4</i>	<i>avg.33.1</i>	<i>avg.33.3</i>
L31	Kharkivskiyi	2905	37.4	44.1	48.0	54.1	58.5
L32	Akhtyrskiyi	2439	34.7	38.3	40.3	40.6	41.5
L33	Bohoduhivskiyi	2719	35.3	34.4	37.4	38.7	37.1
L34	Valkivskiyi	2140	38.7	39.6	43.7	42.4	45.3
L35	Vovchanskiy	3481	24.1	23.6	25.4	32.4	31.4
L36	Zmiivskiyi	4936	17.1	15.9	17.1	30.7	29.8
L37	Iziumskiyi	6818	21.6	19.2	21.1	25.5	26.9
L38	Kupianskiy	6028	13.4	14.2	15.5	25.1	25.2
L39	Lebedynskiy	2713	47.4	39.1	41.7	49.2	43.1
L40	Starobilskiy	10868	12.1	15.1	17.1	23.9	26.1
L41	Sumskiy	2789	34.8	43.7	47.2	52.8	46.7
Left-Bank Ukraine		Σ137540	<i>avg.32.8</i>	<i>avg.32.1</i>	<i>avg.33.9</i>	<i>avg.35.4</i>	<i>avg.36.3</i>

Conventional abbreviation: sq. v. – square versta.

Sources to the Table 1.3.1; 1.3.2: calculated by the author according to [28, Table 2. 3; 30, Table 5, 6, 14; 29, p. 37; 34, Table 3, 4, 5; 14, pp. 6, 14, 26, 28-29, 40–42; Table 3; 27, pp. 14, 16,

33, 69, 106, 108, 148, 152; 54, pp. 20–23, 50–53, 100–103, 104–107, 144–147, 154–157; 2, pp. 27, 28, 30, 38, 160, 163, 168–169, 173–174, 182; 84, pp. 4–5, 10–11, 14–15, 22–23, 22–24, 28–31].

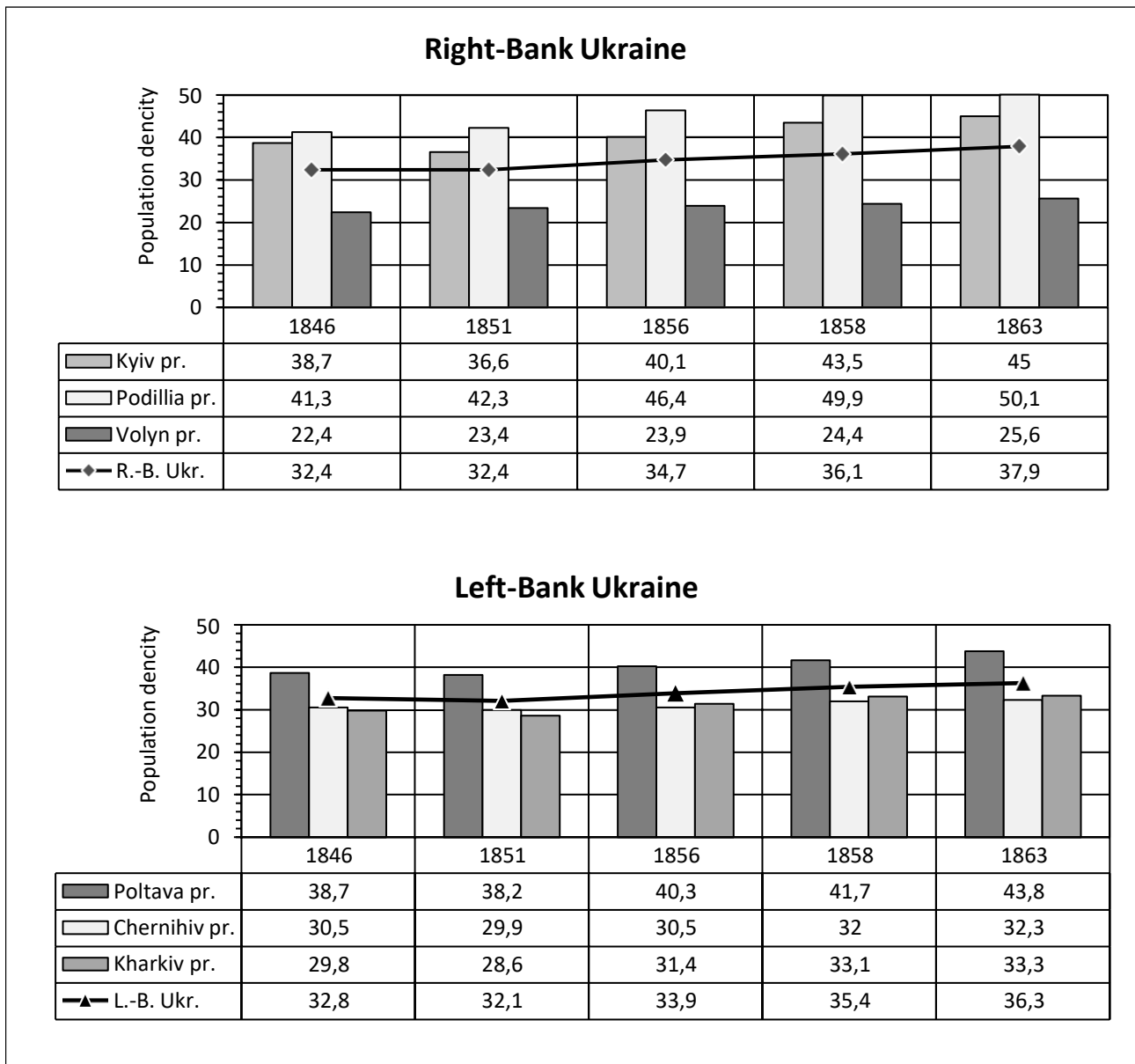


Figure 3.1

Dynamics of the Forest-Steppe Ukraine population density changes by provinces and districts (1846–1863)

Table 3.3

**Descriptive statistics of the Right-Bank Ukraine population density by districts
(1846–1863)**

Code	Districts	Area (sq. v.)	Descriptive statistics of the population density			
			Minimum	Maximum	Average	Standard deviation
R1	Kyivskyi	4958	29.70	44.10	36.90	6.15
R2	Berdychivskyi	2992	48.70	64.60	58.52	6.17
R3	Vasylkivskyi	3647	43.00	47.10	44.62	1.70
R4	Zvenyhorodskyi	2904	45.00	61.70	55.64	6.67
R5	Kanivskyi	2909	44.80	54.00	49.18	3.32
R6	Lypovetskyi	2523	46.50	62.00	52.76	5.95
R7	Radomyshlskyi	8399	16.60	18.20	17.42	0.58
R8	Skvyrskyi	3228	39.10	49.70	43.10	4.10
R9	Taraschanskyi	2884	43.40	61.50	49.44	7.56
R10	Umanskyi	3859	29.70	46.60	38.70	7.41
R11	Cherkaskyi	3466	40.00	51.80	44.42	5.07
R12	Chyhyrskyi	2944	38.50	46.40	42.46	3.72
R13	Kamianetspodilskyi	2499	57.40	75.10	63.40	7.13
R14	Baltskyi	7048	18.50	29.80	24.66	4.49
R15	Bratslavskyi	2787	45.40	56.40	50.46	4.59
R16	Vynnytskyi	2844	39.20	46.20	43.22	2.84
R17	Haisynskyi	2975	38.80	55.10	48.12	7.31
R18	Letychivskyi	2270	35.80	57.00	48.26	8.28
R19	Litynskyi	2933	34.00	47.20	43.68	5.50
R20	Mohylivpodilskyi	2469	48.50	56.70	51.40	3.46
R21	Novoushytskyi	2509	52.00	62.90	55.94	5.07
R22	Olhopolskyi	3434	33.80	51.60	44.76	6.70
R23	Proskurivskyi	2291	60.00	64.40	62.34	2.10
R24	Yampilskyi	3241	40.20	51.30	45.38	4.36
R25	Zhytomyrskyi	6726	24.70	33.70	27.78	4.01
R26	Volodymyrvolynskyi	3447	17.90	30.20	27.00	5.12
R27	Dubenskyi	6375	16.20	18.60	17.48	1.15
R28	Zaslavskyi	2884	45.30	51.30	47.60	2.40
R29	Kovelskyi	6563	15.60	17.10	16.42	0.58
R30	Kremenetskyi	6248	23.50	25.70	24.64	0.94
R31	Lutskyi	2647	36.00	39.40	37.50	1.30
R32	Novohradvolynskyi	9329	8.80	11.10	10.30	0.95
R33	Ovrutskyi	7529	15.40	16.80	16.04	0.56
R34	Ostrozhskyi	2293	52.30	58.40	54.58	2.37
R35	Rivnenskyi	5638	23.30	26.00	24.80	1.18
R36	Starokonstantynivskyi	2998	39.40	46.00	42.68	2.78

Table 3.4

**Descriptive statistics of the Left-Bank Ukraine population density by districts
(1846–1863)**

Code	Districts	Area (sq. v.)	Descriptive statistics of the population density			
			Minimum	Maximum	Average	Standard deviation
L1	Poltavskyi	3030	42.70	50.80	45.60	3.41
L2	Hadiatskyi	2166	42.80	51.00	45.84	3.33
L3	Zenkivskyi	2001	47.50	58.90	52.56	4.14
L4	Zolotonoshskyi	3869	35.80	38.60	37.24	1.34
L5	Kobeliakskyi	3120	37.50	50.60	42.32	5.17
L6	Konstantynohradskyi	5269	19.60	22.80	21.48	1.34
L7	Kremenchukskyi	3061	40.00	48.50	43.36	3.42
L8	Lokhvytskyi	2328	44.60	51.40	49.44	2.81
L9	Lubenskyi	2065	37.30	44.40	40.58	2.71
L10	Myrhorodskyi	2358	44.00	49.10	46.34	2.26
L11	Pereiaslavskyi	3522	32.10	36.10	33.60	1.77
L12	Pyriatynskyi	2830	36.10	38.10	37.10	0.83
L13	Prylutskyi	2810	44.30	50.00	46.50	2.42
L14	Romenskyi	2335	55.20	59.80	57.48	1.97
L15	Khorolskyi	2898	35.40	41.00	37.52	2.37
L16	Chernihivskyi	3215	28.00	33.90	30.22	2.38
L17	Borznianskyi	2464	36.30	42.90	38.80	2.54
L18	Hlukhivskyi	2722	31.10	34.80	32.46	1.51
L19	Horodianskyi	3509	24.10	28.90	25.94	2.10
L20	Kozelskyi	2788	29.00	30.60	29.62	0.81
L21	Konotopskyi	2073	30.20	36.70	33.82	2.76
L22	Krolevetskyi	2366	34.80	41.90	38.30	3.32
L23	Mhlynskyi	3296	26.90	28.80	27.74	0.84
L24	Nizhynskyi	2492	39.80	44.90	41.70	2.12
L25	Novhorodsiverskyi	3347	25.90	27.40	26.62	0.66
L26	Novozybkivskyi	3376	32.00	33.80	33.02	0.67
L27	Osterskyi	3963	18.50	19.60	19.26	0.44
L28	Sosnytskyi	3832	25.00	28.70	26.88	1.69
L29	Starodubskyi	2928	35.60	37.20	36.30	0.60
L30	Surazhskyi	3671	27.30	31.00	29.12	1.48
L31	Kharkivskyi	2905	37.40	58.50	48.42	8.28
L32	Akhtyrskyi	2439	34.70	41.50	39.08	2.71
L33	Bohoduhyivskyi	2719	34.40	38.70	36.58	1.72
L34	Valkivskyi	2140	38.70	45.30	41.94	2.76

Continuation of table 3.4

L35	Vovchanskyi	3481	23.60	32.40	27.38	4.19
L36	Zmiivskyi	4936	15.90	30.70	22.12	7.44
L37	Iziumskyi	6818	19.20	26.90	22.86	3.22
L38	Kupianskyi	6028	13.40	25.20	18.68	5.95
L39	Lebedynskyi	2713	39.10	49.20	44.10	4.14
L40	Starobilskyi	10868	12.10	26.10	18.86	5.93
L41	Sumskyi	2789	34.80	52.80	45.04	6.60

Conventional abbreviation: Sq. v. – square versta.

Sources to the Table 3.3; 3.4: calculated by the author according to the Table 3.1; 3.2.

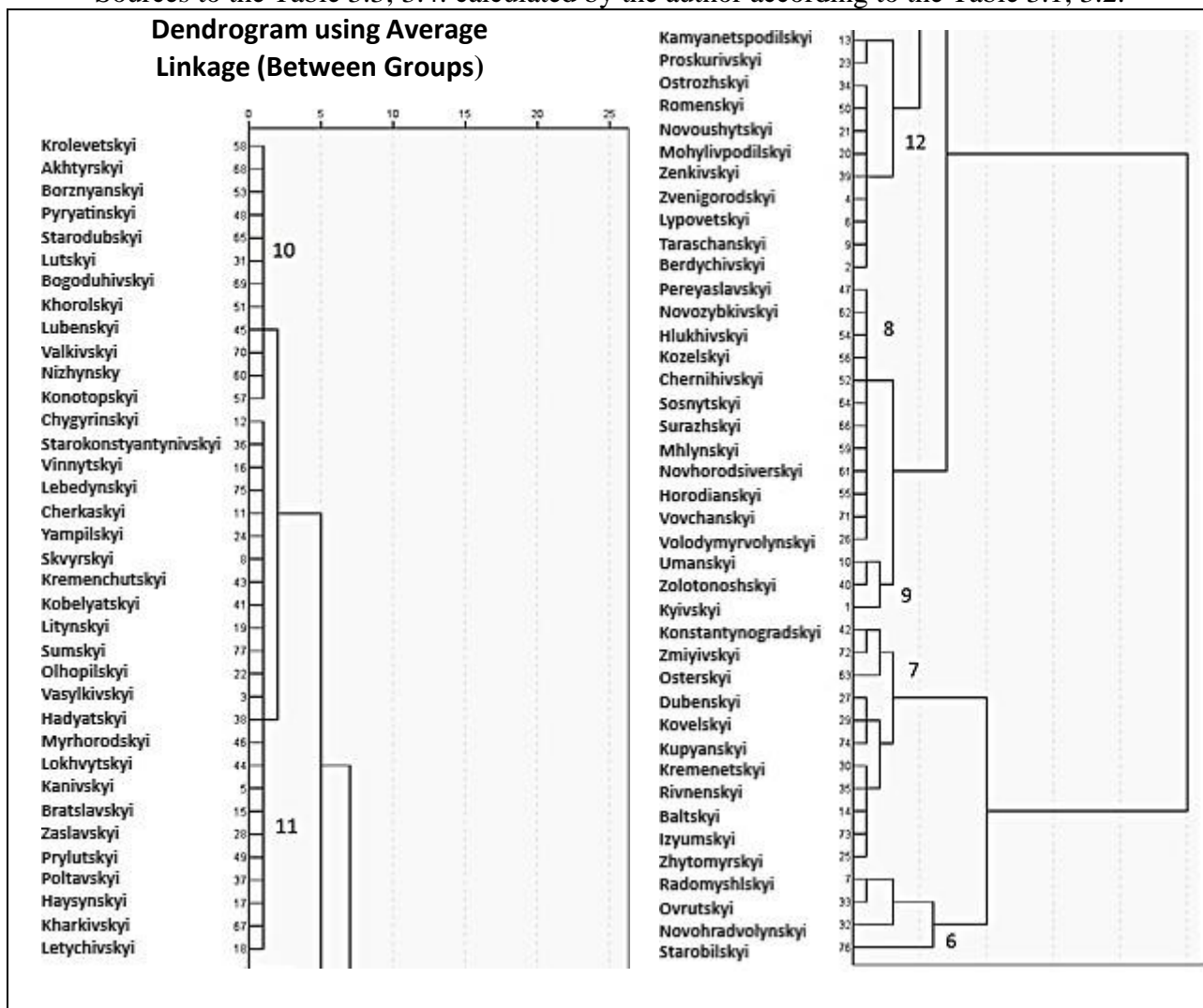


Figure 3.2

Hierarchical cluster analysis of the Forest-Steppe Ukraine population density distribution by districts of (1846 – 1863)

Table 3.5

**Ranked results of the Forest-Steppe Ukraine population density cluster
grouping of the districts (1846 – 1863)**

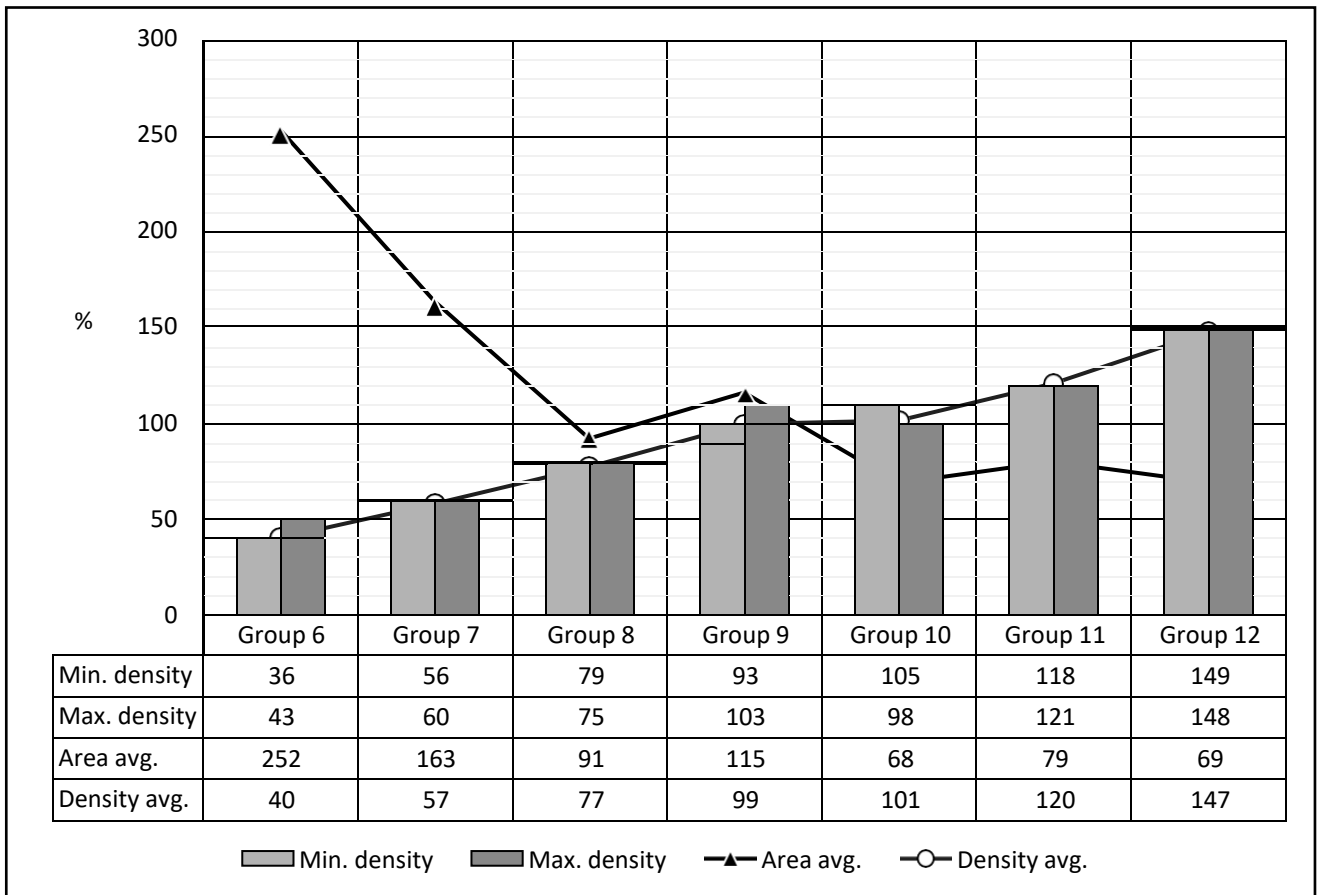
Code	Groups/districts	Square (sq. v.)	Descriptive statistics of the population density			
			Minimum	Maximum	Average	Standard deviation
Group 6 (average group)		9242	12.10	18.00	15.07	-
R7	Radomyshl'skyi	8399	16.60	18.20	17.42	0.58
R33	Ovrutskyi	7529	15.40	16.80	16.04	0.56
R32	Novohradvolyn'skyi	9329	8.80	11.10	10.30	0.95
L40	Starobil'skyi	10868	12.10	26.10	18.86	5.93
Group 7 (average group)		5965	18.95	25.10	21.83	-
L6	Konstantynohrad'skyi	5269	19.60	22.80	21.48	1.34
L36	Zmiiv'skyi	4936	15.90	30.70	22.12	7.44
L27	Osterskyi	3963	18.50	19.60	19.26	0.44
R27	Dubenskyi	6375	16.20	18.60	17.48	1.15
R29	Kovel'skyi	6563	15.60	17.10	16.42	0.58
L38	Kupianskyi	6028	13.40	25.20	18.68	5.95
R30	Kremenetskyi	6248	23.50	25.70	24.64	0.94
R35	Rivnenskyi	5638	23.30	26.00	24.80	1.18
R14	Bal'tskyi	7048	18.50	29.80	24.66	4.49
L37	Izium'skyi	6818	19.20	26.90	22.86	3.22
R25	Zhytomyr'skyi	6726	24.70	33.70	27.78	4.01
Group 8 (average group)		3351	26.91	31.38	29.13	-
L11	Pereiaslav'skyi	3522	32.10	36.10	33.60	1.77
L26	Novozybkiv'skyi	3376	32.00	33.80	33.02	0.67
L18	Hlukhiv'skyi	2722	31.10	34.80	32.46	1.51
L20	Kozel'skyi	2788	29.00	30.60	29.62	0.81
L16	Chernihiv'skyi	3215	28.00	33.90	30.22	2.38
L28	Sosnytskyi	3832	25.00	28.70	26.88	1.69
L30	Surazh'skyi	3671	27.30	31.00	29.12	1.48
L23	Mhlyn'skyi	3296	26.90	28.80	27.74	0.84
L25	Novhorod'siverskyi	3347	25.90	27.40	26.62	0.66
L19	Horodianskyi	3509	24.10	28.90	25.94	2.10
L35	Vovchanskyi	3481	23.60	32.40	27.38	4.19
R26	Volodymyrvolyn'skyi	3447	17.90	30.20	27.00	5.12
Group 9 (average group)		4229	31.73	43.10	37.61	-
R10	Umanskyi	3859	29.70	46.60	38.70	7.41
L4	Zolotonosh'skyi	3869	35.80	38.60	37.24	1.34
R1	Kyiv'skyi	4958	29.70	44.10	36.90	6.15
Group 10 (average group)		2505	35.78	41.00	38.27	-
L22	Krolevetskyi	2366	34.80	41.90	38.30	3.32
L32	Akhtyr'skyi	2439	34.70	41.50	39.08	2.71
L17	Borznianskyi	2464	36.30	42.90	38.80	2.54
L12	Pyriatyn'skyi	2830	36.10	38.10	37.10	0.83
L29	Starodub'skyi	2928	35.60	37.20	36.30	0.60
R31	Lut'skyi	2647	36.00	39.40	37.50	1.30
L33	Bohoduhiv'skyi	2719	34.40	38.70	36.58	1.72
L15	Khorol'skyi	2898	35.40	41.00	37.52	2.37
L9	Lubenskyi	2065	37.30	44.40	40.58	2.71

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Continuation of table 3.5

L34	Valkivskyi	2140	38.70	45.30	41.94	2.76
L24	Nizhynskyi	2492	39.80	44.90	41.70	2.12
L21	Konotopskyi	2073	30.20	36.70	33.82	2.76
Group 11 (average group)		2910	40.19	50.96	45.62	-
R12	Chyhyrskyi	2944	38.50	46.40	42.46	3.72
R36	Starokonstantynivskyi	2998	39.40	46.00	42.68	2.78
R16	Vinnitskyi	2844	39.20	46.20	43.22	2.84
L39	Lebedynskyi	2713	39.10	49.20	44.10	4.14
R11	Cherkaskyi	3466	40.00	51.80	44.42	5.07
R24	Yampil'skyi	3241	40.20	51.30	45.38	4.36
R8	Skvyrskyi	3228	39.10	49.70	43.10	4.10
L7	Kremen'chuk'skyi	3061	40.00	48.50	43.36	3.42
L5	Kobeliak'skyi	3120	37.50	50.60	42.32	5.17
R19	Litynskyi	2933	34.00	47.20	43.68	5.50
L41	Sum'skyi	2789	34.80	52.80	45.04	6.60
R22	Olhopol'skyi	3434	33.80	51.60	44.76	6.70
R3	Vasylkivskyi	3647	43.00	47.10	44.62	1.70
L2	Hadiat'skyi	2166	42.80	51.00	45.84	3.33
L10	Myrhorod'skyi	2358	44.00	49.10	46.34	2.26
L8	Lokhvyt'skyi	2328	44.60	51.40	49.44	2.81
R5	Kyivskyi	2909	44.80	54.00	49.18	3.32
R15	Bratslavskyi	2787	45.40	56.40	50.46	4.59
R28	Zaslavskyi	2884	45.30	51.30	47.60	2.40
L13	Prylutskyi	2810	44.30	50.00	46.50	2.42
L1	Poltavskyi	3030	42.70	50.80	45.60	3.41
R17	Haisyn'skyi	2975	38.80	55.10	48.12	7.31
L31	Kharkivskyi	2905	37.40	58.50	48.42	8.28
R18	Letychivskyi	2270	35.80	57.00	48.26	8.28
Group 12 (average group)		2518	50.59	62.36	55.82	-
R13	Kamianetspodil'skyi	2499	57.40	75.10	63.40	7.13
R23	Proskurivskyi	2291	60.00	64.40	62.34	2.10
R34	Ostrozhs'kyi	2293	52.30	58.40	54.58	2.37
L14	Romenskyi	2335	55.20	59.80	57.48	1.97
R21	Novoushyt'skyi	2509	52.00	62.90	55.94	5.07
R20	Mohylivpodil'skyi	2469	48.50	56.70	51.40	3.46
L3	Zenkivskyi	2001	47.50	58.90	52.56	4.14
R4	Zvenyhorod'skyi	2904	45.00	61.70	55.64	6.67
R6	Lypovetskyi	2523	46.50	62.00	52.76	5.95
R9	Taraschanskyi	2884	43.40	61.50	49.44	7.56
R2	Berdychivskyi	2992	48.70	64.60	58.52	6.17
Average sample values		3665	34.15	42.28	38.10	-

Source: calculated by the author according to the Table 3.3;3.4; Figure 3.2.



Source: calculated by the author according to the Table. 3.5.

Figure 3.3

Diagram of the Forest-Steppe Ukraine cluster groups of districts by population density (1846 – 1863). Normalized by the ratio of average group values of indicators to average sample values in %

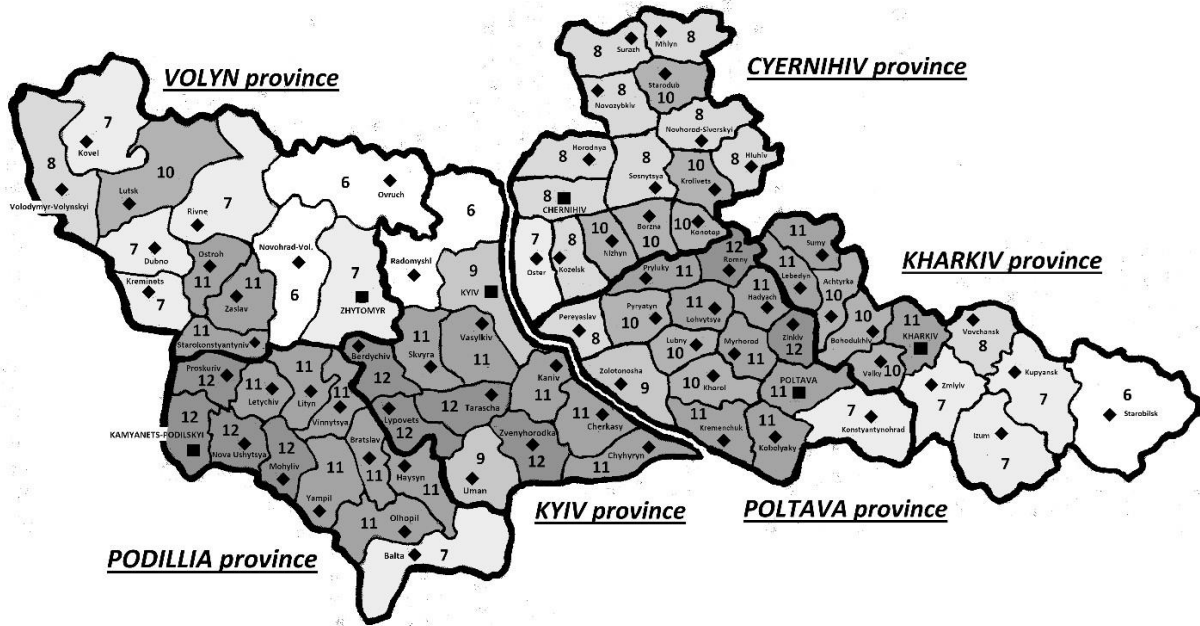
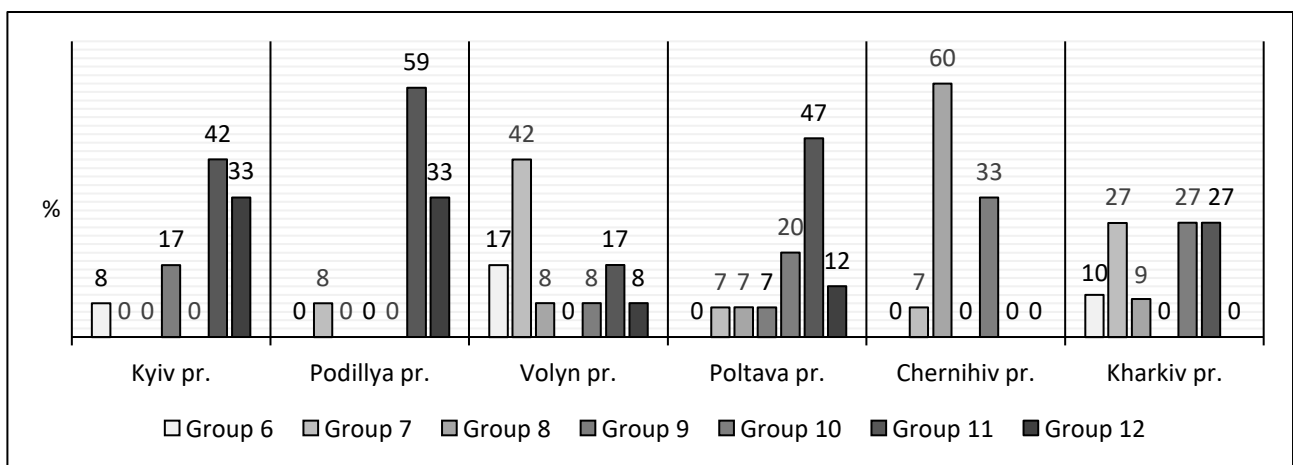


Figure 3.4

Spatial distribution of cluster groups of districts in the Forest-Steppe Ukraine by population density (1846 – 1863)



Sources: calculated by the author according to the Table 3.5.

Figure 3.5

The structure of Ukrainian Forest-Steppe provinces by cluster groups of population density (% of the group districts to the number of districts in the province)

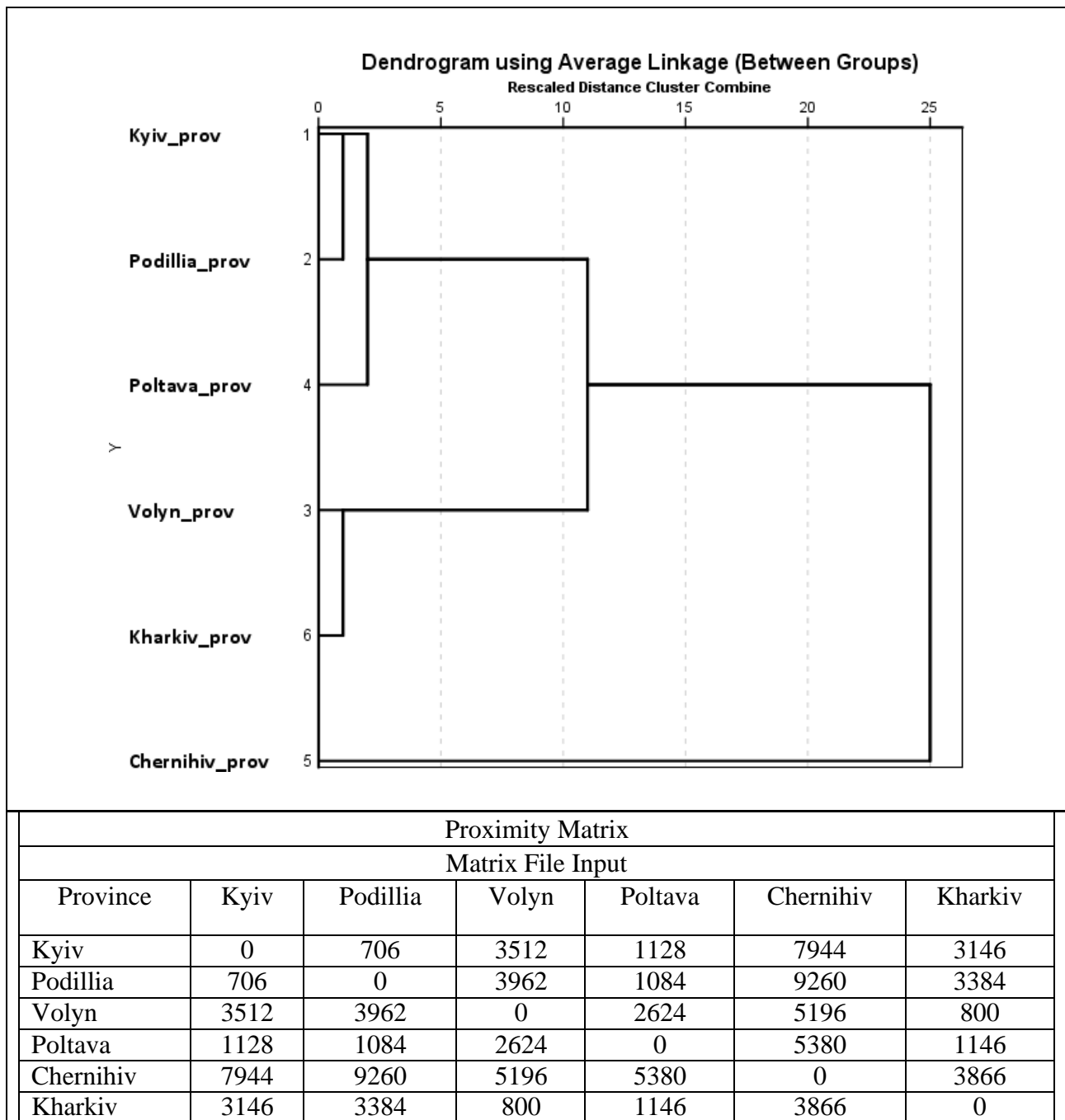


Figure 3.6

Classification of the Forest-Steppe Ukraine provinces according to cluster groups of the density distribution of the population

2.4 Movement of the Forest-Steppe Ukraine population in the 1840s – 1860s

"Population movement" is a term used in demography to denote various changes in the state of the population. At the same time, a distinction is made between natural, mechanical, and social movements.

Natural movement is the process of changing the number, structure, and composition of the population under the influence of direct (birth, death) or indirect (marriage) factors. Mechanical (migratory) movement is associated with the movement of people in space. Social movement refers to various forms of social mobility of people [80, p. 8] and is considered by us specifically in a separate section of the monograph.

A classic example of a comprehensive approach to this problem in Ukrainian historiography was the analysis of the Kyiv province population movement, carried out by D. Zhuravsky. He emphasized that population growth cannot be determined only by comparing births and deaths, it is also necessary to involve data on the updated results of people's audits received from other provinces, on the resettlement of lower military ranks, sent on vacation for an indefinite period or released from service, a contingent of newcomers students, residents of charitable or penitentiary institutions, the quartering of troops that do not belong to the category of the permanent population of the province. Concerning the decline in the population, in addition to the dead, it is also necessary to take into account the recruitment, the expulsion of criminals from local prisons to Siberia or their transfer to prison companies or soldiers, relocation to other provinces, and the flight or disappearance of dependent peasants. D. Zhuravsky considered these factors to be permanent. Temporary, in his opinion, included such phenomena as summer military camp gatherings and maneuvers, the movement of various units and brigades, movement along postal routes, navigable rivers, the movement of artels by workers, processions of pilgrims to Kyiv shrines, visitors to fairs and bazaars, vagabonds, peasants without passports, etc. [20, pp. 144 – 145].

The researcher traced changes in the processes of birth and death of the population of the province based on the publication of S. Korsakov for the years 1801–1834 [12] and the data of the Kyiv Spiritual Consistory for the period 1835 – 1845. The deviations between the minimum and maximum values of this indicator for 40 years of observations ranged from 16% to 30%, with the largest in 1835 – 1839 [20, pp. 145 – 146]. The highest mortality rates occurred in 1812, 1822, 1831, and 1835, especially in 1842, when there were 50% more deaths than in the following year, 1843 [Ibid., pp. 147 – 151]. According to D. Zhuravsky, among those who died between 1834 and 1844, 67.4% were children and adolescents (0 – 15 years old); 24.2% of working-age persons (15 – 60 years); 8.3% were old people (60 – 100 years and older). There was an average of 4 – 5 births for each marriage, with a tendency toward a gradual decrease in the number of baptisms from 4.8 to 4.3 per wedding [Ibid., pp. 161 – 163].

Due to the resettlement of people on permanent live in Kyiv province, the population increased in 1845 by only 0.08% and decreased by 0.27% mainly due to recruitment to the army. In the same year, 37,900 troops were quartered in Kyiv province; 26,200 soldiers were in summer camps here; about 24,000 servicemen as part of units passed through Kyiv city; 11,800 lower ranks were sent through the Kyiv internal guard; since the previous year, 6,542 convicts were in the Kyiv prison castle, 6,155 detainees were released during the year; 1,530 vagrants and other criminals were detained. Up to 10,000 travelers left Kyiv by horse mail service; 59,200 people, including 7,650 residents, passed through Kyiv by other means of transport and some of them stayed there for several days. Between 50,000 and 80,000 ordinary pilgrims were in the city every year, but they stayed there for no more than three consecutive days. On average, about 3,000 people gathered at the Kyiv Epiphany Fair; in 1845 almost 85.1 thousand people were resettled along the navigable rivers (Dnepr, Pripyat, Teterev). In Kyiv itself, 92,000 military personnel and 109,000 civilians were transported across the Dnieper; 28,800 wheeled carts; 82.4 thousand horses and 2.7 thousand oxen were driven from one bank of the Dnieper to the other [Ibid., pp. 171 – 176].

Analyzing the demographic growth, D. Zhuravsky drew our attention to the fact that the jump in the population of Kyiv province by almost 40,000 in 1844 was not natural, but artificial, purely administrative in origin, since in that year the city of Berdychiv was transferred from Volyn to Kyiv province. In general, the average annual growth of the Orthodox population of Kyiv province for 40 years was 1.29% with significant fluctuations within the period from -1.40% in 1816 to +4.85% in 1844 [Ibid., pp. 177 – 178].

It is clear that the level of information support available to D. Zhuravsky, thanks to the patronage of the Kyiv governor I. Fundukley was beyond the reach of most other researchers. So, in the "Military Statistical Review" of the Kyiv province, the then captain of the General Staff, in the future Lieutenant General P. Menkov (1814-1875) noted that according to information received in 1846, 1,736,333 people lived in this province, which was 6,209 more than in the report of the Kyiv civil governor. Over the previous decade, an average of 76,954 children of various faiths were born per year, 50,538 died and 26,116 survived. In 1846, 26,827 people died, of which 77.2% were children under the age of 5. [28, pp. 76, 84 – 84].

The compiler of the "Military Statistical Review" of Podillia province, Captain of the General Staff (later Major General of the Admiralty) N. Tveritinov (1809 – ?) reported the following about the population movement: in the last 10 years (before 1846), on average, up to 86,372 people were born, 52,669 died, the annual average demographic increase was 28,703 people. In 1846, 97 single-farm families in the amount of 394 people were resettled in Kherson province. Epidemic diseases were the cause of significant mortality in the cities, namely: typhus everywhere, smallpox (Olhopolskyi district, 1843), scarlet fever (Proskurivskyi district), and whooping cough (Novoushytskyi district). The average annual increase in the population of cities amounted to -0.55%, settlements and villages in districts +2.04% [30, pp. 83 – 84].

The materials for the "Review" of Volyn province were collected and processed by the staff captain of the General Staff Fritche. According to his information, in the years 1842, 1843, and 1844, the mortality averaged 3.4% per year, during the years 1845 – 1846 it increased to 4.2% due to the typhus epidemic. The mortality rate was

the lowest in Kremenets (2.5%), the highest in Dubno (up to 7.4%), and the average in Zhytomyr (3 –5%) [33, pp. 69 – 70].

Lieutenant Colonel of the General Staff N. Obleukhov, a major general since 1862, characterizing the movement of the population in Poltava province noted that "no information has been received on the number of births". Regarding the dead, he indicated that in 1845 there were 50,527, the most in Prylutskyi district (4,492), the least in Zenkivskyi and Lubenskyi ones (2,464 and 2,380) [29, p. 43].

The author of the "Military Statistical Review" of Chernihiv province, Lieutenant Colonel of the General Staff, and future hero of the Crimean War, A. Mitsevich reported that since the 8th Revision of 1834 and as of January 1, 1846, the male population of the province had increased by 60,702 persons. During the period 1829 – 1839, the average demographic growth was 10,806 people. In 1845, 65,600 people were born, 54,891 died, and 10,709 arrived. A negative demographic increase of 13,549 occurred in 1831 in connection with the cholera epidemic [36, pp. 69–71].

Captain of the General Staff V. Mochulskyi (1809 – after 1850), a hero of the Caucasian War of the 1830s, in his comprehensive survey of Kharkiv province, paid enough attention to demographic issues. As of 1845, according to the report of the Kharkiv military governor and the head of the military settlement, 1,445,964 residents lived there "according to the civil and horse breeding departments" and 200,307 people "according to the military settlement". The author especially emphasizes that P. Köppen (more precisely, K. Arsenyev – *Yu. Boiko*) in 1846 published the data of the governor's report for 1845 without the inhabitants of the military settlement, which "reduced" the population of the Russian Empire by 200,000 souls. Despite this, the population of the province doubled in 57 years (1788 – 1840). For 10 years (1836 – 1846), the average demographic growth of townspeople was 1.52% for men and 1.55% for women; in districts, respectively 0.9% and 0.7%; in the province as a whole 1.1% and 0.9%. For the Ukrainian military settlement, this indicator was not calculated [34, Table 4; 5].

As one can see, in addition to the work of D. Zhuravsky, other descriptions of the Forest-Steppe Ukrainian provinces in the middle of the 19th century contained

fragmentary data on population movement. The general dynamics of the process in a wider chronological range can be traced to the works of A. Zablotskyi-Desiatovskyi and E. Kaipsha [81; 17]. The information collected by them about the growth of the Forest-Steppe Ukraine Orthodox population between 1838 and 1852 has been compiled into one table and two diagrams for convenience (Table 4.1; Figure 4.1). In 1838, negative demographic growth was observed only in Volyn province due to a local outbreak of cholera in the final phase of the second pandemic of 1829 – 1838 [82, p. 256]. The year 1840 became difficult for the entire Left-Bank: in Poltava pr. population growth decreased by 80%, in Chernihiv pr. by 71%, in Kharkiv province by 64%, which should be associated with the scurvy epidemic [34, p. 63]. In 1842, negative demographic growth was recorded in Kyiv (-3,349), Poltava (-10,192), and Kharkiv (-12,951) provinces, and in Podillia, population growth decreased by -73%. It is known that in Kharkiv province this year fever became epidemic [Ibid., p. 64], while in Poltava, Kyiv, and Podillia provinces, many people died of typhus [33, p. 69]. The third cholera pandemic reached Ukraine in 1847, with its peak values in 1848. There were so many deaths that authorities did not have time to register. E. Kaipsha especially noted that he could not obtain diocesan data for 1848 [17, p. 435]. All the Forest-Steppe provinces were affected. According to the Ministry of Internal Affairs, 36,804 people (2.24% of the population) died directly from cholera in Kyiv pr., 32,960 (2.18%) in Podillia pr., 24,688 (1.77%) in Volyn pr., 33,740 (2.02%) in Poltava pr., in Chernihiv pr. 31,543 (2.23%), and in Kharkiv province 30,345 (2.12%). Data on population losses in 1848 for Poltava and Chernihiv provinces were published later in other sources: -38175 (Poltava pr.), and -33827 (Chernihiv pr.) [49, pp. XXXV – XXXIX; 42, pp. 122, 125]. In the following 1849, the epidemic did not abate in Kharkiv (demographic growth -27,288 people), Poltava (-505) and Podillia (+327) provinces. Separate outbreaks of the disease were also traced in 1850 – 1853 in Podillia, Volyn, and Kyiv provinces [82, p. 257–258].

The analysis of the growth charts of the Orthodox population in 1838 – 1852 shows that short-term growth spurts, for example, in 1839 – 1841 and 1843 – 1844, were replaced by longer declines and even demographic failures during epidemics

(Table 4.1; Figure 4. 1), which were often aggravated by other natural disasters [83, pp. 465 – 502]. On the Left-Bank, these data can be fairly correctly extrapolated to the entire population with a high degree of probability, since the Orthodox in Poltava, Chernihiv, and Kharkiv provinces made up about 97% of the population. On the Right-Bank the share of Orthodox was 77 – 78% [84, p. 18, Table 4] this can only be done surely in condition if additional information about the demographic movement among local Catholics, Protestants, and Jews is involved. Now, these data have not yet found their system researchers.

It is time to remind us that our statistical tables on the population of six provinces and 77 districts of the Forest-Steppe Ukraine are forced to begin in 1846, with information borrowed from the publication of K. Arsenyev and supplemented materials of "Military and Statistical Reviews" of 1848 – 1851. Next, they have the materials of the 9th People's Revision (1851), monographically elaborated by P. Köppen [27], the data of the reports of the heads of provinces for 1856 and the 10th People's Revision of 1858, published in two issues of "Statistical Tables of the Russian Empire" [54; 2] and, finally, information about the demographic situation in the Ukrainian Forest-Steppe in 1862 – 1863 from the first issue of the fundamental statistical "Vremennik" (84). The general requirement for the selection of information has become a mandatory district component of the data array, without which it is impossible to detail in space the peculiarities of the studied socio-demographic processes. Information on the natural movement of the population in districts of Forest-Steppe provinces (born – died – arithmetic difference) is contained only in the named editions for 1846 and 1856. To apply a unified methodical approach to the analysis of statistical information, we have introduced an indicator of estimated "average annual demographic growth", abbreviated AADG, which contains integrated data on the natural, mechanical, and social movement of the population. We will give an example of its calculation for the Kyiv province of the chronological interval 1847 – 1851 according to table 1.2.1: $(147133 - 176281)/5 = -5830$. To reduce the dimensionality, we recalculate the result in %: $-5830/176281 \cdot 100 = -3.31\%$ (Table 4.2). That is, we postulate that the process was linear, uniform, and in each full year of the five-year plan (1847, 1848, 1849, 1850,

1851) 5830 more inhabitants left than arrived, or -3.31% of zero in 1846. This is the most simplified model of the phenomenon, focused on identifying generalized trends in the development of the process. That is, we postulate that the process was linear, and uniform, and in each full year of the five-year plan (1847, 1848, 1849, 1850, 1851) 5830 more inhabitants left than arrived, or -3.31% of zero in 1846. This is the most simplified model of the phenomenon, focused on identifying generalized trends in the development of the process. In the given example, the value of the indicator shows a pronounced and prolonged demographic crisis, which, as can be seen from Tables 4.2 and 4.3, covered not only the Kyiv district. The above information about the catastrophic beginning of the third cholera pandemic of 1848 – 1862 helps to specify these statistical data when 2.24% of the population died of the disease in the incomplete year of 1848 only in Kyiv province.

We will be back to the districts later, but first, we will try to assess the problem at the regional and provincial levels (Figure 4.2). In 1846, the annual increase in the population on the Right-Bank was 1.38%, slightly ahead of Kyiv (1.53%) and Podillia provinces (1.43%) and lagging on Volyn (1.13%). In the Left-Bank part of the Forest-Steppe Ukraine, the annual demographic growth was somewhat lower (1.03%) and equaled 1.40% in Poltava pr., 1.04% in Kharkiv pr., and 0.57% in Chernihiv province. In the period between 1847 and 1851, the estimated average annual demographic growth (AADG) on the Right-Bank approached zero (-0.21%) as a result of a sharp decrease in the indicator in Kyiv (-1.02%) and Podillia (-0.09%) provinces with its reduction on Volyn to 0.65%. The Left-Bank showed a similar situation (-0.02%) with a noticeable reduction of the AADG in Poltava (-0.23%) and Chernihiv provinces (-0.40%) and partially in Kharkiv province (0.61%). The period between 1851 and 1856 was a time of restoration of the demographic potential to the level of 1846. The regional indicator of the Right-Bank AADG rose again to 1.33%, thanks to the leading role of Kyiv (1.65%) and Podillia (1.86%) provinces. On Volyn, the demographic situation worsened and the province could not reach the level of 1846 until the 1860s. On the Left-Bank, the AADG again reached 1.01% due to the outpacing growth of the

indicator in Kharkiv pr. (1.52%), while Poltava pr. has not yet fully equalized since 1846, and the AADG of Chernihiv province did not exceed 0.39%.

The short period between 1856 and 1858 was significant for the Ukrainian Forest Steppe. On the Right-Bank, the AADG formally almost tripled to 3.3%, rising to 6% in Kyiv, 2.51% in Podillia, and even 1% in Volyn provinces. However, the absolute record belonged to the Left-Bank with the AADG rate of 4.69% – respectively 1.64% in Poltava, 2.5% in Chernihiv, and 10.3% in Kharkiv provinces. This "miracle" had a purely administrative origin and was associated with the beginning of the liquidation of military settlements. The military villagers turned into social marginals – they continued to live in the military settlements, obeying the military authorities, under previously adopted decrees, orders, and charters, but as civilians, they began to be taken into account in the administrative districts of the respective provinces. In other words, there was not a natural or mechanical, but a mass fictitious social movement of the population. One can estimate its scale only with the help of demographic measurement tools.

We start with the fact that, despite extensive historiography, none of the researchers knew and did not know the exact number of military settlers in Ukraine in the late 1850s – early 1860s and all the places of their settlement. Let's turn to the official data. "Statistical Tables of the Russian Empire" for 1856, built on the reports of the governors, show that 11,175 military settlers lived in the city of Uman (AADG -0.54%), 48,012 (AADG 1.08%) in Zvenyhorodskyi and Umanskyi districts (there were the 1st and 2nd parts of the Kyiv-Podillia military settlement), 5334 settlers (AADG 1.56%) who served in the horse artillery brigade in a separate volost of the Umanskyi district. In total, there were 64,521 military settlers in Kyiv province with an average of 0.84% of the AADG indicator [54, p. 52]. In Podillia province, there were 12,306 military settlers in districts Baltskyi (5th part of the Kyiv-Podillia military settlement), AADG -2.54%, Haisynskyi (3rd part) 22,731, AADG 1.48%, and Letychivskyi (4th part) 23,793, AADG -0, 02%. In total 58,830 military settlers were shown with an average AADG indicator of 0.02% in this province by 1856 [Ibid., p. 100]. In Kharkiv province, 8,130 military settlers were registered in the city of

Chuguiev (AADG -4.2%), in the parts of the Ukrainian military settlement of Vovchanskyi, Zmiivskyi, Iziumskyi, Kupianskyi, Starobilsky administrative districts there were 221,012 settlers (AADG 0.83%) "together with the troops" (sic.!), a total of 229,142 people in this province with an average annual demographic growth of 0.65% [Ibid., p. 146]. According to the data of the 10th People's Revision of 1858, former military settlers in the provinces of Kyiv accounted for 2.1%, Podillia 3.3%, and Kharkiv 11.9% of the population [2, p. 309].

Let's turn to one more source, neglected by researchers of military settlements on the Right-Bank. In the "Atlas" of A. Rittih, it is reported that in the early 1860s there were 42,437 Orthodox members of the Southern military settlement³ in Umanskyi district of Kyiv province; in Podillia province, the Orthodox of this settlement were distributed by districts as follows: Baltskyi – 19,950, Haisynskyi – 19,105, Letychivskyi – 18,438, Olhopolskyi – 10,617, Proskurivskyi – 2,225 [58, Kyiv province; Ibid., Podillia province], a total of 70,365 people, which does not match the data of the "Statistical Tables" for 1856, where the settlers in Olhopolskyi and Proskurivskyi districts are not mentioned.

Thus, in 1856, there were 64,521 military settlers in Kyiv province (42,437 at the beginning of the 1860s), 58,830 in Podillia (70,365 at the beginning of the 1860s), and in total 123,351 on the Right-Bank (at the beginning of the 1860s – 112,802). Adding to these 229,142 military residents in Kharkiv province (with troops?), we have 352,483 of those in the Forest-Steppe Ukraine late 50s of the 19th century. The quality of life of this category of peasants did not differ from others, and in some places, it was even worse, as evidenced by the AADG indicators of 0.02% – 0.83% in the Right-Bank and 0.84% in Kharkiv province.

After such an extensive but necessary digression, let us return to the consideration of the issue at the general level of the Ukrainian Forest-Steppe districts, singling out separately those, where the values of the AADG indicator look abnormal (Table 4.4). We included 11 out of 12 districts with military settlements in the first

³ The previous name was "Kyiv-Podillia military settlement".

group. In 1856, they had a total AADG of 32,528 people, standing out for its size in the Baltskiy, Haisynskiy, Letychivskiy, and Olhopolskiy districts of Podillia province. The total AADG in this group of districts in 1858 became already 182,782 people. The highest indicators are shown by the districts of Kharkiv pr. and Umanskiy one in Kyiv province (10.59% and 39.86%). Behind them were Haisynskiy, Zvenihorodskiy, Baltskiy, and Letychivskiy districts. Proskurivskiy district, on the contrary, showed consistently low rates of AADG throughout the entire period, except for the beginning of the 1860s. It seems that the transfer of the military settlers of Podillia under the care of civil statistics institutions took place in several stages from 1856 – 1858. But the vast majority of military settlers in Kharkiv and Kyiv provinces acquired a new status of peasants of the imperial family in 1857 – 1858, which is recorded in the materials of the 10th People's Revision [2, p. 274, note (*) on p. 310].

The second group of districts with anomalous values of AADG in 1857 – 1858 includes districts with central provincial cities. In Kyivskiy, the average annual demographic growth increased by 3.5 times in two full years, in Chernihivskiy by 23 times, in Zhytomyrskiy by almost 15 times, in Kharkivskiy by 3.9 times, and in Poltavskiy by 3.4 times. Only in the Kamianetspodilskiy district, minor changes were observed from the beginning of the 1860s.

The third group includes districts that belonged to the circle of "others" in all respects, except for the abnormally high AADG in 1858. In ten of them, it ranged from 4.75% to 9.36% of the total population, and the Tarashchansky district was extremely similar to the leading Podillia districts with military settlers, although no settlements were known there. In 1856, the Novoushytskyi district on Podillia had a demographic increase of 4.18%, and in 1857 – 1858 it lost almost 14,600 inhabitants (AADG -4.64%). In 1858, the population of Kovel'skiy district in Volyn province decreased by more than 6,600 (AADG -5.69%).

Thus, we have a reason to consider that in the years 1856 – 1858, a social group of military settlers of the Forest-Steppe Ukraine was legalized in the civil statistical space, which can be confirmed by simple calculations according to the data in Table 1.4.4. The question remains open regarding almost 96,200 people who were not in the

five "capital" districts according to the reports of 1856 and who, according to the Revision data of 1858, appeared here over the natural possibilities of the demographic movement of the population. The same should be noted about 131,900 residents of 10 "other" districts of the third group. We hope that in the future the involvement of other sources will eventually allow at least partial answers to these questions. The above-mentioned fluctuations in the movement of the population, both of natural and artificial origin, are partially leveled thanks to the methodology we use, where the raw data for multidimensional statistical analysis are calculated materials of descriptive statistics (Table 4.5; 4.6). Hierarchical cluster analysis of districts according to the descriptive statistics of the AADG indicators made it possible to identify 6 cluster groups of objects (Table 4.7; Figure 4.3;.4.4;.4.5).

Cluster group 13 consists of 10 districts, almost equally distributed among the regions of the Forest-Steppe Ukraine, namely: Volyn pr. – 4, Chernihiv pr. – 2, Podillia, Kyiv, Poltava, and Kharkiv provinces – for 1 district in each.

Cluster group 14 is represented by 21 districts, mostly in the Left-Bank provinces: Chernihiv – 7, Poltava – 6, Kharkiv – 2. There were 6 such districts on the Right-Bank: 4 in Volyn pr., for 1 each in Kyiv and Podillia provinces.

In both groups, the districts with the lowest group values of the average AADG (0.26% – 0.64% with a sample average of 1.44%) and other indicators of descriptive statistics are collected.

Cluster group 15 united 22 districts. Of them, 11 were located in the Right-Bank provinces: Kyiv – 5, Podillia – 4, Volyn – 2. On the Left-Bank, 9 districts were located in Poltava pr. and 2 in Chernihiv province. The group value of the average AADG (1.37%) in this case is the closest to the sample average (1.44%).

The *cluster group 16* from 7 districts on both banks of the Dnieper, which did not form any territorial clusters, looks close to it. The difference lies in the group values of such indicators of descriptive statistics as the maximum and average AADG. The first is close to the sample average, and the second slightly exceeds it.

Groups 17 and 18 demonstrate higher-than-average sample values of the maximum and average AADG indicators.

Cluster group 17 includes 11 districts of the Forest-Steppe Ukraine, distributed by provinces as follows: Podillia – 4, Kyiv – 2, Volyn – 1, Chernihiv – 2, Kharkiv – 2.

Cluster group 18 from 6 districts (4 of them disposed of in Ukrainian military settlements in Kharkiv pr., Umanskyi, and Kyivskyi on the Right-Bank) is characterized not only by the highest values of the maximum and average AADG in the entire Ukrainian Forest Steppe but also by the largest values of the standard deviation, which indicates the instability of demographic processes and peculiarities formation of the database. The latter, in our opinion, is the most important common feature of groups 17 and 18.

The classification of the Forest-Steppe Ukraine provinces according to the internal structure of cluster groups of demographic growth (Figure 4.6; 4.7) allows us to talk about three local variants of the process in 1846 – 1863: Kyiv-Podillia, Volyn-Chernihiv, to which Poltava province also gravitated, and Kharkiv, which real demographic face was distorted by the forty-year experiment with the Ukrainian military settlement.

Table 4.1

**Demographic growth of the Forest-Steppe Ukraine Orthodox population
according to diocesan data (1838 – 1852)**

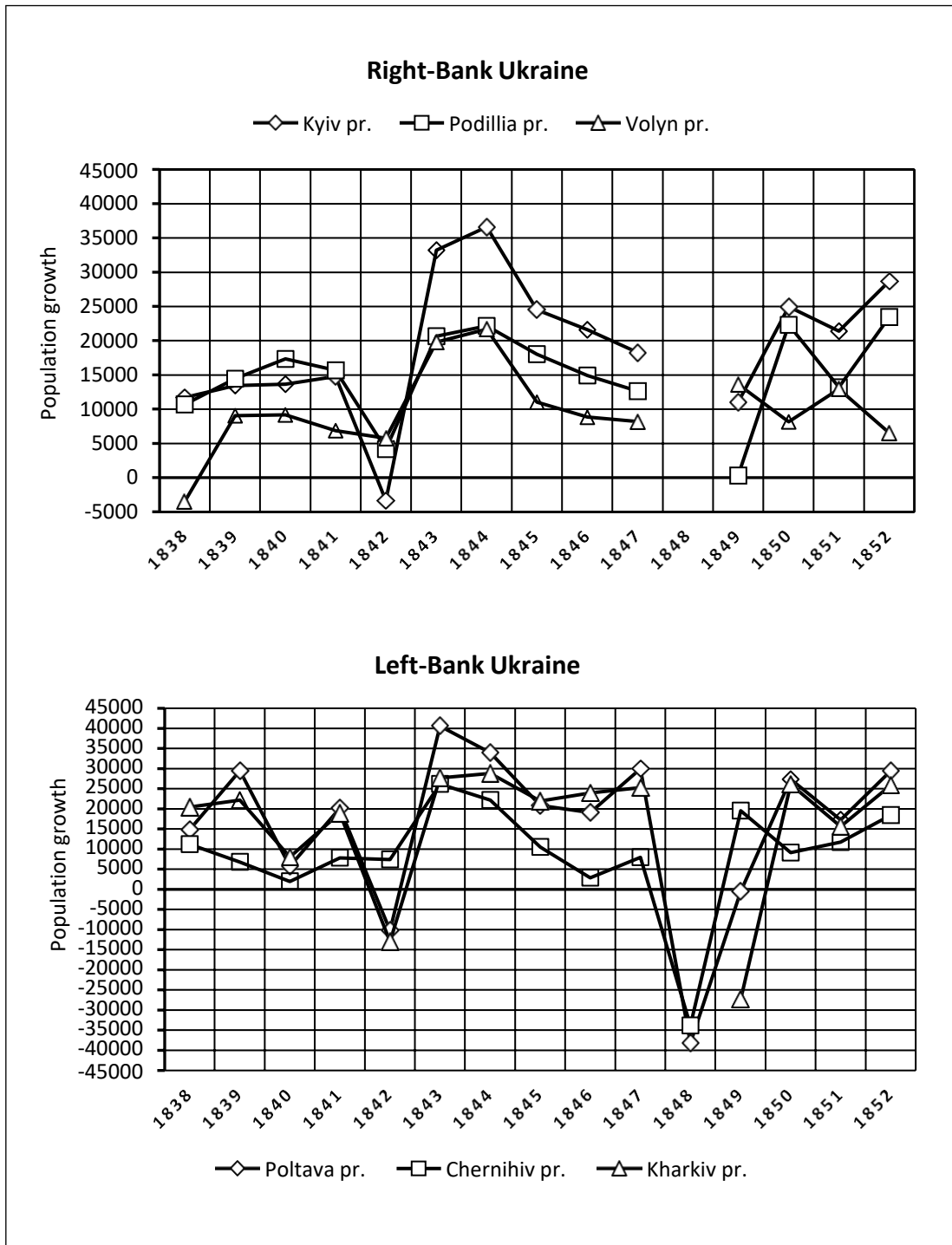
Regions / provinces/ years	Right-Bank Ukraine								
	Kyiv prov.			Podillia prov.			Volyn prov.		
	Born	Died	Difference	Born	Died	Difference	Born	Died	Difference
1838	60417	48691	11726	50077	39401	10676	30090	33588	-3498
1839	62845	49395	13450	52399	37920	14479	42473	33452	9021
1840	57061	43393	13668	48517	31161	17356	38242	29080	9162
1841	58858	44071	14787	53305	37619	15686	42623	35774	6849
1842	58360	61709	-3349	50209	46039	4170	46271	40504	5767
1843	67462	34247	33215	57566	36882	20684	52899	33119	19780
1844	73409	36800	36609	58876	36699	22177	54637	32961	21676
1845	69794	45265	24529	59244	41231	18013	50995	39991	11004
1846	70242	48645	21597	59570	44678	14892	47691	38872	8819
1847	72333	54058	18275	59048	46408	12640	48199	40016	8183
1848 ⁴		36804 ⁵			32960 ²			24688 ²	
1849	71064	60033	11031	55815	55488	327	56049	42453	13596
1850	74948	49978	24970	63247	40924	22323	54447	46293	8154
1851	71123	49736	21387	55702	42486	13216	51935	38992	12943
1852	75066	46361	28705	62477	39037	23440	49221	42701	6520
Regions / provinces/ years	Left-Bank Ukraine								
	Poltava prov.			Chernihiv prov.			Kharkiv prov.		
	Born	Died	Difference	Born	Died	Difference	Born	Died	Difference
1838	77279	62382	14897	62936	51701	11235	69584	49122	20462
1839	85648	56131	29517	63989	57174	6815	75538	53335	22203
1840	65624	59861	5763	57987	56022	1965	69384	61302	8082
1841	78501	58300	20201	60977	53149	7828	72006	53080	18926
1842	86317	76125	-10192	60015	52592	7423	62057	75008	-12951
1843	85423	44827	40596	66105	39904	26201	76992	49269	27723
1844	84524	50527	33997	67376	45162	22214	76104	47259	28845
1845	85945	65059	20886	65929	55413	10516	76788	54767	22021
1846	84220	65121	19099	62629	59776	2853	76105	52129	23976
1847	88345	58354	29991	62160	54175	7985	81835	56514	25321
1848 ⁴	86672 ⁶	124847	-38175	63385	97212	-33827		30345 ²	
1849	74240	74745	-505	64900	45335	19565	58107	85395	-27288
1850	86914	59549	27365	64295	55117	9178	77403	51301	26102
1851	77731	60423	17308	65126	53325	11801	67539	51888	15651
1852	85419	55940	29479	67774	49279	18495	74046	48096	25950

Sources: calculated by the author according to [16, pp. 74–75, 78–79; 17, pp. 442 – 443, 450 – 451].

⁴ There are no diocesan population growth statistics for 1848.

⁵ They died of cholera in 1848. Calculated by the author according to [79, pp. 320, 321 – 322, 325, 327, 328].

⁶ Added by the author according to [49, pp. XXXV – XXXIX; 42, pp. 122, 125].



Source: calculated by the author according to the Table 4.1.

Figure 4.1

Charts of the Forest-Steppe Ukraine Orthodox population demographic growth according to diocesan data (1838 – 1852)

Table 4.2

**Estimated demographic growth of the Right-Bank Ukraine population
(1846 – 1863)**

Code	Provinces/districts	Estimated average annual demographic growth (AADG)					
		1846		1847 – 1851		1852 – 1856	
		Growth	(%)	Growth	(%)	Growth	(%)
<i>Kyiv prov.</i>		25998	1.53	-17592	-1.02	26992	1.65
R1	Kyivskiy	1735	0.98	-5830	-3.31	6662	4.58
R2	Berdychivskiy	1370	0.80	-5045	-2.95	-405	-0.25
R3	Vasylkivskiy	3806	2.43	691	0.44	3516	2.60
R4	Zvenyhorodskiy	3316	2.06	874	0.67	623	0.44
R5	Kanivskiy	3208	2.29	381	0.27	3352	2.86
R6	Lypovetskyi	1319	1.07	-1098	-0.89	1251	0.90
R7	Radomyshl'skyi	423	0.29	-1455	-0.99	957	0.76
R8	Skvyrskiy	1672	1.23	-2016	-1.48	159	0.13
R9	Taraschanskyi	2192	1.62	-1980	-1.47	4234	4.12
R10	Umanskyi	2959	2.58	-2338	-2.04	1889	1.36
R11	Cherkaskiy	1701	1.22	-137	-0.10	1720	1.49
R12	Chyhyrskyi	2297	2.02	361	0.32	3034	2.06
<i>Podillia prov.</i>		21765	1.43	-1453	-0.09	29387	1.86
R13	Kamianetspodil'skyi	3666	2.53	-350	-0.24	2381	1.66
R14	Baltskyi	603	0.46	2430	1.86	7209	5.05
R15	Bratslavskiy	261	0.21	990	0.78	-347	-0.26
R16	Vinnitskyi	959	0.83	701	0.61	-1524	-1.28
R17	Haisynskiy	1021	0.79	-3542	-2.74	4075	3.65
R18	Letychivskiy	1100	1.10	-3717	-3.72	3698	4.55
R19	Litynskyi	1799	1.47	405	0.33	2231	1.80
R20	Mohylivpodil'skyi	2644	2.03	-1768	-1.35	-392	-0.32
R21	Novoushytskyi	3496	3.01	2878	2.48	5455	4.18
R22	Olhopolskyi	2409	1.64	-1618	-1.10	4279	3.09
R23	Proskurivskiy	826	0.64	490	0.38	1095	0.83
R24	Yampil'skyi	2981	2.29	1648	1.26	1227	0.89
<i>Volyn prov.</i>		15824	1.13	9181	0.65	5799	0.39
R25	Zhytomyrskiy	1823	1.12	-376	-0.22	830	0.50
R26	Volodymyrvolyn'skyi	862	1.09	2916	2.22	166	0.11
R27	Dubenskyi	624	0.66	-146	-0.15	348	0.35
R28	Zaslavskiy	728	0.63	988	0.84	459	0.37
R29	Kovel'skyi	1806	0.62	2586	2.52	226	0.20
R30	Kremenetskyi	528	1.76	-1952	-1.39	471	0.36
R31	Lutskiy	91	0.36	700	0.69	675	0.64
R32	Novohradvolyn'skyi	3720	0.09	565	0.39	891	0.60
R33	Ovrutskiy	1742	2.53	2358	2.87	662	0.70
R34	Ostrozhskyi	529	2.12	483	0.51	90	0.09
R35	Rivnenskyi	1454	0.55	747	0.64	392	0.32
R36	Starokonstantynivskiy	1917	1.24	312	0.26	589	0.48
Right-Bank Ukraine		63587	1.38	-9864	-0.21	62178	1.33

EVOLUTION OF SOCIO-ECONOMIC DEVELOPMENT OF UKRAINE: HISTORICAL
CONTEXT, MODERN CHALLENGES AND EUROPEAN INTEGRATION

Code	Provinces/districts	Estimated average annual demographic growth (AADG)			
		1857 – 1858		1859 – 1863	
		Growth	(%)	Growth	(%)
<i>Kyiv prov.</i>		107081	6.00	13551	0.70
R1	Kyivskiy	23624	14.56	1851	0.88
R2	Berdychivskiy	3861	2.16	1365	0.73
R3	Vasylkivskiy	6710	4.24	1150	0.67
R4	Zvenyhorodskiy	10739	7.04	-1544	-0.89
R5	Kanivskiy	5902	4.06	2092	1.33
R6	Lypovetskyi	223	0.17	-832	-0.62
R7	Radomyshl'skiy	3826	2.63	704	0.46
R8	Skvyrskyi	5257	4.01	1172	0.83
R9	Taraschanskyi	11790	9.36	2161	1.44
R10	Umanskyi	21371	17.23	2102	1.26
R11	Cherkaskiy	7787	5.25	3176	1.94
R12	Chyhyrnskyi	5991	4.84	154	0.11
<i>Podillia prov.</i>		43469	2.51	26104	1.49
R13	Kamianetspodil'skiy	2882	1.86	5364	3.33
R14	Baltskyi	7998	4.48	3074	1.58
R15	Bratslavskiy	9239	7.12	1795	1.21
R16	Vinnitskyi	6041	5.42	1567	1.27
R17	Haisyn'skiy	11261	8.53	1884	1.22
R18	Letychivskiy	2375	2.38	945	0.90
R19	Litynskyi	-2404	-1.78	1626	1.25
R20	Mohylivpodil'skiy	5689	4.75	1799	1.37
R21	Novoushytskyi	-7333	-4.64	1361	0.95
R22	Olhopolskyi	1922	1.20	2658	1.62
R23	Proskurivskiy	307	0.22	1889	1.37
R24	Yampil'skiy	5492	3.80	2142	1.38
<i>Volyn prov.</i>		14953	1.00	14883	0.97
R25	Zhytomyr'skiy	12170	7.15	6428	3.30
R26	Volodymyrvolyn'skiy	-5714	-3.90	935	0.69
R27	Dubenskyi	-1354	-1.34	1229	1.25
R28	Zaslavskiy	6166	4.92	-498	-0.36
R29	Kovel'skiy	-6629	-5.69	1794	1.74
R30	Kremenetskyi	3375	2.54	1644	1.18
R31	Lutskiy	1636	1.50	-576	-0.51
R32	Novohradvolyn'skiy	3312	2.15	-455	-0.28
R33	Ovrutskiy	3319	3.41	11	0.01
R34	Ostrozhskyi	1263	1.29	732	0.73
R35	Rivnenskyi	-3380	-2.75	2036	1.75
R36	Starokonstantynivskiy	789	0.63	1603	1.27
Right-Bank Ukraine		165503	3.30	54538	1.04

Source: calculated by the author according to [14, pp. 6-7. 14-15. 26-28; 27, pp. 14, 16, 33, 69, 106, 108, 148,152; 54, pp. 20-22,50-52, 100-102; 2, pp. 160, 163, 168; 84, pp. 58-59].

Table 4.3

**Estimated demographic growth of the Left-Bank Ukraine population
(1846 – 1863)**

Code	Provinces / districts	Estimated average annual demographic growth (AADG)					
		1846		1847 – 1851		1852 – 1856	
		Growth	(%)	Growth	(%)	Growth	(%)
<i>Poltava prov.</i>		23346	1.40	-3871	-0.23	18463	1.11
L1	Poltavskiyi	2272	1.75	-27	-0.02	1123	0.87
L2	Hadiatskiy	667	0.71	-332	-0.35	744	0.80
L3	Zenkivskiyi	1283	1.21	-2167	-2.05	1375	1.45
L4	Zolotonoshskiyi	1018	0.73	-18	-0.01	1655	1.19
L5	Kobeliakskiyi	2284	1.95	656	0.56	2178	1.81
L6	Konstantynohradskiyi	1761	1.71	1202	1.17	1069	0.98
L7	Kremenchukskiyi	1655	1.34	-341	-0.27	2259	1.85
L8	Lokhvytskyi	2920	2.44	-3175	-2.65	3063	2.95
L9	Lubenskiy	1772	2.30	860	1.12	144	0.18
L10	Myrhorodskiyi	1520	1.47	161	0.16	898	0.86
L11	Pereiaslavskiyi	1958	1.73	102	0.09	418	0.37
L12	Pyriatynskiyi	932	0.90	-148	-0.14	841	0.82
L13	Prylutskiy	489	0.39	-90	-0.07	969	0.78
L14	Romenskiy	741	0.57	-404	-0.31	888	0.69
L15	Khorol'skiy	2074	2.01	-150	-0.14	839	0.82
<i>Chernihiv prov.</i>		7899	0.57	-5666	-0.40	5418	0.39
L16	Chernihivskiyi	94	0.11	-511	-0.54	-417	-0.45
L17	Borznianskiy	915	1.02	440	0.49	613	0.67
L18	Hlukhivskiyi	188	0.22	-50	-0.06	956	1.13
L19	Horodianskiy	168	0.19	-409	-0.47	458	0.54
L20	Kozelskiy	821	1.02	96	0.12	-84	-0.10
L21	Konotopskiyi	810	0.81	-2299	-2.29	1405	1.58
L22	Krolevetskiy	124	0.14	-706	-0.82	769	0.93
L23	Mhlynskiy	422	0.45	-1000	-1.07	76	0.09
L24	Nizhynskiyi	779	0.74	-1330	-1.26	38	0.04
L25	Novhorod'siverskiy	818	0.89	-479	-0.53	-218	-0.25
L26	Novozybkivskiyi	86	0.08	551	0.51	321	0.29
L27	Osterskiy	551	0.72	37	0.05	84	0.11
L28	Sosnytskyi	873	0.86	-1079	-1.07	547	0.57
L29	Starodubskiyi	720	0.69	511	0.49	-198	-0.19
L30	Surazhskiyi	530	0.53	562	0.56	1068	1.04
<i>Kharkiv prov.</i>		14689	1.04	8735	0.61	20796	1.52
L31	Kharkivskiyi	1431	1.33	3884	3.58	2277	1.78
L32	Akhtyrskiyi	757	0.89	1772	2.10	980	1.05
L33	Bohoduhivskiyi	784	0.82	-522	-0.54	1661	1.78
L34	Valkivskiyi	1002	1.21	419	0.51	1720	2.03
L35	Vovchanskiy	1100	1.32	-308	-0.37	1253	1.53

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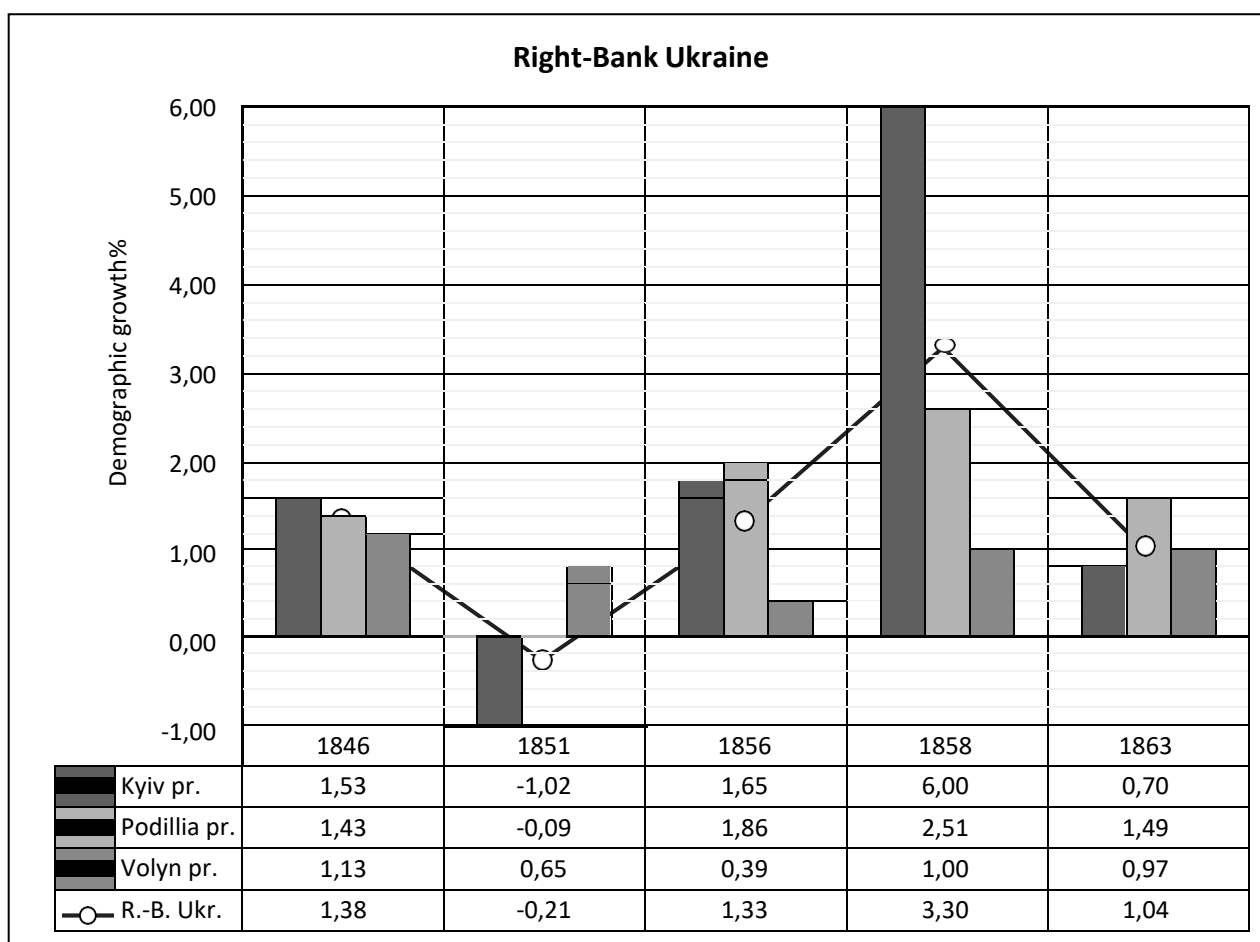
Continuation of table 4.3

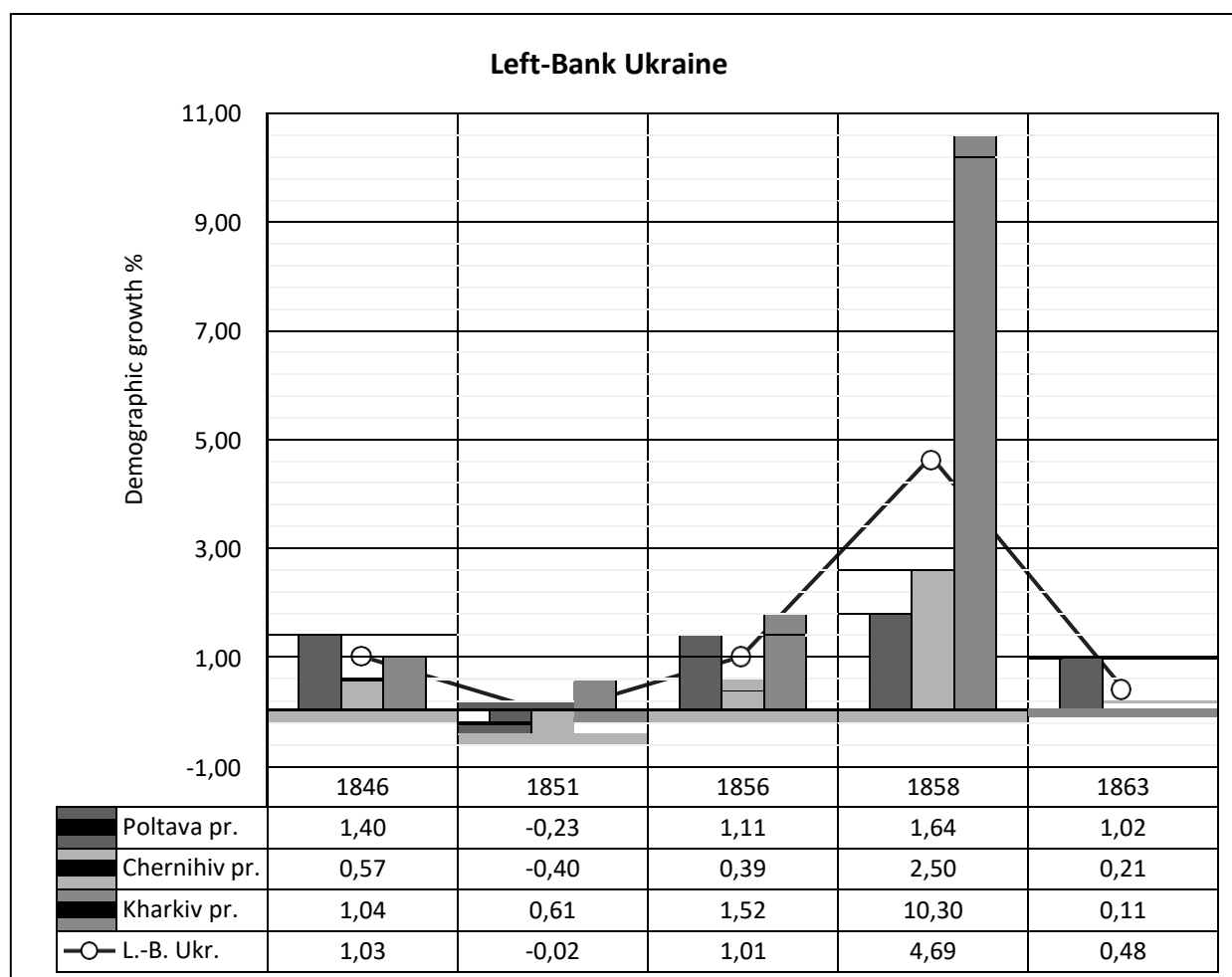
L36	Zmiivskiyi	843	0.99	-1234	-1.46	1198	1.53
L37	Iziumskiyi	1958	1.33	-3280	-2.22	2526	1.93
L38	Kupianskyyi	1286	1.59	1015	1.25	1439	1.67
L39	Lebedynskiyi	991	0.78	-4520	-3.52	1449	1.37
L40	Starobilskyyi	3175	2.42	6528	4.97	4339	2.65
L41	Sumskyyi	1362	1.41	4981	5.14	1954	1.60
Left-Bank Ukraine		45934	1.03	-802	-0.02	44677	1.01
Code	Provinces / districts		Estimated average annual demographic growth (AADG)				
			1857 – 1858		1859 – 1863		
			Growth	(%)	Growth	(%)	
<i>Poltava prov.</i>			28871	1.64	18606	1.02	
L1	Poltavskyyi		3836	2.84	2212	1.55	
L2	Hadiatskyyi		2852	2.96	1643	1.61	
L3	Zenkivskyyi		1691	1.66	2510	2.39	
L4	Zolotonoshskyyi		1168	0.80	-414	-0.28	
L5	Kobeliakskyyi		1592	1.22	4761	3.55	
L6	Konstantynohradskyyi		2336	2.04	177	0.15	
L7	Kremenchukskyyi		799	0.60	2630	1.95	
L8	Lokhvytskyyi		-1931	-1.62	455	0.39	
L9	Lubenskyyi		2344	2.86	965	1.11	
L10	Myrhorodskyyi		2222	2.04	470	0.41	
L11	Pereiaslavskyyi		3485	3.01	915	0.75	
L12	Pyriatynskyyi		693	0.65	-473	-0.44	
L13	Prylutskyyi		2493	1.93	1206	0.90	
L14	Romenskyyi		2396	1.80	297	0.22	
L15	Khorol'skyyi		2895	2.71	1252	1.11	
<i>Chernihiv prov.</i>			35016	2.50	3108	0.21	
L16	Chernihivskyyi		9500	10.56	-1740	-1.60	
L17	Borznianskyyi		739	0.78	1918	1.99	
L18	Hlukhivskyyi		-706	-0.79	1362	1.55	
L19	Horodianskyyi		4733	5.46	1065	1.11	
L20	Kozelskyyi		1906	2.36	136	0.16	
L21	Konotopskyyi		3216	3.36	-3620	-3.54	
L22	Krolevetskyyi		6464	7.49	-79	-0.08	
L23	Mhlynskyyi		1086	1.22	771	0.85	
L24	Nizhynskyyi		2183	2.20	1634	1.58	
L25	Novhorodsiverskyyi		2147	2.45	-1037	-1.13	
L26	Novozybkivskyyi		-88	-0.08	392	0.35	
L27	Osterskyyi		-2219	-2.86	702	0.96	
L28	Sosnytskyyi		5503	5.59	127	0.12	
L29	Starodubskyyi		-61	-0.06	640	0.61	
L30	Surazhskyyi		613	0.57	837	0.76	
<i>Kharkiv prov.</i>			154697	10.30	1709	0.11	
L31	Kharkivskyyi		8941	6.41	2517	1.60	
L32	Akhtyrskyyi		359	0.36	427	0.43	
L33	Bohoduhivskyyi		1661	1.63	-839	-0.80	
L34	Valkivskyyi		-1318	-1.41	1230	1.36	
L35	Vovchanskyyi		12180	13.78	-690	-0.61	

Continuation of table 4.3

L36	Zmiivskiyi	33589	39.86	-874	-0.58
L37	Iziumskiyi	15215	10.59	1928	1.11
L38	Kupianskyyi	28961	31.06	226	0.15
L39	Lebedynskyyi	10136	8.96	-3327	-2.49
L40	Starobilskyyi	37171	20.01	4508	1.73
L41	Sumskyyi	7802	5.93	-3397	-2.31
Left-Bank Ukraine		218584	4.69	23423	0.48

Sources: calculated by the author according to [34, Table 4, 5; 14, pp. 28–29, 40–41, 42–43; 27, pp. 14, 16, 33, 69, 106, 108, 148, 152; 54, 1858, pp. 104 – 106, 144–146, 152–154; 2, pp. 168, 173; 84, pp. 58–59].





Sources: calculated by the author according to the Table 4.2; 4.3.

Figure 4.2

Diagrams of the Forest-Steppe Ukraine population estimated average annual demographic growth by provinces and regions (1846 – 1863)

Table 4.4

Districts of the Forest-Steppe Ukraine with abnormally high average annual demographic growth in 1856 – 1858

Code	Districts	Estimated average annual demographic growth (AADG) %							
		1847 – 1851		1852 – 1856		1857 – 1858		1859 – 1863	
		Q-ty*	%	Q-ty	%	Q-ty	%	Q-ty	%
With military settlements		-5190	-	32528	-	182782	-	14217	-
L36	Zmiivskiyi	-1234	-1.46	1198	1.53	33589	39.86	-874	-0.58
L38	Kupianskyyi	1015	1.25	1439	1.67	28961	31.06	226	0.15
L40	Starobilskyyi	6528	4.97	4339	2.65	37171	20.01	4508	1.73
R10	Umanskyi	-2338	-2.04	1889	1.36	21371	17.23	2102	1.26
L35	Vovchanskyyi	-308	-0.37	1253	1.53	12180	13.78	-690	-0.61
L37	Iziumskyyi	-3280	-2.22	2526	1.93	15215	10.59	1928	1.11
R17	Haisynskyyi	-3542	-2.74	4075	3.65	11261	8.53	1884	1.22
R4	Zvenyhorodskyyi	874	0.67	623	0.44	10739	7.04	-1544	-0.89
R14	Baltskyi	2430	1.86	7209	5.05	7998	4.48	3074	1.58
R18	Letychivskyyi	-3717	-3.72	3698	4.55	2375	2.38	945	0.90

Continuation of table 4.4

R22	Olhopolskyi	-1618	-1.10	4279	3.09	1922	1.20	2658	1.62
R23	Proskurivskyi	490	0.38	1095	0.83	307	0.22	1889	1.37
With provincial centers		-2860	-	12856	-	58071	-	11268	-
R1	Kyivskyi	-5830	-3.31	6662	4.58	23624	14.56	1851	0.88
L16	Chernihivskyi	-511	-0.54	-417	-0.45	9500	10.56	-1740	-1.60
П25	Zhytomyrskyi	-376	-0.22	830	0.50	12170	7.15	6428	3.30
L31	Kharkivskyi	3884	3.58	2277	1.78	8941	6.41	2517	1.60
L1	Poltavskyi	-27	-0.02	1123	0.87	3836	2.84	2212	1.55
Others		-2802	-	7607	-	73563	-	1213	-
R9	Taraschanskyi	-1980	-1.47	4234	4.12	11790	9.36	2161	1.44
L39	Lebedynskyi	-4520	-3.52	1449	1.37	10136	8.96	-3327	-2.49
L22	Krolevetskyi	-706	-0.82	769	0.93	6464	7.49	-79	-0.08
R15	Bratslavskyi	990	0.78	-347	-0.26	9239	7.12	1795	1.21
L41	Sumskyi	4981	5.14	1954	1.60	7802	5.93	-3397	-2.31
L28	Sosnytskyi	-1079	-1.07	547	0.57	5503	5.59	127	0.12
L19	Horodianskyi	-409	-0.47	458	0.54	4733	5.46	1065	1.11
R16	Vinnytskyi	701	0.61	-1524	-1.28	6041	5.42	1567	1.27
R28	Zaslavskyi	988	0.84	459	0.37	6166	4.92	-498	-0.36
R20	Mohylivpodilskyi	-1768	-1.35	-392	-0.32	5689	4.75	1799	1.37
R21	Novoushytskyi	2878	2.48	5455	4.18	-7333	-4.64	1361	0.95
R29	Kovelskyi	2586	2.52	226	0.20	-6629	-5.69	1794	1.74

Q-ty* – quantity.

Table 4.5

**Descriptive statistics of the Right-Bank Ukraine population estimated
demographic growth by districts (1846–1863)**

Code	Districts	Descriptive statistics of demographic growth %			
		Minimum	Maximum	Average	Standard deviation
R1	Kyivskyi	-3.31	14.56	3.03	6.76
R2	Berdychivskyi	-2.95	4.58	1.06	2.73
R3	Vasylkivskyi	-0.25	4.24	1.51	1.82
R4	Zvenyhorodskyi	-0.89	7.04	2.30	2.98
R5	Kanivskyi	0.27	4.06	1.68	1.56
R6	Lypovetskyi	-0.89	2.86	0.52	1.52
R7	Radomyshlskyi	-0.99	2.63	0.66	1.31
R8	Skvyrskyi	-1.48	4.01	1.07	1.96
R9	Taraschanskyi	-1.47	9.36	2.22	4.18
R10	Umanskyi	-2.04	17.23	4.63	7.40
R11	Cherkaskyi	-0.10	5.25	1.93	2.00
R12	Chyhyrskyi	0.11	4.84	1.76	1.90
R13	Kamianetspodilskyi	-0.24	3.33	1.83	1.33
R14	Baltskyi	0.46	5.05	2.69	1.98
R15	Bratslavskyi	-0.26	7.12	1.81	3.02
R16	Vinnytskyi	-1.28	5.42	1.37	2.46
R17	Haisynskyi	-2.74	8.53	2.29	4.17
R18	Letychivskyi	-3.72	4.55	1.04	3.03
R19	Litynskyi	-1.78	1.80	0.61	1.45
R20	Mohylivpodilskyi	-1.35	4.75	1.30	2.35

Continuation of table 4.5

R21	Novoushytskyi	-4.64	4.18	1.20	3.46
R22	Olhopolskyi	-1.10	3.09	1.29	1.52
R23	Proskurivskyi	0.22	1.37	0.69	0.45
R24	Yampil'skyi	0.89	3.80	1.92	1.17
R25	Zhytomyr'skyi	-0.22	7.15	2.37	2.98
R26	Volodymyr'volyn'skyi	-3.90	2.22	0.04	2.33
R27	Dubenskyi	-1.34	1.25	0.15	0.98
R28	Zaslav'skyi	-0.36	4.92	1.28	2.08
R29	Kovelskyi	-5.69	2.52	-0.12	3.24
R30	Kremenetskyi	-1.39	2.54	0.89	1.50
R31	Lut'skyi	-0.51	1.50	0.54	0.72
R32	Novohrad'volyn'skyi	-0.28	2.15	0.59	0.93
R33	Ovrut'skyi	0.01	3.41	1.90	1.47
R34	Ostroz'h'skyi	0.09	2.12	0.95	0.79
R35	Rivnenskyi	-2.75	1.75	0.10	1.69
R36	Starokonstantyniv'skyi	0.26	1.27	0.78	0.46

Sources to the Table 4.4; 4.5: calculated by the author according to the Table 4.2; 4.3.

Table 4.6

**Descriptive statistics of the Left-Bank Ukraine population estimated
demographic growth by districts (1846 – 1863)**

Code	Districts	Descriptive statistics of demographic growth %			
		Minimum	Maximum	Average	Standard deviation
L1	Poltav'skyi	-0.02	2.84	1.40	1.06
L2	Hadiatskyi	-0.35	2.96	1.15	1.23
L3	Zenkiv'skyi	-2.05	2.39	0.93	1.72
L4	Zolotonosh'skyi	-0.28	1.19	0.49	0.61
L5	Kobeliak'skyi	0.56	3.55	1.82	1.11
L6	Konstantynohrad'skyi	0.15	2.04	1.21	0.73
L7	Kremen'chuk'skyi	-0.27	1.95	1.09	0.93
L8	Lokhvyt'skyi	-2.65	2.95	0.30	2.45
L9	Lubenskyi	0.18	2.86	1.51	1.06
L10	Myrhorod'skyi	0.16	2.04	0.99	0.77
L11	Pereiaslav'skyi	0.09	3.01	1.19	1.19
L12	Pyriatyn'skyi	-0.44	0.90	0.36	0.61
L13	Prylut'skyi	-0.07	1.93	0.79	0.74
L14	Romenskyi	-0.31	1.80	0.59	0.78
L15	Khorol'skyi	-0.14	2.71	1.30	1.10
L16	Chernihiv'skyi	-1.60	10.56	1.62	5.04
L17	Borznianskyi	0.49	1.99	0.99	0.59
L18	Hlukhiv'skyi	-0.79	1.55	0.41	0.94
L19	Horodianskyi	-0.47	5.46	1.37	2.36
L20	Kozel'skyi	-0.10	2.36	0.71	1.02
L21	Konotop'skyi	-3.54	3.36	-0.02	2.84
L22	Krolevet'skyi	-0.82	7.49	1.53	3.39

Continuation of table 4.6

L23	Mhlynskyi	-1.07	1.22	0.31	0.88
L24	Nizhynskyi	-1.26	2.20	0.66	1.35
L25	Novhorodsiverskyi	-1.13	2.45	0.29	1.41
L26	Novozybkivskyi	-0.08	0.51	0.23	0.23
L27	Osterskyi	-2.86	0.96	-0.20	1.54
L28	Sosnytskyi	-1.07	5.59	1.21	2.55
L29	Starodubskyi	-0.19	0.69	0.31	0.40
L30	Surazhskyi	0.53	1.04	0.69	0.21
L31	Kharkivskyi	1.33	6.41	2.94	2.13
L32	Akhtyrskyi	0.36	2.10	0.97	0.70
L33	Bohoduivskyi	-0.80	1.78	0.58	1.20
L34	Valkivskyi	-1.41	2.03	0.74	1.32
L35	Vovchanskyi	-0.61	13.78	3.13	6.03
L36	Zmiivskyi	-1.46	39.86	8.07	17.81
L37	Iziumskyi	-2.22	10.59	2.55	4.78
L38	Kupianskyi	0.15	31.06	7.14	13.38
L39	Lebedynskyi	-3.52	8.96	1.02	4.90
L40	Starobilsky	1.73	20.01	6.36	7.73
L41	Sumskyi	-2.31	5.93	2.35	3.31

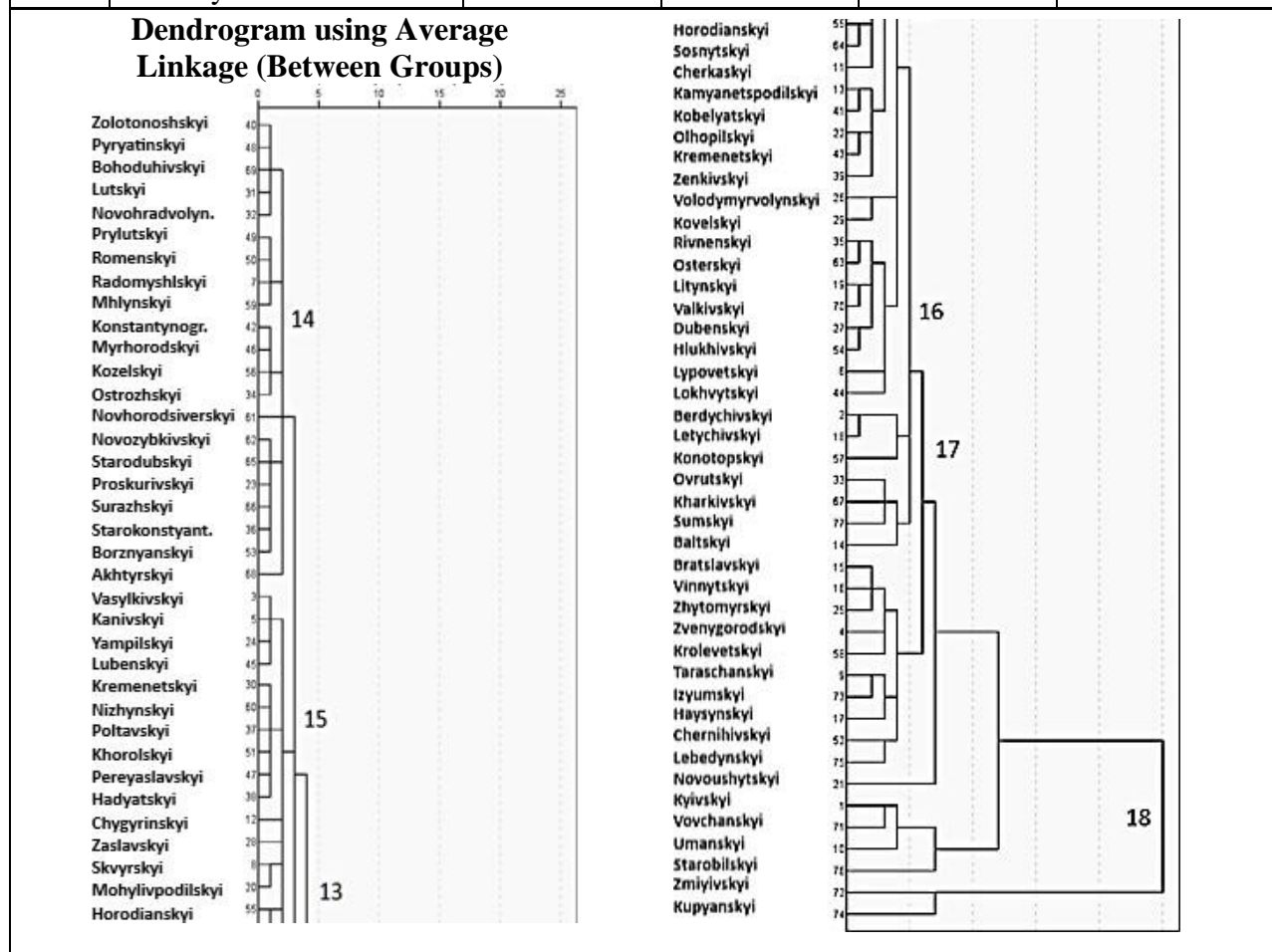


Figure 4.3

Cluster analysis of the Forest-Steppe Ukraine population demographic growth distribution by districts (1846 – 1863)

Table 4.7

**The results of the Forest-Steppe Ukraine districts cluster grouping by the
estimated demographic growth (1846 – 1863)**

Code	Groups / districts	Descriptive statistics of demographic growth %			
		Minimum	Maximum	Average	Standard deviation
Group 14 (average group)		-0.22	1.65	0.64	-
L4	Zolotonoshkyi	-0.28	1.19	0.49	0.61
L12	Pyriatynskyi	-0.44	0.90	0.36	0.61
L33	Bohoduivskyi	-0.80	1.78	0.58	1.20
R31	Lutskyi	-0.51	1.50	0.54	0.72
R32	Novohradvolynskyi	-0.28	2.15	0.59	0.93
L13	Prylutskyi	-0.07	1.93	0.79	0.74
L14	Romenskyi	-0.31	1.80	0.59	0.78
R7	Radomyshlskyi	-0.99	2.63	0.66	1.31
L23	Mhlynskyi	-1.07	1.22	0.31	0.88
L6	Konstantynohradskyi	0.15	2.04	1.21	0.73
L10	Myrhorodskyi	0.16	2.04	0.99	0.77
L20	Kozelskyi	-0.10	2.36	0.71	1.02
R34	Ostrozhskyi	0.09	2.12	0.95	0.79
L25	Novhorodsiiverskyi	-1.13	2.45	0.29	1.41
L26	Novozybkivskyi	-0.08	0.51	0.23	0.23
L29	Starodubskyi	-0.19	0.69	0.31	0.40
R23	Proskurivskyi	0.22	1.37	0.69	0.45
L30	Surazhskyi	0.53	1.04	0.69	0.21
R36	Starokonstantynivskyi	0.26	1.27	0.78	0.46
L17	Borznianskyi	0.49	1.99	0.99	0.59
L32	Akhtyrskyi	0.36	2.10	0.97	0.70
Group 15 (average group)		-0.45	3.65	1.37	-
R3	Vasylkivskyi	-0.25	4.24	1.51	1.82
R5	Kanivskyi	0.27	4.06	1.68	1.56
R24	Yampilskyi	0.89	3.80	1.92	1.17
L9	Lubenskyi	0.18	2.86	1.51	1.06
R30	Kremenetskyi	-1.39	2.54	0.89	1.50
L24	Nizhynskyi	-1.26	2.20	0.66	1.35
L1	Poltavskyi	-0.02	2.84	1.40	1.06
L15	Khorolskyi	-0.14	2.71	1.30	1.10
L11	Pereiaslavskyi	0.09	3.01	1.19	1.19
L2	Hadiatskyi	-0.35	2.96	1.15	1.23
R12	Chyhyrynskyi	0.11	4.84	1.76	1.90
R28	Zaslavskyi	-0.36	4.92	1.28	2.08
R8	Skvyrskyi	-1.48	4.01	1.07	1.96
R20	Mohylivpodilskyi	-1.35	4.75	1.30	2.35
L19	Horodianskyi	-0.47	5.46	1.37	2.36
L28	Sosnytskyi	-1.07	5.59	1.21	2.55
R11	Cherkaskyi	-0.10	5.25	1.93	2.00
R13	Kamianetspodilskyi	-0.24	3.33	1.83	1.33
L5	Kobeliakskyi	0.56	3.55	1.82	1.11

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Continuation of table 4.7

R22	Olhopolskyi	-1.10	3.09	1.29	1.52
L7	Kremenetskyi	-0.27	1.95	1.09	0.93
L3	Zenkovskyi	-2.05	2.39	0.93	1.72
Group 13 (average group)		-2.41	1.99	0.26	-
R26	Volodymyrvolynskyi	-3.90	2.22	0.04	2.33
R29	Kovel'skyi	-5.69	2.52	-0.12	3.24
R35	Rivnenskyi	-2.75	1.75	0.10	1.69
L27	Osterskyi	-2.86	0.96	-0.20	1.54
R19	Litynskyi	-1.78	1.80	0.61	1.45
L34	Valkivskyi	-1.41	2.03	0.74	1.32
R27	Dubenskyi	-1.34	1.25	0.15	0.98
L18	Hlukhivskyi	-0.79	1.55	0.41	0.94
R6	Lypovetskyi	-0.89	2.86	0.52	1.52
L8	Lokhvytskyi	-2.65	2.95	0.30	2.45
Group 16 (average group)		-1.53	4.76	1.71	-
R2	Berdychivskyi	-2.95	4.58	1.06	2.73
R18	Letychivskyi	-3.72	4.55	1.04	3.03
L21	Konotop'skyi	-3.54	3.36	-0.02	2.84
R33	Ovrutskyi	0.01	3.41	1.90	1.47
L31	Kharkivskyi	1.33	6.41	2.94	2.13
L41	Sum'skyi	-2.31	5.93	2.35	3.31
R14	Bal'tskyi	0.46	5.05	2.69	1.98
Group 17 (average group)		-1.79	7.85	1.84	-
R15	Bratslavskyi	-0.26	7.12	1.81	3.02
R16	Vynnytskyi	-1.28	5.42	1.37	2.46
R25	Zhytomyr'skyi	-0.22	7.15	2.37	2.98
R4	Zvenyhorod'skyi	-0.89	7.04	2.30	2.98
L22	Krolevetskyi	-0.82	7.49	1.53	3.39
R9	Taraschanskyi	-1.47	9.36	2.22	4.18
L37	Izium'skyi	-2.22	10.59	2.55	4.78
R17	Haisyn'skyi	-2.74	8.53	2.29	4.17
L16	Chernihiv'skyi	-1.60	10.56	1.62	5.04
L39	Lebedyn'skyi	-3.52	8.96	1.02	4.90
R21	Novoushytskyi	-4.64	4.18	1.20	3.46
Group 18 (average group)		-0.92	22.75	5.39	-
R1	Kyiv'skyi	-3.31	14.56	3.03	6.76
L35	Vovchanskyi	-0.61	13.78	3.13	6.03
R10	Umanskyi	-2.04	17.23	4.63	7.40
L40	Starobil'skyi	1.73	20.01	6.36	7.73
L36	Zmiiv'skyi	-1.46	39.86	8.07	17.81
L38	Kupianskyi	0.15	31.06	7.14	13.38
Average sample values		-0.96	5.08	1.44	-

Source: calculated by the author according to the Table 4.5; 4.6; Figure 4.3.

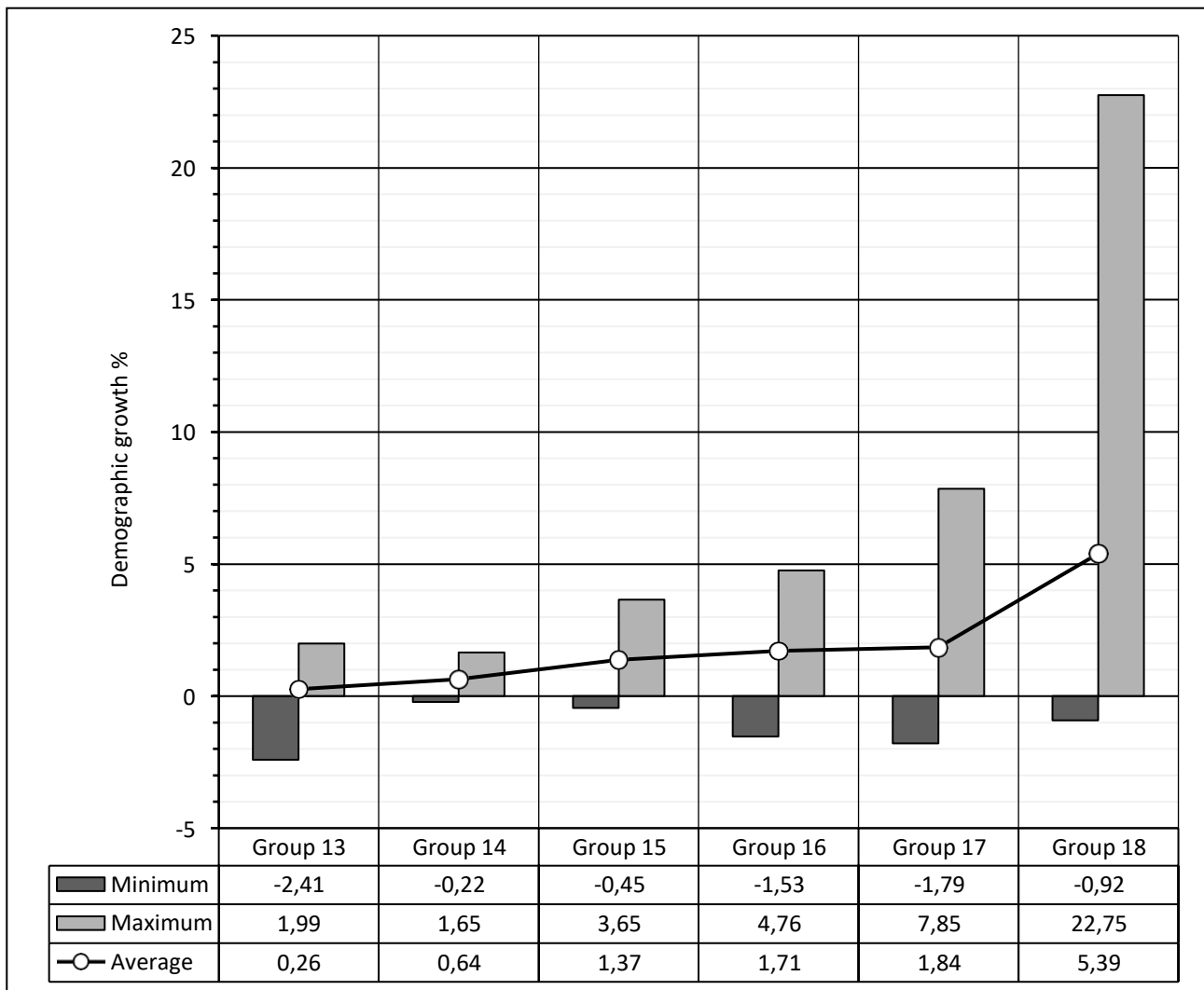


Figure 4.4

Ranked diagram of the Forest-Steppe Ukraine districts cluster groups by the demographic growth (1846 – 1863)

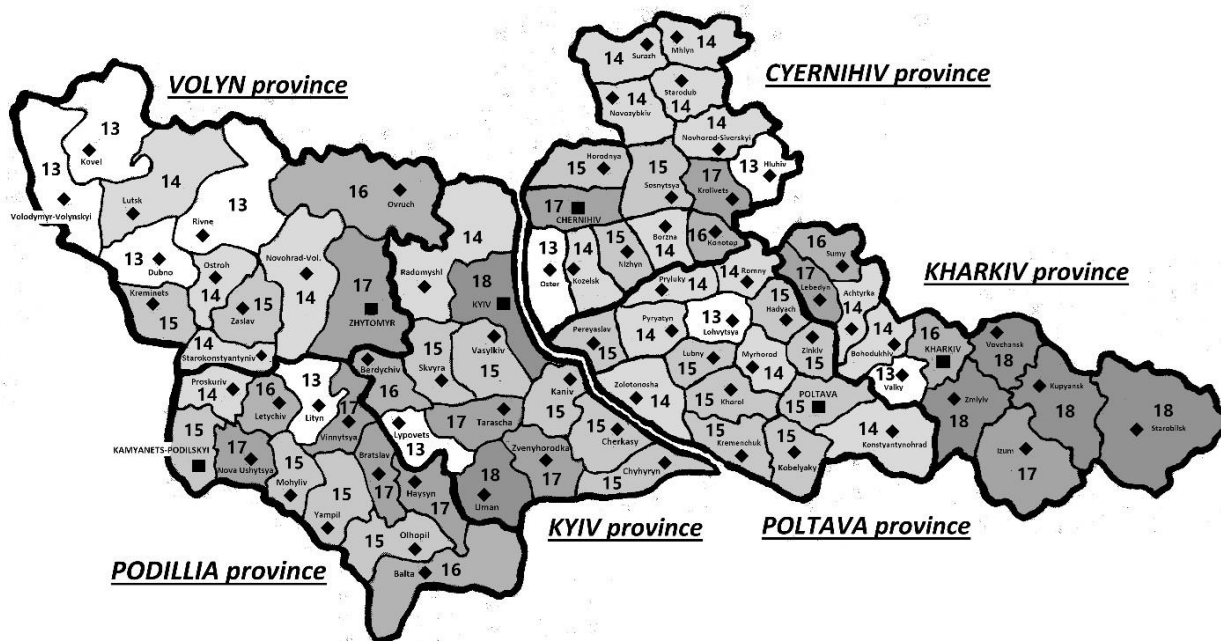
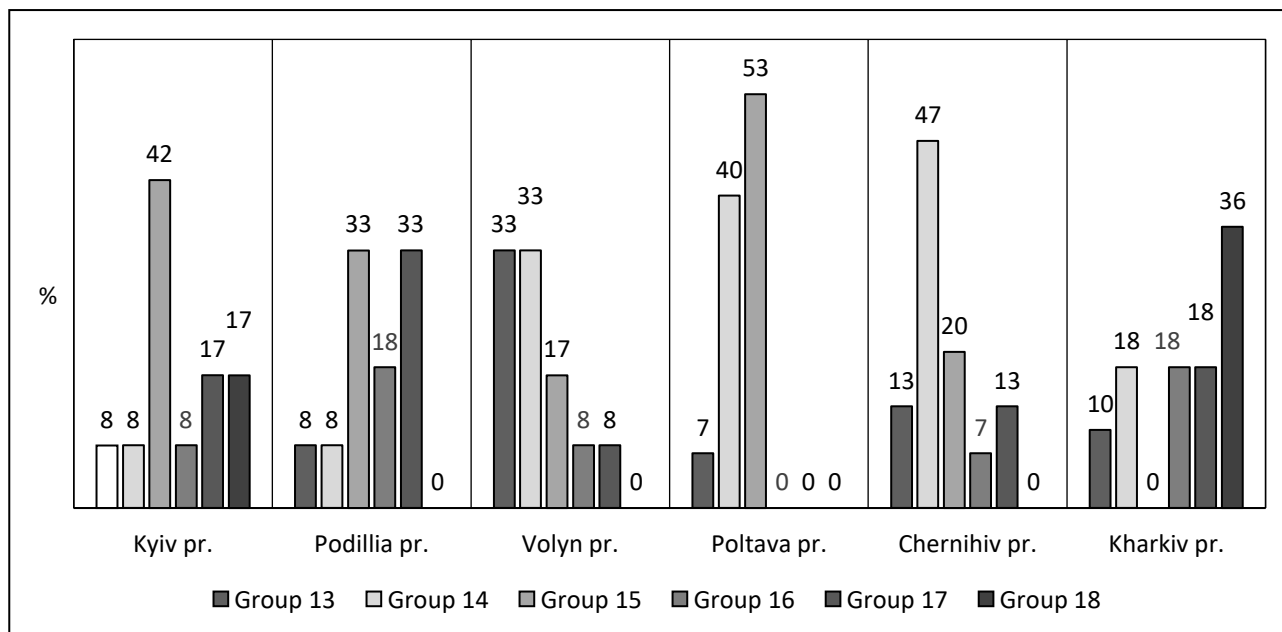


Figure 4.5

Spatial distribution of the Forest-Steppe Ukraine cluster groups of districts according to demographic growth (1846 – 1863)



Sources to Figure 1.4.5; 1.4.6: calculated by the author according to the Table 4.6.

Figure 4.6

The structure of Ukrainian Forest-Steppe provinces by cluster groups of demographic growth (% of districts of the group to the number of districts in the provinces)

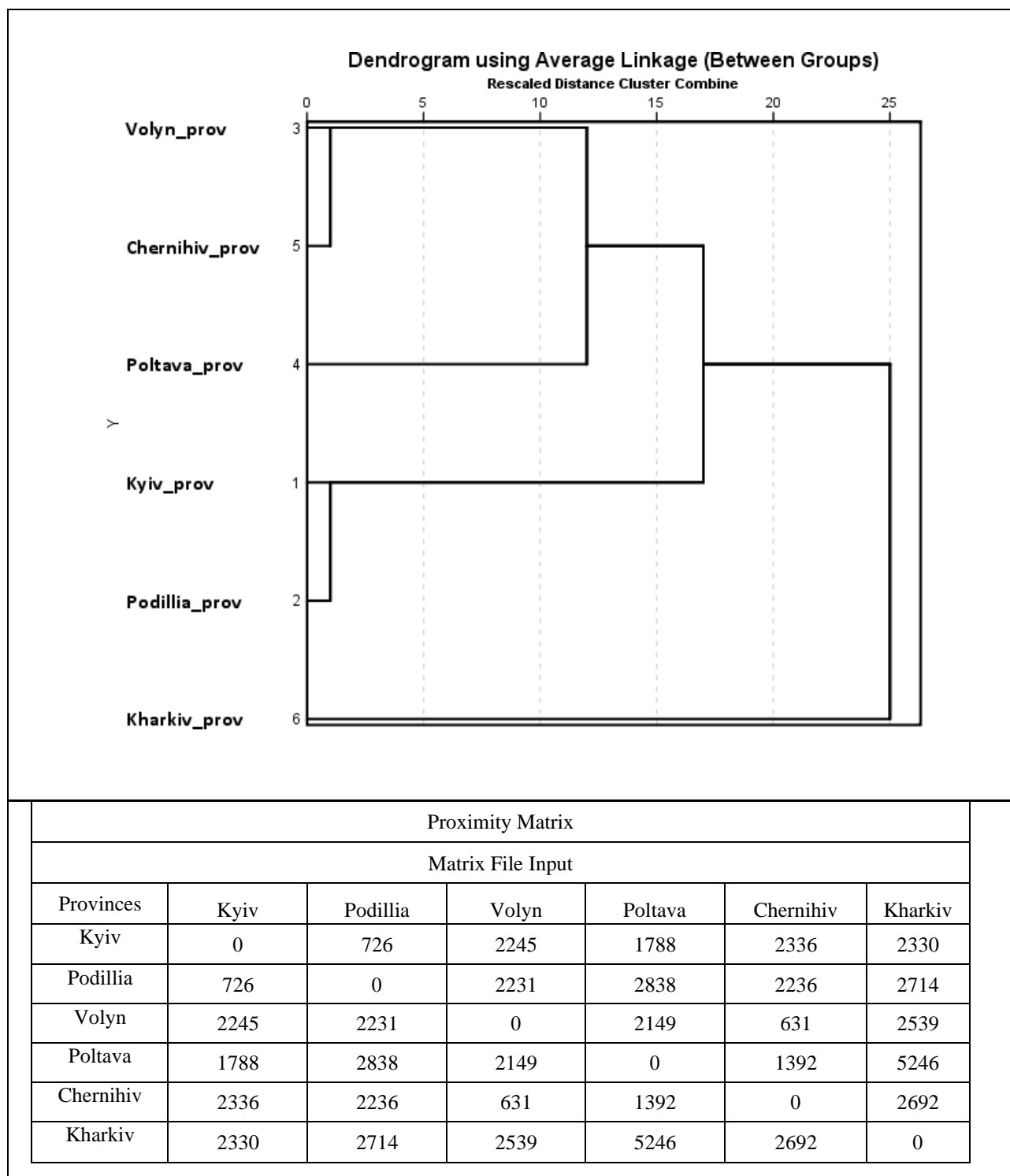


Figure 4.7

Classification of the Forest-Steppe Ukraine provinces according to the structure of cluster groups of demographic growth

2.5 Dynamics of the Forest-Steppe Ukraine population growth in the 1840s – early 1860s

The dynamics of population growth rates are a kind of relative statistical indicators of dynamics with a constant basis of comparison, for which we take the data of 1846. This will help us better understand the trend in the process of accumulation of the demographic potential of the Forest-Steppe Ukraine in the middle of the 19th century. At the province and region levels, the situation was as follows (Table 5.1, 5.2; Figure 5.1). In 1851, only two provinces showed positive dynamics of demographic growth – Podillia (2.5%) and Volyn (3.9%), while the population of Kyiv province decreased (-5.4%). The Right-Bank as a whole remained at the level of 1846, and the number of residents on the Left-Bank decreased by -2.4% (Poltava pr. -1.1%; Chernihiv pr. -2.1%; Kharkiv pr. -4.1%).

Five years later, Podillia (12.4%) and Volyn (6.1%) remained the leaders in the dynamics of population growth on the Forest-Steppe, and Kyiv province (3.1%) began to restore its population, which required almost ten years. On the Left-Bank, the population of Poltava pr. (4.3%) and Kharkiv pr. (5.4%) gradually increased, but Chernihiv province barely reached the level of 1846. In general, the population of the Right-Bank grew twice as fast as that of the Left-Bank.

In 1858, the leaders in the dynamics of population growth in the Forest-Steppe Ukraine were Podillia (13.5%), Kyiv (12.4%), and Kharkiv (11.1%) provinces, not least due to bureaucratic manipulations with the accounting of military settlers. In Poltava province, compared to 1846, the population increased by 7.7%, and in Chernihiv province by 4.9%. The Right-Bank of the Dnieper continued to outpace the Left-Bank Ukraine in dynamics of population growth by 1.5 times.

At the beginning of the 1860s, Podillia remained the undisputed leader in dynamics of demographic growth (21.3%), the second place belonged to Kyiv province (16.3%), the third place was shared between Volyn (13.4%) and Poltava provinces (13.3%), and followed by Kharkiv (11.6%) and Chernihiv (6.1%) provinces. At the end of the studied period, the highest and lowest provincial levels of dynamics population

growth rates differed by 3.5 times, and the gap between the Right-Bank and the Left-Bank in the rate of dynamics demographic development was estimated to be 1.6 times.

Hierarchical cluster analysis made it possible to structure a sample of 77 districts of the Forest-Steppe provinces, dividing the total array into 5 groups, ranked according to the order of growth of such group values of descriptive statistics as "average rates" and "maximum rates" of dynamics population growth (Table 5.5; Figure 5.3, 5.4).

Cluster group 19 includes 15 districts, among which 9 were located on the Left-Bank (Chernihiv pr. 6, Poltava pr. 2, Kharkiv pr. 1) and 6 on the Right-Bank Ukraine (Kyiv pr. 3, Podillia pr. 2, Volyn pr. 1).

Cluster group 20 with the minimum rates of dynamics population growth close to the sample average (-0.41%) turned out to be the most numerous. Among the 34 provinces, 20 were on the Left-Bank (10 in Poltava pr., 9 in Chernihiv pr., 1 in Kharkiv province). The remaining 14 were distributed on the Right-Bank Ukraine: Volyn – 8, Podillia – 4, and Kyiv province – 2.

The *cluster group 21* of 7 districts, distributed almost evenly between the provinces of both banks of the Dnieper, had an average group indicator of descriptive statistics "maximum rates" close to the sample one.

Cluster group 22 consists of 14 districts, including 5 in Kyiv, 4 in Podillia, 2 in Volyn, 1 in Poltava, and 2 in Kharkiv provinces.

According to the indicator of descriptive statistics, the "average rates" of groups 21 and 22 are almost the same, but according to the indicators of the "minimum" and "maximum" rates of dynamics population growth, the differences between them are significant.

Cluster group 23, formed by Umanskyi, Baltskyi, Zmiivskyi, Kupianskyi, Starobilskyi, Kharkivskyi, and Sumskyi districts, differs significantly from the rest in terms of the "maximum rates" of dynamics population growth, due to the negative role of the Ukrainian Forest-Steppe military settlements in the formation of local demographic statistical data of the 19th century.

The classification of provinces according to the structures of cluster groups of districts following the dynamics growth of their population demonstrates three local

variants of the process – Kyiv-Podillia (important role of the group 22), Volyn-Poltava-Chernihiv (the defining role of the group 20), and Kharkiv (leading role of the group 23) (Figure 5.4 – 5.6).

Table 5.1

Growth rates of the Right Bank Ukraine population in 1846–1863 ($\pm\%$ to 1846)

Code	Provinces/districts	$\pm\%$ to 1846			
		1851	1856	1858	1863
<i>Kyiv prov.</i>		-5.4	3.1	12.4	16.3
R1	Kyivskiyi	-16.5	-7.9	18.9	24.1
R2	Berdychivskiyi	-14.8	4.7	9.3	13.2
R3	Vasylkivskiyi	2.2	0.9	9.5	6.1
R4	Zvenyhorodskiyi	3.3	16.8	33.2	28.3
R5	Kanivskiyi	1.4	3.6	11.9	-7.1
R6	Lypovetskyi	-4.5	9.2	9.5	27.3
R7	Radomyshl'skiy	-4.9	-0.7	4.3	1.0
R8	Skvyr'skiy	-7.4	-3.9	3.8	17.6
R9	Taraschanskyi	-7.3	-6.7	10.7	31.2
R10	Umanskyi	-10.2	8.3	45.6	56.9
R11	Cherkaskiyi	-0.5	6.3	17.4	28.8
R12	Chyhyr'skiy	1.6	9.2	19.7	20.4
<i>Including cities</i>		<i>no data</i>	21.6	25.9	38.9
<i>Kyiv-Podillia military settlement</i>		-11.3	13.7	<i>cancelled</i>	<i>cancelled</i>
<i>Podillia prov.</i>		2.5	12.4	13.5	21.3
R13	Kamianetspodil'skiy	-1.2	7.1	10.9	29.5
R14	Bal'tskiy	9.3	36.9	49.2	60.9
R15	Bratslavskiyi	3.9	2.4	17.1	24.2
R16	Vinnytskyi	3.1	-3.6	6.9	13.7
R17	Haisynskiyi	-13.7	2.1	19.5	26.8
R18	Letychivskiyi	-18.6	-0.1	4.7	9.4
R19	Litynskyi	1.7	10.8	6.9	13.5
R20	Mohylivpodil'skiy	-6.8	-8.3	0.4	7.3
R21	Novoushytskyi	12.4	35.8	23.2	29.1
R22	Olhopol'skiy	-5.5	9.1	11.7	20.8
R23	Proskurivskiyi	4.9	6.1	6.6	13.9
R24	Yampil'skiy	6.3	11.1	19.5	27.7
<i>Including cities</i>		<i>no data</i>	46.9	71.4	84.9
<i>Kyiv-Podillia military settlement</i>		243.9	276.1	<i>cancelled</i>	<i>cancelled</i>
<i>Volyn prov.</i>		3.9	6.1	8.1	13.4
R25	Zhytomyr'skiy	-1.1	1.4	15.8	34.9
R26	Volodymyrvolyn'skiy	11.1	11.7	3.1	6.6
R27	Dubenskyi	-0.73	1.1	-1.7	4.5
R28	Zaslavskiyi	4.2	6.1	16.6	14.4
R29	Kovel'skiy	12.6	13.7	0.8	9.5
R30	Kremenetskyi	-6.9	-5.3	-0.5	5.4
R31	Lut'skiy	3.4	6.7	9.9	7.1
R32	Novohradvolyn'skiy	1.9	4.9	9.5	7.9
R33	Ovrut'skiy	14.3	18.4	26.5	26.5

Continuation of table 5.1

R34	Ostrozhskyi	2.5	3.1	5.7	9.5
R35	Rivnenskyi	3.2	4.9	-0.9	7.8
R36	Starokonstantynivskyi	1.3	3.8	5.1	11.8
<i>Including cities</i>		<i>no data</i>	<i>0.14</i>	<i>6.6</i>	<i>41.2</i>
Right-Bank Ukraine		0.1	7.1	11.5	17.1

Table 5.2

Growth rates of the Left-Bank Ukraine population in 1846-1863 ($\pm\%$ to 1846)

Code	Provinces / districts	$\pm\%$ to 1846			
		1851	1856	1858	1863
<i>Poltava prov.</i>		<i>-1.1</i>	<i>4.3</i>	<i>7.7</i>	<i>13.3</i>
L1	Poltavskyi	-0.1	4.2	10.1	18.7
L2	Hadiatskyi	-1.8	2.2	8.2	16.9
L3	Zenkivskyi	-10.2	-3.7	-0.6	11.3
L4	Zolotonoshskyi	-0.1	5.9	7.6	6.1
L5	Kobeliakskyi	2.8	12.1	14.9	35.2
L6	Konstantynohradskyi	5.8	11.1	15.5	16.4
L7	Kremenchukskyi	-1.4	7.7	9.1	19.6
L8	Lokhvytskyi	-13.3	-0.5	-3.7	-1.8
L9	Lubenskyi	5.6	6.5	12.6	18.9
L10	Myrhorodskyi	0.88	5.1	9.4	11.7
L11	Pereiaslavskyi	0.45	2.3	8.5	12.5
L12	Pyriatynskyi	-0.7	3.4	4.7	2.4
L13	Prylutskyi	-0.4	3.5	7.5	12.3
L14	Romenskyi	-1.5	1.8	5.5	6.6
L15	Khorolskyi	-0.7	3.3	8.9	15.1
<i>Including cities</i>		<i>no data</i>	<i>8.8</i>	<i>20.1</i>	<i>31.1</i>
<i>Chernihiv prov.</i>		<i>-2.1</i>	<i>-0.1</i>	<i>4.9</i>	<i>6.1</i>
L16	Chernihivskyi	-2.7	-4.9	15.2	5.9
L17	Borznianskyi	-2.5	5.9	7.5	18.2
L18	Hlukhivskyi	-0.3	5.3	3.7	11.7
L19	Horodianskyi	-2.4	0.28	11.2	17.4
L20	Kozelskyi	0.6	0.1	4.8	5.6
L21	Konotopskyi	-11.4	-4.5	1.9	-16.1
L22	Krolevetskyi	-4.1	0.4	15.4	14.9
L23	Mhlynskyi	-5.3	-4.9	-2.6	1.5
L24	Nijinskyi	-6.2	-6.1	-1.9	5.7
L25	Novhorodivskyi	-2.6	-3.8	0.9	-4.8
L26	Novozybkivskyi	2.6	4.1	3.9	5.7
L27	Osterskyi	0.2	0.8	-4.9	-0.4
L28	Sosnytskyi	-5.3	-2.6	8.3	8.9
L29	Starodubskyi	2.4	1.5	1.4	4.5
L30	Surazhskyi	2.8	8.1	9.4	13.5
<i>Including cities</i>		<i>no data.</i>	<i>no data</i>	<i>no data</i>	<i>no data</i>
<i>Kharkiv prov.</i>		<i>-4.1</i>	<i>5.4</i>	<i>11.11</i>	<i>11.62</i>
L31	Kharkivskyi	17.9	28.4	44.8	56.4

Continuation of table 5.2

L32	Akhtyrskiyi	10.5	16.3	17.1	19.7
L33	Bohoduhyivskiyi	-2.7	5.9	9.4	5.1
L34	Valkivskiyi	2.5	12.9	9.7	17.2
L35	Vovchanskyyi	-1.8	5.7	34.8	30.65
L36	Zmiiivskiyi	-7.3	-0.2	79.3	74.2
L37	Iziumskyyi	-11.1	-2.6	18.1	24.6
L38	Kupianskyyi	6.3	15.2	86.7	88.1
L39	Lebedynskyyi	-17.6	-11.9	3.8	-9.11
L40	Starobilskyyi	24.8	41.4	97.9	115.1
L41	Sumskyyi	25.7	35.8	51.8	34.3
<i>Including cities</i>		<i>no data</i>	<i>12.4</i>	<i>24.2</i>	<i>36.7</i>
<i>Ukrainian military settlement</i>		<i>-14.9</i>	<i>-1.13</i>	<i>cancelled</i>	<i>cancelled</i>
Left-Bank Ukraine		-2.4	3.3	7.9	10.5

Source to the table. 5.1; 5.2: calculated by the author according to the Table 2.1; 2.2.

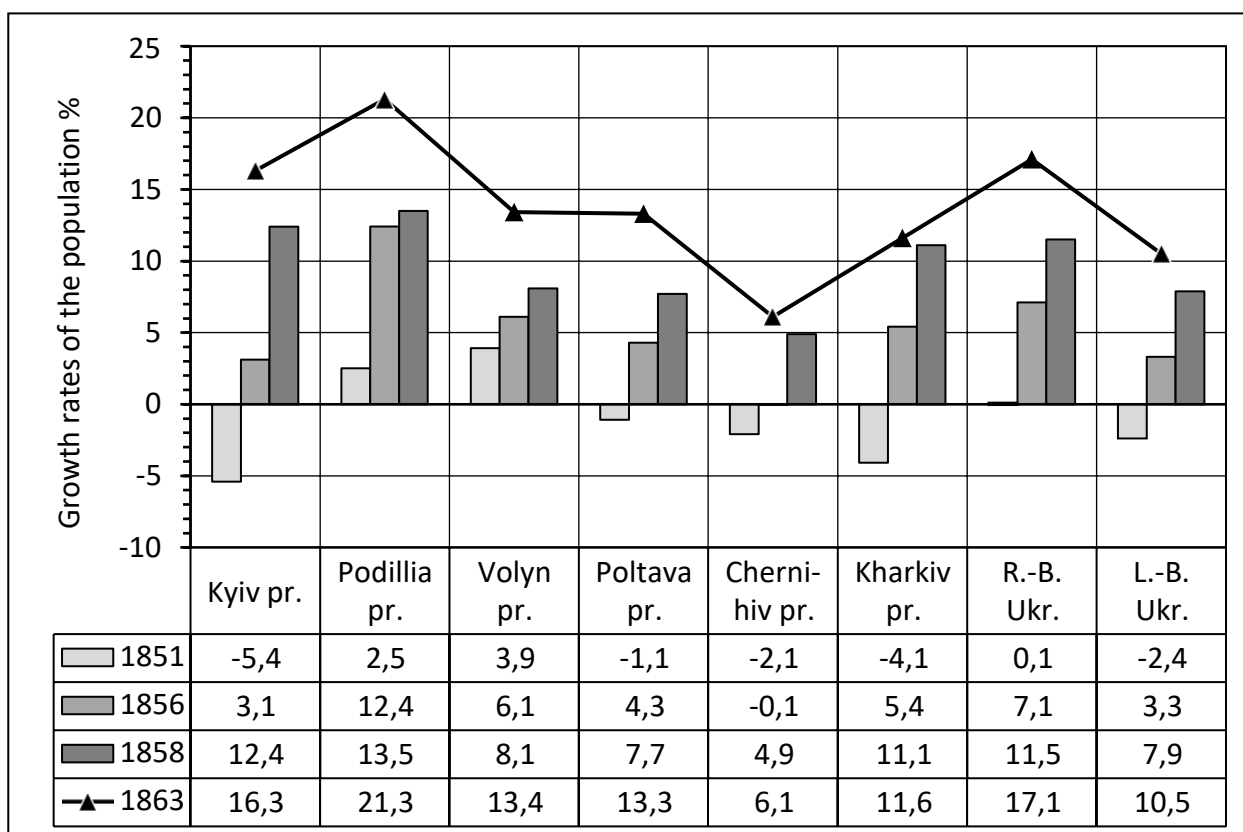


Figure 5.1

**Diagram of the Forest-Steppe Ukraine population growth rates by provinces
(±% to 1846)**

Table 5.3

**Descriptive statistics of the Right-Bank Ukraine population growth rates by
districts ($\pm\%$ to 1846)**

Code	Districts	Descriptive statistics of the population growth rates			
		Minimum %	Maximum %	Average %	Standard deviation
R1	Kyivskyi	-16.50	24.10	4.65	19.88
R2	Berdychivskyi	-14.80	13.20	3.10	12.43
R3	Vasylkivskyi	0.90	9.50	4.68	3.90
R4	Zvenyhorodskyi	3.30	33.20	20.40	13.31
R5	Kanivskyi	-7.10	11.90	2.45	7.81
R6	Lypovetskyi	-4.50	27.30	10.38	13.04
R7	Radomyshlskyi	-4.90	4.30	-0.08	3.83
R8	Skvyrskyi	-7.40	17.60	2.53	11.09
R9	Taraschanskyi	-7.30	31.20	6.98	18.18
R10	Umanskyi	-10.20	56.90	25.15	31.41
R11	Cherkaskyi	-0.50	28.80	13.00	12.86
R12	Chyhyrskyi	1.60	20.40	12.73	9.01
R13	Kamianetspodilskyi	-1.20	29.50	11.58	12.97
R14	Baltskyi	9.30	60.90	39.08	22.14
R15	Bratslavskyi	2.40	24.20	11.90	10.53
R16	Vynnytskyi	-3.60	13.70	5.03	7.23
R17	Haisynskyi	-13.70	26.80	8.68	18.16
R18	Letychivskyi	-18.60	9.40	-1.15	12.26
R19	Litynskyi	1.70	13.50	8.23	5.12
R20	Mohylivpodilskyi	-8.30	7.30	-1.85	7.19
R21	Novoushytskyi	12.40	35.80	25.13	9.92
R22	Olhopolskyi	-5.50	20.80	9.03	10.91
R23	Proskurivskyi	4.90	13.90	7.88	4.08
R24	Yampilskyi	6.30	27.70	16.15	9.44
R25	Zhytomyrskyi	-1.10	34.90	12.75	16.54
R26	Volodymyrvolynskyi	3.10	11.70	8.13	4.05
R27	Dubenskyi	-1.70	4.50	0.79	2.73
R28	Zaslavskyi	4.20	16.60	10.33	6.09
R29	Kovelskyi	0.80	13.70	9.15	5.84
R30	Kremenetskyi	-6.90	5.40	-1.83	5.53
R31	Lutskyi	3.40	9.90	6.78	2.66
R32	Novohradvolynskyi	1.90	9.50	6.05	3.36
R33	Ovrutskyi	14.30	26.50	21.43	6.09
R34	Ostrozhskyi	2.50	9.50	5.20	3.19
R35	Rivnenskyi	-0.90	7.80	3.75	3.64
R36	Starokonstantynivskyi	1.30	11.80	5.50	4.49

Table 5.4

**Descriptive statistics of the Left-Bank Ukraine population growth rates by
district ($\pm\%$ to 1846)**

Code	Districts	Descriptive statistics of the population growth rates			
		Minimum %	Maximum %	Average %	Standard deviation
L1	Poltavskiyi	-0.10	18.70	8.23	8.14
L2	Hadiatskiy	-1.80	16.90	6.38	8.13
L3	Zenkivskiyi	-10.20	11.30	-0.80	9.00
L4	Zolotonoshskiyi	-0.10	7.60	4.88	3.40
L5	Kobeliakskiyi	2.80	35.20	16.25	13.65
L6	Konstantynohradskiyi	5.80	16.40	12.20	4.85
L7	Kremenchukskiyi	-1.40	19.60	8.75	8.60
L8	Lokhvytskiy	-13.30	-0.50	-4.83	5.80
L9	Lubenskiy	5.60	18.90	10.90	6.17
L10	Myrhorodskiyi	0.88	11.70	6.77	4.79
L11	Pereiaslavskiyi	0.45	12.50	5.94	5.57
L12	Pyriatynskiyi	-0.70	4.70	2.45	2.30
L13	Prylutskiy	-0.40	12.30	5.73	5.44
L14	Romenskiy	-1.50	6.60	3.10	3.69
L15	Khorolskiy	-0.70	15.10	6.65	6.87
L16	Chernihivskiyi	-4.90	15.20	3.38	9.16
L17	Borznianskiyi	-2.50	18.20	7.28	8.50
L18	Hlukhivskiyi	-0.30	11.70	5.10	4.99
L19	Horodianskiy	-2.40	17.40	6.62	9.29
L20	Kozelskiy	0.10	5.60	2.78	2.83
L21	Konotopskiy	-16.10	1.90	-7.53	7.89
L22	Krolevetskiy	-4.10	15.40	6.65	9.99
L23	Mhlynskiy	-5.30	1.50	-2.83	3.12
L24	Nizhynskiy	-6.20	5.70	-2.13	5.59
L25	Novhorodsiiverskiy	-4.80	0.90	-2.58	2.49
L26	Novozybkivskiyi	2.60	5.70	4.08	1.27
L27	Osterskiy	-4.90	0.80	-1.08	2.60
L28	Sosnytskiy	-5.30	8.90	2.33	7.33
L29	Starodubskiy	1.40	4.50	2.45	1.44
L30	Surazhskiy	2.80	13.50	8.45	4.41
L31	Kharkivskiyi	17.90	56.40	36.88	17.09
L32	Akhtyrskiy	10.50	19.70	15.90	3.88
L33	Bohoduhiivskiyi	-2.70	9.40	4.43	5.10
L34	Valkivskiyi	2.50	17.20	10.58	6.20
L35	Vovchanskyyi	-1.80	34.80	17.34	18.11
L36	Zmiivskiyi	-7.30	79.30	36.50	46.61
L37	Iziumskiyi	6.30	88.10	49.08	44.41
L38	Kupianskiy	-17.60	3.80	-8.70	9.05
L39	Lebedynskiyi	24.80	115.10	69.80	43.49
L40	Starobilskyy	25.70	51.80	36.90	10.88
Average sample values		-0.42	20.34	9.79	-

Sources to the Table 1.5.4: calculated by the author according to the Table 1.5.1; 1.5.2.

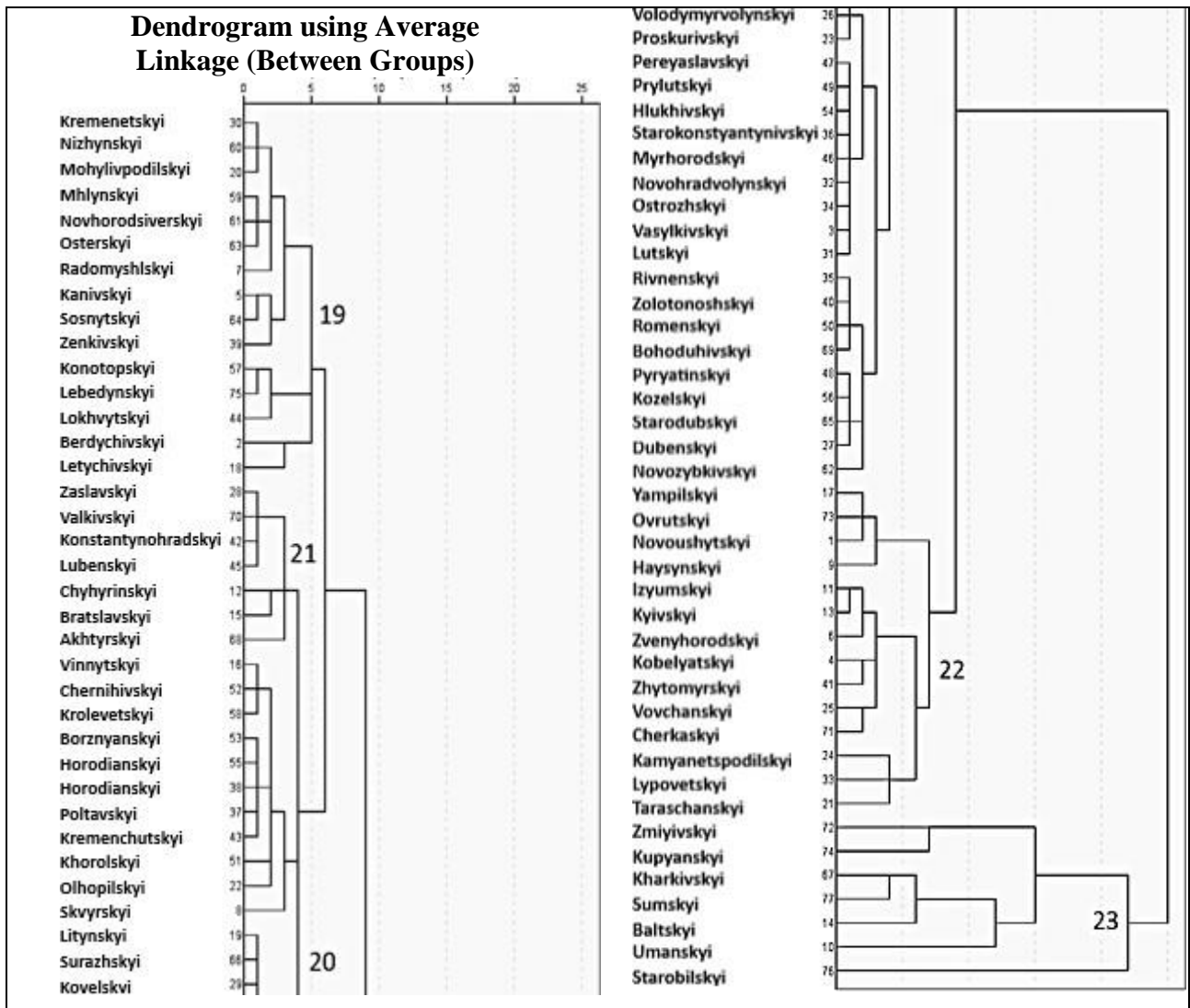


Figure 5.2

Cluster analysis of the Forest-Steppe Ukraine districts distribution according to the population growth rates (1846 – 1863)

Table 5.5

**The results of the Forest-Steppe Ukraine districts grouping by the population
growth rates in 1846 – 1863 ($\pm\%$ to 1846)**

Code	Cluster groups/districts	Descriptive statistics of the population growth rates %			
		Minimum	Maximum	Average	Standard deviation
Group 19 (average group)		-9.62	5.72	-1.83	-
R30	Kremenetskyi	-6.90	5.40	-1.83	5.53
L24	Nizhynskyi	-6.20	5.70	-2.13	5.59
R20	Mohylivpodilskyi	-8.30	7.30	-1.85	7.19
L23	Mhlynskyi	-5.30	1.50	-2.83	3.12
L25	Novhorodsiverskyi	-4.80	0.90	-2.58	2.49
L27	Osterskyi	-4.90	0.80	-1.08	2.60
R7	Radomyshlskyi	-4.90	4.30	-0.08	3.83
R5	Kanivskyi	-7.10	11.90	2.45	7.81
L28	Sosnytskyi	-5.30	8.90	2.33	7.33
L3	Zenkivskyi	-10.20	11.30	-0.80	9.00
L21	Konotopskyi	-16.10	1.90	-7.53	7.89
L39	Lebedynskyi	-17.60	3.80	-8.70	9.05
L8	Lokhvytskyi	-13.30	-0.50	-4.83	5.80
R2	Berdychivskyi	-14.80	13.20	3.10	12.43
R18	Letychivskyi	-18.60	9.40	-1.15	12.26
Group 21 (average group)		4.66	19.06	12.08	-
R28	Zaslavskyi	4.20	16.60	10.33	6.09
L34	Valkivskyi	2.50	17.20	10.58	6.20
L6	Konstantynohradskyi	5.80	16.40	12.20	4.85
L9	Lubenskyi	5.60	18.90	10.90	6.17
R12	Chyhyrskyi	1.60	20.40	12.73	9.01
R15	Bratslavskyi	2.40	24.20	11.90	10.53
L32	Akhtyrskyi	10.50	19.70	15.90	3.88
Group 20 (average group)		-0.41	12.05	5.67	-
R16	Vinnitskyi	-3.60	13.70	5.03	7.23
L16	Chernihivskyi	-4.90	15.20	3.38	9.16
L22	Krolevetskyi	-4.10	15.40	6.65	9.99
L17	Borznianskyi	-2.50	18.20	7.28	8.50
L19	Horodianskyi	-2.40	17.40	6.62	9.29
L2	Horodianskyi	-1.80	16.90	6.38	8.13
L1	Poltavskyi	-0.10	18.70	8.23	8.14
L7	Kremenchukskyi	-1.40	19.60	8.75	8.60
L15	Khorolskyi	-0.70	15.10	6.65	6.87
R22	Olhopolskyi	-5.50	20.80	9.03	10.91
R8	Skvytskyi	-7.40	17.60	2.53	11.09
R19	Litynskyi	1.70	13.50	8.23	5.12
L30	Surazhskyi	2.80	13.50	8.45	4.41
R29	Kovelskyi	0.80	13.70	9.15	5.84
R26	Volodymyrvoynskyi	3.10	11.70	8.13	4.05
R23	Proskurivskyi	4.90	13.90	7.88	4.08

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Continuation of table 5.5

L11	Pereiaslavskiyi	0.45	12.50	5.94	5.57
L13	Prylutskyii	-0.40	12.30	5.73	5.44
L18	Hlukhivskiyi	-0.30	11.70	5.10	4.99
R36	Starokonstantynivskiyi	1.30	11.80	5.50	4.49
L10	Myrhorodskiyi	0.88	11.70	6.77	4.79
R32	Novohradvolynskiyi	1.90	9.50	6.05	3.36
R34	Ostrozhskyi	2.50	9.50	5.20	3.19
R3	Vasylkivskiyi	0.90	9.50	4.68	3.90
R31	Lutskiyi	3.40	9.90	6.78	2.66
R35	Rivnenskyi	-0.90	7.80	3.75	3.64
L4	Zolotonoshskiyi	-0.10	7.60	4.88	3.40
L14	Romenskyi	-1.50	6.60	3.10	3.69
L33	Bohoduivskiyi	-2.70	9.40	4.43	5.10
L12	Pyriatinskyii	-0.70	4.70	2.45	2.30
L20	Kozelskyi	0.10	5.60	2.78	2.83
L29	Starodubskiyi	1.40	4.50	2.45	1.44
R27	Dubenskyi	-1.70	4.50	0.79	2.73
L26	Novozybkivskiyi	2.60	5.70	4.08	1.27
Group 22 (average group)		-1.33	30.03	13.71	-
R24	Yampil'skyi	6.30	27.70	16.15	9.44
R33	Ovrutskiyi	14.30	26.50	21.43	6.09
R21	Novoushytskyi	12.40	35.80	25.13	9.92
R17	Haisynskiyi	-13.70	26.80	8.68	18.16
L37	Iziumskiyi	-11.10	24.60	7.25	16.86
R1	Kyivskiyi	-16.50	24.10	4.65	19.88
R4	Zvenyhorodskiyi	3.30	33.20	20.40	13.31
L5	Kobeliatskyi	2.80	35.20	16.25	13.65
R25	Zhytomyr'skyi	-1.10	34.90	12.75	16.54
L35	Vovchanskyi	-1.80	34.80	17.34	18.11
R11	Cherkaskiyi	-0.50	28.80	13.00	12.86
R13	Kamianetspodil'skyi	-1.20	29.50	11.58	12.97
R6	Lypovetskyi	-4.50	27.30	10.38	13.04
R9	Taraschanskyi	-7.30	31.20	6.98	18.18
Group 23 (average group)		9.50	72.64	41.91	-
L36	Zmiivskiyi	-7.30	79.30	36.50	46.61
L38	Kupianskyi	6.30	88.10	49.08	44.41
L31	Kharkivskiyi	17.90	56.40	36.88	17.09
L41	Sumskiyi	25.70	51.80	36.90	10.88
R14	Bal'tskiyi	9.30	60.90	39.08	22.14
R10	Umanskyi	-10.20	56.90	25.15	31.41
L40	Starobil'skyi	24.80	115.10	69.80	43.49
Average sample values		-0.42	20.34	9.79	-

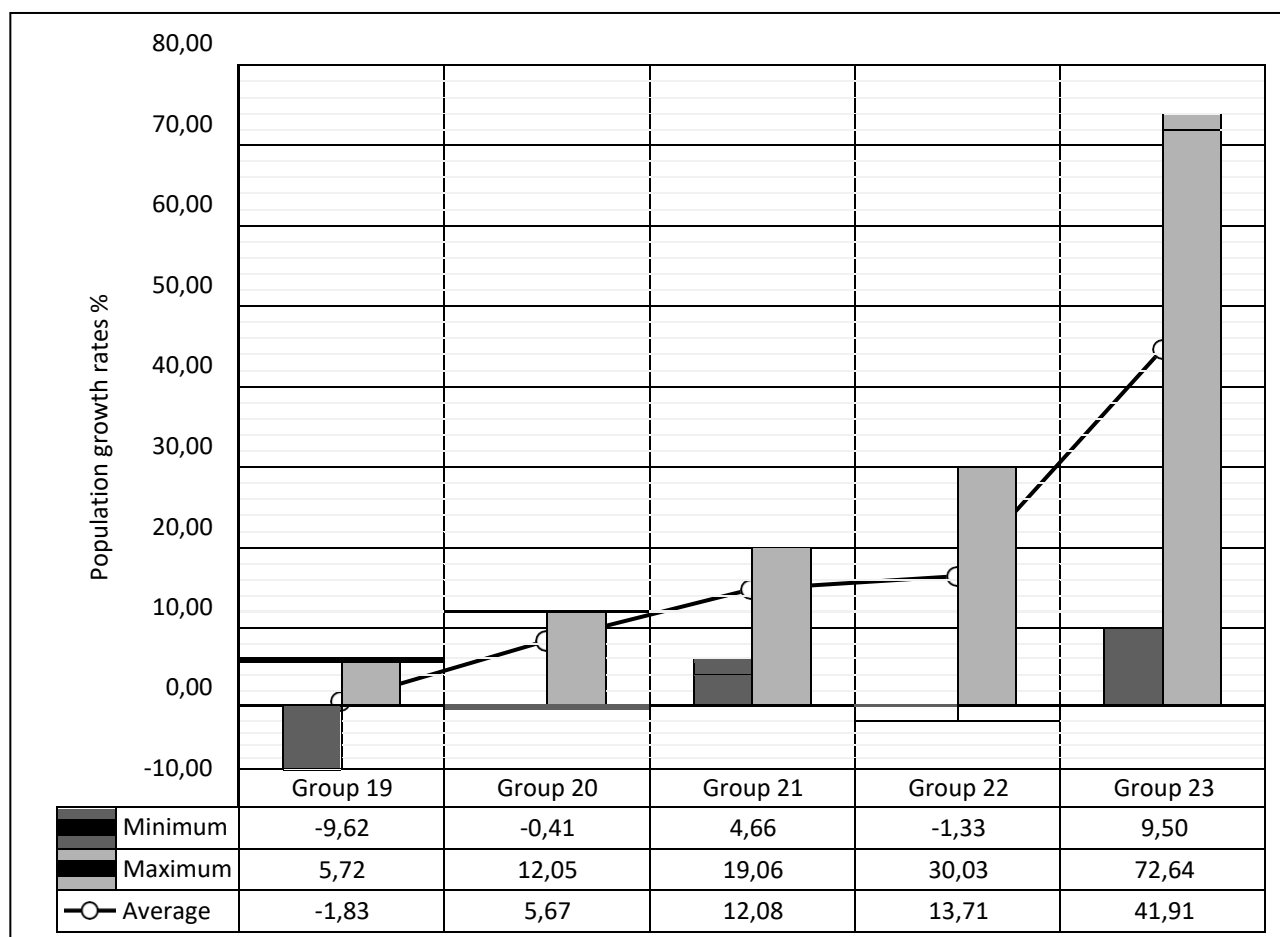


Figure 5.3

Ranked diagram of the Forest-Steppe Ukraine cluster groups of districts by population growth rates in 1846 – 1863 ($\pm\%$ to 1846)

Sources to Figure 1.5.3: calculated by the author according to the Table 5.5.

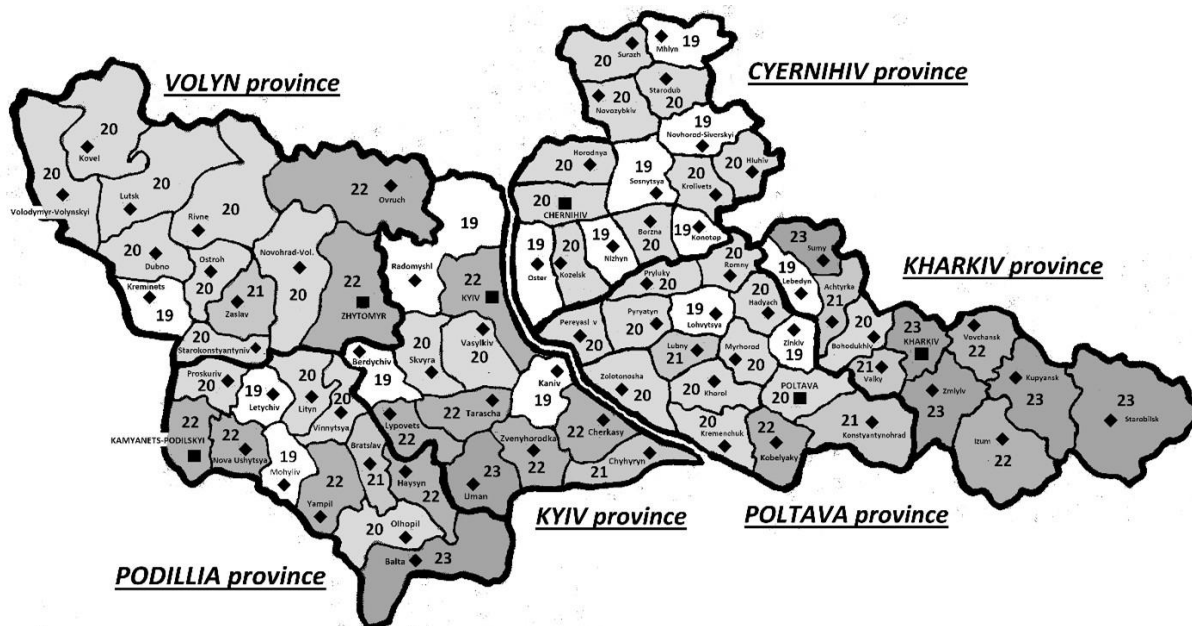


Figure 5.4

Spatial distribution of the Forest-Steppe Ukraine cluster groups of districts by population growth rates in 1846-1863 ($\pm\%$ to 1846)

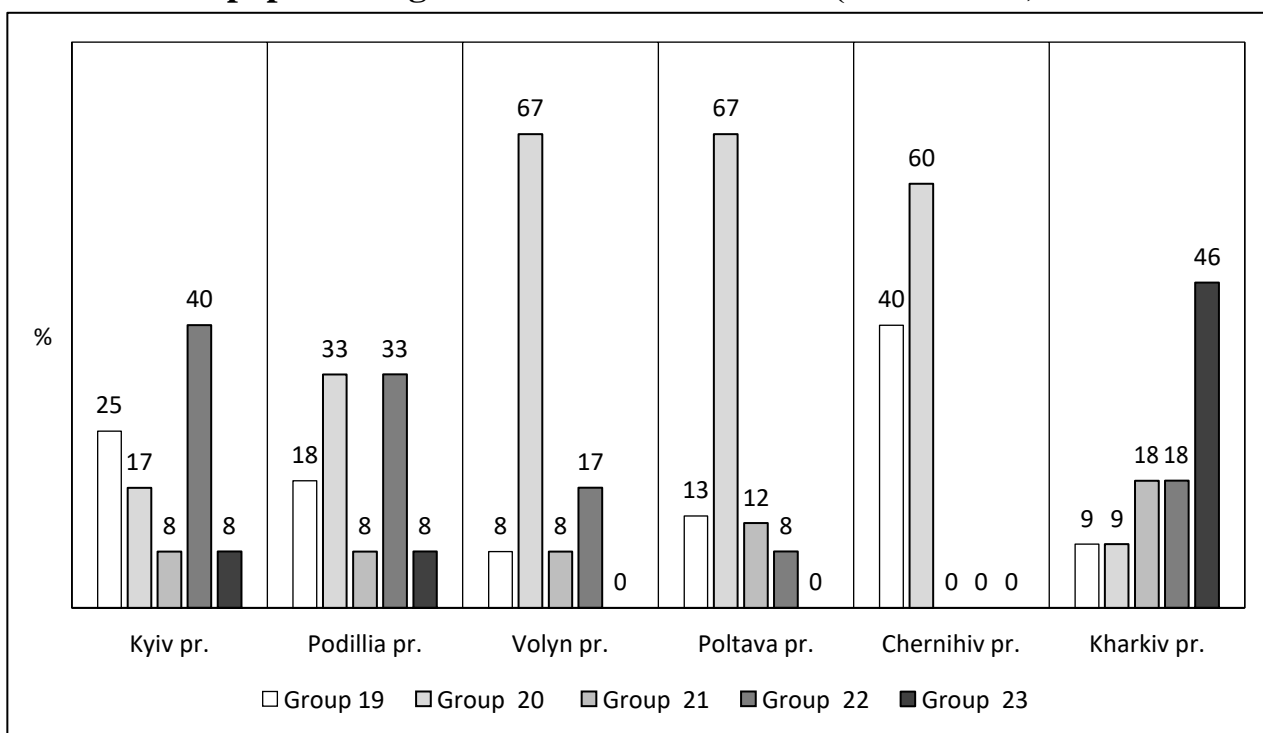


Figure 5.5

The structure of the Ukrainian Forest Steppe provinces by cluster groups of the population growth rates in 1846 – 1863 ($\pm\%$ to 1846)

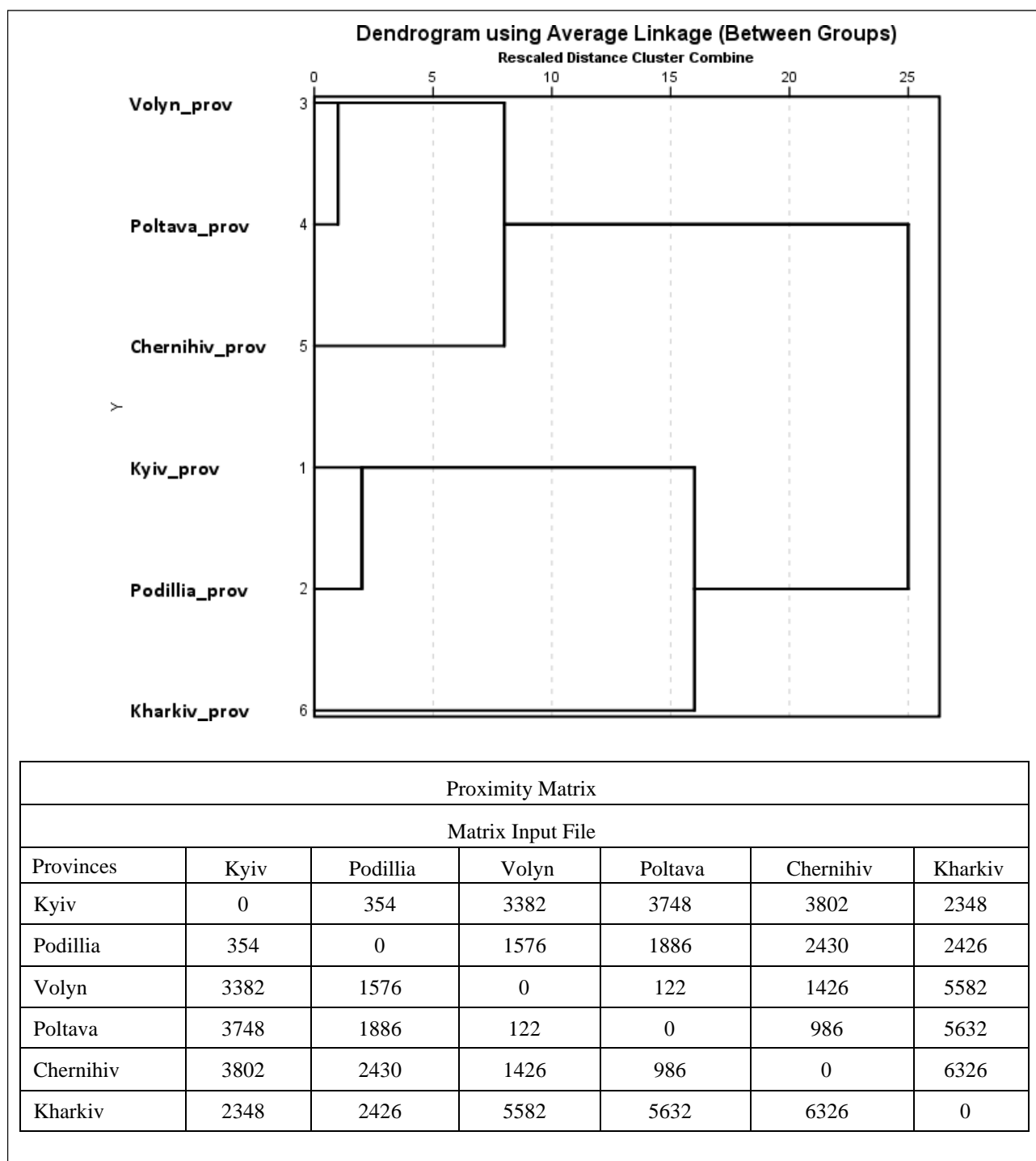


Figure 5.6

Classification of the Forest-Steppe Ukraine provinces according to the internal structure of cluster groups of the population growth rates in 1846 – 1863 ($\pm\%$ to 1846)

References

1. Semenov, P. P. Predisloviye. [Preface]. *Statisticheskiy vestnik Rossiyskoy imperii*. SPb.: V tip. K. Vul'fa, 1866. Vyp. 1. pp. I – XXXVI. [in Russian].
2. *Statisticheskiye tablitsy Rossiyskoy imperii, izdavayemyye po rasporyazheniyu ministra vnutrennikh del Tsentral'nym statisticheskim komitetom. Nalichnoye naseleniye Imperii za 1858 god* [Statistical tables of the Russian Empire, published by order of the Ministry of Internal Affairs by the Central Statistical Committee. The actual population of the Empire for 1858]. SPb.: V tip. K. Vul'fa, 1863. 346 p. [in Russian].
3. Keppen, P. I. O narodnykh perepisyakh v Rossii. [On the national censuses in Russia]. *Zapiski Imperatorskogo Geograficheskogo bshchestva po Otdeleniyu statistiki*. SPb.: Tip. Ministerstva Vnutrennikh Del, 1889. Vol. 6. pp. 1–94. [in Russian].
4. Kolokolov, S. Ukazatel' zakonov o vlastyakh i ustanovleniyakh dukhovnykh. [Index of laws on authorities and spiritual institutions]. Izd. 2-ye. Moskva: V Universitetskoy tipografii, 1852. 398 p. [in Russian].
5. Zhuravskiy, D. P. Ob istochnikakh i upotreblenii statisticheskikh svedeniy. Kiyev: V tip. I. Val'nera, 1846. 211 p. [in Russian].
6. Dement'yev, V. S. Istoriya ucheta naseleniya Rossii do nachala XX veka. [History of registration of the population of Russia until the beginning of the twentieth century]. *Geograficheskiy vestnik. Ekonomicheskaya, sotsial'naya i politicheskaya geografiya*. 2015, № 4 (35), pp. 11–17. [in Russian].
7. Ziyablovskiy, Ye. F. Statisticheskoye opisaniye Rossiyskoy imperii. [Statistical description of the Russian Empire]. Izd. 2-ye ispr. i dop. SPb.: V Morskoy tip., 1815. 214 p. [in Russian].
8. Arsen'yev, K. I. Nachertaniye statistiki Rossiyskogo gosudarstva, sostavlennoye Glavnogo pedagogicheskogo instituta ad'yunkt-professorom Konstantinom Arsen'yevym. Chast' 1: O sostoyanii Naroda. [Inscription of the statistics of the Russian state, compiled by the Main Pedagogical Institute, associate professor Konstantin Arseniev. Pt. 1: On the state of the people]. SPb.: V tip. Imperatorskogo Vospitatel'nogo Doma, 1818. 277 p. [in Russian].
9. Arsen'yev, K. I. Statisticheskiye ocherki Rossii / soch. Konstantina Arsen'yeva. [Statistical essays of Russia]. SPb.: Tip. Imp. Akad. Nauk, 1848. 503 p. [in Russian].
10. Link, I. O zakonakh dvizheniya narodonaseleniya v Rossii. [On the laws of population movement in Russia]. *Zhurnal Ministerstva Vnutrennikh Del*. 1836, pt. 20, b. 5, pp. 254–272. [in Russian].
11. Roslavskiy, A. P. O dvizhenii narodonaseleniya v Rossii, sravnitel'no s nekotorymi iz yevropeyskikh gosudarstv. [On the population movement in Russia in comparison with some of the European states]. *Zhurnal Ministerstva Vnutrennikh Del*, 1841, pt. 40, pp. 211–227. [in Russian].
12. Korsakov, S. Tabel' prirashcheniya narodonaseleniya v Rossii s 7-y do 8-y revizii, pokazyvayushchiy v kazhdoy gubernii ili oblasti protsentnuyu pribyl' revizskikh dush po vsem podatnym sosloviyam. [Table of population growth

- in Russia from the 7th to the 8th Revision, showing in each province or region the percentage profit of Revision souls for all taxable estates]. *Materialy po statistike Rossiyskoy imperii, 1839*, pt. I, pp. 149–150. [in Russian].
13. Keppen, P. I. *O chisle zHITELEY v Rossii v 1838 godu*. [On the number of inhabitants in Russia in 1838]. SPb.: Tip. Imp. Akad. nauk, 1840. 18 p. [in Russian].
 14. Arsen'yev, K.I. *Vedomost' o narodonaselenii Rossii po uyezdam guberniy i oblastey, sostavlenneya iz vsepoddanneyshikh otchetov gubernatorov, pri statisticheskom otdelenii Soveta Ministerstva Vnutrennikh Del*. [Statement on the population of Russia by districts of provinces and regions, compiled from the most comprehensive reports of governors, at the statistical department of the Council of the Ministry of Internal Affairs]. SPb.: V tip. Eduarda Pratsa, 1850. 29 p. [in Russian].
 15. Danilevskiy, N. Ya. *Statisticheskiye issledovaniya o raspredelenii i dvizhenii narodonaseleniya v Rossii za 1846 god*. [Statistical studies on the distribution and movement of the population in Russia for 1846]. *Zhurnal Ministerstva Vnutrennikh Del*, 1851, pt. 34, pp. 117–142, 176–239, 360–392; pt. 35, pp. 3–28, 252–299, 393–447. [in Russian].
 16. Zablotskiy, M. P. *Vedomost' o chisle zHITELEY Rossii po sostoyaniyam*. [Statement of the number of inhabitants of Russia by state]. *Sbornik statisticheskikh svedeniy o Rossii*, 1851, vyp. 1, pp. 51–57. [in Russian].
 17. Kaypsha, Ye. I. *Dvizheniye narodonaseleniya v Rossii s 1848 po 1852 god*. [Population movement in Russia from 1848 to 1852]. *Sbornik statisticheskikh svedeniy o Rossii*, 1858, vyp. 3, pp. 429–464. [in Russian].
 18. Passek, V. V. *Istoriko-statisticheskoye opisaniye Khar'kovskoy gubernii*. [Historical and statistical description of Kharkov province]. *Materialy po statistike Rossiyskoy imperii, 1839*, pt. II, pp. 125–167. [in Russian].
 19. Kir'yakov, M. M. *Istoriko-statisticheskoye opisaniye Khersonskoy gubernii*. [Historical and statistical description of Kherson province]. *Materialy dlya statistiki Rossiyskoy imperii, 1839*, pt. II, pp. 169–189. [in Russian].
 20. *Statisticheskoye opisaniye Kiyevskoy gubernii* [Statistical description of Kyiv province]. SPb.: V tip. Ministerstva Vnutrennikh Del, 1852. Pt. 1. 592 p.; Pt. 2. 556 p.; Pt. 3. 590 p. [in Russian].
 21. Chekotovskyi, E.V. *Dmytro Petrovych Zhuravskiy – pershyi ukrainskyi teoretyk statystyky (do 160-richchia z dnia smerti)*. [Dmytro Petrovych Zhuravskiy is the first Ukrainian statistician (until the 160th anniversary of his death)]. *Statystyka Ukrainy*. 2016, № 3, pp. 72 – 77. [in Ukrainian].
 22. Arandarenko, N. I. *Zapiski o Poltavskoy gubernii Nikolaya Arandarenka, sostavlenneye v 1846 g. V trekh chastyakh*. [Notes on Poltava province of Nikolai Arandarenko, compiled in 1846. In three parts]. Poltava: Tip. Gubernskoye pravitel'stvo, 1849. Pt. I. 393 p. [in Russian].
 23. Arandarenko, N. I. *Zapiski o Poltavskoy gubernii Nikolaya Arandarenka, sostavlenneye v 1846 g. V trekh chastyakh*. [Notes on Poltava province of

- Nikolai Arandarenko, compiled in 1846. In three parts]. Poltava: Tip. Gubernskogo pravitel'stva, 1852. Pt. II. 500 p. [in Russian].
24. Skal'kovskiy, A. A. Opyt statisticheskogo opisaniya Novorossiyskogo kraya. [Experience of statistical description of the Novorossia Territory]. Pt.1. Odessa: V tip. L. Nitche, 1850. 288 p. [in Russian].
 25. Skal'kovskiy, A. A. Opyt statisticheskogo opisaniya Novorossiyskogo kraya. [Experience of statistical description of the Novorossia Territory]. Pt.2. Odessa: V tip. L. Nitche, 1853. 373 p. [in Russian].
 26. Köppen, P. I. Predvaritel'nyye svedeniya o chisle zhiteley v Rossii, po guberniyam i uyezdam, v 1851 godu. Na osnovanii 9-y narodnoy perepisi i drugikh pokazaniy izlozhil Petr Keppen. [Preliminary information on the number of inhabitants in Russia, by provinces and districts, in 1851. Based on the 9th People Revision and other testimonies, Peter Köppen stated]. SPb.: V tip. Imperatorskoy Akademii Nauk, 1854. 16 p. [in Russian].
 27. Köppen, P. I. Devyataya reviziya. Issledovaniye o chisle zhiteley v Rossii v 1851 godu [Ninth Revision. A study on the number of inhabitants in Russia in 1851]. SPb.: V tip. Imperatorskoy Akademii Nauk, 1857. 313 p. [in Russian].
 28. Voyenno-statisticheskoye obozreniye Rossiyskoy imperii. Kiyevskaya guberniya [Military Statistical Review of the Russian Empire. Kyiv province]. SPb.: Tip. Departamenta General'nogo Shtaba, 1848. Vol. 10. Pt. 1. 333 p. [in Russian].
 29. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Poltavskaya guberniya [Military Statistical Review of the Russian Empire. Poltava province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1848. Vol. 12. Pt. 3. 125 p. [in Russian].
 30. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Podol'skaya guberniya [Military Statistical Review of the Russian Empire. Podillia province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1849. Vol. 10. Pt. 2. 284 p. [in Russian].
 31. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Khersonskaya guberniya [Military Statistical Review of the Russian Empire. Kherson province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1849. Vol. 11. Pt. 1. 340 p. [in Russian].
 32. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Tavriyskaya guberniya [Military Statistical Review of the Russian Empire. Tavrida province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1849. Vol. 11. Pt. 2. 307 p. [in Russian].
 33. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Volynskaya guberniya [Military Statistical Review of the Russian Empire. Volyn province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1850. Vol. 10. Pt. 3. 241 p. [in Russian].
 34. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Khar'kovskaya guberniya [Military Statistical Review of the Russian Empire. Kharkov

- province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1850. Vol. 12. Pt. 1. 464 p. [in Russian].
35. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Yekaterinoslavskaya guberniya [Military Statistical Review of the Russian Empire. Yekaterinoslav province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1850. Vol. 12. Pt. 1. 464 p. [in Russian].
 36. Voyenno-statisticheskoye obozreniye Rossiyskoy Imperii. Chernigovskaya guberniya [Military Statistical Review of the Russian Empire. Chernigov province]. SPb.: V tip. Departamenta General'nogo Shtaba, 1849. Vol. 11. Pt. 4. 209 p. [in Russian].
 37. Petrova, I. V. & Petrov, O. O. Metodyka pidhotovky viiskovotopografichnykh opysiv Ukrainy ta yikh dzherelna baza (30 – 60-ti rr. XIX st.). [Methodology of preparation of military topographical descriptions of Ukraine and their source base (30-60s of the 19th century)]. Naukovi Zapysky. In-t ukr. arkhеоhrafii ta dzhereloznavstva im. M.S. Hrushevskoho NAN Ukrainy. 2009, vol.19, pt.1, pp. 563–576. [in Ukrainian].
 38. Petrova, I. V. Opysovo-statystychni dzherela z istorii Ukrainy ostannoï chverti XVIII – pershoï polovyny XIX st. [Descriptive and statistical sources from the history of Ukraine in the last quarter of the 18th – the first half of the 19th century]: dys. ... dokt. ist. nauk: 07.00.06. Vinnytsia, 2020. 651 p. [in Ukrainian].
 39. Lebid, A. E., Honcharenko, A. V., Chevchenko, N. A. Social Portrait of the Population of Ukrainian Provinces in the middle of the 19th century (Based on Materials from the «Military Statistical Review of Russian Empire»). Bylye Gody, 2020, vol. 57, pt. 3, pp. 1142–1157.
 40. Materialy dlya geografii i statistiki Rossii, sobrannyye ofitserami General'nogo shtaba. Yekaterinoslavskaya guberniya. [Materials for the geography and statistics of Russia, collected by officers of the General Staff. Yekaterinoslav province]. Sostavil Gen. shtaba kapitan V. Pavlovich. SPb.: Tip. Departamenta General'nogo Shtaba, 1862. 396 p. [in Russian].
 41. Materialy dlya geografii i statistiki Rossii, sobrannyye ofitserami General'nogo shtaba. Khersonskaya guberniya. [Materials for the geography and statistics of Russia, collected by officers of the General Staff. Kherson province]. Sostavil Gen. shtaba podpolkovnik A. Shmidt. SPb.: Voyennaya tipografiya, 1863. Pt. 1. 632 p.; Pt. 2. 1022 p. [in Russian].
 42. Materialy dlya geografii i statistiki Rossii, sobrannyye ofitserami General'nogo shtaba. Chernigovskaya guberniya [Materials for the geography and statistics of Russia, collected by officers of the General Staff. Chernihiv province]. Sostavil Gen. shtaba podpolkovnik N. Domontovich. SPb.: V tip. F. Persona, 1865. 796 p. [in Russian].
 43. Sbornik statisticheskikh svedeniy o Kiyevskoy gubernii za 1859 god [Collection of statistical information about Kyiv province for 1859]. Kiyev: V tip. Gubernskogo Pravleniya, 1861. 284 p. [in Russian].

44. Chernyshev, N. Pamyatnaya knizhka Kiyevskoy gubernii. [Commemorative book of Kiev province]. Kyiv: V tip. Gubernskogo Pravleniya, 1857. 377 p. [in Russian].
45. Chernyshev, N. Pamyatnaya knizhka Kiyevskoy gubernii [Commemorative book of Kyiv province]. Kyiv: V tip. Gubernskogo pravleniya, 1858. 379 p. [in Russian].
46. Pamyatnaya knizhka Podol'skoy gubernii na 1859 god [Commemorative book of Podillia province for 1859]. Kam.-Podol'sk: V tip. Gubernskogo Pravleniya, 1859. 198 p. [in Russian].
47. Pamyatnaya knizhka Chernigovskoy gubernii [Commemorative book of Chernigov province]. Chernigov: V tip. Gubernskoy i Il'inskogo monastyrya, 1862. 576 p. [in Russian].
48. Golikhovskiy, Ya. Pamyatnaya knizhka Khar'kovskoy gubernii na 1864 god. [Commemorative book of Kharkov province for 1864]. Khar'kiv: V Universitetskoy tip., 1864. 344 p. [in Russian].
49. Bodyanskiy, P. Pamyatnaya knizhka Poltavskoy gubernii, izdannaya Poltavskim gubernskim statisticheskim komitetom. [Memorable book of Poltava province, published by the Poltava provincial statistical committee]. Poltava: V tip. N. Pigurenko i Gubernskogo Pravleniya, 1865. 1334 p. [in Russian].
50. Skrydlov, Yu. A. Iz istorii sozdaniya Otdeleniya statistiki Russkogo geograficheskogo obshchestva – pervogo nauchnogo ob'yedineniya statistikov v Rossii. [From the history of the creation of the Department of Statistics of the Russian Geographical Society – the first scientific association of statisticians in Russia]. Sotsiologiya nauki i tekhnologiy. 2019, vol. 10, № 2, pp. 7–21. [in Russian].
51. Sbornik statisticheskikh svedeniy o Rossii, izdavayemyy Statisticheskim otdeleniyem Imperatorskogo Russkogo geograficheskogo Obshchestva. [Collection of statistical information about Russia, published by the Statistical Department of the Imperial Russian Geographical Society]. SPb.: V tip. II Otdeleniya Sobstvennoy Ye.I.V. Kantselyarii, 1851. Vol. 1. 267 p. [in Russian].
52. Sbornik statisticheskikh svedeniy o Rossii, izdavayemyy Statisticheskim otdeleniyem Imperatorskogo Russkogo geograficheskogo Obshchestva. [Collection of statistical information about Russia, published by the Statistical Department of the Imperial Russian Geographical Society]. SPb.: V tip. Imperatorskoy Akademii nauk, 1854. Vol. 2. 433 p. [in Russian].
53. Sbornik statisticheskikh svedeniy o Rossii, izdavayemyy Statisticheskim otdeleniyem Imperatorskogo Russkogo geograficheskogo Obshchestva. [Collection of statistical information about Russia, published by the Statistical Department of the Imperial Russian Geographical Society]. SPb.: V tip. Imperatorskogo Morskogo ministerstva, 1858. B. 3. 680. [in Russian].
54. Statisticheskiye tablitsy Rossiyskoy imperii za 1856 god, izdavayemyye po rasporyazheniyu ministra vnutrennikh del Tsentral'nym statisticheskim

- komitetom [Statistical tables of the Russian Empire for 1856, published by order of the Minister of the Interior by the Central Statistical Committee]. SPb.: V tip. K. Vul'fa, 1858. Vyp. 1. 342 p. [in Russian].
55. Troynitskiy, A. G. Krepostnoye naseleniye v Rossii po 10-y narodnoy perepisi. [The serf population in Russia according to the 10th People Census.]. SPb.: V tip. Karla Vul'fa, 1861. 103 p. [in Russian].
56. Statisticheskiy vremennik Rossiyskoy imperii: izdaniye Tsentral'nogo statisticheskogo komiteta Ministerstva vnutrennikh del [Statistical Timeline of the Russian Empire: edition of the Central Statistical Committee of the Ministry of Internal Affairs]. SPb.: V tip. K. Vul'fa, 1866. Ser. I. Vyp. I. 446 p. [in Russian].
57. Rittikh, A. F. Etnograficheskaya karta Yevropeyskoy Rossii (na 16 listakh) [The ethnographic map of European Russia (on 16 sheets)] napechatano po porucheniyu Imperatorskogo Russkogo Geograficheskogo obshchestva deystvitel'nym chlenom onogo Aleksandrom Fedorovichem Rittikhom 1875-om godu v Sankt-Peterburge v Kartograficheskoy zavedeniye A. A. Il'ina. [in Russian].
58. Rittikh, A. F. Atlas narodonaseleniya Zapadno-russkogo kraya po ispovedaniyam. Sostavlenn pri Ministerstve vnutrennikh del, v kantselyarii zaveduyushchego ustroystvom pravoslavnykh tserkvey v Zapadnykh guberniyakh. [Atlas of the population of the Western Russian Territory according to confessions. Compiled under the Ministry of Internal Affairs, in the office of the head of the organization of Orthodox churches in the Western provinces]. Izd. 2-ye, ispr. i dop. SPb.: V tip. V. Vellinga, 1864. 2 p., 9 l.: tabl., kart. [in Russian].
59. Voyenno-statisticheskiy sbornik. Rossiya: pod obshch. red. gen.-mayora N. N. Obrucheva. [Military Statistical Collection. Russia: under total. ed. Major General N. N. Obruchev]. SPb.: V Voennoy tip., 1871. 1196 p. [in Russian].
60. Prybytkova, I. M. Z istorii rozvytku demografichnoi dumky v Ukraini v XVIII – XIX st. [From the history of the development of demographic thought in Ukraine in the 18th - 19th centuries]. Naukovi zapysky. Natsionalnyi universytet «Kyievo-Mohylianska akademiia». 2000, vol.18, pp. 60 – 65. [in Ukrainian].
61. Bruk, S. I., & Kabuzan, V. M. Chislennost' i rasseleniye ukrainskogo etnosa v XVIII – nachale XIX vekov. [The number and resettlement of the Ukrainian ethnos in the XVIII – early XIX centuries]. Sovetskaya etnografiya. 1981, № 5, pp. 15–31. [in Russian].
62. Kabuzan, V. M. Narody Rossii v pervoy polovine XIX v.: Chislennost' i etnicheskii sostav. [Peoples of Russia in the first half of the 19th century: Number and ethnic composition]. Moskva: Nauka, 1992. 216 p. [in Russian].
63. Rashin, A.G. Naseleniye Rossii za 100 let (1811 – 1913): pod. red. akad. S.G. Strumilina. [Population of Russia over 100 years (1811 – 1913): under. ed. acad. S. G. Strumilina]. Moskva: Gosudarstvennoye Statisticheskoye Izdatel'stvo, 1956. 350 p. [in Russian].

64. Polishchuk, Yu. Natsionalni menshyny Pravoberezhzhia Ukrainy u konteksti etnichnoi polityky Rosiiskoi imperii (kinets XVIII – pochatok XIX stolittia). [National minorities of the Right-Bank Ukraine in the context of the ethnic policy of the Russian Empire (end of 18I - beginning of 20 century)]. Kyiv: NAN Ukrainy, 2012. 492 p. [in Ukrainian].
65. Krykun, M. H. Pryrodnyi rukh naselennia Pravoberezhnoi Ukrainy u 80-kh – na pochatku 90-kh rokiv XVIII stolittia. [Natural movement of the population of Right-Bank Ukraine in the 1780s and early 1790s]. Visnyk Ivivskoho natsionalnoho universytetu im. I. Ia. Franka: seriia Istoriiia. 2002, vyp. 37 (2), pp. 62 – 72. [in Ukrainian].
66. Filiniuk, A. H. Demohrafichni, sotsialno-stanovi transformatsii polskoi menshyny u Pravoberezhnii Ukraini kintsia XVIII – pershoi polovyny XIX stolittia v konteksti suchasnoi istoriografii [Demographic, social transformations of the Polish minority in the Right-Bank Ukraine in the late 18th – first half of the 19th century in the context of modern historiography]. Intermarum: history, politics, culture. 2016, № 3, pp. 98–110. [in Ukrainian].
67. Kuzema, O. L. Chyselnist ta etnosotsialnyi sklad naselennia mist i mistechok Pravoberezhnoi Ukrainy naprykintsi XVIII – v pershii polovyni XIX st. [The number and ethno-social composition of the population of the cities and towns of Right-Bank Ukraine at the end of the 18th - in the first half of the 19th century]. Naukovi pratsi Kamianets-Podilskoho derzhavnogo universytetu: Istorychni nauky. 2004, vol.13, pp. 73–81. [in Ukrainian].
68. Bohutska, A. L. Etnonatsionalnyi ta etnodemohrafichni rozvytok Pravoberezhnoi Ukrainy naprykintsi XVIII – v pershii polovyni XIX stolittia. [Ethnonational and ethnodemographic development of the Right-Bank Ukraine at the end of the 18th – in the first half of the 19th century]. Dys. ... kand. ist. nauk.: 07. 00. 01. Kamianets-Podilskyi, 2017. 268 p. [in Ukrainian].
69. Kundelskyi, V. V. Korinne naselennia Pravoberezhnoi Ukrainy u mizhnatsionalnykh vidnosynakh kintsia XVIII – pershoi polovyny XIX stolittia: suchasna istoriografiia problemy. [Indigenous population of Right Bank Ukraine in international relations of the end of the 18th - the first half of the 19th century: modern historiography of the problem]. Visnyk Kamianets-Podilskoho natsionalnoho universytetu im. Ivana Ohienka. Istorychni nauky. 2013, vyp. 6, pp. 101-107. [in Ukrainian].
70. Kundelskyi, V. V. Korinne naselennia Pravoberezhnoi Ukrainy u mizhnatsionalnykh vidnosynakh naprykintsi XVIII –v 60-ti roky XIX stolittia. [The indigenous population of Right-Bank Ukraine in international relations at the end of the 18th – 60s of the 19th century]. Dys kand. ist. nauk.: 07. 00. 01. Kamianets-Podilskyi, 2018. 308 p. [in Ukrainian].
71. Pavlov, P. Sravnitel'naya statistika Rossii. [Comparative statistics of Russia]. SPb.: Tip. V. Demakova, 1871. 195 p. [in Russian].
72. Tsubenko, V.L. Likvidatsiia Kyievo-Podilskoho viiskovoho poselennia kavalerii (1857 – 1866). [Liquidation of the Kyiv-Podillia military settlement

- of the cavalry (1857 – 1866)]. *Intelihentsiia i vlada. Serii: Istoriiia*. 2007, vyp. 9, pp. 85–93. [in Ukrainian].
73. Tsubenko, V. L. *Terytorii i naseleni punkty Kyievo-Podilskoho viiskovoho poselennia (1837 – 1857)*. [The territory and settlements of the Kyiv-Podillia military settlement (1837 – 1857)]. *Naukovi zapysky Instytutu politychnykh i etnonatsionalnykh doslidzhen im. I. F. Kurasa NAN Ukrainy*. 2008, vyp. 39, pp. 59–66. [in Ukrainian].
74. Tsubenko, V. L. *Ohliad istorii viiskovoho poselennia kavalerii na terytorii Kyivskoi i Podilskoi hubernii (1836 – 1857)*. [Review of the history of the military settlement of the cavalry on the territory of Kyiv and Podillia provinces (1836-1857)]. *Istorychnyi arkhiv*. 2011, vyp. 6, pp. 58-62. [in Ukrainian].
75. Yachmenikhin, K. M. *Armiya i reformy: voyennyie poseleniya v politike rossiyskogo samoderzhaviya* [Army and reforms: military settlements in the policy of the Russian autocracy]. Chernigov: Síveryans'ka dumka, 2006. 444 p. [in Russian].
76. Tsubenko, V. L. *Terytorialnyi ustroi Ukrainskoho (Kharkivskoho) viiskovoho poselennia kavalerii 1817 – 1857 rr.* [Territorial organization of the Ukrainian (Kharkiv) military settlement of the cavalry 1817 – 1857]. *Intelihentsiia i vlada. Serii: Istoriiia*. 2006, vyp. 8, pp. 77–87. [in Ukrainian].
77. *Polozheniye o provedenii Desyatoy natsional'noy perepisi naseleniya. Vysochayshe utverzhden Ustav o provedenii desyatoy vsenarodnoy perepisi naseleniya (31918 – 5 iyunya 1857 g.)*. [Charter on the conduct of the Tenth National Census. The highest approved Charter on the conduct of the Tenth national census (31918 – June 5, 1857 g.)]. *PSZRI. Kolleksiya vtoraya*. 1858. Tom. XXXII. Chast'. 1. 1857. SPb: V Tip. Vtorogo Otdeleniya Sobstvennoy Ye.I.V. Kantselyarii, 1858. pp. 435–470. [in Russian].
78. *Polozheniye o novom ustroystve voyennogo poseleniya kavalerii (31920 g. - 4 iyunya 1857 g.)*. [Regulations on the new structure of the military settlement of the cavalry (31920 – June 4, 1857)]. *PSZRI. Sobraniye vtoroye*. 1858. Vol. XXXII. Part 1. 1857. SPb.: Tip. Vtorogo Otdeleniya Sobstvennoy Ye.I.V. Kantselyarii, 1858. pp. 471–493. [in Russian].
79. *Obozreniye izmeneniy v chislennom sostave pekhotnykh i kavaleriyskikh polkov pervykh chetyrekh pekhotnykh korpusov. Khronika Rossiyskoy imperatorskoy armii, sostavlennaya po Vysochayshemu poveleniyu*. [Review of changes in the strength of infantry and cavalry regiments of the first four infantry corps. Chronicle of the Russian Imperial Army, compiled according to the Highest command]. SPb.: *Voyennaya tipografiya*, 1852. Part. IV. pp. V – LX. [in Russian].
80. Dolbik-Vrobey, T. A., & Vorob'yeva O. D. *Statistika naseleniya i demograficheskaya statistika* [Population statistics and demographic statistics]. Moskva: KNORUS, 2018. 314 p. [in Russian].

81. Zablotskiy, A. P. Dvizheniye narodonaseleniya Rossii s 1838 po 1847 god. [The movement of the population of Russia from 1838 to 1847]. Sbornik statisticheskikh svedeniy o Rossii. 1851, vol. 1, pp. 59–89. [in Russian].
82. Vasil'yev, K. G., & Segal, A. Ye. Istoriya epidemiy v Rossii (Materialy i ocherki): pod red. prof. A. I. Metelkina. [History of epidemics in Russia (Materials and essays): ed. prof. A.I. Metelkin]. Moskva: Gos. izd. medits. lit., 1960. 397 p. [in Russian].
83. (Svyashchennik Slotvsov). Istoricheskoye i statisticheskoye obozreniye neurozhayev v Rossii. [Historical and statistical review of crop failures in Russia]. Sbornik statisticheskikh svedeniy o Rossii. 1858, vol. 3, pp. 465–502. [in Russian].

3. Features of development of education in Ukraine in the 50-80s of the twentieth century

Abstract

Many scientific works have been devoted to researching this problem. Issues of development of education in Ukraine in the 50-80's of the twentieth century. They were linked to the Communist Party's governing activities, and most often publications were devoted to national holidays. Today, interest in the development of education as an integral part of our society is increasing.

Education developed in specific conditions, being fully influenced by the Communist Party of the Soviet Union, having little space for internal initiative.

The school played a prominent role in the training of future personnel and ideological education.

The focus was on the formation of a typical Soviet system of school education, which was accompanied by ideological pressure of state authorities, leveling of national differences. At the same time, the state policy in the field of education of the studied period envisaged the restoration and development of a network of schools, elimination of illiteracy and inscriptions of the population, implementation of the Law on General Compulsory Training, which would increase the number of children covered by school education.

Since the late 1950s, three reforms have been carried out in the education. The reform of 1958 expected to transition to polytechnic education. In the 1960s, it was decided to move to compulsory eight-year education. In the 1970s, there was a transition to compulsory general secondary education in general education, but also in a vocational school. The 1978 Constitution legally approved the provisions on general secondary education. In 1984, a new reform of education was carried out, according to which the transition to study from six years was carried out, and secondary schools were transferred to an eleven -year term of study.

The greatest influence on the development of pedagogical theory and practice was made by the work of the world -famous teacher V.O. Sukhomlinsky. The folk pedagogy of the Ukrainian nation is an important source of wisdom of previous generations.

In the 60-80s of the twentieth century. The authorities pursued a policy of Russification of education and displacement of the Ukrainian language. In the 1970s and 1980s. The structure of education was traditional and had the following appearance: preschool institutions, general schools (boarding schools), which gave incomplete basic education (8 classes) and full (10 classes), vocational schools that carried out recruitment after 8 and 10 classes, technical schools, higher education institutions, universities and postgraduate education institutions. It was these stages of education that contributed to: • spreading the period of study to the entire life cycle; • ensure systematic, regular acquisition, restoration of knowledge and skills in which a person feels the need for a change in the surrounding reality; • learning contributed to the self -realization of each person.

Introduction

To some extent, the problem was touched by Soviet scientists in their writings in the second half of the 1950s and 1980s on the development of education and school. Monograph MS Gritsenko "Essays on School History in the Ukrainian SSR (1917-1965)", focuses on the positive and decisive influence on the education of Ukraine the creation of a single Soviet school system. Like all, the works were written on the basis of Marxist-Leninist methodology, in particular periodization, which was based on the history of the Communist Party. However, with the beginning of the "Khrushchev" period, there was a certain weakening of ideological pressure, the general tendency to overcome the cult of Stalin's personality, which to some extent positively influenced the Ukrainian pedagogical thought, which still remained part of the Soviet [1]. Thus, during the 1950s and 1960s, no generalizing work was created on the development of school education in Ukraine in the context of reforms.

Kolaska I.V. The monograph "Education in Soviet Ukraine" (1970) publicly reveals the policy of Russification in the field of Ukrainian education in Soviet times. When writing the work, the author, in addition to published Soviet sources, used, collected on occasion, unpublished materials, as well as his own observations [2].

Since the 90s of the twentieth century. And at the beginning of the XXI century. The Ukrainian historiopedagogical historiography is gradually reviving. At this time, works (articles, manuals, dissertations, etc.) of Ukrainian scientists appeared, where within the modern historical and pedagogical paradigm in the context of various problems, certain educational reforms, government educational documents, namely: development of the Ukrainian National School.

In the scientific work of Berezovskaya L.D. "Reforms of school education in Ukraine in the twentieth century: documents, materials and comments" reflects the organizational aspects and procedural and content components of reform of school education at different stages of its development in Ukraine in the twentieth century. in the context of socio-economic, socio-political, and especially-pedagogical reasons [3].

In the monograph L.V. Pyrozhenko "Reforming the content of general secondary education (mid 60's-early 80's)" outlined pedagogical prerequisites, causes, progress and consequences of reforming the content of domestic school education in 1966-1984 in context political and socio -cultural changes in society. The content of school education is analyzed on the basis of a large array of archival and published sources, curricula and programs [4].

In the scientific work Luzan P.G. "History of Pedagogy and Education in Ukraine" covers the main stages of formation and development of pedagogical thought and education of Ukraine from ancient times to the present [5]. Particular attention is paid to the staff, the coverage of the pedagogical heritage of the prominent domestic thinkers - philosophers, enlighteners, teachers.

Setting the task. Researchers' attention on the development of education in the 50-80's of the twentieth century, Russification of school education and an attempt to reform it remains relevant.

The purpose of scientific research is to try to analyze the main directions of development of education in Ukraine in the 50-80s of the twentieth century, the results of the reform of school and education in the 60-80s of the twentieth century.

3.1 Development of education in the 50-60s of the twentieth century

After the end of World War II, which caused a lot of losses, the first task in the field of education was to rebuild secondary schools in cities and areas affected by occupation and to study children across the country.

1946-1956 became not only a period of post-war reconstruction, but also the development and optimization of national economy and cultural construction, raising the educational level of the population, restoring the activity of the educational system of the republic, determining the main directions of its further development.

At this time, the key trend in state educational policy was to increase the care of the state over orphans. Particularly acute during this period was the problem of homelessness and homelessness. Therefore, it was decided to create a wide network of children's institutions to provide children with normal living conditions. They brought up the bulk of orphans who studied the state in elementary, seven-year and secondary schools. Thus, children under 14 years of age were accepted in the children's orphanages from the adventures, from the institutions of the mother and the child. The City Department of Public Education took care of employment of orphans after graduating from educational institutions [6].

The plans of the second five years have approved the transition from seven -year to general secondary education in major centers of the country [7, p. 305].

In 1945, a decree "On Improving the Propage of Teachers" was adopted to improve the work of pedagogical educational institutions, which planned a number of measures: a) to refuse short -term training of teachers from persons without secondary education; b) to open pedagogical schools, pedagogical institutes with a constant number of students in the first course; c) expand postgraduate studies at pedagogical institutes, introduce annual preparation for teaching activities; d) to seek help from the

local councils of workers 'deputies to strengthen the educational and material base of pedagogical institutes and improve students' service.

In Vinnitsa, this task was performed by a pedagogical school and a pedagogical institution. The school worked in the premises of the former teacher's seminary. At the school there were courses of retraining. In 1959, the Vinnytsia Teachers' Institute, which worked on the basis of the pedagogical, ceased its activities, and the students who studied here were transferred to the relevant courses of the Pedagogical Institute. Until 1955, three faculties were functioning in the educational institution: physical-mathematical, historical, philological and foreign languages. By 1958, the Vinnytsia Pedagogical Institute prepared more than 6.5 thousand teachers of different profiles at the stationary and correspondence departments. The Vinnytsia Regional Institute for Improving Teachers' Qualification was active [8, p. 211-213].

The issue of reconstruction of the school in the post-war period has become important to the entire Ukrainian population. The number of schools and students gradually increased.

In 1949, there was a transition to a general compulsory seven-year education [9].

In the 1950-1951 academic year, 30950 secondary schools were already operating in Ukraine, which studied 6615147 students. Compared to 1940-1941, the number of schools increased by 174 units [1, p. 188].

In the first postwar years, a great deal of work on organizing a school network was carried out in Ukraine: united schools with a small number of students, opened schools at orphanages, reorganized schools into seven-year and secondary, as evidenced by Table 1.1.

Table 1.1

Schools in the Ukrainian SSR in the 1950s.

Educational years	Number of schools	Including				Total students
		Initial	Seven years	Medium	others	
1950-51	31055	14776	12951	3223	105	6841906
1951-52	30693	13946	12582	4039	126	6795336
1952-53	30499	13404	12233	4725	137	6421896
1953-54	30249	12864	11958	5278	149	6206792
1954-55	30333	12824	11629	5722	158	5876005
1955-56	30063	12634	11274	5985	170	5524754
1956-57	30236	12822	10964	6284	166	5500000
1957-58	30798	12985	11002	6638	173	6200000

Source: Gritsenko MS Essays on the history of the school in the Ukrainian SSR (1917-1965). K. 1966. P. 191; Soviet school. 1957. №6. P.8

The planning and expanded networks of schools took into account the need to provide learning in the native language. At the same time, schools with Russian, Moldovan, Polish, Hungarian teaching were opened.

Table 1.2

Language of study in schools in 1953-1954 r.

Language language	Number of schools	Including			Total students
		Initial	Seven years	Medium	
Ukrainian	25192	11185	10316	3691	4460781
Russian	4027	1429	1305	1293	1414551
Moldavian	173	62	91	20	32590
Hungarian	98	35	59	4	16437
Polish	6	2	-	4	2203
Ukrainian and Russian	52	1	24	27	26791
Russian and Moldavian	3	-	1	2	1117
	29551	12714	11796	5041	5954470

Source: Gritsenko MS Essays on the history of the school in the Ukrainian SSR (1917-1965). K. 1966. P. 192.

As noted in Table 1.2 in the schools of the Ukrainian SSR in the first half of the 1950s. Teaching in Ukrainian prevails, and Russian has been taking second place.

On February 25, 1951, the Council of Ministers of the USSR adopted a resolution "On the work of dining rooms and buffets for students in schools of the Ukrainian SSR", which was tasked with expanding the material base of school nutrition. An important condition for the implementation of general compulsory learning is the organization of nutrition of children at school. But not all schools have completed this task, only 60% were equipped with a dining room, 87% - buffets. At the end of the fifth five years, food has improved.

In 1958-1959 The plan was implemented by 72% and 88%, and the number of canteens at the beginning of the 1960-1961 academic year was one third less than in the 1954-55 academic year [10, p. 379].

At the end of the fifth five years, free food for children in schools is spreading at the expense of the universities and collective farms. In 116 schools of Chernivtsi region, children were given free milk, rolls, cookies. In some schools of the republic, children were given hot breakfasts in the thermos. The collective farms were supplied with fresh fruits, vegetables, milk to the dining room and buffets.

After the order was adopted by the Ministry of Commerce, Education, Health and the Board of Ucoopspilka "On additional measures in further improvement of nutrition care for students of secondary schools" (1964), the situation began to improve.

According to this order in 1963-64 50% of urban students and 30% of rural school students were provided with hot food, and children of grades 1-4 in cities received free milk. In the next academic year, these indicators increased significantly.

Significant assistance to children, semi-orphans and children from large families, provided funds of the universal, which was replenished by the public, the students themselves through the collection of waste paper, metal, the sale of products of school educational and research areas, the funds for the seeds of trees, medicinal plants, etc.

These revenues gave the opportunity to increase assistance. Thus, in the Vinnytsia region in 1959-1960 Almost 20,000 students received assistance, and already in 1961-62. - 24980 [11].

With the adoption of the Central Committee of the CPSU and the Council of Ministers of the USSR of September 15, 1956 and the order of the Council of Ministers of October 13 of the same year began to create a network of boarding schools, schools and extended day groups [12, p. 8-14].

Children in these educational institutions were around the clock or throughout the day. In schools and groups of extended day, children were under the supervision of caregivers, with their help performed their homework, fed on time, adhered to the regime of the day.

1956-1957 In Ukraine, 50 boarding schools began to work, in which 10275 children lived and enrolled. Already in the next 1958 their number increased to 80, and in 1959 - to 90. Particular attention was paid to the quality of teaching staff.

The first boarding school was opened in Tulchin in 1956, and in 1958-59. There were already 5 for 1160 students [13, p. 382].

Table 1.3

Boarding schools of Vinnytsia region (1950-1960)

Years	City		rural	
	Number of schools	Number of students	Number of schools	Number of students
1950-1951	2	139	3	488
1960-1961	4	377	5	413

Source: development of education in Vinnytsia region. Local Studies. Statistical collection. Vinnitsa, 2010. P. 28-29.

From Table 1.3 it is noted that the number of rural boarding schools in Vinnytsia region in the 50-60's of the twentieth century. more than urban [14, p. 28-29].

Collective farms, parents, and the public participated in the creation of boarding schools. Accordingly, it also happened with groups of extended day. Some schools of the republic have completely switched to an extended day regime for all students. In 1961-62 About 3% of students went to schools and groups of extended day. The quality

of students' knowledge was much higher and was at least 50%. Although there were quite unfortunate moments when there were no rooms for children in schools.

Thanks to the systematic and persistent work of teachers, a thoughtful school network plan, organization of systematic transportation of students, rational placement of school boarding schools, assistance to the public in many areas of Ukraine, all children were covered by education.

During the thaw, accents in school education change.

In the project of the Central Committee of the CPSU "Directive of the Twentieth Congress of the CPSU under the sixth five -year plan of development of the USSR national economy for 1956-1960" - "Documents of great political importance and powerful power" - the main task was to carry out general secondary education in cities and rural areas through education of children and young people in secondary schools (decades) and secondary specialized educational institutions. The school was considered as a kind of "smithy of personnel" - the younger generation, teaching, parents, the public as a whole.

The main task for educational institutions was to prepare the younger generation for socially useful work, to educate him respect for the basic principles of socialist society. The Soviet School focused on the preparation of multifaceted graduates who would know the basics of science capable of systematic work, would participate in the production of the values necessary for society [14, p. 92].

Problems of reforming the content of school education were discussed at the Republican meeting of the heads of regional schools and directors of institutes of teachers' qualification of teachers on the results Persons, its negative impact on students' consciousness.

Educational reform in the Ukrainian SSR was carried out in the context of the union in the following areas: introduction of a total 7-year training; expansion of secondary and polytechnic education; raising the level of educational work; extension in schools of extended day groups; construction of schools; updating the content of education (review of curricula and textbooks) in accordance with the decision "On Overcoming the Cult of Person and its Consequences". Recorded and updated

textbooks on Ukrainian literature for students of grades 5 - 7 and 10, from the recent history and history of the USSR for the 10th grade, etc., came out of printing and updated. [14, p. 93].

On June 27-28, 1956, a Republican Scientific Conference was held, which raised the issue of polytechnic training of students.

On April 18, 1958, in his report at the XIII Congress of VLKSM M. Khrushchev, in his report, he emphasized the education of respect among students for physical labor and preparation for work in production. At the scientific and practical conference on industrial training it was noted that 55.1 % of schools in 44 specialties introduced industrial training. Over the next two years, industrial training was to be introduced in all schools of the USSR. Due to the insufficient provision of appropriate specialists, the unpreparedness of teachers, a decision was made to create in each area for one 8-year school for the experiment.

On December 24, 1958, the Law on Strengthening the Communication of the School with Life and the Further Development of the Public Education System in the USSR was issued. The law consisted of introduction and four sections: "On Secondary Education", "On Vocational Education", "On Secondary Special Education", "On Higher School". This document envisaged a structural restructuring of a comprehensive school, namely:

- transition to compulsory 8-year education for children aged 7 to 15-16;

- Structure of the main types of schools:

- a) schools of working and peasant youth (evening and correspondence secondary schools), where young people who work, on the basis of 8 classes, receive secondary education and improve their professional qualification for 3 years;

- b) secondary general labor polytechnic schools with industrial training (11-year: 8 classes + 3 years for obtaining full secondary education and vocational training in one of the sectors of the national economy);

- c) technical schools and other secondary specialized educational institutions, where general secondary and secondary special education is obtained on the basis of 8-year education [15].

Thus, the eight -year incomplete secondary work Polytechnic School has become a mandatory basis for secondary education. Increasing the duration of education in the first stage of secondary education for one year should contribute to the unloading of students, a more in -depth study of the basics of sciences, the wider general and polytechnic preparation of students. In the course of educational work, the school was obliged to acquaint students with various types of work, to help them consciously choose the future profession. Young people received full secondary education in the second stage of study. Secondary education could be obtained in three ways: evening (variables) secondary schools in working and rural youth (3 years); secondary general labor polytechnic schools with industrial training (3 years); technical schools. Secondary general labor polytechnic schools with industrial training should be established in cities and rural areas. The training program envisaged to combine general, professional and polytechnic education. At the same time, the ratio of theory and practice in industrial training and alternation of periods of study and labor should be established depending on the profile of special training of students and on local conditions and seasonality of agricultural work (in rural schools).

According to the curricula of the period of 1954–1959, the distribution of hours to study Ukrainian and literature and languages of national minorities in the USSR was carried out according to the same tendencies as hours for the study of the Russian language. There were characteristic changes in the distribution of hours in favor of objects of natural science, mathematical and labor systems. Accordingly, the number of hours for physics and chemistry has increased slightly. In addition, with the transition to eleven -year school, it was planned to increase the load from mathematics to 72, and physics up to 39.5 hours a week. At the same time, there was a tendency to reduce the time to study the philological subject system. In 1957-58. Almost all schools in Ukraine switched to new curricula, according to which the preparation of senior students for work at enterprises and collective farms was envisaged. Thus, in the curriculum of 1957-58. from which logic, psychology and calligraphy were removed (total 8 hours per week), work and practical classes, workshops on electrical engineering, agrochemistry, etc. (total 18 hours a week) appeared [4, p. 38].

The question of teaching language at school was special at this time. In 1938, a resolution "On Mandatory Learning of the Russian Language in the Union Republics of the USSR" was adopted.

In 1958, the provision on the study of the second language "at the request of parents" was adopted. Since no one canceled the 1938 resolution, according to these documents, the Russian language in Ukraine was mandatory, and Ukrainian - who wants.

Thus, knowledge of the Ukrainian language, in contrast to Russian, was not required. In the educational sector, this was found, first of all, in the infamous law of voluntary choice of languages, which was enshrined in the legislative acts of the USSR of December 24, 1958 and the USSR of April 17, 1959 in one of the articles of the Law "On Strengthening the School with Life and Life and Life Further development of the public education system in the Ukrainian SSR »stated that education in Ukrainian schools is carried out in the native language of students. The parents had to decide themselves to the school with what language of teaching to give their children. The continuation of this was the note of the Ministry of Education of the Republic to the Central Committee of the Communist Party and the Council of Ministers of the USSR of January 23, 1960 "On measures to improve the teaching of the Russian language in schools of the Ukrainian SSR".

In the late 1950s. In particular, in Vinnitsa their percentage was 49, Khmel'nitsky - 42.2, Zhytomyr - 36.5, Zaporozhye - 23.8, Lugansk - 5,2, Kadiivtsi - 3.8 respectively [16, p. 44].

The law stated that educational work in an eight-year school should be built on a combination of study of the basics of sciences, polytechnic education and labor education, wide involvement of students in their age of socially useful work. Therefore, the Council of Ministers of the USSR was to take measures to strengthen the material base of schools, to eliminate the multifaceted classes, to organize industrial training, to provide high school students for training places for vocational training and industrial practice.

On October 14-16, 1959, the Second Congress of Teachers of the Ukrainian SSR was held in Kyiv. In the speech of the Minister of Education of the USSR I. Bilodida it was noted that the Soviet school has achieved outstanding success in the upbringing and education of children and youth for more than 40 years of its work. There are 34,600 schools in the USSR, with more than 6 million students. The number of seven-year schools compared to the pre-revolutionary period increased by 105 times, and the average - 184 times. The report noted that a number of schools of the republic introduced industrial training as the most important form of polytechnization and preparation of students for work. About 508 thousand students were covered by industrial training. Most of the graduates of 1959, in addition to the certificate of maturity, received a certificate of their profession [17, p. 16].

More than 18,000 ten-graders have gained a tractor driver, 4,000 - a combiner, as well as drivers, locksmiths, lath.

According to the Minister, the production training of students has much expanded the educational opportunities of the school. In the production process, students work on different machines, have a business with new and latest mechanisms, are included in the life of the production team

According to the Law on the School in the Republic, it was planned to create schools for young people who work, without interruption from production, will be able to obtain secondary education.

In 1959, the implementation of the Public Education Act, on the transition to eight years of education, respectively, new curricula and programs were introduced. Although there are some problematic situations. Some students do not go to school. To ensure the implementation of general compulsory training, it is recommended to expand the grid of schools and groups of extended day, to organize for students who live at a distance of more than 25 km.

Accelerated since the late 1950s, the development of industrial production and some support for agriculture (the criteria for planning in agricultural production have been changed, as a result, instead of rigid regulation of the collective farms, the collective farms were given the task of handing over a certain amount of different

products and some freedom of action in the choice of the most favorable economic conditions) contributed to the improvement of the welfare of the general population. During this period, M. Khrushchev was initiated by a large -scale residential (from 1956 to 1963, more housing was built than in the previous almost 40 years) and industrial construction. The material status and equipment of schools, working conditions of teachers and conditions of life and training of students, especially rural (including collective farmers, were improved (including collective farmers received a person's certificate and the right to move freely around the country, increased wages, cards for basic food products, etc.) were canceled. As a result, at the turn of the 60's, the urban population was equal in terms of rural, and in the coming years began to prevail.

In general, in the USSR, the number of schools in the 1959/60 academic year was 1.704, where 519.428 children were educated. Most establishments were in cities (922 against 782). The villages were dominated by elementary (424 with a number of 14.800 people against 202 of 21.100 respectively) and eight years (245, where 32.500 people studied, 226 and 91.600 in cities, respectively). Cities were dominated by secondary schools (249 from 196.800 students against rural areas - 54 of 17.400 children), ten years (177 of 111.800 against 54 and 13.400, respectively). There were also 55 boarding schools with 1.800 children, 1 forest school with 100 persons, 2 schools for rural children with a contingent 313 people in cities, and 1 with 157 children in the village. There were 11 schools for mentally retarded children, 7 of them in cities (with 795 children) and 4 (395) in villages. That is, the city continued to play the role of the educational center. It was dominated by secondary and ten -year schools with the appropriate contingent of children. Compared to the previous-1958/59 school year, the number of boarding schools increased. By tracking dynamics for two school years, It can be noted as a whole about the increase in these types of educational institutions from 3.332 to 3.372, respectively. But the number of eight -year, medium and medium -sized ten -year -olds decreased from 630 to 626, from 472 to 471 and from 345 to 303, respectively. However, 412 schools in the region did not comply with the Law on General Compulsory Learning: not covered by 5.480 children (which was 1.05% of the

total number of students). Including among students of grades 1 - 4 - 509 children, 5 - 7 - 1.430 and 1.074, respectively, who have never been attended at school. 376 mentally retarded children, 81 deaf, 33 blind and 601 patients were not covered by this total number; 2.467 - who graduated from grades 7 but did not have full 15 years and did not study in grades 8-10. In total, 1.924 people did not attend school without good reason. The admission plan to 8 classes of the region was completed by only 22% (against almost 25%, which regulated the national economic plan of development of the educational sphere). Including in cities - 19.7% and villages - 2% [16, p. 45].

On October 22, 1962, under No. 153, the Ministry of Education of the USSR issued an order "On deficiencies in the knowledge of school graduates, discovered on the entrance examinations to the VN." The document referred to the need to make efforts to teachers of general education and teachers of higher education institutions to increase the level of knowledge through the organization and holding of seminars, Olympiads in various subjects, the exchange of advanced pedagogical experience. Particularly emphasized on the fight against oco -copies and liberalism in the process of evaluating students and students. For example, the level of mathematics knowledge was below average and 55% of students are unsatisfactory. However, according to the picture that the education departments were submitted to the public, these interests were much higher. Actually, the officials themselves gave rise to the processes of misinformation and lies. The reasons for the low quality of students' knowledge were: the formal nature of the test and evaluation activity of teachers; inability to apply theoretical knowledge in practice (for example, the formula in the process of solving exercises or task); Low level of development of logical and mathematical thinking of students, inability prove the statement and one's own opinion; confusion in the concepts of "definition", "sign", "theorem", "axiom"; use of non -rational ways of calculation; Weakness of knowledge of the properties of functions and their graphs.

During several academic years, after the adoption of the Law on Strengthening the Communication of the School with Life and the Further Development of the Public Education System in the Ukrainian SSR ", some changes have taken place in the educational process of the Ukrainian SSR schools. The network of educational

institutions and the number of students in them have increased. In the countryside, elementary and eight -year schools prevailed, and ten -year and secondary in cities. Along with these institutions, there were others - boarding schools. However, despite peacetime, not all children visited establishments. There were both objective and subjective reasons. The educational and material base of schools was gradually improved, which was found in the construction of establishments, rooms, workshops, allocation of land and more. The success of the students remained at an average level. It was the best of the school elementary school students. In the educational work remained a formal approach, the success was low. In the late 50's - early 60's. Legislative acts in general declared equality in the study of native and Russian languages [16, p. 47].

In the Ukrainian SSR, this problem was coordinated in such a way that the loss of the position of indigenous peoples was traced, and the Russian language was more widely used. This was discussed in I. Dzuba "Internationalism or Russification?" The author noted that in 1963 in the USSR printing in Russian was 75 % of names and 81.4 % of the circulation, and the languages of all non -Russian peoples - only 25 % and 18.6 % of the circulation. The step to the situation was the step of the participants of the All -Ukrainian Scientific Conference on Ukrainian Language in 1963 in Kyiv. They proposed to proclaim Ukrainian in state and public institutions. But the authorities remained away [18, p. 16].

Following the change of the party and state leadership of the Soviet Union in October 1964, the reformation processes in education that took place during the time of M. Khrushchev, for some time they stopped, but subsequently the reform of education was continued. Since 1964, a 2-year period of study in high school was established on the basis of 8th grade instead of 3-year. The school became 10-year-old. The reasons for leaving the 11-year school were: the first demographic crisis (the school was graduated from the children of war, and therefore to keep young people extra year at school was unjustified); A small percentage of 11th grade graduates went into production by a specialty; poor material and technical base of industrial training; In many schools, production training was not organically related to the study of the

basics of sciences. In this connection, in 1966, partial changes were made to the Law on School, which canceled compulsory professional training in secondary schools that did not justify themselves (only a small percentage [5, p. 176]).

Since 1966, the widespread introduction of compulsory ten-year education began, and it has been introduced not only in the secondary school, but also in the system of secondary specialized education and vocational training. In November 1966, a resolution was issued at which schools introduced optional courses in individual subjects, starting from the 7th grade, which were selected at the request of students, determined the order of organization of differentiated learning-the creation of a certain number of schools and classes with in-depth study in 9-10 The classes of individual subjects, the teaching of systematic courses from the fourth grade, not from the fifth, was established.

For the 50-60s of the twentieth century. It is characterized by an increase in the prestige of education. At this time, there was a competition when joining higher education. Students are of great interest in the study of physics, chemistry, biology, since the professions of engineer, mechanic and technologist were then necessary for society. It was the time of starting space and rapid development of the chemical industry and mechanical engineering. The country was covered by large industrial construction, which required specialists of these professions for new factories and factories [19].

In 1969, the USSR Ministry of Education was established, which took over a number of functions of the Ministry of Education of the USSR, which significantly limited the former autonomous existence of the latter, which helped to strengthen the centralization of the management of the education system.

A prominent feature of the 60-70's was the politicization of the educational process. In addition, since 1968, military training in higher education institutions has been restored, and since 1972 it has become compulsory in all secondary schools of the republic [20].

Significant in the 1960s was the introduction of a study system of study at the Ukrainian school. During these years, many enthusiasts, good organizers, true masters

of pedagogical business are distinguished among teachers of schools and employees of public education. Also at this time new teaching methods (problematic, programmable learning, research method, etc.) are widely introduced in the secondary school.

3.2 Pedagogical activity of V.O. Sukhomlinsky (1918-1970)

On the 60-70's of the twentieth century. The activity of the prominent Ukrainian teacher Vasily Sukhomlinsky is the activity of the prominent Ukrainian teacher.

The name and work of the prominent teacher V.O. Sukhomlinsky is well known to a wide range of readers. Each of them is attracted to the wide and colorful literary and pedagogical heritage of the teacher-innovator and a vivid publicist. His theoretical conclusions, research, personal experience with children, literary heritage is an invaluable contribution to domestic pedagogical science.

Born V.O. Sukhomlinsky in the village. Vasylivka of Kirovograd region in a peasant family. In 1934 he graduated from preparatory courses at the Pedagogical Institute, and next year began his long, pedagogical path. In 1938 he graduated from the Poltava Pedagogical Institute. During the Second World War, he was a political company in the army. After a serious injury in 1942 and treatment in the hospital, he returned to pedagogical work. After the release of Kirovograd region from German invaders, he moves and works as a head of the district. From 1948 until the end of his life, he held the position of director of Pavlivsk Secondary School. It should be noted that pedagogical views Sukhomlinsky was formed during the painstaking teaching work [10, p. 386].

Sincere love for children and true pedagogical culture for V. Sukhomlinsky concept are inseparable. He repeatedly wrote that the most important in his life was love for children. V. Sukhomlinsky transformed, developed and used the ideas of domestic and foreign educators. With his works "Education of collectiveism at schools", "Pedagogical collective of the middle school", "Spiritual world of schoolboy", "One hundred tips of the teacher", "Pavlskaya secondary school", "I give the children", "Birth of a citizen", "Methodology of education" Vasyly Oleksandrovich discovered those universal problems and contradictions of the relationship between the

individual and society, which is the driving force of their development, and proposed the humanistic method of formation of the relationship of the child in the school years. An important principle of existence of relationships between social and personal V.O. Sukhomlinsky considered humanization at social, state levels as the essence of pedagogy, its principle, as the purpose of formation of relationships, as a basic component of the content and other learning tools as a quality of upbringing. V.O. Sukhomlinsky's views were based on the humanism of human and team relationships. Unity, which is constantly evolving and improving. The harmony of relationships between person and society can create a "spiritual community" between people in society. There is no, according to V.O. Sukhomlinsky, a special "science of love", is the science of humanity, and the one who has mastered this alphabet, prepared for noble spiritual-psychological and moral and ethical relations. He regarded the true humanity of pedagogy as preserving joy, happiness to which he has the right Every child, and true humane education - as a person in which a person feels not only a pet, but responsible for the fate of other people, for the life of the team.

Everyone should be happy, and in this it should be helped by the school. Mastering the curriculum should not be limited, to exhaust the spiritual life of the school and its pupils. In order to form a culture of desires, he believed, V.O. Sukhomlinsky, teach the students of the alphabet of moral culture [10, p. 388]. The teacher considered the school a holy place of humanity, good and truth, a place where attention should be dominated by human dignity, mutual trust. According to V.O. Sukhomlinsky, the school should educate a person who is able to appreciate his own honor and dignity, is able to control his behavior, subjugate personal interests to the public, forming them on the basis of the desire for the common good. He saw an extremely important educational problem in "continuously develop self -esteem in a person."

An important place in the developed V.O. Sukhomlinsky pedagogical theory belongs to the thoughts of a person and his affirmation in the role of the highest social value, about the need to exercise his power over the child so as not to break, not to personally personally Her spiritual forces, to assert her sense of dignity, to form the

ability of the child to appreciate a person, to be irreconcilable, intolerant even to the very thought that a person can cause disaster, offend, humiliate it. According to the humanist teacher, the person who respect himself with respect, treats other people, the team, and society. Without this ability, the freedom of personality, the awareness of the harmony of rights and obligation, personal happiness and work in the name of the benefits of other people are impossible.

Humanistic relationships that should determine the relationship of person and team, V.O. Sukhomlinsky also considered the structure of the human worldview, in which the humanistic component should be obligatory (it is necessary to take care of others without calculation for praise or reward, Creating good for people should become a habit, the norm of behavior, to turn into a natural habit); with the disclosure, affirmation of the forces and creative abilities of man, with the awakening of his individual uniqueness, creative identity and independence; With the knowledge of the happiness of the fullness of their spiritual life, with the need to meet the various needs of the individual, with the education of children of moral culture, in particular, such humanistic qualities, such as: love, respect, reasonable demanding, mercy, sociability, goodness, feeling of involvement.

V.O. Sukhomlinsky emphasized the wisdom of the power of the mentors of children, the ability to cherish children's trust, to understand the defenselessness of the child. Good feelings, emotional culture of the person are the core of humanity. And humanity is formed from the most unimpred things: from faith in man, in a good beginning in it, from the creation of good relationships that develop, first of all, in work for the benefit of people. Relationships are reproduced in the minds of people, in their activities, in actions such as help, complicity, cooperation. Speaking to teachers, he wrote: "Whatever the facets of human will and mind, heart and wisdom have not opened in your soul before the child - approval, praise, admiration, anger, indignation, reprimanded (yes, these feelings are also entitled to these feelings Not an angel)-any of these faces should open against the background of the main-respect for human dignity, the rise of man, because man is the highest value. "

Full education of relationships, according to V.O. Sukhomlinsky, is possible when the child perceives good and is brought up good when the principle of protecting a child's heart from pain, from suffering, when the highest democratic value is considered pride, inviolability, her personal look at everything. This attitude towards the child Vasily Alexandrovich called the teacher's happiness. He was one of the first domestic educators who studied the relationship between personal and social, promoted the system of education in the team - the main social environment in which needs are brought up, The makings are revealed, the abilities of the individual are formed, but at the same time, his personality remains. He came to the conclusion that in the school team, with his multifaceted relationships, thanks to the joint activity of its members, comprehensive development of personality is ensured. The starting positions in the scientific work of the teacher are the provisions of the team on the ability of the team to influence the personality and ability of the personality to be educated under the influence of the team. He acts as an educational community only when there is a harmony of the spiritual life of personalities, when the team is based on the richness of the needs of society and child. V.O. Sukhomlinsky wrote: "Formation of educational influence of the collective on the person depends on what and how the team lives. A necessary condition for the positive influence of the team on the personality is the emotional wealth of the life of the team." The scientist-teacher defines the diversity of relations between the pupil and the collective: ideological-public, moral and ethical, intellectual, labor, aesthetic, spiritual and psychological, etc. Sukhomlinsky brilliantly combined his interpretation of the education of V.O. Sukhomlinsky with the revelation of the very essence of the relationship, with the formation of the spiritual need of a person in a person who awakens only when the person is able to experience interest in the spiritual world of another person. Relations that provide for the harmony of the spiritual life of each individual also ensure the development of the team. It is the relationships in which the person is in, giving him the highest good - the ability to cherish first by a person, a collective, then - a moral principle. Many of the most valuable observations, generalizations and conclusions are a slender didactic system used by him in Pavli High School. This system is based on the progressive achievements of world and domestic

pedagogical thought, in particular on the creative development of didactic provisions of such educators as: Ya.A. Komsky, K.D. Ushinsky, P.P. Blonsky, S.T. Shacki. The following: building the educational process on the basis of ethnicization and socialization of the child's life; integration of the content of education with the reliance of local history; orientation of the educational process on the development of students' thinking; democratization and humanization of relationships between teacher and students; recognition of the research function as a decisive teacher in the professional activity of the teacher. V.O. Sukhomlinsky's didactic views and practice were characterized by the unity of the processes of education and teaching of children. He wrote that the quality of lessons depends on the methods of education and the relationships that are established between teachers and students. V.O. Sukhomlinsky develops the criteria of quality lessons, to which he refers to the teacher's ability to determine the purpose of the lesson and to successfully implement it; productive educational work in the lesson of all children through an individual approach; ensuring the unity of education and upbringing; rational testing of students' knowledge; establishing feedback while teaching new material; development and deepening of students' knowledge in the process of studying new material; assimilation of so-called nodal knowledge by students; conducting wide vocabulary; Application of rational homework technique. V.O. Sukhomlinsky attached great importance to the development of students with a conscious attitude to learning, to mastering knowledge as the most important vital need. In his opinion, all pedagogical searches turn into nothing when the student does not want to learn when he has no confidence in his abilities, belief in the possibility of overcoming difficulties. But the desire comes only if you succeed. The teacher was very important to keep the pedagogical process at the level of reasonably calculated stress, so that it is not maximum, which leads to overstrain of children's forces, soaking, exhaustion of the nervous system. The child's mental strength is not a "bottomless well". It is necessary to take from this well, in his opinion, very carefully, and most importantly, it is necessary to constantly replenish the "source" of the nerve energy of the child. At the same time, according to the prominent teacher, it is not a successful and reasonable organization of educational

activity, in which the process of acquiring knowledge is too relieved and the student does not work fully. "There is a difficult thing in the life of the school collective that can be called a soul equilibrium," he wrote V.O. Sukhomlinsky. - In this concept I put the following content: a sense of fullness of life, the clarity of thought. " Mental development, V.O. Sukhomlinsky believed, would be impossible without its special orientation and development of the mental forces and abilities of children. The prominent teacher recommended that the students teach the student the ability to analyze their thoughts, as well as to study the student's thinking activity in order to properly manage it. It is important to keep in mind that the development of students' thinking is gradually, from visual-magic (at preschool age) to figurative-speech (in the younger) and to the conceptual, theoretical-in middle and older school age. Learning methods, according to V.O. Sukhomlinsky, should be varied and applied depending on the specific conditions of a class, lesson, subject, condition of a certain children's collective, etc. When picking up methods, V.O. Sukhomlinsky protected the child from "careless", and sometimes "barbaric" touches, forbade force methods, demanded careful "touch" and "wise power of the teacher over the child and the team" in order to be constantly in a state of self -knowledge , self -affirmation, self -education. V.O. Sukhomlinsky did not defend the universal methods, was a supporter of various pedagogical influences on the mind, feelings, behavior, but priority was given to the word and strongly fought with those theorists who, as in the method, saw "one -sided education" and proved and proved in the method. that the education of the "most weakest and most vulnerable place" of the school is that without verbal education, it is impossible to establish, the subtlety of the inner human world, the nobility of relations, moral and emotional relations; that the word awakens the child's feelings - understanding, experiencing what is nearby - a person with his joys and sadness, interests and needs. V.O. Sukhomlinsky also insisted on the need for harmony of the environment and words. The word is the finest tool tool. The educational power of the word - in the position, from the perspective of the caregiver, in his attitude to people, to the world. The word stimulates self -education because it awakens inner spiritual forces, helps the child see something far higher and larger than the everyday world of

personal life: the Fatherland, the people, social and personal relationships. At the same time, V.O. Sukhomlinsky warned against the pain, depreciation of words. The problem of punishment at V.O. Sukhomlinsky's school had his views. Initially, he acknowledged the feasibility of punishment, was convinced that in some cases they could be an effective method of educational influence, and in recent years of his activity he resolutely defended the following thesis: "education is incompatible with the punishment of students." V.O. Sukhomlinsky strongly rejected the provision that punishment is an objectively necessary means of education. He argued that the fear of punishment psychologically suppresses the student, removes the caregiver from the pupil. In most cases, insincerity, angry, heartlessness, "moral thickness" are brought up in most cases. At the same time, V.O. Sukhomlinsky was well aware that such means of influencing pupils, such as remarks, reprimand, condemnation, reduction of assessment for behavior, is not yet possible to refuse. However, it is not only possible, but it is also necessary to raise the educational process both at school and in a family where the need will disappear, the need for punishment. Among the methods of formation of relationships used by the teacher at the Pavli school were: self -education, discussing the general painful problems of the team at meetings, creating an emotional state , than a flaw, admiration for man, surprise before his moral beauty and grandeur; exercises to increase the level of harassment, perform the activity of public importance, giving the right of choice, opportunity to decide how to act; Emotional evaluation of the child's actions by other children, assessment of the development of relationships in the team, assessment of the moral health of the team, indirect assessment, self -esteem, setting to the violators of the discipline instead of a difficult task, atonement of guilt and many others. One of the characteristic features of the multifaceted pedagogy of humanism is the relationship of V.O. Sukhomlinsky is that they are given deeply motivated, Proven with their own long -term practical experience of the form of education of students (conversations about citizenship, conversations on human studies, duties, personal communication of children with people, which is the ideal of citizenship, individual spiritual activity, educational activity of students, thematic reading, traveling to the world cultures, a school of joyful surprise, ethical

conversations, lessons of education of honesty, travel to sources of thought, to sources of beauty, participation in the life of labor collectives, mutual exchange of spiritual wealth, parenting university, correspondence of children with peers, friendship with peers and adults, evenings of books Scientific and subject circles, "School under the blue sky"; V.O. Sukhomlinsky considered it very important, to diversify organizational forms and to ensure the student's communication with society, the development of his multifaceted needs and interests. At the present stage of spiritual revival, Vasyl Sukhomlinsky's pedagogical heritage becomes especially relevant, since it contributes to the solution of such pedagogical tasks as the formation of national dignity, the raising of a person who affirms a conscious civic position. Education and upbringing of children of 6 years of age in 1951 he began training six-year-old first-graders. The idea of earlier education of children was constantly accompanied by pedagogical search for scientists. On the territory of the former USSR, a long -term experiment on six -year training was deployed in Pavlisha. The scientist called his experiment the preparation of children for systematic learning. However, even a short analysis of the School of Joy suggests that it was a holistic system of teaching children of six years of age. At the same time, the teacher took into account such features of children's thinking as imagery, plasticity, emotional excitability of thought. It was they who relied on the scientist when he conducted lessons of "living thought" with his children. V.O. Sukhomlinsky uses nature as a wide means of general development of the child. The main task of such lessons among nature was the development of children's ability to color and spatial sensations. The teacher is not easy He taught children to observe, but also prompted to notice in the usual - unusual, to feel and emotionally experience the range of different colors and shades. V.O. Sukhomlinsky was deeply convinced that fairy tales have strong educational influences on the personality of a six -year -old student. In those years, a children's fairy tale room was equipped at the Pavli school. It was unusual not only in the interior, but also for the content of children in it. Gradually, in the process of lessons among nature and in the fairy tale room, the positive experience of children accumulated, which prompted students to make fairy tales themselves. In general, this work in Pavlysh continued until the 7th grade (senior

students made at least two tales annually). The Memorial-Pedagogical Museum of V.O. Sukhomlinsky now stores 70 volumes of children's fairy tales. The position and experience of the scientist in this aspect is now used in many schools in Ukraine and abroad. In principle, the scientist and the method of teaching literacy, using figurative comparisons of nature. Nowadays, this method in the technology of the educational process is called additive. Gradually, V.O. Sukhomlinsky brought children to the essence of human relationships. Significantly, all six -year -old students mastered the ability to read, had sufficient vocabulary and creative personal expression.

V.O. Sukhomlinsky was very fond of Ukrainian nature with its inexhaustible sources of human education. He wrote that in the world there is not only necessary, useful, but also beautiful. Since a man became a man, from the moment when she looked at the flower petals and evening star, she began to look at herself. The person realized the beauty. Beauty exists regardless of our consciousness and will, but it opens by a person living in her soul. The world that surrounds man is, first and foremost, a world of nature with boundless richness of phenomena, with inexhaustible beauty. Based on the understanding of the beautiful as a natural beginning that exists independently of man, but reflected by his knowledge, VA Sukhomlinsky assures that the system of aesthetic education should be in the spotlight of the school and family. A talented teacher saw his ideal of aesthetic education that every child, seeing the beautiful, She stopped in amazement, made him a part of her life. Knowledge of the beautiful, the experience of joy of creativity enrich man, multiply his spiritual forces, develop worldview qualities. VA Sukhomlinsky shared the opinion that the success of education is largely determined by the development of the emotional and sensual sphere.

Equally important in the aesthetic education of V.O. Sukhomlinsky gave painting and music. Art, opening his eyes to the native nature, as if adjusting the strings of the soul to the wave that awakens the feeling of beautiful and good. Both in the living, trembling word of the mother tongue, and in the musical melody, the child's beauty of the outside world opens. The scientist proved the role of music, which reveals human grandeur and dignity to people. In a moment of enjoyment of music, the child

feels that she is really a person. Attaching children to the beautiful world, V.O. Sukhomlinsky has always used a number of psychological moments and pedagogical commandments. First of all, education should be based on positive emotions. Where the slightest coercion of the child's soul begins, there can be no language about aesthetic education. A crying baby or discharged by something schoolboy does not accept anything, even the three times the beautiful, which will be surrounded and offered. It can only be perceived and be beautiful when the child is emotionally prepared for this with a fading of the heart, with a heart of the soul awaits meeting him. The world of beautiful for the child begins in the family. "The subtlety of a person's feeling, emotional sensitivity, vulnerability, responsiveness, empathy, penetration into the spiritual world of another person - all this is comprehended, first of all, in the family." For a child, the most expensive, close, beautiful person is to have. Mother is not only warm, comfort, attention. It is a world of sun, love, good, grace, the whole world in the hands of the mother. And on what he, this world, depends on what a person grows. In the absence of maternal attention, the development of the child is always delayed - mentally, physically, intellectually, emotionally. Some psychiatrists think that a few months of deprivation of maternal The impact is enough in order for the child's psyche to change, which can no longer be completely eliminated in the future. For V.O. Sukhomlinsky, the cult of the mother is the result of serious reflections on the need to communicate generations, the transfer of spiritual culture. V.O. Sukhomlinsky noted that the teaching profession is human science that does not stop, it is the penetration into the complex spiritual world of man. The most important thing is to constantly open a new one in a person, to be surprised by a new one, to see a person in the process of its formation is one of those roots that feed on the vocation for pedagogical work. The teacher was firmly convinced that this root is laid in a person as a child and adolescence, laid in both family and school. He is laid by the care of the elders - father, mother, teacher - who raise a child in the spirit of love for people, respect for man. ” This is how the pedagogical talent of V.A. Sukhomlinsky himself was formed, the source of which is the love of children, a deep belief in the possibility of raising each child so that it was not necessary to correct the mistakes made in early

childhood. Tolerance for children's weaknesses, understanding of the subtle motifs and causes of children's pranks, responsiveness, care for the child - all this wisdom V.O. Sukhomlinsky brought out from his own childhood. What a person grows up, V.O. Sukhomlinsky rightly pointed out, is largely determined by those who held the baby on his knees, led her hand, sang songs and told tales.

In the work "Problems of education of a well -developed personality" V.O. Sukhomlinsky wrote that labor and only work - the basis of comprehensive development of personality. There can be no discussion of comprehensive development, if a person has not known the joy of work. The merit of the scientist is to develop the principles of labor education, namely: unity of labor education and general development of personality - moral, intellectual, aesthetic, physical; disclosure and development of individuality in work; early inclusion in productive work; variety of types of work; constancy, continuity of labor; elements of productive work of adults in children's work; creative nature of work, combination of efforts of reason and hands; continuity of content of work activity; holistic nature of productive labor; intensity of work activity; unity of work and multifaceted spiritual life. In the process of organizing productive work, the pedagogical team took into account the peculiarities of objective (content of work, its nature and goals of preparation, time of performance of work tasks) and subjective (level of students' awareness of the need for participation in work activity, corresponding emotional mood) factors. Given the peculiarities of these factors, the school sought that the tasks were combined with the inclusion in the full cycle of agricultural work (collectively or small group), so that each student was working for 4-6 hours, and work processes were carried out under the guidance of teachers, best specialists or collective farmers. The central in the pedagogical system of V.O. Sukhomlinsky is the idea of a harmoniously developed personality. In his future doctoral dissertation, a scientist called "Problems of education of a well - developed personality" revealed the components of comprehensive development of the student's personality during his study. In the traditional approach to the components of comprehensive development, the scientist, at the same time, outlines his own understanding of the content of education and ways of its implementation. In the

development of personality of paramount importance, he gave mental upbringing. The ideal of the school is that no one -uneducated person in life. Neviglas are dangerous for society, regardless of whether they are educated or not. Neviglas cannot be happy and causes misfortune to others. The one who came out of the walls of the school may not know something, but he must be a smart person. Mental education, according to V.O. Sukhomlinsky, is uneven with the acquired knowledge: "The whole point is how the life of knowledge in complex and multifaceted human activity occurs." The teacher saw an important task of the school in the formation of sustainable beliefs of the pupils. Knowledge becomes belief when these beliefs live in school - in the relationship between pupils and educators, in their actions, aspirations, joys and annoyances. Moral development, the teacher wrote, is A difficult life of beliefs - their birth, development, strengthening, expression in actions.

According to V.O. Sukhomlinsky, it is important in the development of a child's personality. Of particular importance, in this regard, it attached the unity of labor culture and general development - moral, mental, aesthetic, physical; disclosure, identification and development of individuality in work, high moral nature of work, its socially useful orientation. The teacher considered it necessary to widely involve children and young people in various types of productive work. Naturally, work education begins at the school desk, as training is the hardest work for the student. In general, revealing the peculiarities of the formation of a well -developed personality, the scientist reveals the following pedagogical pattern: there are tens, hundreds, thousands of dependencies and conditioning between the educational influences, and the effectiveness of education is determined by those that these dependencies and conditionality in practice. Among the ways and means of forming a well -developed personality at school, the teacher distinguished his education, native nature, work, word, traditions, experimentation, rich spiritual life of pupils. According to the scientist, the school becomes the "cradle of the people", if it is dominated by the cult of mother, homeland, man, cult of word. It is under these conditions that the formation of a young citizen is possible.

V.O. Sukhomlinsky was the first in the domestic pedagogy of the 1950s to organize the pedagogical enlightenment of parents (ethnic foundations of family education). He believed that parents should study for as many years at the parent school as children. In general, in the pedagogical system of V.O. Sukhomlinsky a certain system of family-school education was established, according to which parents should be active assistants of teachers. This was facilitated not only by parents' teaching, but also by joint holidays and traditions, a variety of socially useful activities. In "parental pedagogy", a scientist, in a new way, comprehends the interconnections of family and school. Based on folk fellows, legends, stories, the scientist reveals the best acquisitions of ethnic principles of education. According to V.O. Sukhomlinsky, every nation produces its system of ethnic values, which most fully reflects its mentality, peculiarities of national consciousness. These values people reproduce and develop through language, literature, art, folklore, industrial relations, life, as well as through customs and traditions. In the work "How to bring up a real person" V.O. Sukhomlinsky advises expectant mothers and parents to study the history of their people, to develop a respectful attitude towards loved ones, because the saints, in his belief, are words: people, mother, father, son. In his writings, the scientist confirms his belief and gives specific advice on the preparation of young people for family life. The ideas of becoming a educator in the Pavlivsk Secondary School V.O. Sukhomlinsky reveals the foundations of the pedagogical profession. At the same time, it shows the peculiarities of the formation of the team he managed. Naturally, the most important in pedagogical activity, in his opinion, is love and respect for children. Undoubtedly, Vasily Alexandrovich himself was a talented teacher, because, except for biology, chemistry and physics in the upper classes, he could conduct any lesson (and conducted). Of course, he, first of all, was constantly enriched with knowledge. His library included not only professional, but also sociological, psychological, pedagogical literature. Little is the fact that when the literature teachers and class leaders refused to write creative works, he put 20 (as he seemed to him, the best) of his own works. Naturally, the psychological seminar was a significant factor in the mastery of Pavli teachers. The seminar classes did not just discuss certain topics, but necessarily

discussed the problems of unsuccessful children, the actions of individual students. In the book "One Hundred Tips to the Teacher", the scientist prompted teachers to analyze, taking into account the psychological and individual characteristics of each student, reveals the technology of their own creativity (advice to young teacher-teachers, educators, educators, educators, educators, educators, educators, educators, creative personalities, what qualities it is necessary to have a teacher-educator, how to learn how to nurture yourself, your own self-discipline and to fight laziness). In order to identify his own creativity, the teacher, it is necessary to have a deeply possession of the actual material that he "brings" to the child soul (he must know 2-3 orders of magnitude more than it is provided by the curriculum). V.O. Sukhomlinsky considered it necessary to know the teacher of psychology of a child's personality. To this end, during his activity at the Pavli School, a "psychological seminar for teachers" was successfully functioned. In "Talking to the Young Director of the School," he argued that the manager should be constantly improved in order to be erudite, to possess the art of teaching and learning. In general, VO Sukhomlinsky himself read all the training courses in the upper classes (except mathematics and biology). It is quite interesting to analyze the lessons of young teachers, which he performed. V.O. Sukhomlinsky had a great power of will, was distinguished by moderation, extraordinary modesty, performance (he got up daily at four o'clock in the morning and wrote his own works until the eighth), humanity. The teacher also spoke in several foreign languages. Scientists believe that in many areas of pedagogical science, he ahead of his time [5, p. 200].

V.O. Sukhomlinsky left many wise advice that are relevant today: "You live among people. Do not forget that your every act, every desire affects the people around you. Know that there is a boundary between what you want and what you can. Check your actions ... Do everything to the people around you are good. " "You use the benefits created by other people. People give you the happiness of childhood. They pay them good for it. " "All the benefits and joys of life are created by labor. Without difficulty it is impossible to live honestly ... idle, a darmoid is a drone that devours honey of hard -working bees. Learning is your first work. Going to school, you go to

work. " "Be good and responsive to people. Help weak and defenseless, ... a friend in trouble. Do not hurt people. Respect and Honor your mother and father, they gave you life, they raise you, they want you to become an honest citizen, a man with a kind heart and a pure soul. " "Don't be indifferent to evil. Fight against evil, deception, injustice. Be irradible to someone who wants to live at the expense of other people, causes distress to other people, steals society. " These and other wise moral sentiments are written simply, convincingly, they are easily remembered, encourage reflection, virtue [10, p. 389].

3.3 Development of school education in the 70's-early 80's of the twentieth century

In 1970, a new charter of the secondary school was adopted. On the basis of this state document, graduates of eight-year schools could continue their education in general secondary (ten-year) schools (9-10 grades), secondary specialized educational institutions-technical schools (3-4 years of study), as well as in schools of workers and peasant youth (9 -11 classes). All these educational institutions provided full secondary education and maturity certificate. It was believed that this would solve the problem of obtaining full secondary education in combination with the professional training of young people for work [5, p. 176].

Resolution of June 20, 1972 "On the completion of the transition to general secondary education of youth and the further development of a comprehensive school", as well as put into operation on January 1, 1974 "Fundamentals of the legislation of the USSR and Union Republics on Public Education" set the school to give young people. Deep and strong knowledge of the basics of sciences and proclaimed the country's transition to compulsory general secondary education. The public education was set to complete the implementation by 1975, the transition to new curricula and programs. The school focused on creating a study system of training, efficient use of TSN, cinema, radio and television. In order to stimulate the constant growth of qualification, pedagogical skills and creative initiative of teaching staff, teachers'

certification was introduced. By The results of the teachers who worked most successfully were awarded the title "Senior Teacher", "Methodist Teacher".

In the 70's and early 80's, a number of documents were adopted aimed at raising the work of the public education system. But they did not work as a Soviet school, being stagnant, and more and more in crisis.

The school had to develop the cognitive activity of students, the independence of their thinking, to awaken in them the desire for knowledge, to form the skills of independent educational work, self -education for the attachment of science, technology and culture. The students had to realize the truth, which formally consisted of the situation and prestige of man in the USSR were determined by its honest work and high ideological and moral face. The Constitution of the Ukrainian Soviet Socialist states that all citizens have the right to education, which is ensured by all types of education, the implementation of compulsory secondary education of young people.

The Charter of the Secondary Secondary School noted that the secondary school in the USSR is the only, labor and polytechnic school. It is also noted that the main task of the secondary school is to provide students with general secondary education, which meets the modern requirements of social and scientific and technological progress and to form a Marxist-Leninist worldview in the younger generation, to cultivate high feelings of Soviet patriotism in students. with. 509].

The resolution of the Central Committee of the CPSU and the Council of Ministers "On further improvement of education, education of students of secondary schools and preparation for work" of December 22, 1977 stated that the school is obliged to help students to master deep knowledge of the basics of sciences and work skills. The resolution emphasized the importance of unity of education and upbringing, close interconnection of mental, labor and moral education, as well as a combination of training with participation in production work. Particular attention She was given the issues of content and teaching methods, improvement of the educational process, extracurricular and extracurricular work, which should take into account the interests and desires of students. At the same time, this document adopted a decision on free use

of textbooks and on the creation of school library textbooks. But, unfortunately, not everything happened.

But all the activities did not give the desired result. Already in the first year of reform of education at the government level, it was stated that the reform had fallen. The school remained in a crisis, so it was at the time of the proclamation of an independent Ukraine. Development of education and schooling in Ukraine in the XX century. [9].

In October 1978, the Resolution of the Central Committee of the CPSU and the Council of Ministers of the USSR "On measures to further improve the study and teaching of the Russian language in the Union republics" was adopted.

In May 1983, the Resolution of the Central Committee of the CPSU and the Council of Ministers of the USSR "On additional measures to improve the study of Russian in secondary schools and other educational institutions of the Union republics" was issued [10, p. 514].

In essence, the right to choose the language of study remained, but there was no choice itself, since everywhere, and especially in cities of Eastern, Central and Southern Ukraine, Ukrainian schools were closed, children were forcibly transferred to Russian education, and the secondary special and higher educational institutions of Ukraine worked Only in Russian. A crazy offensive began on the achievements of Ukrainian culture, education, science. The school was transformed into a remedy for genocide against Ukrainians, its main task was to Russify the indigenous population, the distortion of its national worldview, consciousness, character, weaning from traditions, customs, culture of their people. The tendency of Russification of Ukrainian youth visible is observed in the growth of the number of students studying in Russian-speaking schools. In fifteen years, from 1965/66 to 1978/7 9 academic year, this phenomenon is characterized by data in Table 3.1.

Table 3.1.

The ratio of schools in the language of instruction in Ukraine

Language language	The number of schools and students in them, thousand		
	1965/66	1970/71	1978/79
Ukrainian	23 674	21953	17 200
	4485,5	4520,6	3800
Russian	4703	4858	4200
	2465,7	2908,5	2600

In many regional cities and large industrial centers, the vast majority of children attended Russian -language schools. In the late 1970s, the number of Ukrainian-language schools in the republic decreased by 8.7 thousand. In most regional centers, the share of Ukrainian-Russian and Ukrainian schools did not exceed 28% of the total. No Ukrainian school existed in Donetsk and Crimean region. Such state policy led to the formation of national nihilism, neglect for the mother tongue, the culture of the native people.

During this period, there is a tendency to reduce Ukrainian -language publications. The number of books published in the late 1970s in the Ukrainian language fell to the level of the mid-1920s, and the ratio of Russian and Ukrainian books published in the USSR was 3: 157. Without the interests of the indigenous nation, different levels of libraries were completed. This was especially true of school, regional, city and district children. This was the deprivation of children and young people with the best examples of Ukrainian literature. The vast majority of newspapers and books that read in Ukraine came from Russia. Among the books published in the USSR, most were Russian.

New measures were introduced to encourage the transition to Russian teaching, including by increasing teachers' salaries. Teachers of Russian language and literature have been assigned an allowance towards wages of 15 %. The issue of educational literature in Russian has expanded. As a result of the deployment of irrigation in the mid-1980s, only a fifth of students studied in Ukrainian in the capital of Ukraine [22].

The 80s were quite controversial in the development of education.

In 1984, the Verkhovna Rada of the USSR approved "The main directions of reforms of the comprehensive and vocational school", which specified the educational policy of the state "in the conditions of developed socialism". According to this document, the ideologization of school education increased significantly, but the important place continued to occupy the issues of labor education, the students' assimilation of specific knowledge in the natural, economic and social sciences. The transition to schooling at school from 6 years of age and the transition from 10-year to 11-year-old school in high school began. The structure of the secondary school was also changed: 1-4 classes became elementary school again (as it was from 1921 to 1972), 1-9 classes-incomplete secondary school, and 1-11 classes-full secondary school. It was planned to reduce the content of class teams: in grades 1-9-up to 30 students, in grades 10-11-up to 25 students. It was proposed to use teaching methods that more activate students' creative activity, including conducting in the upper classes of seminars, conferences, debates [20].

Quantitative indicators of development of general education in Ukraine in the 60-80's were generally positive. And yet it was felt that every year the level of education of high school graduates is constantly declining. Particularly low was the level of training of rural school students.

Thus, at the beginning of the 1980-81 academic year, nearly 17 million people, or every third, were covered by various forms of study; Higher and secondary (complete and incomplete) education had two thirds of all workers; The number of collective farmers with higher and secondary education has increased almost 9 times compared to pre-war time. The number of school new buildings has increased: the secondary and most eight-year schools switched to the study system of training, technical tools and active teaching methods were widely used. Teachers produced the students' ability to replenish their knowledge independently, to navigate the rapid flow of scientific and technical information [10, p. 373].

The system of vocational education has gained significant development in Ukraine. It has become a leading link in the professional training of skilled workers. In 1970, 892 VETs worked in Ukraine, which enrolled 448 thousand students, and in 1988

their number increased to 1241. They had more than 718 thousand boys and girls with almost a thousand different professions. VET teachers, as well as general school teachers, pledged to improve the educational process, use lectures, seminars-workshops, excursion lessons, disposal lessons, movie schools and more. The best teachers have tried to introduce new forms and methods of training of workers, which would provide the maximum convergence of theoretical and practical training. However, the general education of vocational school students remained somewhat simplified compared to the same in the secondary school. This was somewhat complicated by the entry of VET graduates to higher education and studying in it.

Also, it is worth noting the work of special schools (boarding schools), in which children from the city and from the village studied, Table 3.2 testifies.

Table 3.2

Boarding schools of Vinnytsia region (1950-1990)

Years	City		Rural		General educational institutions	
	Number of schools	Number of students	Number of schools	Number of students	Number of schools	Number of students
1950-1951	2	139	3	488	1540	366732
1960-1961	4	377	5	413	1830	344843
1970-1971	6	988	13	1862	1446	382602
1980-1981	7	1127	15	2265	1150	310021
1990-1991	7	1193	14	2290	1120	245908

Source: development of education in Vinnytsia region. Local Studies. Statistical collection. Vinnitsa, 2010. P. 15, 28-29.

According to the data of the table, in the Vinnytsia region in the 1950s-early 90's of the twentieth century. There are changes both in the number of educational institutions, including boarding schools, and the number of students in them. It is especially noteworthy that the number of boarding schools increases during this period, and in the general region there is a decrease in general educational institutions [14, p.15-29].

In the postwar period, secondary specialized educational institutions are being developed in Ukraine, in which specialists of secondary qualifications were prepared for various sectors of the economy, science and culture. They solved an important

national task - the completion of general secondary education and the opportunity of young people to be involved in production work, on average in Ukraine, among persons who received secondary education, about 20 % were graduates of technical collections, schools and other secondary specialized educational institutions. The dynamics of development of secondary specialized educational institutions and the contingent of students in them are shown by Table 3.3.

Table 3.3.

Dynamics of development of secondary specialized educational institutions

The academic year	1950 /51	1960 /61	1970 /71	1980 /81	1985 /86
Number of establishments	584	595	760	727	731
Contingent of students, thousand persons	227,7	398,2	797,9	803,1	808,9

Every year in the mid-1980s, almost a quarter of a million specialists with secondary specialists joined the national economy of Ukraine. This quickly led to the depreciation of the diploma of the technical school, as most graduates were employed by workers and not in the specialty. At the same time we had to master the working professions at the level of graduates of vocational schools. The prestige of training in technical schools fell sharply, in most secondary educational institutions of industry, construction, agriculture, there was no competition, which determined further quality of training and training of specialists.

The transition to general secondary education has become an important cultural achievement. Significant funds were used in Ukraine, although there were other priorities. However, this task has been somewhat facilitated by the reduction of the number of students in the republic in the last two decades by reducing the natural population growth. The negative factor in the introduction of general secondary education was to deteriorate the quality of education. Everyone had education in high school without exception. As a result, the next classes were transferred together with all not very successful students, so as not to get reprimanded from education management bodies. All who did not have secondary education under the age of 45

were forced to study in evening and correspondence schools. The transition to compulsory secondary education in the countryside was with considerable difficulty. Most villages operated mostly small elementary or incomplete secondary schools. Full secondary schools created one in several villages, and the students were forced to overcome a dozen kilometers to reach it. As a result, the most convenient type of educational institutions for rural areas became boarding schools [22, p. 15-29].

The school continued to remain the center of irreconcilability for free thinking, it was attributed to the strengthening of militancy to other, non -communist ideologies and parties, etc. The Ministry of Education measures provided further Russification of the Ukrainian School in accordance with the instructions of the Soviet Union leadership. Pedagogical institutes pledged to expand the training of Russian teachers. Students of pedagogical institutions who graduated from Ukrainian schools were forcibly to study the "practical course of the Russian language". The network of Russian schools has increased everywhere through the introduction of new buildings and the transfer of Ukrainian to the category of Russian -speaking. Generally in the USSR as before making decisions about the reform, and after them, was done to prevent the development of the Ukrainian school as a national. A sword hung a sword in the USSR over national education as a common phenomenon around the USSR. Education of the national worldview, national consciousness, instilling young people of national ideology was not allowed and considered "bourgeois nationalism" [5, p. 379].

The national heritage of the school and pedagogy, all valuable, which was created by previous generations, was completely removed from the practice of teaching and upbringing of young people. The main directions of reform of the comprehensive and vocational school have enshrined this memory and renunciation of the experience of domestic schooling. Such colonial policy in the field of education led to the spiritual degeneration of the people. The Ukrainian language throughout Ukraine was displaced from the sphere of state use, science, culture, higher and secondary school. The phenomenon of renunciation of their mother tongue was a massive phenomenon, in cities young people were ashamed to speak Ukrainian, swayed by the fact that "it does not read and does not sleep in Ukraine."

In 1987, data on the number of schools in the regional cities of the USSR with Ukrainian and Russian teaching and mixed (Russian-Ukrainian) were published, and Table 3.4 testifies.

Table 3.4.

**Cities of the USSR with Ukr and Russian teaching
(1987)**

Cities	Ukrainian schools	Russian	mixed
Chernihiv	— (2?)	24	6
Chernivtsi	15	23	—
Cherkasy	5	19	7
Khmelnitsky	9	17	2
Kherson	5	49	1
Kharkiv	2	156	3
Uzhgorod	12	5	2
Ternopil	20	3	—
Sumy	3	20	—
Simferopol	—	33	—
Rivne	15	9	—
Poltava	19	16	—
Odesa	3	90	7
Nikolaev	—	51	5
Lviv	66	26	11
Kirovograd (now Kropyvnytskyi)	4	17	11
Kyiv	34	152	88
Ivano-Frankivsk	18	6	2
Zaporozhye	1	95	5
Zhytomyr	14	16	1
Donetsk	—	146	—
Dnipro	9	125	6
Voroshilovgrad (now Lugansk)	—	60	1
Vinnitsia	10	21	—

Source: Schooling in Ukraine Shhttps://uk.wikipedia.org/wiki/wiki/%D0%A8%D0%D1%D1%ing (D1%82%D0%B2%D0%Be_%D0%B2_%D0%A3%D0%BA%D1%80%D0%B0%D1%97%D0%BD%D1%96

In accordance with the resolution of the Central Committee of the CPSU and the Council of Ministers of the USSR of November 10, 1966 No. 874 and resolutions of the USSR Council of Ministers of October 13, 1978 No. 835 in second The division of classes (groups) into two groups (subgroups), which helps to improve the conditions

for learning the Russian language. At the same time, it created unequal opportunities in the study of Russian and Ukrainian languages and caused numerous fair complaints of teachers, parents, and creative unions. The Central Committee of Ukraine, by its resolution in January 1989, approved measures to improve international and patriotic education of the population in the republic, which, in particular, provides for the introduction of division of classes (groups) into two groups (subgroups) in the study of Ukrainian language and literature in schools, vocational and technical and pedagogical schools with Russian language. The remuneration of teachers for additionally introduced hours will be made within the limits of appropriations allocated for the maintenance of general schools of the republic by saving from streamlining payments for conducting socially useful, productive work of students (Minister MV Fomenko) [3, p. 344].

In secondary schools, they continued to study according to uniform curricula, programs, textbooks aimed at raising a average person, the loss of personality and the low level of its culture.

However, acute national economic problems required constant replenishment of the leading sectors of the economy, science, education and culture by highly qualified specialists.

In order to help solve this complex problem, in the 60-80's. The material and technical base of universities was significantly strengthened, new educational buildings, dormitories, dining rooms, sports complexes for students were built.

Universities were established on the basis of Donetsk, Simferopol and Zaporizhzhya Pedagogical Institutions. In addition, new institutes were opened in the republic. As a result, the total number of students increased twice in the 60-80's. Accordingly, the number of specialists with higher education in the national economy of the USSR increased: if in 1964 there were 2.3 million, then in 1985 7.3 million people.

But despite these rather solid quantitative indicators, the problem with qualified personnel in Ukraine remained quite acute.

A significant number of places in higher education institutions of the republic were occupied by students from socialist and developing countries. Thus, in 1971, more than 2,000 students from 22 countries were enrolled in higher education institutions and technical schools.

On the other hand, the quality of training of specialists remained a difficult problem. It was still low, especially at correspondence and evening units. In the early 80's, in connection with The growing requirements of the scientific and technological revolution, it became especially noticeable that the level of training of specialists in the USSR, as well as in the USSR, was inferior to the world standards [21].

Conclusions

It should be noted that the study does not claim to cover all aspects of school education development in Ukraine in the 1950s and 1980s.

The transition to general secondary education has become an important cultural achievement. Significant funds were used in Ukraine, although there were other priorities. However, this task has been somewhat facilitated by the reduction of the number of students in the republic in the last two decades by reducing the natural population growth. The negative factor in the introduction of general secondary education was to deteriorate the quality of education. Everyone had education in high school without exception. As a result, the next classes were transferred together with all not very successful students, so as not to get reprimanded from education management bodies.

To the peculiarities of the development of education in Ukraine in the 1970s and 1980s. We include: the obligation of youth secondary education; expansion of the network of evening (variable) and correspondence schools; further development of higher and secondary specialized education; functioning of a wide network of structures of political education of adults; development of continuous education of different categories of population; transition from ten -year to eleven -year school; Provision of work and professional training of students of a comprehensive school.

The period of the 70 - 80s is characterized that all important documents on the development of public education were adopted jointly by the CPSU Central Committee and the Council of Ministers of the USSR. In particular, the resolutions "On the completion of the transition to the general secondary education of youth and the further development of the comprehensive school" (1972), "On further improvement of education, education of students of secondary schools and their preparation for work" (1977). The party also preceded the state body - the Council of Ministers - in other educational resolutions. That is, the direction of development of education in the state was determined by a single communist party. In addition, the resolution at the All - Union level was always the first, and the next resolutions of the governing bodies of the Union republics were identical. Centralization permeated all areas of activity, including education.

A characteristic feature of the educational process of this period was its ideologization and politicization. Schools as public educational institutions were intended to educate obedient, humble citizens of a unitary union. At all levels of learning, it was obligatory to study the works of classics of Marxism-Leninism, the decisions of the congresses and plenums of the party, the work of leading party figures. Objectively, the school has become a bureaucratic institution that operated in a mode of monotony, uniformity and sole power. This could not but lead to a fall in the prestige of knowledge, a decrease in the effectiveness of education, the deepening of the gap between education and the needs of practical activity.

The Ukrainian language throughout Ukraine was displaced from the sphere of state use, science, culture, higher and secondary school. The phenomenon of renunciation of their mother tongue was massive, in cities young people were ashamed to speak Ukrainian.

References

1. Hrytsenko M.S. *Narysy z istorii shkoly v Ukrainskii RSR (1917-1965)*. [Essays on the history of the school in the Ukrainian SSR (1917-1965)]. K.: Radianska shkola, 1966. 260 s.

2. Koliaska, I. V. Osvita v radianskii Ukraini : [Education in Soviet Ukraine]. per. z anhl. movy z dopov. i dod. / I. V. Koliaska. [Toronto: Martin, 1970]. XVII. 246 s.
3. Berezivska L. D. Reformy shkilnoi osvity v Ukraini u XX stolitti: dokumenty, materialy i komentari : khrestomatiia : navch. posib. dlia stud. vyshch. navch. zakl. [School education reforms in Ukraine in the twentieth century: documents, materials and comments: textbook: textbook. a manual. For students. Higher. Educ. Lay]./ L. D. Berezivska ; In-t pedahohiky NAPN Ukrainy. Luhansk : Vyd-vo DZ «LNU imeni Tarasa Shevchenka», 2011. 384 s.
4. Pyrozhenko L. V. Reformuvannia zmistu zahalnoi serednoi osvity (seredyna 60-kh – pochatok 80-kh rr. XX stolittia) : Monohrafiia [Reforming the content of general secondary education (mid 60's-early 80's of the XX century): Monograph] /av.: Pyrozhenko L. V. K.: Pedahohichna dumka, 2013. 304 s.
5. Luzan P.H. Istoriia pedahohiky ta osvity v Ukraini : navchalnyi posibnyk [History of Pedagogy and Education in Ukraine: A Textbook]/ Luzan P.H., Vasiuk O.V. [2-he vyd., dop. i pererob.]. K. : DAKKKiM, 2010. 296 s.
6. Period povoiennoho vidnovlennia systemy osvity ta upravlinnia neiu v m. Kyievi (1945-1964 rr.). [The period of post-war restoration of the education system and management in Kyiv (1945-1964)]. <https://don.kyivcity.gov.ua/content/period-povoiennogo-vidnovlennya-systemy-osvity-ta-upravlinnya-neyu-v-m-kyievi-19451964-rr.html>
7. Medvid L. Istoriia natsionalnoi osvity i pedahohichnoi dumky v Ukraini. [History of national education and pedagogical thought in Ukraine]. K., 2003. 335 s.
8. Trostohon A. Vidrozhennia osvity na Vinnychchyni v pisliavoiennyi period (1944-1950 rr.). Osvita na Podilli: mynule ta sohodennia. Kraieznavchi doslidzhennia. Materialy XXIII Vseukrainskoi naukovoï istoryko-kraieznavchoï konferentsii 20-21 zhovtnia 2011 r. [Podillya education: past and present. Local Studies. Materials of the XXIII All-Ukrainian Scientific Historical and Local History Conference October 20-21, 2011]. Vinnytsia, 2011. 416 s.

9. Rozvytok osvity y shkilnytstva v Ukraini u XX st. [Development of education and schooling in Ukraine in the XX century]. <https://studentam.net.ua/content/view/2265/85/>
10. Liubar O. Istoriiia ukrainskoi shkoly i pedahohiky. [History of Ukrainian School and Pedagogy]. K.: Znannia, 2003. 766 s.
11. TsDAVO Ukrainy. F. 166.op. 15. spr. 3532. ark. 5
12. Zbirnyk postanov i rozporiadzhen Uriadu URSS №6 1-24 chervnia 1959 r. [Collection of Resolutions and Orders of the Government of the USSR No. 6 1-24 June 1959]. 36 s.
13. Lohvynenko O. Zahalnooboviazkova osvita v Ukraini: dosvid i problemy 50–60-kh rr. XX st. [Compulsory education in Ukraine: the experience and problems of the 50-60's of the XX century]. [Tekst] / Oleksandr Lohvynenko //Ukraina XX st.: kultura, ideolohiia, polityka : zb. st. / NAN Ukrainy, In-t istorii Ukrainy. K., 2007. Vyp. 12. S. 375-386.
14. Rozvytok osvity na Vinnychchyni. Kraieznavchi doslidzhennia. Statystychnyi zbirnyk. [Development of education in Vinnytsia region. Local Studies. Statistical collection]. Vinnytsia, 2010. 90 s.
15. Lavrut O. Radianska shkola u druhii polovyni 1940-kh – kintsi 1980-kh rr.: vymir Ukrainy. [The Soviet School in the second half of the 1940s-late 1980s: measurement of Ukraine]. Dysertatsiia na zdobuttia naukovooho stupenia doktora istorychnykh nauk za spetsialnistiu 07.00.01 – istoriia Ukrainy. Donetskyi natsionalnyi universytet imeni Vasylia Stusa, Cherkaskyi natsionalnyi universytet imeni Bohdana Khmelnytskoho, Vinnytsia – Cherkasy, 2021. 549 s.
16. Rozvytok osvity y shkilnytstva v Ukraini u XX st. [Development of education and schooling in Ukraine in the XX century]. <https://studentam.net.ua/content/view/2265/85/>
17. Lavrut O. Vidlunnia Zakonu «Pro zmitsnennia zviazku shkoly iz zhyttiam i podalshyi rozvytok systemy narodnoi osvity v Ukrainiskii RSR» v Ukrainiskii RSR: dosvid pershykh rokiv. [Echoes of the Law "On Strengthening the Communication of the School with Life and Further Development of the Public Education System in the

- Ukrainian SSR" in the Ukrainian SSR: the experience of the first years]. Hileia: naukovyi visnyk. Zbirnyk naukovykh prats. 2016. Vyp.111(8). S.44-48.
18. Zizd uchyteliv Ukrainskoi RSR. 14-16 zhovtnia 1959 roku. [Congress of teachers of the Ukrainian SSR. October 14-16, 1959]. K.: Radianska shkola, 1960. 303 s.
19. Shevchuk Zh. A. Movna polityka v Ukraini (kinets 50-kh–pochatok 90-kh rr. XX st.) : avtoreferat dys. kand. ist. nauk: 07.00.01. [Shevchuk J. A. Language policy in Ukraine (late 50's-beginning of 90's of the twentieth century): Abstract of the dis. Cand. East. Sciences: 07.00.01]. Kharkiv. nats. un-t im. V. N. Karazina. Kharkiv: [b. v.], 2001. 20 s.
20. Shkola №1 v kintsi 50-kh – pochatku 90-kh rokiv XX stolittia. [School № 1 in the late 1950s-early 90's of the twentieth century]. <http://shkola1school.org.ua/pro-nas/istoriyashkoli/9-shkola-v-kintci-90-rokiv.html>
21. Nauka. Literatura v 60 - 80 rr. [Science. Literature in 60 - 80 years]. <https://sites.google.com/view/irinavihor/%D0%BB%D0%B5%D0%BA%D1%86%D1%96%D1%97-%D0%B7-%D1%96%D1%81%D1%82%D0%BE%D1%80%D1%96%D1%97-%D1%83%D0%BA%D1%80%D0%B0%D1%97%D0%BD%D0%B8/23-%D0%BE%D1%81%D0%B2%D1%96%D1%82%D0%B0-%D0%BD%D0%B0%D1%83%D0%BA%D0%B0-%D0%BB%D1%96%D1%82%D0%B5%D1%80%D0%B0%D1%82%D1%83%D1%80%D0%B0-%D0%B2-60-80-%D1%80%D1%80>
22. Rozvytok osvity v period systemnoi kryzy radianskoho ladu. [Development of education in the period of the systemic crisis of the Soviet system]. <https://vseosvita.ua/blogs/rozvytok-osvity-v-period-systemnoi-kryzy-radianskoho-ladu-38244.html>

4. Language etiquette in modern education

Society produces certain standardized norms of social behavior (including speech), which are determined by ideas about patterns of behavior in a specific situation. In order to function as a whole, as a complex social system, society must establish such a framework for the behavior of individuals in which this behavior becomes monotonous, stable, and repetitive. Such a framework is etiquette - a system of rules for a person's external culture, his behavior, decency, good tone, etc. In society, it functions in two main forms of behavior: speech and non-speech. As a rule, these forms of behavior are closely related and interdependent.

If etiquette, as a set of rules established in society, regulates our external behavior in accordance with social requirements, then speech etiquette can be defined as the rules that regulate our speech behavior.

From the point of view of the national specificity of speech etiquette, it should be said that its structure has developed in each nation on its own national basis under the influence of various psychological, socio-political, and cultural factors.

Etiquette communication is an integral part of the culture of man and society. Etiquette (from the French "shortcut, label") is an established order, a set of rules of behavior related to the external manifestation of attitudes towards people (handling with others, forms of greeting and greeting, behavior in public places, manners and clothing). The term "etiquette" in the modern sense of the word was first used at one of the receptions of King Louis XIV, when courtiers and guests were presented with cards (labels) listing the rules of court behavior.

The practical meaning of etiquette is that it enables people to use ready-made forms of generally accepted politeness to communicate with different groups of people and at different levels without much effort. The culture of behavior acts as a quality, socially necessary and valuable due to its moral basis. In the broadest sense of the word, this concept includes a set of tools developed and tested by experience for organizing

people's everyday life and communication, and is an integral part of universal human culture.

Etiquette is based on rules of behavior that are general, as they are observed not only by representatives of a given society, but also by representatives of all kinds of socio-political systems that exist in the modern world. Each country makes its own corrections and additions to etiquette, determined by the country's social system, specifics of its historical structure, national traditions and customs.

As the living conditions of mankind change, education and culture grow, some rules of behavior become obsolete, others are corrected or replaced by new ones. What was previously considered indecent becomes generally accepted, and vice versa. But the requirements of etiquette are not absolute: their observance depends on the place, time and circumstances. Behavior that is unacceptable in one place and under some circumstances may be appropriate in another place and under other circumstances.

The norms of etiquette, unlike the norms of morality, are conditional and have the character of an unwritten agreement about what is generally accepted in people's behavior and what is not. Every cultured person should not only know and observe the basic rules of etiquette, but also understand the need for certain rules and relationships. The ability to behave correctly in society facilitates the establishment of contacts, helps to achieve mutual understanding, and creates stable relationships.

What does it depend on? How was it formed? Language etiquette existed and exists in modern Ukrainian science. It is the result of significant linguistic and stylistic processes that took place in the realm of Ukrainian scientific style. These processes are especially noticeable over the last century. Science developed under the slogan of integration, the professional speech of science gravitated towards unification and standardization, i.e. the means of expression of language etiquette were significantly affected by known social, i.e. non-linguistic factors. This caused, according to scientists, the fact that the national in the language etiquette of Ukrainian science was leveled off, dissolved.

Language etiquette is of great importance in the communication of scientists, their behavior and language depend on who they are communicating with: a scientist

and his colleagues communicate in a proper scientific sub-style, and a scientist and his students in a scientific-educational sub-style, etc.

A scientist, when communicating with colleagues, uses some language formulas (greetings, farewells, introductions, appeals, etc.), and when communicating with students - others. So, the means of expressing language etiquette depend on who the scientist communicates with, and they have certain differential features (because the type of scientific style changes).

The structure of language etiquette in a scientific style depends on the form of communication. Thus, while at a scientific symposium, a scientist should use a completely different form of addressing fellow scientists than the one he uses during an academic lecture. Of course, a scientist can change language formulas. These changes will depend on culture, sophistication of speech, tastes, traditions of the scientist, conditions and purpose of communication.

General principles and norms of the etiquette culture of a teacher at an educational institution.

A modern pedagogical educational institution, be it a kindergarten, a school, a college or a university, is an open educational and educational system accessible to people who differ in many respects (by nationality, social status, psychological and age characteristics, views, educational level, etc.). Etiquette rules take into account all these differences, so their observance has a successful effect on the educational and educational process.

Etiquette is based on moral and formal-organizational foundations. First of all, it carries a moral burden, strengthening the moral state of society, being a practical reflection of moral norms in the behavior of an individual. It can be said that etiquette gives the teacher a technique of behavior that allows him to demonstrate a moral attitude to the people around him.

The formal and organizational basis of etiquette is manifested in the visual manifestation of respect and kindness to people by a person, in the performance of a number of generally accepted behavioral operations for this, in adding a moral requirement of respect to a specific behavioral form.

Etiquette behavior is always connected with harmony and order, it reveals not only a moral but also an aesthetic basis. Society sets before its members the task of behaving not only correctly and in accordance with generally accepted norms of morality, but also in accordance with the concept of beauty, the ideal of beauty, causing a positive aesthetic experience with their behavior and thus contributing to the aesthetic development of society, the formation of the aesthetics of feelings.

In order to improve the culture of behavior of future doctors on the basis of modern requirements of society, the university teacher himself should clearly present the structure and content of etiquette. Its structure consists of forms, types and varieties that combine certain behavioral rules, but in practical action these rules are closely related.

According to the form, that is, according to the set of means of expressing a respectful attitude towards people, etiquette is divided into two types: verbal and non-verbal.

The first is manifested in the language of the teacher, in his manner of addressing, ability to conduct a conversation, participate in an argument, express a critical or complimentary remark. The teacher always accompanies the word. His professional success depends on how and what the teacher tells students. One of the components of a teacher's professionalism is mastery of the rules of language etiquette, which includes the most important language formulas that are constantly used in certain situations.

The non-verbal form of etiquette includes actions and actions by which the teacher demonstrates to students a respectful attitude towards them: how he behaves at his desk, how he stands near the podium during a lecture, how he walks along the corridor or classroom, in short, all the behavioral actions of the teacher characterize him as a well-educated individual who has good etiquette, or, on the contrary, as insufficiently prepared for life in modern society.

Since etiquette is manifested in various social and professional groups, it is divided into types that combine the rules characteristic of a person engaged in a topic or other type of activity. In our opinion, we can talk about the etiquette of each

profession: lawyer, doctor, teacher, deputy, minister, and so on. Some behavioral rules are characteristic of all professions, others reflect a certain type of professional activity.

Pedagogical etiquette contains a set of rules of conduct that regulate the external manifestation of mutual relations that arise between a teacher and a pupil, a teacher and a teacher, characterized by respect for a pupil, a colleague, as well as the desire to establish friendly, creative relations.

Pedagogical etiquette, like any professional etiquette, manifests itself in various aspects of a teacher's life and activity - in professional image, speech manner, and real behavior. Observance of pedagogical etiquette helps to implement an individually-oriented approach in education, creates conditions for pedagogical communication between the teacher and students, aimed at creating a favorable psychological climate among students, which contributes to the establishment of correct relationships, both with the student community and with an individual student.

Compliance with etiquette helps to strengthen the teacher's authority among the young generation, who think actively and often rebel against the existing order.

Non-observance of etiquette negatively affects pedagogical activity. Yes, colorful and too bright clothing of a teacher can negatively affect the state of the student audience, tasteless or frivolous style of clothing often causes irritation and mistrust among students.

All varieties of etiquette, which have concentrated the rules necessary in one or another situation. These include business, family, guest, gift, dance, distance communication etiquette, and other varieties of it that appear in pedagogical activity. Business etiquette contributes to the establishment of the most favorable relations between teachers, between teachers and pupils (pupils, students), between the head of the educational institution and his employees. Knowledge of family etiquette is necessary not only because the teacher has a family, and it affects his professional activity, but also because the children who study with him, teenagers, boys and girls also live in families and often need intelligent and tactful advice . Thus, one can see the place of any kind of etiquette in the professional life of a teacher.

Etiquette is of great importance in the life of society, of an individual, subject of pedagogical activity. It is a social phenomenon that has a clear structure, depends on the socio-economic, political and cultural conditions of social development, is connected with the political, moral and aesthetic views of society. In order to demonstrate a culture of behavior, it is necessary to observe the rules of etiquette. Knowledge of its rules contributes to the fact that a person acquires inner will in choosing certain deeds, actions and words, and, along with other personalities, becomes a creator of social behavior.

One of the main tasks of a teacher is to cultivate a reasonable combination of a sense of will and necessity. Unfortunately, the emphasis on external will to the detriment of responsibility and civil duties leads to restraint of spirituality in people, disdain for discipline, rampant anarchy, demagoguery, permissiveness, unwillingness to work, impunity, pursuit of profit, growth of crime among the younger generation. Mastering etiquette, consciously perceiving its expediency and necessity, the teacher follows the path of improving not only his behavior, but also his worldview, builds a moral attitude towards reality and people.

This importance of etiquette proves the need for its knowledge and observance within society, especially by people who have chosen the teaching profession as their profession.

The teacher's image and ways of its formation. Positive image of the teacher

Image is a style that is determined by internal content. Translated from French and English, "image" means "image". Moreover, by "image" you need to understand not only a visual, visual image (look, appearance), but also a way of thinking, actions, deeds. This is the ability to communicate, and the art of speaking and listening. Correctly chosen tone of conversation, timbre of voice, selectivity of movements largely determines the image in which we appear before those we teach and colleagues. Together with tact, education, business qualities, our appearance is either a continuation of our dignity, or another negative feature of life that interferes with career.

The teacher's image should be considered as an important aspect of his professionalism and a means of pedagogical influence on students. It is revealed in two plans:

firstly, from the point of view of the requirements for the teacher from the side of the society (how it imagines the teacher as an educator and bearer of moral experience);

secondly, from the teacher's point of view, how he wants to present himself to the students, what he wants to say about himself to the society.

Perhaps the image is even more important for the teacher than for any other specialist, because it is he who influences the formation of ideas, attitudes, and values of pupils and, in turn, contributes to the formation of the image of those who are taught.

The basis of a teacher's image is his personal and professional qualities - sociability, reflexivity, empathy, self-control and many others. Also, the teacher's image is his toolkit, it is the functional means of the body that allow the use of voice, plasticity, facial expressions as an influence on pupils. A competent teacher will use them purposefully and consciously.

An important part of a teacher's image is the extent to which he possesses eloquence. When communicating with those being taught, the teacher should not forget about the tone in which he speaks to other people. Not only the emotional state of his students depends on this, but also their ability to work.

The so-called "non-verbal" image is related to the extent to which we have pleasant manners, which means gestures, facial expressions, and gaze. Good manners help to quickly adapt in any environment, simplify the establishment of communication ties with people.

No less important is the way of life. Lifestyle image is how people perceive your personal life, relationships with others and family members, your moral principles, dignity, behavior and character.

Forming a teacher's image is an active purposeful activity aimed at informing the teacher about the strengths of those personal qualities and relationships that are objectively important for successful work with students. The teacher's practical

mastery of the basic principles of pedagogical ethics, the development of his professional culture and scientific organization of work is an important aspect of image formation. A successfully designed pedagogical image affects the teacher's self-affirmation and his further professional self-improvement.

The image of a teacher of a higher school is largely determined by the qualities he possesses, which give uniqueness to his communication with students, determine the speed and degree of mastery of various skills. The predominant features of an experienced teacher are: purposefulness; persistence; patience; tolerance; initiative; authority; a creative approach to solving each task with the aim of educating students.

The image of a university teacher is a kind of collective image that reveals the most characteristic features for him, which include: competence, culture, peculiarities of lifestyle and behavior.

A positive individual image of a teacher is a harmonious combination of external and internal personal, individual and professional qualities of a teacher, designed to demonstrate his desire, readiness and ability for subject-subject communication with participants in the educational process.

It is always more difficult for a university teacher to maintain a certain image than for a school teacher. Students are always more demanding, they have already formed certain positions in life, their views on taste and beauty. They evaluate the teacher from the position of an adult. And the teacher must respond to this.

Determining what the image of a teacher capable of realizing the task of developing a harmonious personality should be, it should be noted that he should be a worthy person, which is manifested in his physical appearance, actions, speech and professional activity; its internal content must correspond to the external one, and vice versa; in addition, it must be in a harmonious relationship with the environment. Philosophers of the past outlined a certain space in which a harmonious person is formed, both external (nature and society) and internal - the soul (psyche).

Everything in our life is interdependent. If we are significant in our own eyes, then we are also significant for those whose opinion is dear and important to us. But the most important thing is that some completely new, unexpected "reserves" of love

and respect for their pets are revealed. And the students' grateful response to this metamorphosis is felt almost immediately.

TEACHER SPEECH ETIQUETTE

In order to establish interpersonal contact, maintain a friendly atmosphere, the tonality of communication, its participants must adhere to speech etiquette (French etiquette - order) - a system of rituals that consists of appropriate verbal formulas.

In general, etiquette means an established order of behavior; a set of rules of behavior (rituals) that regulate the external manifestation of relations between people, the culture of the individual.

The teacher's speech etiquette consists of the rules of speech behavior in communication with colleagues, students, and their parents. It obliges the teacher to behave in accordance with socially, culturally and historically formed models in typical situations of communication and interaction between the teacher and students. The teacher must have correct, clear speech, various verbal formulas, complex word combinations, the ability to construct his own statements, use the rules of speech behavior in typical communication situations.

Whatever the mood of the teacher, he must enter the classroom free from negative emotions, with a bright and benevolent look, focused on the students, the topic of the lesson. Flirting with students, as well as a mentoring tone, are unacceptable. A creative, business-like, emotionally dynamic (in accordance with the tasks, purpose of the lesson) environment in the classroom will require diverse, clean, emotionally expressive speech.

The process of speech reflects the spiritual and physical state of a person, therefore the choice of a word, a phrase, a turn of phrase should be motivated, and they should be pronounced in a polished voice. A correctly chosen and used word can immediately attract the student's attention, cause the necessary reaction from him.

Standardized (typical) communication situations, in which it is especially necessary to observe speech etiquette, are greetings, introductions, calling and attracting attention, farewells, apologies, thanks, requests, approvals, agreements, objections, refusals, offers, advice, etc. In the process of multiple repetition of the same

speech situations, established communicative units were formed that serve these situations. Each of them uses many groups of verbal units that form synonymous series.

The first impression of a teacher consists of how sincerely and cordially he greets you. It may be wrong, but children subconsciously focus on their feelings when greeting. The language culture of the teacher is manifested in his ability to choose an appropriate form of greeting or farewell, which depends on the environment in which he is, the age of the interlocutors, his relationship with them, the place of the event, the specific situation, etc. Under any conditions, the greeting (farewell) should show respect for the interlocutors. The following greeting formulas are traditionally used: "Good morning!", "Good afternoon!", "Good afternoon!", "Good evening!", "Good evening!", "Hello!"; Farewell: "Goodbye!", "Be healthy!", "Go healthy!", "Farewell!", "Goodbye!", "All the best!", "Happy journey!", "See you!", "See you tomorrow!", "See you next time!", "Good night!", "Good night!". Often used are stylistically neutral expressions ("Hello", "Goodbye", "Thank you") and variant ones ("See you tomorrow", "Goodbye").

Social and professional characteristics of communicators are reproduced in speech etiquette. Appeals, for example, record the social status of the communication partner ("Colleague", "Dear Chairman", "Mr. Director", "Highly respected Good").

Acquaintance is accompanied by special language etiquette formulas ("Let me introduce myself..."; "My name is..."; "My name..., my surname..."; "Let me introduce (recommend) you..." "Let me introduce you to..."; "Please introduce me to..."; "Very nice to meet you..."; "). In official addresses, expressions are used: "Goodness!", "Goodness!", "Sir!", "Madam!", "Gentlemen!", "Comrade!", "Comrade!", "Dear friend!", "Dear company !", "Honorable lordship!". The teacher turns to you to express respect to a stranger, a stranger, an older interlocutor by age or position, high school students.

It is very important how and with what words the teacher addresses the students. It is unmotivated and inappropriate to "stimulate" students' activity by saying "Now you will answer my questions", "Listen carefully, because I will ask questions",

"Children, what are you not listening to?", "Yes, good, sit down", "What are you quiet?", "Raise your hands", "Speak louder", "What, no one else knows?" etc.

Such appeals do not stimulate the cognitive activity of students, but create psychological barriers between them and the teacher.

From the first minute of being in the classroom, the teacher must think about the right choice and use of communicative elements to prepare students for work.

In the teaching language practice, there are many stereotypes that must be accurate, meet the norms of specific vocabulary, professionalism, general scientific and special terms, word combinations, which is caused by the desire to reproduce the facts and events as accurately as possible. The most common of them are:

— analytical terms-phrases. They are used in oral and written professional-pedagogical communication: personnel turnover, staffing, to lose validity, to certify the authenticity of a signature, to apply for an address, to work part-time, to take into account, to inform, etc.;

— specific script words that provide a standardized organization of speech: according to, for the purpose of, in connection with, during, etc.;

— formulas of speech etiquette, which ensure acceptable inclusion in speech contact in a certain environment, maintaining communication in the chosen tonality (they have their own characteristics in each team).

The teacher's achievement of the communicative goal is facilitated by the motivated use of the expression modality — the teacher's attitude toward the student. It can be expressed in grammatical, lexical, and intonational ways. A certain type of speech act corresponds to the corresponding modality of the statement: the speech acts of the affirmative type correspond to the teacher's rational assessment of the content of the statement; expressive — emotional; statements-directives express the teacher's desire to achieve one or another result; statement-commitment — intention, readiness to do something for the interlocutor.

Building a language communication strategy, constructing one's own expressions can be very diverse. If the teacher aims not only to receive information, but also to involve the student in a dialogue, to cause his reaction to the message, he

can use the following question: "Didn't you know that the essay had to be submitted today?". Knowing that his point of view is important for the student, the teacher, influencing him with his authority, builds a statement using the construction with the verb "knowledge" or "opinion", for example: "I think the result will be positive"; "I know, dear, you have learned this topic well."

The utterance can unfold as an indirect speech act, while the task of the speaker is to inform the addressee about his attitude to the problem and to cause him the necessary reaction with the help of the message. Trying to encourage the student to realize his intentions, the teacher includes a positive assessment (the so-called idea of what should be) in his statement. It can refer to the expected action and the future performer, for example: "We hope to successfully pass the exams"; "I know you agree." Sometimes it can sound in the form of advice, in which it is emphasized that the intended action is in the interests of the student: "I advise you to prepare well for the test."

Often, the principle of politeness obliges the listener to be informed about his awareness, for example: "You yourself know...", "You yourself said...".

Since the educational session combines different forms, types, genres, functional varieties of communication, it is important for the teacher to observe the language etiquette of the lesson, to creatively interpret specific communicative situations. Compliance with etiquette not only does not limit, but also, on the contrary, expands the communicative capabilities of the teacher, ensures an effective exchange of feelings and thoughts, attracts potential interlocutors, makes communication desirable, and the process of transmitting and receiving information interesting, psychologically relevant.

The social conditioning of a teacher's speech activity consists in ethical requirements for participants in pedagogical communication. The educative power of his speech depends not only on the observance of ethical formulas, but also on the stability of moral norms, which he is guided by in his actions and attitude, because he influences his wards not only with his words, but also with his personality. Beliefs (with which the words, intonation, facial expressions, gestures, eye expression, posture

are permeated) can be cultivated only by persuasion, false intonations of the teacher are always recognized.

Pedagogical ethics regulates the position of the teacher and students in the communication process; involves not role-based, but personal communication, which manifests itself in support, sympathy, sincerity, affirmation of human dignity, and trust. It determines and actualizes the need for dialogue as the dominant form of pedagogical communication, it provides for introspection and self-discovery.

Speech etiquette must be mastered by teachers and students. Its formation is facilitated by the use of commonly used phrases, phrases, stable sayings; simulation of communicative situations of different thematic focus and stylistic color; practicing the skills and application skills of various models and formulas of speech and behavioral etiquette in terms of form and content.

Business pedagogical speech is carried out in order to fulfill many social roles that depend on the specifics of specific communicative situations.

In the "specialist - colleagues" situation, communication is carried out according to the scheme: one - one, one - group. The motive of communication is the exchange of information on school topics. The general professional experience of the communicators, their performance of the same social role determine the use in the act of communication of texts of a complicated structure, large in volume, saturated with professional terminology. In an informal setting, they mainly use a dialogic form of speech (a free conversation with extended remarks, which sometimes turns into a discussion). In an official setting (pedagogical, methodical meeting), dialogue and monologue alternate and appear in various combinations: dialogue (organizational) — monologue — dialogue (questions — answers) — micro-monologue; monologue — dialogue (questions — answers) — micromonologue. Demarcating where the dialogue ends and the micromonologue begins is mostly difficult, because the communicators' lines can be so elaborate that the entire system of used language means turns into a monologue.

Speech etiquette formulas (greetings, farewells, compliments, apologies, condolences, requests, etc.) are quite actively used, as they contribute to maintaining non-antagonistic contacts in the team.

In the "specialist - manager" situation, the following communication model is typical: one - one, one - a group of specialists. Communication involves receiving information for the purpose of improving pedagogical activity. Such situations arise at pedagogical meetings, when the specialist is mainly the addressee, who perceives instructions and orders. Under such conditions, the teacher should be able to listen to the text, highlight the main points in it, and fix the most important things in memory.

The content of communication according to the scheme "specialist - visitor" mostly consists in solving a problem situation that worries the visitor. During the dialogue, the communicators' cues are usually extended, each consisting of several sentences, although the specialist's cues are somewhat larger in volume than the visitor's cues. However, all features of the dialogue are preserved. Dialogue and monologue statements are based on commonly used vocabulary, special terminology is used to a limited extent, the use of words with a hint of contempt, offensive irony, with negative expression, elements of professional jargon is unacceptable.

In general, the process of business-pedagogical communication is implemented through monologic or dialogic speech, which interact and change each other. Monologue speech is used at the stage of explaining the task, dialogic speech is used during the clarification of works in the form of a question and answer or in the form of a conversation, in which replicas disproportionate in volume alternate.

SPEECH MODELS OF "TEACHER - STUDENT" INTERACTION

In the interaction between the teacher and the students, the participants can use general techniques (characteristic of any educational situation) and individualized techniques (characteristic of a particular teacher). Common phrases for each lesson include: "Sit properly! Open your notebooks, listen carefully...". Individualized phrases can be heard when the students discuss the teacher, using his favorite words and lines. These typical phrases are called speech patterns (speech patterns). For example, when

explaining new material, the teacher often uses the speech model "Please listen to me carefully...". In class, it is perceived as possible and justified, but in many pedagogical situations it may be inappropriate.

Catchphrases, eloquent poetic lines, proverbs and sayings are often used as speech models. For example, during the assessment of a completed physical exercise, the teacher can say: "He ate a little porridge." The hidden meaning of this phrase is clear to both him and the student. Such models include the words "We wanted the best, but it turned out as usual", quotes from the works of the classics: "And who are the judges?", "I want to inform you of unpleasant news..." and others. In each teacher's speech model, one can trace a certain evaluative subtext, emotional background, which can be optimizing, neutral and inhibiting.

The organizational moment of the lesson is aimed at preparing students for productive work. For this, the teacher must be able to determine the emotional background of the class, if necessary, to strengthen or correct it. The process of speech interaction between the teacher and the students begins with a greeting, with which the teacher sets the tone for communication, charges with a positive mood, conveys his friendly attitude: "Good morning! Today the weather is good, and I see that your mood is also good." The meaning of the word "see" means that the teacher would like to see a good mood in the students. At the same time, the following models can be used: optimizing ("I'm glad to see you. We're expecting an unusual material today...", "We've already done something similar, so you'll be able to handle this task easily. We'll try to secure success"), neutral ("Check readiness workplaces. Get ready for serious work. Today we will need...", "Half the class doesn't have notebooks! Why do you go to school - I don't understand"). However, stop phrases should be used very carefully. If the teacher, for example, discovered that most students lack workbooks, it is better to immediately take care of organizing their work than to waste time and energy on notation.

Preparation for the presentation of the material is connected with the elements of instruction, which also contains speech models, the purpose of which is productive activation of attention, emotional and intellectual support of students. In the typical

models of the teacher's speech, optimizing (“Is everyone ready to solve the next task?”), “Thank you, I see that everyone is ready to understand the material.”), neutral (“When the teacher speaks, you need to put aside all your work and carefully listen to him listen”), inhibitory (“Petrenka, if you are so smart, take a chalk and explain the material!”). At the same time, it should be taken into account that the condemnation of the personality of the interlocutor has a negative effect on the results of joint activities. If this is repeated from lesson to lesson (students who are not liked by teachers feel emotional and intellectual pressure), it is difficult to hope for the formation of an atmosphere conducive to cooperation.

The speech of some teachers is characterized by verbal aggression, which can cause undesirable consequences for the pedagogical process. In many respects, aggression as a thought-out speech activity (for example, a teacher's desire to demonstrate a dominant position over students) differs from a teacher's purely behavioral reaction to an annoying situation (for example, a violation of discipline in class).

Verbal aggression of the teacher is often a kind of defensive reaction to the manifestation of aggression towards him by schoolchildren. It, not being conscious and thought out, is caused by a momentary stimulus (disobedience to a demand, an annoying remark of a student, noise in the classroom, etc.). Thanks to such verbal behavior, the teacher spills out negative emotions, protecting himself from the manifestation of aggression. Aggression is often immediately transmitted to students, which is due to the tendency of children to adopt and copy aggressive speech acts. First of all, this applies to younger schoolchildren, who are most prone to imitation. Therefore, seeking instant obedience, discipline in the lesson, the teacher involuntarily produces a corresponding aggressive reaction in the students (objects of his aggression). Hostile remarks about the student (“You annoy me!”) or the class (“Your class got me!”) are inadmissible.

The teacher's verbal aggression is embodied most often in open forms (threats, hostile remarks, insults, categorical demands), which create communication barriers. Thus, threats and promises of negative consequences (“If this happens again, I will be

kicked out of the class...", "...I will call the parents") can only be effective in relation to obedient students or cowards. The blocking effect of these language forms is most often due to the fact that they are used by a teacher who was unable to cope with the situation in a productive way, thus proving his powerlessness.

A defiant student may have a counter-desire to test how the teacher will behave if he does not respond to this threat. Instead of scaring the student or making him think about his behavior, verbal aggression can provoke an increase in tension ("I won't leave the class because I didn't do anything", "Let's see if the teacher dares to call my father, because I know that he is from it depends on him").

Condemnation, criticism, accusations ("Everything you did is useless", "I don't have the strength to argue with you anymore", "All this happened only because of you") make it impossible to achieve the communicative goal. After all, any individual does not easily perceive negative information about himself, often isolates himself from it, looks for excuses or weak points in the opponent's position, less analyzing his behavior in this situation or trying to change it.

Avoiding the problem, diverting attention ("Put it out of your head", "Let's talk about something else", "I found something to worry about", "You are so worried, as if the world is collapsing") signals to the student that the teacher either does not care about his problems, or he considers them trivial, or considers the student a child who does not understand anything. In all cases, he perceives the teacher's words negatively.

Often, even the well-deserved praise of a student ("And how do you do it so well?", "No one but you can do this") can be negatively perceived by him. Because the teacher can use this technique in order to gain the trust of children, forgetting that they are very sensitive to falsehood and insincerity. If the student has an inadequately low self-esteem, even sincere, frank praise can be rejected by him ("He praises me on purpose, because he feels sorry or wants something from me").

The word is a very powerful tool in the hands of a teacher. In order to achieve mutual understanding with students and their parents, he must avoid (do not demonstrate in words, tone, intonation) skepticism, intemperance, mistrust or doubt in the positive qualities of children, even if they do not study well, violate discipline. The

teacher is one of the iconic, authoritative figures for parents and their children, his evaluations, prognostic judgments are of great importance for them. Therefore, his words should contain both a vision of the child's positive qualities and an optimistic scenario for his future. At the same time, it is appropriate to keep in mind that neuroses (neurasthenia, hysteria, psychosthenia), mental injuries (fear, complexities, various syndromes), moral fatigue and exhaustion of the student are the result of ignorance and low ethical and speech culture of the teacher.

The speech interaction of the teacher with students should be based on the principles of equality, mutual respect, morality of partners, accompanied by the use of the necessary etiquette formulas in speech. An equally important feature is its adequate tone (calm, neutral) and motivated pace of speech, avoidance of sharp evaluative judgments, ironic remarks, scathing hints and other negative speech manifestations addressed to the interlocutor. His word can inspire a child's self-belief, empower him, inspire him to do good deeds, or he can humiliate, discourage, isolate him from people. Therefore, the teacher should always remember this.

COMMUNICATION MODELS AND TEACHER SETTING

In the process of communication, the leading personal need is the need for self-expression and self-realization in activities, words, and thoughts out loud, which is modified and individualized every time. An external indicator of this is the means chosen by a person for self-expression, which affects the communicative behavior of the individual.

The teacher's communicative behavior is the organization of the language process, the teacher's nonverbal behavior, which affects the creation of an emotional and psychological atmosphere of pedagogical communication, the relationship between the teacher and students, and the style of their activity.

It is evaluated on the basis of what and how the teacher says, what gestures, movements, and facial expressions he has, what connotations his words have, what reaction the students are expecting.

The American scientist M. Talen proposed a typology of communicative behavior of teachers, which covers their following roles: "Socrates" (a teacher who

likes discussions, debates and provokes them in the classroom); "Leader of group discussion" (considers the main thing in the educational process is to achieve agreement, establish cooperation between students, assuming the role of a mediator); "Master" (the teacher is a role model in attitude to life that students should follow); "General" (a teacher who avoids ambiguity, is emphatically demanding, strictly demands obedience, believing that the student must obey his orders); "Manager" (a style characterized by an atmosphere of effective class activity, individual approach to students, encouragement of their initiative); "Coach" (the atmosphere in the classroom is imbued with the spirit of teamwork, the teacher is assigned the role of the one who inspires group efforts, for whom the final result, victory, is the most important thing); "Guide" ("a walking encyclopedia", it is characterized by brevity, accuracy, endurance, technical perfection, which often cause boredom).

Many psycho-communicative elements were used in their classification of communication models. It covers the following communication models:

— "*Mont Blanc*" (dictatorial). The teacher rises above the class like a mountain peak. He is detached from the students, he is not interested in their interests, relations with them, his communication is reduced only to informing the students, which causes their passivity. The teacher exaggerates the informative function of the word;

— "*Chinese Wall*" (non-contact). During such communication, the teacher constantly emphasizes his superiority over the students, shows contempt for them, overestimates the role of speech, personal example;

— "*Locator*" (differentiated attention). In such communication, the selectivity of the teacher in the organization of relations with students prevails. It focuses attention on a group of weak or strong students, which destroys a coherent and continuous system of communication, arbitrarily combines dialogue and monologue in communication;

— "*Robot*" (inflexible response). The teacher acts purposefully and consistently on the basis of a certain program, despite the circumstances that require changes in communication. He combines monologicity with intentional and unmotivated dialogicity;

— "*I myself*" (authoritarian). The teacher is the main actor, often inhibiting the initiative of students. Dialogue under this model of communication is reduced to a minimum, it is used only as a tactical technique;

— "*Hamlet*" (hyperreflexive). The teacher's actions are accompanied by doubts about whether they will understand him correctly, whether they will respond adequately to his remarks, etc. He exaggerates the self-presentational and sensual function of speech;

— "*Friend*" (active interaction). This model can cause the teacher to lose business contact in communication. He adequately uses dialogue, professional and universal speech;

— "*Teteruk*" (hyporeflexive). During interaction with students, the teacher hears only himself, does not respond to the student, is not aware of his experiences and needs, and exaggerates the informative function of speech.

V. Satyr's classification is built on other bases, in which the following communicative types are distinguished:

- preventive. He constantly tries to please others, asks for forgiveness, avoids arguments, acts as if he cannot do anything himself without the approval of others, agrees with any criticism directed at him, is grateful for being talked to;

- accusative. He is a dictator who looks for culprits, behaves defiantly, speaks harshly, interrupts others, seeking in this way to gain authority and power over them. In the depths of his consciousness, he knows that he is worthless without others, and therefore he is happy if they obey him, feeling guilty;

- prudent (computer). The person is extremely correct, calm, calculates everything in advance, has a monotonous voice, builds long phrases;

- remote. He does not respond to any questions, often speaks inappropriately, untimely and out of place;

- balanced. This is a complete personality that behaves consistently, harmoniously, treats others openly and honestly, does not degrade human dignity, finds a way out of difficult situations, can unite others for joint activities. Such a person

directly conveys his thoughts, openly expresses his feelings, it is easy to communicate with him.

According to the transactional concept of E. Bern, people in their behavior implement three positions: Adult (perceives the world as it is, understands the interests of others, knows how to distribute responsibility between himself and others), Father (does not understand what the world really is, but knows what he should be; educates, instructs, punishes, but can take responsibility for himself) and Children (emotional, direct, irresponsible, dependent on others). Each person is endowed with these qualities, but uses them differently. At a certain stage, each of the three positions is appropriate and necessary. However, often the position of Father or Adult can be inappropriate, even comical, if it does not correspond to the situation, age and individual characteristics of the people communicating. Most people prefer to communicate from the "Adult-Adult" position. In order to achieve the goal of communication, it is important to correctly identify the position of the interlocutor, to determine your own.

A communicatively effective teacher must create his own model of communication, creatively reacting to changes in external circumstances, the behavior of partners, skillfully achieving a constructive goal.

A teacher's communicative behavior is also significantly influenced by his attitudes - persistent tendencies to a certain form of response, with the help of which a need can be satisfied. They orient his activity in a certain direction, reflect the state of the individual, ensure ease, automaticity and purposefulness of behavior, and mediate his active interaction with the social environment. Attitudes can be positive (the student's behavior is based on his positive attitude toward the teacher) and negative, biased (the teacher's attitude toward underachieving students who also violate discipline).

The role of attitude in pedagogical communication was investigated during an experiment known in the history of pedagogy as the "Pygmalion effect". American psychologists Rosenthal and Jacobson, after psychological examination of schoolchildren, determining the level of their mental development, informed the

teachers that there are students with high intellectual potential in the classes, naming their names. At the same time, children who actually had different successes and abilities were named. After some time, psychologists found the most noticeable successes in the development of those children who were named among the best, but had mediocre grades. This happened because the teachers, having learned about the remarkable abilities of their pupils, changed their attitude towards them. Even if the child's level of knowledge was very low, the teacher began to pay more attention to it, creating conditions for its effective development. He treated the child as talented and did everything to develop his talent. Therefore, the teacher's attitude should always be positive, dynamic, optimistic.

The figure of a teacher

A teacher is, first of all, a person who should have the right to his emotions and experiences. But the educational profession requires you to displace all your personal experiences, and to be completely absorbed by the experiences of your pupils, and to be guided by children's needs when forming your model of behavior at school. The teacher's behavior is often reflected on his pupils, and carries with it certain consequences. And it is very important that such influence is exclusively positive and for the benefit of children. Such responsibility is very serious. And although it rests on the shoulders of the teacher, the role of the student, in this case, should not be diminished.

Children are not born with the skills to follow certain rules of behavior or etiquette. Such things are first learned by them from childhood subconsciously, simply by observing the behavior of adults around them. Later, upbringing, which depends directly on parents, has a significant influence.

As a result, children come to school already with the skills they were taught at home, or simply demonstrated by their parents. And how they will react to another, foreign adult who tries to become an authority for them, it is impossible to guess. After all, children can, for example, transfer their aggressiveness, which is the result of communication with relatives at home, directly to the teacher. Or close up in yourself and not let anyone in.

This pushes the teacher to search for a given model of behavior in order to give the child the opportunity to open up in the team in the future when communicating with her. The same can be said about their behavior in the classroom and in the children's team. This is where the teacher's first task begins - to identify the individual characteristics of each child that affect their upbringing.

The teacher must consider all aspects when planning further educational work. Therefore, maintaining communication between the teacher and parents is a very important part of the interaction between the teacher and students. The child must see their interaction, and understand that he can completely trust the teacher, following the example of his parents. Not all children come into contact with a "stranger" adult. And it is in such cases that it is appropriate to observe those etiquette rules of interaction with the student, which will allow the teacher not to cross the boundaries and not to injure the child's vulnerable psyche.

There is a certain distance dictated by certain etiquette rules of communication, which the student and the teacher must observe when interacting in an educational institution. In my opinion, this also applies to love for children, emotions, personal experiences and influence, or expressing them in one's behavior.

You need to know how and when to express your feelings, when exactly it will be appropriate and in what form. For example, during the lesson, it will not be correct to call students by diminutive and endearing words (bunny, ladybug), single out favorites, forgive students' bad behavior, or even encourage it, give undeserved grades, encourage children to study using incorrect or non-pedagogical methods. The opposite behavior of the teacher is also unacceptable.

Meeting the needs of communication between students and the teacher directly during the learning process is quite a difficult task.

Unprofessional behavior of a teacher, which does not meet ethical requirements, can cause a number of conflict situations and cause a negative attitude towards himself on the part of the student. As a result of improper behavior of the teacher, there may be deterioration of learning, alienation of students, reluctance to think and participate in the educational process, work capacity decreases, various fears and self-doubt arise.

From studying a single subject, or directly from communicating with the teacher who teaches it, such problems can drag on for several years.

The rules of etiquette, which indicate how a teacher and a student should interact with each other, clearly form and predict all situations that may arise during such interaction. This provides parents with peace of mind that their child will not be harmed, and a guaranteed solution to any problems that may arise during their stay at school, under the responsibility of the teacher.

The interaction between the student and the teacher should have both a creative character and an educational effect, and should include motivation for learning and its effectiveness. However, the most important task of such interaction is directly the process of knowledge transfer. No matter how many rules children have to follow, the main thing is that their bright heads are not clouded by what society imposes on them, and they have the opportunity to grow freely in their thoughts and actions and acquire real knowledge that plays an important role in their lives. And I sincerely believe that every teacher consciously approaches his difficult, but very noble mission!

Speech etiquette of the student

And what about our youth? Students speak Ukrainian mainly in classes, immediately after the bell, unfortunately, some of them forget about it during the break.

And let's listen to what our young people say. It is known that the culture of language behavior is a kind of mirror of a person, his external and internal intellectual face. The language of the youth is gibberish, sometimes a set of Ukrainian words... What kind of speech culture can we talk about here, when a young person not only does not know his native language, but also elementary ethical rules of behavior that are laid down in the family from childhood.

Many questions were discussed during the educational lesson using the examples of: language etiquette; etiquette units used to express greetings, farewells, apologies; speech units accompanying requests; formulas of gratitude, constructions of morality; typical phrases of the dating ritual; etiquette formulas of appeals; rules of family etiquette; dialogues on topics proposed by students, etc.

The main field of activity, on which the educational hour was built, is an educational session. It combined different forms, genres, functional varieties of communication, and it was at this educational hour that the best formation of speech etiquette of a modern student was considered.

So, according to the students, both teachers and students should possess speech etiquette. Its formation is facilitated by the use of commonly used phrases, phrases, stable sayings; simulation of communicative situations of different thematic focus and stylistic color; practicing the skills and application skills of various models and formulas of speech and behavioral etiquette in terms of form and content.

It is necessary to remember the saying of V. Sukhomlynskyi: "I would like to advise teachers: if you want your education to become an art, sharpen your words. Search in the inexhaustible treasury of our native language for pearls that light the fire of admiration in children's eyes. Find the finest shades on the multifaceted palette of folk wisdom. Talk to children beautifully about the beauty of the surrounding world."

Speech communication is a means in which speech is used as a sign system (a system of phonetic signs containing two principles: lexical and syntactic).

In psychology, a communicative act is often distinguished into an orientational and an executive part. The first includes the analysis of the interaction situation, the formation of an action plan, that is, the communication strategy necessary to achieve the goal. An important point of orientation is also the assessment of the possible consequences of certain actions and the prediction of the neutralization of negative results. The executive part is most often implemented taking into account the rules for the regulation of joint actions: speech etiquette, self-presentation, feedback. The latter means the subject's reaction to what he heard, because he sends information about it in the opposite direction. This reaction indicates whether the subject understood the received signals, whether he trusts the message and how he emotionally relates to the partner and the specific content of the message.

In order for the communicative act to be successful, it is necessary to pay attention to the code and context at the orientation stage. This is the perception and understanding of the contact situation and the selection of a communication strategy.

In this case, attention is focused on the addressee (interlocutor), and not on oneself. At the execution stage, own actions are already controlled, messages are constructed and contact is maintained.

The culture of speech communication contains two components: the culture of speaking and the culture of listening. It is said about one person that she speaks as she sings, about another - that she can not only listen, but also hear.

Research by scientists shows that only some of those people who communicate are marked by a high culture of listening. At the same time, the inability to listen is often the main cause of ineffective communication, misunderstandings and even conflicts. Why are we sometimes unable to listen and understand our communication partner? Because, first of all, our attention is not stable, it fluctuates. So-called words distort the content of messages. Our emotional state also distracts us from what the interlocutors are talking about, and we tune out.

Even the phenomenon of "perceptual distortion" has been recorded. It turned out that people are able to change or completely ignore information that seems dangerous to them, disturbing, causes a feeling of insecurity, does not correspond to the image of themselves or the picture of the world that is reliable for them. If a person does not want to, he may not hear criticism directed at him, or he may not remember someone's request, which is difficult to fulfill.

Listening is not just silence, but an active activity, a kind of work, preceded by a desire to hear, an interest in the interlocutor. How a person reacts to another's message depends on the level of his morality, his culture.

Both verbal and non-verbal aspects of listening are important, especially "whole body" listening. When we are interested, we unconsciously turn to face the interlocutor, lean towards him, establish visual contact with him, that is, at the unconscious level, attention is focused on the interlocutor. Cultured people with high moral attitudes do it consciously.

You can listen to your partner and provide verbal feedback in different ways. The following types of human reactions to the interlocutor's speech will be distinguished: evaluation, interpretation, support, clarification, sensitivity and

understanding. Most often we deal with assessment and feedback, less often with interpretation. Clarification, support and understanding are very rare.

**In order for listening to be effective, it must correspond to a high level of
culture**

communication, in particular moral, evaluative judgments and interpretations should be minimized or better not used at all. Otherwise, we begin to "measure" the interlocutor's thoughts and feelings with our standards, comparing them with our scale of values. At the same time, the communication partner turns to us with a completely different desire.

Of course, this does not mean that you should not express your own opinion. However, it is always desirable to remember the purpose of listening, especially when the interlocutor and the contact with him are significant for us. If the basis of communication is an informative function (for example, in a lecture) or a speech control function (for example, when learning a foreign language), then the requirements for the listening process must also be appropriate. In this case, both evaluation and interpretation can take place.

There are two types of listening: non-reflexive and reflective. In the first case, we are talking about attentive listening with minimal linguistic interference. It often helps people express their feelings. Sometimes such a hearing is called minimal support. Non-reflective listening should be used when it is difficult for the interlocutor to convey his feelings (for example, he is very excited) or when the different status of partners becomes a barrier to communication. Reflective listening involves the regular use of feedback in order to achieve greater accuracy in understanding the interlocutor. For this, clarifying questions are used. They help reveal the meanings "encoded" in the words-messages. Using speech etiquette, commonly used words, we put a personal meaning in them. Checking the correctness of what has been heard makes it possible not to attribute to the partner any of his own thoughts, feelings and attitudes regarding a specific issue.

There are four types of human reactions during listening: clarifying, paraphrasing, reflecting feelings, and summarizing.

Clarification consists in asking the interlocutor for clarification and asking him "open" questions (that is, those that cannot be answered with one word: "Yes" or "No").

Paraphrasing is the formulation of the interlocutor's thoughts in his own words in order to determine the accuracy of understanding. When it comes to the reflection of feelings, it means that the emphasis is placed in the process of listening not on the meaningful side of the interlocutor's speech, but on his emotional reactions. During feedback, we try to show the interlocutor that we understand his feelings. Very often, this is what is important for a partner, and this is exactly what he expects from us. In addition, such feedback can contribute to the fact that the person who speaks will better understand his experiences. He will notice the inaccuracy in the interpretation of his condition, and this will help him better understand himself and his feelings.

Answers-clarifications make it possible to generalize the thoughts and feelings of the sender of the information in a certain way. They are used primarily to assess whether the interlocutors understood each other correctly. We say: "If I understood you correctly...". Such a reaction relatively quickly leads to mutual understanding and understanding of the content of the problem. Summarizing is also used if, during the conversation, attention switches to another, often secondary issue. This type should be used in the conversation in order to sum up the results. It is also useful to use it to prevent and resolve conflicts.

Let's consider the characteristics of "speech", that is, the mechanisms of speech, the construction of utterances, the individual characteristics of a person speaking.

The phenomenology of speech is extremely diverse. These are the peculiarities of the vocabulary used, and mastery of grammar, and the wealth of associations, and the productivity or stereotypy of speech, its dynamism, and manifestations of a certain attitude towards the interlocutor.

Constructing an utterance is the solution of specific communicative tasks in accordance with the purpose of speech and the specifics of the situation. For this, with the help of speech, it is necessary to stimulate the interlocutor to create an internal image, similar to the one that is transmitted to him.

Dialogue and monologue are important characteristics of speech communication. Communication that uses both dialogue and monologue can be effective. A dialogue is significantly different from a monologue. The latter is considered an ontogenetic later, more complex stage of speech development.

Monologue and dialogue have psychological-situational and linguistic features. Unlike a dialogue, a monologue seems to anticipate the interlocutor's reactions. Utterances here are more detailed, words are chosen more consciously and sentences are constructed, facial expressions and gestures play a smaller role. In dialogue, the so-called dialogical relations, about which M.M. Bakhtin wrote so convincingly, are of great importance: "A dialogical reaction personifies every statement to which it reacts." In a two-voiced word, in dialogue replicas, someone else's word and position are taken into account and reacted to. And this is the main characteristic of a dialogue, compared to a monologue.

Based on this feature of the dialogue, new concepts of the ethics of knowledge, thinking, learning, management, etc. are being developed. At the same time, it is taken into account that the internal dialogue plays an important role in the individual thought process, and the external one in the joint solution of tasks. External dialogue, which is so necessary for the joint thinking activity of partners, primarily children, students, must be specially taught. Therefore, now one of the principles of restructuring education in schools and universities is the principle of dialogization of pedagogical interaction.

The point is that a monologue is an inequality in the exchange of information. One dominates here, for example, a teacher, leader, manager. He is a source of information, asks questions, monitors and evaluates answers, serves as a standard for imitation. Such interaction involves only a superficial, partial understanding and acceptance of the personalities of those with whom they communicate. Dialogic interaction is personally equal positions, cooperation, where motives of self-actualization and self-development of the interlocutors dominate.

In any communication, a distinction is made between the level of content and the level of relationships. To better understand the difference between the two, consider

the following example: a subordinate asks the manager to allow him to use the car to get to the airport (request level). At this time, the manager will also need this car, and at the same time he wants to help (relationship level). Such inseparability of these two levels of communication in the mind is often the cause of misunderstandings between people, interpersonal conflicts, as well as manipulative games in which partners get involved.

It is known that almost 40 percent of the speech text is uttered in order to convey the attitude, the relationship. These are positions, thoughts, situational self-assessment, communication distance, establishing psychological contact, role and social status. Based on the study of speech influence in the conditions of public debate (parliamentary speeches), an even more expressive result was obtained: 64 percent of all methods of influence belong to those when a certain attitude of one person is transmitted to others or to the content of their speech. This is manifested in emphasizing the importance of the discussed problem, discrediting the opponent and his opinion, exaggerating the significance of one's own attitude to the problem, etc. Even within the limits of a rational discussion, the personality of the sender, his attitudes, emotional features and communication skills play a big role. The subjective nature of the perception of those who listen, their bias also affect the course of the discussion, the polylogue.

It has been established that a mismatch or confrontation of positions often pushes partners to move to other levels of meaningful activity, and this, in turn, affects the development of the dynamics of their relationships. In general, the contradiction in the dynamics of the two mentioned lines of communication is considered as a force that contributes to the development of polylogue.

Taking into account the above, it is necessary to understand what activity each of us shows during a dialogue or polylogue, and what specific contribution each made to the discussion. It is good when activity is manifested at the level of morality, then it contributes to mutual understanding and goal achievement. Otherwise, it is desirable to "separate" people from the problem so that the discussion is effective. For example, there are two participants in a polylogue, A and B. The first of them, A, is prone to

opposition and tends to avoid making a decision. He does nothing to bring opposing positions closer, he does not insist on his own. The second participant B also likes this level of relationships where opinions are opposed. But he actively processes the information received during the discussion, builds his analytical concept and seeks to convey it through conviction to other participants in the conversation. Therefore, B, unlike A, adheres to moral principles and norms, so his contribution to the achievement of a common goal is not only noticeable, but also more effective. As follows from the given example, persuasion as a means of influence plays an important role here.

Speaking culture is closely related to speech etiquette, i.e. the rules of greeting, introduction, farewell, gratitude, apology, invitation, approval, etc. People, as a rule, react negatively to violations of etiquette formulas developed by society.

In order for business communication to be effective, it is important that its participants address each other as "You" (both to employees and to customers). Such an appeal is a necessary tool for maintaining normal service relations and labor discipline in the team and establishing partnership relations with clients. It is mandatory to address the other by his first and last name. A timely word "thank you" can be no less effective than a monetary award. Official etiquette has already been discussed. Let's just add that sometimes the effectiveness of communication will also depend on what voice (low or high) a person speaks, diction, accent, etc.

The disease of our time is verbosity. Almost every person thinks that they know more and can do something better than others, so they want to speak for themselves. Only a well-educated person knows when to speak and when to listen to others, even those who criticize him.

So, speech etiquette is a complex system of language signs, which is based on moral rules and requirements and indicates the attitude towards both other people and oneself. The culture of communication is not just a culture of choosing effective strategies and tactics, which are based on humanistic communicative attitudes, knowledge and skills. It is also the result of applying the rules of constructing messages, speaking and listening, it is the active use of the rules and norms of humanistic ethics, constant compliance with the requirements of official etiquette.

Speech etiquette imposes certain requirements on communicating students: their conversation should be polite, polite, and decent, and the communicators themselves should be considerate and courteous to each other. The culture of business communication can be defined as a set of moral norms and ideas that regulate the behavior and relationships of people in the process of their production activities. The culture of business communication contributes to the establishment and development of cooperation and partnership relations between colleagues, managers and subordinates, partners and competitors, largely determining its effectiveness: whether these relations will be successfully implemented in the interests of partners or will become meaningless, ineffective, or even cease altogether, if the partners do not find mutual understanding. That is why the culture of speech is a set of such qualities that best affect the addressee, taking into account the specific situation, set goals and tasks. These include: accuracy, comprehensibility, purity of language, richness and variety, expressiveness, correctness.

Today, there are significant shortcomings in the development of professional broadcasting. These trends are developing against the background of the so-called "philological catastrophe", which has recently been discussed by both linguists and wide circles of the pedagogical community, and which is associated with the fact that for the majority of our youth, not only the book has receded into the background, but also literary language itself, yielding to youth slang or slang. Under such conditions, a significant number of specialists enter higher education institutions with significant gaps in their knowledge of the literary language, and most of them do not speak Ukrainian to a sufficient extent. The students themselves explain the spread of slang among young people by the fact that it is the slang language that helps them express their emotional and expressive state more vividly.

The vocabulary of students, especially in recent years, tends to activate "reduced" lexical means, which have been given the opportunity to communicate without restrictions with all stylistic opponents: youth, criminal slang, musicians' slang, businessmen's slang, computer slang. But can this always be explained by the fact that jargons act as a means of expressive nomination? The interpenetration of the slang of

different slang groups, especially the criminal one, in the student slang can probably be explained by the strengthening of the criminogenic situation, the excessive romanticization of the life of the criminal world by some students. The speech culture of college students is no less influenced by "anti-etiquette" - vulgarisms, insults, curses, etc., which offend, humiliate, wish evil. Such speech leads to the gradual degradation of the personality, to its spiritual impoverishment. Many modern students have a habit of slandering. Some believe that swearing and dirty swearing help relieve stress and mental strain. But this kind of "language" has an anti-social character, it "contaminates" our society, has a negative impact and does not correspond to the traditions of the Ukrainian people, its mentality. "The negativism of these words and expressions extends to the attitude to different and close ones, to nature and people, to national values, to everything holy" [2, p. 16].

Vocabulary with limited use also includes vulgarisms that cause anti-etiquette speech. Vulgarism is "a rude word or expression that is outside the norms of literary language" [1, p. 34]. Such words are not accepted in speech etiquette. Their use leads to lowness, sloppiness, clogging of speech, which must be gotten rid of. If such anti-etiquette units did not exist in the language, they probably would not exist in the minds of speakers. Communicators would not have the main linguistic and behavioral models, the means of expressing unkind, disrespectful attitudes towards other people, so to speak, the toolkit of anti-etiquette. The anti-etiquette behavior of speakers is affected by invective vocabulary and phraseology. Studies of invective vocabulary show that now boys and girls swear equally, only in the swearing of boys there is some self-confidence, and in the swearing of girls - hysteria. A woman who acts as a standard of decency should not be slandered. However, you can hear dirty words from the mouths of modern women and girls. They believe that this will make their speech "cooler". Slander is a sign that a person's heart is full of filth, that is, something unkind and impure. Then morally perishes not only the person who slanders, but also those around him.

Slander brings the most harm to children who, hearing "mother's names" and curses from adults, are "infected" by it themselves. Children, like a sponge, absorb

everything they hear and see and try to imitate it. Invective vocabulary is a pathology, disharmony, pollution of everything around. It causes moral degradation of a person's inner world. This vocabulary penetrated all spheres of cultural life: literature, television, etc. Most of such a phenomenon as slander is observed among students and teenagers. It serves as a standard for entering the teenage subculture and a means of their self-expression. One of the most important and positive features of a person is sociability. It is a person who has the ability to communicate and be sociable with others. Good manners in communication are an example of a highly educated and cultured person. There are so-called "errors in communication", which indicate "violation of standards of cultural behavior, ethical and aesthetic norms in the use of verbal and non-verbal means of communicative interaction" [4, p. 6].

Linguistic etiquette contributes to the formation of a linguistic personality. Yu. M. Karaulov uses the concept of linguistic identity in his writings. For him, a linguistic personality is "not just any speaker, but only one who takes responsibility for his speech and possesses a set of speech skills" [4, p. 9]. Adhering to the rules of etiquette in language communication means that a person has an ethical culture and knows how to manage and control his feelings and behavior. Summarizing, we can say that speech is extremely important in a person's life, it is not only a means of communication, but also a manifestation of the inner wealth (or poverty) of a person and a powerful means of his growth (or decline).

It is rather unfortunate to observe students who are characterized by a manner of rudeness, impudence in behavior; obscene and vulgar jokes. With such people, it is impossible to avoid communicative deviations, because a decent, educated person will never communicate with a rude person, argue, listen to his arguments. In order to achieve a communicative goal, communication participants need to follow communication, speech etiquette rules, in particular, rules for using non-verbal means of communication. Therefore, work on the speech culture of a modern student is also a great educational work with a young person who needs to accept the spiritual truth - "speech culture is not an intellectual whim, but a vital necessity for the people" [3, p. 18]. And the future graduate of a higher educational institution is a person who will be

responsible not only for the high-quality performance of work, but also for the spiritual microclimate of the team, which is based on communication through words. Therefore, everyone's speech should be meaningful, correct and clean; accurate, logical, rich, relevant, expressive and figurative. The future manager has no right to use slang, obscene, rude words. Students should master the rules of behavior, learn the formulas of language etiquette, remember that situations of "polite contact" between communicators, in particular, situations of greeting, introduction, farewell, thanks, apology, congratulations, are a necessary and important component of communication. The foundations of the communication culture of each person are laid in the family and school. But, obviously, at school as well, and most importantly, in the family environment, children often did not hear polite words from their peers and parents.

Apparently, communication in some families is limited only to imperative forms and not only in the form of literary expressions. This is confirmed by the results of the student survey. Of the 286 students interviewed, only 152 wrote that they constantly use language etiquette formulas and cannot imagine communication without them; used occasionally - 80; believe that it is possible to do without them - 54. That is, the majority of students nevertheless take care of the purity of the language, avoids the use of vulgar words. The speech culture of the future specialist is determined through his speech experience, which includes the practice of language communication, the constant use of language for the purpose of learning about the environment and himself.

One of the first enemies of the pure Ukrainian language are parasitic words. It is not their meaning that makes them parasites, but their excessive use in speech, which over time becomes a habit. It is necessary to fight with enemies in a timely manner. For this, we have found some useful recommendations. What types are the words parasites divided into:

1. Conditional parasites

They appear where a pause should be made in the sentence. Most often these are exclamations. They arise when a person ponders a phrase, stutters or worries when speaking. Thus, we all use the words: "hmm", "mmm", "yee", "eeee", etc.

2. Emotional parasites

They are used when a person wants to make an emotional emphasis on what he is saying, to intensify his impression, to dramatize. Very often such words are: "real", "slipper", "shorter", "straight", "tin".

3. "Migration and landing" parasites

The reason for the appearance, as in conditionals, to some extent can be considered the lack of ability to fill pauses. The peculiarity of these parasites is that they start almost every human thought without performing any useful or informative function. These are the words: "honestly speaking", "shorter", "like".

4. Feedback parasites

This is a kind of artificial way to create the impression of an attentive listener. These include periodic questions: "yes?", "really?", "well?", "really?".

How to deal with word parasites

Eradicating parasitic words from speech is not difficult, but you need to work on yourself and follow simple recommendations.

1. Record the way you speak on a recorder.

Thanks to this, you will understand which words you use the most and what the problem is. Do not be afraid to hear the imperfection of your speech, speak naturally, because you are interested in the result. Do not try to read the studied text. Consider your language not as a disadvantage, but as a small problem that can be easily solved.

2. Endure pauses

This, unlike parasites, can become an intonation decoration of your speech. Resume the conversation only when you want to say something valuable, not a word parasite. Think about the sequence of sentences.

3. Concentrate on the voice, timbre, tempo

Your attention to pronunciation will become attention to the content of what is said. That is, you will stop saying words that do not make any sense.

4. Enrich your vocabulary

Read books. By having more synonyms, interjections, epithets, metaphors, etc., you will be able to avoid awkward pauses. If you always have something to say, there will simply be no need for parasites.

5. Use intonation, facial expressions and gestures

Their absence sometimes causes the appearance of parasites. When there is an opportunity to express emotions by voice, the need to use unnecessary words disappears.

Conclusions. It is necessary to apply the rules of ethics and aesthetics in professional communication, because it is the organic combination of goodness and beauty in communicative interaction that creates the art of communication. In order to be successful in this art, it is necessary to skillfully apply it in daily language practice, namely, to interest people when talking, to learn to criticize without offending a person, to be a pleasant interlocutor, to have the right voice when communicating. Nowadays, the demand of a specialist in the labor market and his competitiveness largely depend on fluency in his native language, the ability to communicate effectively, knowledge, methods of speech influence and persuasion. Therefore, the formation of speech culture plays an important role in the successful professional activity of the future specialist.

References:

1. Nina Vozniuk. *Etyka*. Tsentr navchalnoi literatury. 2019. 300 s.
2. Benedykt Spinoza. *Etyka*. Andronum. 2020. 210 s.
3. Tiahunova N. *Pidpriemnytstvo i biznes-kultura. Kredytno-modulnyi kurs*. Tsentr navchalnoi literatury. K. 2019. 118 s.
4. Pedko A.B. *Osnovy pidpriemnytstva i biznes-kultury. Navchalnyi posibnyk*. Tsentr navchalnoi literatury. K. 2019. 168 s.
5. Mariia Pentyliuk, Ihor Marunych, Iryna Haidaienko. *Dilove spilkuвання ta kultura movlennia*. Tsentr navchalnoi literatury. 2019. 224 s.
6. Tkachenko O. V. *Profesiina etyka ta psykholohiia spilkuвання v restorannomu hospodarstvi*. Svit knyh. 2020. 98 s.
7. T. Chystilina. *Etyka ta estetyka*. Tsentr navchalnoi literatury. 2019. 304 s.

5. Disciplinary relations in modern science: prerequisites for formation and substantive perspectives

5.1 Introduction

Given the dominant and fundamental status of classical metaphysics, which it took over in the theology of the New Age, disciplinary relations in classical science should not be a methodological problem. It is only about the competition of alternative programs of mechanism represented by R. Descartes, H. Galileo, T. Hobbes, T. Hooke, I. Newton or G.W. Leibniz. The disciplinary ice of mechanism broke when doubts arose about universal determinism and the means of its interpretation in certain fields. Already in the 19th century, even before conventionalist reflections, the instrumentalist approach, with which mechanics concealed itself from the traditional goals of studying the goals of the universe, gained expression in the transfer of all attention to alternative mathematical formalisms with the interpretation of ontological determinism as transcendent and irrational. Therefore, the undoubted successes of scientific determinism could be explained only as artificial theoretical hypotheses and convenient practical devices.

In this context, the representatives of pragmatism are noticeably different in their efforts to translate the «practical» advantage of artificial scientific determinism into a respectable «scientific» rationale, extending it to the level of philosophical determinism. The «tychism» that arose in this way is an interesting and understudied mechanism of pragmatic mediation of the irrational and random ontology of non-classical science by the rational-normative and material conditions of scientific society in the form of objective «laws of probability».

Considering that the more massive reaction in the scientific community to the indeterministic conclusions of empirical research consisted in the atomistic tradition of eliminating all signs of transcendence in knowledge in favor of «positive» evidence and «neutral» mathematical interpretations, the historical and scientific problem consists of the reasons for the adoption of probabilistic methodology. In our opinion,

they should be sought in the interdisciplinary exchange of the late classics: if the influence of psychology with its mechanisms of symbolization on non-classical logic, mathematics and theoretical physics is well known thanks to the works of G. Holton, then the influence of determination schemes from idiographic disciplines on the general non-classical culture of thought remains in the shade. In contrast to the flat positivism in these areas, neo-Kantianism with its distinction between the levels of rationality and determination, although partially reduced by probabilistic means of description, which caused also the non-classical mixing of theoretical and empirical knowledge in the form of the phenomenon of «theoretical load of facts», was more successful.

Philosophical reflection of interdisciplinary processes in science establishes a resonance of expansion of ontological ideas of global evolutionism from natural science and criticism of the static image of scientific knowledge from postpositivism. However, legitimization in this way of a dynamic beginning in the methodological consciousness of scientists, in addition to establishing a common platform for interdisciplinary communication, requires, at a minimum, overcoming stable dichotomies, such as externalism – internalism or «context of discovery» – «context of justification».

One of the promising means of reconstructing such a dialectic of the cognitive and the value, the psychological and the logical seems to be the introduction of stochastic categories into the apparatus of scientific rationality and self-reflection. The beginning of this process was laid by the classical theory of probability in relation to the quantities of scientific description, and in the times of post-non-classics the dominance of the constructivist approach in the scientific representation of chance, infinity, relativity, and formation becomes noticeable.

At least, taking into account epistemological randomness in the structure of general scientific methods promises to improve probabilistic models of the growth of scientific knowledge, actively developed by evolutionary epistemology and the post-non-classical project of nonlinear science. On this basis, a historical and scientific review of the relations between the natural and human sciences is proposed in the

perspective of the methodological principles of monism, constructivism and evolutionism.

The prospect of an interdisciplinary theory of dynamic description is associated with new nonlinear theories («sciences of complexity») – synergetics, nonequilibrium thermodynamics, chaosology, nonlinear dynamics, theory of dissipative systems, catastrophe theory, theory of singularities and bifurcations, fractal theory, qualitative theory of nonequilibrium phase transitions, etc. – which are distinguished by the development of a model representation of evolutionary processes by means of updated characteristics of chaos. The epistemological justification of chaos is associated with recent progress in calculus and measurement accuracy, when the discovery of the nonintegrability (A. Poincaré) of elementary causality and, in general, the heterogeneity of connections (levels) of determination, as well as the limits of accuracy (B. Mandelbrot) turned against the ideal of completeness of description.

The non-classical concept of chaos, transferred from the predicate (property) to the subject (state, object), presupposes the complication of the causal field to the «probabilistic-statistical» (statistics of «ensembles» plus probabilistic dynamics of «atoms»), and the structure of the system to the chaotic proper (in the sense of instability of random variables). The strategy of representing chaos changes in the transition from the classical study of closed systems to fundamentally open ones: from the concept of «dynamic chaos» with its emancipation of complexity (from the idealizations of classical science) to the concept of «deterministic chaos» with its reduction of random events in constructive stochastic dynamics based on a simple (deterministic) basic equation.

Based on the fact that the regularities of scientific laws are derivatives of cosmological singularities, and they fit into the project of universal stochastic models (nonlinear science), stochasticity gains the prospect of entering the *worldview* plan of modern science in a role similar to the *subjective* factor of a non-classical observer. However, the axiological and methodological potential of the stochastic image of the world depends on the implementation of its interdisciplinarity – the meaningful entry of non-linear stochastic models into all levels of scientific representation of reality

according to the scheme of «mathematical idealizations». Philosophical and methodological analysis of the emerging synergetic picture should establish its compliance with such a «virtual» criterion of post-non-classical rationality.

5.2 Irrationality into Probability: Dialogue of Philosophy and Non-Classical Science

A very widespread point of view regarding the non-classical theory of knowledge connects its beginning with the combination of Kant's denial of the correspondent («spectator») concept of truth with Hegel's epistemological processualism (progressivism), undertaken by F. Nietzsche. In this way, F. Nietzsche created a model of an extremely deterministic semblance of subjectivism. Another outstanding version of the German synthesis was proposed, according to the Canadian philosopher of science J. Hacking, by C.S. Peirce, who tried to compensate for the collapse of the possibility of truth with guarantees of a self-correcting method [1].

Correction is provided by a certain feedback that prevents the formalization of scientific knowledge into fundamental foundations (relations), from which it would only remain to deduce all sorts of consequences, without resorting to experiments. To prevent such speculations, C.S. Peirce puts forward the requirement of the *relativity* of truth, that is, the indication of specific conditions of its meaning. It is they that make it possible to move on to tangible consequences (effects) of the initial premises and thereby obtain convincing experimental objections against both. Then it will be possible to carry out correction to an updated configuration of conditions, logically not deducible from the original, in the hope of approaching the desired artifacts, which will simultaneously be consequences of more adequate knowledge.

Based on the statistical argument, one can claim that the results of such «trial and error» regarding hypotheses, conclusions and tests tend to converge to a stable *meaning*, which is dictated by the (co-)community of experimental experience in all its variability. But in contrast to the dialectical understanding of the *process* of truth, Peirce's relativity never passes into absoluteness, since the latter is either metaphysical, or unknowable, or irrational in itself (and these disjunctions are very weak). «Try to

verify any law of nature, and you will find that the more precise your observations, the more certain they will be to show irregular departures from the law. We are accustomed to ascribe these, and I do not say wrongly, to errors of observation; yet we cannot usually account for such errors in any antecedently probable way. Trace their causes back far enough and you will be forced to admit they are always due to arbitrary determination, or chance» [2, p. 47].

As can be seen, here are summarized the successes of C.S. Peirce in the theory of measurement, compensating for the disappointment of the scientific community of the 19th century in the possibility of *fundamental* positions of science (Euclidean axiomatics, principles of mechanics, etc.). «The paradox of the situation is that, although we know about the possible erroneousness of our judgments, yet as long as we have no real grounds to doubt them, as long as we believe in them, we cannot help but consider them true, for us they will be the absolute truth» [3, p. 321].

The most famous *fallibilist* version of understanding this situation is that of C.S. Peirce. Reality slipping into uncertainty forces the scientist to put forward ever new theoretical assumptions, the sophistication of the fallacy of which consists in strengthening the certainty of *internal* connections – affectibility, reducing sensibility (effectibility) – as well as in increasing the perimeter of referential connections («corroboration» in the terminology of K.R. Popper, «coherence» – N. Rescher, «self-organization» – W.R. Ashby). Therefore, the *probability* of the same scientific knowledge will change depending on its logical-psychological progress, regardless of reality, especially since the latter is nothing more than a pragmatic (expedient) hypothesis, a «correction of illusion». «And if Peirce had lived in the 20th century, he would have fully agreed with the neopositivists in their assertion that the problem of reality is a pseudo-problem that has no meaning in science» [4, p. 45].

This is a bolder step compared to the first positivist solution to the problem of reality. While A. Comte was struggling with «reasons in law» and «metaphysics in methodology», that is, the cultural-value dimensions of hypotheses about reality, to the extent that they are deprived of «positivity» (that is, the exit to the experimentum crucis regarding their truth value), C.S. Peirce was already imbued with irrationalist

philosophical (metaphysical) indeterminism («tychism»). As a non-classical philosopher, the American denies [mechanist] connections of phenomena repeatability and regularity, which could exhaust fallibilism, and with it freedom of spirit. At the same time, he still gives preference to the «aristocratic» explanatory function of theory, while positivism, qualifying it as metaphysical, brings to the limit the Newtonian «*hypotheses non fingo*» in the exclusive function of description [1].

Thanks to these premises, the founder of American philosophy comes to a derivative paradoxical statement about the *explanatory* status of the laws of probability, which forces us to interpret the objectively random world as deterministic. Like Kant's «pragmatic faith», from which academic pragmatism traces its ancestry, this is about the opposition of reliable (authentic, apodictic) and conjectural (possible, problematic) knowledge. Traditionally, in order to make an assertoric judgment about reality, either the first – necessary, or the second – random was used. However, in a situation of moral responsibility for a judgment, a random opinion becomes a *random belief* (*Unternehmung*), «as if» it were certain, and then only practical success [of the action] can become a justification for this epistemological adventure [5, p. 466].

In the more applied pragmatism of W. James, the implicit connotations of scientific pragmatic belief with the sphere of the transcendent were deployed in the most frank manner - by identifying this reduction of discouraging accidents with a strictly religious function [6]. Scientific epistemology is given, instead, the *full* articulation of its own premises in accordance with the epistemological formula of «adaptation of internal relations to external ones», which W. James traces back to the evolutionism of G. Spencer. Moreover, reflection on external relations should not be limited to immediate individual experience (as was the case with the English founder of positivism), but it should not turn into an independent variable that «by free will» reduces external relations (as is practiced in the moral and religious sphere). Otherwise, the study of expedient orientations (actions), for example, the *meaning* of theoretical concepts (terms), would be drowned in probabilistic epistemological pluralism: «for a psychologist who views phenomena from a strictly deterministic point of view,

manifestations of free will can be classified among the infinitely small factors that modern science can afford to ignore» [7, p. 354].

However, James's «radical empiricism» will differ from «flat empiricism» in the way it handles elementary regularities – the unlimited variability and combinability of these intersubjective positions in relation to the goals of a given subject. And the projections of such empiricism, as far as possible, to the ideological level give James's image of a «pluralistic Universe», in which neopragmatists see a premonition of post-classical scientific systems – stochastic and unfinished, open to spontaneous changes, fluctuations, catastrophes, bifurcations [8].

Finally, D. Dewey's «instrumentalism» finally breaks with the «spectator» concept of truth, excluding from scientific methodology what would later be called the «context of discovery» of theoretical knowledge, leaving it to either religious consciousness (P. Duhem) or idle speculation (E. Mach), but moderating epistemological pluralism (in addition to the pragmatic criterion itself) by the function of conventional coherence of elementary knowledge by the efforts of scientific experts. Nietzschean idea of truth as an «expedient error» finally found a prospect of justification in science. Thus, pragmatism, based on the material of qualitative areas and parameters of being, ignored by the idealizations of classical mathematical natural science, consistently discredits the explanatory and descriptive functions of theory, obviously in continuation of Kant's ontological isolation of the subject.

One of the main ideas of post-medieval science was the proclamation of a «ladder» of (semi-)transcendent «beings» that control earthly bodies. At the level of scientific programs, this meant that the moving material points of the revived atomism since the time of I. Newton are supplemented by [still only implied in Democritus] forces of change, tension (and direction). «It is true, of course, that changes in Newtonian forces can be explained as being due to motion, i.e., changes in the positions of particles. However, they are not identical to changes in the positions of particles, and the quadratic law is not even linear» [9, p. 139]. According to A.N. Whitehead, «Newton's forces are nothing more than the conditions of such constraint established by God, no matter in what mathematical form they might be finally expressed» [10, p. 521]. In the

course of the exhaustive mathematical articulation of the first scientific revolution, all the essential internal properties of *bodies* were transferred to these forces, representing the latter as equivalent unificates, the explanation of which can be reduced to functional (re-)movement: «the atomic material entities studied by physical science are merely individual stable entities, considered in isolation from everything except their interactions, which determine the life history of each of them» [11, p. 167]. In the terminology of J. Boehme, played with by F. Engels in his historical review of materialism, this transformation is designated as the loss of the affix of spontaneity: «qualitas» → «qual» [12, p. 87]. Obviously, it reflects mental processes, when rational ideas are formed by the negation of the sensory form of knowledge and exist, in the words of T. Hobbes, as «ghosts of the corporeal world», for which science selects generalized names.

Being a derivative of the Peripatetic thesis «everything that moves is moved by something else» [13], in the New Age these idealized objects-constructs were expressed in visual and convenient models: ««...» the scientist can “see as if” those processes that are not actually given to sensory perception, but which at the same time are thought of as the causes of sensory-perceived phenomena» [14, p. 197]. Such idealizations were not limited to the physical sphere, as is vividly confirmed by Hobbes’s scheme of the social contract. However, the prevailing methodological reflection comes down to the fact that the new European reincarnation of atomism turned out to be only the most vivid example of the mathematical measure of rationality, explicated philosophically precisely by the creators of mechanics (G. Galileo, R. Descartes). The main intra-scientific reason for the affirmation of this ideal, according to St. Toulmin, was that «geometrical knowledge provides an exhaustive standard, requiring no corrections to the accuracy by which one can judge all other requirements for knowledge» [15, p. 35].

Mathematical determinism dictated to A.M. Ampere, W. Weber, F. Neumann, G. Grassmann the static principle of long-range action of forces on bodies even after J.K. Maxwell’s no less rational revival of short-range action with the dynamics of change of «forces» (electromagnetic field) without a mathematical indication of «atomistic

material entities» – so much did the new images contradict the original new European worldview intuition of the atom as a natural or social invariant of «economic determinism». «The internal, spiritual, which remained in neglect and inattention by classical mechanics and bourgeois legal consciousness (convictions, conscience, beliefs are, according to this law, a subjective, private matter of persons and do not concern society: in it the individual acts as a sealed, dressed in a tailcoat, impenetrable legal entity. object and thing, i.e. here is the principle of alienation), was considered that infinitely small thing that can be neglected in calculations (differential and integral calculus are precisely the pendant, correspondence and analogue of classical mechanics and civil society) <...>» [16, p. 184-185].

Therefore, the randomnesses that arose in non-mechanical physics, failures in description and prediction, not eliminated by means of measurement, began to be attributed, first of all, to «forces», leaving the unification of individuals and turning metaphysical determinism into indeterminism. The latter, combined with romanticism in the study of man and in the understanding of society and history, turned out to be a complete disclosure of the anti-rationalistic tendency that arose during the historical upheaval of the Reformation period, but balanced until then in German idealism by Leibniz-Wolf neo-Scholasticism [10, p. 490].

The irrational principle found its intellectual hypostasis in scientific (semi-)transcendental forces, which could justify the contrasts with the recent successes of mechanistic science, since it turned out to be truly unknowable both in the unsuccessful indeterministic and in the arbitrary deterministic versions of scientific description. The resulting prospect of occupying a place not only in life but also in scientific practice similar to Spinoza's «between God and chimera» forced one to seek refuge, most often, in inductive methodology as a «positive» approach to the incomprehensible necessity of the irrational principle. Moreover, by the middle of the 19th century, the romantic discourse of creative activity, nourished by the *transcendental* dimension of experience, dries up in the development of disagreements about the legacy of German idealism. As a reaction to its «highly rising wave», scientific thought focuses on an abstract-rational consideration of external sensory nature. Beginning with the rejection

of the natural philosophical method of transferring spiritual principles to nature, it moves on to a materialistic interpretation and the «inner life of the spirit»: «the recognition of the general regularity of everything that exists, the study of the simplest elements and forms of being, the search for the necessity underlying every change of phenomena – all this influenced theoretical research, and at the same time, the individual's assessment of everything individual, in which the “valuable” was identified with the natural» [17, p. 34].

In continuation of the Democritus tradition of contrasting natural cause with supernatural arbitrariness, in response to the excess of speculative or irrational explanations in the scientific community, the desire to endow cause with necessity, up to their identification, is intensified. Therefore, philosophical penetration into the worldview and content-categorical side of the knowledge of reality is replaced by a «positivistic» functional-methodological introduction to mathematics and natural science [18]. For example, J.S. Mill, who rejected natural philosophical speculations, in his project of a «system of science», where general principles, particulars and *individual experimental facts* were seen as ordered deductively, endowed only the latter with the status of «knowledge». And their guidance (induction) in regularity and uniformity forms only the *tools* for preserving, explaining and predicting an elementary set of facts. So scientific laws in the infinite perspective of the hypothetico-deductive method can only play the intermediate role of «memory knots»: the objective predisposition of the subject essence for a certain set of conditions is replaced by subjective hypotheticality. At the other – neo-Kantian – pole of European metascientific thought, W. Whewell, impressed by non-Euclidean geometry, also proposes an inductive (experimental) method – for the assimilation of a priori transcendental laws of thought, or «ideas», which are the only ones capable of giving the determination of phenomena a scientific status.

At the same time, the *avoidance* of metaphysics by most scientists and many philosophers simply returned methodological thought to the context of Hume's skepticism. That is, having initiated the objectification of «obsolete» methodologies using the procedure of atomizing knowledge into observable facts, it ended with their

subjectivization according to the *psychological* principle of association with past experience. In terms of determinism, this meant a rollback to the textbook Holbachian example of probabilistic as incompatible with scientific nomological description, which constitutes the condition of objective truth. «...»Chance is a meaningless word that we oppose to reason, without, however, being able to connect a specific idea with it «...» by attributing natural phenomena to chance, we simply do not know its forces and laws» [19, p. 112]. Observed random facts, in the spirit of D. Hume, should again be interpreted as the price paid for the subordination of causal sequence (description) to logical prescription. Hegelian dialectic, which reduced chance and necessity to the categories of the real, began to look even more absurd in this context.

However, the need to «save phenomena», both in the well-known aesthetic spirit of the σοξειν τα φαινόμενα of the Alexandrian astronomers, and for pragmatic reasons, forces us to the most «without imagery» means of description, as J.C. Maxwell expressed it about his «soft gears». Bearing in mind that his working model has no other goal than to obtain a rigorous mathematical formulation of the laws of electromagnetism, he was one of the first to accept the distinction between the «mathematical» and the «physical» [20]. Thus, the explanatory and descriptive functions in the scientific community are already consciously turning into artifacts and cease to claim to depict the essence of phenomena, which in the old tradition had to either directly coincide with sensory human characteristics, or be mediated by sensory images, that is, be *visual*.

As the Enlightenment showed, despite the acceptance of the instrumental status of mathematized descriptions, they gradually took over the epistemological advantage (predictive power) of essential transcendental forces, which was fundamental in the new physical ideal of scientificity, making them unnecessary. «Science is the art of foresight. Its entire value, in the words of W. Ostwald, a contemporary of those changes, is in the extent to which and with what certainty it can foresee future events. Any knowledge that says nothing about the future is dead, and such knowledge should be denied the honorary title of science» [21, p. 16]. Not without the influence of Kantian ethics («transcendent immanence of the subject»), the tilt toward

epistemological agnosticism began to diminish in parallel with the return of internal «qualities» to bodies in addition to those that remained with them, but as invariant and (or) «secondary». And this means «dilution», problematization of invariant individual characteristics with transcendent moments of power (more broadly — problematization of the empirical with the theoretical).

«After the work of Faraday and Maxwell, changes in force fields become as important as changes in material atomic particles» [9, p. 139]. The recognition of their scientific significance gradually led to the loss of the property of clarity by theoretical objects, which legitimized the classical principles of handling idealized objects (reductionism, analyticity, precision, comprehensiveness, combinatoriality, integrativity), that is, it discredited the validity of scientific articulation as such, right up to its (non-)objectivity. A similar solution in non-scientific culture is embodied by M. Duchamp's Dadaism. According to this aesthetic trend, the emancipation of a work of art from normative-artistic objects, so that it becomes a life event, is realized as the free intention of the subject-artist is transformed in a playful way into the random characteristics of his work.

Thus, the solution was found in the immanentization of transcendental forces (theoretical loading of facts) at the cost of abstracting the explanatory function: it was necessary to be satisfied with causality as a holistic (non-analyzable) area of possible meanings, concentrated and emanating from the individual object itself - on the model of Leibniz's monads. The extent to which this solution seemed speculative is evidenced by the controversy surrounding radioactivity. The older generation explained the facts of radioactivity and «transmutation» by the retransmission of external («cosmic») radiation or flows of matter by atoms. In particular, D.I. Mendeleev declared the interpretation of radiation by the internal properties of the atoms themselves («the atom's own responsibility for what is happening») an attempt to involve science in a «semi-mystical state» [22, p. 252].

In this sense, objects became independent, but agreed upon in the actualization of their capabilities by the general conditions of the state of the system to which they belong. «The main thing here is the rejection of continuity-necessity, of a series in

general; but there is a multitude not as a series, but as a sum of individuals, events. The cause of each individual event (quantum), the event itself, its outcome are considered free-willed: it can happen, or it can not, it can happen this way, or it can happen differently – there is no (for a quantum of a special case) predetermined necessity. But if we take the sum of these units, the multitude, then it happens this way and in such a ratio, in such a proportion» [16, p. 205]. Thus, non-classical science was groping for its new language – probabilistic-statistical, and scientific determinism, for its part, was separated from philosophical. External forceful causal determination began to be contrasted with internal connection of states (L. Boltzmann), logical relation – with functional correlation (J. Cuvier), the study of adaptations - with the law of growth ratio (C. Darwin), speculative consistency of categories – with reliability of prediction (E. Mach).

With all the desire to compensate for the metaphysical revision of *qualitates occultae*, which can be seen in these «newspeaks», in the development of methods for calculating empirical interactions, the spontaneous affiliation of many scientists with «hardcore» *idealism* can also be seen. Their methods of calculation are so irrelevant to their material content that non-force (connection of states, system-structural or informational connection) determination is paradoxically assigned the opposition to the material connections of «mechanics» as invented and at the same time – the name as natural «physical». And this is not accidental.

It is known that in the structure of the classical scientific picture of the world, determinism was firmly associated with the despiritualization of matter and the principles of «mechanistic» description. Under the impression of their successes, even «the philosophy of the era was oriented toward physics to such an extent that it became an exposition of ideas inherent in this and then a later level of development of physical knowledge, with the help of general concepts» [11, p. 97]. But in order to resolve intra-scientific inconsistencies, as well as to combine scientific mechanism with social, moral and epistemological applications, the worldview of scientists and philosophers of the modern era constantly attracted idealistic sources and arguments (usually of theological origin).

Thus, with the development of non-mechanistic physics and non-classical natural science in general, non-causal types of determination are established, causing first (I. Kant, G. Hegel) a rupture between scientific and philosophical ontologies as deterministic and indeterministic, and then the emergence of an alternative – irrationalistic – philosophy (terminology), compatible with the new scientific determinism. This philosophy developed the concept of levels of determination – non-causal and causal – and provided it to science, which for a long time could not (G. Helmholtz, W. Thomson) perceive the first (supreme) of them as objective, material and deterministic, and then in the foreign tradition began to call it physical, and in the domestic – purely scientific causality (variable in the forms of interaction – from Laplace to teleonomic). The extent to which the concept of levels has been successfully assimilated in science is demonstrated by the ordeals of N. Bohr's complementarity principle. In many ways, they can be explained by the elimination of clarity, in contrast, say, to Leibniz's isomorphic causal-teleological complementarity of natural phenomena.

In unsuccessful attempts to maintain classical methodological principles in describing *levels* of causality, as well as under the influence of the emerging culturalist style of thinking, the Kantian formulation of the question of determinism was revived. It became the norm to perceive determining connections as constructivist *projects*, among which scientific ones ensure their reliability through mathematization and (or) verification, and philosophical ones acquire *objectivity* by introducing categories and methods that explicate development in accordance with the procedural characteristics of non-classical objects. Both options, in contrast to the period of their syncretic nature, rehabilitate the status of *chance*.

Instead of the «insufficient» characteristic, subjectivizing knowledge and its results, chance is first introduced into scientific description through the «positive» method of calculation and prediction in thermodynamics and non-classical applications of probability theory. In this connection, a purely scientific meaning of «chance» was isolated, implicitly created already in classical probability theory, but for the time being incompatible with the norms of theoretical description. «From a modern point of view,

attributing certain quite definite values to the characteristics of objects and their environment is an extreme idealization, approximately justified only for objects with a huge mass (or number of atoms). In all more or less real situations, one has to take into account the fact that any physical characteristics are random quantities described by certain probability distributions in the space of the corresponding parameters. The most important characteristics of such distributions are their moments of zero and second orders, i.e. average values, dispersions and correlators» [23, p. 189].

However, universal epistemological attributes (generalization, explicitness, evidence), as demonstrated, for example, by the Einstein-Bohr dispute, will always be ready to assign this meaning an *epistemological* niche – among the temporary pragmatic flaws of epistemological constructions. A full-fledged ontological interpretation of it, referring to the deep levels of the structure of matter and the *intangible* evolutionary processes, rests on the *problem* of developing and perceiving sophisticated mathematical models [24]. As this problem is overcome, the worldview significance of the scientific (mathematical) concept of randomness loses its purely negative connotations (uncertainty, non-obligation, irregularity, instability, insignificance, destructiveness), bringing some alternative types of randomness out of the shadows of the history of philosophy. Their dissemination turned out to be especially in demand by marginal scientific disciplines, and later also by interdisciplinary concepts that must satisfy both classical idealizations applicable to simple stationary objects, and at the same time constitute a perspective for non-classical and post-non-classical modeling.

5.3 Humanitarian prerequisites of the probabilistic style of thinking of non-classical science

In contrast to F. Brentano's program of *reducing* methodology from philosophy to the organon of natural science, in the second half of the 19th century, Kant's dualism of the spheres of morality (freedom) and nature (necessity) passed into the neo-Kantian division of the sciences of the spirit (idiographic, individualizing) and nature (nomothetic, generalizing). In the view of the latter, no special innovations were

expected: W. Windelband, G. Rickert or I.G. Droysen propose to generalize and (or) explain mechanical conglomerates of atoms in relation to the universal laws of their motion. But in the new humanitarian method of "understanding" (*das Verstehen*) one can recognize one of the scientific applications of irrationalistic philosophy. In an attempt to grasp its meanings from I.G. Herder before the Badenians should begin with the general position on the *incomprehensibility* of the transcendental, historical reality, which otherwise could constitute that universal explanans which in nomothetic disciplines ensures the possibility of complete determinism.

The beginning of this incomprehensibility in the humanities was laid by the reaction to the Enlightenment concepts of universal rational human nature and «natural law». Further confirmation was found in the historiographical incommensurability of the spirit (*Geist*), that is, the Subjects of time and peoples with the empirical (small) subjects belonging to them. There is absolutely no talk of an empirical generalization of large or small subjects due to the impossibility of a research scientist to belong to several spirits at once, in other words, due to the danger of «reading» the same «facts» by means of different hermeneutics. Therefore, in the procedure of understanding, *interpretation* as a particular (-historical, -own) explanation of a «historical fact» must be supported by its *empathy*, that is, (in-, re-)experiencing the subjective context being studied. But the main thing is that empathy promises to reproduce the integral internal state («totality») of the subject, producing *each* of the actions as an act of will *causa sui*. Although these «facts» are initiated by natural or economic conditions, and then «fit» into their «horizontal» causal series, however, they are nothing more than the whole in relation to the particular, necessary to the accidental, invariant to the variable. In this sense, subjective («total», «vertical») *determination*, given that it does not develop, as in G. Hegel, into a progressive self-articulated dialectic, is called «individual causality» and is subject not to «explanation», but to «description».

The *ontological* possibility of empathy, finally purified from pietistic mysteries, will be found already in phenomenology and existentialism (and natural science accepts it thanks to postpositivism). According to J.P. Sartre, being is accessible to the *subject* (consciousness) only in unique phenomena immanent to it. In them, it

recognizes itself, so that, in contrast to natural or objectified being (*être-en-soi*), it appears as a «dependent variable» in relation to its own existence (existence), chosen «on behalf of *each*» and therefore open to the scientific researcher [25]. «All that a philosopher can do, and indeed all that one person can do for another, is to illuminate the possibilities of action and the meaning of freedom in terms of providing genuine choice or self-sacrifice as opposed to decision-making under the pressure of social conformity » [26, p. 225]. The existence acquired in this way provides the subject with a horizon of personal meanings and goals («the assumption of essence»), free (*de trop*) from «external» causal series, until some of the (con)sequences of actions, *random* for the personal context, force one to discover in them a qualitatively new phenomenon of being, etc. [27].

Thus, the sphere of the spirit became limited to the internal (individual, historical) dimension, and the external natural world, given over to natural and technical disciplines, found itself outside the framework of cultural meanings and definitions [28]. Humanitarian knowledge, being a dialectical way of thinking, which presupposes the unity of the «silent» thing and the active subject in the scientific object, continued to operate with feedback, which not only limited the arbitrariness of the researcher, but was also culturally motivated and value-measurable. True, the cultural process and personal enterprise of the humanitarian object were invariably reflected in the epistemological merits of the corresponding positive knowledge.

As a result, limited explicitness, accuracy, predictability and non-mathematical probability as the reverse side of freedom assigned to the «sciences of the spirit» the characteristic of alternativeness, or (in epistemological terms) formal inconsistency. And vice versa, in monologically oriented disciplines, knowledge was presented as a linear movement toward the point of the ultimate development of theory, in the process of which all provisions contradicting the central idea are transformed into those compatible with it or rejected as erroneous. From here, the actual dialogue of different statements turned into a consistent monologue, which acted as a guarantor of the unambiguity and, ultimately, the pragmatic value of the theory [29].

On the other hand, «in the 60 years since the Battle of Waterloo» the historical worldview advanced by natural philosophy and continued by ideography has influenced the methodology of experimental natural science. The first sign was the tychism of C.S. Peirce, which obliged the scientist not to objectively depict the random world, but to (co-)create its highly probable image. Later, however, the issue is about introducing objective probability into nomological (formal) determinism not at all as a degree of reliability. Indeed, statistical physics (D.W. Gibbs, L. Boltzmann), which was emerging at the same time, began to operate with scientific and cognitive forms, where the immediate *series of causation* of microparticles were omitted as random, and their *final* statistical outcomes were included in nomology. There appeared a reason for non-classically minded thinkers to perceive these forms (entropy, the connection of states) as appealing to a holistic irrational determination, entirely in the spirit of romantic ideas about “mysterious affinity” and thereby smoothing over the opposition of the natural and the humanitarian (and in general, the «kingdoms of nature», delimited by the Thomistic-Aristotelian «hierarchy of entities»).

On this path, science occupies another traditional niche of philosophy’s competence, moving with the help of Darwin’s theory of evolution to a «positive» description of human nature. By depicting man as the result of a random experiment of nature, which has neither a providential plan nor a general lawful direction, Darwin’s theory reinforces the ideological claims of science (although it raises the question of the foundations of human reason, which until then guaranteed the possibility of scientific truth). But the main thing is that «this biological hypothesis immediately acquired a more general meaning, since it promised to give a purely mechanical explanation of expediencies» [30, p. 469], making do with a causal (phenomenological) description and not asking the question «why?» or taking it for epiphenomenal. We are talking about expedient behavior that was observed in organic life, psychology, ethics, sociology, history, but did not find a convincing scientific explanation free of clerical associations.

But at the turn of the 19th and 20th centuries, the revival of «speculative» thinking (I. Kant and G. Hegel) was already becoming actual, which would help scientific

thinking, faced with non-mechanical reality, to critically reflect on its own categories and definitions to the extent that they determine this «empirical». True, a contemporary of this situation, N. Hartmann, notes a peculiar historical aporetic in that both the bare methodology of positive sciences and the compromised natural philosophical systems became unacceptable. In many ways, this aporetic was made up of the law of conservation and transformation of energy, according to which the fundamental status (the concept of «mass») should be transferred from qualitative matter to quantitative energy, which gave rise to an irrational background of the boundary between the substrate and the mathematical in *natural* science.

«The problematic situation in it is extremely unique: the basic definitions show the nature of the substrate (space, time, force, causal connection, energy), but on the contrary, the accuracy of special definitions (laws, relations) is rooted in something else, in the quantitative <...> A substrate of quantity is always assumed, which as such is not quantitatively knowable» [31, p. 239]. In particular, from the theory of relativity, which «going beyond the boundaries of unambiguous measurement relativizes the substrate of measurement», one should draw a conclusion about the heterogeneity (layeredness) of being, as well as about the continuing fundamental excess of its powers by the quantitative layer (mathematical thinking) due to its former captivating transparency and unambiguity. When the successes of mathematized natural science give rise to the oblivion of matter, only equations remain, which reason, in a Kantian manner, attributes to nature.

In the sense of the transcendental Subject, reason does prescribe laws to nature. It provides cognitive means (forms and methods) that, depending on their relevance and prospects, can set *certain* guidelines (*causa finalis*), discredit the sphere of *impossible* scientific experience (transcendental dialectic), or demarcate the standards of substantiation of scientific knowledge *from* the empirical experimental and socio-cultural conditions of its formation (instrumentalism). These basic methods of mediating the individual subject of cognitive practice in the latter case achieve such cognitive remoteness and delay that for an inexperienced researcher they seem

independent of external reality. Thus, one can say, the series of «corrections of induction» initiated by F. Bacon is completed.

That is why in the domestic and partly «continental» philosophical tradition the concept of determinism became subordinated to a more general *dialectical* doctrine. All the comments in it refer to the private, natural-scientific reason, which at that time shunned non-mathematized dialectic and reduced the entire arsenal of determination, explicated by philosophy before and after mechanism, to an unambiguous linear cause-and-effect relationship (Laplace determinism). As a consequence - unjustified extrapolations of classical dynamism, leveling internal individual differences in favor of the nomology of an abstract class (type) of cases, to qualitatively unique mega- and, especially, micro-worlds. It becomes obvious to everyone that the definition of the «final nature of things» entails a decrease in the certainty of the «individual features of individual organisms». However, the scientific community is in no hurry to make a

concession to the classical principle of comprehensive description and to assert, following A.N. Whitehead, that «the specific laws of inorganic matter are basically statistically averaged, obtained as a result of the interaction of aggregates» [11, p. 171].

Compensation for this crisis of natural science is rather sought in the other extreme – the extrapolation of spiritual or vitalist layers of being (forms of matter movement), with their inherent expediency of the irrational, to the problematic characteristics of non-classical objects (in the organicist anti-reductionism of O. Spengler and A. Toynbee, we are talking about rethinking the *entire* content of «naturalness»). An additional argument was introduced by evolutionary epistemology, which problematized *conceptual* determinism in nature (C.S. Peirce, A. Bergson). For example, A. Bergson contrasts instinct (intuition) and intellect by the ability to «sympathize», that is, to penetrate the inner essence of an object. Scientific intellect, dealing with dead spatial matter, *analyzes* the primary duration of «élan vital» into separate freeze frames. Linking them with any determination, such as «past-present-future», is doomed to be an artificial juxtaposition of the non-spatial in space, the free (spontaneous) in the external, development in statics, the qualitative in quantitative, the individual in concept.

In view of the consistent deconstruction of the idea of rigid determinism, when the substantial cosmos began to be replaced by the substantial chaos par excellence, the certification of knowledge lost the guarantees of conformity with the self-identical ontology. «Objects continue to exist only as “convenient intermediaries”, as “cultural postulates”. The density and impenetrability of things evaporates: the objective world loses its “resistive” (objectionable) character, its opposition to the subject. Lacking interpretation in terms of Pythagorean-Platonic metaphysics, mathematized Nature, scientific reality, becomes, apparently, an ideational reality» [32, p. 196]. In the flawed equation being = thinking, being thus becomes the domain of meaning, while in relation to thinking they try to fix ontological structures that could serve as the basis for a new determinism.

The epistemologically similar situation of quantum mechanics is already based on *physical* indeterminism, which managed to acquire many supporters in science at the turn of the 19th and 20th centuries, since it was subordinated to the determinism of instrumental mathematical description. In the context of studies of the microworld, it is justified in «methodological principles», which in themselves, as scientific means, turned out to be heuristic factors mediating the expression of disciplinary patterns. The methodological principle of «complementarity» acquired special significance, according to which the expressive means (abilities) of science (scientist) are limited in such a way that they require alternation of incompatible methods of description. Thus, not only the need for a permanent combination of alternative theoretical languages is affirmed, but also their inevitable equality, randomness, and play.

Of course, this game required rational understanding (taming), and, ultimately, it began to be found in probabilistic-statistical means of description. But now they related not so much to scientific objects – purely «theoretical» in non-classical science – as to logical constructions, indirectly correlated with the data of experience. If earlier, in accordance with the «geometric» ideal of scientificity, the scientific method and the criteria of scientific truth assumed the derivation of the *theoretical* and the *empirical* from each other, then with the recognition of the scientific status of the unobservable object, they began to be perceived as ontologically heterogeneous. After the exhaustion

of the neopositivist project of their equation exclusively in logical-linguistic status, the arsenal of scientific means was concentrated on logical constructions («descriptions»), relatively detached (probabilistically related) from reality itself. In the perspective of different levels of conceptualization and coherence, assessing the *appropriateness* of transformative actions with such descriptions has become a general problem for scientific rationality and probability, culminating in the post-industrial era.

5.4 Post-non-classical integration in science: the status of humanities and natural sciences

With all the advantages of unification of the problematic, methodology and categorical-conceptual apparatus, the prospect of integration of scientific disciplines also means a sharp reduction in the normative guarantees of the success of the cognitive process. In particular, dubious projects of methodological *monism* arise in the form of an extremely broad extrapolation of popular nonlinear theories, the anthropic principle, discourse analysis, the hermeneutic approach, etc. In the conditions of modern scientific and methodological diversity, consistent normatization of knowledge has turned out to be to a certain extent doomed to comments regarding this or that reductionism.

At first glance, the generally accepted interdisciplinarity as a general specificity of post-non-classical science realizes in the respectable natural science field (and its technological applications) the aspirations of the anti-scientific social tradition, partly realized in the socio-humanitarian methodology.

We are talking about a compromise between universal scientific rationality and extra-scientific forms of spiritual activity, according to which ideas about reason as such are subject to revision and enrichment from criterial-instrumentalist to cultural and anthropological (presupposing a close correlation of mental procedures with the social and individual-psychological context). The new interpretation of the relationship between natural sciences and human sciences corresponds to the de-universalization of the goals and means of human pragmatics, recorded as a «postmodernist condition», and the model of concessions here is considered to be precisely the humanities, known

for its immanent «anarchy».

If the natural referent is seen as indifferent and constant «like a die thrown a large number of times», then the human one «is at the same time a partner and develops in conversation, along with the scientific one, another strategy (including a mixed one): the chance that it encounters does not relate to an object or indifference, but to behavior or strategy, that is, it is agnostic» [33, p. 138].

Continuing this thought, we should pay attention to the fundamental problem of model representation, which is updated during the development of developing objects: who should be «suspected» when faced with chance in the course of scientific knowledge – the limitations of the initial theory that is taken to cover the new phenomenal diversity (the law of motion in the simplest case), or the empirical lack of initial data (initial and boundary conditions)?

It is enough to compare, for example, the consequences of the deviations in the trajectories of Uranus and Mercury discovered in the 19th century: in the first case, a new planet was discovered, in the second, the principles of Newtonian mechanics were revised. Considering the evolutionary characteristics of both the theory and the initial data, the situation seems insoluble from the point of view of traditional rationality and determinism.

Today, in natural science, the designated test of the canon of scientific rationality is a simpler task, since its «first nature» is not complicated, as in the «second nature» of socio-humanitarian knowledge, by a subjective source of chance as an additional variable. In other words, in natural science it is easier to separate the values derived from ontology and the values introduced into ontology by historical socio-cultural traditions and innovations: «the image of what should be does not precede the image of what is» [34].

Indeed, the method of knowledge integration usually occurs due to the translation of natural-disciplinary methods by right of their extremely broad heuristics: it is enough to give an example of a natural-scientific classification of scientific rationality, which is actively used today by domestic methodologists. A similar judgment can be made regarding probabilistic means, which have long been recognized as interdisciplinary –

with the formation of appropriate approaches. It is known that theoretical-probability ideas received resonance in science after they influenced the principles of the structural organization of matter within the limits of mathematized natural science [35].

Thus, with the main watershed between natural science and humanities on the (non-)constitutivity of the object of knowledge by the subjective context, the above-mentioned nonlinear «grafts» successfully provide rational means of prognostication for the now common for all disciplinary departments «human-dimension» («ontological activity», «hermeneutics»), «evolutionism», relativity of objects of knowledge («modes of being»). At the same time, genuine scientific integration here also presupposes the simultaneous diversification of subject areas according to the circumstances of the specification and *limitation* of the methods being transmitted.

Modern interdisciplinarity, as methodologists unanimously note, has long surpassed the textbook examples of interdisciplinary (building bridges and filling in ditches) new formations – «at the junction» of objects, problems and methods, accountable to related scientific disciplines. Together with them, the quasi-rational idea of the «disciplinary matrix» as the historical hegemony of a certain prescription of a common method of scientific activity is also becoming a thing of the past. Today we are talking about large-scale (inter)disciplinary complexes, essentially oriented towards industrial-applied and social-civil tasks.

However, the proclamation of basic natural science models as a priority source of scientific «puzzles» does not necessarily indicate a reductionist approach, because modeling itself has recently been based on hermeneutic procedures. In particular, in the modern conditions of the collapse of the ideal of completeness of description of a dynamic self-developing system, we are talking about a noticeable weakening of the universal scheme of scientific modeling «from the construction and study of the model to its extrapolation» [36].

The sophistication of models so that they represent more and more real randomness must be compensated by increasingly abstract and alternative criteria of reliability. The distance between a model and its initial (empirical models) or final (theoretical models) original for modern scientific objects increases so much that one

can speak of a tendency to theorize scientific modeling with the transition of the representative function from the «model – original» scheme to the «model – fundamental model» scheme. This tendency especially affects the verification criterion, and hence the extrapolation potential of models, or their *transdisciplinarity*. This was vividly demonstrated by V. Kazyutinsky on the Metagalaxy object [37].

Thus, the tendency of mediation of ontology develops into its peculiar «bureaucratization», giving rise to a new unit of scientific and methodological analysis – particular language games (discourses), in which epistemological control (legitimation) is transferred from logical and empirical verifications to operational ones, and reflection – from the goals of knowledge to the *means* [33, p. 92, 99-114]. The problem of their alternativeness (and, accordingly, the criteria of rationality) in ontological terms corresponds to the problem of *reducing* the alternative possibilities of the «natural essence» into the reality of its law, which became more acute after the non-classical negation of the figure of the *subject* as an absolute «External Observer» in favor of a relative «cognitive agent».

For the methodological consciousness, which has long been under the hegemony of the positivist ideal of science, unnatural chance means a new syncretism of objective and subjective premises, and with it, alternativeness, redundancy and uncertainty of the canon of rationality. Today, the humanitarian scientific ideal and, in particular, the first schemes of the neo-Kantian and Diltheyian *Verstehen* are put forward as balancing guidelines.

At one time, this method, as an application of Kant's apology for subjective freedom, was intended to *overcome* accidents and inconsistencies in various methodologically immature disciplines (from «natural» to «social» history) [29], since it proceeded from a priori goals (integers) appropriateness. The latter, being «universal» historical values (meanings), taken at that time as a personalistic transcendent, ensured the achievement of the final validity of scientific knowledge through the correlation and dissolution of empirical historical values (meanings) in them.

Later, «understanding» already expresses the opposition of the unique subject of

comprehension to the generalized (typified) object of explanation, since they are produced by determinations of different levels. Then *each* of the subject's actions should be considered a self-sufficient act of self-causing, otherwise these «facts» will be spontaneously «read» by means of the opposite of different hermeneutics of «horizontal» causal series.

A similar *antinomy* of meaning and cause is recorded in the Frankfurt and Lacanian versions of neo-Freudianism. In the first case, it is resolved through the «withdrawal» of alienated cultural meanings in an abstract quasi-natural cause, in order to oppose this *natura secunda* to actual cultural meanings as «self-other». In the second case – through the «seduction» of the symbolic universe of the subject by the formal chain of the social Law according to the principle *als ob* [38]. Although both variants of communication of meaning and cause leave their rational commensurability in an asymptotic perspective, they are equally unanimous in denying spontaneity (I. Kant's «free causality») theoretical and methodological significance, perceiving this kind of randomness in an applied «therapeutic» context as «pathology» (an internally forced reaction). And vice versa, causal «normality» must be ensured by a complete explication of the entire hierarchy of subjective meanings (languages) – from individual to socio-cultural.

T. Kuhn, having adopted from the holistic concepts of psychophysiology, gestalt psychology and cognitive psychology the respectable experimental confirmation of the «understanding» determination, put forward the *idea* of combining the direct internalist and mediated by it externalist (re)structuring of experience, supported by postpositivism, poststructuralism, sociology of knowledge in the form of a fundamental pluralism of methodological standards of natural science. Thus, the price for the democratization of the «logic of scientific research» turned out to be the discrediting of intra-scientific methods of certifying the resulting knowledge – due to the impossibility of distinguishing in them the academic and political («corporate») components.

Being therefore equally susceptible to moral argumentation, which is oriented towards a certain image of the status quo, the criteria of rationality are prone to periodic

revolutionary renewal in favor of a new one-sided status quo. The prevailing *epistemological* solution to the problem of the discouraging multifacetedness of methodological standards leads to the fact that the original cultural-value dimension of rational norms of the «logic of scientific research» is «removed» in a *dynamic* dimension [39, p. 55-56].

The same scheme of probabilistic *addition* of levels of determination is observed in M. Foucault with the difference that he denies any *evolutionary* direction in the variability caused by the «superposition of sequences in the context of a certain discourse». The latter is considered only a methodological mask of determination *causa sui*, which in Foucault's (a)historicism is subject to eradication along with the continuous (teleo)logic of ideas. However, the real randomness of the non-substantial system of transformations is not easy to discern in the institutional orderings (in technology, language, organizations) of the original element of power [40].

One way or another, the problem of intuitive-psychological interpretation of the unique loses its urgency, and the subjective («total», «vertical») determination of value is called «individual causality» and is subject not to «explanation» or «understanding», but to the procedure of «*description*». Like the statistical description of non-classical physics, it rejects the classical dichotomy of «natural force» and «changeable conditions» of the structure of scientific law in favor of an undifferentiated interrelation of determining factors – abstract causal in one case and visual teleological in the other.

Leaving the actual relations of the transformative and life-meaning functions (object and value; means and goals) in the perspective of «growing refinements» [41], probabilistic-statistical (stochastic) methods of description thus turn out to be the discursive basis, if not of methodological monism, then at least of interdisciplinary communication.

A convincing proof of this is the change in ideas about scientific causality in medicine, the most conservative field in this regard. The fact is that at the intersection of the natural and the humanitarian, the «law» traditionally expressed not a *class* of causes – the distribution of the law in a certain set of conditions – but rather a *type* of set of individual causes.

This is precisely why the statisticization of medicine, initiated by P. Louis in the first half of the 19th century (simultaneously with the statisticization of leading experimental scientific disciplines) did not develop for a long time. The classical theory of Paracelsus' disease, when a certain etiology corresponds to certain symptoms and anamnesis, was revised only in the second half of the 20th century in connection with the rapid development of synthetic pharmacology. The latter forced the replacement of the "etiological cause" with a new working concept of a statistical «risk factor», which received a wide interdisciplinary resonance [42].

The real value determination, dictating alternative idealizations, and with them *corrections* for boundary conditions, the configuration of the phenomenal field, the accuracy of measurement, etc., turns out to be outside the competence of the falsification criterion. This reduces its sensitivity to sociological and individual-psychological factors, which are not simply filtered by the «membrane» of ideals and norms of scientific knowledge, but also perform at least a deductive-restrictive function in relation to them.

Perceiving these factors as *extra*-scientific, evolutionists allow their dispositional predicates into the «body» of scientific knowledge only in the inductive-probabilistic perspective of the verification criterion. And here nonlinear science came in handy, in which, finally, the subjective factor is convincingly interpreted for natural scientific methodology as an ineradicable factor of the objective process and subject description.

Thus, the outline of the solution is visible in the specified stochastic method of description, where both uncertainties are *combined* (added), but disciplined by model samples. Despite the fact that models are only a preliminary means of obtaining a law, in the context of today's conceptual diversity in the foundations of science, they have an attractive advantage of operational access to scientific rationality. Corresponding to the law only statistically, they are protected from sociological and axiological speculations accompanying the emerging paradigm. There are grounds for this opinion in the original nature of the law, which presupposes the consequence of distinguishing the structure of reality and its ideal model, the procedural-historical convergence of conceptual reconstructions and ontology [43]. Therefore, model «methods of

description» are put forward as prototypes of a new *meaning* of the category of law, which removes the contradictions of form and content, description and explanation in the dialectic of scientific representation of reality, thereby increasing the integrative and methodological viability of science.

In addition, the choice of the idea of stochasticity as an integrating link, with all the alternativeness of such a solution, reflects the real increase in the specific weight of stochastic phenomena in science itself and at different levels of its reflection. Among the advantages of this idea are both its belonging to a solid historical-philosophical tradition of the category of chance, and a detailed explication in the cognitive forms and methods of natural sciences and their applications. Thus, methodological generalizations based on stochasticity can be protected from speculations associated with a certain emancipation of the image of science, which opens up to chance.

Considering the all-pervasiveness of the «projective-constructive attitude» of modern European science with its psychology of manipulation of reality [44], it is difficult to avoid such a method of description even for socio-humanitarian knowledge, where there is an open problem of coordination:

- the relatively independent levels of determination of the *subject*, included both in the world of freedom and in the natural world of necessity;
- the relatively independent *bodies* of social science and the humanities (Geisteswissenschaften) — with the corresponding *uncertainties* regarding the potential of the individual in statistics and sociocultural dynamics in hermeneutics.

However, along with the natural sciences, a new paradigm of socio-humanitarian research is being implemented, largely initiated by the emergence of a new subject of research – the «information society». Increasing recognition is being given to methods of introspection, empathy, dialogue, transpersonal psychology, unique forms of projective methods in the game and other resources of the humanitarian component in addition to the highly scientific sociological one – all this in the impulse of expanding intra-scientific reflection on subject-object *interdependence*.

As a result, *cognitive* relations, to which the classical subject-object model of scientific knowledge is reduced, in an interdisciplinary perspective appear to be only a

part of a more fundamental integrity of subject-subject cognitive relations, personified by goal-setting rationality. This «withdrawal» can already be observed within the socio-humanitarian polygon – in relation to humanities and social methodology as a dialectic of internal and external causation, when the external serves as a resource and criterion for the self-development of the internal (by analogy with the mechanical and organic expediency of I. Kant). The latter implies the transformation of the classical subject of self-consciousness towards unification with the object of knowledge in a single hermeneutic cycle through the means of knowledge [45].

A less categorical conclusion would leave the problem open and would record the split of science into «referential» and «fictitious» («simulation») according to their strategy of handling qualitative *matter*: revealing its possibilities *or* liberating possibilities from it. Then, in a broader context, they are continued in the current dispute about spiritual interpretation and technical formalization of social life: should each «alienation» of spiritual goals in the «body» of an object be subject to socio-cultural interpretation, restoring the *community* of its experience as a product of goal-setting of the social whole, *or* should we limit ourselves to a probabilistic-statistical accounting of goal-setting as «goal-rationality», without extending subject-subject relations beyond the limits of social communication? [46].

At the same time, the commitment to «individual causality» as a «quality mark» of the humanities and compensation for their «inaccuracy» phenomenally brings idiographic methodology closer to the empiricist methodology, which constitutes the «birthmark» of the entire Enlightenment project [47]. It is precisely the elimination of «metaphysical speculations» in favor of «natural» singular facts that natural scientific methodology cannot get rid of, seeing in this case a threat to the experimental verification criterion. «Social scientists, having rejected social atomism and individualism, today mainly proceed from the concept of society as a whole, which is greater than the sum of its parts. Such a concept of society can be used as an explanans in explaining particular social phenomena (practical actions, speech acts, economic structures, religious beliefs): each of them is constructed from the totality of the social functions or roles they perform» [48, p. 377].

It is noteworthy that already W. Dilthey in his programmatic «Introduction to the Sciences of the Spirit» supplements the criticism of *metaphysics* as a generalized idea of reality as a whole with a search for such a *humanitarian* method that would introduce the hidden basis of the «social-historical world» into the knowledge objectified by hermeneutics. Otherwise, the empirical reduction of empiricism dooms the humanities to the same consequences that constitute the anti-human appendage of natural scientific knowledge. We are talking about official value neutrality, which is usually considered a conquest of science as a rational and democratic social institution [49].

«Scientific technique requires the cooperation of a large number of people under one tool – therefore, it is directed against anarchy and even against individualism, requiring a well-consolidated social structure. Unlike religion, it is ethically neutral: it assures people that they can perform miracles, but does not say what those miracles should be. That is why it is incomplete. In practice, the purpose served by these or those scientific achievements depends very much on the case <...> No one focuses on the goal anymore, only the skill of the performance itself counts » [50, p. 591-592]. With such an attitude, the actual expediencies, inevitably realized in scientific practice according to one or another social order, appear to be entirely subordinate to purely scientific logic, that is, the random opportunistic coherence of «facts» is portrayed as necessary and therefore legitimized. «Here a fraud is committed: decisions that directly concern a person and are connected with moral values are made under the influence of the authority of science, which in principle is incapable of even distinguishing between these values» [51, p. 67].

This was the case until the dominant empiricist methodology was supplanted by non-classical constructivist approaches and methodological principles dictating a selective model perception of reality. After their ontological status was established, the course toward value neutrality could be maintained at the cost of *pluralization* of methodology, and the latter is considered a logical end to the educational project of mutually conditioning Reason and Progress. But few people note that in such a «state of postmodernism», alternative scientific methodologies are burdened with a new dimension – the need for consistent and epistemologically correct correspondence to

the subjective context.

Until the humanities become interested in the «conditions of possibility» of their «single» subject, the philosophy of postmodernism equates its humanitarian values as cognitive with other «foundations» that rationalize values into scientific ideals (systematicity, intersubjectivity, cognitive truth), which perform not so much an innovative-regulatory function as an administrative one (operational goals, enshrined in the values of formal hierarchy and exhaustive controllability). In conditions where the subject has ceased to be universal, and his thought – total, these scientific norms are today more effective than explicit ideologies. «All areas of scientific research are characterized by situations in which science allows the formulation of several reasonable alternatives, and it is impossible to show convincingly that only one of them is correct. It is in making choices between such alternatives, whether they are made at the level of general definitions of the problem or at the level of detailed analysis, that the political attitudes of scientists and the pressure from the political environment are most clearly used» [52, p. 205].

In this regard, the educational course on the elimination of the [spontaneous or metaphysical] *subjective* factor should turn to its consideration and «education», obviously, according to the criterion of its creative capacity both in the internal (epistemological) and external (sociocultural and technological) aspects. Such «humanization» of science in a certain sense has an independent tradition in the humanities, established, obviously, by the Augustinian-Neoplatonic cognitive scheme of «caritas», and in scientific practice means intentional-phenomenological and hermeneutic interpretation as a condition of objective-truthful cognition in the conditions of communication of alternative scientific research programs.

Of course, here a great adventure of measuring intra-scientific and socio-cultural values arises [53], since taking into account the subjective factor will require a certain methodological toolkit of self-representation of the subject of knowledge in meaningful agreement with other levels of representation of this object of knowledge. It is precisely this emerging strategy of «building virtual worlds» [54], which continues the non-classical philosophizing of science since the time when it began to master the sign-

mediated micro- and mega-reality, that is ignored by the supporters of the «human-dimensional» synthesis of sciences by right of sovereignty of the socio-humanitarian methodology.

The latter is rather doubtfully perceived as predominantly empiricist on two contradictory grounds: 1) the «historical» («individual») self-sufficiency of each «fact» and 2) the speculative unreliability of the theoretical level of knowledge with its high social relevance in the humanities. This looks as if in the natural science methodology preference was given to facts because each of them is «theoretically loaded», and at the same time theory was relegated to the status of a creative hypothesis because of its «axiological loading».

The indicated problem of coordinating heterogeneous determinants and levels of knowledge constitutes a heuristic perspective for overcoming disciplinary disunity. This conclusion is supported by the history of «disunity» itself, initiated by the famous «Hume's law». It is usually presented as a prohibition on the transition from description (a statement of «what is») to prescription (the modality of «what should be»), which constitutes one of the first explications of the ideology of the value neutrality of science.

In the terminology of A. Poincaré, the original difference between science and morality, by which they will always remain sovereign, is «grammatical», since one of them is always in the indicative mood, and the other is imperative. However, their coordination as mechanical reason and driving feeling is logically expressible. «Feeling <...> gives the main premise of our syllogism, which, as it should be, will be in the imperative mood. Science, on its part, gives the minor premise, which will be in the indicative mood, and will deduce from them the conclusion, which can be in the imperative mood» [55, p. 657].

However, taking into account the well-known limitation of the scope of application of the «only reliable», according to D. Hume, mathematical scientific means, with equal justification one can see in this «law» the principle of protecting «moral philosophy» (ethics, law and aesthetics) from the error of naturalism. The fact is that although in the sphere of morality the necessity of cause-and-effect relationships

is the only genuine and pre-rational, its inevitable elevation from the rank of a sensual motive (moral sentiment) to the rank of a scientific idea presupposes abstraction from individual-affective properties, and with it the transition to the category of a posteriori.

Therefore, a more general meaning after distinguishing between the mathematized and moral types of ideas is their equation on the basis of probabilistic epistemology, which does not distinguish in their final instrumental status between random-inductive and causal genealogies [56, p. 228]. All the same, in the perspective of expediency of a reasonably necessary, but unknowable Cause that opens up to knowledge, the possibility of non-trivial – theoretical – predictions of new phenomena is called into question.

However, having destroyed the essentialist basis of determinism, D. Hume prepared a new criterion of scientificity – the *constructivist* potential of accepted phenomena – which was assessed much later, under the conditions of actual total falsifiability. ««...»We can say that we encounter essentially engineering, design activity in all areas of knowledge. We create and implement projects of production and experimental activity, construct numbers and many other mathematical objects, construct coordinate systems necessary for recording certain phenomena. Finally, any theory and even the facts on which it is based are products of design» [57, p. 206].

Recognition of the constructivist approach as an interdisciplinary methodological perspective will allow, in our opinion, to reconsider the main epistemological divergence between the natural and humanitarian departments, connected with the distinction between the subject and the object of knowledge. As long as humanitarian objects are reduced to the statement of value «facts», respectable humanities will be under the threat of artifacts – a mixture of cognitive relations of the described and describing systems.

The course towards increasing the constructivist potential will orient the humanities towards expanding the predictive field from elementary facts to behavioral, value-regulatory or paradigmatic levels, coordinated with the subjective context of the scientist. In a correct strategy for constructing virtual worlds, this will allow not only to bring both systems of cognitive relations closer together, but also to project

subjective values into life, thus confirming the practical and predictive validity of the humanities in producing relevant value objects.

5.5 Chaotic randomness in modern scientific concepts

In the course of studying the diversity of system objects by means of cybernetics, specific methods of theoretical description were outlined, which are not limited to purely *statistical* distributions. The random dynamics discovered in them, in addition to the "external chaos", are also constituted by structural changes responsible for *qualitative* transformations. On this path, new problems of nonlinear description arose, related to the representation of complex irreversible forms of self-organization (W.R. Ashby), or *evolution*, which were previously reduced to a speculative (G. Hegel) or phenomenological (C. Darwin) approach. In addition to the traditional dialectical statement in the sequence of the development process of a «leap» or «transition to a new quality», this stage is now becoming the subject of structural analysis and mathematical modeling. The starting point of evolutionary stochasticity is often called meteorology, in which, as early as the middle of the twentieth century, progress in forecasting methods (E. Lorenz, N. Wiener) soon led to the formation of new scientific concepts.

The baton in developing a general theory of dynamic description from cybernetics and systems theory is taken over by synergetics, chaos theory and other theories that develop the concept of nonlinearity in connection with the inclusion of the behavior of complex systems in a more general context of their transformation and new formation through *chaos*. Many authors even identify modern *post-non-classical* science with the so-called «synergetic» methodology and picture of the world, since and to what extent they rethink the categories of «reality», «development», «truth», etc. in connection with the concept of «chaos». «If, for example, chaos was traditionally considered to lie outside the bounds of science and therefore, at best, played only the role of a mystical origin in philosophy, then in the synergetic picture chaos is an unstructured or very complex structured existence that does not obey deterministic laws» [58, p. 113]. Some authors reinforce a similar thesis by saying that «since chaotic randomness does not

obey any unambiguous law, this means that the synergetic methodology includes the principles of pluralism and relativism» [59, p. 24]. Others specify it by the active role of the subject, capable of synchronizing and bringing into resonance its external disturbing chaos with the internal one so that the stability restored by the system continues according to the genetic scenarios (type of trajectories) that correspond to the *interests* of the given subject. The latter circumstance forces us to integrate truth and morality, «goal-rational and value-rational actions» within the limits of science itself, following the example of Eastern organicism [60, p. 24].

It should be noted that «chaos» has been brought to such a function relatively recently. The beginning of its application as a scientific concept was laid by J.B. van Helmont and A.L. Lavoisier to designate the main property of the non-combustible part of air: unlike oxygen, the remaining «gas» was not subject to fixation and calculations in certain chemical compounds. Despite the subsequent development of gas objects, for example, in the theory of molecular chaos, this property was assigned to a collective characteristic of various phenomena that do not fit into the current mathematical formalism and scientific language in general («algorithmic randomness» in the language of AIC A. Kolmogorov, G. Chaitin, R. Solomonov).

Objects of statistical physics are no exception, since the «average» and «random» quantities describing the mass coordinated behavior of microparticles were suspected of containing functions of too high an order. At first, chaos was allowed in them, that is, the *ambiguity* of elementary («short») cause-and-effect relationships simply by abstracting from the supposed «hidden parameters» due to the irrationality of the latter in the perspective of taking into account all elements and the hierarchy of external «noises» going to infinity. And only the extreme difficulty in fixing and calculating elementary cause-and-effect relationships in a deterministic process gave rise to the «physical» idealization of the motion of particles, independent («arbitrary») of these relationships, but subject to a generalizing law of change («long») of states.

Within its framework, the occurrence of one of the random events does not depend on and is not determined by other events; there are no permanent connections between the elements of a mass phenomenon, or they are of an insignificant nature. Thanks to

the Newtonians, the *dilemma* of the self-sufficiency of atoms (their «first» or «final» cause) and their rigid causality («proximal» cause) began to be recognized, leading to the idea of the relationship between atomism and stochasticity. Later, thanks to L. Boltzmann, the acceptance of the atomistic hypothesis necessarily required the use of probabilistic-statistical concepts to describe the structure of a physical system as a mass phenomenon. And the formation of an image of the world with features of stochasticity in methodological consciousness is carried out through the concept of chance, expressing a certain type of connection between equivalent *elements* of the system of classical statistical mechanics. Thus, «short» direct causality (in the sense of external elementary, «generative» causation) was subordinated to mediating *statistical* causality, but not because of integrability or indistinguishability, but because the latter were more comprehensive and sufficiently «long».

Thus, laws of state change were introduced as an alternative to the classical dynamic description of absolutely deterministic processes. However, in the interval between the Newtonians and L. Boltzmann, in the Laplace concept of determinism, according to the ideal of completeness of description of states of a mechanical system, the connection of states was identified with the causal connection, which today satisfies the description of only closed stationary systems. Limited methodological reflection of this feature up to the emergence of the concept of a non-classical object of science largely fueled the controversy regarding the status of probability in statistical physics under the conditions of unanimous recognition of its property of irreversibility. The prospects for resolving this problem receive real clarification only in connection with the establishment of the limits of application of the idealization of the isolation of elements of statistical ensembles, the isolation of the object as a whole from the infinity of additional factors of the external environment, as well as with the discretion and adequate mathematical expression of the constantly acting interrelations of its components.

The discovery by A. Poincaré in 1892 of a new class of unstable systems in which short causality cannot be integrated (and equations cannot be solved analytically) led to the first revision of the idealization of free particle motion, calculable in the form of

explicit functions of time for elementary coordinates and velocities. In addition to eliminating the absolute isolation of the system for *external* excitations (1), this also meant the possibility of significant deviations from the statistical law of state change on the part of *internal* non-articulated interactions (2). When superimposed, these uncertainties increase exponentially and can reach macroscopic dimensions.

Therefore, the strengthening of the random factor in the hierarchical structure of integral systems does not deprive the scientific description of all the accumulated advantages of rationality. «Being an indeterministic concept in general, synergetics nevertheless remains entirely within the boundaries of rationalism, since it believes that the entire set of states and structures that a system will have in the course of its evolution is potentially already contained within it» [61, p. 19]. The concession to objective indeterminism turns out to be an advantage for the *predictive* function, which now benefits from the articulation of the chaotic properties of causality. The complication instead of averaging of representation is resorted to in order to master the «outrageous» aspect of short causations, when they accumulate and are repeatedly amplified («nonlinear effect, or jump»), and the trajectories of particles, initially arbitrarily close, diverge exponentially over time [62]. As a result, the non-classical concept of chaos, for example, for a gas in a state of thermodynamic equilibrium, began to presuppose both a holistic, massed description of the inconsistent – without feedback – dynamics of elements and a probabilistic representation of their «short causations».

Thus, as the accuracy of measurements and, accordingly, the causal scale increased, heterogeneous and differently weighted connections (levels) began to be involved in the description, complicating the structure of the described system from random (in the sense of random variables of probability theory) to chaotic proper. If for stable dynamic systems, depending on their scale, determination was abstracted to dynamic or statistical, then for labile unstable systems the causal field is formalized into the opposition of statistical/probabilistic-statistical, and the description of the chaotic structure is formalized into stochastic.

In the development of *stochastic modeling* tools (degrees of chaos, «partial determinism», «dynamic chaos», «deterministic chaos»), first of all, the qualitative

theory of differential equations of A. Poincaré and A.M. Lyapunov, differential geometry, and then [not without rediscoveries in natural science material] the *theory* of dynamic systems with the final separation of the latter theory of dynamic chaos were used. In turn, the applications of chaos dynamics already cover a wide variety of areas – from chemical kinetics and neurodynamics to quantum cosmology and cosmomicrophysics [63]. In most of the examples given (works by A.N. Kolmogorov, D.V. Anosov, Ya.G. Sinai, G.M. Zaslavsky, B.V. Chirikov) we are talking about «*dynamic chaos*», understood as the stochasticity of closed (conservative) non-integrable dynamic systems. The fact is that even in the scientific community, chaotic behavior continues to be associated with complex non-dynamic systems, to the extent that they are burdened with external noise and internal fluctuations.

Meanwhile, *instability* of parameters is also characteristic of the simplest or algorithmized dynamic systems. Their characteristics of the movement of trajectories in phase space reveal a constant combination of regular and mixing distributions, that is, in fact, corresponds to the resonant-oscillatory dynamics of self-regulation. Therefore, dynamic characteristics can change over time completely randomly ("chaotically"), and the later «local» states of the system turn out to be unpredictable even with full knowledge of the law of its movement. «Chaos (as an internal property of a system) occurs almost always and almost everywhere! And if we do not always detect it, it is only because it either occurs in a very narrow range of parameters, or manifests itself over very long periods of time, or is veiled by other, stronger processes» [64, p. 6]. Similar conclusions were made regarding measurement procedures as a result of the study of fractal phenomena by B. Maldenbrot.

On the other hand, in response to the long process of emancipation of complexity and chaos from the idealizations of classical modern European science, the idea of *limiting the arbitrariness* of random processes by the objective context of irreversibility of self-development of open (non-conservative) systems is asserted. Thus, in connection with the study of turbulence, attractors, dissipative systems and the generalization of E. Lorenz's models, «Sinai billiards» since the 1970s, the concept of «*deterministic chaos*» with a stochastic representation of dynamics, but a simple

deterministic basic equation is formed. Simplification of the description here is usually carried out by methods of decreasing (reducing) the number of degrees of freedom (independent dynamic variables) of the system or aggregating simulation modeling with respect to essential parameters reflecting a wide range of disturbing effects. For example, the study of nonlinear dynamic climate models showed that its dynamics are mainly determined by only four fundamental parameters, on which the effect of the internal chaos of the climate process is «superimposed» [65].

In this case, there is no return from the arbitrariness (incidents) of local causality to the arbitrariness of nomology, since the random variables of statistical description are also deprived of independence, imparting to them a certain partial internal connection of «endentiousness», dynamics. In these parameters of restructuring, permanent organization of the new macro-order, the inevitable and irremovably chaotic consequences of micro-movements are realized and expressed. The main mechanism of such behavior lies in the interaction of macro- and microscopic movements, when the latter, due to the periodic accumulation of micro-perturbations and random deviations from average values (unstable modes), is capable of redefining the main variables (stable modes) in the movement of the entire system. That is, the description of short uncoordinated causations is not simply reconciled in general statistics with the holistic description of the dynamics of elements, but also periodically passes («is extended») into it.

In this way, the paradox of self-development that existed in the linear paradigm until the mid-19th century is overcome, according to which «...from one's own means non-development; and ... from the external means not-one's own». After all, the first acquaintance of young mathematical natural science with its objects required their extreme simplification, their isolation from the infinite hierarchy and dynamics of connections. «The usual paradigm of becoming looked like this: becoming can be carried out only between firmly established milestones of knowledge, since otherwise it will be unknown what exactly is becoming, in what direction and to what results becoming leads <...> In other words, the starting point of becoming was identified by

classical science only with being, only with the self-identical state of the object of thought» [66, p. 127].

In nonlinear theories, «the main form of being is not what has become, but what is becoming, not rest, but movement, not complete, eternal, stable-integral forms, but transitional, intermediate, temporary, ephemeral-fractional formations» [67, p. 143]. The state of an object is established by means of non-fading (neg)entropic flows of matter and energy, containing it in a state of nonequilibrium, and the balance of the main variables (stationarity) is constantly tested by periodic correlations (coherences, cooperation, synergy) of disturbing effects of varying intensity. Being is an actual formation in which chaos and order, complexity and irreducibility occur and are expressed through each other. Accordingly, the degree of chaos will be determined by the degree of distance from the value of macroscopic stable modes that control numerous parameters of the state of self-organization, that is, from the informational «order parameter» to which the degrees of freedom of the system as a whole and its individual parts are reduced. «We can observe a certain phenomenon of cyclicity: on the one hand, the elements are “enslaved” by the order parameters, and on the other hand, the elements determine the behavior of the order parameters. Or we can draw an anthropomorphic picture: the order parameters represent the finding of a consensus between the elements of the system» [68, p. 140].

As a result, the trajectories form branching structures: stable reversible behavior corresponding to the classical «physics of the existing» falls on the segment *between* branches, and the periodic wandering of the initial conditions falls on the deviations themselves, which make up the individual history of the self-organization of the system as a whole. The combination of external and internal, local and global aspects of evolution in such a description allows us to speak about the identification of a new epistemological approach – «physics of the emerging», representing the dynamics of transition processes – from a stable order to unstable chaos and, conversely, to a new order (level) of self-regulation of the system and a new profile of random variables.

Depending on their nature, self-developing systems can differ in the ratio (specific weight) of micro- and macroscopic movements, (non-)equilibrium and (non-

)stationarity, internal deviations and external disturbances. For example, R. Thom in his studies of morphogenesis notes a decrease in the role of the material substrate in external flows (disturbances) capable of initiating new formations in autonomous living systems [69]. «Usually in such cases it is said that the cause was instability, and not a small initial impact <...> the cause is an internal property of the system, and not an external impact» [70, p. 14]. But in general, such conclusions still remain controversial and express the rivalry between traditional physical and biological intuitions of the category of *cause*: «<...> after all, in physics, either the moments of the “starting impulse” (in mechanics) or the “material carrier” of processes (in field physics) are still brought to the forefront. Biologists, however, speaking about causes in the philosophical, methodological, plane, have in mind first of all the aspects of the form-generating and even teleonomic plane» [71, p. 40]. Although in the perspective of the «topological revolution» I.A. Akchurin predicts the «isomorphization» of mathematical and conceptual structures with biological images.

5.6 Fluctuations and stochasticity

The theory of dynamic chaos itself reproduces mathematical models of destructive or constructive chaos, while *ontological* interpretations and generalizations of self-organization phenomena are increasingly united in the term «synergetics» today. In its original meaning by G. Haken, it indicated the coherence of the behavior of a large number of particles during structure formation in lasers. Typologies of structures of deterministic chaos are developed in line with the theory of catastrophes (bifurcations), and exchange processes (energy dissipation, entropy dynamics) are represented in the thermodynamic approach to self-organization, from the point of view of dissipative [closed or open] structures and systems.

In a generalized description of these models, I. Prigogine and I. Stengers (the authors of the thermodynamic pedigree of synergetics) highlight the permanent antagonism of special bifurcation and adaptation processes (mechanisms) in open nonlinear systems [72]. The first of them, *stochastic*, providing structural variability of the system, are included in response to sharp environmental changes and the crisis of

its internal existence. In contrast to the *adaptation* mechanisms, they lead to uncertainty and unpredictability of the system's future choices in order to resolve old contradictions (external and internal) with new ones, but with a higher integration of elements into the whole and giving development a new impulse. At the beginning of a typologized cycle of spontaneous development, one of the random events-information produces a leap in development in the system and is remembered by it. Then, as it adapts and increases in value, the system becomes so complex that it is shaken by a multitude of random events-information from within and without to a chaotic state, from which the system again makes a leap thanks to one of these new «provocations».

Since the interpenetration of the material-energy (power) and information (control) subsystems is significantly enhanced here, the problem of stochastic dynamics as a synthesis of the corresponding regularities of rigid and probabilistic determination acquires new perspectives and terminological nuances. Thus, in addition to the description of the predominantly statistical aspect of self-organization in artificial and living systems, *universal* (global) models of self-organization are developed in synergetics, applied to natural inanimate and social objects with the involvement of this *singular* initiating randomness. «In the problematic field of research into evolutionary processes, for a long time there was no common ground that unites the evolution of the laser system, the development of the embryo and socio-cultural evolution, namely, there was no information, generation, reception <...> From the standpoint of the information approach <...> the entire unified process of the formation of a nonequilibrium Universe can be imagined as a chain of successive events. It has branches, dead ends, returns, loops, but its general tendency is progress, i.e. an increase in complexity, orderliness and diversity» [73, p. 227-228].

If statistical «averages» and probability «distributions» still had an outlet for rigid determinism, then the irregularity of such randomness does not dissolve in the rhythm of generalized quantities and is registered on the periphery of the statistical flow. Moreover, in the conditions of a homeostatic crisis, when the system comes to an unstable state, an event falling out of all types of nomology can, as a minor cause, cause an unpredictable (from previous data of unstable equilibrium) and, most importantly,

qualitatively new result. Even J. Maxwell was one of the first to point out the existence of situations («special points») in which the behavior of a mechanical system becomes unstable (like, for example, a stone on the top of a mountain, which can suddenly fall, causing an avalanche). Warning his colleagues against underestimating the role of such situations, he believed that if the study of special points replaces the pruis of continuity and stability of things, then the corresponding successes of natural science will eliminate the predisposition to rigid determinism and its quite common absolutization [74, p. 268].

Starting with the theory of catastrophes, where a universal method for representing sudden jump-like transitions is developed, the term «fluctuation» or initiating stochasticity (V.I. Arnold, R. Tom) is assigned to such constructive events. This is how the conceptual interpretation of M. Smoluchowski's «fluctuations» was obtained, which served as mathematical models of the phenomena of instantaneous deviation of a system from an equilibrium state, discovered at that time, for example, strong scattering of light in a liquid near a critical point. And in the most general form, fluctuations are called random deviations of observed physical quantities from average values in the statistical description of the object under consideration as a complex system. Therefore, quantitative characteristics of fluctuations are based on the methods of probability theory and mathematical statistics, for example, in the form of dispersion relations.

Until recently, physicists associated fluctuations with the consideration of chaos at the *microscopic* level; today, the possibility of the formation of *macroscopic* fluctuations, as well as their significant influence on the dynamics of the system, has been proven. In general, in a macrosystem, the very existence of many degrees of freedom often presupposes the occurrence of fluctuations, that is, deviations of macroscopic variables from certain «standard» values. However, in closed systems, they are usually negligibly small on the scale of the entire volume (phase space) of the system, are uncorrelated with each other, and are damped by a deterministic balancing reaction.

Another situation is in transitional, nonequilibrium processes of open systems, where fluctuations become macroscopic in the course of cooperation. In the critical region near instability, the behavior of the system takes on a coherent character, which is often accompanied by the emergence of new (so-called «long-wave») fluctuations. These losses of spatial symmetry through structuring and the formation of attractors, i.e., target programs that subordinate elementary trajectories in the phase transition, constitute a new stable regime – until the next branching.

It should be noted that it was precisely the progress in the study of fluctuations and transient processes that showed the need to use nonlinear methods of description. «Previously, in the case of “linear models,” randomness was mainly responsible for the presence of constant irregular fluctuations in the values of some properties of systems around average values. In the analysis of nonlinear processes, randomness becomes responsible for changes on a global scale» [75, p. 191]. The description of changes in the qualitative certainty of a system, for example, phase transitions in nonequilibrium states, even with the help of probability theory and mathematical statistics, turns out to be inadequate, since the recognition and absolutization of the latter in the form of exponential («statistical») scientific laws «...» relied on the idea of continuity, that is, on a one-sided analysis within the framework of one quality» [76, p. 3].

G. Nicolis and I. Prigogine created a theory of fluctuations near strongly nonequilibrium states, defining the *evolutionary* role of fluctuations in the spontaneous formation of distributions of the type of dissipative structures, compensating for the increase in entropy by its outflow into the environment. In conceptual terms, they emphasize the evolutionary paradigm, giving it an expansive, including cosmological, interpretation. In the evolutionary cosmological interpretation, fluctuations are a *random factor* that determines the transition of the system to one of the stable trajectories (branches) at bifurcation points and a new type of self-regulation, corresponding to the macroscopic equations of the new type of self-regulation, but not representable in these equations [77].

Then the relation of trajectories and fluctuations is seen as the relation of «averages» (i.e. the most probable values) and unlikely deviations from them. At the

same time, interactions (physical and chemical) do not obey the logical and methodological principle of reducing random independent events to more or less rigid dynamic variables. According to G. Haken, this property distinguishes chaos founded by fluctuations from the two previous methods of overcoming Laplace determinism – «statistical mechanics» and «quantum fluctuations». And the formal similarity of physical and chemical fluctuations to cosmological singularities (the Big Bang and black holes) contributed to the entry of random ideas into the doctrine of the Universe, at the level of which philosophical criticism of mechanistic determinism (the linearity paradigm) had long been carried out [78].

5.7 Stochastic image of the world and the interdisciplinary status of stochasticity

In the prospect of mastering complex evolving objects, it was discovered that the regularities of scientific laws, even taking into account their statistical forms, are ontological derivatives of cosmological premises («orders of the Universe», constants). Due to the limited spatio-temporal scale of observations and the accuracy of measurements for a certain class of objects, this derivativeness of laws can be omitted, but other classes require the presentation of scientific laws as hierarchically intermediate systems. For example, in relation to a person, the determination procedures are derivatives of organizational orders (processes) in the social and personal plane, from the spectrum of possible forms of his existence. Moreover, the material and technical moments of determination (compare with the instrumental subjectivism of quantum mechanics or transfer and countertransference in psychoanalysis), as well as self-awareness, self-reflection can serve as factors that form organizational orders, since each state of the human system is bifurcational.

Taking into account the non-classical ideas of A. Eddington and P. Dirac about cosmological premises as initially random, multifaceted and changeable, such an approach is justified in relation to *any* object – due to the inexhaustibility of its components. If a system, consistently containing the components of the system, is derived from fluctuating characteristics, then with each transition from one level to

another there is a significant loss of information. «In fact, in Nature the very environment of an object acts as a kind of device, an indicator of the characteristics of the object <...> the concept of an observer acquires a generalized meaning, and the anthropomorphic context of measurement as a procedure of human activity is erased. Thus, the subjective factor ceases to be significant and the objectivity of the occurrence of fluctuations becomes obvious» [79, p. 174].

Since the world constants also play the role of an experimental criterion, the ultimate realization and triumph of the competing images of science must be given to Newton's «*hypotheses non fingo*», which led to the rejection of a qualitative explanation of phenomena and subsequently of a sensory-visual worldview (Galilean idealizations still claimed to reflect invisible but unchanging essential connections). In his new edition, «any scientific idea, put under fire from the demands of verification in the new European sense, is an idea that not only changes in fact, but is also obliged to change. It is unscientific if it lasts too long» [80, p. 339].

The culmination of this tendency can be observed in the discussions on the interpretation of the formalism of quantum theory – around the question of rational means of (verification, falsification) – where the recognition of the immanent gap between the results of discursive cognitive procedures and the events of objective reality has even served as the basis for modern irrationalist positions. In combination with the problematization of the concept of «time» (based on Heisenberg's uncertainty principle and the theory of relativity), the incompleteness (gap, break) of the empirical-analytical activity of thinking is transferred to the conditional form of nomological implicative constructions, known in mathematical terms as a probabilistic description. The popular idea, as a rule, ignores the result of a compromise between the rigidly deterministic intentions of logic and the uncertainty of its projections onto the surrounding world.

However, science will still be a method of research, including the *definition* (including linguistic and material-technical) of invariant structural properties of objects (for which their initial definitions are problematized) and the conditions of their existence, but with the requirement to produce a permanent final (re-)formalization and

(re-)calculation of the parameters of the object (I. Kant's «advancement of experience»), and most importantly – to clearly distinguish between the sought-after reality and the procedure for obtaining it. True, adaptations in the form of non-linear concepts of this attributive strategy are still quite one-sided and declarative, which is confirmed, in particular, by the predominantly *negative* and metaphorical formulation of the properties of the new image of the world.

The negative reaction to classical and non-classical science is expressed in the promotion of the priority of the prescriptive over the descriptive, the axiological over the naturalistic, the anthropic over the epistemological, hierarchy over homo- and heterogeneity, emergence over additivity and holism, probabilistic determinism over mechanistic and teleological [81]. Based on the fact that reality appears in this case in an immanent interconnection (analogy, assimilation) with man, its value-target qualities are brought to the forefront: instead of individual truth projects of the world, *value-possible* world tendencies.

On the other hand, the postmodernist one, any fundamental assumptions are derivatives of the «structures of discourse», in this case philosophical and scientific, which relativizes all rational and value-based attitudes of human existence into an ironic game or political claims. However, in any case, the growing contradictions in the factors of change of material systems and their communication develop into a certain oscillatory processuality, coming into ideological resonance with respectable scientific cosmological intuitions of uncertainty and evolution. Just as *in their time* the historical laws of scientific and theoretical knowledge ensured the functioning of mechanism, energism, organicism, the characteristics of unstable nonequilibrium systems served in interaction with the already established philosophy of life, existentialism, personalism as the basis of the *post-nonclassical* picture of the world. The world of dynamic parity of stochasticity (chaos) and structural order in the ontological context, fundamental pluralism, multi-(equivalence) and metaphoricality in the socio-cultural context and the world of bifurcation and dialogicity in the anthropological context.

Although the ideas of non-stationarity and evolution of the Universe were accepted by the scientific community back in the 1930s, when A. Eddington and P. Dirac discussed the problem of fundamental constants and physical laws, few scientists are yet ready to rethink the picture of global stability. As in the context of quantum mechanics, they rather expect the discovery of Second Order regularities that would govern the existing physical laws, and evolution will still strictly obey the laws of Nature in their traditional understanding. Oddly enough, such a priority of stability and equilibrium means the absolutization of chaos in its most authoritative – thermodynamic – interpretation. Some authors see in this a relapse of the mythological postulates of Hesiod or, in any case, the deistic identification of natural chaos with moral and cognitive imperfection. «As for the modern vision of the world, it is interesting to note that cosmology now views the entire universe as a largely disordered – and I would say, as essentially disordered – environment in which order crystallizes <...> order and disorder exist as two aspects of one whole and give us a different vision of the world» [82, p. 48].

In relation to their relationship, not only is «interconvertibility» increasingly recognized, the possibility of one occurring after (instead of) the other, but also mechanisms of *structure formation* of one by *means* of the other, of order through chaos, are being discovered. In this context, universal means of mathematical description for systems of diverse nature are being developed based on the idea of evolution under the general name of «synergetic». Synergetics assumes that uniform nomological properties of nature in the course of its long evolution have led to the formation of all types of systems – from mechanical to organic and social. In addition to the fact that in these models the principle of determinism is enriched by the concept of nonlinearity, according to which the variability of the development of structures is determined by the priority of internal connections («autonomy»), here the *specific* features of nature and the language of description of diverse structures are also overcome in favor of a general evolutionary isomorphism – «hylomorphism of the 20th century». Thus, models of nonlinear theories in the future will allow removing

disciplinary barriers, opening access to understanding and extrapolation of the acquisitions of some sciences in the context of others.

According to S.P. Kurdyumov and E.N. Knyazeva [83], synergetics is gaining ground as a new *paradigm* of scientific representation of reality, generating a revolution that is deeper and more extensive than the scientific revolution of the early 20th century, which began with the theory of relativity and quantum mechanics. In contrast to the Platonic paradigm with its dogma of the superiority of the universal over the individual and singular, the new paradigm revises the concept of the hierarchy of levels of being. «Whereas it was previously considered unacceptable to reduce the equal organizations of nature to the lowest or to place them on the same level of assessment, now on the basis of synergetics and non-classical thermodynamics, it is clearly I mean, the structure of the organization» [84, p. 23]. They lead such universal laws as the principles of extremity (variation analysis), combining causal analysis with target functions, the principle of covariance, the spatio-temporal structure of events, the principles of conservation, symmetry (harmony), causality, etc.

Synergetics is based on the ideas of systemicity, the integrity of the world and scientific knowledge about it, the common patterns of development of objects of all levels of material and spiritual organization, nonlinearity (multivariance and irreversibility) of development, the deep interconnection of chaos and order (chance and necessity). It also claims to overcome Kuhn's historical relativism through the establishment of universal communications within and between «disciplinary matrices». On this path, compromises are established between reductionism and holism in the methodological approach to the study of complex systemic objects, axiological, criterion and language vectors of the natural, technical and humanitarian are synchronized.

However, this method as a universal formal language of synergetics, in our opinion, is still quite vague: it includes both the apparatus of nonlinear differential equations, phase portraits, attractors, principles like the «three non-» (nonlinearity, non-closure, instability), and, for example, the fractal or holographic paradigm. Their ontological status is still a problem, since it must be mediated by the still only emerging post-non-

classical scientific picture of the world based on global evolutionism. Thus, the «philosophy of instability» of I. Prigogine is often contrasted with the biosphere-noosphere concept of V.I. Vernadsky, ««...»because it is impossible to explain the transition from inorganic nature to biological and further to social systems by “thermodynamic evolution”; doubts are expressed about the adequacy of the program of unifying dynamics and thermodynamics into a single science, attention is focused on the fact that the derivation of the properties of the whole from the properties of its elementary states does not take into account the reverse effect (feedback) of new levels of organization on those formed earlier, and this, in the meantime, gives rise to new possibilities for development in the Universe, etc.» [85, p. 143].

The main obstacle here is the *conditions for extrapolating* all these generalizations of *nonlinear physics* to the level of a universal scientific picture of the world and worldview. For example, the prospects for the inclusion of probabilistic ideas of quantum mechanics (the uncertainty principle) in the theory of gravity (GTR) are not enough [86]. In general, the abstraction of special scientific cognitive structures to the level of universal worldview categories, epistemological guidelines for other natural scientific concepts and methods may require a huge amount of work on their rethinking, as happened, for example, with the categories of «causality» or «structure».

Otherwise, tendentious and unheuristic aspects begin to dominate in the methodological guidance for mastering new classes of phenomena – *explanatory* power is separated from *predictive* power (heuristics), that is, their logical symmetry is violated. Unlike the categories and schemes inherited from the general theory of systems, the concepts of «chaos» (with all its mythological richness) [87, p. 367–376], «order», «instability», etc. still require a logical definition in many ways, and most importantly – a definition of their ideological and methodological status. It is in this context of extrapolation of current scientific and cognitive constructs – ideas, methods, disciplines – from their own emerging subject area to the status of interdisciplinary ones that the significance of the idea of stochasticity is revealed.

The interdisciplinary approach, which has received significant development and tradition in domestic methodology, in general terms (interdisciplinary) assumes:

1) joint consideration of the problem by different scientific disciplines with their subsequent enrichment with interdisciplinary developments – multidisciplinary;

2) the complexity of the object under study, understood as its systemic nature and the complexity of structural interactions, as well as its holistic redefinability in the dynamics of contextual factors.

In the first *extensive* aspect, the immanent problem of coherence, integrity of the object is periodically resolved with the help of an integrating link, which is set by new scientific paradigms coming to dominance. The second requires an *intensive* synthesis of knowledge and methods of certain sciences, a search in this series for the most extrapolated link for these conditions and tasks with a current revision of methodological prerequisites in the process of studying a given object, subject matter. «The problematic that threatens a theoretical flood must be “lightened” so that its individual aspects fall into their own “envelope” addressed to the appropriate discipline in the usual way <...> It turns out that with the help of our rational premises we have, of course, freed ourselves on the whole from all the Gordian knots of this problematic, but with the return mail we receive results that are not very suitable. We ourselves have abandoned our own criteria, and as a result the ground on which we stand is nothing but patches taken from well-wishing scientists who managed to come to our aid» [88, p. 10-11].

While in the interdisciplinary approach it is possible to distinguish «stages of maturity» — from trans-border zones of disciplinary convergence to the allocation of a new area of scientific knowledge – the leading role is played by the reflection of the *structural connections* of reality in the form of relatively autonomous hierarchical objects-systems in cognitive and practical problems. Against this background, it is possible to organize (restructure) the scientific field with the potential for the formation of new metascientific complexes «subject — problem — method — theory». In the course of such formation, alternative – in terms of the degree of subject breadth and generalization, set of aspects, means of formalization – interdisciplinary complexes are possible, as, for example, happened with the «cognitive sciences» [89]. General systems theory, informatics, cybernetics, etc. complement traditional logical-

mathematical means in this regard, offering their cognitive and practical methods, principles, idealizations, and categories as universal ones. They allow dynamizing the general methods of reproducing an object in thinking, signs, and activity, heuristically mediating the philosophical and special scientific levels of methodology.

A certain result of these developments is seen today in synergetics, which shifts the methodology of the systemic approach to «dynamic rails» and establishes universal inter-industry communication. In this regard, it is proposed to reduce the essence of the interdisciplinary approach to «transdisciplinarity», which is opposed, first of all, to «subject», «causal» disciplinary methodologies. Instead of them, for example, E. Laszlo defends the «horizontal» metaphorical transfer, similar to the method of «mathematical hypothesis» of S.I. Vavilov, when problems are sought under this universal method, effectively solved by it in the most diverse areas of human activity [90].

On the other hand, such a transfer should be based on the preliminary *meaningful* inclusion of nonlinear means of description in the foundations of scientific knowledge, especially in the structure of methods for studying natural processes. Considering that in the socio-cultural dimension metaphor is combined with pluralism, the reflexive norms of modern science require legitimation from the most relevant and convincing ideological preferences at the level of fundamental scientific discoveries, applied phenomena, and interdisciplinary concepts. This difficult task can be facilitated by the criterion-exploratory function of the idea of stochasticity. Having reached the level of general scientific transdisciplinary concepts in the *mathematical models* of nonlinear theories reflecting the spontaneous emergence, formation, and development of «spatially heterogeneous stable structures», «stochasticity», however, thanks to its own history, is also representable in other scales of interdisciplinarity.

Following the example of the structure of mathematical knowledge, complex studies, regardless of the subject matter, should present a holistic representation of the object being studied at various *levels* of abstract structures (representation levels): a) subject-scientific, b) substantive-abstract general scientific, c) formal-abstract philosophical-methodological.

a) Subject-scientific idealizations are usually limited to probabilistic-statistical *methods of processing* empirical data and decision-making. Although at this level randomness has long been known as an interdisciplinary tool – a methodological technique used in calculating mass objects, the scientific community has long operated with theories of chance (probability theory, statistics, stochastics), and also based on it the fundamental laws of statistical physics and quantum mechanics. This topic is of greatest interest and relevance in the modern methodological context at the general scientific level of substantive-abstract structures: «if interdisciplinary research and projects are a well-established form of interaction between scientists, then the process of developing general scientific knowledge, which has as its foundation the general concepts of cybernetics, information theory, systems theory, synergetics, etc., and general scientific cooperation is only getting on the rails of implementing one of the general programs of modern science – the synthesis of scientific knowledge» [91, p. 83].

b) Substantial-abstract general scientific structures, expressing in an explicit form the relationships of a structural order, constitute the *essence* of the interdisciplinary approach itself (F. Engels, M. Planck, A. Einstein), the main goal of which is to recreate an internally unified chain of forms of motion of matter, separated by the standards of individual scientific disciplines. In general, being general scientific categories, effective in different sciences, *general scientific subjects* have the advantages of high abstractness and generality in combination with mathematical explicability, sufficient for the exact sciences.

The latter distinguishes them from philosophical categories and allows them to be used as an intermediary between the philosophical and special scientific levels of knowledge in the mainstream of the non-classical problem of explanation (interpretation), but most importantly, to be used to expand the base of heuristic formalization of scientific knowledge [92, p. 102-116]. In this case, conceptual-categorical and subject analogies develop into heuristic conceptual and methodological extrapolations – approaches («structural», «systemic», «modeling», «cybernetic», etc.). Their relevance is justified by the need to solve complex interdisciplinary

problems such as automation, informatization, social prognostics or global problems that were taking shape in the 1940s as independent areas. Thus, the systems approach at one time stood out from a number of integrative disciplines (similarity theory, general modeling theory, operations theory, etc.) in that it assumed systemic and structural characteristics as the most universal. The categories of the systems approach were seen as comparable with philosophical categories, but contained the possibility of concretization by the degree of generality and subject specificity.

Along with «structure», «system», «model», «information», etc., scientific correlates of the philosophical category of «chance» also acquire the status of general scientific objects (idealizations) in connection with the integrative processes of science. In this vein, starting from the 1960-70s, the cognitive means of various sciences and social practices find their subject correspondence in various aspects of the concept of «probability», which found its expression in the formation of the probabilistic approach. Probability in it is not reduced to the properties of material objects, logical assessment or mathematical calculus in the corresponding models, rather, «a certain *universal abstract probabilistic object* is formed, which has countless implementations in the material and spiritual spheres» [93, p. 65]. Being a quantitative continuation of the structural approach, the probabilistic approach reveals the holistic properties of systems in their relationship with the properties of elements.

Another scientific correlate of the philosophical category of «randomness» is the idea of «*stochasticity*». Its substantive novelty and merit consists in enriching the language of scientific methodology with the concept of *instability* – in addition to stable, average or dominant properties of probability. Conceptual and quantitative means of the idea of stochasticity can synthesize problems associated with the description of complex self-developing systems and thus set a methodological and value vector for generally accepted approaches. Thus, in the language of the *probabilistic approach*, «stochasticity» expresses the *degree* of probability of events, taken depending on the movement of non-causal forms of determination (conditional, inspiring, etc.). In the *systemic approach*, «stochasticity» allows expressing the dynamics of the values of the mutual transition of elements between subsystems, and

in the *structural* approach – the dynamics of structures, that is, the law changing over time and the result of the interaction of the elements of the structure.

c) In addition to the mathematical apparatus, designed to give quantitative expression to qualitative processes on the material of complex systems and to ensure communication of disciplinary bodies of scientific knowledge, general scientific abstract structures can also include methodological principles that allow them to carry out a transdisciplinary function, as well as ideological ideas. Then they take the status of formal-abstract philosophical-methodological ones, which perform the functions of identifying semantic boundaries and establishing interdisciplinary structural connections.

This transition of scientific discourse to a broader context is accompanied by the universalization of stochastic subject descriptions: when the functioning of any *subsystems* (micro level) appears to their control structures as chaos, which at certain moments (alienation of control structures) manifests itself at the *macro* level, which requires the replacement or evolution of control structures. (All-)general forms of being, which act as a derivative of the categorical relationships of self-organization theories [94], are interpreted accordingly, adopting in this sense the functions of philosophical categories («potentiality/actuality» – «possibilities/actualities», «homogeneity/heterogeneity» – «whole and part», «bifurcation» – «leap», «transition» – «becoming», etc.). In this regard, «stochasticity» and its paired opposition «determinacy» are general scientific correlates of the philosophical categories of «chance» and «necessity» in the interpretation of change and development of the world. Since these new ideas find correspondences in the functioning of social institutions, culture, personal processes, and not only in the modeling of physical and chemical systems, there is reason to assert the formation of a new methodological culture. Depending on the interpretation of the context, it is called post-non-classical, postmodern, synergetic.

In general, philosophical and worldview categories, representing a holistic system, are called upon to express a certain integrative model of the world, in the formation of which one (pair) of the main categories acts as a system-forming factor.

Hence, opinions arise about the implementation along this path of the unused potential of *dialectics* as a methodological regulator of physical theories, in particular, their conceptual structures reflecting the processes of development. Indeed, even at intermediate levels of abstraction, such as, for example, a picture of the world, a style of thinking or a formal methodology, the representation of development is carried out «on the fine line of convergence of opposites». The example that was formed in the generalization of the mathematical expression of the states of unstable and nonequilibrium systems is no exception. Here, the coordination of non-stationarity of dynamics or transient phenomena is determined through chaos – the primacy of short-range, generally *uncoordinated* phenomena, form-building – through catastrophes, coherence – through fluctuations, etc.

However, the difficulty lies in assimilating the features of determinism and rationality of the new paradigm, since the above antagonism is persistently perceived not as a dialectical contradiction between the rationally ordering function (systemicity) and the function of creative chaos (evolutionary), which is removed in the development and self-management of the system, but as the old Kantian methodological dualism of the free and the necessary, the irrational and the rational.

5.8 Conclusions

The pre-revolutionary state of minds at the end of the 19th century, when there was a need to balance the idealistic scope of German classics and the empirical effectiveness of positivism, is characterized by attempts to reconcile ideological irrationality and scientific probabilistic means of calculation. In particular, the «tychism» of C.S. Peirce suggests a revision of the absolute ontology of Laplace's determinism based on the guarantees of a self-correcting scientific method. At first glance, as in the classical mechanistic hypothetico-deductive method, communication between generalized initial premises and «tangible» experimental consequences is envisaged here. However, the resonance of metaphysical *indeterminism* with the disappointment in the possibility of fundamental scientific provisions (Euclidean axiomatics, principles of mechanics, etc.) that occurred in the scientific community of

the 19th century dictates to the founder of American philosophy a *relative-teleological* concept of the progress of true knowledge.

Although the discursive expression of reality in conjunction with mechanistic determinism in this conception, entirely in the spirit of an irrationalist worldview, is assessed as nothing more than an illusion, scientists believe that it is within their power to reduce experiential quantities to intersubjective stable *meanings*. They can be justified by the pragmatic – expedient in the sense of orientation toward a «scientific» explanation – (co-)community of experimental experience in all its variability and certified by the degree of coherence (affectibility) of premises («illusions») generalized under the influence of «trial and error». Then the logical-psychological probability of scientific knowledge can be interpreted as the *laws of probability* of an objectively random world in which disciplinary boundaries are highly conditional. The non-classical pathos of pragmatism is reminiscent of the Epicurean «clinamen», in which anthropological accents are replaced by epistemological ones. However, the external forceful individual «causal» determination was contrasted with «*non-causal*» ones, such as the internal connection of states developed in the statistical theory of heat.

Another Hellenistic precedent that re-actualized pragmatism on a common inductivist and instrumentalist basis with positivism is the priority of the *predictive* function of scientific and cognitive forms. In specific sciences, in this connection, qualitatively heterogeneous functional correlations of the area of possible values in the role of a non-classical form of truth instead of homogeneous multi-level logical relations have become widespread. Having been ignored by strong mathematical idealizations of the program of experimental-mathematical natural science due to the low analyticity, integrativity, combinatoriality of the corresponding empirical quantities, these properties of being have now provided the subject differentiation of non-mechanistic science.

However, it would be a hasty generalization to claim that only the instrumental-pragmatic approach to the study of a qualitatively new determination of objects of non-mechanistic natural science ensured the general methodological acceptance of the probabilistic method of description, since together with the latter many classical

guarantees of truth were sharply weakened. In order to accept probabilism, *ontological* registration and coordination of these heterogeneous factors of determination, natural science had to use the concept of levels of determination from philosophical irrationalism, but after neo-Kantian humanities – already as entirely scientific (rational). The neo-Kantian scheme of determination, when a «*historical fact*» is both defined and understood (Verstehen) «vertically» («totally», hermeneutically), although it exists in variable random «horizontal» causal series of the material substrate, resolved in the best possible way the «irrational background of the border» of the experimental substrate and the pragmatic mathematical in *natural* science.

Moreover, in connection with the discrediting of the transcendental (subjective), the non-causal factor began to be attributed to the internal *spontaneous* properties (the «first» cause) of atomic objects, now truly *independent*, but coordinated in the actualization of their capabilities by the general conditions of the system to which they belong. At first, this *tendency* consisted in the extrapolation of spiritual or vitalist layers of being (forms of matter motion), with their inherent «expediency of the irrational» to the problematic characteristics of *non-classical* objects (A. Bergson, W. Ostwald, etc.). Then, thanks to quantum mechanics, it was transferred to the category of methodological principles regulating the non-classical relationship of the theoretical and the empirical as ontologically heterogeneous, and scientific rationality in general.

Correlation of processes of differentiation and integration, which are end-to-end for the history of science, at the post-nonclassical stage of the development of science is tilted in favor of *integrative* processes. In addition to the search for a common paradigm of such an interaction of sciences – linguistic, disciplinary, methodological, communicative or institutional – the functional task of philosophical reflection becomes the study of alternative consequences of one or another model of the sought-after paradigm. On the part of the anti-scientist community, the first decisive consequence is the general overcoming of the mentality of monism and universalism, since they were dictated by the classical exaggeration of the importance of the natural ontology of «class» to the detriment of humanitarian «individuality». Instead, instead of a concession to pluralism, scientists see in both ontologies a common fundamental

characteristic of random variability, which is more successfully and rationally represented by updated means of natural science.

The position of complex situationism will be truly modern, when the practical needs of the social order dictate to science the formation of temporary interdisciplinary complexes from the components of not only natural sciences or humanities, but also technical, formal and social sciences. And here, the methodological experience of modeling can act as a meta-scientific guide to the implementation of this instruction, in which the urgent problem of ordering excessive verification criteria finds expression in the involvement of humanitarian methods of «understanding» – from the neo-Kantian «Verstehen» to the post-positivist «epistema» – with the final affirmation of both dynamic and atropic parameters metascientific modeling. Based on the phenomena of the information society, such modeling expands its possibilities by involving empathy, introspection, dialogue, transpersonal psychology, projective methods in the heuristic game, and other resources of humanitarian methodology to supplement the actual sociological one.

Another discursive basis of interdisciplinarity is probabilistic and statistical means of non-classical natural science, which are better suited to the final description of reality through the asymptotic perspective of eliminating the difference between form and content, knowledge and ontology, subject and object. In the latter case, it is about the explication of the value prerequisites of knowledge in order to predict and agree on its results in the heterogeneous communicative environment of the scientific society.

In the course of mastering the diversity of system objects, specific methods of theoretical description were outlined, which are not limited to purely statistical distributions. The random dynamics found in them can be constituted not only by the assimilation of «external» chaos, but also by structural changes responsible for qualitative transformations. In contrast to the speculative (G. Hegel) or phenomenological (C. Darwin) approach to the representation of evolution, new nonlinear theories (synergetics, chaos theory, etc.) are aimed at developing a general theory of dynamic description, capable of producing models of new formation and

transformation by means of updated characteristics of chaos. From mathematical, or «stochastic», models, they are transferred to methodological and axiological regulations addressed to the post-nonclassical paradigm of scientific rationality.

This «positive» understanding of chaos is in many ways opposed to its traditional etymology of «gas», which goes back to the designation by J.B. van Helmont and A.L. Lavoisier of the incalculable non-combustible part of air in chemical compounds. Recent progress in calculations and measurement accuracy, having revealed the non-integrability (A. Poincaré) of «short» elementary causality and the general heterogeneity of connections (levels) of determination, as well as the limits of accuracy (B. Mandelbrot), turned against the ideal of completeness of description. As it turned out in studies on «dynamic chaos» (A.N. Kolmogorov, D.V. Anosov, Ya.G. Sinai, G.M. Zaslavsky, B.V. Chirikov), the strategy of eliminating «gas chaos» in relation to atomistic structures of matter was justified only for a class of phenomena when they form an absolutely closed system. The non-classical concept of chaos, transferred from the predicate (property) to the subject (state), presupposes the complication of the causal field to a probabilistic-statistical one (the statistics of ensembles plus the probabilistic dynamics of «atoms»), and the structure of the system to a purely chaotic one (in the sense of the instability of statistical random variables).

In the development of fundamentally open systems (with turbulence, dissipation, attractors, etc.), the course towards the emancipation of complexity and chaos from the idealizations of classical science already faces the task of reducing substantialized chaos. In the concept of «deterministic chaos» that has been forming since the 1970s, the idea of limiting the arbitrariness of random events is expressed in the representation of stochastic dynamics with a simple deterministic basic equation. In objective reality, they correspond to the properties of irreversibility and partial determinacy by the history of self-development, which are reduction properties for atomistic independence and determine the dynamic structure of the system. It consists of the interaction of macro- and microscopic movements, when the latter, due to the periodic accumulation of micro-perturbations and random deviations from unstable average values, is capable of redefining the main variables in the movement of the entire system. As a result, the

trajectories form branching structures: stable reversible behavior falls on the segment between branches, and periodic wandering of the initial conditions falls on the deviations themselves, which make up the individual history of self-organization of the system as a whole. The combination of external and internal, local and global aspects of evolution in such a description allows us to speak about the allocation of a new epistemological approach – «physics of the emerging», representing the dynamics of transition processes – from stable order to instability and chaos and vice versa.

An example of such a transitional contrast is considered to be fluctuations as a singular random factor, capable of initiating new attractors from a microscopic event by means of adaptation mechanisms and bypassing exponential forecasting – target programs for elementary trajectories in a phase transition. The formal similarity of physical and chemical fluctuations with cosmological singularities contributed to the entry of random ideas into the doctrine of the Universe and the worldview plan of modern science, based on the fact that the regularities of scientific laws are derivatives of cosmological premises. With the assertion of the ideas of A. Eddington and P. Dirac about the original randomness, versatility and variability of cosmological premises in themselves, the system hierarchy becomes comparable with the non-classical role of the subjective factor of the observer. For now, it is perceived at the level of negative principles: the priority of the prescriptive over the descriptive, the axiological over the naturalistic, the anthropic over the epistemological, hierarchy over homo- and heterogeneity, emergence over additivity and holism, probabilistic determinism over mechanistic and teleological.

However, in order to form a new (post-non-classical) universal scientific picture of the world, the conditions for extrapolating non-linear development models must be supported by a meaningful entry into the foundations of scientific knowledge. Based on the pluralistic priorities of the stochastic image of the world, the claims of synergetics and alternative paradigms to ideological and methodological dominance can be justified mainly by the internal consistency of all levels of representation according to the scheme of «mathematical idealizations». So far, synergetics can only correspond to these reflexive standards of modern post-non-classical science indirectly

(preliminary) – through the idea of stochasticity, which, in addition to transdisciplinarity as part of synergetics, also has its own pedigree. It is presented at subject-scientific, substantive-abstract, and philosophical-methodological levels of representation.

References:

1. Khaking Ya. Predstavleniye i vmeshatel'stvo. Vvedeniye v filosofiyu yestestvennykh nauk; [per. s angl. S. Kuznetsova] / Nauch. red. Ye.A. Mamchur. M.: Logos, 1998. 296 s.
2. Peirce Ch. Collected Papers in VIII volum.es. Vol. VI. Ch. 2. Ed. A.W. Burks. Cambridge (Mass), 1958–1960. P. 35–65.
3. Burzhuaznaya filosofiya kanuna i nachala imperializma : [ucheb. posob. / Pod. red. A.S. Bogomolova, Yu.K. Mel'vilya, I.S. Narskogo]. M. : Vysshaya shkola, 1977. 424 s.
4. Bogomolov A.S. Burzhuaznaya filosofiya SShA XX veka. M. : Mysl', 1974. 343 s.
5. Kant Í. Kritika chistogo rozumu; per. z ním. ta primít. Í. Burkovskogo. Kiïv: Yunivers, 2000. S. 15–482.
6. Dzheims U. Mnogoobraziye religioznogo opyta: Izucheniye chelovecheskoy prirody / [per. s angl. V.G. Malakhiyeva-Mirovich, M.V. Shik]; [reprint. izd. 1910 g.]. M.: Nauka, 1993. 432 s.
7. Dzheims U. Psikhologiya: [per. s angl.]; [nauch. izd. pod red. L.A. Petrovskoy; otv. red. M.G. Yaroshevskiy]. M.: Pedagogika, 1991. 368 s.
8. Sobol' O.M. Postmodern í maybutnê filosofii: [nauk. vid.]. Kiïv: Naukova dumka, 1997. S. 144–158.
9. Popper K.R. Priroda filosofskikh problem i ikh korni v nauke. *Popper K.R. Predpolozheniya i oproverzheniya: Rost nauchnogo znaniya*; [per. s angl. A.L. Nikiforova]. M.: OOO «Izd-vo AST»: ZAO NPP «Yermak», 2004. S. 119–167.
10. Uaytkhed A. Priklyucheniya idey . *Uaytkhed A. Izbrannyye raboty po filosofii*: [per. s angl.] / Sost. I.T. Kasavin: Obshch. red. i vstup. st. M.A. Kiselya. M.: Progress, 1990. S. 389–702.

11. Uaytkhed A. Nauka i sovremennyy mir. *Uaytkhed A. Izbrannyye raboty po filosofii*: [per. s angl.] / Sost. I.T. Kasavin: Obshch. red. i vstup. st. M.A. Kiselya. M. : Progress, 1990. S. 56–271.
12. Engel's F. Razvitiye sotsializma ot utopii k nauke. Vvedeniye k angliyskomu izdaniyu. *Marks K., Engel's F. Izbrannyye proizvedeniya v 2-kh tt.* M.: OGIZ, 1948. T. 2. S. 83–106.
13. Sachkov Yu.V. Avtonomnost' v prichinnykh setyakh. *Prichinnost' i teleonomizm v sovremennoy yestestvennonauchnoy paradigme*: [sb. st.] / [Otv. red. Ye.A. Mamchur, Yu. V. Sachkov]. M.: Nauka, 2002. S. 154–174.
14. Shtan'ko V. I. Filosofiya i metodologiya nauki : [uch. pos.]. Khar'kov: KHNURE, 2002. 292 s.
15. Tulmin St. Chelovecheskoye ponimaniye; [per. s angl. pod obshch red. P.Ye. Sivokonya]. M.: Progress, 1984. 328 s.
16. Gachev G.D. Kniga udivleniy, ili Yestestvoznaniye glazami gumanitariya, ili Obrazy v nauke. M.: Pedagogika, 1991. 272 s.
17. Vindel'band V. Filosofiya XIX veka. Faust i Zaratustra : [sb.; per. z nem.]. SPb.: Azbuka, 2001. S. 31–70.
18. Bur M., Irrlits G. Prityazaniya razuma; [per. s nem., obshch. red. i poslesloviye A.V. Gulygi]. M.: Izd-vo «Progress», 1978. 327 s.
19. Gol'bakh P.A. Sistema prirody, ili O zakonakh mira fizicheskogo i mira dukhovnogo; [per. P.S. Yushkevicha, T.S., Batishchevoy, M.A. Dish]. *Gol'bakh P.A. Izbrannyye proizvedeniya v dvukh tomakh. / Pod obshch. red. Kh.N. Momdzhyana.* M.: Sotsegiz, 1963. C. 53–687.
20. Vitkovski N. Sentimental'naya istoriya nauki; [per. s fr. D. Bayuka]. M.: KoLibri, 2007. 448 s.
21. Ostval'd V. Velikiy eliksir; [per. s nem. pod red. P. Berman]. M.: «Zemlya i fabrika», 1923.
22. Sukhotin A.K. Prevratnosti nauchnykh idey. M.: Molodaya gvardiya, 1991. 271 s.

23. Golubeva O.N., Sukhanov A.D. Ot dilemmy «spontannost'-determinizm» k kontseptsii universal'noy kontingentsii. *Spontannost' i determinizm*: [sb. st.] / V. V. Kazyutinskiy i dr. M. : Nauka, 2006. S. 167–193. 25.
24. Sokuler Z.A. Spor o determinizme vo frantsuzskoy filosofskoy literature. *Voprosy filosofii*. 1993. №2. S. 140–149.
25. Sartr Zh.-P. Ékzystentsyalyzm – éto humanyzm. *Sumerky bohov* : [cb. pod red. A.A. Yakovlevoy]. M.: Polytyzdat, 1989. S. 319–344.
26. Koplston F. Ystoryya fylosofyy XX vek : [nauch.-pop. yzd.; per. s anhl. P.A. Safronova]. M.: ZAO Tsentrpolymraf, 2002. 269 s.
27. Sartr Zh.-P. Buttya i nishcho: Narys fenomenolohichnoyi ontolohiyi; [per. s fr., V.V. Lyakh]. *Suchasna zarubizhna filosofiya: techiyi i napryamy. Khrestomatiya: navch. pos.* K.: Vakler, 1996. S.113–182.
28. Mayer-Abikh K.M. Povstannya na zakhyst pryrody. Vid dovkillya do spil'nosvitu; [per. z nim., pislyamova, prymitky A . Yermolenka]. Kyiv: Libra, 2004. 196 s.
29. Makarov Z.Yu., Boyko O.A. Humanystycheskyy potentsyal dyalektyky v sovremennoy nauke. *Sententiae*. 2007–2008. № 1-2 (XVI-XVIII). S. 33–46.
30. Vyndel'band V. Ystoryya novoy fylosofyy v ee svyazy s obshchey kul'turoy y otdel'nymy naukamy: [v 2-kh t.]; [per. s nem. pod red. A. Vvedenskoho]. M.: TERRA-knyzhnyy klub; KANON-press-TS, 2000. T. 2. 510 s.
31. Hartman N. Systematycheskaya fylosofiya v sobstvennom yzlozhenyy. *Faust y Zaratustra*: [sb.; per. s nem.]. SPb.: Azbuka, 2001. S. 207–272.
32. Markuze H. Odnomernyy chelovek; [per. s anhl. A. Yudyna, Yu. Dan'ko / Pod red. A. Zharovskoho]. M.: «REFL-book», 1994. S. 10–338.
33. Lyotar Zh.F. Sostoyanye postmoderna; [per. s fr. N.A. Shmatko]. M.: Yn-t éksperymental'noy sotsyolohyy, Spb.: Aleteyya, 1998. 160 s.
34. Yonas H. Pryntsyp vidpovidal'nosti. U poshukakh etyky dlya tekhnolohichnoyi tsyvilizatsiyi; [per. z nim.]. Kyiv: Libra, 2001. 400 s.
35. Sachkov Yu. V. Vvedenye v veroyatnostnyy myr. M. : Nauka, 1971. 206 s.
36. Makarov Z.Yu. Ideya stokhastychnosti v postneklasychniy nautsi. *Naukovyy*

visnyk Chernivets'koho universytetu: Zbirnyk naukovykh prats'. Vyp. 504-505.
Filosofiya. S. 85–93.

37. Kazyutinskiy V. Miry kul'tury i miry nauki: epistemologicheskiy status kosmologii. *Sotsiokul'turnyy kontekst nauki*: [sb. st.] / Otv. red. Ye.A. Mamchur. M.: IF RAN, 1998. S. 103–116.

29. Makarov Z.Yu., Boyko O.A. Humanystycheskyy potentsyal dyalektyky v sovremennoy nauke. *Sententiae*. 2007-2008. № 1-2 (XVI-XVIII). C. 33–46.

38. Zhizhek S. *Metastazi nasolodi*. Kiïv: Vid. díim «Al'ternativi», 2000. 188 s.

39. Avtonomova N.S. Ratsyonal'nost': nauka, fylosofiyya, zhyzn'. Ratsyonal'nost' kak predmet fylosofskoho yssledovanyya: [cb.] /Otv. red. V.A. Lektorskiy; red B.Y.Pruzhyryn, V.S.Shvyrev. M.: YFRAN, 1995. S. 48–76.

40. Fuko M. Arkheolohiya znannya; [per. s fr. V. Shovkuna]. Kyyiv: Osnovy, 2003. 326 s.

41. Hempel' K.G. Lohyka ob'yasnenyya: [sb. statey]; [per. s anhl., y sost. O.A. Nazarovoy]. M.: DYK, 1998. 240 s.

42. Sheynin O.B. On the history of medical statistics. *Archive for History of exact Sciences*. 1982. Vol. 26. №3. P. 241—286.

43. Sydorenko E.A. Zakon. *Éntsyklopedyya épystemolohyy i fylosofiyy nauky* / Pod red. Y.T. Kasavyna. M.: Kanon + «Reabylytatsyya», 2009. S. 239–242.

44. Lektorskiy V.A. *Épystemolohyya klassycheskaya y neklassycheskaya*. M.: Édytoryal URSS, 2001. 256 s.

45. Stepin V.S. *Teoretycheskoe znanye: struktura, ystorycheskaya évolyyutsyya*. M.: Prohress-Tradytsyya, 2000, 744 s.

46. Kozlovsky P. Postmoderna kul'tura: suspil'no-kul'turni naslidky tekhnichnoho rozvytku. *Suchasna zarubizhna filosofiya. Techyiy ta napryamy. Khrestomatiya. Navch. pos.* Uporyadkyky V.V. Lyakh, V.S. Pazenok. Kyyiv: Vakler, 1996. S. 214–295.

47. Mayers D. *Sotsyal'naya psykholohyya: Yntensyvnyy kurs*; [per. s anhl. L. Tsaruk]: [4-e yzd.]. SPb., M.: Praym-Evroznak; Olma-Press, 2004. 510 s.

48. Kasavyn Y.T. Konstruktyvyzm. *Éntsyklopedyya épystemolohyy y fylosofiyy nauky* / Pod red. Y.T. Kasavyna. M.: Kanon + ROON «Reabylytatsyya», 2009. S. 373–

377.

49. Ohurtsov A.P. Nauchnyy diskurs: vlast' y kommunykatsyya (dopolnytel'nost' dvukh tradytsyy). *Fylosofskye yssledovaniya*. 1993. №3. S. 12–59.

50. Rassel B. Istoriya zakhidnoyi filosofiyi; per. z anhl. Yu. Lisnyaka, P. Tarashchuka, Kyyiv: Osnovy, 1995. 759 s.

51. Kara-Murza S. Ydeolohyya y mat' ee nauka. M.: Alhorytm, 2002. 256 s.

52. Malkey M. Nauka y sotsyolohyya znannya; [per. s anhl. A.L. Velykovycha]. M.: Prohress, 1983. 253 s.

53. Belov V.A. Tsennostnoe yzmerenye nauky: [nauch. yzd.]. M.: Ydeya-Press, 2001. 284 s.

54. Makarov Z. Yu. Problemy nauchnoy reprezentatsyy real'nosty v postyndustrial'nyu épokhu. *Uchenye zapysky Tavrycheskoho nats. un-ta ym. V. Y. Vernadskoho*. Ser. «Fylosofyya. Sotsyolohyya», T. 21 (60). 2008. №4. S. 67–72.

55. Puankare A. Posledniye mysli. *Puankare A. O nauke* : [per. s frants. pod red. L. S. Pontryagina]. M.: Nauka, 1990. S. 523–673.

56. H'yum D. Traktat pro lyuds'ku pryrodu. Sproba zaprovadzhennya eksperymental'nohomometodu mirkuvan' pro ob'yekty morali; [per. z anhl. P. Nasady] / Za red. E.K. Mossnera. Kyyiv: VD «Vsesvit», 2003. 514 s.

57. Rozov M.A. Mekhanizmy razvitiya znaniya. *Rozov M.A. Filosofiya nauki v novom videnii* / Red. N.I. Kuznetsova. M.: Novyy khronograf, 2012. S. 181–206.

58. Delokarov K.Kh. Sistemnaya paradigma sovremennoy nauki i sinergetika. *Obshchestvennyye nauki i sovremennost'*. 2000. №6. S. 110–118.

59. Lutay V.S. Sinergeticheskaya paradigma kak filosofsko-metodologicheskaya osnova resheniya glavnykh problem XXI veka. *Praktichna filosofiya*. 2003. №1 (№7). S. 10–38.

60. Stepin V.S. Samorazvivayushchiyesya sistemy i postneklassicheskaya ratsional'nost'. *Voprosy filosofii*. 2003. № 8. S. 5–17.

61. Lebedev S.A., Kudryavtsev I.K. Determinizm i indeterminizm v razvitii yestestvoznaniya. Determinizm i indeterminizm v razvitii yestestvoznaniya. *Vestnik MGU (Ser. 7. Filosofiya)*. 2005. №6. S. 3–20.

62. Prigozhin I., Stengers I. *Vremya, kaos, kvant. K resheniyu paradoksa vremeni*; [per. s angl. Yu.A. Danilova]. M.: Editorial URSS, 2003. 240 s.
63. Linde A.D. Samovídtvoryuvaniy ínflyatsíyniy vsesvít. *Svít nauki*. 2001. №2 (8). S. 96–101.
64. Zaslavsky, G.M. *The physics of chaos in Hamiltonian systems*. London: Imperial College Press, 2007. 328 p,
65. Byalko A.V., Gamburgtsev A.G. Statistika pogody. *Priroda*. 2000. №12. S. 6–10.
66. Rezhabek Ye.Ya. Platonovskaya paradigma i sinergetika. *Rezhabek Ye.Ya. V poiskakh ratsional'nosti (stat'i raznykh let)*: [nauch. izd.]. M.: Akadem. proyekt, 2007. S. 119–140.
67. Arshinov V.I., Voytsekhovich V.E. Sinergeticheskoye znaniye: mezhdru set'yu i printsipami. *Sinergeticheskaya paradigma* [sb. st.] / Pod red. V.I. Arshinova i dr. M.: Progress-Traditsiya, 2000. S. 137–149.
68. Knyazeva Ye. N. Slozhnyye sistemy i nelineynaya dinamika v prirode i obshchestve. *Voprosy filosofii*. 1998. №4. S. 138–143.
69. Tom R. Strukturnaya ustoychivost' i morfogenez. Na puti k obshchey teorii modeli; [per. s frants.] M.: Logos, 2002. 280 s.
70. Chernavskiy D.S. Sinergetika i informatsiya. Dinamicheskaya teoriya informatsii; predisl. i poslesl. G.G. Malinetskogo. M.: KD «LIBROKOM», 2009. 304 s.
71. Akchurin I.A. Prichiny teleonomicheskkiye i formoobrazuyushchiye: pervyye shagi v ratsional'nom ponimani. *Prichinnost' i teleonomizm v sovremennoy yestestvennonauchnoy paradigme*: [sb. st.] / [Otv. red. Ye.A. Mamchur, Yu.V. Sachkov]. M.: Nauka, 2002. S. 39–51.
72. Prigogine I., Stengers I. *Order Out of Chaos: Man's New Dialogue with Nature (Radical Thinkers)*. New York: Verso Books, 2018. 384 p.
73. Melik-Gaykazyan I. V. Determinizm i spontannost' v postneklassicheskom ponimani evolyutsii urovney informatsii. *Prichinnost' i teleonomizm v sovremennoy*

yestestvennonauchnoy paradigme: [sb. st.] / [Otv. red. Ye. A. Mamchur, Yu.V. Sachkov]. M.: Nauka, 2002. S. 225–244.

74. Kline M. *Mathematics and the Search for Knowledge*. New York, Oxford: Oxford University Press, 1986. 267 p.

75. Sachkov Yu.V. Veroyatnost', struktura, nelineynost'. *Filosofskiye problemy fiziki elementarnykh chastits (tridtsat' let spustya)*: [sb. st.] / Otv. red. YU. B. Molchanov. M. : IFRAN, 1994. S. 185–199.

76. Vovk S. M. Matematika í sinergetichna paradigma svítoosmislennya. *Fílosofs'kí nauki*: [zb. nauk. prats']. Sumi : SDPU ím. A.S. Makarenka, 2003. S. 3–17.

77. Nikolis G., Prigozhin I. Samoorganizatsiya v neravnovesnykh sistemakh: Ot dissipativnykh struktur k uporyadochennosti cherez fluktuatsii; [per. s angl. V.F. Pastushenko; pod red. Yu.A. Chizmadzheva]. M.: Mir, 1979. 512 s.

78. Yakimtsov V.V. History and development of Haken's synergetics. *Naukoviy visnik NLTU Ukraïny*. Ser. Yekonomíchna. 2018, t. 28, № 9. S. 119–125.

79. Golubeva O.N., Sukhanov A.D. Ot dilemmy «spontannost'-determinizm» k kontseptsii universal'noy kontingentsii. *Spontannost' i determinizm*: [sb. st.] / [V.V. Kazyutinskiy i dr.]. M.: Nauka, 2006. S. 167–193.

80. Averintsev S.S. Dva rozhdeniya yevropeyskogo ratsionalizma i prosteyshiye real'nosti literatury. *Chelovek v sisteme nauk*: [sb. st.] / Otv. red. I.T. Frolov. M.: Nauka, 1989. S. 332–342.

81. Gofkírkhner V. Zhittya u svítí samoorganizatsií: zmagannya stilív mislennya í svítobachen'; [per. Yu. Mèlkova]. *Praktichna filosofiya*. 2003. №1(№7). S. 39–48.

82. Prigozhin I. Filosofiya nestabil'nosti. *Voprosy filosofii*. 1991. № 6. S. 46–57.

83. Knyazeva Ye.N., Kurdyumov S.P. Sinergetika kak novoye mirovozzreniye: dialog s I. Prigozhinym. *Voprosy filosofii*. 1992. №12. S. 3–20.

84. Krims'kiy S.B. Zapiti fílosofs'kikh smislív: [mon.]. Kyïv: Vid. PARAPAN, 2003. 240 s.

85. Revolyutsionnyye sdvigi v fiziko-matematicheskoye poznanii (filosofsko-mirovozzrencheskoye znacheniiye) / [Luk'yanets V.S., Kravchenko A.M., Khramova

V.L., Ozadovskaya L.V., Ratnikov V.S., Moroz A.Ya.]. K.: Naukova dumka, 1992.
301 s.

86. Gokíng S. Korotka ístoríya chasu: Víd velikogo vibukhu do chornikh dír; [per. s angl. A. Khlívneho ta ín.]. Kií v.: K.Í.S., 2015. 201 s.

87. Perspektivy metafiziki: klassicheskaya i neklassicheskaya metafizika na rubezhe vekov / [pod red. G.L. Tul'chinskogo, M.S. Uvarova]. SPb.: Aleteyya, 2000. 398 s.

88. Lem S. Filosofiya sluchaya: [per. s pol. B.A. Starostina]. M.: AST, 2007. 767 s.

89. Nesterova M. Kognitivistika: istoki, vyzovy, perspektivy: mon. Sumy: Unskaya kniga, 2015. 334 s.

90. Arshinov V.I., Budanov V.G. Kognitivnyye osnovaniya sinergetiki. *Sinergeticheskaya paradigma. Nelineynoye myshleniye v nauke i iskusstve*. M.: Progress-traditsiya, 2002. S. 67–109.

91. Bazhanov V.A. Refleksiya v sovremennom naukovedenii. *Refleksivnyye protsessy i upravleniye*. 2002. №2. S. 73–89.

92. Semenyuk Ye.P., Mel'nik V.P. Fílosofiya suchasnoí nauki í tekhníki: [pídrukh.]. L'vív: Svít, 2006. 152 s.

93. Markov V.A. Fenomen sluchaynosti: Metodologicheskiy analiz. Riga: Zinatne, 1988. 232 s.

94. Dobronravova Í.S., Bílous T.M., Komar O.V. Novítnya fílosofiya nauki: [pídrukh.]. Kyí v: Logos, 2009. 460 s.

6. The impact of railway transport on urbanization processes and economic development in Southern Ukraine

Abstracts.

Railway transport is one of the most important sectors of the national economy of Ukraine, a catalyst for economic growth and improvement of the quality of life of citizens. It meets the needs of production and the population in all types of transportation. Railway transport plays a leading role in the implementation of domestic and occupies a significant place in the establishment of foreign economic relations of Ukraine. Comprehensive coverage and generalization of the historical process of formation of the railway transport network on the Ukrainian territory, taking into account the interrelationships of the state legislative framework with the construction of railways, makes it possible to identify and analyze the impact of railway transport on urbanization processes in the South of Ukraine in the second half of the XIX and early XX centuries.

6.1 The role of railway transport in the development of cities in the southern region of Ukraine and the formation of cities of a new type - railway junctions

In the course of reforming the economic structure of the national economy in the second half of the nineteenth century, rail transport became important for the development of the southern region of Ukraine. In the 60s and 70s, railroads became an important factor in completing the industrial revolution in industry and preparing the development of capitalism in agriculture. The formation of railroad transport helped to establish connections. By connecting separate regions, railroads became a catalyst for modernization processes in the economy. With the development of the railroad network in southern Ukraine, there were changes in the number of cities. The largest cities in southern Ukraine were Odesa, Katerynoslav, Mykolaiv, Kherson, Sevastopol, and others. The development of rail transport led to the emergence of a new type of cities - railway junctions, the largest of which were Znamianka, Rozdilna, Birzula,

Apostolove, Dzhankoi, etc. The formation of the railroad network in the southern region resulted in the concentration of production and urbanization processes. The development of cities was accompanied by an increase in the urban population of large cities and a decrease in the number of towns (with a population of up to 10 thousand).

With the development of railroad transport in the south of Ukraine, the economic specialization of the cities of Kherson, Tavria, and Katerynoslav provinces was outlined. For example, Mykolaiv's industry specialized in metalworking and mechanical engineering, and a port operated on the left bank of the Bug Estuary. At the end of the nineteenth century, Mykolaiv port ranked third in terms of trade after St. Petersburg and Odesa, and the city became an important industrial and commercial center.

The formation of the railway transport network contributed to the accession of Mykolaiv to the national railway system [1, p.77]. The commissioning of local railways also influenced the development of the city. The establishment of transport links in Mykolaiv was supposed to ensure the creation of a single municipal complex, but its construction required additional costs from the city budget. To address this issue, city governments resorted to attracting private capital and concluded agreements with joint-stock companies, granting concessions for the construction of horse-drawn railroads [2, p. 54].

The construction of horse-drawn railroads, which began in the 60s of the nineteenth century, contributed to the development of towns in the Kherson province [3, p.14]. The expansion of Kherson's railroad communications in the early twentieth century contributed to the city's transformation into an important transportation hub.

The horse-drawn railways in Odesa played an important role in the development of the port and the establishment of industrial enterprises [4, p.590-591].

Gradually, with the development of transportation networks, horse-drawn railways were replaced by a more efficient, electric tram. At the end of the nineteenth century, the most important trade centers were equipped with tramways in particular in 1898 an electric tram appeared in Katerynoslav, and in 1899 - in Sevastopol [5, p.3]. In 1914, the construction of an electric tram began in the provincial city of Kherson,

but it was never put into operation.

The development of the railway transport network in southern Ukraine contributed to the growth of colonization processes and the emergence of settlements near railway stations, which, due to their good location, especially at the intersection of railways with navigable rivers, were rapidly built and developed [6, p.2; 7, p.5]. Urbanization processes led to the emergence of many factory-type towns, mining and railway settlements with a rapidly growing population in the southern Ukrainian provinces [8, p.29].

Villages and towns that appeared near railway stations merged with the latter and grew into important railway junctions. The largest among them in the Kherson province were Birzula, Rozdilna, Holta, Olviopil, and Znamianka. In the territory of the Yekaterinoslav province, the railroad stations of Apostolove, Polohy, and Novomoskovsk were prominent. The Dzhankoi station was an important railway junction in the Tavriya province in the second half of the nineteenth and early twentieth centuries. As a result of the development of industry and trade, and the expansion of the railway infrastructure, railway junctions turned into strategically important cities.

In 1863, the construction of the Odesa-Parkany railway with a branch to Yelisavethrad marked the beginning of the functioning of the Birzula railway station, which was supposed to become an important railway junction [9, p.365]. The section of the Odesa-Balta railway through Birzula was put into operation on December 3, 1863. From Birzula, railway construction began in the direction of Kharkiv through Balta-Yelisavethrad-Kryukiv, where train traffic opened in October 1869 [10, p.6].

The construction of the railroad contributed to the emergence and development of Birzula's industry and increased the marketability of agriculture, especially vegetable growing, horticulture, and viticulture. The railway station which had a cargo turnover of 34 million poods in the 1880s and 1890s contributed to the rise of trade and colonization of the region. According to the census data, 859 people lived in the city in 1886-1887 [11, p.17]. At the beginning of the twentieth century, Birzula grew from a small village into a new type of city - a railway junction.

Rozdilna, as a junction railway station, appeared in 1863 as a result of the

construction of the Odesa-Balta railway line (1863-1865). The settlement appeared in the place where the railway line branched in the direction of Parkan and Birzula, which is why it was named Rozdilna [12, p.102]. At the initial stage of development, the settlement consisted of 20 yards with 179 people who worked mainly on the railroad [13, p.661]. The development of the transport system led to the intensification of railway construction in the south of Ukraine, and the railways that passed through Rozdilna contributed to its transformation into an important railway junction. Rozdilna station was located in a fairly favorable location at the intersection of important trade routes, 43 versts from Tiraspol and 68 versts from Odesa [14, p.30-31]. In the early twentieth century Rozdilna grew into a first-class station with a population of 1174 people, 300 of whom worked on the railroad [15, p.661].

The cities of Olviopol, Bogopil, and the village of Golta (now Pervomaisk), which were located on the border of three counties: Ananyiv, Yelysavetgrad, and Balt, were of great importance for the development of the railway transport network in the south of Ukraine. An important trade area with the Odesa-Yelysavetgrad railway branch turned into a transit point connecting Odesa with the interior regions of the Kherson province, contributing to the establishment of internal trade relations in the region. In 1859, 5,187 people lived there, at the end of the 19th century this figure increased and reached 21.5 thousand people [16, p.657].

The Znamyanka railway station was established in 1869 as a major railway hub on the Odesa-Balta-Yelysavetgrad railway section, the extension of which was the Kremenchuk-Kharkiv route. It served as an important point through which railways of national importance ran. In 1869, the Yelysavetgrad-Kryukiv railway line passed through Znamyanka, in 1873, train traffic was opened on the Znamyanka-Mykolaiv section, and in 1876 a railway was laid from Znamyanka to Fastov. The railway station, which arose near the small village of Znamyanka and got its name from it, with the expansion of the railway transport network, turned into an important railway junction, near which the villages of railway workers began to appear - Osypove, Linitske. The expansion of the railway junction in the following years led to a rapid growth of the population of the station villages.

As a result of the construction of a new direction of the Kateryninskaya railway – Dolhyntseve-Nikopol-Olexandrivsk-Volnovakha, which was completed in 1904, the railway station Apostolovo appeared near the village of Pokrovske [17, sheet 141]. In 1904, the construction of the local Kurakhiv railway, which was supposed to meet the needs of agriculture, was also completed [18, sheet 518-519]. The expansion of the railway network in the area of the railway station facilitated the export of agricultural products from the area of commercial agriculture adjacent to the station, as a result of which the commercial production of grain, which was transported by railways to the domestic market and outside the country, increased. Thus, until 1914, the Apostolove railway station was the second in export of wheat, eggs, and third in barley [19, p.147].

In 1873, the construction of the Lozovo-Sevastopol railway line on the territory of Tavria province led to the appearance of the Dzhankoy railway station, which was connected to Simferopol by a local railway. The intensive construction of the railway caused a new wave of settlement in the region. Through Dzhankoy, Tavria province had access to the central regions of the Russian Empire, which influenced the establishment of internal trade relations and the development of trade. Every year, freight traffic and passenger traffic increased at the station. The construction of the Kherson-Dzhankoy railway line by the Black Sea Railway contributed to the connection of the Dzhankoy railway station to the railway transport network of the Kherson province [20, sheet 4].

The formation and development of railway transport in the south of Ukraine contributed to the development of cities and their transformation into large industrial, factory centers, which expanded and became industrial and trade centers. The development of the railway transport network in the southern region led to the emergence of a new type of cities - railway hubs.

6.2 Development of the railway system and economic development of Southern Ukraine

In the post-reform period, the development of the railway system in Southern Ukraine contributed not only to the development of cities and the emergence of a new

type of cities - railway hubs, but also influenced the development of industry and agriculture in the region. Southern Ukraine in the second half of the 19th century became the center of development of heavy industry. The large deposits of ores found, especially iron and manganese, contributed to the development of metallurgy, and machine-building, primarily agricultural, transport, and metallurgical, developed at a high rate. The formation of the railway transport network contributed to the accelerated development of the coal and iron ore industry, because the operation of railways required a large amount of metal and coal [21, p.202]. A peculiarity of the development of Southern Ukraine was that an area of commercial grain farming was formed on its territory, which also needed a railway connection.

Railway transport connected remote and underdeveloped regions with the central provinces of the country, contributed to the establishment of internal economic ties and deepening of economic specialization. Establishing internal connections with the help of railways made significant changes in the direction of cargo movement. Goods were sent from the southern region of Ukraine to the central provinces. The South-Western Railway brought goods to the border, where they were transshipped on the railways, in particular, Moscow-Voronezh-Kyiv, Moscow-Kursk, Libava-Romensk, which transported goods to remote regions of the empire [22, p.45].

The high level of concentration of production, the fast pace of industrial development and the significant inflow of foreign capital invested in the construction of railways significantly accelerated the process of modernization of the economy of the southern region. Along with the decline of traditional branches of the economy and the introduction of mechanized production, separate centers of industry stood out, among which the south of Ukraine took a leading place. The concentration of the metallurgical and coal industry in the region testified to a new rise in the industrial level and the completion of the technical revolution [23, p.18].

With the development of the transport system, cities turned into industrial centers with economic specialization. Kyiv, Kharkiv, Odesa, Kherson, Yelysavetgrad, Mykolaiv became the largest centers of industry [24, p.26]. In the large cities of Southern Ukraine, the factory industry, which was equipped with steam engines, began

to grow at a high rate. Archive documents show that in the second half of the 19th century, in connection with the expansion of the railway transport network in the southern region, the intensive construction of industrial enterprises began [25, p.45].

Railways became the most organized component of the economic mechanism, the level of development of heavy industry depended on the direction of cargo flows. Local railways ensured the supply of hard coal to the main railway lines, such as Kateryninska, Kursk-Kharkivsko-Azov, Lozovo-Sevastopol, Kursk-Kyiv, South-West, Fastivska, Kozlovo-Voronezh-Rostov, Moscow-Brest and Vladikavkaz railways that transported goods of the mining industry outside Ukraine.

The formation of the railway transport network in the south of Ukraine and the increase in the volume of transported products led to the expansion of the railway infrastructure, which affected the development of steam locomotives and carriage construction [26, p.105]. The five largest wagon-building factories in Kyiv, Katerynoslav, Mykolaiv, Kharkiv, and Horlivka produced wagons both for use in the country and for export. In the 90s of the XIX century Kharkiv and Luhansk steam locomotive factories, which produced high-quality steam locomotives, were put into operation [27, p.99-100].

In the conditions of modernization of the economy, traditional branches of the economy continued to develop, in particular, sugarcane farming, sugar production, flour milling, butter industry, as well as cloth and linen production. The main purpose of railways was to transport finished products from the place of manufacture to the area of consumption [28, p.5]. Among the branches of the extractive industry, which continued to play an important role, was the salt mine, which turned from an ordinary peasant industry into a separate branch of industry. The main centers of salt production were Katerynoslav, Kherson, Tavria and Kharkiv provinces. At the end of the 90s of the XIX century salt began to be mined in Donbas [29, p.61]. The mined salt was transported by railways to the central regions of the empire, the Baltic States, Belarus, and Poland.

In the second half of the 19th century in the south of Ukraine, a district of commercial grain farming was formed, where the grain sales center moved. The

development of commodity-money relations and the abolition of serfdom significantly revived the economic life of the region [30, p. 55].

The agriculture of Southern Ukraine in the post-reform period entered the system of qualitative transformations. The railway transport network connected the south of Ukraine with the most remote regions of the empire and contributed to increasing the carrying capacity of the southern region [31, p.19; 32, p. 53]. The development of railway transport in the southern steppe provinces influenced the expansion of arable fields, on which drought-resistant varieties of wheat - bitter wheat, as well as technical crops were cultivated [33, p. 219].

In addition to grain crops, fruit and berry crops were cultivated in Southern Ukraine [34, p.72]. Among the provinces that were famous for the cultivation of fruit and berries and that were crossed by the South-Western Railway, the Bessarabian and Podil provinces stood out, in which horticulture and viticulture were at a fairly high level [35, p.1]. Horticulture acquired industrial importance and fruits were exported by railways not only to neighboring provinces, but also outside the country.

The variability of agricultural products required different conditions of transportation. The maximum speed and mobility of railways made it possible to transport goods much faster and in larger quantities, and with lower costs. Special technically equipped wagons were produced for transportation of demanding cargo, in particular, fruit. To begin with, ten such wagons were developed and put into operation. In 1894, the Southwestern Railway Administration increased the production of special fruit cars to 152. The ventilation system made it possible to transport fruit over long distances even in hot summer conditions; the possibility of heating this type of wagon made it possible to protect the goods from freezing during winter transportation [36, p.233]. The construction of special wagons made it possible to transport fruit all year round.

An important place in the economy was occupied by the sugar industry. Sugar beet cultivation in Ukraine began in the 20s of the XIX century and gradually the sugar industry began to occupy one of the leading places. In the south of Ukraine, only one sugar processing plant operated for a long time (in the Kherson province), and since

1861, their number has increased to three [37, p.30].

However, despite the fact that the railway network in the second half of the 19th century was formed, the results of the operation of railway transport showed that at the initial stage the railways were unprofitable. The main reason that hindered the transformation of railway transport into an efficient type was a technical error in the design of the railway. The railway transport network was formed according to the meridian principle, which allowed to distribute the flows of goods in the direction of the Black Sea ports, due to which the south of Ukraine turned into a starting point in the construction of railways [38, p.53]. The mistake was that the construction of the railway was carried out in such a way that important trade points were distant from Odessa, and the region turned into only a transit point, at the same time, the operation of railways required additional costs, which turned them into a loss-making enterprise [39, p. 3; 40, p. 6]. The construction of railway tracks was carried out in the form of an arc, which was supposed to cover as wide an agricultural area as possible [41, p.17]. Development of the railway network at the end of the 19th century taking into account previous mistakes, as well as the liquidation of the privately owned monopoly on railway transport in the 90s of the XIX century made it possible to increase traffic on state railways at the same time, which contributed to increasing the profitability of railway lines. State control over the technical condition of railways led to a reduction in operating costs. At the end of the 19th century the net profit from the operation of railways amounted to 138,809,573 thousand rubles, most of the funds were directed to the development of the economy of Southern Ukraine [42, p.16-17].

CONCLUSION

Thus, in the second half of the 19th - at the beginning of the 20th century the process of modernization of the economy was completed in the south of Ukraine. This was facilitated by the development of the railway transport network. The expansion of urban infrastructure, the improvement of means of transport in cities, the establishment of railway connections in the south of Ukraine contributed to strengthening the economic ties of the region. The appearance of nodal railway stations, which gradually

grew into cities of a new type - railway hubs, accelerated urbanization processes in the south of Ukraine. Railways provided transport links between different economic regions, opened new markets for industry, raw material sources with labor and sales markets products. In general, railway transport stimulated the development of the metallurgical and mining industry, machine building, and the production of construction materials in the south of Ukraine. The construction of railways created a demand for railway equipment - wagons, locomotives, rails, which became the backbone of industrial development. Only at the end of the 19th - at the beginning of the 20th century the two largest steam locomotive factories in Ukraine - Kharkiv and Luhansk produced about 2.5 thousand steam locomotives of domestic production. The formation and development of railway transport influenced the development of traditional branches of the economy. Railway construction contributed to the development of the commodification of agriculture, the expansion of the national economic complex, the integration of Southern Ukraine into the national economic space.

References:

1. Экономическое описание района южных железных дорог. – Kh. : Utro, 1888. – S. 77.
2. Derzhavnyi arkhiv Mykolaivskoi oblasti. F. 216 Mykolaivska miska Uprava, m. Mykolaiv Khersonskoi hubernii. 1870–1920 rr. op. 1. – Spr. 17. – Ark. 54.
3. Проекты устройства железно-копных дорог в Херсонской губернии. – Kherson, 1865. – S.14
4. Высочайше утвержденное положение Комитета Министров об устройстве коно-железных дорог в Одессе, 6 июня 1863 г. // Полное собрание законов Российской империи. – Собрание 2. – Т. 10, отд. 2. – № 54785. – S. 590-591.
5. Трамвай – русское изобретение (к 60-летию со дня пуска первого в России трамвая). – М. : Tsentraln. polyt. byblyot., 1952. – S. 3.
6. Derzhavnyi arkhiv Mykolaivskoi oblasti. F. 216 Mykolaivska miska Uprava, m. Mykolaiv Khersonskoi hubernii. 1870–1920 rr. – op. 1. – Spr.23. – Ark. 2.

7. Paryenko H.K. Yspolzovanye ystochnykov arkhivov Odessy pry yzuchenyy ystoryy kapitalnoho stroytelstva na yuhe Ukrainy / H.K. Paryenko // Arkhiv. Dokument. Istoriia. Suchasnist : zbirka naukovykh statei ta materialiv / Pratsi Derzhavnoho arkhivu Odeskoi oblasti. – T. 4 / Arkhiv Odeskoi oblasti Derzhavnoho komitetu arkhiviv Ukrainy. – Odesa : Druk, 2001. – S. 5.
8. Turchenko F. Pivdenna Ukraina: modernizatsiia, svitova viina, revoliutsiia (kinets XIX st. – 1921 r.) / F. Turchenko, H. Turchenko. – K. : Henezha, 2003. – S. 29.
9. Ylliustrovannyy putevodytel po Yuho-Zapadnym kazennym zheleznyim doroha / [pod. red. P.N. Andreeva]. – [yzd. 2-e]. – K. : Typ. S.V. Kulzhenko, 1899. – S. 365.
10. Sbornyk vysochaishykh povelenyi, ynstruktsyi y tsyrkuliarov, otnosiashchyksia do ekspluatatsyy kazennykh zheleznykh doroh. – Ch. 1-2. – SPb., 1894. – S. 6.
11. Rezultaty podvornoj perepysy Ananevskoho uezda. 1886-1887. – Kherson : Typ. O.D. Khodushynoi, 1889. – S. 17.
12. Verkhovskiy V. Kratkyi ystorycheskyi ocherk o rasprostraneniya zheleznykh doroh po 1897 h. vkluchytelno / V. Verkhovskiy. – SPb., 1898. – S. 102.
13. Istoriia mist i sil URSR. Odeska oblast / [Hladka L.V., Anufriiev L.O., Bachynskiy A.D. ta in.]. – K. : URE, 1969. – S. 661.
14. Doklad obshchei komysyy o vaznahrzhdenyy zemlevladeltsev za zemliu, vziatuiu pod tranzytnuiu dorohu k stantsyy Razdelnoi // Sbornyk Khersonskoho zemstva. – 1898. – №3. – S. 30-31.
15. Istoriia mist i sil URSR. Odeska oblast / [Hladka L.V., Anufriiev L.O., Bachynskiy A.D. ta in.]. – K. : URE, 1969. – S. 661.
16. Istoriia mist i sil URSR. Mykolaivska oblast / [Vasyliiev V., Aheiev Yu., Antonenko V. ta in.]. – K. : URE, 1971. – S. 657.
17. Tsentralnyi derzhavnyi istorychnyi arkhiv Ukrainy, m. Kyiv. F. 1252 1865-19120 rr. op. 1. – Spr. 159. – Ark. 141.
18. Derzhavnyi arkhiv Dnipropetrovskoi oblasti. F. 11 Kantseliariia Katerynoslavskoho gubernatora. 1871-1917 rr. - op. 1. – Spr. 447. – Ark. – 518-519.

19. Ystoryia horodov y sel ukraynskoï SSR. Dnepropetrovskaïa oblast / [Vasylev V., Vatchenko A.F., Velychko P.K. y dr.]. – K. : USƏ, 1977. – S. 147.
20. Derzhavnyi arkhiv Khersonskoi oblasti. F. 296 Upravlinnia budivnytstva zaliznychnoi linii Dzhankoi-Kherson tovarystva Chornomorskoï zaliznytsi, m. Kherson Khersonskoho povitu Khersonskoi hubernii. 1915-1920 rr. – op. 1. – Spr. 8. – Ark. 4.
21. Kotliar M. Dovidnyk z istorii Ukrainy / M. Kotliar, S. Kulchytskyi. – K. : Ukraina, 1996. – S. 202.
22. Fabrychnaia y zavodskaia promyshlennost v raione Yuho-Zapadnykh zheleznykh doroh. – K. : Typ. S.V. Kulzhenko, 1894. – Выр.1. – S. 45.
23. Hurzhii I.O. Rozvytok tovarnoho vyrobnytstva i torhivli na Ukraini / I.O. Hurzhii. – K. : Vyd. AN URSR, 1962. – S. 18.
24. Hrytsak Ya.I. Narys istorii Ukrainy: formuvannia modernoi ukrainskoï natsii XIX-XX st. / Ya.I. Hrytsak. – K. : Geneza, 1996. – S. 26.
25. Derzhavnyi arkhiv Dnipropetrovskoi oblasti. F. 2154 Upravlinnia Katerynoslavskoi zaliznytsi, m. Katerynoslava. 1870-1914 rr. – op. 1. – Spr. 45. – Ark. 45.
26. Zheleznye dorohy na Yuhe. – Feodosyia : Typ. armiansk. khalybovskoho uchylshcha, 1863. – S.105.
27. Khakhliuk A.M. Z istorii stanovlennia zaliznychnoho kompleksu Ukrainy (60-90-ti roky XIX st.) / A.M. Khakhliuk // Istoriiia narodnoho hospodarstva ta ekonomichnoi dumky Ukrainy : zb. prats. – K., 2002. – Vyp. 33-34. – S. 96-100.
28. Naporko A.H. Ocherky razvytyia zheleznodorozhnoho transporta SSSR / A.H. Naporko – M. : Trans. zheldor. yzdat., 1954. – S. 5.
29. Nesterenko O.O. Rozvytok promyslovosti na Ukraini / O.O. Nesterenko. – K. : Vyd. akad. nauk URSR, 1962. – Ch.2. – S. 61.
30. Bunytskyi K. O. O promyslakh zemledelcheskoho soslovyia v Novorossyiskom krae / K.O. Bunytskyi // Zhurnal Mynysterstva hosudarstvennykh ymushchestv. – 1847. – Ch. 23. – S. 55.
31. Soloveva A.M. Zheleznodorozhnyi transport vo vtor. pol. XIX v. / A.M.

Soloveva. – M. : Nauka, 1975. – S. 19.

32. O polze zheleznykh doroh dlia perevozky zemledelcheskykh proyzvedeniy // Zhurnal mynysterstva hosudarstvennykh ymushchestv. – 1856. – Ch. 58. – S. 53.

33. Demol Y. Selskoe khoziaistvo v Novorossyiskom krae khleba, sostavliaiushchye statiu zahranynchnoho otpuska / Y. Demol // Zhurnal Mynysterstva hosudarstvennykh ymushchestv. – 1813. – Ch. 9. – S. 219.

34. Vytte S. O selskom khoziaistve v Khersonskoi, Tavrycheskoi y Ekaterynoslavskoi huberniyakh / Serhei Vytte // Zhurnal Mynysterstva hosudarstvennykh ymushchestv. – 1844. – Ch. 13. – S. 72.

35. Khyzhniakov Y. O merakh, pryniatykh upravlenyem Yuho-Zapadnykh zheleznykh doroh k razvytyiu y uporiadocheniyu perevozky svezhykh fruktov / Y. Khyzhniakov. – K., 1894. – S. 1.

36. Ishchenko A. Vplyv zaliznychnykh perevezen na rozvytok ahrarnoho sektoru pivdnia Ukrainy druhoi polovyny KhIKh st. / A. Ishchenko // Ukrainskyi selianyn : zb. nauk. prats. – Cherkasy, 2008. – Vyp. 11. – S. 233.

37. Hurzhii I.O. Rozvytok tovarnoho vyrobnytstva i torhivli na Ukraini / I.O. Hurzhii. – K. : Vyd. AN URSR, 1962. – S. 34.

38. Druzhynyna E.Y. Yuzhnaia Ukrayna v peryod kryzysa feodalyzma, 1825-1860 hh. / E.Y. Druzhynyna. – M. : Nauka, 1981. – S. 53.

39. Avakulov. K prychnam malodokhodnosti Odesskoi zheleznoi dorohy / Avakulov // Odesskyi vestnyk. – 1875. – № 150. – S. 2.

40. Proekt novoi Odessko-Voznesensko-Kyevskoi zheleznoi dorohy, kak edynstvennoe sredstvo vozvratyt Odesse torhovyi raion y popravyt dyvydendy Odesskoi zheleznoi dorohy. – Odesa : Tovaryshchestvo, 1875. – S. 6.

41. Lyniuk Yu.S. Storinky istorii Odesskoi zaliznytsi (1865-2005) / Yu.S. Lyniuk. – Odesa : Astroprynt, 2005. – S. 17.

42. Obzor deiatelnosti Mynysterstva putei soobshchenyia za 1897 h. – SPb. : Typ. Y.N. Kushnerov y K, 1898. – S. 16-17.