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THE ANALYSIS OF THE CHARACTERISTIC CONCEPTS OF THE ESTABLISHMENT AND DEVELOPMENT OF UKRAINIAN SOCIETY IN THE CONTEXT OF THE HISTORICAL, SCIENTIFIC AND PHILOSOPHICAL APPROACHES

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ANNOTATION

The collective monograph is devoted to the analysis of the characteristic concepts of the evolution 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.

Svitlana Bogatchuk investigates the problem of the development of the agricultural sector of the Podil region in the XIX th century. Focuses attention on highlighting the very process of reform and development of the main branches of agriculture during this period, such as: cultivation of wheat, rye, oats, buckwheat. Highlights the difficult socio-economic situation that prompted the authorities to make a decision to reform the agrarian sector. Analyzes the development of the agrarian sector of the Podilsk region after the peasant reform - the abolition of serfdom in 1861. About 75% of its population was employed in agricultural production as evidence of the importance of agriculture in the Podilsk province. Capitalization of the country as a result of the peasant reform also affected the development of the agricultural sector of Ukraine, as well as Podillia. Therefore, in the study, the author provided the main characteristics of the development of the sugar industry, flour milling, viticulture, distilling, and others.

In his analysis, Ihor Mazilo pays attention to the topic of railway transport in the German-Soviet war. The author emphasizes that railway transport became an object of strategic importance and provided communication between the front and the rear. Therefore, railway communications played one of the key roles during the last war and post-war reconstruction.

Ihor Belkin reveals the content and analysis of the pedagogical experiment as an integral component of the modern educational process. In the content of his chapter, he pays considerable attention to the research and experimental work of students in the learning process. Describes the content of key tasks of experimental research. Emphasizes the theoretical and practical aspects of the readiness and effectiveness of the pedagogical experiment in the conditions of student training in the context of future specialists. The author pays considerable attention to one of the effective methods of the pedagogical experiment mechanism - the business game. Plays a practical-applied analysis of the game technology method. Describes the sequence of stages of the experiment and the analysis of its results.

In the study of Volodymyr Manhora, a comparative characterization of the prevention of illegal trade in human organs and tissues in Ukraine and European countries was carried out. The concept of illegal trade in human organs and tissues is given. The history of the development of prevention of illegal trade in human organs and tissues is considered. Periodization of the legal regulation of state administration in the field of transplantation has been carried out. The specifics of the regulatory and legal regulation to prevent illegal trade in human organs and tissues in Ukraine and European countries have been determined. Based on his own research, the author came to the conclusion that in order to regulate the fight against the illegal trade in human organs and tissues in modern Ukraine, it is necessary to improve the legislative framework, provide for sufficient state funding, and also implement the best practices of European countries in regulating the transplantation of human tissues or organs.

The section prepared by Zorislav Makarov focuses on the study of general features and historical changes in the rationality of academic thought of the Renaissance era. Emphasis is placed on the analysis of the worldview level of the relationship between Man, Nature and God in the period of the XIV-XVI th centuries. The observed creative reception of ancient and early Christian thought at this level, which was embodied in the original concepts of a number of humanistic studies and educational guidelines of the Reformation, gives grounds for concluding that the subject-object dichotomy, naturalistic principles of creativity, and the instrumental model of rationality were gradually separated for the modern development of philosophy and science.

The content of the collective monograph corresponds to the research direction of the Department of History of Ukraine and Philosophy of the Vinnytsia National Agrarian University "Study of trends of socio-economic development and consolidation of Ukrainian society in the modern history of Ukraine". monograph used: historical-genetic method, statistical analysis, sociologist and pedagogical research.

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Annotation

Many scientific works are devoted to the study of this problem. Interest in the socio-economic situation of the Ukrainian lands of the Podilsk Region before and after the agrarian reform of 1861 was still observed in the 1950s and 1980s.

The publication analyzes the economic development of the Podilsky Krai in the XIX th century. Attention is focused on highlighting the very process of reform and development of the main branches of agriculture during this period, such as: cultivation of wheat, rye, oats, buckwheat. The difficult socio-economic situation that prompted the authorities to make a decision on reforming the agrarian sector is highlighted.

An important role in the rise of agricultural production was played by Chumat fishing, which gave impetus to the intensive development of domestic and foreign trade, the emergence and development of new cities and industrial centers.

The development in the second half of the XIX th century, especially in the 1960sand 1990s, of economically more profitable transport - the railway - caused the rapid decline and disappearance of the Chumat fishing industry.

One of the central problems of national history was and remains the reform of 1861 - a turning point in the history of the XIX th century, the relevance of studying which is deepened by the need for modern research on such related issues as the formation of the Ukrainian peasantry in new capitalist conditions, its mentality, the development ofpeasant management and self-government.

The development of the agrarian sector of the Podilsk region after the implementation of the peasant reform - the abolition of serfdom in 1861 is analyzed.

About 75% of its population was employed in agricultural production as evidence of the importance of agriculture in the Podilsk province.

Capitalization of the country as a result of the peasant reform also affected the development of the agricultural sector of Ukraine, as well as Podillia. Therefore, the

study provides the main characteristics of the development of the sugar industry, flour milling, viticulture, distilling, and others.

Fair, bazaar and permanent stationary trade remained the main forms of organization of internal trade in Right Bank Ukraine, in particular Podillia, in this period. Bazaars played an important role in internal trade. They were one of the forms of the main and permanent economic ties between the city and the countryside.

INTRODUCTION

The source base of the problem is provided primarily by an array of works on the pre-revolutionary history of Ukraine, in particular collections of statistical data.

A fundamental study of the statistical and reference nature of the "Commemorative book of the Podolsk province" of 1885 provides descriptions of an economic, social, and educational nature [1].

Among the works of researchers of the mentioned historiographical group, V. Guldman and his book "Podolskaya gubernia. Experience of geographic and statistical description", in which the author highlights the development of industry and agriculture in the territory of Podillia [2].

Research under the publishing house of P. Batyushkov "Podoliya. Historical description: with one chromolithography, 2 phototypes, 46 engravings and 2 maps" (1891) reveals the features of the economic, social, national and spiritual (religious) development of the Podilsk region at the end of the 18th - in the first half of the XIX th century. [3].

Characterizing the state of scientific development of the problem, we note that history was studied by historians of the XXth century. It is worth noting the thorough work of I. Gurzhii "Ukraine in the system of the all-Russian market in the 60s-90s of the XIX th century." The research is based on a significant amount of materials, includingarchival materials. The author highlights the place of Ukrainian provinces in the marketof the Russian Empire [4].

The work of T. Lazanska "History of entrepreneurship in Ukraine (on the materials of trade and industrial statistics of the 19th century)" is important. The author investigates the industrial development of Ukrainian lands and the related process of formation of entrepreneurs who became active participants in the economic life of Ukraine [5].

Development of industrial production in landlord farms of Right Bank Ukraine in the first half of the 19th century. studied by O. Hordunovskyi [6].

The monograph of O. Reent and O. Serdyuk "Agriculture of Ukraine and the World Food Market (1861–1914)" is also important. The researchers, based on a significant volume of archival materials, highlight the peculiarities of the development of agriculture in Ukraine and its integration into the world food market in the second half of the 19th and early 20th centuries [7].

The issue of transportation of agricultural products was investigated by I. Slabeev [8], M. Slabchenko [9], S. Bogatchuk [10] and others.

The development of flour mill production in the second half of the XIX th century in Podilla, the dissertation of Stolokos T. is dedicated, which thoroughly reveals the development of this branch of the agricultural sector [11].

Setting objectives. The attention of researchers to issues of the development of the agrarian sphere in the XIX th century, in particular, in the Podilsk province, which became one of the agrarian centers of Right Bank Ukraine, remains relevant.

The aim of the scientific research is an attempt to analyze the main results of the development of the agrarian sector of the Podilsk Region in the first half of the XIX th century. before the agrarian reform of 1861, as well as the capitalization of the agrarian sector, the development of the railway network contributed to the rise of the economic development of this territory.

1.1 Development of the agrarian sector of the Podil region in the first half of the XIX th century

Podillia became a part of the Russian Empire after the second partition of Poland in 1793. After the transfer of Podillia from Lithuania to Poland, it was divided into two voivodeships: Podilska, which made up the northwestern part of the province with Kamenets as its center, and Bratslav, which covered the southeastern part of the province, where Vinnytsia was the main city. By decree of December 12, 1796, the Podilsk and Bratslav vicarages were transformed into the Podilsk province.

On June 19, 1804, a Decree was issued according to which the Podilsk Governorate consisted of 12 poviats: Kamianets-Podilskyi, Baltskyi, Bratslavskyi, Vinnytsia, Haysynskyi, Letychivskyi, Litynskyi, Mogilivskyi, Olgopilskyi, Proskurivskyi, Ushytskyi and Yampilskyi [1, p. 37].

The period of Polish rule had a negative impact on the economic condition of Podillia, which led to its backwardness. Only inclusion in the all-Russian economic market changed the situation of the region. Commodity-money relations gradually began to develop, influencing the development of landlord farms that adapted to the needs of the market.

The feudal-serf system of the Russian Empire delayed the development of most branches of industrial and agricultural production, in particular in the Podilsk province. Almost 90% of the population of the province remained serfs. But already in the 20s and 30s of the XIX th century. the process of disintegration of this system is observed, which was accompanied by a severe agrarian crisis.

The position of the region changed after its inclusion in the all-Russian economic market. Gradually, commodity-money relations began to develop, which influenced the development of landlord farms, forced to adapt to the needs of the market.

The inclusion of Podillia in the all-Russian economic market gradually changed its position. The most common industries were farming and horology [6, p. 61]. Podilsk province began to stand out among other provinces of Right Bank Ukraine in increasing the export of a large amount of bread to the south, to Odessa, Berdychev, Bessarabian region. Thus, in 1846, about 500,000 quarters of grain were exported for sale [13, p. 7].

Landlords received the most significant profits from the construction of grain mills, which processed grain into vodka.

The technology of vodka production at landowner distilleries was quite primitive. At many enterprises, even in the 30s and 40s, open fire was used, although in the 20s, the construction of more advanced steam furnaces began, which not only accelerated, but also increased the output of the product.

The tsarist government granted privileges for its sale and production. Thus, in 1811, a special fee of 60 kopecks was introduced. for a bucket of vodka. The collection was divided among the landowners, based on the calculation of 1 bucket per audited soul. The production of mulled wine (vodka) was widespread in all the towns and villages of the Podilska province. According to the value of the products produced at the province's landlord enterprises, vodka took first place.

In 1837, there were 535 distilleries in the province, which produced up to 480,000 buckets of hot wine, which was partially consumed, and a significant part of it was sold to Bessarabia, Moldavia, Belarus, the Principality of Warsaw [14, p. 17]. In 1860, there were 251 guralnya in the Podilsk province, while there were 388 in the Kyiv province, 328 in the Volyn province, and 213 in the Kherson province [14,p. 16].

Vodka production in the Podilsk province did not exceed 500,000 buckets per year until the 20s, but in the late 30s it exceeded 2 million buckets. Unable to withstand the competition, small gural factories closed, medium ones, on the contrary, increased production. The newly created gural plants were designed to produce more than one thousand buckets per year. Thus, in 1850, there were 29 distilleries in Proskurivsky District, 10 of which produced more than 10,000 buckets of vodka.

Therefore, the production and sale of alcoholic beverages was an important element of activity and a source of income. Farming remained the main branch of landlord production until the reform of 1861.

Another important industry was sugar production. In 1825-1828, the Sabvanovsky sugar mill (Pyatkivtsi village, Olgopil district) was the first to start operating in the Podilsk province. Landlords tried to increase their profits by producing sugar. The tsarist government promoted the development of this industry by banning the import of sugar to Russia for a certain time.

If at the beginning the sugar factories were equipped with primitive equipment (sugar extraction by the "fire" method), in the mid-40s of the XIX th century. their technical modernization began, the transition to steam technology, which ensured an increase in labor productivity, its division and personnel changes [6, p. 66].

In the Podilsk province from 1842 to 1847, the number of sugar factories increased from 15 to 25. At that time, there were 31 (1842) and 89 (1847) sugar factories throughout Right Bank Ukraine.

In 1853, there were 31 sugar factories in the region that produced 184,800 poods of sugar [15, p. 234-235] Vyshnivchytskyi, Horodetskyi, Trostyanetskyi and others were among the large factories of the province. With the increase in sugar production and the improvement of sugar factories, the area of sugar beet cultivation increased to 4,232 decytas of land in 1848-1849 [16, p. 117.] Sugar produced at factories was sold on the local market and exported to Moscow, Petersburg, Simferopol and other cities of the Russian Empire.

One of the important industries was cloth production. Cloth factories are located in the settlements of the Podilsk province: the cities of Yampil and Vinnytsia, the towns of Yarmolyntsi (landlord Jan Orlovsky), Derazhnya, Ladyzhyn (count Severyn Pototsky), Luchynets, and others. In the town of Tulchyna, the factory belonged to Count Shchensny-Potskyi. At these enterprises, colorful cloth and bika were made from simple sheep's wool. Sometimes ordinary cloth was purchased during recruitment sets for uniforms [17, p. 63.] The landowner S. Pototsky (town of Teplyk, Haysyn district) bought wool in the Podilsk province, and other materials in the Volyn, Kyiv, and Kherson provinces. Podil landowners M. Sabanskyi, K. Chetvertynskyi, G. Lyubomyrskyi and others bought wool for their enterprises [4, p. 35]. However, the production of cloth in the Podilsk province is gradually being stopped.

Among other industries, the paper industry stood out. The first paper manufactories in Ukraine began to appear in the middle of the 18th century. There was a paper manufactory in the town of Mezhirov in Podilla, owned by the landowner Andriy Orlovskyi, which produced 900 stacks of first-grade paper, 1200 of second-grade paper, and 1350 stacks of last-grade paper per year. In the village of Snytivtsi, owned by the landowner Semen Bykhovsky, medium-quality paper was produced [17, p. 73].

There was a stocking factory in the city of Yampoli that produced up to 600 pairs of simple stockings made of sheep's wool.

Animal husbandry in the Podilsk province also gained a wide scope. According to archival data, in 1853 there were 8 stud farms in the province: in the Haysynskyi, Olgopolskyi, Baltskyi, and Proskurivskyi counties. Horses were traded at fairs in Lityn, Letychev, Medzhibozh and other towns [18, p. 81].

According to archival data, in 1835 there were 695 plants and factories in the Podilsk province [14, p. 17], but in 1845 their number decreased to 488, and in 1860 to 246 industrial enterprises [16, p. 118].

An important place in the internal trade system belonged to bazaars and fairs, where agricultural products, industrial and handicraft products were sold, agreements (contracts) were concluded for the production, supply and sale of goods, and their demand among the population was studied. There were 54 of them in 1853, where the main items of trade were factory and factory products, leather, bread, and wool. A large amount of goods were sent from the Podilsk province to other regions: Odesa, Berdychiv, Bessarabian region, Galicia - wheat, lard, honey, wax, wool, leather, etc.

Imported - wine, copper and copper products, iron and other items. Fairs in Kamianets-Podilskyi, Yarmolintsy, Starokostyantinov and Balta were considered the most significant.

The government, interested in the development of trade, supported shipbuilding. Releasing funds for him to representatives of the local government. So, in the town of Yampoli, Count Pototsky bought five ships from the landowner Dedushytsky, which were built near the village. Cold Provisions were transported on them. For Podillia, the Dniester was navigable, on which ships and rafts transported wheat, corn, forest materials, etc.

According to the national composition of the owners of factories and factories in Podilly, 4.0% of the total number was concentrated in the hands of Ukrainians, Russians – 28.0%, Jews – 32.0%, foreigners – 24.0% [2, p. 32].

But despite progressive phenomena in the production of agricultural and industrial products, the situation of the Ukrainian people has not improved. Estates were left to all Polish lords who took the oath of loyalty to the tsar. And Russian tsarism considered serfdom one of the main foundations of the state system. Most of the landlord enterprises of the Podilsk province were based on the labor of serfs (cloth, sugar, vodka, etc.) [16, p. 15-16].

In the pre-reform period, the landowners of the Podilsk province owned a large number of industrial enterprises that produced flour, groats, paper, glass, and beer for sale. But the textile, vodka and sugar industry became the most widespread.

1.2 The role of Chumatsky fishing in the development of trade

At the beginning of the XIX century. in connection with the rapid settlement of Steppe Ukraine and the development of the Black Sea trade, the main role in the transportation of goods belonged to chumaks. They became a connecting link in the union of different parts of Ukrainian lands.

Historians directly linked the increase in the number of Chumaks at the end of the 18th and the first half of the 19th centuries. with the activation of cargo transportation. This was observed primarily in the southern regions of Kyiv, Podilsk and Kharkiv provinces [12, p. 164].

Chumatsvo deserves special attention because in the 19th century. both trade and trade-carriage fishing developed. Chumatsky fishery was primarily associated with the salt trade. The introduction of salt by Chumaks and its sale in Ukraine in the middle of the XIX th century. reached 131 thousand tons annually [20, p. 29]. The main factors that influenced the emergence and development of chumatism were: the absence of salt deposits in most of the territory of Ukraine as one of the essential food products; significant distance of salt industries from the densely populated regions of the Center of Ukraine and the Dnieper region, which were the main consumers of salt; dangers and significant physical difficulties associated with movement along the main roads that connected the Center of Ukraine and the Dnieper region with Crimea. According to the memoirs of M. Galagan, the Chumaks had the best oxen in the village to go to the Crimea for the countryside [21, p. 14-15].

Due to the lack of railways and the insufficient development of inland waterways, Chumat cartage is gradually taking the first place in the transportation of goods, which is becoming an important factor in the development of domestic and foreign trade, agriculture and industry of Ukraine. Most of the Chumak goods were transported from the Right Bank and Left Bank Ukraine, Belarus, as well as from the central industrial provinces of Russia (building materials, various industrial and handicraft products, food products) to the South of Ukraine, and salt was brought from there. Cities and ports were built there, the military and merchant fleet gained importance, the population grew rapidly [22, p. 98].

Thus, in 1820, all grain from the Podilsk province was sent to Odesa by road transport (i.e. 100%), and already in the late 1950s and early 1960s only about 68%, because the rest was transported by the Dniester [12, p. 166].

The intensive development of Chumac cartage also influenced the increase in the length of the roads themselves. So, according to official data, in the early 40s of the XIX th century. in only one Kyiv province their length was 3987.2 versts [23, p. 190]. Many important Chumat tracts were laid to places of mining of hard coal, alabaster, chalk and fair centers of Ukraine.

Chumat fishing played an important role in the development of fair trade. Most of the fairs were formed at the turn of the 18th-19th centuries. They became an important element in the trade system of that time. According to M.E. Slabchenko's calculations, in the mid-50s of the XIX century. transportation of goods by oxen to the fairs of Kharkiv, Poltava, Romain, and Krolevets was 38-73% cheaper than by horses. Chumat cartage has especially significant advantages in the southern steppe regions of Ukraine. Thus, during the summer Assumption Fair in Kharkiv, Chumaks collected goods and went to the Crimea for salt and fish [9, p. 69].

Delivery of goods by oxen was cheaper: from Odesa to Kharkiv by 2-2.9 times, from Kharkiv to Kerch, Feodosia and Simferopol - by 2.8-3 times, to Sevastopol, Yalta and places on the southern coast of Crimea - by 2.4-2 .7 times [24, p. 72]. The cheapness of Chumac cartage was due to much lower costs of maintaining oxen, and not to the efficiency of transportation.

Since the Ukrainian region was an agrarian one, the presence of a sufficient amount of cheap, albeit inefficient, transport played an important role in the economic development of the first half of the XIX th century, primarily agriculture, which graduallybecame the way of commodity production [10, p. 3].

The cheapness of sea transport made it possible to widely expand the export of bread and other agricultural products abroad through Ukrainian ports. It is necessary to note Odessa, which at that time was one of the major grain export ports in the world, where the export of bread was dominated by the grain export of all North American, Prussian and Russian ports. Chumaks delivered 655.2 thousand tons of grain annually to the Black Sea and Azov ports [25, p. 53].

72,000 tons of grain were shipped from the South-Western region alone [26, p. 19]. In 1847, 641,284 th of wheat, 85175 Thursday rye, 14935 Thursday barley, 81960 Thursday oats, 4936 Thursday buckwheat, 5670 Thursday millet, 1873 Thursday peas, 6660 Thursday rye flour, 14,203 poods of wheat flour, 38,518 poods of various cereals [27].

Already in the 1940s — the first half of the 1950s, Podilsk and Kyiv provinces supplied about 50% of exported bread, and in the middle of the century even up to 40% [12, p. 167].

In 1802, the share of Black Sea bread exports in all of Russia was 16.3%, and in 1817 - 40.1%. In 1802, 43.3% of wheat was exported through southern ports, in 1817 – 69 %, and in 1822 – 96% of all Russian wheat exports [28, p. 344]. Due to the lack of railways, the transportation of these goods would be impossible without the Chumack fishery.

I.O. Gurzhii noted that 75% of the bread exported from Ukraine through the Black Sea and Azov ports in the first half of the 19th century was transported directly by chumaks [4, p. 86]. At the same time, the Chuma cartage contributed to the maturation of capitalist production relations in the bowels of the feudal-serf system.

Sea transport played an important role in the development of industry. The possibility of using chumak transport for the transportation of industrial products expanded the geography of its sales, because chumaks reached the Urals and Central Asia and other remote corners of the Russian Empire.

Chumaks were at that time the only transporters of coal, chalk, lime, building material, stones, contributing to the development of those industries that mined or manufactured them. All these cargoes were transported by Chumaks over long distances, even beyond the borders of Ukraine [8, p. 109]. Chumatsky fishing consisted not only in the transportation of goods, but was also involved in trade relations.

At the beginning of the XIX century. most of the trade in such important goods as salt and fish was in the hands of the Chumaks. In the future, the size and range of Chuma trade expanded significantly. Especially profitable for the Chumaks was the trade in salt with the establishment of a high barrier duty on its export from the Crimea. Only in 1841, when the direct release of salt from the Crimean lakes was opened, this Chuma trade began to decline. The travel expenses of the Chumaks could not be paid off by the transportation of salt and did not give them an income [29].

In 1842, 790,275 poods of salt worth 303,323 krb. were brought to Kyiv region by chumaks, in 1848 – 967,651 poods worth 344,974 krb. [27].

In addition, the Chumaks traded handicraft products that were exported from the Left Bank, Right Bank and Slobozhanshchyna for sale in the south of Ukraine. And Chumat fishing itself was also a consumer of craft goods.

Thus, every year the Chumaks bought several tens of thousands of new cars, many spare parts (axles, wheels and a large amount of various accessories, tar, etc.) instead of worn ones [30, p. 39]. The Chumak trade in handicrafts and their consumption by the Chumaks themselves were the impetus for the development of many branches of craft production in Ukraine, such as sheep-breeding, cattle-breeding, and distilling [31, p. 371].

Chumat trade covered the whole of Ukraine. Different categories of the population were engaged in chumaking. Peasants and Cossacks, sometimes burghers, clergy, and landowners were engaged in chumatsv. From a social point of view, Chumat fishing was not accessible to every Cossack or peasant. In order to do it, you first needed to have a cart ("mazh") and a couple of sturdy oxen. Most Chumaks owned one or two pairs of draft animals and the corresponding number of "steamers; the smaller, wealthier part - dozens of oxen and vehicles. Poorer peasants were often hired as animal drivers; it gave them a chance to become an independent salt in the future. Chumaks are known from serfs, for whom chumaks were a tribute. The kripak-chumak brought the landlord a rent of up to 25 krb. silver from his family. And if the earnings were high, then it gave an opportunity to redeem oneself [30, p. 38].

Chumaks prepared for the long and dangerous journey in advance - even in winter. They repaired their carts, made spare parts (axles, drawbars), ordered new wheels from the stelmakhs, fattened oxen, and stocked up on tar and food.

As soon as the grass broke out from under the ground with the first rays of spring, dozens of chumkas gathered on a voluntary basis in the so-called "rolls". With united efforts, it was easier to cross the steppe spaces, defend against Tatars, robbers or even a pack of wolves, and help each other during the journey. The roll, which on the way stretched for hundreds, or even more, meters, was led by the most experienced chumak - the "leader".

He determined the route of the trip, agreed on the payment at the water crossings and customs, determined the places of rest and overnight stays, monitored the observance of discipline and order by the participants of the campaign, was the judge in case of disputes between the Chumaks, etc.

But not every Chumak was a trader. There were chumaks-hires, who were hired for cart fishing. Chumak owners traded themselves, sometimes involving their family members. Among the Chumaks there were those who had at least 20 pairs of oxen. Unable to bypass them on their own, they hired peasants, who became ordinary mercenaries. A hired chumak had the right to engage in trade at his own expense. There were cases when such a chumak returned home already wealthy after a trip.

Fishing was one of the most prestigious occupations and trades. Respect for him was determined, on the one hand, by the relative reliability of earnings, on the other hand, by hard work, conscientiousness, kindness, meekness, sincerity, and other positive traits of Prasol's character. Therefore, most young men dreamed of becoming a chumak.

Chumakowing led to the fact that some villages located on Chumak routes grew into large settlements. For example, Kakhovka on the Dnieper or Boryslav [9, p. 225].

Chumaks often stopped at river crossings due to their heavy traffic. Stopping here, they had the opportunity to sell off part of their goods. Where a large number of Chumat wagons stopped, fairs were held.

Until the 30s of the XIX century. according to its technical and economic indicators, sea transport met the requirements of its time. With the increase in the role of merchant capital in the salt, fishing industry and trade, the specific weight of Chumaks in the sale of these goods gradually decreased.

From the end of the 30s of the XIX century. the situation of water transport began to change rapidly due to the intensive development of the steppe regions of Ukraine, which led to an increase in the cost of water transport. Chumaks' expenses for keeping oxen on the road have increased.

At the same time, the active construction of railways abroad contributed to a significant reduction of railway tariffs for cargo transportation. In 1861, the transportation of goods by oxen in Ukraine was three times more expensive than the price of goods by railways in Western Europe. For the transportation of bread from Balta to Odesa (194 km) they paid the same amount as it cost to deliver bread from Le Havre to Tours (512 km) [32, p. 298].

The development in the second half of the XIX th century, especially in the 1960sand 1990s, of economically more profitable transport - the railway - caused the rapid decline and disappearance of the Chumat fishing industry.

In the history of Ukraine in the XIX th century. chumats left its important contribution to the establishment of political, economic and national ties between the south and the north of Ukraine. At the same time, Chumat fishing played an important role in the rise of agricultural production, gave impetus to the intensive development of domestic and foreign trade, the emergence and development of new cities, industrial centers. The development of chumatism is one of the important pages of the Ukrainian history of the XIX th century. It needs further research for writing scientific articles and teaching aids.

1.3 Development of the agricultural sector of Podilsk province in the second half of the 19th century

As you know, Podillia, along with other provinces of Right Bank Ukraine, occupied a special position in the Russian Empire. All national processes that took place here always had a certain regional specificity, based on the peculiarities of the national composition of the region's population. The presence of a large and wealthy stratum of Polish landowners and the resulting Russian-Polish and Polish-Ukrainian antagonism left its mark on all government measures carried out by Russia in these lands.

There are few regional features and the implementation of the 1861 reform in these lands, which brought noticeable changes to the life of the region, because serf peasants made up 59.54% of the entire population.

In February-March 1858, the nobility of the Podilsk province appealed to the Main Committee of Peasant Affairs regarding the formation of committees to draw up the project "Regulations" on the liberation of peasants [33, p. 103-104], upon which they received a rescript from Alexander II on the opening of preparatory committees in the provinces of the South-Western region, which highlighted their main provisions: 1/ landowners retain ownership of all land, but peasants retain their manor allotments, which they acquire in their ownership over a certain period of time through redemption, in addition, they are provided with land suitable for local conditions for use, for which they pay rent, or fulfill obligations to the landlord to fulfill their obligations to the state and the landlords; 2/ peasants should be divided into village communities, and landowners should be given the right of patrimonial police; 3/ when arranging future relations between landowners and peasants, proper payment of state and local taxes and fees must be ensured [34, p. 205].

It should be noted that the Podil nobles were extremely conservative in the reforms in question. A significant part of the nobles supported the project developed by the Proskuriv nobility leader Poplavskyi, which almost completely reproduced the content of the acts of January 31, 1858. As a member of the provincial committee, he insisted that they form the basis of the provincial project. The same opinion was held by the provincial leader of the nobility Suyatitskyi (at first), as well as the famous and wealthy landowners Sadovskyi, Pototskyi, Strozhynskyi, Modzelevskyi, Skibnevskyi, Rotsiborskyi, Zaleskyi, Drozhytskyi, Yakubovskyi, Kornylevskyi, Felix Sabanskyi, Gurskyi, Eduard Ronikor, Shashkevych, Golembiovskyi , Sanko-Panovskyi, Steblytskyi and others. Moreover, a similar opinion was held by both large landowners and small-scale nobility [34, p. 205].

In general, the situation of the population in the province on the eve of the abolition of serfdom was extremely difficult. The authorities made every effort to prevent the peasants from demonstrating, explaining that the government wants to arrange their lives in the best possible way, so one should calmly wait for release, receiving land, while obeying the landlord and fulfilling obligations [35, p. 1-2].

In the second half of the 19th century in the Russian Empire, there was a reform of the agrarian sector - the abolition of serfdom, or what historians call the peasant, agrarian reform.

The main provisions of the 1861 reform were laid out in the manifesto of February 19, 1861 and the "General provision on peasants freed from serfdom. According to these documents, the peasants became personally free.

In Art. 1 of the General Provisions stated that "the right of serfdom to peasants settled in landowners' estates and to courtiers is abolished forever...". According to this provision, serf peasants ceased to be the property of the landlord and were declared "free rural dwellers". They were given the opportunity to conduct free trade, open industrial and handicraft enterprises, trade establishments, enroll in workshops, buy, own and sell movable and immovable property, even, without the landlord's permission, marry, send children to educational institutions.

The abolition of serfdom did not bring full equality to the peasants. They were obliged to pay redemption payments. In addition, after the reform, the peasants received less land at their disposal than before 1861. In the Podilsk province, the amount of redemption payments for 49 years amounted to 101.1 million rubles, which was 2.5 times the market value of the land. This was approximately 20% of all payments paid by Ukrainian peasants. [34, p. 207].

Allotments in the amount determined by the inventory rules of 1847-1848 pp were kept for the peasants of Right Bank Ukraine. All "secular lands" were divided into original and additional allotments. On average, peasants were allocated 1.9 - 2.3 tithes per village head. As in the Left Bank, the land was allocated to the village community and assigned to the peasants in hereditary yard land use. In connection with the Polish uprising of 1863 p. tsarist government July 30, 1863 p. issued a law according to which mandatory redemption of peasant allotments was introduced, redemption payments were reduced by 20%.

According to the data of the Podilsk Provincial Statistical Committee, the cuttings in the province as of January 1, 1867 amounted to 126,942 desyatyns, or 23% of the total land area used by the peasants before the issuance of the decree dated July 30, 1863. The average payment for the tithe of purchased land was 1 year, 71 kopecks. With a capitalization of 6%, the redemption fee for the tithe was equal to 28 yrs. 50 kopecks. The smallest allotment of land is 1.55 decytas per head and the redemption payment is 6 years, 91.25 kopecks. was in the Kamianetsk District. In Baltskyi, Gaisinskyi, Yampilskyi, and Letychivskyi - from 2.49 to 3.83 desiatins per Revizka soul, redemption payments from 7.82 kopecks. to 9 years 51 kopecks. [36, p. 48].

The majority of Ukrainian peasants received homesteads and small plots of land. Processing them, they could not provide themselves with a living wage. The average allotment per capita on the Left Bank was up to 2.5 acres, in the provinces of Steppe Ukraine - up to 3.2, on the Right Bank - 2.9 acres. Allotments of state peasants averaged 4.9 decytas per Revizka soul, which was almost twice the size of allotments of serfs. Landowners replaced better peasant lands with worse ones. Pastures, hayfields, forests, part of which after the reform was left for joint use by peasants and landowners, after the Senate decree of 1886 p. almost completely became the property of the latter.

The reform of 1861 in Right Bank Ukraine had a certain peculiarity. Having doubts about the loyalty of the Polish nobility (confirmation of this is the uprising of the Poles in 1863), the government tried to attract the Ukrainian peasants to its side and gave them allotments 18% more than they had before 1861. But, having won in the size of the allotments, the peasants lost at the very inflated prices they were forced to pay for the land. During the reform, the landlords took the best lands for themselves, leaving the worst for the peasants. In Podilla, as in Ukraine, there were large landowners' estates, and the peasantry remained landless. The incompleteness of the reform of 1861 pushed the peasants to mass demonstrations.

Ukrainian peasants, having gained freedom after the abolition of lordship in Western Ukrainian lands and serfdom in Transdnieper Ukraine, could already freely manage their own destiny. In Right Bank Ukraine, the nobility's land ownership decreased much more slowly, its volume was 75% of all lands in 1905. In addition, the conditions for the abolition of serfdom here almost immediately deprived the landowners of free labor (according to the law of 1863), and large landowners were forced to actively rebuild their farms, adapting to new conditions and using freely hired labor, turning into capitalists rather quickly. farmers and industrialists, which allowed them to preserve their lands.

After the abolition of serfdom in European Russia, including the Partition, vestiges of feudal-serf relations were preserved. Although the very fact of the abolition of serfdom eliminated the peasants' dependence on the landlords, it did not bring them full equality. Unlike other social groups, freed peasants must pay redemption payments. It should be noted that after the reform, the peasants had less land at their disposal than before 1861, as can be seen from Table 1.

Land ownership in Podilsk province

Table 1

№ n/p	Land ownership	Number of tithes
1	Private property	1.650.280
2	Peasant associations	1.771.762
3	Kazenni	100.156
4	Specific	61.239
5	Church	80.458
6	Monasteries	1.624
7	Urban	40.458
8	Private societies and companies	18.878
	Together	**3.724.855**

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. p. 103

So, privately owned land makes up 44.3%, peasant land - 47.6%, state land - 2.7%, private land - 1.6%, all others - 3.8% of all land in the province [2, p. 103].

It should be noted that most of the land in this period was owned by the nobles. In general, Podilsk province belongs to those provinces where noble property is the largest among land owners.

According to statistical data, 2,090 noble families own 1,565,478 desiatines of land, merchants (66) own 43,512 desiatines, which is reflected in Table 2 [2, p. 105].

Land holdings by poviat of the Podilsk province

Table 2.

№ n/p	Counties	Nobles	Land belonging to nobles (des.)	merchants	Land belonging to merchants (des.)
1	Kamenetzky	200	136.667	2	607
2	Proskurivska	152	112.143	3	1.115
3	Letychevska	255	81.271	6	56
4	Litynska	281	141.711	5	605
5	Vinnytsia	110	119.758	6	4.196
6	Bratslavskyi	93	83.228	1	1.039
7	Haysynskyi	81	112.161	12	6.551
8	Olgopolskyi	64	156.330	3	2.156
9	Baltic	203	260.238	16	21.214
10	Yampilskyi	232	141.287	1	159
11	Mohylivskyi	235	112.462	8	4.043
12	Ushytskyi	184	108.222	3	1.771
	Together	**2090**	**1.565.478**	**66**	**43.512**

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. p. 106.

You can trace the size of the land plots that were owned by the nobles from Table 3.

Land property of the nobles of Podilsk province

Table 3.

№ n/p	Size of land	Number of noble landowners	Number of their land
1	To 10	340	1.250
2	10 - 100	445	19.569
3	100-500	560	149.567
4	500-1000	311	225.255
5	Above 1000	434	1.169.837
	Together	**2090**	**1.565.478**

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. p. 108.

The main feature of the land allotments in the Podilsk province is that 644,658 Reviz residents own 1,771,762 desiatins of land with the right of redemption, that is, on average, 2.7 desiatins per Revizi soul. The total number of peasant farms in the province was 247,982.

It can be assumed that agriculture in Podillia had a capitalist character. Large land ownership of machines and hired labor prevailed here, compared to the Poltava, Chernihiv and Kharkiv provinces, where the land was mainly owned by small owners.

In the second half of the XIX th century the growth of commercial and entrepreneurial production became important for the agricultural sector. Thus, the Right Bank, in particular, Podillia, specialized in beet cutting. As stated by the researcher Guldman V. K., those farms that had their own sugar factories developed best. Only large landowners who had significant working capital could afford to have them [2, p. 125].

In Podilla, the cultivation of sugar beets has taken an important place in the system of agricultural crops for the needs of the food industry and the fodder base of livestock.

As early as 1825-1828, the Sabvanovsky sugar factory (Pyatkivtsi village, Olgopil district) was the first to start operating in the Podilsk province. Landlords tried to increase their profits by producing sugar. The tsarist government promoted the development of this industry by banning the import of sugar to Russia for a certain time. In the Podilsk province from 1842 to 1847, the number of sugar factories increased from 15 to 25, while there were 31 (1842) and 89 (1847) across the entire Right Bank Ukraine.

In 1853, there were 31 sugar factories in the region, which produced 184,800 poods of sugar [35, p. 19].

Vyshnivchytskyi, Horodetskyi, Trostyanetskyi, etc. were among the large factories of the province. The Trostyanets sugar factory was founded in 1869, the Stepanivskyi one began operating in 1873, and the Kirnasivskyi one in 1898 [37, p. 167-171].

Sugar produced at factories was sold on the local market and exported to Moscow, St. Petersburg, Simferopol and other cities of the Russian Empire. In comparison: in 1861, there were 32 sugar factories in Podilly, in 1882 - already 49, and in 1895 their number increased to 52 [38, p. 506].

In 1882, 56,134 acres of land were sown with sugar beets in the province, at the end of the 19th century. its area was increased to 95 thousand acres. Up to 15,000 poods were sent to the Kyiv Sugar Refinery alone granulated sugar [39, p. 34].

Continuing to talk about the cultivation of sugar beet, we note the important factor of its processing into granulated sugar. The production of granulated sugar can be analyzed from the activity of sugar factories of the Vinnytsia District of the Podilsk Province in Table 4.

Sugar production at factories in Vinnytsia District

Table 4.

№ n/p	Factories of the Vinnytsia District	Sugar-sand (south)	Sugar beet (south)
1	Anger	428.910	374.758
2	Uladivka	160.123	190.970
3	Braille	250.000	294.270
4	Zalivanschyna	323.793	263.217
5	Kalinovka	271.514	232.717
6	Cordelivka	170.456	130.800
7	Noskivtsi	135.166	113.730
	In total	**1.750**	**1.510.730**

Source: Heyden, D. F. Statistical and economic essay of Vinnytsia uyezd and desirable measures for improving the welfare of the population / D. F. Heyden. [B. m.: b.y.], 1902. 40 p.

Each of these plants operated for at least 70 days. And as we can see from the table, from 1,510,462 poods of sugar beet, 1,750 tons of poods of granulated sugar were produced.

In general, in 1886, there were 46 sugar factories in the Podilsk province, which processed 6,078,784 bushels of sugar beet, producing 4,895,021 granulated sugar and 611,287 poods refining (table). In comparison with 1883, when 47 factories worked, which produced 3,550,151 granulated sugar and 588,438 pounds. refining [1, p. 59].

Refined sugar was produced at factories in Bratslav, Gaisinsky, Kamenetskyi, Vinnytsia, and Olgopol counties, the number of factories can be traced in Table 5. It should be noted that up to 15,000 workers worked at these factories, which is 61% of the total number of workers in factories and factories province

Sugar factories of Podilsk province (1886)

Table 5.

№ n/p	Poviats of the Podilsk Province	Sugar factories (quantity)
1	Yampilskyi	7
2	Olgopolskyi	7
3	Vinnytsia	6
4	Bratslavskyi	6
5	Mohylivskyi	4
6	Litinsky	4
7	Kamenetskyi	3
8	Haysynskyi	3
9	Letychevskyi	2
10	Ushytskyi	2
11	Proskurivskyi	1
12	Baltic	1
	Together	**46**

Source: Commemorative book of the Podolsk province for 1885. Address-calendar. Statistical reference information. Kamenets-Podolsky: printing house of the provincial board. 1885. P.92.

And according to the total productivity, sugar factories are distributed according to statistical data by regions, which can be seen from Table 6.

Productivity of sugar factories of Podilsk province (1886)

Table 6.

№ n/p	The name of the county of Podilsk province	The amount of productivity (thousand rubles)
1	Olgopolskyi	3.298
2	Bratslavskyi	2.714
3	Vinnytsia	2.612
4	Yampilskyi	2.191
5	Haysynska	1.533
6	Litinsky	1.227
7	Mohylivskyi	951
8	Kamenetskyi	861
9	Ushytskyi	493
10	Baltic	468
11	Letychivskyi	467
12	Proskurivskyi	286

Source: Herald of Finance, Industry and Trade. 1886. T.3. No. 27. P.32-33; Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. P.166.

According to statistical data, Podilsk province exported 5,447,989 poods of granulated sugar, which was 24% of all collected sugar in the Russian Empire [40, p. 32-33].

Also, it should be noted that in the Podilsk province alone, about 150 million poods of beets were processed, from which up to 120 million poods of raw pulp remained, enough to feed 250 thousand cattle [7, p. 65].

At the end of the 19th century Podilsk province ranked second in the Russian Empire in terms of area and sugar beet harvest.

Grain production

The leading role belonged to grain production. The next important crop in the above-mentioned counties is the culture of spring eared plants, while oats, barley, and spring wheat were not widespread in this part of the province [41, p. 12].

75% of the population is engaged in wheat cultivation, arable land makes up 63.6% of the entire territory. Therefore, it is clear that the main income of the province's productivity was agriculture. As researchers determined back in the 80s of the XIX th century, the Podilsk province occupied one of the first places in the production and supply of bread. [2, p. 126].

In the districts of the Podilsk province, the plowing method of tilling the soil was widespread - the sabans are a thing of the past, the most common plows are Sakka, Donsky, Gena, and local handicrafts, the latter is equipped with a wooden harrow and works inefficiently. Under winter crops, plowing is carried out once, and the plowed field is harrowed only before sowing. Sowing was carried out manually under a plow or a harrow. At the beginning of the XX th century planters began to be used more and more widely.

It should be noted that a significant part of the sown area of the province, namely 80%, is occupied by grain crops, 4.68% is under leguminous plants, 10.19% under root crops, 0.54% under fiber and oil plants, 4.54% under crops herbs Wheat and winter rye are the most common grain crops in the province, 21.12% of the cultivated area is under wheat, and 21.01% is under rye; oats occupy 16.70%, barley - 9.67%, corn - 5.83%, buckwheat - 3.29%, millet - 1.96%, spring wheat - 0.28%, spring rye - 0.10% of the sown area of the province [42, p. 4].

Wheat occupied a special place among grain crops grown on large landowner farms. This was especially true of its rather rare and valuable variety - sandomirka, which came to Podillia from Kremenets and Zaslav districts in Volyn. On the territory of the region, it was successfully grown in the vicinity of the cities of Bar and Derazhnya (Letychiv district), as well as in some localities of Ushytskyi, Proskurivskyi, Starokostyantynivskyi (Volyn province), Mohylivskyi and Yampilskyi districts.

It was wheat that was usually exported outside the province. So, in 1857, 12,128 quarters (one quarter = 0.209909 cubic meters, or 209,912 liters of bulk) of wheat in grain were sold from Bratslav district alone, from Litinsky – 4,600, Kamianetske – 48,289, and Ushytsk – 223,848 quarters. The price of grain fluctuated in different regions from five to seven rubles per quarter, however, as noted in the reports of regional reference books, it was quite conditional and depended on sales and ease of transportation [43].

In peasant farms, winter and spring rye, barley, corn, buckwheat and millet were more common than in landlords, and vice versa - spring and winter wheat and oats were less common than in landlords.

Winter wheat crops among peasants make up 16.91% of the entire sown area, and among landowners - 29.48%; winter rye 28.67%; oats – 14.93% and 20.36%; barley - 11.69% and 5.63%; corn – 7.40% and 2.70%; buckwheat - 4.10% and 1.67%; millet – 2.41 and 1.11%; spring wheat - 0.19% and 0.45%; spring rye - 0.12 and 0.07% [42, p. 6].

Sowing grain crops by landowners and peasants

Table 7.

№ п/р	Grain culture	Landholdings (des.)	Peasant farms (des.)	Total (des.)
1	Rye	63.050	224.943	287.993
2	Wheat	229.220	182.113	411.333
3	Spring wheat	20.988	25.154	46.142
4	Grachikha	21.713	53.936	75.649
5	Millet	11.181	34.913	46.094
6	Pea	9.110	17.821	26.931
7	Barley	38.974	113.331	152.305
8	oat	127.845	133.986	261.831
9	potato	2.427	16.155	18.582
19	corn	36.679	66.036	102.715

Source: Average harvest in European Russia, for the five-year period 1883-1887. St. Petersburg, 1886; About the latest data on agricultural production in the Podolsk province // Podolsky host. 1916. № 7-8. P. 4.

It is noted in Table 7 that the sowing of grain crops in landlord and peasant farms differs. So, if the landowners sowed rye on an area of 63,050 decytans, then the peasants - 224,943 decytans. And if we analyze wheat crops, the picture is different. 229,220 decytans are occupied by landowners under wheat, and 182,113 decytans by peasants.

Grain harvest in the Podilsk province for 1883-1887.

Table 8.

№ п/р	Grain culture	1883 (%)	1884 (%)	1885 (%)	1886 (%)	1887 (%)
1	Rye	74,5	113,7	109,8	68,6	135,3
2	Winter wheat	64,0	114,0	118,0	64,0	144,0
3	Spring wheat	86,5	97,3	108,0	59,5	151,3
4	buckwheat	85,7	111,4	111,4	111,4	85,7
5	Millet	92,1	105,3	86,8	118,4	97,4
6	Pea	90,0	112,5	77,5	66,0	132,5
7	Barley	70,8	100.0	102,1	87,5	139,6
8	Oat	82,9	111,4	88,6	100,0	120,0
9	Corn	96,1	98,0	100,0	111,8	96,1
10	Potato	95,1	93,4	82,3	110,4	118,1

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. p. 129.

According to the statistics that we observe from Table 8, it can be seen that during the period from 1883 to 1887, a much larger crop of grain crops was harvested.

The introduction of intensive management methods in the agriculture of the right-bank region made it possible to constantly increase the total harvest of grain, starting from the 1860s. During the second half of the 19th century, thanks to market transformations, this Ukrainian region turned into a real granary of Europe. If in 1864-1866, 5134 thousand quarters of grain bread were collected on the territory of Podilsk province, then in 1870-1872 - 7103, and in 1889-1893 - 8080 thousand quarters. In 1894, this indicator reached a record 11,058,000 quarters of bread [43].

Gural production

Landlords received the most significant profits from the construction of grain mills, which processed grain into vodka. The production of mulled wine (vodka) was widespread in all the towns and villages of the Podilska province. According to the value of the products produced at the province's landlord enterprises, vodka took first place.

In 1837, there were 535 distilleries in the province, which produced up to 480,000 buckets of hot wine, which was partly consumed, and a significant part of it was sold to Bessarabia, Moldavia, Belarus, and the Principality of Warsaw. In 1860, there were 251 gural farms in Podilsk province, while in Kyiv - 388, Volyn - 328, and Kherson - 213. Gural production remained the main branch of landlord production until the reform of 1861 [18].

Flour milling production

Flour mill production in the Podilsk province developed quite actively. In the middle of the 19th century in terms of the volume of produced products, it took 89 second place after the sugar industry. Most of the mills were located in rural areas. In particular, in 1867, 2,693 mills operated on the territory of the Podilsk province [44, p. 108].

Flour milling products, which were produced at the mills of Right Bank Ukraine, can be divided into several types, depending on their cost and characteristics.

Wheat flour, which includes up to 9 varieties, which differ in color and bran content. For the most part, three types of such flour were on sale: 1) Krupchatka (worth up to 18 krb. 50 kopecks per bag weighing 81.9 kg). It was used by bakers and townspeople for their own needs. 2) Pervak is a much darker grain. A five-pound bag of such flour costs approximately 10-12 krb. It was used mainly in the production of various types of bread and was sold to provincial towns and villages for home use. 3) A dent (dark brown). This type of flour was mainly used when baking gingerbread. Quite often it was also mixed with.

Rye flour was divided into three varieties: 1. Sown flour - sifted through a silk sieve. 2. Peeled flour - the second grade of quality. 3. Ordinary flour - is made directly from rye and has not undergone any purification. Usually, it is made using leftovers from first grade flour.

Buckwheat flour is quite rare. In everyday life, only one of its types has become widespread.

Pea flour is in great demand among the rural population during the fasting period. Only one variety of this flour was produced. Among the cereals, the most used are barley, millet and buckwheat.

Semolina is the only type of cereal that is made from wheat. It is extremely small and is considered the most delicate of all types.

Barley groats are one of the most important products of the bread market and the most widely used. 8 types of cereals are made from barley.

Millet groats are the third most common type of groats. It is characterized by a significant increase in volume during cooking. Oat groats (oatmeal) – 2 varieties were produced. It was used infrequently in everyday food. It should be noted that falsification of cereals was quite rare, as it is very easy to detect during purchase. A more common phenomenon was the counterfeiting of wheat flour of the highest grade. Because this product is more valuable and the fake is harder to detect. Mostly it was mixed with starch and pea flour. White sand (up to 10%) could be added to flour of lower grades. First of all, those who traded in flour were interested in the falsification of flour [11, p. 151–152].

The price of flour and groats often changed and depended on the region. The sale of flour also took place immediately after its production, directly on the territory of the mill. In this case, the cost of the product could be somewhat lower. This was due to the desire of the mill owner to sell the produced flour or groats as soon as possible. For example, in 1894 in the Podilsk province in the village of There was a water roller mill in Shustyliv. The price of flour sold on the territory of the mill was: wheat flour of the first grade - 90 kopecks. per poud, flour of the 2nd grade - 70 kopecks, flour of the 3rd grade - 40 kopecks; Rye flour of the first grade - 70 kopecks. per poud, flour of the II grade - 50 kopecks, flour of the III grade - 40 kopecks. [45, p. 104–105]. Grindingof grain was also paid for. Payment could be made in raw materials (1/10 part) or in money. On average, peasants paid 7 to 10 kopecks for grinding 1 pood of grain. But the price could be much higher. In 1894, 35 kopecks were charged for grinding fourth flour at a water mill in Olgopol. [46, p. 201–202].

Animal husbandry

Animal husbandry has become widespread in the Podilsk province. According to archival data, in 1853 there were 8 stud farms in the province: in the Haysynskyi, Olgopolskyi, Baltskyi, and Proskurivskyi counties. Horses were traded at fairs in Lityn, Letychev, Medzhibozh and other towns [56].

According to the statistical data of the provincial statistical committee, the total number of animals reached 2,496,759 heads. There were 473,278 horses, 675,621 cattle, 803,837 sheep, 42,048 fine-wool sheep, 488,649 pigs, and 13,326 goats [2, p. 133].

According to statistical data, we find out how many animals were in each district of the Podilsk province (table 9).

Animal husbandry in the poviats of the Podilsk region

Table 9.

№ n/p	County	Horses	Cattle	Sheep	Pigs
1	Kamenetskyi	38.713	54.189	46.293	25.726
2	Proskurivskyi	53.957	63.723	42.517	24.932
3	Letychivskyi	35.066	40.001	30.476	30.321
4	Litinsky	42.795	39.401	40.568	35.354
5	Vinnytsia	40.394	54.772	68.888	49.038
6	Bratslavskyi	34.602	41.373	70.938	40.276
7	Haysynskyi	30.619	47.454	76.579	39.237
8	Olgopolskyi	41.055	64.271	77.113	52.200
9	Baltic	59.428	136.661	164.991	60.964
10	Yampilskyi	38.741	49.017	79.035	42.815
11	Mohylivskyi	28.778	34.760	61.415	26.673
12	Ushytskyi	29.130	50.899	87.072	41.113
	Together	**473.278**	**675.621**	**845.885**	**488.649**

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. P. 134.

Ukrainian gray cattle were the most common among cattle breeds. It was the main one in Podilsk, Kherson, Tavriysk, Katerynoslavsk, Kyiv, Poltava, Kharkiv provinces and in the southern districts of Volyn, Chernihiv region. According to researchers' estimates, almost 7 million heads of this breed were counted in this territory [7, p. 66]. Therefore, from Table 6, it is possible to note the distribution of this breed in the territory of the Podilsk province (more than 0.5 million heads).

Also, it should be emphasized that in almost all districts, except for the Gáisin, Balt, Bratslav, and Podil provinces, important attention was paid to the breeding of thin-fleece sheep, as we can see from Table 10.

Breeding of thin-fleece sheep

Table 10.

№ n/p	County	Number of thin-fleece sheep (pcs.)	Offspring (pcs.)	Wool (pd.)
1	Kamenetskyi	600	120	40
2	Proskurivskyi	7.000	1.765	640
3	Letychevskyi	1.496	250	60
4.	Litinsky	541	295	77
5.	Vinnytsia	4.361	823	336
6.	Olgopolskyi	12	-	-
7.	Yampilskyi	11.767	3.188	1384
8.	Mohylivskyi	6.593	3.026	766
9.	Ushytskyi	9.672	1.909	698
	In total	**42.048**	**11.376**	**4.000**

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. P.144

In the city of Trostyanka, Bratslavsky district, Podilsk province, a third of the villagers were only engaged in livestock fattening. About 600 heads of oxen alone were profitably sold annually on local and distant markets, in particular in Odessa [7, p. 65].

The role of peasants in the production of livestock products has increased. However, the export of large amounts of fodder to the world market inhibited the development of the livestock sector of agriculture.

Gardening

Researchers of the development of the Podilsk region noted that there were a lot of orchards in Podilsk, especially plum orchards, in the coastal zone of the Dniester River. The gardens occupied large areas and were maintained in an exemplary manner.

In the 80s of the XIX century. orchards occupied almost 1% of the territory of the entire province, namely 36,505 acres [2, p. 139]. The largest number of gardens occupied territories in such counties as Letychevskyi, Bratslavskyi, Olgopolskyi, Haysynskyi, Ushytskyi.

Therefore, it should be noted that landowners and peasants mainly bred pears, plums, rarely found peaches and apricots, quince was grown only in the Baltic region [2, p. 143].

A large amount of fresh and dried fruit is sold at bazaars and fairs, and is also exported outside the province to Odesa, Mykolaiv, Yelysavetgrad and the capital.

At that time, prunes were in great demand. Up to 300,000 poods of prunes were sent from Ushytsk County alone, one town of Studenytsia produces more than 10,000 poods of prunes [2, p. 144]. For drying, plums are collected during August - October, and from November they began to dry, later storing it in 10-pound barrels. Then they were transported either by railway or by truck (subway) to Volynsk, Kyiv province, and also to Odesa.

In general, it should be noted that, nevertheless, gardening in the Podilsk province has disadvantages:

1) Climate change, when spring frosts destroy fruit trees;

2) lack of certain capital to support orchards;

3) lack of roads necessary for transportation.

Cultivation of tobacco

In the Podilsk province, not only ordinary tobacco, but also Turkish tobacco, of the highest grade, was successfully grown. Tobacco was grown in all poviats of the Podilsk province. In 1864, nobleman A. Markevich asked the Podolsk governor for permission to open a tobacco factory in Kamianets-Podolsk.

In the Podilsk province, tobacco has been known since ancient times, at least since the 17th century, under the names "dubek", "enij" and "Albanian". Its breeding was facilitated by climatic and soil conditions [7, p. 58].

It should be noted that most tobacco breeding was done in Baltskyi, Olgopolskyi, Mohylivskyi, Ushytskyi and Proskurivskyi counties. According to statistical data for 1887, tobacco plantations occupied 969 desyats and 1,200 square meters. fathoms, 24,208 poods of high-quality tobacco were collected, both from American and Turkish seeds [2, p. 148]. According to the data of 1894, there were 32,864 tobacco plantations in the Podilsk province, from which 20,875 poods of tobacco were collected, including 5,985 poods from Novoushytskyi district alone.

Tobacco production provided the province with the first place in Right Bank Ukraine (28 thousand poods) [1, p. 35].

Winemaking

Grapes were grown in the Podilsk province mostly in the coastal areas of the Dniester River - Kamenetskyi, Mogilivskyi, Olgopolskyi, Ushytskyi counties. According to the statistics for the year 1887, up to 555 vineyards occupied the territory of 387 decarets of 2,166 square meters. fathoms, 27,550 buckets of wine were produced. In addition, it is known that the best wine in the Podilsk province was produced from vineyards in the town of Kamenka. 18 rubles per bucket was paid for this wine, while other wines were sold from 75 kopecks. up to 4 rubles [2, p. 153].

In the agricultural sector of Ukraine, both in its western and eastern regions, significant remnants of feudal relations continue to exist, due to the very content of agrarian reforms. It is clear that they complicate the development of market relations, but, despite this, they still gradually gain positions in both landlord and peasant economies.

The main reason for this situation can be considered the fact that landlord entrepreneurship dominated in this region since pre-reform times.

1.4 Internal trade relations in Right Bank Ukraine at the end of the XIX th century

Socio-economic changes of the second half of the XIX th century. Also influenced the development of internal trade. Fair, bazaar and permanent stationary trade remained the main forms of organization of internal trade in Right Bank Ukraine, as in the entire Russian Empire, during this period. It should be noted that all trade in the Podilsk province was in the hands of Jews. Bazaars played an important role in internal trade. They were one of the forms of the main and permanent economic ties between the city and the countryside. The number of bazaars and market days constantly increased: in the 1860s and 1890s, from 351 to 897, and market days from 50.8 to 77.3 thousand [47, p. 66].

Annual circulation of bazaars at the end of the XIX th century. Amounted to more than 80 million rubles. If in the first post-reform years bazaars were opened mainly incities, then in the 80s and 90s of the XIX th century and in most villages. With the gradual development of capitalism, constantly operating bazaars turned into a peculiar form ofstationary trade. It should be noted that fairs were held in all seasons: winter, spring, summer and autumn.

Due to the lack of improved communication routes and the backwardness of means of transportation, the largest trade operations at fairs were conducted in January, February, June, July, August, when dirt roads were the most convenient for transporting goods. By the middle of the 19th century. the main role in the transportation of salt, fish, bread and various types of industrial goods belonged to chumaks [10, p. 6].

But huge distances, insignificant population density in certain regions of the empire, weak development of railways, increase in expenses of Chumaks for keeping oxen on the road stood in the way of the formation of internal trade relations.

The poverty of the rural population also affected the development of the domestic market. Thus, in Podilly, for example, as in the whole of Ukraine, there were large landlord estates, and a large number of peasants remained landless after the 1861 reform. According to the population census of 1897, the total number of workers in Podillia was divided into two main categories: trade and industrial workers - 25,863 thousand and non-trade and industrial workers (i.e. agricultural) - 113,199 [48, p. 7].

In Podillya, the labor force surplus amounted to 1,184,000 people. This prompted the Podolians at the end of the 19th century. before moving to the city [49, p. 367].

Railway transport played a significant role in foreign trade. In 1865, the first railway in Ukraine was built - Odesa - Balta. The fact is that Balta was an important trade center of the Podilsk province, there were several large fairs and a significant number of bread shops for a long time. Products produced mainly in the South-Western region (wool, bread, lard, seeds, etc.) were shipped from the Odesa port [50, p. 70, 88].

In 1866, the state treasury of Russia began financing the construction of a railway on the Kyiv-Balta line. The construction of this railway connection was completed in 1870 [51, p. 2,3]. In 1781, railway lines were opened - Zhmerinka - Volochynsk, Virzula - Zhmerinka. Later, the railways Kozyatyn - Uman, Vapnivka - Khrystynivka, Zhmerinka - Mohyliv were laid.

The above-mentioned railways boosted trade and opened the way for the sale of local products to the population of Kyiv, Volyn, and Podilsk provinces. The opening of this railway contributed to the further development of the South-Western region [52, p. 34].

The Odesa railway, which crossed the length of the Podilsk province, provided an opportunity for the sale of production to the South. To the west of Kyiv - the Baltic railway opened the way to the north.

The growing length and significant density of Ukrainian railways contributed to the concentration of agricultural products and raw materials of scattered producers at numerous railway stations and junctions, their further promotion for domestic consumption and export. The interaction of agriculture with all types of transport increased as the level of industrialization of the country deepened.

The main trade items of the Podilsk province were: wheat, rye, oats, flour, as well as items of factory and factory industry, namely: sugar, alcohol, leather, paper, wooden products, etc. [2, p. 179].

With the help of railways, a large amount of sugar was transported from Ukraine, including Pravoberezhnaya, to various regions of the Russian Empire and abroad. Only in 1882, more than 15,000 poods of sugar were sent from the Podilsk province to the Kyiv sugar refinery [53, p. 34].

According to the statistics for the year 1886, we can analyze that the production and sale of granulated sugar produced in the Podilsk province is 5,447,989 poods, which corresponds to 24% of the sugar produced throughout the Russian Empire, as can be seen from table 11.

Production and sale of sugar in the provinces of the Russian Empire (1886)

Table 11.

№ п/p	**Provinces**	**Sugar-sand (pd.)**	**Refined sugar (pd.)**
1	Volynsk	1.292.597	565.579
2	Katerynoslavska	110	149.213
3	Kyivska	9.084.444	653.845
4	Podilska	5.447.989	768.516
5	Poltava	258.771	-
6	Kharkivska	3.415.919	-
7	Chernihivska	608.273	-
8	Bessarabian	103.252	-
9	Voronezh	397.492	-
10	Kursk	1.641.421	-
11	Orlovskaya	30.332	-
12	Penza	30.087	-
13	Tambovska	308.040	-
14	Samara	-	137.887
15	Tula	114.858	-
	Together	**22.793.585**	**2.275.040**

Source: Herald of Finance, Industry and Trade. 1886. Vol. 3. No. 27. P. 32-33.

The distillery industry played an important role in trade. In addition to local sales, vodka and alcohol from Ukraine were exported to many cities and counties of Central Russia, to Belarus, the Don Military Region.

The inclusion of Podillia in the all-Russian economic market gradually changed its position. The most common industries were farming and horology [6, p. 61].

Podilsk province began to stand out among others in increasing the export of a large amount of bread to the south.

In 1871-1873, grain cargoes accounted for 40% of the freight turnover of the Ukrainian railway network. Only from Right Bank Ukraine, the average annual export of grain amounted to 320,000 tons [54, p. 25]. In 1880, 725.5 thousand tons of grain were transported by the South-Western Railway, and in 1902 - 3120.6 thousand tons of grain [55, p. I5].

In the last decades of the 19th century, as the network of the South-Western Railway expanded, more and more merchants chose this method of transporting goods, although the delivery of, for example, a quarter of a loaf of bread to Odessa cost an entrepreneur 2 yrs. 25 kopecks. - for 25 kopecks. more expensive than by water. Thus, in 1887, 11574374 bushels of grain bread were exported from the territory of the Podilsk province. Of this amount, 1,070,2122 poods (92%) were sent by rail and only 872,252 poods by water [43].

Thanks to the expansion of the railway network, industrial areas were connected to the agrarian outskirts, which contributed to the improvement of commodity circulation, strengthening the domestic market.

At the end of the XIX th century bazaars and fairs continued to play an important role. The most important fairs of the Podilsk province are: Troitskyi in Balta, Petropavlivskyi in Yarmolynka. From the table, we can observe the turnover of fairs in the 80s of the 19th century. (table 12).

Turnover of the fair in 1886, 1887

Table 12.

№ n/p	Fairs	1886 p. (rubles)	1887 p. (rubles)
1.	Yarmolinetsi		
	Goods have been delivered	3.263.005	1.677.300
	Sold Out	1.547.906	973.100
2.	Balta		
	Goods have been delivered	3.238.245	3.049.978
	Sold Out	2.025.147	2.191.362

Source: Guldman V. Podolskaya gubernia. [Electronic copy] Experience of geographic and statistical description. Kamenets-Podolskyi: Izd. Hem lips Stat. com. 1889. P.148.

So, the table shows that the year 1886 was more successful, both for the Baltic and Yarmolynetsk fairs. Also, it should be noted that the Yarmolynetsk fair served only for local sales of goods, while the Baltsky fair served more for the external turnover of goods.

Grain and flour were also an important article of internal and external trade of Podillia. Starting from the 1950s, the main part of the bread was sold, which was equal to 2.5% of the annual harvest. Podilsk province supplied the best varieties of wheat to the Odesa bread market. The main bread was sold on local and domestic markets, processed into vodka, and supplied to the army. The bread trade in the Podilsk province consisted of two parts: 1/ covered the territories of the province along the Dniester (Kamenets, Ushyts, Yampol, Mogiliv counties); 2/ had a focus on the export of bread by rail (Proskurivskyi, Vinnytsia, Bratslavskyi, Haysynskyi, Olgopolskyi, Litynskyi, Letychivskyi, Baltskyi). Up to 8-10% of all the grain of the province was transported by water on the Dniester. The largest trading post was the city of Mohyliv-Podilskyi. The town of Balta was a nodal center connected by railway to the Odesa grain market.

According to statistical data, in 1887, 11,574,374 bushels of wheat were exported from the Podilsk province: 1,0963,119 bushels of wheat, 345,587 bushels of oats, and 142,107 bushels of barley. and rye - 123,561 pounds. Exported to Odessa: wheat - 10190661 bushels, barley - 142107 bushels, oats - 298525 bushels, rye - 105,879 bushels. [2, p. 188].

Through the western border, the following were exported by rail from the Podilsk province: wheat - 420,414 pounds, oats - 47,062 pounds, rye - 15,869 pounds. To Poland - 93,276 poods. of wheat and 1813 pud. of rye, and 41,197 bushels in Kyiv province. wheat So, in 1887, 11574374 pounds of grain bread were exported from the Podilsk province. [2, p. 193].

40% of bread went to Right Bank Ukraine (wheat – 57%), about 38% - to the southern provinces, more than 22% - to Bessarabia. Food industry products were sold in nearby and distant markets of the country. The development of railway, sea and river transport provided them with direct access to Central Russia, Belarus, the Baltic States, the Kingdom of Poland, the Caucasus, Siberia, and the Far East.

Therefore, sufficiently high internal and external trade characterized the economic and industrial development in the territory of the Podilsk Territory.

CONCLUSIONS

Summing up, it should be noted that the agriculture of the Podilsky Krai in the first half of the XIX th century. Was at the level of primitive development. The influence of feudal-serf relations affected the rather uneven development of the agrarian sector of Podillia.

It should be noted that the most common industries in the first half of the 19th century. there were farming and farming, sugar production.

Chumatsto made an important contribution to the establishment of political, economic and national ties between the south and the north of Ukraine. At the same time, Chumat fishing played an important role in raising the agricultural production of Podillia, gave impetus to intensive development of domestic and foreign trade, emergence and development of new types of agricultural sector.

However, since 1861, the transportation of goods by oxen in Ukraine was three times more expensive than the delivery of goods by railways in Western Europe. For the transportation of bread from Balta of the Podilsk province to Odesa (194 km) they paid the same amount as it cost to deliver bread from Le Havre to Tours (512 km).

The introduction of intensive management methods in the agriculture of the Right Bank region, in particular, in the Podilsk province, made it possible to constantly increase the total harvest of grain starting from the 1860s. Thanks to the capitalization of the economy, this Ukrainian region turned into a real granary of Europe in the second half of the 19th century. If in 1864-1866, 5134 thousand quarters of grain bread were collected on the territory of Podilsk province, then in 1870-1872 - 7103, and in 1889-1893 - 8080 thousand quarters. In 1894, this indicator reached a record 11,058,000 quarters of bread.

A series of reforms in the 60s and 70s of the 19th century. contributed to the deepening of specialization, increasing the yield of grain and industrial crops, and the use of machines.

The state of economic development of the Podilsk Region can be characterized by a high level of domestic and foreign trade.

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1.2 Railway transport of Ukraine during the German-Soviet war the war and the first post-war years

Y. Dyakov, known as a researcher of the history of transport and road construction in the USSR in 1941-1945 states: "Every war, especially the past, was based on transport with all its severity" [57, p. 3] which in those years became an object of strategic importance, providing an unbreakable connection between the front and the rear, and therefore the possibility of successful and not quite military operations. The phenomenon in the activity of railway transport consisted in the fact that it ensured a close connection between the front and the rear, which created quite a few advantages. Its special role in the conditions of the war is proved by the unprecedented scale and pace of the evacuation of material resources and people of Ukraine in 1941-1942. And even during the evacuation epic, transport was subordinated to military needs. The situation demanded the transport of a large number of military reinforcements, weapons and ammunition to the front. Only the railways could perform these tasks. Railway transport should be considered as one of the important factors on which the course of events on the fronts and the solution of economic and social problems depended.

It is worth emphasizing that due to the objective circumstances of that time, railway transport was an object of increased danger, being one of the main goals for Hitler's conquerors. So, during the last war, 5,180 bombs were dropped on the important Kupyansk railway junction in the Kharkiv region, and another 1,348 exploded nearby. Since August 1941, there has not been a day when enemy planes did not appear over the station [58, p. 96]. In the pre-war period, railway transport provided 95 percent of all transportation on the territory of Ukraine, [59, p. 409] the length of which tracks reached 20,102 kilometers,3 [60, p. 4] out of 137,000 km of the operational length of railways of the USSR, including 106, 1,000 km in the system of the National Railways and Railways [57, p. 36]. Nine roads were in operation - Vinnytsia, Kovel, Lviv, Odesa, South, South-West, South-Donetsk, North-Donetsk and Stalinsk (now Prydniprovsk) highways. They employed 348,000 workers who served railway networks 5 [61, p. 385] out of 2,821,000 of all employees in the NKSHS system [62, p. 56].

In 1939-1940, the railways of Halychyna and Bukovyna were included in the transport system of the Ukrainian SSR. The length of railways in Western Ukraine and Western Belarus was 6.7 thousand km, including 4.9 thousand km of single-track and 1.8 thousand km of double-track lines [63, p. 24]. In Chernivtsi region, in accordance with Soviet laws, 426 kilometers of railway tracks, 5 locomotive and wagon depots, 46 railway stations, 2100 km of telegraph and telephone lines were declared state property [64, p. 37]. It is worth noting that Western Ukraine and Western Belarus had bad roads [63, p. 18] with insufficient bandwidth [57, p. 35]. In the Western regions of Ukraine there were railway junctions with a large number of approaches - Kovel, Rivne, Lviv, which were poorly equipped. The station tracks were not long enough, most of the switches were operated manually [63, p. 24]. In 1940 and the first half of 1941, transport construction began on the western border of the USSR. The tracks Lviv – Peremeshl, Proskuriv, Ternopil – Lviv – Yavoriv - state border were under reconstruction [65, p. 43]. During the war, transport became the main chain of communication between the front and the rear. At the initial stage of the war, railway workers carried out military and evacuation transportation. From the beginning of hostilities, the front needed an increasing number of material and human resources. I.V. Kovalev, the former People's Commissar of Communications, claimed: "that in just one week, the load of military echelons and transport on the railways of the USSR was more than one and a half times greater than the load of military echelons of Tsarist Russia in 1914, the entire period of concentration, which lasted about two months" [62, p. 84]. Therefore, operational transportation from June 23 to 24, 1941 reached 29.4% of the total loading of roads [66, p. 169].

It was the railway transport that bore the brunt of the massive relocation from the interior districts to the front line. During the autumn-summer period of 1941, the railwaymen relocated 291 rifle divisions, four rifle corps. During the first forty days, 2 million 500 tons of goods were delivered to the front [62, p. 86].

The next important task was the logistical support of the troops. Therefore, military transportation in the republic in the first one and a half months accounted for 72.5% of the total cargo flow [67, p. 124].

However, it turned out that the railway industry of the border regions was not sufficiently developed in terms of technology due to "deadlock until 1939 and 1940s, until the time of the annexation of its western regions and Bukovyna to Ukraine" 17 [68, p. 2]. This confirms the fact of an increase in the volume of transportation at the stations close to the borders with Poland and Bessarabia" [68, p. 2].

Name of the district	1937	1940	1947	1952
	There From	There From	There From	There From
Grechany-Pidvolochynsk	- -	1672 809	1160 1225	1240 1345
Zhmerinka-Grechany	884 705	1412 2209	1335 1750	2800 1750

Vinnytsia Railway was formed in 1940 for more effective use of the border railways before 1939. The highway became an important part of the economy of Podillia and the whole of Ukraine. Its tracks crossed the territory of the former two border regions - Vinnytsia and Kamianets-Podilska and had direct access to the newly created border railways - the Lviv and Kovel highways. Therefore, the management of the Vinnytsia Railway, starting in 1940, contributed to the expansion of the railway network on the territory of the Podilsk Territory. The Vanyarka-Yampil narrow-gauge line was being built [69, p. 104].

With the beginning of the war, the problem of restructuring the operation of transport on a military basis was solved. In order to overcome the numerous difficulties in the work of railway transport, the People's Commissariat of Railways (hereafter NKSHS), from 18:00 on June 24, introduced the use of a military parallel schedule, which operated until May 1942. It was called parallel because all echelons, cargo and passenger ones were delivered at the same speed, had the same weight, which greatly simplified the formation, movement and downtime at stations [63, p. 45]. Also, work on the railway was transferred to a special military schedule - the letters "A", which provided for the rapid advancement, first of all, of military echelons and cargo related to mobilization transportation [62, p. 73]. A state of siege was also imposed on the

Lviv, Vinnytsia, South-Western and other highways [70, p. 22, 79].

In addition to purely military-administrative methods in the organization of transport work, a characteristic feature of the first months of the war was a massive labor upsurge among transport workers [70, p. 22, 83]. Many railway workers managed to switch to the Lunin methods of work, took care of steam locomotives on their own, eliminated various damages, and carried out current repairs [70, p. 28].

The transportation of troops and cargo took place in extremely difficult conditions. The railwaymen had to overcome considerable difficulties. On June 28, 1941, a large number of echelons accumulated on the Vinnytsia highway, which greatly complicated the work. Therefore, a movement was launched on the railway to accelerate the passage of echelons to the front line. Railway workers Redko and Berchak distinguished themselves. According to the military schedule, 8 pairs of trains per day were supposed to pass at the Yarmolyntsi-Husyatyn section. Berchak processed 29 echelons on July 3, 38 on July 5, and 45 on July 6 [71, p. 71].

A characteristic feature of the work of railway transport in Ukraine during the war was that the system and workers were under attack by German and Soviet aircraft during the occupation, which bombed stations and rolling stock.

M. Khrushchev, (in 1941 a member of the Military Council of the South-Western direction), noted on this occasion: "The Germans flew with impunity and we had nothing with which we could defend ourselves" [80, p. 18]. Therefore, in July 1941 alone, the enemy bombed transport facilities 1,470 times [63, p. 59]. In total, during the war, fascist aviation carried out 19,863 attacks, of which 11,326 caused various damages, of which 3,949 led to traffic delays [72, p. 54]. Kalynivka station of the Vinnytsia highway was bombed 12 times in June-July [70, p. 36]. From June 22 to September 6, 1941, 5,500 aerial bombs were dropped on the objects of the Odessa highway. The enemy carried out 18 massive air strikes on the Shevchenkovo station of the same highway [73, p. 4]. Node stations Kyiv, Lviv, Drohobych, Stanislav, Rava-Ruska and others were damaged. To eliminate the consequences of the bombings, road administrations organized special teams that extinguished fires and rescued people. There were 568 such groups numbering 5,500 people on the North-Donetsk highway

[67, p. 126]. The railwaymen themselves actively struggled with the consequences of the bombings. A qualified approach to the matter contributed to the fact that train traffic, as was the case on the Odesa highway, did not stop for more than 2-3 hours, on the South-Western - 4 hours [74, p. 13]. Only in some places the trains did not move for a day or more. A significant amount of restoration work was carried out by 8 specialized trains of the North-Donets Railway. Only from February 1 to February 26, 1942. they made almost 200 visits to damaged objects and restored 106 locomotives, 987 wagons, 200,000 meters of railway track, 42 switches and 3 bridges [67, p. 126].

Simultaneously with the attacks of the enemy aircraft, numerous saboteurs tried to disrupt the operation of transport. The railway administration has increased the number of paramilitary and civil guards. On the South-Western highway at the beginning of August 1941, 2,200 people joined the security units [75, p. 45]. On Stalinskaya (now Pidennaya) there were 19 of them (44 men each) [62, p. 66]. A detachment of 1,000 militiamen was created at the Poltava Locomotive Repair Plant, whose fighters, in addition to directly participating in hostilities, worked on the reconstruction of transport facilities [75, p. 288].

In extremely difficult conditions, the railway workers of the front-line highways had to escort echelons to the front line. The station depot driver Zhmerinka Datsko, returning from another flight, learned that an important cargo was at the station and, in the absence of free crews, again led the echelons to the front line. On the Yurkivka-Zhuravka race, he died during an attack by enemy aircraft. His assistant brought the train to the destination station [76, p. 71].

During the defensive battles in Ukraine, armored trains built by railwaymen helped the soldiers of the Red Army hold back the advancing enemy units. The workers of the Kyiv Locomotive Repair Plant started its construction at their own expense and developed the technical documentation themselves. 100 employees of the South-Western Railway were part of the crew. A. Tykhod was appointed commander, and L. Vasylevsky was appointed deputy head of the plant department [74, p. 33]. The crew of the "Letter-A" armored train received their first baptism of fire in the Novohrad-Volynsky region on July 11, 1941 [77, p. 79-80]. He completed the next task in the battles for the Korosten station. The fascists, trying to break through in the direction of Kyiv, threw out an amphibious detachment with the aim of seizing the section of the Korosten-Novograd-Volynskyi road. In this direction, the soldiers of the armored train managed to destroy the enemy and capture considerable trophies [78, p. 205].

On July 20, the team of the armored train "Letter-B" went on its first combat flight [79]. His fighters, together with the team of the "Letter-A" armored train, held the defense in the direction of Fastiv-Kyiv, Teteriv-Irpin [79]. At the beginning of August, they held the defense of the Zhulyana-Boyarka precinct [79]. When the enemy pulled up tanks in the Irpen area, the crews of armored trains supported the units that were on the defensive. On September 19, 1941, the "Letter-A" armored train received the task of breaking through the immediate defense area of Kyiv and carrying out a raid on the territory captured by the enemy. However, in the area of the Pereyaslav station, the fascists managed to block its movement. Then the crew made a decision to blow up the armored train and get out of the encirclement themselves, which lasted for 23 days [80, p. 64]. Some fighters reached the front line, others joined partisan units [81, p. 64]. Together with the crew of armored trains, teams of fighter battalions, staffed by railroad workers of the South-Western Main Line, fought with the enemy [74, p. 69]. Thus, at the end of August 1941, when the fascist military units entrenched themselves in one of the villages near the Vorzel station, and the crew of the "Letter-A" armored train together with the Opelchensky paratroopers knocked them out, another fascist landing force managed to capture the Zhulyany station, where the retreating the Soviet units left a wagon with aviation equipment. The crew of the armored train did everything to save him. To do this, they rebuilt a part of the destroyed railway bed overnight, which made it possible to knock out the enemy from the station and remove the equipment [74, p. 40].

Also, armored trains were built together with the workers of the Kyiv Steam Locomotive Repair Plant by the workers of the Bolshovyk plant in Darnytskyi [74, p. 33, 34]. The construction of armored trains on the highways of Donbass and Prydniprovya, in more economically developed regions, was established. At the beginning of the defense of Odessa, there were three armored trains on the front line, built by the workers of the local factory named after January Uprising [82, p. 63, 122]. Subsequently, Odesa railwaymen built two armored trains - "Choromorets" and "Za Batkivshchyna" [82, p. 53].

At the same time, the transport workers, taking part in defensive battles, performed another extremely important task - evacuating a large number of enterprises and material resources to the rear areas of the country. Their activities became extremely important under the conditions of the rapid advance of the enemy on the territory of the republic. Railway transport was the most ready to fulfill this task. Even in pre-war times in Ukraine, his network was quite dense, especially in the regions of Donbass and Dnieper. Road transport was not counted on. The government transferred most of it to the disposal of the active army. As a result, the number of trucks in the national economy decreased by more than two. A significant part of tractors and heavy vehicles were given to the army. The first months of the war demonstrated the weak readiness of water transport for this type of transportation. In addition, water arteries crossed the territory of the republic from north to south. River transport could not be involved in the transportation of evacuation cargo. Therefore, during 1941 - the first half of 1942, the bulk of transportation was carried out by workers of the South-Western, South-Donetsk, North-Donetsk, Stalinsk and Southern highways, the routes of which were located in the industrial areas of Ukraine.

Railway workers of the Vinnytsia main line took on the main burden of evacuating means of production of material resources and population from the Vinnytsia, Kamianets-Podilskyi and Zhytomyr regions [76, p. 72]. The evacuation processes carried out by them affected mainly the collectives of the largest industrial enterprises and some categories of the population of administrative centers.

Evacuation from the large industrial areas of the Dnieper region, the Black Sea region, the Left Bank of Ukraine and Donbas was managed in a more organized manner.

From Kyiv to August 5, 1941, railway workers loaded 85,295 wagons [70, p. 55]. During the entire 2-month evacuation period, they managed to take out 197 enterprises, of which 64 were of Union and 88 of republican importance, 45 of local industry [70, p. 55].

150 enterprises, 190,069 tons of equipment, metals, materials and other valuables were exported from the city of Odessa and the region [74, p. 17-a]. Due to the rapid advance of the enemy, a large number of locomotives and 4,500 wagons with military cargo remained at the railway stations near the city [83, p. 3]. Another part of the equipment was evacuated by sea. So, the first dock with 26 steam locomotives sailed from Odessa on August 7, 1941. En route, it was bombed by enemy aircraft. Only one locomotive was seriously damaged. On the last morning of August 8, they were sent to the city of Mykolaiv, from where they were sent with echelons with factory equipment to the interior of the country [83, p. 5].

In August, evacuation began from the cities of Dnipropetrovsk, Zaporizhzhia, and Kryvyi Rih. The People's Commissariat of Communications was asked to allocate 5,080 wagons every day [84, p. 39]. The main cargo from Dnieper and Crimea passed through the Stalin (now Southern) highway. In a short period of time, it was possible to evacuate 20 ferrous and non-ferrous metallurgy enterprises from the right bank of the Dnipro River with the direct participation of railway workers. Large enterprises "Dzerzhynskrud", "Lenrud" and others were evacuated from Kryvyi Rih.

The evacuation of enterprises in Zaporizhzhia took place from August 19 to October 3, 1941. For 45 days, work on the removal of equipment was carried out under the fire of enemy artillery and air bombardment by aviation. In total, the railwaymen shipped 16,000 wagons weighing 320 tons. It was also possible to export 8,000 wagons of ferrous and non-ferrous metals [85, p. 18].

On September 16, 1941, the evacuation of Kharkiv began. Using the available potential, the railwaymen managed to send 320 echelons with people to the east by October 20, and by October 22 rolling stock of the Southern Railway [86, p. 118].

From Donbas in a short period of time - from July to October 1941, railwaymen managed to evacuate 177 factories and enterprises of the Union and 289 republican subordination, as well as 83 enterprises of industrial cooperation [74, p. 75-85]. In total, 550 large enterprises and 3.5 million civilians, or almost a tenth of it, were evacuated from Ukraine. Also, from July to October 23, 1941, 1,667.4 thousand tons of grain and 269.5 thousand tons of grain products, a large amount of hides, wool, and fur were exported [74, p. 34, 35].

Along with the evacuation of industrial enterprises, railway workers faced a difficult task - to preserve the rolling stock of highways. There was a great need for it on the back roads. He had to replenish the rolling stock that was failing. The evacuation had to be carried out in difficult conditions of the front-line zone. The army command tried to use the transport until the last minute, until the decision was made to retreat. Therefore, the Road Administration often had to coordinate this process with the military councils of the armies and fronts. Thus, on June 24, 1941, the management of the Lviv Railway appealed to the commander of the 6th Army with a request to evacuate the rolling stock of the Rava-Ruska station. Only after receiving the permission, on July 26 and 27, railwaymen ensured the departure of 437 steam locomotives and 16,081 wagons. Part of the rolling stock could not be removed. 917 wagons, armored trains, and 317 locomotives remained on the territory captured by the fascists [75, p. 9, 10].

During the retreat, the railwaymen tried to transport not only rolling stock, but also the upper canvas, which served not only to ensure the operation of rear roads, but also as raw material for metallurgical plants. The fact that the railwaymen did not have time to evacuate, special formations of the Narkost of the communication routes put them in an unusable state.

On November 10, 1941, the main tracks were dismantled: Stalin's railway - 118.1 kilometers, Southern - 15, South - Donetsk - 123, North Donetsk - 368.2, a total of 824.3 km. Of this number: 304.2 km were taken out on Stalinskaya, 13 on the South, 51 on the South-Donetsk, 196.8 on the North-Donetsk. A total of 565. Station tracks were also disassembled: on Stalinskaya - 108.7, South Donetsk - 0.8, and North Donetsk - 10.5. A total of 120 km, of which they took out: Stalinsky - 87.4, South Donetsk - 0.8, North Donetsk - 4.5. Only 92.7 km. Turnpikes were dismantled: 304 on Stalinskaya Road, 590 on North Donetsk Road. A total of 894. 725 turnpikes were removed [87, p. 13].

The evacuation of enterprise equipment, rolling stock, and qualified personnel made it possible to attract significant human resources to increase military production.

The German invaders well understood the strategic importance of railways. V. Suvorov also noted: "The German army was tied to the roads. She could not act without them... Tactical support was carried out by cars and trucks, strategically - by iron. The army demanded hundreds of thousands, millions of tons of supplies. It was not possible to transfer it from Germany to Voronezh and Cherkasy by cars or carts. Only by rails." [88, p. 316].

The transition of the military company in the summer-autumn of 1941 to a long war had a sharp effect on the reduction of the food resources of the Wehrmacht and the Reich itself. Their replenishment was supposed to take place at the expense of supplies from Ukraine. Hitler understood that for the successful conduct of military operations, he needed raw materials such as bread, fuel, ore, and rare metals, and only the USSR could provide such raw materials in the required quantity [89, p. 119]. Therefore, the invaders planned to turn the territory of Ukraine and the Volga region into the grain basket of the "new" Europe, exporting 10-12 million tons of grain annually. For the delivery of material values, the construction of a multi-track 3-meter highway from Berlin to Vladivostok was planned [90, p.85].

In pre-war Ukraine, the length of roads reached 20,102 km. The occupation administration managed to restore 15,740 km. [91, p. 173]. All this, with a few exceptions, was destroyed by the fascists during the retreat. So on the North-Donetsk, South-Donetsk, South-Donetsk, Stalinsk and South-West railways with an operational track length of 10,844 km. in pre-war times, 9,203 km were destroyed, which was 80.3 percent. Of the total number of railway bridges, 2,087, or 80.0 percent, were torn down and burned. Of the 52 locomotive depots, 34, or 70.0 percent, were destroyed. Out of 19,363 turnouts, 11,485 were destroyed. Material losses in rubles amounted to: North-Donetsk - 643,537 thousand rubles, South - 502,312 thousand, South-Donetsk - 466,715 thousand, Stalinskaya - 459,746 thousand, South-West - 700,001 thousand rubles. A total of 277,010 thousand rubles [91, p. 173].

In general, the German occupiers completely destroyed or partially destroyed

24,770 km of the 26,302 km of the total length of Ukrainian railways /in single-track terms/, [74, p. 29], 5.6 thousand bridges, 8 thousand railway stations and stations [92, p. 27]. 18 factories for the repair of rolling stock were destroyed, including those built in the years of the first five-year plans - Darnytskyi and Papasnyanskyi [74, p. 29]. The amount of damages to the railway economy of Ukraine amounted to more than 10 billion rubles [74, p. 29].

The evacuation processes of 1941-1942, when the railroad workers tried to take not only the rolling stock, but also the upper canvas to the rear, also had an impact on the destruction of transport. What the special formations of the NKSHS did not have time to evacuate were put in an unusable state. Also, the subversive activities of underground and partisans in the fascist rear in 1941-44 affected the technical condition of the roads.

The battle for Ukraine reached its climax in the fall of 1943. At that time, the Ukrainian section of the front was 800-850 kilometers long. Almost half of the Soviet troops were concentrated within its borders - 30 combined arms, 10 tank, and 7 air armies [93].

During 1943-44, 1 defensive, 11 strategic and 23 front operations took place on its territory. The troops of six fronts - 1st, 2nd, 3rd and 4th Ukrainian and 1st and 2nd Belorussian, the Black Sea Fleet, three military flotillas, several aviation armies were involved in the liberation of the territory of the republic [94, p. 14].

(The famous film director and writer O, p. Dovzhenko wrote, "that more than half of the entire world war took place around Ukraine. More than half of all strategic operations were conducted in Ukraine. In the fall of 1943, the Dnieper was forced - one of the largest waterways in Europe [95, p. 47]. The scale of the actions required the relocation of a large number of cargoes. According to the testimony of the former People's Commissar of Communications I. V. Kovalev "... in the composition of the 1st, 2nd, 3rd, and 4th Ukrainian Fronts there were up to five six or more armies. The relocation of each required from 160 to 200 echelons of 50 wagons each [63, p. 261].

During the summer campaign of 1944, the weight of only one combat kit of the armies, which operated in the direction of the main attack of the 1st Ukrainian Front and other fronts, reached 5-6 thousand tons, one fuel station - 500 tons, the weight of the daily ration - 700-800 tons [96, p. 10, 70].

The technical equipment and energy supply of units of the Red Army increased. The need for military transportation increased by 12 percent [66, p. 199]. If in 1942, 1.5 million tons of ammunition and 2,662,000 tons of fuel were delivered to the troops, then in 1943 these indicators increased to 3,000,000 tons of ammunition and 3,261,000 tons of fuel [62, p. 262]. Its average daily shipment for the entire period of the Great Patriotic War reached an average of 987 tanks, in particular in 1944 - 1484, in April 1945 - 1693 tanks [97, p. 150]. According to V. Nikitin, all types of transport were used to support the Soviet troops, but first of all - railway" [97, p. 152].

The large scale of hostilities, the remoteness of the front from the rear in the absence of a developed network of highways, put railway transport among the important factors of the Red Army's invasion.

A large number of military equipment and tanks were used in the battles. And since the Soviet side simply did not have the logistical and technical capabilities to organize serious repairs in the field, the Soviet tanks remained standing on the battlefields, waiting for the rear services, which could be done only after the railways were restored, to be able to send them to the deep rear /Chelyabinsk, Sverdlovsk, Gorky/ to transport plants [98, p. 28].

The significant importance of transport was also determined by a natural factor - the early spring of 1944. The Hero of the Soviet Union, army general, P.N. Lashchenko, emphasized the latter in his memoirs: "On the morning of March 4, 1944, the troops of the 60th Army went on the offensive , in the direction of Ternopil. The route took place in incredibly difficult conditions... The roads starting from Biloghir were so muddy that everyone walked knee-deep in thick, impassable mud. Black as tar and heavy as lead, it clung to boots and overcoats in chunks. The heavy military load was bending to the ground and people were forcefully sticking out their legs from the sticky mass to take another step... As night fell, the temperature dropped sharply. Wet, dirty overcoats and quilts were covered with ice... Icicles hung from the horses. In the cold mud, the harp and the wheels stopped turning. Therefore, in this specific case, the

Odesa-Lviv railway, for which a fierce struggle was fought, played a significant role. Hitler even issued a special order prohibiting the surrender of this important strategic hub of the city of Ternopil." [99, p. 231, 289, 291, 294, 307].

Therefore, the reconstruction of roads and bridges was an important strategic factor. Historian Yu.A. Dyakov emphasized this: "Railroads played the main role in the transport provision of the front and the rear" [57, p. 80].

Reconstruction of transport began with minimal financial support. The Soviet government allocated 39.5 billion rubles for the revival of liberated areas in 1942-45 [100, p. 261]. The state was able to provide for the revival of the national economy in 1943-45 7 percent of the amount of damage caused to Ukraine by war and occupation [101, p. 296]. For the organization of works on the restoration of the railway transport economy. In 1945, the Ukrainian SSR approved a capital investment plan in the amount of 1,062 million rubles [74, p. 25]. The annual plan for the development of funds for roads was: South-West - 137.5, North-Donetsk - 195.0, Stalinsk - 176.4, Odesa - 110.2, South-Donetsk - 104.6, Lviv - 89.1, Kovelska - 60.1, Vinnytsia - 55.0 million rubles [74, p. 25].

A special feature of reconstruction was the combination of various sources of financing for reconstruction works with extensive use of labor. These are labor mobilizations of workers in the industry, the civilian population of various regions, and others. Mostly, such a wide combination is characteristic of the period of reconstruction of the first stage of railways.

Among the most common are labor mobilizations of the local population. Thus, in May 1944, 6,000 workers were mobilized to rebuild the transport arteries of Vinnytsia and Kamianets-Podilskyi regions. Subsequently, another 16,906 from the territory of Vinnytsia [76, p. 73]. On the initiative of local party bodies, in May-July 1944, 8 mass Sundays were held for the reconstruction of railway tracks, in which 60,000 residents of the Podilsk region took part. So, on July 9, 1944, 19,861 railway workers took part in the Sunday [76, p. 75].

German prisoners of war were involved in the reconstruction of railways as well as many destroyed cities of the then USSR [102, p. 44]. 2,000 prisoners of war worked on the Kovel railway [103, p. 31]. On the Vinnytsia highway, they restored water supply to the following stations: Kozyatyn, Vinnytsia, Zhmerinky, Rachny, Nemerchi, Sukhovole, Victoria, Starokostyantyniv [68, p. 48, 105]. In 1945, 1,500 internees and prisoners of war, mainly German subjects, were allocated for the uninterrupted operation of fuel warehouses and peat processing plants for the South-Western Railway [74, p. 24].

The use of forced labor is evidenced by a letter dated December 1, 1943 from the secretary of the Central Committee of the Communist Party of the Soviet Union M. Khrushchev to the heads of the Oblast Executive Committees of the Kharkiv, Sumy, Poltava, Stalin, Voroshilovgrad, Chernihiv, Dnipropetrovsk, Kyiv, and Kursk regions, in which it was emphasized that on on the basis of the decision of the DKO dated November 22, 1943 "On urgent measures to strengthen the economy of railways liberated from the German occupiers", all employees, both mobilized and voluntarily recruited into the system of UBVR of railways, are assigned to permanent work with the distribution to them of the Decree of the Presidium of the Supreme Soviet of the USSR dated April 15, 1943, "On the introduction of martial law on all railways" and "Statute on the discipline of workers and employees in railway transport". Therefore, the Central Committee of the CP/b/U asks to immediately instruct the district military committees of the mentioned regions to speed up the conscription into the Red Army and the mobilization of these workers for other types of work [74, p. 112].

In part, staffing was carried out due to the redistribution of workers between the eastern and western regions of the country, engineering and technical personnel were seconded from the roads of the Urals and Siberia. A total of 118 people were seconded in 1944, of which: 24 on the Lviv Railway, 6 on the Kovel Railway, and 1 on the Southern Donetsk Railway [74, p. 2]. Such leaders as S.V. returned. Kutafin, N.T. Zakorko, who worked before the war: the first - the head of the Southern highway, the second - Stalinskaya, P.F. Kryvonis returned to the leadership of the Pinychno-Donetsk highway. Employees of other professions should come to the new workplace.

Railway workers who were busy with its maintenance in the occupied territory and who were not ready for mobilization in the active army became the source of replenishment of vacancies in transport. Thus, the local authorities were obliged by the resolutions of the State Defense Committee of November 22, 1943 and the RNC of the USSR and the Central Committee of the CP/b/Ukraine of November 30 of this year to mobilize for work the railway workers who remained in the territory occupied by the enemy. The party and Soviet bodies of the Dnipropetrovsk, Zaporizhzhia regions and the Crimea carried out considerable work during 1944. They identified and called up 6,985 people to work on railway transport, on the Stalinskaya, Odesa - 113, South-Donetsk - 260, South-Donetsk - 29 and North-Donetsk highways. Caucasian - 193 people [74, p. 11].

The situation with the recruitment of workers for work on transport in the western Ukrainian lands was somewhat different. According to the resolution of the Central Committee of the Communist Party of Ukraine in May 1944, the Department of Construction and Restoration Works (UBVR) of the Kovel railway sent 1,900 former partisans from the Hero of the Soviet Union association of S. A. Kovpak, most of whom received government awards. - orders and medals for combat activity. 17 people from among former partisans worked in responsible administrative and economic positions in the apparatus of the Management of the BVR of the Kovel railway, 109 in construction sites. In addition, due to the lack of grassroots leaders in June and July 1944, partisans were trained through course education, who had seven classes of education - 75 [103, p. 150].

The involvement of partisans was required by the situation with the recruitment of labor in the territory of western Ukraine and Volyn, as evidenced, in particular, by a memo addressed to the secretary of the Central Committee of the KP/b/U, who was informed that the district executive committees of the Volyn region refused to recruit transporters lay, explaining this by the fact that there are no orders from the mobilization department of the regional executive committee [103, p. 8].

Local authorities, taking into account the special contingent of workers, tried to provide them with housing and proper living conditions, [74, p. 136] but they were not satisfactory everywhere. For example, all engineering and technical workers, employees from the 1st section of the UBVR of the Kovel railway lived, mainly, in unrenovated, dirty dormitories. Instead of mattresses, wet reeds, which were used more than once, were used to sleep in clothes due to a lack of sheets. The plaster in the premises was falling apart, the windows were without glass. Almost all workers and partisans were not provided with shoes and warm things for the winter. Some walked barefoot. Only 25 percent of workers had clothes and shoes. There was an abundance of lice. 116 workers were ill with influenza and malaria [103, p. 73]. There were two canteens in the precincts. One is for the workers, the other is for the collective warehouse. The second was in an unsanitary condition, the first was much cleaner. There was not enough soap, bathrobes, towels, dishes, food had to be consumed from tanks made of galvanized iron. The menu is monotonous. Of the cereals, only millet was given, rarely potatoes and meat, although the first was in the subsidiary farm. There were two workshops: a shoe workshop and a sewing workshop, which were insufficiently supplied with materials [103, p. 73].

Some partisans were in a very difficult situation, such as in the village of Holishchevo, Olevsky district, Zhytomyr region. As evidenced by the inspection materials sent to the name of the Chairman of the Presidium of the Verkhovna Rada of Ukraine M.S. Grechukha. dated April 11, 1946. In their letters, they complained that after the reformation of the units, former partisans ended up in the UBVR of the Koval railway. Among them - Bubenko T.M., Yakovchuk Y.Ya., Ostapchuk S.F. have large families unable to work, their houses, movable and immovable property looted and destroyed by the occupiers. Families are in a difficult situation, living in dugouts. Taking this into account, the management asks to release them from work on the railway with departure to their place of residence. Other partisans who have able-bodied families are recommended to transfer them to the place of work, providing them with housing and plots of land for individual gardening if possible [103, p. 122].

The general situation in the area of the Kovel railway was not calm. On April 11, 1945, an engineer from the Kadigrov project organization arrived at the 3rd precinct of the UBVR to inspect the Kovel-Kamin-Kashirskyi line to determine the scope of work. Before starting work, the latter demanded protection from armed partisans: 15 machine guns, two machine guns, two grenades each. The last workers to have rifles with enough ammunition. Without fulfilling these requirements, he refused to start work. The leadership had to remove partisans from other facilities, the reconstruction of which was planned for the month of April [103, p. 14].

Due to the unsatisfactory material and living conditions on the roads, staff turnover was observed. Thus, as of January 1, 1946, 40,475 people worked on the Lviv Railway [74, p. 41]. During the year, 652 workers were posted to other roads, 1,792 left for Poland, 471 resigned due to illness, 39 were called up for the army, 424 for training, 352 voluntarily left the workplace.105 18, p. 49. In nine months of 1947, 6,352 workers left the Lviv road, including 55 in the army, 816 on retirement and death, 542 repressed by court verdict, 483 sent to courses, 483 to study 233, left due to the lack of kindergartens and nurseries - 110, voluntarily left the place of work - 499, seconded to other roads - 1006, left for Poland - 2077, due to family circumstances - 130. The turnover of personnel was especially high in the main services and the steam locomotive - 1690 , movement - 1216, path - I526 [74, p. 99].

Also, the enterprises: Lviv PRZ, Stanislavsky PVR and Stryi VRZ were almost not provided with labor force in connection with the departure of Poles [74, p. 82].

Three technical schools tried to improve the staffing situation on their own. During 1946, 15 groups studied at Lvivska. There are 4 groups in the annual school of machinists, and 8 groups in the Kolomyia technical school. A total of 295 people. Completed studies - 275 [74, p. 44].

The religiosity of local residents influenced the recruitment of personnel, especially on the roads of Western Ukraine. So, on May 24, 1945, during the celebration of Easter, most of the workers, the local population, voluntarily left work and went home, 99 workers did not show up for work after the holidays. The management of the railway was forced to turn to local party bodies to help them return the workers, as the district executive committees were not very supportive of this work [103, p. 24].

At the initial stage of reconstruction, it is noticeable that the ratio between the male and female population of working age decreased sharply throughout the republic, as every fifth resident died in the republic. Such losses had a dramatic effect on the labor supply of transport. This is not surprising, because only 17 percent of the pre-war number of specialists remained on the territory of Ukraine freed from the fascist occupiers [104, p. 182].

In various branches of the national economy of the liberated regions, the number of able-bodied men decreased by three times. Therefore, women and youth played a decisive role in the early stages of reconstruction.

It is also worth noting that before the war the number of men was inferior to the number of women by 8.9%, but after the war this difference was 43.5%. Post-war society was mainly female [105, p. 7]. Thus, in the pre-war years, 5,404 women worked on the Southern Railway, or 1 percent, and already on January 1, 1945, there were 16,500 of them, or 36% of the total number of workers [106, p. 35].

9,773 women worked on the South-Donetsk railway, which accounted for 28.7 percent of the total number of employees, on the North-Donetsk road - 15,243 women, or 37% of the total number [74, p. 86].

The social status of railway workers was recognized in accordance with the Decree of the Presidium of the Supreme Soviet of the USSR dated April 15, 1943 "On the introduction of martial law on all railways", according to which all employees in the system became mobilized for the period of war and received a postponement from mobilization to the front. For careless attitude to work, they could be punished by a military tribunal [107, p. 290]. According to the decree of the USSR Supreme Court from April 25 of the same year, a new disciplinary Statute of workers and employees in railway transport was put into effect, which declared the introduction of military discipline on all highways [70, p. 160-161].

In order to strengthen the unified leadership of the Central Committee of the CPSU/b/, on May 31, 1943, it was decided to liquidate the aviation departments in railway transport [70, p. 167].

It is worth noting that the regime at that time also used other levers to stimulate labor. Party publications intensified the propaganda of the achievements of the Stakhanovites, and also called for the resumption of socialist competition aimed at fulfilling the orders of the front [67, p. 124]. The leaders encouraged the industrial initiative to form and increase the speed of train movement as soon as possible, timely repair of wagons, steam locomotives, tracks in order to ensure mass transportation of goods for the front, [67, p. 124] reconstruction processes, which had great military and strategic significance. Along with meeting the needs of the front, the task was to carry out the necessary volume of transportation for the reconstruction of industry and agriculture. The direction of reconstruction was formulated by the DKO in the resolution of June 23, 1943 "On capital construction of railway transport in 1943" [57, p. 193].

The necessary, extremely urgent reconstruction works of the first half of 1943 were carried out within the borders of the Voroshilovgrad region, in the second half of the year - on the territory of other regions of the Left Bank. At the beginning of March 1943, 40 bridges and railway stations, as well as the North-Eastern regions of the Stalin (now Donetsk) region came under the control of the Soviet troops within the borders of the Voroshilovgrad region. In 50 days, railway workers together with the local population rebuilt 700 km of the North-Donetsk highway. main roads, bridge crossings, communication lines. From the beginning of the expulsion of the German troops until September 1943, 1,140.1 km were restored within the borders of the Voroshilovgrad region. main roads, 6 large bridges, 21 medium bridges, 68 small bridges, 800 switchbacks [74, p. 2].

Until May 10, 1944, Donbas was connected by a railway network with many regions of the country. This made it possible for the troops of the Southern and South-Western Fronts to send 37,500 wagons of cargo to the North-Donetsk road from August 10 to September 10 during the fighting for the Donetsk region [108, p. 262].

When the regions of Right Bank Ukraine were liberated, the rehabilitation norms of railway tracks were supposed to be 8 kilometers, in practice such norms came close to 11-12 kilometers per day [74, p. 167].

During the fighting for the Dnipro, 11,000 km were put to the service of the front by special forces and railwaymen. railway tracks [63, p. 270]. Since January 1944, 11 railway brigades have been operating on the territory of Right Bank Ukraine on four Ukrainian fronts, engaged in reconstruction work [63, p. 281].

The liberation of the main lines of the Lviv railway was completed by military units on July 27, 1944. Its economy was greatly destroyed. However, on July 1, 1944, 552 km were already put into operation on the Lviv highway. slyachiv, Kovelska - 1020 [60, p. 142-143].

At the end of 1944, 20,292 km of the republic's railways were restored and converted to the national track. [62, p. 307].

The growth of the pace of reconstruction of railways and military transport depended on the rebuilt bridges and overwater crossings across large and small rivers of Ukraine. This was especially important in the area of action of the fronts, industrial and metallurgical centers, primarily in Donbas, the cities of Zaporizhzhia, Dnipropetrovsk, and others. On February 26, 1944, the DKO obliged the NKSHS to deploy work primarily on 37 large bridges across the Northern Donets River - 5 bridges, Dnipro - 12, Desna - 4, Sozh - 3, Pripyat - 2, Berezina - 2 bridges [74, p. 1].

Bridges near the Kondrashivska station - 227 m., over the Dnipro river in the vicinity of the city of Zaporizhzhia, over the Old Dnipro river - 370 m, over the Zaporizhia New Dnipro bridge - 738.4 m, in the city of Dnipropetrovsk - 1,524 m. ,0 m., Kremenchuk bridge – 1003 m, Cherkas – 1175 m, Darnytskyi bridge – 1095 m. In the area of operation of the South-Western Railway, the bridges over the Dnipro River near the city of Kanev needed repair - 780 m, on the Desna River near the city of Chernihiv - a bridge with a length of 556 [74].

During their reconstruction, the railwaymen encountered enormous difficulties. The main one is the lack of qualified personnel. Therefore, a large part of the work was performed by specialized military formations of railway workers. Indicative in this regard were the actions of the roadmen of the 1st Guards Railway Brigade to ensure restoration work in Donbas. Construction of a 121.5-meter-long and 18.5-meter-high bridge over the Mokra Moskovka River began on November 2, 1943, under conditions of its complete destruction [109, p. 93]. Its commissioning was supposed to ensure the movement of trains in the direction of Crimea. The troops of the 4th and 3rd Ukrainian fronts especially needed material replenishment. The work began with the removal of destroyed flight structures under enemy artillery and mortar fire. They were conducted by the troops of the 2nd bridge battalion. Sergeant I. Gorbunov, being at a height of 28 meters, did not stop dismantling the damaged structure. Instead of the planned 6 units, he cut 13 [109, p. 93-94]. It was no less difficult to install 15-ton frames at a height of 17 meters. The guards coped with this task [109, p. 95]. During the work, one of the frame structures had to fall into the river due to damage to the metal cable in the air. Senior sergeant V. Goltsov, having climbed the support to a height of 28 meters, fixed an additional one instead of the broken cable, which allowed him to continue work without stopping [109, p. 95-96]. On the right bank of the river, there were added difficulties with demining the bank and bridge piers. The railway guardsmen, overcoming difficulties, let the first train with military equipment pass through the bridge on November 22, 1943. The material support of the troops of the 3rd and 4th Ukrainian fronts improved significantly [109, p. 97].

It was important to restore the 10.9 km long bridge over the Novy and Stary Dnipro rivers in the Zaporozhye region [109, p. 99]. The start of work was prevented by the great destruction of this bridge crossing and the rupture of the Dniproges dam. A decision was made to build a new temporary bridge over the Novy Dnipro river, Khortytsia Island and the southern part of the Old Dnipro [109, p. 98]. For the second time, the railway guards had to build such a large bridge facility. The minefields on the island were especially disturbing. Greyhound. The difficulty was also that in January 1944, there was a thaw and the air temperature rose to +5-8 degrees, the snow began to melt, the rains began, and roadlessness began [109, p. 101]. Civilian railway workers and the local population came to the rescue, from which 12 labor battalions with 500 people each were formed [109, p. 100]. Snow and rain prevented the pace of work from increasing. The first stage of this bridge was put into operation on February 22, 1944, which was of particular importance during the period when the troops of the 3rd Ukrainian Front were engaged in intense battles with the German invaders in Right-Bank Ukraine [109, p. 102].

27,000 railway workers, family members, and representatives of the local population took part in the construction of bridge crossings and highways on the North Donetsk, South and Stalin highways [62, p. 251].

The construction of a bridge near the Darnytsia station near Kyiv was of great importance for increasing the pace of offensive operations in Right-Bank Ukraine. The Military Council of the 1st Ukrainian Front set the deadline for its construction - 20 days. Railroad workers delivered 5,000 cubic meters of lumber, more than 100 piles, and 150 tons of metal forgings [62, p. 252]. In order to intensify reconstruction work, 6,000 people of various specialties from the civilian population were mobilized. Therefore, work was carried out around the clock. Another part of the railway workers and the local population was engaged in the construction of the 1,195-meter-long high-water Podolsky Bridge. For this, it was necessary to drive 2,146 supports, install intermediate structures weighing more than 200 tons, and fill about 100,000 cubic meters of soil [62, p. 253].

Work began on December 15, 1943 and ended on February 20, 1944 [108, p. 280. 48,000 man-days, or 45.4 man-days per linear meter of the bridge, were spent on the construction of a railway bridge in the Kyiv region. The average recovery rate was 81.5 running meters per day [63, p. 266-267]. In general, 37 large and small bridges were built by January 15, 1944 at the Kyiv branch of the South-Western Railway with the help of special formations of the NKSHS [108, p. 281]. This greatly helped speed up the transfer of forces and means to repulse the counteroffensive of German troops from the area west of Fastov and south of the city of Zhytomyr, which they launched on November 15 with the aim of capturing Kyiv.

The resumption of transport was of great economic importance. Thus, more than a thousand kilometers of railway tracks ran through the territory of Zhytomyr region, there were about 100 junctions and such large stations as Korosten, Zhytomyr, Novograd-Volynsk, Berdychiv, Ovruch, Bilokorovychi [74, p. 30].

An important consequence of the Second World War was the completion of the cathedralization of Ukrainian lands. To a certain extent, the railways of Western Ukraine and, since October 1944, Transcarpathia became the real mechanism of their integration in such a union. On the territory of the latter, there was a railway network with a length of 653 km, of which 168 km - the Union track, 345 km - the Western European track and 140 km of narrow tracks. The connected railway network consisted of 4 railway lines, three of which crossed the territory of Transcarpathia from the north-east to the south-west in the direction of Uzhgorod-Chop, Skotarske-Batevo, Зumyr-Vyshkiv and one - from east to west in the direction of Chop- Vyshkiv [74, p. 5].

The steam locomotive fleet consisted of 85 steam locomotives of various types, of which 69 were Western European gauge, 2 were Union gauge, and 14 were narrow gauge. The equipment of the locomotive industry was partially destroyed during the war years and was not repaired. At that time, locomotive depots were not equipped with machinery, did not have devices for repairing locomotives, and were loaded manually.

The wagon fleet consisted of 3,000 freight wagons and 113 passenger wagons. Out of 72 station premises, 38 were destroyed. The telephone connection was in an unsatisfactory condition. The material reserves of the road were taken away by the enemy [74, p. 61].

In 1944-1945, 3,376 people worked on the railway, including 1,125 Ukrainians; 1338 - Russians, 597 - Slovaks and others [74, p. 61].

The territory of Transcarpathia was connected to the road network of the USSR mainly through three sections: Sambor-Syanok-Uzhrorod, Stryi-Lavochne-Mukachevo, Kolomyia-Delyatyn-Rakhiv. From the very beginning, train traffic took place along the temporarily restored Stryi-Lavochne-Mukachevo track. Three tunnels with a total length of 800 meters must be rebuilt in this section, two of which were located on the territory of the Ukrainian SSR. On May 3, 1945, on another section - Kolomyia-Delyatyn-Rakhiv, the temporary movement of trains was opened through three tunnels, in which passage was provided with the help of temporary risers and wooden fasteners that protected the echelons from rocks. The Sambir-Syanok-Uzhhorod line had 7 collapsed tunnels destroyed throughout. Their restoration was not included in the work plan for 1945. The works were carried out by the forces of the Lviv Railway on the Lviv-Sambir section with a length of 20 km. By the decree of the Central Committee of Ukraine dated May 6, 1945, the capital reconstruction of the Stryi-Lavochne-Mukachevo railway sections was entrusted to the special office of the NKSHS "Holovtunelmagistral" with a deadline of July 15, 1945. On the Kolomyia-

Delyatyn-Rakhiv line, work was entrusted to the UVBR with the completion of October 1, 1945. In this year, the Lviv Railway needed 6,000 people to carry out work on the restoration of connections with Transcarpathian Ukraine, in fact, at the beginning of the work, there were 3,000 people, of which 800 people were going to leave for Poland [74, p. 61].

The material and living conditions of the workers were quite difficult. The lack of a centralized supply of food products and workwear had a negative impact on the situation. There were high prices for basic necessities, which created negative attitudes among workers. This happened due to the absence of labor supply enterprises, because they were not legally registered, there was a lack of working capital and state loans [74, p. 61]. These and other circumstances made it difficult to recruit workers for the roads of Transcarpathia.

The leadership of the republic, taking into account the economic condition of the region, ethnographic features, existing weak technical equipment, backwardness and neglect of the railway industry, decided to provide assistance to Transcarpathian Ukraine by creating the Transcarpathian Railway. In the name of Y.Stalin, reports and a draft resolution of the DKO were sent, which defined the boundaries of the railway and the list of necessary preparatory works that needed to be carried out by November 1, 1945. The railway was to include 800 km of broad track, 140 km of narrow track, in addition to lowland lines and mountain lines, which were located on the territory of Drogobytsk, Stanislavsk, Ternopil, and Chernivtsi regions, with a total length of 1,740 km. The border of the railway was along the Lviv road stations Sambor, Stryi (including), Khodoriv, Pidvyske and Berezovitsa, Ostriv (including), Chisinau - Oknytsia station (including), Vinnytsia - St. Husyatyn and Mohyliv-Podilskyi (including) The road management was to be located in Stanislav, in the premises of the former Directorate of Polish Railways.

They also planned to organize food and industrial supplies by sending the necessary amount of overalls and shoes, as well as allocate 25,000 sq. meters of the housing stock for management officials and employees.154 The costs of measures for the organization of the road were to amount to 5 million rubles. This project could not be implemented, which did not prevent the rapid reconstruction of the Transcarpathian railway network. During 1944-45, the railway connection with the region was carried out through 9 rebuilt tunnels, including the Beskydy tunnel, located on the Mukachevo-Stry line, with a length of 1,800 meters. The main buildings of stations, depots, and water supply were restored. The restoration work plan was completed in 1944 by 86%, in 1945 by 77% [74, p. 30].

At the high pace of reconstruction at that time and significant volumes of work, there were cases when bureaucratic red tape, all kinds of procrastination, incoherence of actions slowed down the work. This happened during the reconstruction of the Zhmeryn Carriage Repair Plant. Due to some incoherence, the Kharkiv design organization "Transzahidproekt" only started preparing the design task in December 1944, with its subsequent approval by the NKSHS. Due to the bureaucratic red tape, the DKO did not have time to adopt a special resolution on the reconstruction of the plant in a timely manner. Therefore, the workforce of the enterprise in the fourth quarter of 1944 was left without the necessary centralized supply of building materials. In fact, from December 1944 to February 1945, work at the enterprise was almost stopped, [74, p. 11] with the exception of small items and the installation of some equipment. The volume of the completed works amounted to only 42.3 thousand rubles [68, p. 5]. In the first quarter of 1945, the situation did not change. Thus, the Kharkiv institution made certain corrections in the design task with the aim of partial repurposing of the enterprise - simultaneous repair of passenger and freight cars. Therefore, at the end of the first quarter of 1945, restoration work did not begin in full due to the impossibility of providing them with materials. In order to somehow improve the situation, party and state bodies on the ground planned to provide the work front with materials of their own production [68, p. 7].

Without the normal operation of the railway in the liberated areas of Ukraine, there could be no question of rebuilding and putting into operation the pre-war industrial potential.

DKO twice, on February 26 and October 22, 1943, considered the issue of aid measures for the restoration of the coal industry and mines of Donbas [110, p. 169].

The scope of work was determined for the fourth quarter of 1943 and the whole of 1944. It was supposed to restore the activity of 209 mine shafts with a total length of 55,400 m and pump out 117 million tons of water. The railway workers provided assistance to the miners. They delivered equipment, machines, tools, and materials from all over the USSR. They transported 53 wagons with mining equipment from Kuibyshev region, 23 wagons from Kuzbass. By January 1, 1944, 15 large mines with a daily production rate of 5,000 tons and 16 small ones were put into operation. This made it possible to revive the Donbas coal industry in a short period of time. If in 1943 4.3 million tons of coal were mined, then in 1944 - 21 million tons, and in 1945 coal production grew to 38.4 million tons, which significantly influenced the normalization of the country's fuel balance . In this way, the miners of Dobas mined 17% of the total annual production of fuel in the USSR, in 1945 this percentage was 26.7. Railway workers delivered it to its destination. From April 1 to April 25, 1943, 1,440 wagons or 28,639 tons of coal were shipped on the South-Donetsk railway [74, p. 39].

Railroad workers contributed to the revival of the energy capacities of the metallurgical and chemical industry. During the revival of blast furnace No. 3 of the Stalin Metallurgical Plant, 200 wagons of rubble had to be removed.168 At the beginning of 1944, railway workers delivered 4,500 machine tools, 6,000 cars, 7 turbines, 30,000 tons to enterprises of the coal, metallurgical, and machine-building industries. metal, 15 thousand tons of cement, 300 thousand m2 of glass. At the beginning of 1945, they delivered 100 wagons of metal construction machines to the Zaporizhstal plant. Almost 75 thousand tons of industrial equipment were delivered for industrial enterprises of Ukraine, which allowed to organize the work of Dniprodzerzhynskyi, Makiivskyi, Dnipropetrovskyi. G. Petrovsky metallurgical plants.

In 1945, iron smelting in the republic amounted to 1,647 tons, or 18 percent of the level of 1940. This led to an increase in metal production, a significant part of which, namely 109,620 tons of metal, was provided by the employees of the North-Donetsk railway from September 1944 for the needs of the economy.

Railwaymen carried out the transportation for the purpose of reviving coke plants and enterprises in the processing industry. They supplied the Azovstal plant with equipment worth 98.3 million rubles. [111, p. 84]. Pursuant to the decree of the DKO dated March 6, 1945, the equipment of the German chemical plant "Heide-Brek", the cost of which was 20 billion, was transported to the industrial site of the Lysichan Nitrogen Plant. gold rubles. Additionally, 12 km of tracks were laid at the plant.

At the same time, agricultural production was revived. Already in 1945, the cultivated area was 23 million hectares. For the transportation of grain products, special ring routes have been organized by the railways of Ukraine. There were 120 of them on the Stalin railway, 100 on the Odesa railway, and 85 on the Southern railway.

The timely supply of raw materials and food products to various regions of Ukraine contributed to the revival and improvement of the work of many spheres of society's life.

Ukrainian railwaymen during the last war carried out a huge volume of front-line, evacuation, national economic and passenger transport. This was achieved due to the use of the then economic methods of management of the industry, party - political leadership at that time by the Communist Party, which in many respects used military methods of management [57, p. 370]. The facts prove that the railway system of Ukraine and its employees withstood the military burdens with dignity.

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3. Organization and analysis of a pedagogical experiment in the conditions of student training in institutions of higher education

In the modern conditions of initiation in higher elementary institutions, the practical activity of cooperation between the teacher and the student body is gaining more and more importance. The concept of a pedagogical experiment has long been relevant and continues to be in trend today.

Many authors have already highlighted the depth of the practicality of the pedagogical experiment many times, and in fact each of them noted in their conclusions that there are still quite a lot of undisclosed aspects of this issue.

Today, we will once again try to highlight the great significance of the pedagogical experiment in the conditions of training future managers.

In order to test the hypothesis about the effectiveness of training future managers of marketing communications for professional activity in the process of applying business games, experimental work was conducted. In the process of its implementation, special attention was paid to the fact that the preparation of future managers of marketing communications for professional activity, all its components in interaction, effectively affects the productivity of the educational process, and insufficient attention to any of its sides negatively affects the final result. This was the basis for the development of the methodology for conducting research and experimental work, which was carried out in three stages [112, p. 190].

At the first stage, the state of research of the problem in pedagogical theory and practice is studied, system-functional and informational analyzes were carried out regarding the training of future managers of marketing communications, methods of teaching special educational disciplines in higher education institutions were studied. The initial theoretical positions, the goal and tasks of the research were clarified, the hypothesis, object, subject, program and research methodology were developed. The main focus was on the development of psychological and pedagogical research on the use of business games in the professional training of marketing communications managers in higher education institutions.

At the second stage, pedagogical conditions for the use of business games in the professional training of marketing communications managers in higher education institutions are substantiated and experimentally verified, a system of methodical work regarding their construction was developed and formed, a model of professional training of marketing communications managers using business games in higher education institutions was developed; methodical recommendations on the use of business games in the professional training of marketing communications managers were developed; the topic and content were clarified, business games were created and conducted with students of higher education institutions; they were introduced into the professional training of marketing communications managers.

At the third stage, an experimental test of the research hypothesis is carried out regarding the implementation of pedagogical conditions for the use of business games in the professional training of marketing communications managers in higher education institutions. An analysis of experimental research was carried out, its materials were summarized, experimental data were processed, general conclusions were formulated, and a monograph was drawn up [113].

Separate provisions of a number of scientific works were used to organize research and experimental work [114, 116, 120, 124, 133].

In the experimental part of the research, the following tasks are set: to describe the methodology of the organization of research and experimental work; test the model of professional training of marketing communications managers using business games; determine the level of readiness of future managers of marketing communications for professional activity; check the effectiveness of pedagogical conditions for the development of professional training of marketing communications managers using business games; perform an analysis of the results of the conducted research and experimental work.

In the process of conducting the experiment, the following agreements are taken into account:

1) All teachers worked according to the same teaching method.

2) At the initial stage of the formative experiment, all students of the research groups had a different level of development of readiness of future managers of marketing communications for professional activity.

3) The presence of different levels of development of readiness of future managers of marketing communications for professional activity caused the need to divide them into groups (experimental and control), the level of development of readiness of future managers of marketing communications for professional activity in which one of them differed statistically insignificantly.

Taking into account the results of the conducted theoretical research as criteria and indicators that allow determining the level of development of readiness of future managers of marketing communications for professional activity, we selected: personal (motivation, interest in professional activity and orientation to value relationships); cognitive (completeness, awareness and systematic knowledge); activity-instrumental (prognostic skills, organizational-activity, communication, reflection and self-development skills).

As levels of development of readiness of future managers of marketing communications for professional activity were selected: low, medium and high.

The development levels of readiness of future managers of marketing communications for professional activity were determined using various diagnostic methods. To identify the levels of the personal criterion, which includes such an indicator as motivation, a diagnosis of group motivation by L.A. Rudenko was carried out. Levels for such an indicator as cognitive interest were based on questionnaires; the method of M. Rokych was used to determine the level of value orientations. The predominance of the internal motive, its content, orientation develops activity and the desire to perform professional activities [115, p. 207].

The cognitive criterion, which includes the completeness, awareness and systematicity of knowledge, required observation of the performance of roles and tasks in business games and the implementation and content of projects. The amount of knowledge of the participants of the educational process was considered as an indicator of the completeness of knowledge about the professional activity of marketing communications managers. The systematicity of knowledge about professional activity was determined by analyzing the sequence of teaching the educational material and the sequence of students' actions during business games. Awareness of knowledge, as well as systematicity, was evaluated based on the signs of the manifestation of knowledge in professional activity. This is an understanding of the existence of a connection between theoretical and practical types of knowledge about professional activity, which is necessary in conducting a business game.

The following methods were used to determine the levels using the activity-instrumental criterion: the presence of creative skills using the method of H. B. Skok, identification of external manifestations of creativity was recorded using the questionnaire of D. Johnson (adaptation by O. E. Tunik) [113], observation. The activity-instrumental criterion, which includes such an indicator as organizational and activity skills, was determined using observations of activity in the organization of the game activity process, communicative skills determine the degree of communication with the participants of business games.

The development of readiness of future managers of marketing communications for professional activity based on the manifestation of personal criteria allows for successful interaction between all participants of communication, while working with created microgroups is quite difficult. This is possibly one of the objective reasons for the not very high indicators of this criterion. Here there is a need to successfully use social experience, qualities, abilities of a person in the field of verbal and non-verbal communication. The value of the average level in the control and experimental groups shows that a small part of the future managers of marketing communications is able to perform communicative functions, as well as to be able to choose appropriate and effective communicative behavior for emerging situations. At this stage of the ascertainment experiment, the completeness of knowledge about what behavior is suitable for a particular situation, the ability to change it, to demonstrate sociability is not clearly manifested enough. The manifestation of the personal criterion for all participants in this process is determined by the presence in each individual of the skills of empathy, tolerance, reflection, as well as the presence of a certain level of familiarity with general cultural human values [116, p. 50].

In the process of organizing the formative experiment, we assumed that the implementation of the developed model of professional training of marketing communications managers with the help of business games was carried out within the pedagogical conditions stated in the hypothesis.

The main tasks of the formative experiment were: selection of features of content, forms and methods of development of readiness of future managers of marketing communications for professional activity; implementation of the model of professional training of marketing communications managers using business games in the educational process through research and experimentation; substantiation of the research hypothesis put forward by us on the readiness of future managers of marketing communications for professional activity; creation of a special situation that gives the right to reveal the conditions of the experiment; study of specific ways of forming new personality qualities of future managers of marketing communications in the process of developing readiness for professional activity.

The formative experiment allows purposeful development of professional activity, to deeply reveal its structure, requires support in the form of recording the course and results of research and experimental work. Statistical processing of the obtained data, construction of graphs and tables is required here.

The formative stage of the experiment was carried out using business games in the education of students. In the organization of the formative experiment, we assumed that the implementation of the developed model of professional training of marketing communications managers with the help of business games was carried out within the pedagogical conditions stated in the hypothesis. Determining the level of development of students' readiness for professional activity and awareness of the need to master this type of activity takes place at the diagnostic and adaptive stage. Diagnostic methods, questionnaires, observation, all this contributed to the implementation of pedagogical conditions in the form of pedagogical monitoring of the development of the readiness of future managers of marketing communications for professional activity. In the process of analyzing the questionnaire and determining the level of achievement of personal results, round tables were held, which ensured participation in solving the problem of updating the development of the readiness of future managers of marketing communications for professional activity and created a motivational field that contributed to the development of interest in professional activity. This, in turn, led to the implementation of pedagogical conditions in the form of: modernization of the content of training of future managers of marketing communications, taking into account the current needs of professional training of modern specialists using game technologies.

The theoretical stage requires filling business games with content dedicated to the implementation of professional activities, allows the use of active learning methods together with lectures, practical and independent forms of work: solving problem situations, using game technologies, coaching, collective brainstorming, work in project groups , trainings, educational discussions, business games. Future managers of marketing communications are offered these forms of work as tools for assimilating systematized knowledge and developing new skills needed in professional activities. Problem situations transfer the emphasis of the teacher's activities to the cognitive activity of the participants of the educational process. Methods of active learning, offering the creation of problem situations that determine the topics of projects, are relevant for all groups of future managers of marketing communications participating in the experiment. Here the leading place is occupied by the business game, where the main component will be the formation of a problem and the search for its solution. As a result of the change in the position of future managers of marketing communications, there is an intensification of the learning process and the formation of readiness for professional activity. New forms of communication play a special role: conference, presentation festivals, video conferences. Here, teachers from different regions, with the help of technical support of video conferences, enter into a dialogue, solving the problems that arise. In the process of video sessions, teachers participate in trainings on making optimal decisions, which contribute to the improvement of the technology for the development of the readiness of future managers of marketing communications for professional activities. Specialists of various profiles, for example, leading managers and psychologists, participate in the work with technology for the development of readiness for professional activity. It is they who conduct social practices and tests to determine sociability and tolerance. All this requires compliance with the following pedagogical condition: the implementation of students' communication comfort in the professional training of marketing communications managers in a game environment [117].

This theoretical stage also requires the fulfillment of another pedagogical condition: the use of business games as a method of interactive training of students in real industrial communication.

The practical (constructive) stage of the technology was distinguished by the organization of classes with significant practical content. All forms of organization of training and interaction of participants, cooperation and co-creation, manifested as dialogicity, contributed to adaptation to this type of activity as a professional one. At this stage, the main economic concepts are identified and substantiated in the context of the economic design methodology, and the approaches to design available in science are analyzed. There is an understanding of what skills a future marketing communications manager should have. This stage of technology requires the constant implementation of pedagogical monitoring of the development of readiness of future managers of marketing communications for professional activity. Participants of business games offer to provide an opportunity for future managers of marketing communications to improve readiness for professional activity through a system of game situations that correspond to real production situations. In the process of conducting theoretical and practical classes on the development of readiness for professional activity, teachers whose specialties have different subject orientations were invited to participate in the conference [118, p. 15].

Various specialists were actively involved in solving organizational issues: conflict experts, legal experts, social educators, managers. The development of various methods of activity required the fulfillment of such a pedagogical condition as the use of business games as a method of interactive training of students in real industrial communication.

In the process of experimental work, a model of professional training of marketing communications managers using business games was implemented. The formative experiment had significant time limits. Analyzing the course of the formative stage of the experiment on the development of the readiness of future managers of marketing communications for professional activity, we note that in the process of performing work related to the effectiveness of the implementation of the model of professional training of managers of marketing communications with the help of business games and formulated pedagogical conditions, one of the main directions - organizational and activity, creative skills [119].

The stage of technology reflection requires the fulfillment of pedagogical conditions that can be manifested through the desire for fuller identification and development of personal capabilities. The main achievement in the development of the readiness of future managers of marketing communications for professional activity is not only the organizational and activity qualities of the student's personality (brightness, good diction, clarity, expressiveness of speech), but also professional competence. These are also personal characteristics: the ability to communicate, empathy, openness, tact, intuition, confidence and conviction, precisely that conviction that comes from deep knowledge of the subject, are qualities for the manifestation of self-actualization. A personal result is manifested in joint activities. To teach this type of activity as a professional is necessary for the implementation of an educational or research task. One of the requirements is a personal result. It is the presence of a personal result that determines the level of readiness for professional activity, the ability of the future manager of marketing communications to mobilize the existing knowledge potential and experience to solve a specific task. Availability of target, organizational and content components. Each of them has its own content, one of them – the content component includes a new subprogram of professional research activities. This subprogram contributes to the joint development of students' educational and research work. The interaction of various types and forms determines the communicative nature of the activity, contributes to the formation of universal educational abilities and skills. This makes it necessary to build a curriculum taking into account the use of business games. This trajectory is characterized by the ability to act in conditions of uncertainty, to solve creative tasks and problems. It helps the emergence of the need for awareness of knowledge, personal support of the participants of the game. Realizes the leading goal of education - the development of a person's personality by the method of active learning of a business game. In the process of professional interaction, students acquire social experience - this is facilitated by the system-active, competence-based approaches that underlie the functioning of business games. Their content is the basis of intellectualization of education, helps the development of universal logical skills, creative abilities, cognitive activity of students. This is manifested in the ability to act intelligently, to think rationally. The practical orientation of education is strengthened thanks to professional research activities, as it gives the right to reveal and solve the problems of real life situations, forms moral values through environmentalization of the problem, metasubjectivity. Interaction with subject content leads to the development of intelligence. This proves once again that the development potential is not so much the knowledge itself, but the skills and actions formed on their basis. It is they who contribute to the functioning of a person in the surrounding world, the real opportunity to adapt to it, make the right choice, use the achievements of culture, the ability to make one's own discoveries, and show the ability to be creative. During the processing of information in the process of thinking, a thought product appears. The ability to think, the appearance of thought - this is the value of this process. Creative individuality is manifested during the implementation of professional activities, the ability to present one's personal experience is important. This calls for the need to plan to increase the level of development of readiness for professional activity as a dynamic perspective and long-term orientation of the professional activity of future managers of marketing communications [120, p. 39].

All this requires the presence of clearly developed commitments to this creative form of work of future managers of marketing communications, increases and imposes a certain level of responsibility. The development of the readiness of future managers of marketing communications for professional activity is a directed process of new formations of a professional and pedagogical nature. It helps in the formation of the professional growth of the future manager of marketing communications as a subject of activity, ensures the development of motivation, helps to identify and formulate professional and subject problems and offer options for their solution. All changes in the educational process affect not only the goal, activity, but also the technology of ensuring this process.

Innovative requirements determine a completely different attitude of future managers of marketing communications to professional activity. Long-term projects or research activities of future managers of marketing communications were carried out by scientific societies. The future managers of marketing communications, who are passionate about their subject and are led by a teacher of the higher education institution, went and continue to work here. For this form of work, future managers of marketing communications must be, and remain, good organizers, proactive, with a broad outlook, and a creative approach to business. The personal skills of future managers of marketing communications determine many things in professional research activities, they create a real possibility of the inadmissibility of formal knowledge acquisition. All the work has a deep meaning for each participant, it calls for the need for the validity of joint creativity, participation in the research process. The number of hours spent by the future manager of marketing communications was not regulated in any way, the results of work and its quality were determined by the personal initiative of the future manager of marketing communications. Of particular interest to the participants was the opportunity to present their works in regional, all-Ukrainian competitions. For many participants in the process, this is an incentive for creativity, it gives the right to work, analyzing educational material, to have the opportunity to compare and characterize. The choice of the most accessible and interesting both in terms of content and design of professional activity reflects the direct interest of students in the subject being studied. Any subject, its content makes it possible to develop the readiness of future managers of marketing communications for professional activities, for example, the study of this science is important not only for future managers of marketing communications, it is necessary for the development of creative abilities, memory training, the formation of logic, the development of the ability to build causal relationships, build different models. We confidently expect the optimization of the process: in increasing the satisfaction of all interested parties with the results of the scientific and educational activities of the Higher Education Institution regarding the search for new resources for the development of the modern system of continuous education, based on the dialogue with academic and branch science, the introduction of the results of scientific research into the educational process [121, p. 210].

The use of business games in the training of future managers of marketing communications provided the basis for conducting a focused and effective experiment regarding the formation of professional skills of future managers of marketing communications, which was evidenced by the results of this study. The growth in the number of respondents who have mastered professional skills at an average and high level should be considered the most characteristic.

The indicators for evaluating the effectiveness of the conducted research and experimental work were:

1) cognitive activity of students;

2) motivation to acquire professional and innovative knowledge;

3) development of cooperation skills (joint activity);

4) a sense of collective responsibility;

5) development of presentation skills and abilities;

6) self-assessment of students;

7) development of students' communication skills and abilities;

8) development of the teacher's (teachers') communication skills.

In the course of the experiment, the corresponding level indicators of the selected evaluation criteria in the model of professional training of marketing communications managers described by us using business games were found. It was established that the main drawback that causes this picture is the low level of motivation for this type of activity. Constant diagnostic analysis and control of the process of development of readiness of future managers of marketing communications for professional activity was carried out. The results show a trend of growth in the general level and a slight positive trend in the development of readiness for professional activity [122].

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The analysis of the results of the final experiment gives the right to draw a number of conclusions: with the increase in the level of development indicators of students' readiness for professional activity, the level of desire of future managers of marketing communications to perform professional activity increases. This helps to increase the level of readiness of future managers of marketing communications for professional activity; in the process of conducting classes using business games, qualitative indicators of the level of development of readiness of future managers of marketing communications for professional activity increase.

The implementation of the stated pedagogical conditions and the developed model of professional training of marketing communications managers using business games, the achievement of a high level of readiness for professional activity as a result of this with the help of the proposed technology confirms the validity of the research hypothesis put forward by us [123, p. 368].

At the initial stage of our experimental activity, the interests of the students were mainly personal and everyday oriented and were not focused on the formation of professionally significant abilities, skills, qualities, not on the development of their own readiness for professional activity, but on ensuring personal success in the social and everyday sphere (influence on people, self-confidence, building a reputation, etc.).

The study examined the motives of students (with their underlying interests) and divided them into 2 large groups representing 1) internal and 2) external motivation. The first combined all the motives related to the desire of the students themselves to study, and the second - motives due to the necessity of studying.

Business games have revealed their effectiveness under the following circumstances: a modular approach to planning and organizing the training of future managers of marketing communications is carried out; an optimal ratio of the total number of classes and game classes of 1:4 is ensured; the teacher, together with the students, develops the game session in advance and sets the conditions for self-organization in the business game, monitors the course of the business game, analyzes the results, which are publicly available to all students.

Our study supported the hypothesis that the designed system of business games can be used to significantly improve the quality of professional training of future managers of marketing communications in higher education institutions.

A business game can be considered as a simulation of the real activity of a specialist in certain specially created situations. The business game acts as a means and method of preparation and adaptation to professional activities and social contacts. The difference of the business educational game from traditional teaching methods, its educational opportunities are that the game reproduces the main regularities of professional activity and professional thinking based on the material of dynamically created educational situations, which are solved by the joint efforts of the game participants. The essence of the business game is that it is a form of reproduction of the subject and social content of professional activity, modeling of systems of relationships characteristic of this type of work. Conducting a business game is the deployment of a special game activity of the participants on a simulation model that reproduces the conditions and dynamics of the real world. The business game is a model substitution of two realities - the production process and the process of people's activity in it [124, p. 185].

However, the effectiveness of their implementation in the educational process, as shown by numerous studies, depends on a number of conditions and factors that can be divided into three groups: socio-pedagogical: a clear awareness by the participants of the purpose of the game; compliance with laws, principles and rules of the game that are adequate to the requirements of an economically developed society; close connection with the educational material, maximally directing it to practice; the relationship between educational and gaming activities and economic realities; targeted selection by the teacher of adequate types and forms of organization of business games for the purpose of forming specific professional skills; implementation of a differentiated approach to students with different levels of knowledge and different motivation to participate in the game; provision by the teacher of timely consultation, advice, assistance in order to prevent conflicts and undesirable consequences; psychological-pedagogical: development of personal, professionally significant qualities of students; taking into account the individual characteristics, experience and knowledge of students in order to maximize the development of their abilities; maximum provision of creative self-realization, self-affirmation and self-organization of students; involvement of students in self-assessment; organizational and pedagogical: determination by the teacher of the content and goals of educational and game activities; establishment of subject-subject relations in the game, involvement of subjects in various types of games; maintaining educational and methodical documentation, which reflects the structure and content of the game; organization of student gaming activities at various stages of game implementation; availability of a general system of evaluations and self-evaluations of the process and results of the business game; transparency and accessibility of the content of tasks, terms and rules of the game for students; notification to team members of parameters and evaluation criteria; mandatory evaluation of the most important aspects of the participants' activities [125].

Provided that the above-mentioned conditions are observed during business games, it is possible to deepen knowledge of certain academic disciplines, develop the culture of professional speech of future specialists, and form certain professional skills. However, taking into account the complexity of the requirements for the future manager of marketing communications, which are highlighted in the industry standards of higher education of Ukraine, we came to the conclusion that it is necessary to conduct business games and during their conduct ensure compliance with a number of specific pedagogical conditions.

To the specific pedagogical conditions that ensure the effectiveness of the implementation of business games in the training of future managers of marketing communications, we include: 1) a combination of role-playing, simulation, and organizational-activity aspects of the game; 2) synthesis of the main functions of the game; 3) interdisciplinary and interdisciplinary nature of the tasks that require integrated knowledge; 4) the maximum direction of the business game on the development of personal and professionally significant qualities of the future specialist.

The practice of conducting business games and specific situations proves that the responsibilities of teachers include the need to convey the main points and conclusions to the participants of the game, give clear justifications, demonstrate their achievements to the participants of the business game and point out wrong decisions and mistakes [126, p. 336].

The principle of game situations in education is not new. In fact, situational tasks, which have firmly entered the arsenal of methodological tools, are a preliminary stage to business games. They are based on a scenario that reproduces in detail the situation of the specialist's professional activity. Each participant of the business game receives and fulfills his official function-role. The initial situation is explained by the teacher orally or communicated in writing. Its development is ensured by the successive introduction of additional tasks that must be solved quickly. The effectiveness of the business game is determined by the teacher. He must direct its course, specify, supplement, control, act as an arbiter when different opinions arise, correct wrong decisions.

Business games have significant learning, control and educational opportunities. The performance of each student's role not only allows to repeat and consolidate the acquired knowledge, but also forms the ability to demonstrate it in a specific situation, as close as possible to real conditions [127].

The dynamics of the business game causes high creative activity of the participants, which causes an emotional uplift, which helps to increase the level of assimilation of educational material, its awareness and memorization, develops thinking and learning. The business game teaches collective actions necessary in practical professional activities. In the process of the business game, as in life, erroneous decisions are possible, which are quickly discovered by the students themselves. Such control is natural, correct, objective, does not cause negative emotions and promotes unification, as it reflects collective thinking.

Therefore, the business game is an effective method of forming professional skills and abilities in students and contributes to the improvement of the quality of training of specialists [128, p. 132].

Summarizing what has been said, we note that in a properly organized business game, the game group as a whole and each of its members become full-fledged and equal subjects of game activity with the game leader, carrying out in the game not only planning, implementation, self-control and self-evaluation of their own purposeful educational and game activities , but also taking part in the organization, implementation, regulation and evaluation of the educational and game activities of their comrades, joint activities of the game group, team, actively interacting with the teacher. In the course of the educational and game activity organized in this way, students have a positive emotional attitude towards the educational process; activation of cognitive activity; development of the ability for independent and collective creative activity; the presence of a stable cognitive orientation that persists even after the end of the game.

In general, in an effectively organized business game, the educational activity of students is intensified: cognitive needs are formed and persistent cognitive interests are nurtured; intellectual skills related to the processing of assimilated information are formed; the ability to plan, self-organize and self-control in the learning process is formed; an individual approach is carried out in the conditions of group and collective activities, control over the course of the students' educational and playing activities is carried out. This gives reason to claim that in the process of business game students are successfully forming a reflexive and evaluative component of their activity [129, p. 68].

The use of the method of business games places increased demands on discipline, develops camaraderie and mutual responsibility, since the absence of even one participant in the game in some scenarios violates the logic of its conduct, worsens the result. The rules of the game encourage participants to reveal their abilities as much as possible, encourage them to be more demanding of themselves and their friends.

However, the organization, preparation and conduct of a business game require a sharp increase in time spent on the preliminary preparation of materials and workload in the process of conducting a business game from the teacher [130, p. 58-60].

Business games are considered as a holistic model of the educational process. During the game, conditions are created for revealing the student's personality. The student enters the role and assumes certain responsibilities. The role prompts him to improvise its performance with maximum use of the provided opportunities and knowledge. The effectiveness of the business game depends on the creative selection of the student to his role, freedom in game actions. It is the business game that reveals the individual's need for self-expression, realization of his capabilities. Conducting business games requires advance preparation. For effective games, it is necessary to ensure that there is a sufficient amount of material. The business game should be conducted in four stages: preparation, simulation of the game situation, conducting the game and analysis of the game results.

The results of the study indicate positive results in the process of training future specialists for professional activities.

Thanks to business games, they learn to solve complex situations and solve non-standard tasks.

Games form the personal qualities of a future specialist in the process of learning in the following directions: formation of professional qualities, readiness for future professional activity, creative thinking, increasing the sense of duty in professional activity. The formation of professional qualities contributes to the successful performance of professional tasks in the further professional activity of future specialists. The skillful use of business games contributes to increasing the cognitive motivation of learning, tuning into a positive dominant [131].

So, the practice of professional training of future specialists shows that in the process of formation of professional knowledge, in addition to special knowledge, abilities and skills, it is necessary to develop the personal qualities of the student.

Business games are a rather versatile and diverse phenomenon, but they all have a common psychological nature: it is a clearly defined motivation to achieve certain scientific and practical results, which is subject to a certain game goal: to win some kind of competition, perform a search, act in a specific role... Before the student the direct goal of mastering certain knowledge and skills is not set, it is as if a by-product of game activity: Secondly, the game must be distinguished by a clearly defined voluntary character. Related to this is the voluntary submission of all participants to certain rules: Thirdly, the game should be characterized by the uncertainty of the outcome and thus intrigue. Therefore, all participants of the business game must participate in it simultaneously and with maximum activity. Fourthly, the game should provide a higher educational, developmental and educational effectiveness compared to other types of activities. These signs act as a weekend during the construction and evaluation of each lesson, which claims the methodological status of "seminar - business game". This type of class provides, in our opinion, an opportunity to overcome the stereotype of the activity of both the teacher and the student during seminar classes, to change the established methods of communication, to make scientific material more visible and accessible [132, p. 110-114].

In the process of implementing interactive game technologies, subject means can be used as the main and auxiliary material (technical teaching aids, forms, tables, handouts, flip chart, markers, blackboard, colored chalk); methodical means of interactive technologies (methodical development and scenarios of games and game exercises) and game design. Depending on the purpose, tasks, and the stage of application of simulation or role-playing games, they are characterized as educational (reproductive, cognitive-developmental, creative, generalizing, controlling) and training (in the sense of working out and forming the necessary abilities and skills of activity), which include diagnostic, communicative, socio-psychological, reflective games [133].

The method of using interactive game technologies involves the implementation of the following main stages:

1) Preparation for conducting a lesson in a game form, which contains a definition of the purpose of the game and its time limit; establishing the compliance of its content with the academic discipline and the subject of the lesson; developing your own or adapting a ready-made game script; minute-by-minute structuring of the stages of game interaction (motivational, activity, reflective, monitoring and evaluation); provision of necessary equipment and materials; development of clear step-by-step instructions for students - participants in game interaction (goal, tasks, rules, game actions, conditions).

2) Direct implementation of the game, which involves the activity of students as a manifestation of their internal (psychological), external (physical) and social (professionally oriented) activity. Business activity is regulated by a conscious goal and has such features as: predicting the result; awareness of the possibility of its achievement; reasonable planning of one's actions; the choice of appropriate rational forms, methods, means and guidelines in interpersonal relations; harmonization of internal and external activities; evaluation of the process and results of one's work, which requires the ability to regulate, take into account, control, make optimal decisions, solve general organizational tasks (diagnose, forecast, stimulate activity, approach it comprehensively, systematically, holistically) and enables students to check the appropriateness of activity and its proportionality to the set goal.

3) Analytical and evaluation stage, which involves reflection, generalization of game results, formulation of conclusions, determination by students of positive aspects of game performance for their personal professional growth in the future, and establishment by teachers of shortcomings, omissions, ways of improving students' game interaction for further use of proven methods in in the future [134, p. 200].

Therefore, game technologies can be considered as a tool for broadcasting and assimilating experience prior to professional activity; analysis of models of reality (based on samples of professional actions by representatives of various role and personal positions); adaptation to future professional activity [135, p. 207].

The game environment encourages the student to show "supersituational activity" (according to V. Petrovsky), when he goes beyond what is objectively required of him by a certain role, and on the basis of an initiative-creative approach produces new ideas, methods of solving professional tasks, etc. The use of didactic games contributes to the transformation of a student from an object of learning into a subject of professionally directed work, which causes his purposeful activity and creative participation in the independent formation of professional competence. Therefore, the analysis of the essence of interactive game technologies makes it possible to determine the main features of their application in the educational process of higher education.

The research program has been fully completed within the scope of the assigned tasks. The scope of the work, its goals and tasks led to the need for the author to consciously limit the scope of the analyzed problems [136].

At the same time, it activates a number of new problems, among them those related to the solution of the didactic development of business games from certain directions and specialties of the training of specialists in the system of higher professional education, in particular: the creation of a system of business games from the educational disciplines of other specialties and their theoretical and methodological support; simulation of an intelligent game environment, which, under the conditions of appropriate methodological support, will be able to effectively teach users, adapting to their individual abilities and level of knowledge. The creation of game computer tools using interactive learning methods and the ideology of distance education will allow to create in the future a holistic highly effective system of optimal solution of problematic production tasks in simulated professionally oriented production and game situations.

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4. Prevention of illegal trade in human organs and tissues in Ukraine and European countries (comparative characteristics)

4.1 The concept of illegal trade in human organs and tissues

Every person has the right to life and health, as well as their state-guaranteed protection from criminal encroachments. The protection of this right acquires a special meaning in the framework of the introduction of the latest methods of treatment and, in particular, transplantation of human organs or tissues, blood donation. Their use is usually almost the only means of returning to life or significantly improving its quality. Therefore, modern achievements of medicine in the field of transplantology and blood donation are increasingly being used for criminal purposes, with the aim of illegal enrichment.

Illegal activity in the field of transplantation is a modern criminal phenomenon, one of the complex social problems of both the world community and Ukrainian society.

There is various information about the scale of illegal activity in the field of transplantation of human organs and tissues. However, the researchers point out that on average more than 50 criminal cases of illegal sale of human organs are instituted in the world per year, and thanks to the "network of criminal groups that specialize in obtaining and delivering donors and their organs", the criminal business in this area has acquired a transnational character [137, p. 87].

Traffickers of human organs or human tissues are active in Eastern European countries and, in particular, in Ukraine. Such a tendency will, in fact, intensify, taking into account the aggravation of the socio-economic and political situation in the state.

Therefore, there is an urgent need to prevent illegal trade in human organs and tissues in Ukraine.

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Human activity in any sphere is most often manifested through activity, which is a system of interconnected single needs, motives and sequences of actions, deeds and less voluminous activities. Each of these manifestations has its own subject, motive and purpose. However, as a whole, all its elements (components) are aimed at realizing a single need and ultimate goal. Such activity can be unlawful (illegal), in particular criminal [138, p. 140–141].

The study of criminal activity in the field of transplantation shows that it manifests itself not in a single-element act, which corresponds to a single consequence (a single crime), and not in the traditional understanding of crime, but as socially dangerous, destructive, relatively stable and mass actions that contradict the legislation in this areas that form "a certain type of human activity... that reflects the social essence of crime and criminality, as social elements of society's vital activities" [139, p. 242–243].

Illegal trade in human organs or tissues has gained significant momentum in the world, precisely because of this, this issue requires qualitative analysis in order to create and implement measures to combat the above-mentioned phenomenon. According to the research carried out by scientist O. V. Ilyashenko, it turned out that a significant number of respondents today consider the existence of an illegal market for donor organs and tissues in Ukraine to be real (88.2% - medical workers; 82.6% - ordinary citizens; 67.7 % - employees of operational units), as well as in other states (88.2% - medical workers; 82.6% - ordinary citizens; 80.6% - employees of operational units). However, the majority of law enforcement officers (77.8%) believe that the existence of an illegal market for human donor organs and tissues in Ukraine is unrealistic today, and only 22.2% of people indicated the possibility of such a situation in Ukraine [140, p. 148].

As for the issue of the real existence of an illegal market for donor organs and human tissues in other countries, a significant number of representatives of law enforcement agencies answered negatively - 55.6%, and 44.4% gave a positive answer [140, p. 149]. It should be noted that Ukrainian criminal legislation has a direct prohibition on illegal trade in human organs and tissues, in accordance with Art. 143 of the Criminal Code of Ukraine, illegal trade in human organs or tissues, committed by a prior conspiracy by a group of persons, or with the participation of transnational organizations engaged in such activities, is punishable by imprisonment for a term of five to seven years with deprivation of the right to hold certain positions and engage in certain activity for a period of up to three years [141, p. 370]. It should be noted that at the international level, the Declaration on the Transplantation of Human Organs, adopted by the 39th World Medical Assembly back in October 1987, "condemns the sale and purchase of human organs for transplantation." It is worth noting that in the above wording we are talking only about "organs" and not about "tissues" [142].

Therefore, illegal trade in human organs and tissues is the conclusion of agreements involving their purchase and sale, including foreign trade agreements. Organ trafficking (also known as the Red Market) is the illegal practice of organ trafficking, which involves the removal of an organ or human tissue from living or dead people for transplantation. According to the World Health Organization (WHO), organ trafficking is commercial transplantation that takes place outside of national medical systems and is illegal.

A systematic analysis of the Law of Ukraine "On Transplantation of Human Organs and Other Anatomical Materials" (in particular, part 1 of article 5, part 1 of article 10) makes it possible to determine that activities in the field of transplantation consist of "application of transplantation" and "activities related to "related to transplantation", as well as "state policy in the field of transplantation", "public control" of compliance with legislation in this area, "social protection of living donors", "international cooperation" and responsibility for violations of the norms established by this Law [143].

The specified Law in Art. 1 provides a list of types of "activities related to transplantation" as medical services with:

- removal of anatomical materials from living donors;

- removal of anatomical materials from a cadaver donor, which is carried out by health care institutions, forensic medical examination bureaus or other business entities that, according to the law, have the right to carry out such activities and/or services for the storage and transportation of human anatomical materials, intended for transplantation;

- removal of anatomical materials from a cadaver donor for the manufacture of bio-implants;

– storage and transportation of such materials;

– graft-coordination;

- ensuring the functioning of information systems and registers in the field of transplantation.

This fundamentally differs the current edition of the Law on Transplantation from the previous one, in Art. 9 of which the concept of "transplantation-related activity" was differentiated, which meant the application of transplantation, the actual transplantation (implantation) of organs or other anatomical materials, and "other activity related to it", which included taking, storing, transportation of organs or other anatomical materials and production of bio-implants from them [143].

Analysis of the content of the Law on Transplantation makes it possible to differentiate the rules of the relevant activity established in it by order and conditions:

1) transplants (application of transplantation);

2) donation (removal/provision of anatomical materials of a living or dead person);

3) circulation of human anatomical material and materials artificially made from them. Their violations form the main content of the investigated illegal activity.

Thus, illegal activity in the field of transplantation in the broadest sense represents conscious willful and purposeful actions that are prohibited or contrary to the rules of obtaining or circulation (trade or sale, transfer, donation, storage, exchange) or use (transplantation, manufacture of drugs) in force in the legislation , in particular bio-implants) of any human anatomical materials, including blood and (or) its components, gonads, reproductive cells and live embryos, fetal materials, own tissues or artificially produced, non-compliance with the rules of control in this area, social protection of the donor and other accompanying previous or subsequent illegal acts aimed at the realization of a single need and final goal, as well as determined by a common motive.

Along with this, the concept of criminal activity in the field of transplantation is narrower in content, because it is contextually tied to the content of current criminal law norms. In the current legislation, the concept of "criminal activity" is not disclosed, although it is a contextual feature of many types of crimes in the Criminal Code of Ukraine (Part 3 of Article 27, Part 4 of Article 28, Part 1 of Article 255, Article 304). In the theory of criminal law and criminology, there is no single approach to understanding "...what and according to what criteria should be classified as criminal activity", since "it can be a set of different crimes, each of which is provided for in a separate norm of the criminal law, and in the same time of the system of actions provided for in the Criminal Code, aimed at the same motive" [144, p. 98].

Criminal activity in the field of transplantation consists of a certain array of human acts prohibited in special legislation, defined as crimes in the Criminal Code of Ukraine. Thus, according to A. V. Musienko, crimes in the field of transplantation of human organs and tissues in the Criminal Code of Ukraine include those in which the purpose of extracting (using) human organs and (or) tissues: a) is provided as a mandatory feature of the composition (Articles 143 and 149); b) does not affect qualification (Articles 115, 120–122, 146, 151, 297) [145, p. 8].

Attention is drawn to the fact that in the text of Art. 143 of the Criminal Code of Ukraine uses the term "activity", and it definitely has the meaning "criminal", since it is recognized as a criminal offense. In general, this criminal law most likely contains in its parts a certain system of crimes that are elements of illegal activities in the field of transplantation.

It is not about a simple sum of systemically connected action manifestations. In contrast to a crime as a single act, criminal activity has a more complex mental content and specific consistent goal formation, including adaptation to social conditions and, if necessary, their changes to achieve the ultimate goal, to which all components (elements) of activity are subordinated. It consists of Criminal law characteristics and prevention of illegal activity in the field of transplantation of a number of such manifestations of human activity, such as "deed - behavior - activity" [137, p. 14].

In the scientific literature, it is emphasized that in criminal activity "its lower level is considered as a way of realizing the higher" [146, p. 3], therefore, the structure of criminal activity in the field of transplantation consists of single-element illegal actions (acts, deeds) that violate the rules of obtaining, circulating or transplanting donor material. A specific criminal goal "may lead to the commission of other types of crimes that can act as a means of achieving it" [147, p. 26], and in case of committing illegal activity, it is possible to transform the goal into a motive for the crime or vice versa.

According to the definition of M. I. Panov, "some actions that constitute criminal activity may go beyond the corresponding composition of the crime" [148, p. 12, 167, 176, 180]. They are additional acts of an auxiliary, facilitating nature that create conditions for the commission of crimes directly related to transplantation. At the same time, they do not form a method of committing a crime in its traditional sense, but constitute a previous or subsequent criminal action (activity). Such accompanying actions may be the consequences of crimes that go beyond the relevant composition of the crime (because criminologists are right that there are no crimes without consequences, but they may contain signs of other crimes.

For example, preliminary criminal actions regarding the illegal acquisition and transplantation of human organs or tissues in the Criminal Code of Ukraine are intentional killing for the purpose of further use of human organs or tissues (clause 6, part 2 of Article 115), failure to provide assistance to a patient (Article 139 or 140) , causing bodily harm (Articles 121, 122), leading to suicide (Article 120), illegal deprivation of liberty or abduction of a person (Article 146), human trafficking or other illegal agreement regarding a person (Article 149), illegal adoption and illegal crossing of the state border. Both pre- and post-criminal actions can be forgery or destruction of documents; improper performance of professional duties; abuse of office; illegal abortion.

Empirical studies confirm that the receipt of donor material is most often preceded by human trafficking, which is accompanied by the illegal transfer of the donor to the place where the illegal transplant is to take place, or murder associated with the falsification of medical documentation on the subject of biological death [149, p. 18–20].

Transplantation-related criminal activity is formed by the system of crimes provided for in the Criminal Code of Ukraine, which involve the receipt, circulation (trade or sale, transfer, donation, storage, exchange) and use (transplantation, production of bio-implants) of human organs or tissues and which are aimed at the sale of a single need and ultimate goal, although each of them may have its own object, motive and purpose, namely: a) deliberate violation of the procedure established by law for the application of transplantation of human anatomical materials, which caused significant damage to the health of the victim (Part 1 of Article 143); b) removal of anatomical materials from the victim by coercion or deception, use of helplessness or material or other dependence for the purpose of their transplantation (Parts 2–3 of Article 143); c) illegal trade in human anatomical materials (Part 4 of Article 143), as well as their consequences, which go beyond the limits of the specified compositions.

Therefore, criminal activity in the field of transplantation should be understood as a system of willful, conscious and purposeful violations of the legislation on transplantation with a single need, motive and ultimate goal regarding the receipt, circulation of human anatomical materials, non-compliance with the rules of control in this field and social protection of the donor, as well as related actions, which contribute to their commission (preliminary or subsequent criminal actions), forming a set of crimes provided for in the Criminal Code of Ukraine.

The illegal circulation of donor material should be understood as those that contradict the Law on Transplantation of the acquisition, sale, storage, movement of any human materials and the manufacture of medical preparations from them. In particular:

1) acquisition – paid or otherwise irrevocable acquisition of actual possession of human anatomical material (purchase, exchange for valuables, goods);

2) sale – any paid form of sale of human anatomical material (sale, payment of debt, exchange for value, goods or things);

3) storage - actual possession by a person of another person's donor material, which must be stored in specialized places (accredited state and communal health care institutions, scientific institutions);

4) transfer - transportation or forwarding within Ukraine from one place to another by an employee of a health care institution not authorized to do so in the absence of relevant documents or if the anatomical materials of a living donor are transferred to another country without equivalent exchange;

5) production of bio-implants – processing of anatomical material of the deceased into medical devices without a license, written consent of the pregnant woman, forensic medical expert or legal representatives of the deceased or if this led to the disfigurement of the body of the deceased [150, p. 477–478]. The above makes it possible to group crimes in the field of transplantation into those that, according to their content: 1) directly involve responsibility for illegal transplantation, that is, violation of the rules of obtaining, circulation and use of donor material (Articles 143 and 144); 2) have signs of other crimes, which are actions of an auxiliary nature, create conditions for committing illegal transplantation or accompanying it (Articles 115, 119, 121, 128, 137, 141, 142, 146, 149, 151).

Violation of the above laws is quite common in Ukraine. In particular, there is a concept of "black transplatnology". In 2017, the Shevchenkiv Court of the city of Kyiv chose a preventive measure for "black transplant specialists". In total, four persons, citizens of Ukraine and Turkey, were involved in the case. All of them were accused of recruiting donors by misleading. Potential donors were not informed of the negative consequences of kidney removal surgery. Black transplant specialists took advantage of their vulnerable state, sought out victims through social networks." One of the defendants personally recruited people on the territory of Ukraine and accompanied them to clinics in Turkey and the Philippines for operations [151].

As the scientist O. V. Ilyashenko notes, there are also opposite cases when people travel to other countries to perform an operation. Today, the so-called "transplant tourism" is spreading rapidly: rich patients go to transplant organs and tissues to those countries where the rights of donors are not properly protected, in particular to India, Iran, China, Moldova, Turkey, Romania, Egypt, Bolivia, Peru and the Philippines. Most often, emigrants, refugees, soldiers, as well as young and naive people go to donate. After all, it is poverty, unemployment, hunger, and debts that push people to sell their organs or tissues. Today, the largest importers of donor organs in the world are: USA, Israel, Canada, Saudi Arabia, Italy and Japan. Ukraine is also included in this list, but from the point of view of latent, black transplantology [152, p. 195].

It should be noted that Art. 143 of the Criminal Code of Ukraine provides that the objective side of the crime can be expressed in different forms:

1) violation of the procedure established by law for transplantation of human organs or tissues (Part 1 of Article 143);

2) removal of organs or tissues from a person by coercion or deception (Part 2 of Article 143);

3) illegal trade in human organs or tissues (Part 4 of Article 143);

4) participation in transnational organizations engaged in:

a) removal from a person by coercion or deception of his organs or tissues for the purpose of their transplantation or

b) illegal trade in human organs or tissues (Part 5 of Article 143).

Qualifying signs for illegal trade in human organs or tissues (Part 5 of Article 143 of the Criminal Code) are their commission by a group of persons or a person participating in transnational (that is, those operating on the territory of two or more countries) organizations. It is worth noting that a crime committed by a prior conspiracy by a group of persons is a crime committed by two or more persons who agreed in advance to commit it [154, p. 99].

In the case of illegal trafficking in human organs or tissues, a transnational organization will be considered to be systematically engaged in the removal of organs or tissues from people by coercion or deception for the purpose of transplanting them to recipients located in other countries, and/or international illegal trafficking in organs or tissues living or dead people.

In the case of illegal trafficking in human organs or tissues, a transnational organization will be considered to be systematically engaged in the removal of organs or tissues from people by coercion or deception for the purpose of transplanting them to recipients located in other countries, and/or international illegal trafficking in organs or tissues living or dead people. It is transnational black transplantology that poses a serious threat to the security of Ukraine and society. It is recognized as the highest manifestation of organized crime.

So, from all of the above, it can be concluded that the illegal trade in human organs and tissues, committed by a group of individuals or transnational organizations based on prior collusion, is quite dangerous for society and the state. At the international level, this issue is constantly being discussed, and the search for optimal means of protection against the trade in human organs and tissues and the conduct of illegal transplant operations is ongoing. As international practice shows, the majority of donors are women and children. This phenomenon once again reminds us of the need to identify and fight against black transplant organizations. In Ukraine, there are laws prohibiting trade in organs and tissues, but more often citizens of Ukraine suffer from the above-mentioned problem outside the borders of our country. Therefore, law enforcement agencies, mass media and public organizations, state bodies should carry out explanatory work about the consequences of transplantology in order to protect citizens from reckless actions.

4.2 History of the development of prevention of illegal trade in human organs and tissues

The implementation of the idea of transplantation into medical practice began with blood transfusion. Considerations about the use of blood for the treatment of patients can be found in the works of thinkers even before our era. Thus, in Homer's "Odyssey" (VIII-XII centuries BC), as well as Hippocrates (400 BC), there are already clear recommendations on the treatment of patients with mental disorders by blood transfusions of healthy people. The expediency of blood transfusion was first mentioned in the scientific works of the Italian doctor Hieronimo Cordenius (1505–1576). The first four cases of blood transfusions (from a lamb to a person), carried out by the professor of mathematics and philosophy Jean Denis, date back to 1666. In two cases, this led to the death of patients, as a result of which a criminal case was opened against Jean Denis, but the court found him innocent. Due to this extremely high-profile event, the use of blood transfusions for the treatment of patients was stopped. Scientists of the Faculty of Medicine of the University of Paris spoke out against this method of treatment, whose special permission became mandatory [137, p. 17].

Human organ transplantation was first performed in the 20th century. In particular, in 1933, the Ukrainian surgeon Yu. Yu. Voronyi performed a kidney transplant. Subsequent research by scientists made it possible to carry out such operations at a higher scientific level. The initial milestones in the development of transplantology are considered to be the year 1954, when the American Joseph Murray successfully transplanted a human kidney, and the year 1967, when the American surgeon Thomas Starles successfully performed the first liver transplant, and Christian Bernard from South Africa successfully transplanted a human heart in Cape Town.

Some kidney transplants have extended people's lives by 40 years, and heart and liver transplants by 25-30 years.

Today, in Ukraine, 2% of the annual need for such operations are transplanted. In terms of the number of kidney transplants, Ukraine occupies one of the last places in the world. According to official data, every year 2,500 people need a kidney transplant, 1,500 need a heart transplant, and the same number need a liver transplant. Many of them do not survive this year, while every year there are about 5 thousand more patients who need to be connected to an "artificial kidney" device or hemodialysis. There are about 25,000 such patients in total, and no more than two thousand patients can actually be treated. Among them there are those who, having exhausted their financial means, gradually stop coming to hemodialysis centers and quietly die at home [155]. All over the world, it is believed that transplantation is more cost-effective than dialysis. And Ukraine is no exception. According to experts, the cost of one kidney transplant in our country is about 10,000 dollars, while annual hemodialysis for one patient costs more than 200,000 hryvnias, excluding social benefits and the cost of immunosuppressants [156]. If such patients were given a kidney transplant, they could live fully for at least 30 years. For example, in the USA, 165,000 people are on the "artificial kidney" device, 10,000 patients are transplanted with an organ from a donor a year. At the same time, in Ukraine, 100–120 transplants are performed per year in five regional centers - in Kyiv, Odesa, Zaporizhzhia, Donetsk, and Lviv [155].

Blood is living tissue. Transfusion of blood or its components from a donor to a recipient (hemotransfusion) is, in fact, transplantation (tissue transplant). In many cases, it is donor blood that saves a patient's life.

Patients with oncological diseases need donor blood. Treatment of malignant tumors, in turn, causes the presumed killing of tumor cells. Together with the tumor cells, normal hematopoiesis stops for a while. It is during this period that the patient needs supportive therapy with components of donor blood, in particular platelets, for which there is no substitute and currently it is not even theoretically envisaged [157].

Donor blood is needed for patients with surgical pathology. These are people who need prosthetic joints; cardiac surgery patients; patients in need of organ transplantation; persons brought to the hospital by "ambulance" with various types of bleeding.

The objective need for legal regulation of transplantation became a historical prerequisite for the establishment of criminal law norms. The mostly negative results of transplantation, which harmed both the donor (due to the taking of his anatomical parts) and the recipient (due to their transplantation), resonated in society and inevitably caused discussions among scientists about their qualifications.

The harmful consequences of donation and transplantation for human life and health have been known since ancient times [158]. However, illegal activity in this area spread only in the 20th century due to the widespread use of transplantation for the treatment of many diseases, in cosmetology and pharmaceuticals. Transplants of organs affected by tuberculosis, as well as tissues with oncological pathology, were discovered in Soviet times [159, p. 7, 244].

From the time of "Salichna pravda" to the first codified norms of criminal law in 1743, "Laws by which the Malorossiysk people are tried", the negative consequences of transplantation in the form of the death of the patient were punished by the execution of doctors, and limb injuries - by differentiated fines. The latter also existed in the norms of the "Code of Punishments" of 1845 and the "Criminal Code" of 1903 and were abolished in the Criminal Code of the Ukrainian SSR in 1922. In particular, in the "Criminal Code" of 1903, the killing of a person at the beginning of physiological childbirth is recognized as a crime against life [160, p. 391].

The periodization of the stages of legal regulation of state administration in the field of transplantation was formulated in the scientific works of V. Shulga. The scientist singled out five periods. The first - until 1937; the next - covers activities related to transplantation, starting with the Resolution of the USSR Council of Ministers "On the Procedure for Medical Operations" adopted in September 1937 (1937–1985); the scientist associates the third period with the approval by the Ministry of Health of the USSR of the Provisional Instructions on Death, which allowed transplantation of various organs of the human body (1985–1992); the fourth period is focused on the adoption of the Law of Ukraine on November 19, 1992, "Basics of the Legislation of Ukraine on Health Care", which established the use of the method of transplantation from the donor to the recipient of human organs and tissues (1992–1999); the adoption of a special law "On Transplantation of Human Organs and Other Anatomical Materials" (1999) became the criterion for distinguishing the fifth period [161, p. 153].

The new stage of legal regulation of the transplantation of anatomical materials into humans is connected with the adoption of the Law of Ukraine "On the Application of Transplantation of Anatomical Materials into Humans" dated May 17, 2018 [162].

Regarding the legal regulation of blood donation, the first official regulatory act regulating blood donation relations was the Instruction on the Application of the Therapeutic Method of Blood Transfusion, adopted on August 14, 1928, which officially provides for the use of blood transfusion in the practice of providing medical care for certain specified diseases. Subsequently, the following were adopted: Decree of the Council of People's Commissars of the USSR of September 15, 1937 No. 1607 "On the procedure for conducting medical operations"; Instructions of the Ministry of Health (hereinafter - Ministry of Health) of the USSR dated May 3, 1956 "On medical examination, accounting and the procedure for receiving blood from donors of the blood service", "Regulations on the work of health care bodies and Red Cross associations and of the Red Crescent for recruiting donors", approved by the Ministry of Health of the USSR on May 26, 1958.

M. S. Tagantsev noted that carrying out transplantation puts every surgeon on the verge of a conflict situation with the norms of criminal law, because such treatment is carried out at the expense of harming the patient's health. The legality of the harm caused is achieved by compliance with the law, professional duties and norms of medical ethics, the therapeutic purpose of the intervention and the consent of the culpable donor (except for consent to murder) [160]. To a certain extent, a similar reason was tried to be reflected by the legislator in the Criminal Code of the Ukrainian SSR in 1922, which, for non-compliance with the safety rules established by law, which led to bodily injury, allowed the court to increase the term of imprisonment up to a year and for the same period to engage in certain activities, the performance of which led to to the specified consequences (Part 2 of Article 154).

In general, Chapter VI "Crimes against life, health and dignity of the person" of the Criminal Code of the Ukrainian SSR of 1922 provided for responsibility for: intentional killing for selfish motives and taking advantage of the helpless state of the victim (clauses "a" and "e" of Article 142), expulsion of the fetus with the consent of the mother by a person who does not have a medical education or in improper conditions (Article 146), intentional infliction of bodily injuries of varying degrees of severity (Articles 149, 150, 153), theft of a child for selfish purposes (Article 162), failure to provide and refusal to provide assistance to a patient (Article 165) [163, p. 142–179]. These regulations do not separately provide for liability for crimes in the field of transplantation. At the same time, crimes committed by medical workers against human life, including violations of the rules established in the legislation, are singled out in a special chapter of the Criminal Code, as an understanding of the need to establish special norms.

In the revision of the Criminal Code of the Ukrainian SSR in 1927, in Chapter VI "Crimes against life, health, will and dignity of a person", the composition of intentional murder using the helpless state of the victim (item "e" of Article 138), aiding suicide (Article 145), murder by the mother of her newborn child (Article 142) and illegal abortion in the form of procuring or without the mother's consent or as a result of which her death was caused (Part 2 of Article 143). Currently, the composition of the latter potentiated criminal liability for the illegal use of abortion material for transplantation. However, a step back was the return of non-provision of assistance or refusal of assistance by a medical worker (Article 55) to crimes against life and health [164].

In the Basic principles of the criminal legislation of the Union of the SSR and the Union republics, the following are provided as circumstances aggravating the crime: self-serving purpose, hunger, needs, coincidence of grave personal or family circumstances [165, p. 14–15], which are recognized as a "vulnerable state" in the current Criminal Code of Ukraine (Note 2 of Article 149).

Soviet criminologists paid sufficient attention to the criminal and legal problems of transplantation. They carefully investigated the socially dangerous violations of the rules of activity in the field of transplantation in force at that time, in particular the following instructions: on the use of organs of vision of deceased blind persons for cornea transplant surgery (1938), on the introduction of cornea transplant surgery into the practice of ophthalmologists (1954 .), on the collection of cadaveric blood, bone marrow and tissues (1972), on the definition of biological death and the conditions that allow the removal of a kidney for transplantation (1977), etc. [166].

In 1947, M. D. Shargorodskyi called the occurrence of death during any scientific experiment with or without the consent of the victim as "murder for good reasons" and "possible intent" without mitigating or aggravating circumstances [167, p. 206], and causing damage to the donor during the removal of transplants is an "extreme clinical necessity", which he proposed to enshrine in the General Part of the Criminal Code of Ukraine as a circumstance that excludes criminal liability [167, p. 102].

During the 1960s and 1970s, the attention of scientists was focused on the responsibility of a medical worker for the violation of professional duties in the field of transplantation and the importance of consent to transplantation (M. I. Avdeev, M. I. Averbakh, V. I. Alisievich, F. Yu. Berdychevskyi, A. P. Gromov, I. A. Kontsevich, O. M. Krasikov, I. F. Ogarkova, Yu. Radzytskyi, B. Cheyovych). The criteria for the legality of surgical intervention, regardless of the outcome of the operation, are recognized as the patient's consent to the operation or its absence in the case of emergency intervention, compliance with the requirements of science, a therapeutic goal that excludes any experimental, and preliminary testing of new means of treatment on animals.

In 1971, I. I. Gorelyk for the first time justified the need to criminalize acts in the field of transplantation and to establish in the Special Part of the Criminal Code a separate composition of violations of the rules of transplantation of human organs and tissues, the conditions for which are created by premature ascertainment of the death of the donor and driving the donor to suicide [168].

This idea was implemented in the light of the Criminal Code of Ukraine in 1960 by V. O. Glushkov, who emphasized that without this step, killing a donor for the purpose of obtaining a transplant, carrying out an unjustified transplant or blood transfusion to a recipient, in particular, by a person who does not have the right to do so or who took it upon himself it is a bribe, will be qualified according to the "analogy" to the criminal law: according to the elements of intentional murder, causing bodily harm, receiving illegal remuneration in the field of medical care, abuse of power or exceeding official duties, etc. [169, p. 47–60, 213–215]. According to the scientist, the inadmissibility of such a practice of bringing medical workers to criminal liability inevitably required the provision in the Criminal Code of Ukraine of the crime of "violation of the rules of transplantation of human organs and tissues": "Intentional violation by a medical worker of the established rules of transplantation of organs and tissues of the human body, which resulted in serious consequences , - is punishable by deprivation of liberty for a term of up to... years with deprivation of the right to engage in medical activity for a term of up to five years or without it" [170, p. 16].

At the same time, there was no question of establishing criminal liability in the field of transplantation until the abolition of Soviet legislation. The first criminal ban on the use of a person as a donor was carried out within the framework of the fight against the exploitation of prostitution and slavery. The Criminal Code of Ukraine of 1998 provides for the composition of human trafficking for the purpose of extracting their organs or tissues for transplantation or forced donation (Part 3 of Article 1241). Human protection in the field of transplantation was a background task here, and the norm itself had significant structural flaws [171, p. 4]. This situation did not change significantly with the adoption in 2001 of the second edition of Art. 149 of the Criminal Code [172, c. 37, p. 107; 174, p. 11; 175, p. 25], which led to new changes in 2006, as well as to repeated changes in the future until the last changes in September 2018. The legislator repeatedly changed the composition of human trafficking (Article 149 of the Criminal Code of Ukraine) in connection with its shortcomings, which hindered prosecution.

Only in 2001, the Criminal Code of Ukraine introduced the offenses of violating the procedure for transplantation (Article 143) and forced donation (Article 144). In December 2019, the wording of Art. 143 of the Criminal Code of Ukraine in connection with the transformation of the Law of Ukraine "On Transplantation of Organs and Other Anatomical Materials to Humans" of 1999 into the new Law "On the Application of Transplantation of Anatomical Materials to Humans" of 2018 [162].

In modern society, law cannot and should not lag behind scientific and technical progress. Unfortunately, this rule is not observed in regard to transplantation in Ukraine. For a long time, there was no proper legal regulation of the prohibition of trade in human organs and tissues, and only in the 90s of the last century did positive developments begin in this direction.

4.3 Normative and legal regulation of prevention of illegal trade in human organs and tissues in Ukraine and European countries

The legal basis for the regulation of any social relations in our country is primarily the Constitution of Ukraine, which stipulates that a person, his life and health, honor and dignity, inviolability and security are recognized as the highest social value in Ukraine (Article 3). One of the legal guarantees for the implementation of the above constitutional provisions is the Criminal Code of Ukraine, which, as part of the legal protection of the rights and freedoms of a person and a citizen, provides for criminal liability for violating the procedure established by law for transplanting human organs or tissues (Article 143) [143, p. 43] and forced donation (Article 144).

Even before the adoption of the Constitution (1992), the Law of Ukraine "Basics of the legislation of Ukraine on health care" dated November 19, 1992 No. 2801-XII (hereinafter - Basics of the legislation on health care) entered into force, where health care is defined as a system of measures aimed at ensuring the preservation and development of physiological and mental functions, optimal working capacity and social activity of a person for the maximum biologically possible individual life expectancy (Article 3). In the Basics, the issues that are fundamental for the transplantation of organs and other anatomical materials to a person are settled. Among them, in particular: referral of patients for treatment abroad (Article 36); provision of medical assistance in urgent and extreme situations (Article 37); the choice of a doctor and medical institution (Article 38); obligation to provide medical information (Article 39); medicinal secrecy (Article 40); general conditions of medical intervention (Article 42); consent to medical intervention (Article 43); application of methods of prevention, diagnosis, treatment and medicines (Article 44); medical and biological experiments on humans (Article 45); donation of blood and its components (Article 46); transplantation of organs and other anatomical materials (Article 47); provision of medical assistance to a patient in a life-critical condition (Article 52); procedure for providing medical and immunobiological transplants (Article 54); production of medicines and immunobiological preparations (Article 55), etc. [157].

In Ukraine, a number of normative legal acts were adopted that regulate various types of activities in the field of biomedicine, in particular special laws: "Basics of Ukrainian legislation on health care" (hereinafter - Basics of health care) [176], "On blood donation and its components" (hereinafter referred to as the Law on Donation), "On the Prohibition of Human Reproductive Cloning" [176], "On the Transplantation of Organs and Other Anatomical Materials to Humans" (its current version "On the Application of Transplantation of Anatomical Materials to Humans" [177]). They provided for norms that assumed the establishment and specification of criminal liability for activities that contradict this legislation, because the Criminal Code of Ukraine of 1960 did not yet contain separate special independent categories of crimes in the field of transplantation.

Yes, in Art. 80 "Responsibility for violation of health care legislation" of the Fundamentals of Health Care states that persons guilty of violating health care legislation bear civil, administrative or criminal liability in accordance with the law [157], so specification has become relevant namely criminal responsibility and the establishment of relevant criminal law norms.

Provisions of Art. 20 "Responsibility for violation of the rights of donors, the procedure for taking, processing, storage, sale and use of donor blood, its components and drugs" and Art. 21 "Liability of the donor" of the Law on Donation assumed criminal liability for violation of the rights of blood donors, the procedure for its collection, processing, storage, sale and use, as well as intentional concealment of information or provision of false information about the donor's state of health, if these actions could cause or harmed the health of blood recipients.

Article 4 of the Law of Ukraine "On the Prohibition of Human Reproductive Cloning" provides for bringing a person to criminal liability for creating a person who is genetically identical to another living or dead person by transferring the nucleus of a human somatic cell into a female germ cell left without a nucleus, as well as importing to Ukraine or export of cloned human embryos from Ukraine. In Art. 24 of the Law of Ukraine "On Transplantation of Organs and Other Anatomic Materials to Humans" dated July 16, 1999 No. 1007-XIV (expired in connection with the adoption of a new version of this Law) required, for committing a socially dangerous violation of the rules established therein, to attract persons, in including criminal liability.

By-laws that established the rules of activity in the field of medicine and business activity, the main of which were:

– About the establishment of diagnostic criteria for brain death and the procedure for ascertaining the moment of a person's death;

- On the approval of regulatory documents on transplantation, which approved the Instruction on the removal of human organs from a cadaver donor; Instructions for removing anatomical formations, tissues, their components and fragments from a cadaver donor; List of human organs allowed to be removed from a cadaver donor; List of anatomical formations, tissues, their components and fragments, and fetal materials allowed for removal from a cadaver donor and a dead human fetus; Conditions for ensuring the preservation of anatomical materials during their transportation;

- The procedure for taking, storing and using bone marrow;

– List of state and communal health care institutions and state scientific institutions that have the right to carry out activities related to transplantation of organs and other anatomical materials to humans [157];

- On the approval of the Instructions on determining the criteria for the perinatal period, live births and stillbirths, the procedure for registering live births and stillbirths;

– On approval of the Procedure for providing comprehensive medical care to a pregnant woman during an unwanted pregnancy, forms of primary accounting documentation and instructions for filling them out;

– About licensing of types of economic activity [179];

– About medical centers (departments) for transplantation of organs and other anatomical materials [180] and others [181].

Pursuant to the Transplantation Law of Ukraine, on September 25, 2000, the Ministry of Health of Ukraine issued Order No. 226 "On Approval of Regulatory Documents on Transplantation" [182]. This order approved: "Instructions on the removal of human organs from a cadaver donor"; "Instructions for the removal of anatomical formations, tissues, their components and fragments from a cadaver donor";

"List of human organs permitted to be removed from a cadaver donor"; "List of anatomical formations, tissues, their components and fragments and fetal materials allowed to be removed from a cadaver donor and a dead human fetus"; "Instructions for manufacturing bio-implants"; "Conditions for ensuring the preservation of anatomical materials during their transportation."

Despite a significant number of secondary regulatory legal acts, which to some extent contribute to the achievement of effective protection of human life and health, the legislation regulating the procedure and conditions of transplantation still does not correspond to modern realities. Therefore, first of all, there is a need to implement and create and develop at the national level the system of the national strategy for the development of transplant coordination.

International protection of human rights is a complex of mutually agreed actions of the state, as well as non-governmental international organizations, aimed at the full and harmonious functioning of a person, and the provision of international assistance to individuals, especially from those developing countries.

Despite the national differences in the existing systems for the protection of patients' rights in different countries, including Europe, most countries have a basic list of rights that are reflected in various agreements, in particular: Recommendations on medical care, which was adopted by the International Labor Organization in 1944 .; the Universal Declaration of Human Rights, which was adopted by the UN General Assembly in 1948; the Lisbon Declaration of Patients' Rights, which was adopted by the World Medical Association in 1981 and revised in 1995; the European Charter on Patients' Rights, which was adopted by the European Parliament in 1984; WHO declaration on the development of patients' rights in Europe, which was adopted in 1994; Agreement on human rights and biomedicine, adopted by the Council of Europe in 1996, etc.).

The problem of trafficking in human organs is constantly updated by international organizations at the global and regional levels, in particular the UN, the Council of Europe and the European Union.

Illegal extraction of human anatomical materials, as well as their transportation, trade and transplantation are crimes of international scale, directed against human life. This problem affects every country in the world, because according to the UN Office on Drugs and Crime, the International Organization for Migration, UNICEF and other international organizations, the country has been affected by human trafficking, being a source, transit or destination country. Healthy young people aged 18 to 30, as well as children, are increasingly becoming victims. The goal of international cooperation is to prevent the development of illegal trade in human anatomical materials and the sale of people for the purpose of extracting their organs.

The World Health Organization (WHO) as an international intergovernmental organization and specialized UN institution plays an important role in the development of international norms and standards of human rights in the field of health care. The World Health Assembly (WHA) is its highest governing body, according to the WHO Charter, adopted at the International Health Conference on July 22, 1946 in New York and ratified on April 7, 1948. In its WHA Resolution 40.13 “Development of Guidelines for Human Organ Transplantation”, adopted in May 1987 at the 40th session of the WHA, the organization notes: “…recognizing the scientific progress made in human organ transplantation in many Member States; concerned about trade in organs of living people; affirming that such trade is incompatible with fundamental human values and contrary to the Universal Declaration of Human Rights and the spirit of the WHO Constitution; highly appreciating the measures taken by some member states to regulate the transplantation of human organs and their decision to develop a single legal instrument to regulate these operations" [183, p. 332], on the basis of which it was proposed to develop guiding principles for transplantation of human organs. Adoption of this document initiated work in the direction of prohibition of commercialization in the field of the use of human organs (their sale for transplantation).

Norms and recommendations of the World Medical Association (World Medical Association, WMA) also play an important role. In particular, the Declaration on the trade in living organs, adopted at the 37th World Medical Assembly in Brussels

(Belgium) in October 1985, states: "In view of the fact that the financially profitable trade in live kidneys from underdeveloped countries has recently expanded significantly for transplantation in Europe and the United States of America, the World Medical Association condemns the buying and selling of human organs for transplantation. The World Medical Association calls on the governments of all countries to take effective measures to prevent the commercial use of human organs." The issue of the prohibition of receiving financial benefit from the use of human organs is also enshrined in the Declaration on Transplantation of Human Organs, adopted at the 39th World Medical Assembly in Madrid (Spain) in October 1987: "The purchase and sale of human organs for transplantation is condemned." This provision was subsequently reflected in the 1991 Transplantation Guidelines.

WHA Resolution 42.5 "On the Prohibition of the Buying and Selling of Human Organs" of 10 May 1989 first expressed concern about the trade in organs and the need to create global standards in the field of transplantation to prevent the buying and selling of human organs. At the 44th session of the WHO in 1991, Resolution WHA 44.25 was adopted, which adopted the WHO Guidelines for transplantation of human organs, which were constantly updated in connection with progress in biomedicine. In WHA Resolution 57.18, Transplantation of Human Organs and Tissues, adopted on 22 May 2004 at the 57th session of the WHA, "recognizing that transplantation involves not only medical, but also legal and ethical aspects", and expressing concern over the lack of human material for transplantation", emphasizes the importance of "taking measures to protect the poorest and most vulnerable groups from "transplant tourism", as well as the sale of tissues and organs, taking into account the spread of the problem of international trade in cells and organs", as well as considering the risks of clandestine trade.

WHA Resolution 63.22 "Transplantation of human organs and tissues" of May 21, 2010, adopted at the 63rd session of the WHO, which approved the updated WHO Guidelines for transplantation of human cells, tissues and organs, which influenced the legislation of countries around the world, is also of great importance., the general purpose of which is to call on countries to prevent the sale and purchase of donor organs for transplantation. They contain provisions that are based on the fact that donation is free of charge and that financial benefits are prohibited [183, p. 334].

Paragraph 2 of the preamble to the Guidelines states: “The lack of organs available for transplantation has not only encouraged the development in many countries of developing procedures and systems to increase the supply, but has also facilitated the commercial traffic (illegal trade) in human organs, especially from living donors who are not have family ties with the recipients. In recent decades, compelling evidence of such trafficking and related human trafficking has emerged. In addition, the ease of international communication and travel has resulted in many patients traveling abroad to medical centers that advertise their ability to perform transplants and donate organs for a single co-payment.”

The 5th guiding principle declares: "The living donor provides cells, tissues and organs only on a free basis, without any monetary payment or other remuneration in the monetary equivalent. It is necessary to prohibit the purchase or offer to purchase cells, tissues or organs for transplantation, or their sale by a living donor or the next of kin of the deceased. The ban on the sale or purchase of cells, tissues or organs does not exclude compensation for reasonable and controllable costs incurred by the donor, including: loss of income, payment of costs related to the care, processing, preservation and transfer of cells, tissues or human organs for transplantation".

Guiding principle 6 defines: "Promoting the development of free donation of human cells, tissues or organs using advertising or addressing the public can be carried out in accordance with domestic norms and rules. Advertising the need for or availability of cells, tissues, or organs for the purpose of offering payment or soliciting funds to pay individuals for their cells, tissues, or organs or the next of kin of a deceased donor should be prohibited. Intermediation of payments to such persons or a third party should also be prohibited." In the commentary to this principle, attention is focused on the fact that it "... does not apply to advertisements or appeals to the public of a general nature, aimed at encouraging the selfless donation of human cells, tissues and organs, if they do not contradict the distribution systems established by law bodies This principle is aimed at prohibiting offers of deals for profit, including offers to pay donors, the next of kin of a deceased person, as well as other parties in possession of donor material (for example, funeral home employees), for cells, tissues or organs. It is aimed at commercial ag Guiding Principle 7 warns: “Physicians and other health care professionals should not participate in organ transplant procedures, and health insurers and other potential payers should not reimburse the costs of these procedures if the cells , tissues and organs for transplantation were obtained as a result of unfair use, or coercion, or payment of services to a living donor or a close relative of a deceased donor."

Guiding Principle 8 prohibits unreasonable financial remuneration for medical services in the field of transplantation: "All medical institutions and professionals involved in the procurement and transplantation of cells, tissues or organs should be prohibited from receiving any payment that exceeds a reasonable amount remuneration for services rendered".

The 9th guiding principle defines: "During the distribution of organs, cells and tissues, clinical criteria and ethical norms should be guided, not financial or any other considerations" [183, p. 336].

At the same time, the prohibition of obtaining financial benefit for donation does not contradict the making of payments that do not contain financial benefit, in particular: compensation for loss of wages and other legal expenses of living donors related to the removal of organs or tissues, with medical examination, as well as with the provision of other medical or technical services in connection with transplantation. Consideration should be given to the need for compensation in case of unforeseen damage due to the removal of organs or tissues.

Commercialization in the field of donation contributes to the development of illegal voluntary trade in human organs for transplantation and in people for the purpose of forced removal of their organs. Such activities are usually carried out by organized criminal groups and other intermediaries, as well as directly at buyers.

The main international document to combat such criminal activity is the UN Convention against Transnational Organized Crime, adopted by Resolution 55/25 of the General Assembly on November 15, 2000 in New York (USA), open for signature by member states at a conference convened for this purpose in Palermo (Italy) on December 12-15, 2000 and entered into force on September 29, 2003.

The adoption of the Convention reflected the awareness of the UN member states of the seriousness and global scale of this problem, as well as the need to strengthen international cooperation in order to solve it. States that ratify this document undertake to take measures against transnational organized crime.

The Protocol on the Prevention and Suppression of Trafficking in Persons, First of all Women and Children, and its Punishment, supplementing the UN Convention against Transnational Organized Crime, adopted by Resolution 55/25 of the General Assembly on November 15, 2000, in Art. 3 defines the meaning of the concept of "trafficking in human beings", which it interprets as follows: "carried out for the purpose of exploitation, recruitment, transportation, transfer, concealment or acquisition of people through the threat of force or its use or other forms of coercion, kidnapping, fraud, deception, abuse of power or helpless status, or by bribery, in the form of payments or benefits, to obtain the consent of a person who controls another person. Exploitation includes… removal of organs." Therefore, this Protocol is an important step of the international community in the direction of preventing international crimes in the field of illegal trade and transplantation of organs.

This is the first legally binding international document of a universal level with an agreed definition of the concept of human trafficking, the purpose of which is to promote the convergence of national approaches to establish the content of this crime, to promote international cooperation in the investigation and prosecution of cases of human trafficking, as well as to protect and assist victims of human trafficking. Before becoming parties to the protocol, countries must be parties to the Convention itself.

In Resolution A/RES 59/156 "Preventing, combating and punishing trafficking in human organs", adopted on December 20, 2004, the UN General Assembly, discussing at the 59th session the problems of trafficking in persons in the context of transnational organized crime, "being concerned about the potential increase the level of use by criminal groups of human needs, poverty and vagrancy for the illegal trafficking of human organs with the use of violence, coercion and abduction of people, primarily children, for the purpose of their use in organ transplantation operations", noted that "illegal trafficking of human organs, regardless of , where it takes place, is a significant violation of human rights, in particular the right to physical integrity of the victims of such trafficking." Emphasis is placed on the need to strengthen international cooperation to effectively prevent and counter such activities. Regarding the spread of commercialization of the human body, a call was made to the member states "to take the necessary measures to prevent the illegal removal and trade of human organs, as well as to oppose such activity and punish it" [183, p. 339].

Pursuant to the direction contained in this Resolution, the UN Secretary-General prepared a report on the extent of this phenomenon to the Commission on Crime Prevention and Criminal Justice at its 15th session, which took place on 24-28 April 2006 in Vienna, Austria. In particular, the report highlighted the issue of the participation of organized criminal groups (which included brokers, surgeons, hospital directors and other intermediaries) in the illegal trade in human organs and tissues; stated the need to clearly distinguish individual cases of voluntary sale of organs for illegal transplants from their organized illegal trade carried out by criminal groups (paragraph 73), which refers to "participation in organized crime and related kidnappings and murders of people" (paragraph 85), which is becoming more and more common. The problem of trafficking in children for the purpose of extracting their organs is singled out (paragraph 82).

In addition, the rapid development of genetics and the discovery of the human genome have become an additional niche for abuse in this area. The Universal Declaration on the Human Genome and Human Rights (adopted by UNESCO on November 11, 1997) declares: "The human genome in its natural state should not be a source of profit" (Article 4).

Important instruments for establishing the prohibition of commercialization of human anatomical materials are the norms of the Council of Europe on human rights in the context of bioethics, among which the leading place is the Convention on Human Rights and Biomedicine of April 4, 1997, known as the Oviedo Convention, as well as the Additional Protocol to Convention on human rights and biomedicine regarding the transplantation of human organs and tissues (January 24, 2002) (Additional Protocol to the Oviedo Convention on Transplantation).

Article 21 of the Oviedo Convention establishes the prohibition of financial gain: "The human body and its parts shall not be a source of financial gain." The donation system in general is based on this principle.

This provision duplicates Art. 21 of the Additional Protocol to the Oviedo Convention on Transplantation: "The human body and its parts shall not be used for financial gain or advantage" (Part 1). The prohibition also applies to "announcements about the need or availability of organs or tissues for the purpose of offering or receiving financial benefits and comparable advantages" (Part 2, Article 21). In addition, Art. 22 directly prohibits trade in organs and tissues: "Trading in organs and tissues is prohibited."

At the same time, Art. 25 of the Oviedo Convention imposes on member states the obligation to provide for appropriate sanctions in national legislation for violations of established norms.

Recommendation Rec (2006) 4 of the Committee of Ministers of the member states of the Council of Europe on research on biological materials of human origin, opened for signature on 15 March 2006, also defines the prohibition of financial gain: "Biological materials must not lead to financial gain" (Article 7).

Based on the principles of the Universal Declaration of Human Rights (December 10, 1948), the participants of the Istanbul Summit held in Istanbul (Turkey) from April 30 to May 2, 2008 by the Transplantation Society (TTS) and the International Society of Nephrology (ISN) adopted the Istanbul Declaration on Organ Trafficking and transplant tourism (Istanbul Declaration). She identified the need to create a unified international legal and professional framework based on ethical principles and standards, as well as to counter the illegal trade in human organs and tissues "in the conditions of the urgency of the problems caused by the growing level of transplant tourism and the illegal circulation of donor organs against the background of their global shortage." The declaration established the meaning of the concept of "trafficking in human organs and tissues", which includes "recruitment, transportation, transfer, concealment or acquisition of living or dead persons or their organs by means of threats or use of force, other forms of coercion, kidnapping, fraud, deception, abuse of power, helplessness, or the giving or receiving by a third party of payment or benefits, to achieve a transfer of control over a potential donor for the purpose of exploitation by removing organs for transplantation." This definition is based on the content of Art. 3a of the Protocol on Prevention and Suppression of Trafficking in Human Beings, primarily in Women and Children, and its Punishment, which supplements the UN Convention against Transnational Organized Crime [183, p. 338].

According to the provisions of the Istanbul Declaration, "full compensation for the act of donation that has taken place should not be considered as payment for the organ, but as compensation for the treatment of the recipient:

a) such reimbursement of the cost of expenses may be carried out by the party responsible for the costs of the recipient's treatment (government health care authority, insurance companies);

b) the calculation of the cost of expenses must be carried out on the basis of a transparent methodology that corresponds to national standards;

c) compensation in the amount of the approved amount must be made directly by the inpatient facility (hospital) that provides the donor's treatment;

d) compensation for damages and lost income of the donor is carried out by the institution that provides the transplant, and not directly from the recipient to the donor" (paragraph 6).

"Payments related to a documented act of donation also include:

a) the cost of psychosocial and medical examinations of a potential living donor who did not become such a donor due to medical and immunological problems detected during the examination;

b) the cost of organizational costs arising from the preparation and implementation of the donation process (before, after and during the operation) and at all stages (long-distance telephone calls, transport costs, accommodation and food provision);

c) medical expenses related to the treatment of the donor after discharge;

d) lost income in connection with donation (in accordance with national norms)" (clause 7).

The Council of Europe Convention on Measures to Combat Trafficking in Human Beings, opened for signature on May 16, 2005, entered into force on February 1, 2008, and covers, in particular, trafficking in human beings for the purpose of harvesting their organs. Clause "a" of Art. 4 defines the main concepts of the Convention. Its norms also provide for the liability of a legal entity for crimes "committed for the benefit of this legal entity by any natural person" (Article 22).

In addition, in 2009, the results of a joint study within the framework of cooperation between the Council of Europe and the UN were presented at the UN headquarters in New York (USA), which emphasized the global scale of the problem of trafficking and illegal transplantation of human organs. At the same time, it is noted that international law does not contain these definitions, which would make it possible to qualify them as international crimes, especially given the fact that in some countries these actions are not even recognized as illegal. Only a complete prohibition of financial gain from the use of the human body and its parts is the only way to overcome this problem. The result of the joint work was to be the draft of the international Convention on the prohibition of trade in human organs and tissues.

At the UN level, the adoption of such a Convention remains relevant. At the same time, the Council of Europe adopted a regional Convention against trafficking in human organs (opened for signature on March 25, 2015), which defines certain types of activities that constitute "trafficking in human organs." The main concept is "illegal removal of human organs", which also covers such removal from a living or deceased donor, for which the donor (or a third person) was offered or given a financial benefit or advantage (clause "b" of part. 1 of Article 4) .

The prohibition of financial gain is directly related to another fundamental principle, which concerns the obtaining of voluntary informed consent for biomedical interventions, which is an additional guarantee of the protection of minors and incapacitated persons against illegal organ harvesting.

The Charter of Fundamental Rights of the European Union dated December 7, 2000, in the context of the right to the integrity of a person in the field of biology and medicine, defines the important principle of "the prohibition of the use of the human body and its parts as a source of financial gain" (Part 2, Article 3) [158].

Clause "d" of Art. 4 Directive 2001/20/EC of the European Parliament and of the Council of April 4, 2001 on the approximation of the laws, regulations and administrative provisions of the Member States regarding the implementation of good clinical practice during clinical trials of medicinal products for human use (known as the "Clinical trials Directive"), regarding the issue of conducting clinical trials on minors states: "In addition to any other appropriate restriction, a clinical trial on minors may be conducted only if: (d) there are no incentives or financial incentives other than compensation." The same restrictions are set in relation to clinical trials on adult incapacitated persons who cannot give informed consent to them, as well as who did not give or refused informed consent before the onset of their incapacity, are allowed only if: "there are no incentives or financial incentives, except compensation" (clause "d" of Article 5).

Directive 2002/98/EC of the European Parliament and of the Council of 27 January 2003 establishing quality and safety standards for the collection, testing, processing, storage and distribution of human blood and its components, replacing Directive 2001/83/EC (known as "Blood Safety Directive"), in Part 1 of Art. 20 enshrines the principle of voluntary and gratuitous blood donation: "Member States shall take the necessary measures to encourage voluntary and gratuitous blood donation in order to ensure that blood and blood components are, as far as possible, provided from such donations."

Directive 2004/23/EC of the European Parliament and of the Council of March 31, 2004 on the establishment of quality and safety standards for the donation, procurement, testing, processing, storage, preservation and distribution of human tissues and cells (known as the "Human Tissue Directive") in Art. . 12 establishes the main principles governing the donation of tissues and cells: "States should strive to ensure voluntary and free donation of tissues and cells. Donors may receive compensation that is strictly limited to the cost and inconvenience of donating. In such a case, the member states shall determine the conditions under which compensation may be granted" (clause 1). “Member States shall take all necessary measures to ensure that any promotion and promotional activities in support of human tissue and cell donation comply with the guidelines or legal provisions established by Member States. Such guidelines or legal provisions should contain appropriate restrictions or prohibitions on advertising the need or availability of human tissues and cells for the purpose of offering or receiving financial gain or advantage. Member States should try to ensure that the procurement of tissues and cells is carried out on a non-commercial basis" (clause 2).

In clause 15 of the declarative part of Regulation (EC) No. 1394/2007 of the European Parliament and of the Council of November 13, 2007 on high-tech medicinal products and amending Directive 2001/83/EC and Regulation (EC) No. 726/2004 (known as " Advanced Therapy Regulation") states: "regarding the donation of human cells or tissues, such principles as the anonymity of both the donor and the recipient, altruism of the donor and solidarity between the donor and the recipient should be respected. Human cells or tissues contained in high-tech medicinal products must be obtained as a result of voluntary and unpaid donation. Member States are recommended to take all necessary measures to encourage the active participation of the public and the non-profit sector in the procurement of human cells or tissues, as voluntary and unpaid donations of cells and tissues can contribute to high standards of safety for cells and tissues and thus to the protection of human health".

The importance of the moral admissibility of certain scientific achievements prevailing over their commercial component should be a determining criterion for their further legal introduction.

Legalizing the organ market will only increase financial incentives for the unscrupulous use of disadvantaged people as sources of donor organs. This is unacceptable from a moral and ethical point of view, or from a legal point of view, as it contradicts the main purpose of donation - its charity and the desire to save another person's life. Under other conditions, donation will turn into a civil contract of sale, even human trafficking, thanks to which financially well-off citizens will be able to use the right to health care, in return, the least socially protected strata will pay for it with their health, and in most cases, with their lives. This will lead to the humiliation of a person's dignity, the violation of his basic rights, when a person from the subject of legal relations turns into their object, which will be used for the needs of other people.

The need for the state to ensure the availability of transplantation is a guarantee of limiting abuses in the field of illegal provision of paid medical services, which should be based on the principle of free donation (with the exception of receiving compensation for the donor). At the same time, such compensation should not be the main incentive for the extraction of human anatomical materials. In addition, it should be based on the principle of non-discrimination: "the cost of transplantation and follow-up care... should be affordable for all interested patients, that is, no recipient should be excluded for financial reasons" (commentary to Guideline 9) [183, p. 342].

Prohibition of financial benefit for donation (its gratuity) to both the donor and his close relatives, as well as suppliers or intermediaries is an important preventive measure to prevent abuse in this area and a guarantee of preserving human health and life.

The implementation of international legal standards in national legislation is important, both by adopting new national norms and by incorporating international legal norms into national legislation. Thanks to this, the ban on payment for the provision of human anatomical materials can be extended to all individuals, in particular those recipients who try to circumvent national legislation by going to countries where there is no ban on the use of donation for commercial purposes.

The creation of publicly available international donor registers with their regular updating is the key to ensuring transparency of access to human anatomical materials needed by recipients. It should be noted the unity of the European legal system in the direction of banning the commercialization of the human body and its parts, which is based on the interconnection of the legal framework (correspondence of norms) of the Council of Europe and the European Union. At the same time, establishing an international ban on trade in human organs and tissues at the universal level of international law is an urgent issue. This will provide an opportunity to unify legal regulation in this area in order to meet the needs of donor anatomical materials as quickly as possible to save the lives of millions of people around the world (both donors and recipients). In order to achieve a global consensus in the international work in the field of donation and transplantation, as well as in order to approve the idea of "donating life from one person to another, as well as preventing the appearance of victims of illegal organ trafficking and transplant tourism", it is necessary to adhere to ethical norms, which are the basis for ensuring proper protection rights and dignity of a person in important matters of preserving his life.

Therefore, an obstacle to the illegal trade in human organs and tissues should be the presence of laws that would protect against illegal encroachments and strict control over their compliance.

Conclusions. Illegal trade in human organs and tissues is the conclusion of agreements involving their purchase and sale, including foreign trade agreements. Organ trafficking (also known as the Red Market) is the illegal practice of organ trafficking, which involves the removal of a human organ or tissue from a living or deceased person for transplantation. According to the WHO, organ trafficking is commercial transplantation that takes place outside national medical systems and is illegal.

The periodization of the stages of legal regulation of state administration in the field of transplantation can be divided into five periods. The first - until 1937; the next one - covers activities related to transplantation, starting with the resolution of the RNA of the USSR "On the procedure for conducting medical operations" adopted on September 15, 1937 (1937–1985); the third period is associated with the approval by the Ministry of Health of the USSR of the Provisional Instruction on Death, which allowed the transplantation of various organs of the human body (1985–1992); the fourth period is focused on the adoption of the Law of Ukraine on November 19, 1992, "Basics of the Legislation of Ukraine on Health Care", which established the use of the method of transplantation from the donor to the recipient of human organs and tissues (1992–1999); the criterion for distinguishing the fifth period was the adoption of a special law "On transplantation of human organs and other anatomical materials" (1999). The new stage of legal regulation of the transplantation of anatomical materials into humans is connected with the adoption of the Law of Ukraine "On the Application of Transplantation of Anatomical Materials into Humans" dated May 17, 2018.

Ukrainian legislation has a direct ban on illegal trade in human organs and tissues, in accordance with Art. 143 of the Criminal Code of Ukraine, illegal trade in human organs or tissues, committed by a prior conspiracy by a group of persons, or with the participation of transnational organizations engaged in such activities, is punishable by imprisonment for a term of five to seven years with deprivation of the right to hold certain positions and engage in certain activity for a period of up to three years. It should be noted that at the international level, the Declaration on the Transplantation of Human Organs, adopted by the 39th World Medical Assembly back in October 1987, "condemns the sale and purchase of human organs for transplantation." It is worth noting that in the above wording we are talking only about "organs" and not about "tissues".

The problem of the ineffectiveness of combating the illegal trade in human organs and tissues in modern Ukraine lies primarily in the lack of actual implementation and a clear program of the prevention system. Such a system should be built evenly and consist primarily of general social and general criminological prevention. In general, the purpose of such measures is not to have a direct impact on crime, but to solve certain problems of social life (for example, ensuring an adequate standard of living of citizens and social protection of the population, creating conditions for full employment of the population, overcoming the phenomenon of alcoholism and drug addiction). During their resolution, conditions are created that eliminate or minimize the very possibility of committing certain illegal acts.

7. Based on the research, it was concluded that in order to settle this issue, it is necessary to improve the legislative framework, provide for sufficient state funding, and also implement the best practices of European countries regarding the regulation of human tissue or organ transplantation. We also consider it necessary to carry out educational work among population groups that are potentially able to put their own organs up for sale regarding the harm to health of such operations and the high probability of becoming a victim of fraudulent actions.

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5. Changes in renaissance rationality: from the revival of antiquity to the foundation of modernity

5.1 Introduction

Despite the considerable historiography, the academic thought of the Renaissance for a long time did not find such distinction and recognition as the art of this era as its most complete exponent. Until now, some kind of special *rationality*, say, humanistic or natural-philosophical, has been reluctantly noted here, often limiting itself to its assessment as transitional to classical New European or as synthetic in relation to ancient and medieval ones. Indeed, on the one hand, a number of Renaissance cultural categories (*nuovo*, *popolano*, *virtù*, *ideale*) appear to be harbingers of the bourgeois worldview of the New Age, which generally removes from the mind the traditional moral and soteriological criteria of truth, and on the other hand, in the then academic environment, all scientific justifications continue to be regulated by the «4 reasons of the doctor's teacher» (Aristotle).

This duality is reflected in the methodological approaches to the study of the subject of Renaissance rationality: instead of the social history that prevailed in recent decades, intellectual [184]. Within the framework of the intellectual history, different aspects of the more general ideological orientation of the Renaissance towards the *improvement* of nature by worldly means of philosophy, art and science (ratio mersa et confasa), emancipated thanks to the concept of «double truth» that was established the day before, are continued.

In particular, the magical-astrological *aspect* of spatial (compositio) and temporal (dinamis) self-*movement* which eliminates the ontological dualism of «truly existing» and «existing» in favor of an aesthetic gradient between them, in the perspective of scientific rationality is a prerequisite for the mathematization of scientific knowledge, in the physical plane can explain the process of relativization of peripatetic «natural places», and also has access to the socio-historical problem of the humanistic breakdown of the social status quo.

The humanistic *aspect* of improvement based on the material of the individual «body», connected with this breakdown, contains both a direct impact on the actual position of the individual in the dominant hierarchical world order and new possibilities for overcoming it through revived cyclical patterns of political history and an inverse relationship with the magnitude of the public good. Together with the dynamization of history and nature, which was outlined by the Renaissance artists, there is a basis for translating the speculative transcendental world into its sensually comprehensible infinity, and the discourse of his manifestation – into the phase of engineering and artistic interaction of everything that exists and linear models of mathematical analysis.

The natural-philosophical *aspect* of improvement has already been consciously positioned as a power-esoteric one, aimed at creating artifiziosa natura as a symbolic abstract of the Human. Although contemporaries perceived it as a simple resuscitation of a doctrine deficient in Christianity in the spirit of περι φύσεως, the «own principles of nature» had a solid pedigree in the Hellenic-Roman religious and mythological syncretism, which, obviously, is closer to the former Christian consciousness of the Renaissance in its semantization of nature and the demiurge of human.

Thus, it is promising to investigate such processes that originate in the Middle Ages and finally take shape in classical New European science in the role of secularization, innovation, and epistemology of the mind and its experiential-mathematical methodology, as well as to compare them with examples of self-awareness of *intellectuals* of that time.

5.2 Academic status of Renaissance thought

Intellectuals of the XIV–XVII centuries in one way or another, they share the «Renaissance project», which paradoxically requires *re*novating sentiments (renovatio) to be convinced of the continuity of the *re*stored ancient tradition, which is often illustrated by the examples of M. Copernicus, who, despite all the revolutionaryness of his own mathematical theory of heliostatism, understood it as a way of clarifying the discoveries of Ptolemy and A. Vesali, who, despite the initiation of experimental anatomy and diagnostics, considered himself only a restorer of the original teachings of Galen [185]. According to F.A. Yates, this belief of intellectuals in a continuous chain of sages from Moses or Hermes Trismegistus, and with it the world of the Renaissance itself, was shaken only in 1614, when I. Casaubon «re-dated» the Corpus hermeticum [186, p. 351].

It should be noted that despite the conscious opposition of humanist philosophers of the XV century the previous millennium, which they felt as «the middle ages between classical Antiquity and its revival», many features of these «dark», «barbaric» and «lost to mankind» ages are noticeable in their philosophy. And in a figurative expression, «‹…› from the pupa of the Middle Ages, which allegedly did not show signs of life, a brilliant butterfly of the Renaissance suddenly hatched, but if the pupa had not undergone complex processes of histolysis, no butterfly would have emerged» [187, p. 221]. Yes, the very name «humanists» sends connoisseurs of the history of philosophy, if not to Cicero, then at least to patristics, where Tertullian or Lactantius tried to defend the peculiarity of Christianity as a religion, which values the human and, in particular, the personal principle in relations with God, with the help of the concept of humanism. The terms «revival» and «rennovation» in relation to the person, religious and political institutions gain prominence in the mysticism of the Middle Ages and the Proto-Renaissance (Bonaventura, Francis of Assisi, Joachim of Florence, Dante), in order to slowly become secularized in Francesco Petrarch, Giovanni Boccaccio and their followers [188]. Many meaningful related features can be found in scholasticism:

- the continuation of the development of «natural theology», which contrasts written testimony with real creatures that contain a share of their Creator and are not obscured by doctrinal interpretations;

- continuation of the development of the ontology of the «world rock» in a more original and naturalized version of the Neoplatonists;

- the continuation of the development of the anthropology of the «image and likeness of God», the meaning of which is transferred from an honorable right to an essential requirement;

- the continuation of didacticism, which qualifies any knowledge as teaching already open knowledge, the source of which is recognized authorities, now pushed back into antiquity (for example, instead of Thomas Aquinas, who explained the meaning of Aristotelian texts, they are now reviving Alexander of Aphrodisias);

- the continuation of the development of the epistemology of the universal objectivity of language and philological methodology in connection with the found folios or the rereading of already known original languages and in identical versions, so as to retell not only the glosses, but also the personal integrity of canonical antiquity…

However, the specific weight of disagreements seems to be greater. First of all, it is about rejecting the excessive speculativeness (syntax) of scholastic philosophy in the effort of humanists to make wisdom more aesthetic and practical («poetic»), oriented to earthly life, sometimes even to earthly paradise. For example, Petrarch said: «Rejoice here on earth, and the way to heaven will be opened to you». This not only meant the landing of the heavenly half of the world and the spiritual *bridge* of man and God, the aesthetic version of which inspired the iconology of the image of a beautiful body, and the rational version served as a justification for scholastic speculations. Often, on the contrary, it led to the exaltation (transcensum) of the earthly through the mediation of the most outstanding and accessible of creatures – Man, who has the example of Christ, in whom human and divine natures are harmoniously combined.

5.3 Rationality in search of the substrate of human creativity

In this context, Dante uses neoplatonism to soften transcendental creationist values and sees in art an «anagogic» way of exalting the natural in the soul to reveal the norm of the divine in the world. The corresponding risk of profanation of abstract scholastic casuistry by the poetics of human experiences, allegorically depicted in the Comedy as the passage of hell and purgatory, is overcome by the «first secular piit of the Middle Ages» with the help of the Thomistic argument lumen intellectus agentis. This «light of reason» must balance the totality of «natural», including astrological «reasons», the determination of a person by analogy with how the transcendent

Intention of the Creator compensates for the vicissitudes of the redemptive incarnationof Christ the Logos.

For Nicholas of Cusa, the connecting link of such different attitudes turned out to be the figure of Christ as the incarnation, individuation of the universal supernatural eternal Divine in a single natural-historical Human. «I see in you, Jesus, divine sonship, the truth of all sonship, and at the same time the highest human sonship, the most accurate image of absolute sonship ‹…› In your human nature, I thus see everything that I see in the divine, only everything that in the divine nature is the divine truth itself, in the human I see existing in a human way ‹…› And here in you, Jesus, the human understanding is united with the divine understanding, as the most perfect image with the truth of the type ‹…› So in you, Jesus, the artist of artists, I see the deepest connection of the idea of all things with their likeness ‹…› You are God and at the same time creation, infinite and at the same time finite ‹…› You are the combination of divine creative nature and human created nature» [189, p. 79-80].

A symmetrical fate is destined for the human individual, which, in contrast to the pre-Christian infinite approximation, potentially contains the image of the divine whole (imago dei), but actualizes it by virtue of the fall spontaneously – in disorderly transient forms [190, p. 49]. Considering the intellectual context of the confrontation between nominalism and realism, this intuition is realized in the most opposite way, for example, in grotesque literature (F. Rabelais) and «political novels» (T. More, A. Brucholi, A.F. Doni, G. Gergot, K. Stiblin, T. Campanella). The fact is that, on the one hand, humanism initiated an anthropocentric imitation of creationism, returning to the patristic *accidental* nature of the world, requiring divine support (creatio continua), cognizable only in an infinite *linear* perspective. On the other hand, humanism not only removes moral and substantial restrictions from the sublunar world, but also undertakes to indicate perfect examples of overcoming the order falsely established by sin, and even – examples of inspiration from his shadowy mystery. These are visible images of the infinite, Beauty as a sensually comprehensible Logos [191].

This delegation of the functions of a transcendent Subject to a person is usually perceived as an epiphenomenon of the Renaissance autonomization of an *individual* from a clan, estate, church, and other communities, so that the individual in the long run «may use his mind as an adult». Indeed, class mobility, consonant with the content of the revived atomism, in certain circles contributed to the perception of one's own life as a more or less transparent *artifact*. And his dignity, inspired by the sovereignization of yesterday's vassals, largely depended on the ability to spiritualize the bodily – both through the lustration of feudal law and through the epistemologicalization of the «mechanical arts» (mechanization of crafts). First of all, we are talking about painting, where mathematical experiments with the image visualized the anthropocentrism of the Italian Renaissance. «‹…› It is enough to take into account the idea of the mathematical basis of nature, which originates in ancient Pythagoreanism (the idea that God, whom, by the way, the Renaissance figures called Summus Artifex – the Great Master or Deus Artifex – the God-Master, put a mathematical plan at the basis of the world he created), and take into account the situation of the collapse of the world-building foundations of society, then a natural assumption arises that the purpose of this pictorial technique is not so much an image as the *literal creation* of human, the world and all things» [192, p. 58]. So the notorious «autonomization» contributed to the alienation not so much of the Subject as of nature as the opposite creation. «A real feeling of isolation from nature appears in a person when he begins to consciously build his own life – not according to a ready-made model given by tradition, but according to a specially defined law, when the inner life of a person, permeated with self-consciousness, in its intensity and significance begins to "compete" with the external life of an individual» [193, p. 36].

At first, under the conditions of the semi-mystical Trecento, nature becomes just as teleologically indebted to the self-willed human subject as it is to its communion Subject: get something *super*natural – moving and creative predicates – she could only in *anti*thesis of orthodox Christianity. The same personalized forms of Christian questioning, allegory, and theurgy now form the arsenal of pseudo-pagan *demonic* magic and judicial astrology. «In full accordance with the position of theology, magic and astrology in the Middle Ages were the realm of the demonic and grew outside the limits of a reasonable schedule. Exiled from the world of form, they operated beyond the bounds of reason. They lived among others, where the contingency of the possible left a gap for human activity. These were "experimental" sciences» [194, p. 338]. However, the sacral-philological age was soon supplanted by secular models of artists and inventors (ingenious mechanici), for whom the similarity to natural actions better indicates involvement in the same root causes. Therefore, the actual miracle is not the result of demonic intervention, but the revelation of the inner potential (virtù). «Just as the art created by man, acting from the outside, creates according to random principles and creates random forms, so the art of nature, generating and transmitting substantial forms from the depths of matter, acts according to eternal and fundamental principles» [195, cit. ex. 196, p. 273].

Together with the imminent religious and political restrictions on the autonomization of the individual in his mind, cosmic harmony is damaged by the «fierce» fortune, therefore, in relation to the increasing randomness of the miracle, power initiatives arise. «Man has already freed himself from the "fear of God", but not from faith in the mysterious forces hidden in nature; he does not deny the kingdom of heaven, but tries to take possession of it» [197, p. 470]. One direction, armed with hermetic knowledge, teaches the individual the secret canon of the symbolic *affinity* (συμπαθήια) of the macrocosm of the «world soul» and the microcosms of the «vital spirits». The other, having experienced a similar reaction of the Churches (M.A. del Rio, I. Vier, T. Erast) and skeptical science, orients a person towards the search for natural «causes». After their discovery, both transcendent miracles and carnal imperfections will pass into the status of (im)possibilities of regular movement, coinciding not as two homogeneous symbols, but as artificial and natural, essence and determination, experiment and deduction, idea and images. «This primarily affected the understanding of freedom: if in the Middle Ages it was identified with the freedom of a spirit alien and opposite to nature, now the focus of freedom (as well as the expression of the essence of man in general) is the "natural light of nature itself" in man – reason» [198, p. 58].

5.4 Rational philosophy as a creative reception of Antiquity

In the Renaissance course of the rapprochement of the heavenly and earthly worlds, there were different periods and means, but in general one can see the assertion of an independent theology and the defining role of rational philosophy. For example, Dante, justifying it, resorts to imitating the Boethian «Consolation of Philosophy» both in the form of «satura» and in the content of «felicity»: participation in virtues brings one closer to God and bliss in equal measure [199]. L.A. Bruni sees philosophy as a liberator from false judgments and everything else that disrupts and interrupts the pursuit of the true good, embedded in man by nature [200].

The interest in antiquity is explained by its rich *experience* of the earthly and physical half of the world, which was lacking in the medieval stage of Christianity and which began to be realized as a found national Italian cultural heritage. «Thanks to this brilliant contact, antiquity and Christianity became equally renewed. Passionate art spiritualized the first and humanized the second. From this collaboration and this contact, which would have outraged the Fathers of the Church, but far from shocked the popes and cardinals of the XVI century, ultimately gave birth to a series of intellectual concepts that became guiding ideas for the following centuries» [201, p. 292].

Externally, this anti-scholastic course manifested itself in the development of purely secular communities and unofficial scholarship, derived from the framework of university programs and theological interpretations (*printing houses, boteggi, academies, collegiums*); the study of ancient languages for a more adequate translation of canonical texts and deformalization of communication; in the expansion of commercial and intellectual geography (*the Faustian spirit*); in the imitation of various ancient forms, in particular, art, which undertakes to reflect not only the sufficiency of sensual experience or the beauty of the body, but also abstract points of worldview; in the ideal of comprehensive development of the personality (*uomo universale*); the interception of the legislative initiative of the nobles and clergy by the «third estate» (*popolanism*); in a transformative attitude towards reality and one's own life, up to individual salvation (*humanism*)...

In general, what humanists considered a return to Antiquity (that part that was known to them and could be perceived in harmony with Christianity) turned out to be a creative synthesis of the corporeal (earthly, natural) part of Antiquity and the spiritual Middle Ages:

- studia humanitatis by F. Petrarca, C. Salutati, L. Bruni, which liberate humanitarian disciplines from the theological direction of research (studia divinitatis) in connection with the ideal of life in earthly natural bliss, where purely human properties and experiences become universal means of knowledge, since direct the truth into the stream of practical improvement of reality;

- fortuna of humanists as a symbol of manifested existence, which combines the ancient Roman mythology of capricious fate (Cicero, Sallust, Seneca) with the medieval concept of divine tools (S. Boethius) and requires personal achievements from life, understood as the embodiment of the dogma of free will (Dante, G. Manetti), more sophisticated and glorious than ascetic devotion (F. Petrarca), but devoid of guarantees of good success (Leonardo);

- virtù of Vergilius and Thomas Aquinas as the spiritual-symbolic potential of the world, which fully manifests itself in earthly nature under the condition of its improvement - through symbolic connotations that serve as a common denominator of different levels of existence or through the artification of the «second nature» (seconda natura of Cicero) based on it;

- coincidentia oppositorum of Nicolas of Cusa, which represents the opposites of finite creatures relatively identical to the infinite Creator, as illustrated in geometry by the infinitive possibility of combining different levels of being – intuitive infinite idea (line) and visible finite matter (figures);

- religio universalis by G. Plethon, representing religion and authoritative sources in a harmonious variety of confessional dogmas or in historical retrospect from naive cults to esoteric Christianity or the rational theology of Plotinus, where they are all united as emanations of the One;

- Corpus Hermeticum – Latinized by M. Ficino «Egyptian wisdom» as a continuation of the medieval ideal of book wisdom (ratio scripta), revised by the esotericism of the original sacred texts, symbols and special methods of their knowledge and translation (mathesis, numerology, gematria, etc.), the echo of which is felt in the common G. Galileo's expression that the Book of Nature is written in the language of geometry: triangles, circles, spheres, pyramids and other figures serve as its letters, and our task is to learn to read it [202, p. 41].

5.5 Humanistic studies: the change of generations

As a result of the reception of the teachings of antiquity, the approach of the Renaissance manifests itself in a certain eclecticism or openness, so that a certain humanist or natural philosopher can simultaneously find elements of the teachings of Epicureanism, Stoicism, Platonism or Peripatetism. To a large extent, this is explained by the emergence of philosophy beyond the boundaries of university departments, which is noticeable in the revival of the genres of dialogue, invective or declamation, where Renaissance figures do not so much implement a certain corporate doctrine, but grope for ancient worldview support for their own «simple» intellectual creativity, intertwined with oratorical practice, literary hobbies or historical studies [203]. However, the noted general characteristics are to a large extent typological and acquire distinct specifications at various stages and spheres of the Renaissance project implementation.

The periodization of the latter is most often subordinated to the vicissitudes of the formation, development, and decline of Renaissance *humanism* as a peer and the intellectual and worldview aspect of the age under consideration: if Europeans spontaneously at that time generally learned divine instructions and learned to rely on themselves, then it was consciously necessary to justify this human right to occupy a clerical instance. Therefore, it is in humanism that the Hellenic-Roman context of antiquity is revived, when a person has not yet ceased to feel himself a part of a harmonious whole, but this connection has ceased to be two-way and, as a result, speculatively comprehensible. As then, unable to prove the sought-after good (salvation) as the starting point of philosophizing and the principle of being, philosophers focused on cultivating good (virtue) in themselves. But now the existence of *bliss* relies not so much on the coincidence of a person with the ontology of Nature, but on the dogma of kenosis and the hermetic elimination of original sin (status sorrutionis). «Jesus Christ, the Son of God, is at the same time the son of man, thus it is as if Heaven was brought down to earth, or, which is the same thing, earth was raised to Heaven ‹…› In hermeticism, as well as in the Kabbalah, which also belonged to the magical and occult tradition, man is proclaimed the Heavenly Adam, capable not only of revealing all the secrets of the divine creation of the world, but also of becoming the second creator who transforms nature and rules over it» [204, p. 55, 241]. In one way or another, according to the expression of M. Foucault, «the intensification of the attitude towards oneself» is reproduced [205, p. 47-51], which first in the image of a Poet or a Statesman will transform the ancient and scholastic rationalization of objectivity into a pile of philosophical tools (*humanism*), and then in the image of the Absolute Subject and completely push it to the worldview periphery (*Reformation*).

Based on the name (humanus), the humanist principle can give preference to *human* in two logical meanings – individual and generic. The first of them was an antithesis to the impersonal church-feudal regulation of life, supported by the destruction of the state structure of feudalism in trade-guild Italy and the expansion of geographical horizons. The second – was a certain reaction to the abstract «universals» of theology in the role of a model of God on Earth, supported by a revived image of Christ as a practically active God, capable not only of suppressing the fallen nature, but also of perfecting it. «The Renaissance marks the transition from a fatally pathological picture of the world, in which nature is identical with sin, to an evolutionarily pathological ontology; from now on, nature is not just eternally and forever sinful, but sin is only its current state, which must be overcome by activating the second natural tendency – evolution to perfection» [206, p. 36].

Both meanings are often illustrated by paraphrases from the «Oration on the Dignity of Man», where G. Pico della Mirandola gives an interpretation of the doctrinal thesis that «god created man in his own image and likeness», and tries to specify what exactly should be transmitted to a person in this way. This is personal activity for self-affirmation in divine eternity, since God is not created by anyone and has freedom and the ability to self-determine. « We have given you, Oh Adam; no visage proper to yourself, nor any endowment properly your own, in order that whatever place, whatever form, whatever gifts you may, with premeditation, select, these same you may have and possess through your own judgment and decision. The nature of all other creatures is defined and restricted within laws which We have laid down; you, by contrast, impeded by no such restrictions, may, by your own free will, to whose custody We have assigned you ‹…› It will be in your power to descend to the lower, brutish forms of life; you will be able, through your own decision, to rise again to the superior orders whose life is divine» [207, p. 6-7].

At the stage of early humanism, there is an enlightening renewal of the scholastic trivium by ancient rhetoric in the role of a found «ancestor» of faith and canon by the power of the human mind alone. To some extent, this was assumed even under the patristics and matured in medieval universities in the universal didactic and methodological status of philosophy, which it developed while fulfilling the tasks of theology. In the 1330–1390 by the efforts of Petrarca, Salutati, and Boccaccio, theology is being supplanted by rhetoric and poetics in the role of guardians of good and bliss, which was already begun by Dante and the authors of novels about knights and novels about burghers, but now also with the addition of Latin Roman sources («History» by Titus Livius; «Philippics», «On the Orator», «On Duties» by Cicero; poems by Vergilius, Ovid, Horace; works of Augustine and other church fathers), with the result of the formation of studia humanitatis – a complex of humanistic (linguistic, moral, legal) knowledge of the world.

His first task is to educate, following the example of Cincinnatus, Scipio, Mucius Scevola, Regulus, Cato, and especially Cicero, the *ideal of a politician* in whom political experience would coincide with virtuous wisdom and be manifested in suggestive eloquence. «Here we have before us the very center of the Renaissance problematic: the quality of expression is no less important than the teaching itself, at least in the sense that the teaching sets ethical, psychological and civil truths, and thanks to the efforts of the writer, they become worthy of being perceived and convincing» [208, p. 197]. For example, Pope Pius II, known in the world as humanist

E.S. Piccolomini, in his letter to the invader of Byzantium, Sultan Mohammed II, sincerely sought to achieve peace and harmony with the help of eloquence. How far this ideal is learned from the opposite in the ability to resist strife and tyranny through the limitation of one's own arbitrariness by the prescriptions of laws and the subordination of personal gain and pride to the good of citizens and the victory of their homeland [209].

In the first half of the XV century a new generation of humanists (L. Bruni, P. Vergerio, G. Manetti, P. Bracciolini, L. Valla, F. Filelfo, M. Palmieri, A. Rinuccini, D. Achaivolli) notices in rhetoric and philology a scholastic recurrence of «dialectical disagreements» and for his overcoming resorts to an ambivalent *ethical* practice: instead of grace, it is justified by Augustinian pastoral *nature* as a miraculous creature and, first of all, it is justified by the most perfect, closest and most transparent to the mind – human nature. Its study by updated studia humanitatis (ethics, history, pedagogy) reactualizes the Aristotelian concept of «natural sociality», on the basis of which the *moral and civil* extrapolation of humanism takes place: improvement and reorganization of the social body of the community significantly reduces the limitations of the earthly way of existence of the individual. Thus, there is a prospect of practical overcoming of status sorrutionis in state institutions - mainly republican ones, where virtue must be verified and proportionally manifested in property nobility (nobilitate) and victory (virtù). «‹…› Not the cult of poverty and ignorance, but the justification of wealth as a basis for moral self-improvement through education and culture; not monastic hermitage, but active, normal life leads a person to salvation, not theological (faith, hope, love), but Aristotelian civic virtues (justice, courage, prudence and moderation) came to the fore» [210, p. 480].

The reactualization of Plato’s «Republic», «The Laws», late antique descriptions of the Pythagorean brotherhood, the community of the Essenes, etc. will later form the basis of utopian concepts of state regulation of ethical practice (T. More, G.B. Jelli, A. Brucioli, A.F. Doni, G. Hergot, C. Stiblin, L. Agostini, L. Zuccolo, T. Munzer, T. Campanella, G. Cardano). Moreover, depending on the prevailing ideology, the etymology of the term «utopia» by T. More is derived either from the Greek «good place» or from the Latin «no place». The source of reorganization in these projects will be the antitheses of current trends (collectivism to individualism, communalism to nationalism, artificial language to vernacular, planned economy to spontaneous capitalism, autarky to trade dependencies, technocratism to naturalism, education to luxury, conservatism to pragmatism, natural religion to clericalism, pacifism to expansionism…) with the aim of normatively renewing *justice* (most often in the form of «proportional» equality) in relation to management, work, property, trade, family, priesthood and thus releasing the conditions for the self-improvement of man as a fundamentally social being. On the other hand, the same Platonic genealogy gave rise to individual liberal teachings (U. von Hutten, I. Reuchlin, Erasmus).

The further massive fall of the city-republics in other countries. XV century – beginning XVI century is regarded by humanists as the triumph of «fierce Fortune» and forces them to transfer the conditions of a person’s recovery from the public upbringing of virtue to a contemplative private life on the basis of individualistic ethics and Neoplatonic ontology rediscovered from the «Byzantine» primary sources (L.B. Alberti, G. Argiropulo, A. Poliziano, E. Barbaro, G. Pontano; M. Ficino, C. Landino, G. Pico della Mirandola, G. Nezi, G. Beniveni, Leonardo). In particular, in the Florentine Platonic Academy, the resonance of the ancient «microcosm» and the hermetic «second god» with the Christian «in the image and likeness» in the concepts of «world binding» (copula mundi) and «beings of uncertain nature» (chaemeleon) opens up an ontological or epistemological ability to man *overcome* the world hierarchy (transcensum), assimilating the driving functions of the World Soul in an unchanging natural order (circuitus spiritualis) and encroaching on miracles not with scholastic syllogism, but with mentally comprehensible love. «In general, man imitates all creatures of the divine nature, and he brings to perfection, corrects and improves the creatures of a lower nature. After all, man has almost the same power as the divine nature, since man himself, that is, by his own judgment and art, rules himself, being very little bound by the limitations of mortal nature, and competes with every creature of a higher nature» [211, p. 195].

5.6 Renaissance prerequisites for the mathematization of classical European science

A kind of *arbiter* of power strategies of Renaissance rationality is usually called mathematical analysis as the first means of scientific description of the laws of [mechanical] motion. «The logical form of the "episteme" is the knowledge of the "fusis" – definition and predication. The logical form of natural science theory is implication and deduction. Although the law is formulated as a connection of *certain* concepts, it is the law that becomes the basis for the theoretical definition of the concepts included in it. ‹…› In the cognition of nature, one cognizes not "for the sake of what" or "why" of some existing "nature", but the possibilities of existence in general, the connection of which is determined by laws expressed in the form of differential equations» [212, p. 164.].

However, the first intuition of infinitesimal calculus was preceded by a difficult period of methodological development of mathematics in its most bizarre «revived» forms of «philosophical geometry» (mathesis). The fact is that in the beginning, young Christianity did not need the truthful mediation of the [wonderful] created world: Christ had already «saved the phenomena». Therefore, when mathematics is still included in the Christian picture of the world – on the rights of an *analogy* of a priori origin and non-cessional status of geometric and moral axioms with the truths of the grace of divine illumination [213, c. 31] – it is already phenomenalized and thus can connect the worlds above and below: since the same forms express both the speculative and the *sensuous*, the latter receives a verification criterion in geometricity. In the conditions of the «autumn of the Middle Ages», the certification of knowledge by the degree of generic perfection, analogously (and consequently-causally) ascending to the perfection of the mutual similarity of the Trinity [215], was burdened by the ambiguities of linguistic interpretation and the intentionalities of the subject. Therefore, despite the speculative and qualitative form of ratio *sensus*, the dual status of mathematics allowed it to displace generic syllogisms from the mediators of the archetypal intuitions of the divine mind – as an uncorrupted, embodied and contemplated by a finite human revelation of an infinitely good purpose that permeates the world order. In particular, in the realistic tradition, supported by the Timaeus argument of «heavenly origin», it takes on the role of «forms» (universalia) in the role of that part of predicates that is responsible for the position of a thing in the general ensemble of primordial-hierarchical nature (Ordo natura naturata). In another tradition, going from Augustine to Luther, the *formality* of mathematics reduces the «released» patristic miraculousness as an «imaginary assumption», or «philosophical theses», for example, in the role of a human mimesis of the divine instrument of limiting the chaos of material accidents.

Based on the Augustinian coincidence in the «form» of sensual beauty and reasonable number, the revival of ideal-sensual natural philosophy, Pythagoreanism and Neoplatonism is justified: «‹…› if everything quantitative is necessarily qualitative, living and animated, then, by clarifying the mathematical and geometric relationships and proportions of things, we find out its *innermost secret as a whole, its very vitality and animation*» [216, p. 106]. The mind, which has discovered the identity of ideal intuition and practical visualization, also opens up the possibility of a new one – artistic comprehension and mastery of the structure of the world. «The relationship between human and divine creation is governed by the principle of agreement, similarity, which consists in the application of the rules of harmony, proportions, symmetry, and clarity. Discovering them at the same time both in himself and in nature, the artist can achieve that beauty, which is nothing but a visible manifestation of divine majesty. Thus, the artist imitates not only natura naturata (created nature), but also natura naturans (creating nature)» [217, p. 403].

Later, in the circle of the Florentines, the mathematical proportion began to perform a mirror aesthetic function. «If even a mediocre and uneducated mind distinguishes the beautiful from the ugly, avoids the formless and strives for the formed, then this indicates that it carries a certain canon of beauty, regardless of any experience and learning.» [218, p. 71-72]. In *experiments* with him, the artist worked out (im-)possibilities that the natural scientist would perceive as reality: the «second nature» will be the expansion through which the «first nature» (prima natura) will reveal its limits. Limits of Design (Ratio), secularized in harmony with the sensuous necessity of nature and the willfulness of the speculative spirit, which are personified by symmetry, perspective projection and especially strict proportion, which distinguishes the *master*. Since he will not immediately come to the democratic «similarity of the mind to the forms of created nature», his mathematical simulations of the transcendent still sin with «sacred uncouthness» (C. Salutati). «The predominant study of static phenomena with their simple visual dependencies, which allowed an exhaustive unambiguous mathematical expression, and the limitation of mathematical knowledge to exclusively improbable sections – all this served as the basis for the naive-optimistic ideas of the Renaissance about the fundamental simplicity of the laws of nature» [219, p. 37].

Thus, the foundations of the *mathematization* of various kinds of events and processes, together with the future types of scientific regularities derived from it, simultaneously reflected the *problem* of distinguishing between universal divine and private human goals in relation to nature. Influenced by the Platonic dialogues, Nikolas Krebs (from Cusa) presented it as an «ascent to eternal truths» (transcensum) with the help of mathematical symbolization of categories [214, p. 184], turning them into obviously incomplete for human understanding, but free from human content. On this paradoxical basis, despite his opposition to Thomism, he was able to realize the scholastic idea of Ratio, according to which the ideas of the divine mind can be comprehended if they are taken entirely as an *ensemble*, especially since the systematization of natura naturata, symmetrical to it, into the Ordo world order seemed to be nearing completion. Since such a picture of the world consisted of colorful plots, it took a whole arsenal of cognitive «parts of the soul» of a person to describe it – sensations (sensus), representations (ymaginacionum), reason (racionis), intellect (intellectum), mind (mens). If the first of them are called upon to express («bring under the word») a heterogeneous hierarchical space that contains things main and secondary (holy and worldly, central and peripheral, male and female, appropriated and unmastered), then the latter are to move from these heterogeneous final «images of forms» to the «forms» themselves – infinite divine ideas. The mind embodies them into final forms, in which it is assisted by intermediaries – the mind and the «ability to judge». If the latter evaluates the mind in its induction and deduction of the sensible, then the mind correlates the mind with the ideas of the mind as a movement from the point of Ratio to the boundless space of Ordo [220, p. 162].

In other words, this movement as «identification of the non-identical» was by the time of Cusanus the most reliable means of reproducing Creation, in which the problem of the Creator’s Intention and the essence of creations was concentrated as a *process*. Other ways of reproduction – mystical, moral, aesthetic, natural philosophical (physical) – fixing the more speculative beginning or end of creation, seem to be secondary, obviously, because the actualized Platonic «God-geometer», having gone through the school of creationist personalism, does not just emanate sensual diversity, imitating an impersonal model, but also constantly cares about the created diversity [214, p. 139-142]. In the same way, a human who has geometry as his «innate» principle, has the accuracy of a symbolic reflection, as it were, of a twice created being – God and Man – that is sought for by science and imitating the Creator.

Sensual nature is not yet known here: in the atmosphere of Christian ontological dualism, its mathematical symbols of architecture, first of all, to fill the human image with the divine prototype. With their help, he will be able to realize his creative claim to reorder sublunar accidents, because the ratio of their «forms», hidden in the divine intellect, is the same as the ratio of their geometric figures, only adjusted for projection proportions. Therefore, Cusanus’s mathesis still remains of a hermetic quality: weaving a person through mathematical ciphers into the «secret connections of nature», he excludes the possibility of a detached cognitive attitude towards it [212, p. 31-34]. But in contrast to orthodox Hermeticism, closed in on itself as a macro- and microcosmic subject, Krebs’s liberation of categories from content was recognized as the main function of a symbol to attract new experience, to develop.

Precisely because the conscious increment of experience requires a generalized perception of individual things and oneself (empeiria instead of sensus), the formation of the classical subject of cognition is burdened with an additional dimension of perception – expediency. This also explains the above-described complication of the mental nomenclature, officially justified by the fact that in the cognitive abilities bestowed on the human spirit, the mind is also intended to evaluate the *possibilities* of creations explicated by the intellect and thereby glorify the Creator. «Outside of human nature there are no evaluations, no principle of comparing things according to their degree of perfection; you can exclude this nature from the totality of things – and then the value preference of one over the other will disappear» [218, p. 43].

At the first glance of humanists, the Platonic-Pythagorean understanding of mathematics as a «contemplative life» is reproduced here (βίος θεωρητικός → vita contemplative): there, too, nature was reputed to be the subject of chance – both in the ontological sense of a wayward beginning, and in the epistemological sense of an opinion relativized by sensibility (δόξα), which equally testify to the *transient* dignity of its object. However, in antiquity this instability was not miraculous: it was the result of a poor implementation of the original idea (goal) – usually due to an implied neglect or excess (ὕβρις) in relation to Destiny, tragically known only in a cyclic perspective, including linear segments of individual lives. «‹…›The Greek cosmos (from Homer to Plato) is an ideal theatrical device, delighting itself with luxurious improvisations, where Harmony and Order play themselves under the masks of Chance and Discord» [221, p. 168].

Here, epistemology, having behind it the paradigm of intentional procedures (sermons, parables, meditations), still retained ambiguity in the truth of this world and the other world, inherent in one and the same thing. Therefore, empirical randomness is considered quite amenable to magical influence, that is, contrary to the «cosmic» organicity perceived from the «Timaeus» and the corresponding «natural» epistemology [222, p. 242; cit. ex. 223, p. 23], nothing prevents experience and experiment from *bringing* it into the desired second nature; and mathematics will provide constructive principles for this [224, p. 72-75]. As a result, a complex and ambiguous synthesis of an intuitive alternative to the Platonic and Aristotelian statuses of mathematics that are initial for the European mentality was outlined [225].

5.7 Historical-political motives of late Renaissance rationality

In the XVI century against the background of power disharmony of the Italian Wars and spiritual wanderings of the (counter)Reformation period, the contradiction of humanism to the state structure of society turned into a contradiction to the economic resources of freedom: the ideals of development and elevation of the universal man also need extraordinary resources, which individualistic ethics cannot take care of, but manipulative politics that throw off the shackles of subjectivity – communal (utopia) or signorial (real politic). If the theorists of the first (F. Pucci, C. S. Curione, K. Renato and some of the aforementioned utopians), nurturing anti-despotic attitudes, rely on the «natural» education of citizens, then the theorists of the second (N. Machiavelli, F. Guicciardini, B. Castiglione), developing the original humanistic ideal of the ruler in all the complexity of social situations, separate higher morality (human nature) and the context of its application (personal interest) with the right and risk of the individual at his discretion to reunite this gap between the heavenly and earthly worlds. Along with this practice of human virtues, nature also becomes true only when it is perfected by art, already adopted by the rationality of goals and means.

The fact is that in real politics, several conflicting moral requirements are usually involved at once, so they have to be divided into ends and means, weighing the latter differently than outside the given situation, for example, softening their sinfulness or canceling it altogether. «A human always faces one difficulty in his decisions and actions, namely: the truth of the opposite; there is no such perfect order in which disorder does not hide, there is no evil in which there is no good, there is no good in which there is no evil ‹…› one should weigh the inconveniences of each decision, stop at the one where there are fewer of them, and remember that there cannot be a solution that is flawless and perfect from all sides» [226, p. 176]. However, it is worth swapping goals and means, as the ambivalence of the latter turns into cynicism of manipulation of public opinion, and humanistic erudition into skepticism as a philosophical antidote to it. «In this devaluation of values, the most likely symptom of the monumental bifurcation of the era, which already stands with both feet in the new and is still getting rid of obsessive reminiscences of the past, is imprinted; it is clear that skepticism and noncommittal musings turned out to be almost the only chances to avoid uncertainty and confusion» [221, p. 183]. Thus, the extrapolation of political practice to everyday normality and its philosophical reflection once again reveals the overcoming of traditional rationality as an overly schematic vertical dialectic of perfect essence and changing *phenomena*, the formation of which is subject to description by four Aristotelian causes.

Developed on the material of Florentine history, the new rationality is subordinated to the value of freedom, so the justification of the means by the end takes on a moral form on a supra-individual scale. «One of the greatest successes that can befall a person is to have an opportunity to show that the actions of people, carried out for their own interest, were done for the sake of the public good» [226, p. 152]. If the goal is to bring benefit (maximum pleasure and minimum suffering), which will constitute the fund of republican possibilities or monarchical potential, they replace a priori theological values with empirical natural causes (mainly psychological «human motives»), in which Aristotelian objective and formal, which during the time of scholasticism were transcended to the evil world and intellectual knowledge. Vertical access to their substantial species and explanatory potential is now mediated by horizontal accidents (fortune, virtue, political system, military or trade dependencies...), generally forming a historical cycle of «eternal natural law». Thus, according to N. Machiavelli, the republican system does not yet guarantee the reproduction of the common good on which any state rests: for this, it needs its periodic re-awareness, «updating». Sometimes this happens by itself – due to «external» tests of the state, but it is better to prevent them with «internal» measures – by changing the law that gives preferences to some parties over others, or by changing the entire state system to a monarchy, because it is the victory of a «worthy» person and constitutes the primary potential of good from which states arise [227]. Thus, the historical and political justification of the «Renaissance» (era rinata) takes place and the transition from the pre-scientific theological to the scientific naturalistic paradigm of the law is initiated on the basis of human nature.

5.8 Humanistic and scholastic motives of natural philosophical rationality

According to V. Windelband's well-known assessment, the famous humanism of the Renaissance turned out to be only one of three «positive anti-scholastic factors»: if others sought the true life of the human spirit «outside themselves» and grew into the philosophy of the state and law and into natural science («true knowledge of nature»), then this «path of the rebirth of the human spirit, which leads inwards, to the depths of the human soul», is finally realized in the Reformation [228, p. 35-36].

The initial worldview problem, from which they seek to displace scholasticism and clericalism in general, they have in common – the lack of categories and methods regarding the «earthly» «half» of man in the face of the sociocultural crisis of traditionalism, extrapolated to the entire Thomistic-Aristotelian world structure. The desire to compensate for the mentioned lack on both sides of the Alps is manifested in the demystification of the earthly half of the world with the simultaneous requalification of divine mediators into sensory elements, and cognitive abilities into creative actions of the mind, as a result of which man finds himself at the top of the created world. Common means are also visible – to find a solution to this problem in the ancient primary sources (ad fontes), and at the same time to reread the rest of the canon in the original original languages or with a refreshed personal faith (Christianismus renascens). So, taking into account other directions of Transalpine thought of that time, sometimes, by analogy with the «transfer of the Empire», they say about the continuation of the beginnings of the Romanesque Renaissance in the Germanic, because, at a minimum, it is about transferring a new humanistic experience of dealing with revived texts to biblical studies, and, at a maximum, it is about implementing these developments in the revival of *piety* with the qualification of scholastic theology and canon law as outdated. «‹…› In the initial period of humanism and the Renaissance, a deep stream of cultural revival flows in the same river with another, even more powerful stream of *church reform*. The word reformatio had the same meaning then [229, p. 133].

On the other hand, due to the well-known polemic of Erasmus of Rotterdam («On the Freedom of the Will», 1524) and Martin Luther («On the Slavery of the Will»,

1525) in the Renaissance and the Reformation, in general, opposite values are noted – exaltation and humiliation of a human's status in the world; free-thinking and dogmatism; rationalism and mysticism; allegorism and fundamentalism; sacramental piety and worldly piety; sacraments as Christ's visible signs of grace and mysteries as symbols that do not have theurgical power; the sacrament as the transformation by force of the general status of the clergy and the mystery as coexistence by the force of the personal virtue of the pastor; freedom of will and freedom of conscience; mercy and justice; the democratization of holiness and the impossibility of earning grace; aestheticism and purism; enrichment for the sake of hedonism and for the sake of piety… The comparative study of these values in the scientific plan does not lose its relevance until now thanks to the constant renewal of the dilemma of the Late Renaissance regarding the intellectual status of the *individual*, which determines the various relations of scientific and ethical-religious spheres, law and value, truth and existence. Even more problematic are the new relations of cognitive and axiological components *within* scientific activity compared to the traditional Aristotelian scheme of «four causes», which prevailed in the minds of scientists at that time.

As the sources of «ancient wisdom» were exhausted and reproduced in print and the contradictions of its ideals increased in practice, the project of revival of the «once obtained» sufficient truth partly repeated the fate of ancient philosophy, focusing on its skeptical part, in which the arguments of naturalness for decision-making supplanted logic and aesthetics. «The harmonious integrity of the classical style was disintegrating, and the Renaissance in Italy was replaced by a style whose meaning was given by the crisis worldview of the 20s–50s of the XVI century. Individualism is supplanted by subjectivism, idealization of a person by spiritualization or emphasized interest in a private, characteristic detail; free will is suppressed, and the mind is supplanted by feeling and even instinct, as the last resort of "natural" freedom» [230, p. 125].

For example, M. de Montaigne, reviving the Pyrrhonic «epoch», calls to abandon the hope of humanists to reunite the earthly and heavenly worlds by human forces (transcensum) or the demand of Protestants to «know what we do not know» and to come to terms with bodily existence on the new grounds of a priori harmony of soul and body in the creative activity of a person. «It is quite probable that if the soul knew anything, it would first of all know itself; if she knew anything besides herself, she would first of all know her body and the shell in which she is placed» [231, p. 270].

Thus, in the suprapersonal structure of the mind affected by the crisis, which turned thinking into a game of theoretical hypotheses, M. Montaigne introduces an internal dialogue of explicit and implicit knowledge about everyday life (family, illness, customs, ambitions...) in its ethnic and historical variations and contradictions. Only this will make it possible to overcome the equal chance of truth and error and to find a moderate natural *norm* for them, in which reasonableness will coincide with benefit, and morality – with pleasure. Until now, it was most successfully formulated by ancient authors – Socrates, Seneca, Epicurus, Plutarch... However, in contrast to the similar approach of N. Machiavelli, the «last humanist», although he reduces all the diversity of determination to natural law, but seeks its norm only at the level of an individual as a representative of the human race and does not hope for its permanence. «He questions the competence of the mind in general and the measure of Protagoras (a person is the measure of all things): a mind that does not know itself, that is somehow connected with nature itself and thus is aware of its measure, that knows how to distinguish its knowledge from ignorance. ‹…› The skeptical attitude of the mind over itself turns it into a knowing mind. This means that being is separated from meaning and turns on itself, the mind turns to itself, becoming the object of analysis, and between the object of knowledge (a fragment of being) and the knowing subject there is some environment that includes imagination, ideas that should be studied and turn into forms, means of knowledge» [232, p. 81].

At the same time, representatives of natural philosophy try to solve questions related to man in a purely natural way (filosofi naturali). Due to the justification of the goals of ethical, aesthetic, political or religious practice by the *immanent reasonableness* of general natural goals and laws, which develops into methodological and ontological problems, they are further identified mainly with the «proper principles of nature». However, natural philosophers distanced from practice by the Counter-

Reformation, despite all efforts to get rid of scholastic manners, generally retain their devotion to *philological* models of the mind: combining things by symbolic analogy dictated by their shared *hidden* formal and purposive «causes» (unless by shifting the purposive cause as the source of motion from external form to internal matter), they *demonstrate* this as deductive inferences from dogmatic abstractions. «The scholastic view that matter also strives for perfection is here reinforced, since natural philosophers ascribe to it lust and aversion, pleasure and displeasure; through such a spread of the hylozoic doctrine of movement, the philosophers of the Renaissance reach their characteristic panpsychism, the basis of which is the sphere of human sensations» [233, p. 14-15].

On the other hand, the scholastic Aristotelianism of the universities was also discredited in places, so to understand naturalness they began to turn to the more ancient elemental-materialistic models of the pre-Socratics, especially since their famous «fragmentation» left room for urgent conjectures. So, just as with humanistic ethics, it was not possible to avoid cultural layering.

First, *natural philosophy* was taken up in the more popular and eclectic Hellenistic-Roman versions, which had a monarchical and stylistic context related to the late Renaissance and were also an appendix to anthropology, so it turned out to be an anthropocentrism inside out: understanding the *macro*cosm became a condition for arranging the *micro*cosm. For example, *Epicureanism*, which in the XV century attracted the humanist L. Valla with his hedonism as a sign of the goodness of human nature, in the second half XVI century known to the natural philosopher G.C. Vanini only with his atomistic analysis of all kinds of mysteries as completely rational combinations of elements. The through-body «pneuma» (aethēr) of Stoicism, with which humanists justified the anthropocentric stitching of the world hierarchy, was bequeathed to Copernicanism as a pantheistic bridge between heavenly and natural causes. «Love longing» (abstractus amatorius) of *Neoplatonism*, in which Florentine academicians saw a cyclical counterpoint to the emanation of being, which gives a person a cherubic level of intelligence, in the XVI century hypostasised in the form of a vortex of «elements» (G. Cardano), «earth and sky» (T. Campanella, B. Telezio), «heat and moisture» (F. Patricius), «monads» (G. Bruno).

Secondly, the general impersonal order of nature was influenced by monotheistic theocentrism, which bequeathed to nature a model of exclusive universal substantiality of the World Soul, in which individual places, life-giving and driving forces of things are dissolved, forming a system of self-movement of parts of the whole with each other in an infinite homogeneous space (*dynamic pantheism*).

Thirdly, natural philosophy felt the influence of anthropocentrism: when the macrocosm should be identical to the microcosm, the human body becomes a «medical» model of the natural organism (for example, according to Paracelsus, «there is nothing in heaven and on earth that is not in man»), and a person can find immanent natural first causes with his own mind, seeing in material things proportions, periodicities (neopythagoreanism, hermeticism, cabalistics) and dialectical contradictions (philosophy). «The process of cognition is an ascent to the unity of nature, the path of human cognition coincides with the “unfolding” of nature. If unity is “unfolded” in the creation of things, then in knowledge their mind advances “on the same scale” as nature, “collapsing multiplicity”, advancing “from unity to unity”» [234, p. 73].

In this way, he gets the ability, at a minimum, to speculatively anticipate the course of natural events (mantic, astrology) and, at a maximum, to materially control them, revealing or perfecting the original divine creationism (alchemy, magic). In combination with the flow of curiosities from overseas lands (the works of G.F. Oviedo-y-Valdés, N. Monard, H. d’Acosta, etc.), such a «hermetic» style of thinking not only restored the miracle of seemed finally condemned by medieval scholastics as a sign of ignorance and credulity, but also changed rationality from demonstrative to searching [235, p. 416-418].

However, as with the humanists, all discoveries here, although directed beyond the existing boundaries, but with the Renaissance goal of expanding or clarifying the already known nomenclature of causes. «It cannot be disputed that the conscious “competition” of the Renaissance with Antiquity took place as if on a common plane, under the same qualitative criteria, under the sign of a single scale of values. It is as if the eras and the people who live in them are musicians who compete for the mediation of the same instrument in the richness and virtuosity of variations on a given theme: who can better and in their own way reveal some diverse essence» [236, p. 44].

The advantages obtained as a result constitute the potential of human *freedom*, but together with the emancipation of its institutional organizers (real politic), it is deprived of the newly acquired ontological guarantees, dooming a person to constant self-improvement in order to ensure a dignified life. «‹…›The ideas of "self-cultivation", the practice of creative self-creation have a touch of elitism and spiritual aristocracy in Renaissance culture. The Reformation makes these ideas mass acquisition, democratizing and simultaneously depriving them of the aura of brilliance, glory, and greatness. Work on oneself, transformation of one's "damaged" nature, self-education become demands put forward to a person by the mass ideologies of Protestantism, Jansenism, etc.» [237, p. 53].

5.9 Instrumental form of rationality of the Reformation and the birth of classical science

After, in 1231, Pope Gregory IX, as part of the fight against heresies, limited the access of ordinary laymen to reading the Holy Scriptures, the status of the clergy began to grow, because now the priests had not only to interpret, but also to communicate the religious content. In combination with the historical breakdown of feudalism and rational theological metaphysics in the XIV century this led to the aggravation of relations between church and secular authorities, and in the XV century – relations within the church. For example, the Councils of Constance and Basel opposed themselves to the Pope as the true rulers of the Church and administrators of its property. Finally, in 1517 in Wittenberg, the Augustinian monk and teacher of biblical studies M. Luther, with 95 theses, began to criticize a number of church orders that seemed too secular or irrational, using the example of one of the forms of forgiveness of sins – the so-called «indulgence of St. Peter» (The name is related to the fact that this «certificate of forgiveness of sins» was used as a source of financing for the construction of St. Peter's Cathedral in Rome), because it was a way to redeem the salvation of one's own soul without painful repentance of sins [238].

After receiving support from the local secular authorities, the spontaneous thirst for renewal (reformatio) turned into schismatic Protestantism regarding scholastic encroachment on Revelation, paternalism, church and feudal law, calendar holidays, theurgy, the sacred status of the clergy, the graces of the church, the sacraments of ordination, confirmation, confession , wedding, consecration… In the XVI–XVII centuries in their teachings, contrary to Catholic *doctrine*, Luther's followers substantiated the thesis that a person should perceive the Holy Scriptures, report to God and take care of his salvation without the «extra» mediation of «human traditions» (St. Tradition of patristics, Aristotelianism, scholasticism, papal decrees, Constantine's Deed of Gift), only with the help of the Holy Spirit. For example, in the case of Constantine's Deed of Gift, we are talking about the popularization of L. Valla's treatise «Considerations about the forgery of the so-called Constantine's Deed of Gift» (1440), in which the Italian humanist, primarily through philological analysis, refutes the authenticity of the document on the transfer of the imp. Constantine gave half of the Roman Empire to Pope Sylvester, and with it the legitimacy of the then papal state. The «symphonic» involvement of ancient philosophical content in theology in the form of the famous «baptisms of Plato and Aristotle» was particularly criticized precisely because of their intermediate position between the Holy Scriptures and reason, and therefore invulnerability when discussing vital questions of doctrine.

For example, T. Müntzer notes that the matter of knowledge of sacred objects is doomed to fluctuate between empty faith and weak sophistry, until a person raises his mind above partial sloppiness to the direct revelation of God. In contrast to Italian humanism, where rationality was also identified with the titanic struggle of the supernatural spirit in the finite conditions of the earthly world, the «natural light» of human reason is here associated with the evil fallen subjectivity, which must be eradicated in the form of delusions and delusions. «While preserving theological differences and ecclesiastical differences, these teachings adhered to unity in the following dogmatic provisions: "sola gratia" – faith in the omnipotence of grace and

Christ the Redeemer; "sola fide" – justification as a gift of God does not depend on man at all; "sola Scriptora" – the Bible is the revelation of God, and every divine truth is revealed in a sermon» [239, p. 47].

Of course, in philosophical retrospect, this religious positivism soon explained its own worldview guidelines, which also formed the interpretive framework for the texts, and with them new «school» preferences, despite their official cancellation in Luther's program. For example, the interpretation of the message of Ap. Paul, about the priority of faith over works in achieving salvation (justification) (Rom. 3:20-28) and eternal election to salvation (justification) (Rom. 8:30), revealed the reception of the ambiguous Augustinian concept of grace (gratia sanans), human freedom (libero arbitrio) and divine predestination (prae-destinatio). If in A. Augustine it allowed believers to be justified (saved) by grace, benevolent and God-loving even outside the church, then in the Protestant interpretation it divides people into «white lists» chosen for salvation and «black» – doomed regardless of their piety in within the boundaries of the church – «matters of faith» such as fasting, pilgrimage, donations.

Thus, the Protestant opposition of faith and rite formalizes the Renaissance-Catholic tendency to purify the original truth from the burden of comments and conventions, relying on the Augustinian radicalization of the Neoplatonic gradualism of the divine presence in nature. M. Luther's disappointment with the pilgrimage to «Pilate's steps» in Rome in 1510 became a symbolic confirmation of the latter. «It was an attempt to recreate Christianity from its original foundations and its primary conditions, an attempt to revive early Christianity in its supposed purity, to recreate the teachings of Jesus Christ in its simple original form, not obscured by further historical layering. This direction does not pretend to be new, rather on the contrary, subjectively it is focused on returning to the origins and strengthening the principle of faith that is also contained in Catholicism» [240, p. 45].

There was no question of the complete elimination of the church, but if for some humanists the weakening of the role of religious institutions (both in cult, intellectual, and legal terms) testified to the urgency of their reforms «from above», then for Luther's followers it meant the transfer of their functions and responsibilities on an ordinary *individual*. According to Protestant ethics, deprived of intellectual guarantees of truth, he can serve God mainly «morally» – through worldly means of crafts, trade, politics, art, capable of embodying sacred values and virtues without humanistic «self-cultivation» (transcensum), which accompanied exceptional creative achievements. Conscious methodical work (negotiant) of a layman acts as an analogue of asceticism (otium) of a cleric, therefore it acquires the status of a means of repentance for «original sin» and an indicator of divine election. «‹…›The soul of a person in the Old Testament is humbled, but in a humanistic way, a person is exalted due to the possibility of his complicity in His plans» [241, p. 90].

A special direction was the «Christian humanism» of Northern Europe (J. Collet, T. More, G. Beaudet, L. D'Etaples, J. Reichlin, Erasmus of Rotterdam, etc.), which embodied the «third way» of resolving the contradiction of religious worldview and institutions – without revolutionary changes either «from above» or «from below». Like the «Christian renaissance» (Protestantism), he directed the search for the salvation of the uomo universale to a renewed faith, but not so much subjecting it to matters of religion, but humanizing it with the still unused possibilities of the previous stage of development – the rationality and skepticism of antiquity. «If in "classical" humanism it was about the earthly purpose of man, then in Christian humanism the problem of the "earthly purpose" of the Christian teaching itself is posed, which is considered not only in the role of an instrument of eternal salvation, but also in the role of a reasonable and just arrangement of earthly human life based on the principles of Christian morality» [242, p. 11].

Due primarily to the scriptological work of Erasmus, northern humanists are often perceived as the founders of the *ideology* of the Reformation, from which M. Luther, J. Calvin, and others made purely religious institutional conclusions [243]. Thus, the ideologues of the Reformation, who generally shifted the emphasis of Christianity from the cosmic drama to the personal one, were dominated by the belief in the goodness and intelligence of an individual person: at a minimum, this being is universal, at a maximum, a spirit is present in it a priori. This is obviously where the Protestant belief comes from, that it is able to interpret the sufficiently direct language of the Holy Scriptures on its own, replacing clerical norms and scholastic reason with an intuitive conviction that arises in the process of reading this revealed text («conscience»), being critical of one's own views («slavery of the will» compared to the divine) and tolerant of others («freedom of conscience»), in order to generally overcome the «Old Testament Adam» deformed by sin and to implement divine decrees in earthly life. The life of Christ should serve as a moral and practical model for imitation here: «‹…› if for the Romanesque Renaissance God is more symbolic and man is realistic, then for the Germanic Renaissance it is God who is realistic, while man is a symbol, a hint of more» [244, p. 82]. In addition to the content of the sermons, this shift in religious interest is reflected in the paintings of Rogier van der Weyden, H. Memling, J. Bellini, P. Perugino, etc.

However, judging by the outbreak of all kinds of superstition (unglauben), not everyone coped with the new level of responsibility. The fact that the truth is now «obvious as an open Book» means that the supernatural, which happens in poceibich, acquires associations with the ungodly. «Luther himself did not care about working miracles himself: these signs would not affect, of course, those who were not converted by the word ‹…› He sees little convincing power in miracles ‹…› And besides, miracles can, as he often repeats, deceive; the devil can and does perform miracles when he wants to» [245, p. 154-155]. Therefore, we still need to learn to evade heresies generated by «unnecessary» symbolization, guesswork, zealotry, and diabolical interventions. Such «negative piety» under the conditions of equating the believer with the church institution increased mutual distrust and suspicion of «obsession» with sorcery (alchemy), divination (astrology), witchcraft (empirical medicine), inspiration (rhetoric) and, therefore, in violation of «freedom of conscience», which contributed, according to W. Dilthey, to «shifting the legal basis of dogmas into religious morality» [246, p. 37].

On the other hand, all the doubts of a believer about his own experience could be dispelled by being firmly rooted in a certain community (certitudo moralis). The mass experience of artisans and folklore, far removed from metaphysical ambiguities, were especially important. «At the epicenter of an era when the awareness of personal sin was sharpened, Luther wanted to save man by depriving him of his freedom of choice» [247, p. 420].

If from an ethical point of view Protestantism rejects monastic practice, then from a philosophical point of view it relies on nominalism, which refutes universals as bureaucratic mediators of the heavenly and earthly worlds, and is based on W. Ockham's «double truth», which radically separates *faith* and *reason*: the first concerns only the truths of Revelation, the second – the world of earthly things. On this basis, the antinomy of the proper / being is proclaimed, in order to attribute the sacred and miraculous exclusively to the proper and lead them away from all the diversity of the being, in particular, the natural order, history, theology, baptism and the Eucharist. The urgency of this approach is evidenced by how, on the other side of the Alps, G. Galileo, associated with the progressive layers of Catholicism, would reinforce Copernicanism with epistemological arguments: although the «mathematical order of nature» reflects divine decrees, astronomy does not have the didactic goal of «getting to heaven», therefore all its possible contradictions are fully evaluated by the means of humanized science, not heresiology [248, p. 216-219].

The communication between man and God is dominated by medieval mysticism (Aurelius Augustine, Dionysius the Areopagite, Bernard of Clairvaux, Meister Eckhart, Johann Tauler, Jean Gerson), while nature in relation to man reveals features of a peculiar Augustinian *wonder*. Such a creature is more aesthetic in the humanistic sense than rational in the scholastic sense, and acquires certainty in the order of purely human empirical hypotheses (M. Montaigne, P. Charron and other «new pyrrhonics»), justified by labor or experimental practice and embodied in social reforms (B Palissy, P. de la Rame, F. Bacon).

Notable in this regard is the fate of the Copernican system of the celestial spheres at the Wittenberg University under the care of F. Melanchthon: despite all its seditiousness, its mathematics enjoyed official popularity as a profitable model of astronomical calculations and predictions without regard to «causal explanation», since it was considered sufficiently supported by Aristotelian physics and, most importantly, by indifferent practice [249, p. 80-84].

Among English scientists, on the eve of the founding of the Royal Society of London, for similar reasons, religious, political, and humanitarian issues were «put aside» and later they did the same with general theories, transferring the dignity of their probability to empirical facts and methodical procedures. In the charter of the Royal Society of London, the goal was declared «to improve the knowledge of natural subjects and all useful arts ‹…› with the help of experiments, without interfering with Theology, Metaphysics, Morals, Politics, Grammar, Rhetoric, or Logic» [250, p. 58]. In France, the National Academy of Sciences of Paris had external control from the royal power, which recognized the experimental approach on the condition that it did not extend to politics, religion and social orders. «Scholars could offer several competing viewpoints on the same issue and have a sense of common progress and eventual agreement. It was no longer necessary for them to split into factions opposing each other with a wide and scattered front, as before in philosophical conflicts» [251, p. 147].

At the same time, to the extent of the institutionalization of the assets of Protestantism and the development of its own theology, some scholasticism, in particular, the servile status of philosophizing, returns and makes itself felt in the internal opposition of Protestantism. «While the first generation of reformers were preoccupied with serious concerns about the rights of human reason, it seemed to their successors that it could play a role both in formulating new theological dogmas and in reconciling the conflicting beliefs of the various denominational groups that arose after the Reformation» [252,.p. 241]. For example, F. Melanchthon began to include Aristotle in the university curriculum, but in his original «pagan» form, which acquires the aura of a humanist and loses its relation to the metaphysical maintenance of religious issues.

At the end of the Thirty Years' War, rationality is increasingly concentrated in the «natural light» of human reason (for example, in craft productivity and personal enrichment, which have become conjoined with grace). Under the influence of Protestant thought, which rejected the inner activity of matter as «occult» and «supernatural», philosophy and natural science in the first half of the XVII century reject the intrinsic value of privileged types of activity and switch to a mechanistic «philosophy of nature». Having connected it with the ancient mathematical pedigree, as artists and humanist engineers (F. Brunelleschi, Taccola, Leonardo, G. del Monte, A. Ramelli, etc.) had already done with «service» art, merchants, sailors and craftsmen of northwestern Europe (R. Record, J. Dee, R. Norwood, R. Norman, V. Borrow, etc.) took the place of new «doctors». «It was during the Renaissance that the boundary that existed between science (as an understanding of things) and practical, technical, craft activities was first removed – a boundary that neither ancient scientists nor ancient craftsmen: artists, architects, builders, crossed» [253, p. 515].

By regulating the order of actions (means) and not the content of experiences (goals), the new *methodical* rationality abandons the appendages of natural magic, rethinking the «natural causes» of things from their imaginary expedient substances to «corpuscular texture» – visible and commensurate with everyday trade and craft experience and the Lutheran understanding of the Eucharist is the (re)combination of parts of things. Such «small machines of nature» are set in motion no longer spontaneously – by inner souls, mutually coordinated by a transcendental Idea or global sympathy, but by the actions of other parts of matter, ideally covered by the *formal means* of mathematical functions. The latter, expressing all possible ways of corpuscular (re)combinations regardless of the world hierarchy of goals, equate earthly active and heavenly formal causes of scholastic determinism, and thus reduce the qualitative diversity of things to their quantitative ranking.. The values of this kind of laws are not contained in the totality of material things, but are given by the *relations* of theoretically relevant conditions of their existence and are tested not by the creation of an ideal instance for the entire series, but by the temporary change of the state of an arbitrarily taken individual from the existing to the experimental.

Thus, in Protestant circles, the mediated and asymptotic grasp of the ultimate mystery of the dispensation of grace amidst the pretended randomness of personal predestination is projected onto science as a matter of mutual refinement and testing of scientific instruments in relation to the infinite expediency of divine knowledge amid the wondrous possibilities of his natural creatures. In particular, the practice of moral self-awareness, which includes purification from unnecessary urges and extrapolation of the received *due* to the whole life, is projected onto science as a methodology of experimental elimination of *un*controlled factors of the existence of objects and theoretical generalization of the rest in the form of mathematical relations. «Yes, mathematical natural science, which in its own calculations rationally represents the processes of nature, turns out to be reason, and the highest completion of the inherent reason would be if the course of human history did not encounter the obstacle of factum brutum, chance and arbitrariness anywhere, but (using the words of Hegel) would allow us to reveal reason in history» [254, p. 97].

5.10 Conclusions

The era of the European Renaissance is considered a rare example of a relatively sharp change in social outlook – from theocentrism to anthropocentrism, which resembles a repetition of the ancient context of the genesis of philosophy and science with a «cosmic» emphasis on the forms and methods of rational thinking in the fields of philosophy, philology, logic, mathematics (and its applications in astronomy, geography), and now also artistic and mechanical arts. Regarding rationality itself, they are reluctant to note any specifics here, limiting themselves to its assessment in philosophy as synthetic in relation to the ancient and medieval paradigms and in science as transitional from the scholastic to the classical scientific paradigm. The starting condition for the possibility of such a synthesis was a number of humanistic antitheses of scholastic rationality, which directly involved converting a person to his «once achieved» ideal:

- the philological revival of the practical «spirit» in addition to the formal «letter» in relation to ancient texts, which involves the distinction between narration and documentary evidence, exact quotation and compilation, hence the possibility of supplementing archeography with new finds and interpretations;

- ethical secularization of spiritual practice in the unity of its personal economic and socio-political development, which leads to a reorientation of knowledge from authoritative statements to the earthly world itself;

- philosophical apologia of the dynamic ability to combine in one person the harmony of all levels and types of existence (microcosmism), which consolidates the rhetorical ideal of a comprehensively developed person (uomo universale) and maximally expands his place in the world (anthropocentrism);

- the artistic provision of the creative ability of man as the heir of God in the cause of the unlimited improvement of created nature (titanism), which initiates the blurring of the medieval demarcation of the heavenly and earthly worlds through the «spiritual circulation» of the Florentine Platonic Academy;

- socio-historical justification of experiential methodology as a scientific means of establishing natural laws in the form of N. Machiavelli's «eternal cycles», which contributes to the structural identification of hierarchical levels of the world.

Contrary to the medieval spiritual practice, the Renaissance man, sifting through the creative abilities of the Absolute, ceases to perceive things exclusively in their involvement in *super*personal existence, and himself gets rid of the predominant regulation by external structures. In particular, this is manifested in the development and dynamization of the late scholastic hierarchy of cognitive abilities, goal-oriented towards divine ideals: human aesthetics (sensus) corresponds to the existing ontology, and rationality is capable not only of experiential generalizations and demonstrative conclusions, but also of intuitively revealing everything hidden (intellectus). However, from the XVI century disappointments in the anthropocentric hopes of humanism turned the philosophical thought of Italy to the *natural* expediency of human activity, as it had already happened in Greek rationalism.

On the other hand, taking into account the duality of the Christian perception of nature, in addition to the cosmic emphasis in «God's creation», the biblical one, which was embodied in Augustinian voluntarism, needs a separate study. After all, it is with the realization of this emphasis in the Reformation that the formation of the mechanistic image of *living* nature as the inheritor of the affective chaos of the human fall and the *mechanized* one as the sacred ideal of the original world order with the approach of man to the status of an absolutely preceding «subject» and therefore completely free in his goal-setting is connected mind.

The transitional status of natural philosophy led to the combination of the scholastic mind of the speculative demonstration of a priori truths with the search methodology of hermeticism, providing a short perspective of the closed rationality of revealing the «realistic» secrets of pantheized nature with the humanistic-aesthetic measure of its knowledge. At first, the process of substantialization as the transfer of all the fullness of being to corporeal nature (atoms, elements, or bodies) provided a mutual projection of determination and explanation by «causes» of the above and below worlds. However, the exhaustion of the humanistic institutions of the Renaissance project against the background of the Copernican revolution in astronomy removed the hierarchy of objects and means of the scientific mind: instead of the traditional demonstrative circulation of έπιςτήμη and δοξαι, corresponding to the levels of being and non-being, respectively, probabilistic innovative hypotheses are put forward, in which internal perfection corresponds to various methods of external justification, combining images and ideas, experiment and deduction, artificial and natural.

The economic atomization of society and worldly distortions of theocentrism provoked the transfer of a person's attachment to the Absolute into personal life and civic self-identification. As a result, in the Reformation, the mysteriousness of orthodoxy or the excess of practical expediency began to be qualified as irrational and brought to the fore of personal conscience. Her «worldly asceticism» as an earthly criterion of inspiration took the place of the means of philology, with which humanists tried to restore the original reading of the Holy Scriptures. In a similar way, the attitude towards the Book of Nature is also deprived of rational-scholastic mediators: if in natural philosophy the pyramid of the world is endowed with substantiality and is perceived as homogeneous – with equal expediency of all elements in the common structure of the organismic universe, then in the Reformation – dually connecting the initiative man and spontaneous-atomistic nature, polarizing them in the future as a complete goal-setting «subject» and materially-empirical «object».

Here, the scientific mind is presented with *experiential* guidelines of truth and mastery of nominalistic nature – procedural, interventional, instrumental, incomplete and hypothetical. Being indifferent to the substantial arrangement of nature, they feed not so much on the creative encroachments of a person as on his moral motives (certitudo moralis), the probable expediency of which is justified by the invariants of their mathematical means. It is characteristic that at that time the trial against H. Galileo concerned only the literal physical interpretation of Copernicanism, which, in addition to its «irrationality» and «impracticality», brought confusion into the «uncharacteristic» field of revelation truths. On this basis, only the reformation of the mathematical apparatus of astronomy, approved as a neutral means of clarifying calendar and astrological forecasts, will prove promising in order to shake the official Aristotelian-Ptolemaic cosmology and prepare rationalism as a rational narrowing of the theory of knowledge of the XVII century. The latter requires further research, because it is through his lens that the apologia uomo universale will pass into the discourse of power, naturalism into deism, Christian creationism will acquire the features of deism, and kenosis into the unequivocal determinism of «classical mechanism».

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