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DISAPPEARING PROFESSIONS: LABOR MARKET TRANSFORMATION IN THE CONDITION OF MODERNIZATION CHALLENGES OF POST-INDUSTRIAL SOCIETY

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The article draws attention to the social challenges and human trials that have arisen during the modern digitalization of production, everyday life, everyday life, leisure and education. The article reveals the peculiarities and factors of the processes of disappearance or transformation of professions in industrial and post-industrial societies. The aim of the article is a socio-philosophical analysis of professions and professional fields that have a high risk of extinction under the influence of automation, robotics and digitalization of production process.

The study found that at the beginning of the XXI century, the professional area of both the center and the periphery of the world system, is characterized by the emergence of online professions, relentless robotization and digitalization of production and services. Thus, in the last century man, having received a narrow professional specialization, could work in one job all his life, in the fourth industrial revolution you must have a wide range of professional competencies and be ready to change jobs and professions every 3-5 years.

Based on the method of comparative analysis, it is established that in the conditions of automation, robotics and digitalization professions and jobs associated with monotonous, including empirical intellectual work that does not require creative thinking (such as librarians and archivists, work of civil servants on registration of various types of documentation, certificates, etc.) got endangered. It is proved that another important segment of robotics and automation is the field of heavy, manual or monotonous physical labor. In the coming decades the control of machines in these segments of production will be completely automated. As a result, such professions as bricklayer, miner, taxi driver, public transport driver and others are threatened with extinction.

In the coming years the largest number of jobs and professions will be lost in the middle segment of professional activity, where stereotyped monotonous functions are performed. At the same time, in the field of low-skilled, manual, low-prestige manual labor, even in the developed countries, these

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vacancies will not disappear yet. The work of low-skilled workers, primarily migrant workers, costs production owners less than the introduction of expensive automated and robotic systems. At the same time, in the digital society of the future, professions will be shifted to the Internet, many of the current professions will be renamed with the addition of "Internet", such as "Internet marketer", "Internet psychologist", "Internet lecturer" and others.

Key words: *Disappearing Professions, Social Uncertainty, Social Risks, Human Trials, Everyday Life, Automation, Robotics, Digitalization, Industry 4.0.*

ПРОФЕСІЇ, ЯКІ ЗНИКАЮТЬ: ТРАНСФОРМАЦІЯ РИНКУ ПРАЦІ В УМОВАХ МОДЕРНІЗАЦІЙНИХ ВИКЛИКІВ ПОСТІНДУСТРІАЛЬНОГО СУСПІЛЬСТВА

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У статті привернуто увагу до соціальних викликів і випробувань людини, що виникли при сучасній діджиталізації виробництва, повсякденного життя, побуту, дозвілля та освіти. Розкрито особливості та чинники процесів зникнення або трансформації професій в індустріальному і постіндустріальному суспільствах. Метою статті є соціально-філософський аналіз професій і професійних напрямів, які мають високий ризик зникнення під впливом автоматизації, роботизації і діджиталізації виробництва.

З'ясовано, що на початку XXI століття професійний простір як країн центру, так і периферії світ-системи, характеризується появою онлайн-професій, невпинною роботизацією та діджиталізацією виробництва і сфери послуг. Якщо у минулому столітті людина, отримавши вузьку професійну орієнтацію, могла все життя пропрацювати на одному робочому місці, то в умовах четвертої індустріальної революції людина повинна мати широкий діапазон професійних компетентностей і бути готовою кожні 3-5 років змінювати і робоче місце, і професію.

На основі методу порівняльного аналізу встановлено, що в умовах автоматизації, роботизації і діджиталізації під загрозою зникнення опиняються професії і робочі місця, пов'язані з монотонною, зокрема емпіричною інтелектуальною роботою, яка не потребує творчого мислення (як-от, професії бібліотекаря і архіваріуса, робота державних службовців щодо оформлення різних типів документації, довідок та ін.). Доведено, що іншим важливим сегментом роботизації і автоматизації залишається сфера важкої, ручної або монотонної фізичної праці. Вже у наступні десятиліття керування машинами у цих сегментах виробництва буде мати виключно автоматизований характер. Внаслідок цього під загрозою зникнення опиняються такі професії, як будівельник-каменяр, шахтар, водій таксі, водій комунального транспорту та ін.

Найбільша кількість робочих місць і професій у наступні роки буде втрачена у середньому сегменті професійної активності, де здійснюються стереотипізовані монотонні функції. Водночас у сфері малокваліфікованої, ручної, непрестижної фізичної праці навіть у розвинутих країнах світу означені вакансії поки що не зникнуть. Робота малокваліфікованих працівників, насамперед, трудових мігрантів, обходиться власникам виробництв дешевше, ніж упровадження дорогих автоматизованих і роботизованих систем. Водночас у діджиталізованому суспільстві майбутнього відбудеться зміщення професій у сферу Інтернету, багато з теперішніх професій отримають інше найменування з додаванням формулювання "інтернет", наприклад "інтернет-маркетолог", "інтернет-психолог", "інтернет-лектор" та ін.

Ключові слова: *зникаючі професії, соціальна невизначеність, соціальні ризики, випробування людини, повсякденність, автоматизація, роботизація, діджиталізація, Industry 4.0.*

Introduction of the issue. With the rapid introduction of the mechanisms of the fourth industrial revolution (automation, robotics, internetization, digitalization) into various spheres of production and maintenance in different regions of the world, and the projected reduction of jobs for people consequently, the study of the segment of professional orientations, where work

for people will remain, is extremely relevant. It is already clear that in the coming decades the labor market will undergo qualitative changes due to the emergence of hundreds and thousands of vacancies in new professions, which today can only be guessed. At the same time, any forecasting of the labor market of the future is impossible without the study of those professions that will disappear due to the accelerated technologicalization of production.

The urgency of the analysis of these issues in the Ukrainian reality is even more significant due to the war with Russia and the rapid degradation of the Ukrainian economy and Ukrainian society due to several controversial and often ill-considered modernization projects, lagging behind of the Ukrainian economy compared to the development of the center of the world system, mass unemployment among the citizens of our country and mass labor migration, the actual absence of the middle class and the poverty of a great part of citizens of Ukraine and others. In such conditions, the professional orientation of young people to promising professions in a robotic society and the conscious avoidance of occupations that have a high risk of extinction remains an important area of socio-philosophical research.

Current state of the issue. Analysis of the processes of disappearance or transformation of the labor market in an industrial and post-industrial society is a well-developed scientific problem. In this regard, the systematic study of the reasons for the decline of the silk industry in Syria in the twentieth century made by Ahmet Taşğin and Marcello Mollica is noteworthy [1]. Of particular importance in the context of the study of disappearing professions is a comprehensive study of the impact of computerization on the US labor market by Benedikt Frey and Michael Osborne [2]. In it, researchers predicted the rapid computerization of production, which employs low-skilled workers with low wages. At the same time, a number of researchers, namely Nir Jaimovich, Henry Siu, Matias Cortes [3], [4] point out that the biggest losses are expected by those professional groups that are engaged in monotonous template works. .

In turn, the Australian researcher Peter Fleming predicted that in the conditions of robotization of production, work for people will remain. However, it will require less skill and responsibility, and therefore will be low paid [5]. In general, a significant number of researchers and experts of consulting companies agree on the disappearance of many professions due to automation and robotization of production, especially in the field of monotonous low-skilled production functions. At the same time, the need to identify key segments of professions doomed to extinction or transformation in the context of the fourth industrial revolution is one of the unresolved issues in this area.

Aim of research is a socio-philosophical analysis of professions and professional fields that have a high risk of extinction under the influence of automation, robotics and digitalization of production.

Discussion and results. The processes of automation of production and services are not something qualitatively new in human history. They have accompanied at least four stages of industrialization, beginning with the introduction of James Watt's steam engine technology (1784). Naturally, the automation and introduction of technological innovations in different historical periods led to the disappearance of some professions and the formation of entire clusters of new professional orientations. At the same time, resistance from workers who faced the threat of imminent unemployment often accompanied automation processes. Clear evidence of these processes was the spontaneous social movement of the Luddites against the introduction of machine production in Britain in the late eighteenth – early nineteenth century.

We should note that in the XIX – first half of the XX century professions related to the maintenance of urban infrastructure were quite common. Among them there should be mentioned the professions of chimney sweeps, lanterns, rat-catchers, shoe shiners, and others. The profession of chimney sweep was rightly considered respected in society, as chimney sweeps prevented fires that were catastrophic in densely populated cities.

However, with the development of central heating, central electric lighting, central water supply, sanitary inspections, a significant part of such professions has naturally disappeared. The key reason for their disappearance was scientific and technological innovation.

At the same time, in the XX century, the professions of hard physical labor in rural areas have virtually disappeared in the developed countries of the world. Among such professions were the professions of mowers, blacksmiths, shepherds and others. At the same time, in the countries of the periphery and part of the semi-periphery of the world system, hard physical labor is still widely used in agriculture. Professions in the field of textile production have undergone qualitative transformation in the context of production automation. An eloquent example of this was in the last century the disappearance of the profession of silk fabric producers among Syrian Christians, which for a long time attributed them to the middle class in terms of income [1:922].

During this period the masonry profession that from ancient times consisted of crushing rocks for use in construction was also threatened with extinction; later it was reduced to the processing of hard stone. This profession was one of the oldest and most difficult in human history. In different periods, it was coercive due to the widely used labor of slaves or convicts. Today, representatives of this profession with the help of hand tools and some mechanical devices continue to erect foundations, walls, frames, columns of buildings, install reinforced concrete floors, put stoves and fireplaces, and others.

According to the Classifier of Professions DK 003: 2010 in force in Ukraine, the profession of a stonemason still has two professional orientations: stonemason (construction, installation and repair and construction work), stonemason (stone processing) [6]. Nevertheless, in the second half of the XX century already specialized technology, which replaced the hard physical labor of man, was actively introduced in this professional field. In the future, although remaining in the labor market for some time, the profession of mason is in danger of reduction, primarily due to the introduction of 3D printer technology in construction. The professions that have disappeared due to the advent of new technologies include the professions of printers and telephone operators, which were in demand in the middle of the last century. During this period, it was impossible to imagine any institution or office where secretaries-printers did not type texts. Nowadays, these functions have shifted to the use of personal computers, and in the context of digitalization in most countries around the world, e-government and electronic document management are actively implementing.

Significant transformation of the labor market also determines the evolution of the use of certain concepts to denote professions. Thus, in the nineteenth century, the term "computer" was used to denote a person's professional affiliation as one "who computes; a reckoner; a calculator" [7]. In the next century, this concept began to be used to denote not the human profession, but a technical device with which large amounts of information are processed.

Along with technological innovations, another reason for the disappearance of professions is the change in people's cultural preferences. An eloquent example of such a reorientation is the

once popular profession of shoe shiner. It disappears because the need to clean shoes disappeared. On the one hand, shoe cleaning has become an individual matter, and on the other hand, the decline of the shoe shiner profession has been due to increasing cleanliness on city streets due to asphalt pavement and construction of sidewalks.

It should be noted that a significant feature of automation and robotization of production at the beginning of the XXI century is the accelerated pace of their implementation, as well as the fact that fewer and fewer areas of socio-economic life where human labor can be involved. These processes have found ambiguous assessment and provoke persistent discussions in the modern scientific paradigm.

Back in 2013, Oxford researchers BenediKt Frey and Michael Osborne published the results of a comprehensive study of the impact of computerization on the development of 702 professions in the US labor market. They found that in the United States, about 47% of total employment in the coming decades will be threatened by cuts due to computerization. At the same time, the level of wages and the level of education "exhibit a strong negative relationship with an occupation's probability of computerisation" [2:1]. Benedikt Frey and Michael Osborne predicted a reduction in the current polarization of the labor market, which would limit computerization to segments of the labor market in low-skilled and low-paid occupations. At the same time, researchers expressed optimistic expectations that due to computerization tasks that are not subject to computerization will be redistributed, among low-skilled workers. As a result, employees will be forced to raise their own "creative and social intelligence" [2:45]. In other words, the adaptation of people to qualitatively new requirements of the labor market depends on their acquisition of creative and social competencies.

Another researcher, Tippins Karl, notes that the projected reduction of as much as six percent of the world's workforce is not such a dire scenario. In many cases, automation will not eliminate jobs, and automation and "artificial intelligence will help change job roles and increase employee efficiency" [8]. As a result, it can make business more successful and help increase employees' wages by stimulating consumption of goods and further economic growth.

Australian researcher Peter Fleming also took an active part in this discussion, arguing that in the conditions of automation and robotization of production and services, work for people will not disappear completely. It will remain, but radically transformed and not always for the benefit of man. The researcher emphasizes that jobs for humans during the robotization period "are considerably poorer in terms of skill, responsibility and pay" [5:24]. Fleming's concept of limited automation allows us to conclude that in the near future "increasingly low-skilled (be they unautomated or semi-automated) jobs are likely to flourish" [5:31]. Israeli scientist Albert Feldman is of a similar opinion, emphasizing that in fact, in today's world, virtually anyone can find a job: "There is no shortage of jobs in any country, but not every job has a salary that a person would consider worthy" [9]. Thus, in the future, the vast majority of people are projected to work in low-skilled and low-paid jobs. Instead, competition for prestigious high-paying jobs will only increase.

The international team of researchers led by Nir Jaimovich and Henry E. Siu also agrees on the reduction of human work in the field of monotonous production functions. Representatives of this group emphasize that the acceleration of robotics processes and job losses in the field of routine occupations occurs, especially during periods of economic decline [3]. In another study, Cortes, Guido Matias and

Jaimovich, Nir found that in the United States over the past 35 years, declining production with routine occupations among people in some demographics is directly related to the disappearance of a significant part of occupations and rising unemployment in the segment of occupations with average wages. These demographic groups also accounted for a significant proportion of the unemployed among those who lost their jobs in the low-paid manual routine occupations [10].

In another study, they analyzed the rate of decline in the number of regular occupations with an average wage over the past 40 years. Researchers have found that the reduction of employment in these professions is directly related to the automation of production with routine occupations [10]. In addition, researchers emphasized that the decline in employment is not related to demographic pressures, including migration processes. Instead, with the growth of automation of these industries in the United States there is an active redistribution of employment between different professions and an increase in the number of unemployed.

Experts from the consulting McKinsey Company back in 2017 drew attention to the connection between the transformation of the labor market and the disappearance of routine occupations. According to their forecast, in the future robots will soon perform routine and semi-routine occupations, as well as mental work. These jobs now make up 51% of the U.S. economy: the salaries of accountants, lawyers, butchers, waiters, and drivers are about $ 2.7 trillion [11]. The decline in human employment in the segment of routine occupations is taking place against the background of the recovery and growth of various sectors of the world economy after the crisis caused by the Covid-19 pandemic.

In contrast, there are a number of researchers who do not consider routine occupations where low-skilled manual labor is used to be the first to disappear. Ukrainian researcher Yana Stepankovska drew attention to this aspect of automation. She believes that automation in modern enterprises affects, first of all, mid-level work. Although robotic systems are already capable of performing quite complex tasks, they "still cannot show artistic creativity or professionalism" [12]. In this regard, the team of authors of the study "Professions of the Future for Ukraine" argues that the decisive role in the automation of production is its belonging to the segment of medium complexity.

Thus, according to the Author's curve, developed by American researcher David Author on the basis of a comprehensive study of employment in various sectors of American industry from 1980 to 2005, there was an increase in employment among low- and high-skilled workers and reduced employment and automation among middle-skilled workers [13:25]. This is because today, computer programs are able to perform work of medium complexity on stereotyped patterns. In a broad sense, businesses are not yet ready to quickly automate and robotize production because of the high cost of such systems. Of particular interest are studies on the impact of robotics and digitalisation on the development of developing countries. In this regard, the conclusions of an international research group of Stefano Bellucci and Eric E. Otenyo on the impact of digitalisation on the African labor market are noteworthy. Researchers have concluded that job cuts for people in Africa are due to the fact that "Africa’s digitisation index moves closer to the ‘emerging’ and ‘transitional’ stages of digitisation" [14:215]. Depending on the intensity of digitization in different countries of Africa, there is a rapid reduction in employment in previously popular video kiosks, among producers and duplicators of video films, video rental shops [14:213]. Instead, in the global context, the experts of the consulting McKinsey Company pointed out in 2017 the likelihood of a significant

reduction in the number of jobs, and thus the disappearance of entire segments of the labor market. They predicted that by 2030, more than 800 million jobs could be lost due to automation, and 475 million workers would be laid off [11]. The authors of the report noted that at least 50% of production capacity in the world is already automated.

According to most researchers of automation and robotics, in particular Alfred Feldman, the main challenge for society in the context of robotics is the emergence of a "class of 'extra people" [9]. According to various estimates, at least 30-40% of people in the coming decades, both in the developed world and in developing countries, will not be able to find work due to the disappearance of dozens of professions and inability to master the professions in demand in the post-industrial era.

These aspects of labor market development are also pointed out by official state institutions, which take care of forecasting the development of professional orientations. For example, the US Bureau of Labor Statistics (BLS) has published its forecast of job losses by 2028 in various occupational clusters. According to it, the biggest reduction in the labor market will affect the profession of locomotive firefighters, who are responsible for monitoring signals and tracks. Thus, it was predicted that from 2018 to 2028, 68% of locomotive firefighters will be reduced as a result of automation. Along with this, the reduction will affect the professions of parking (37% of vacancies will be reduced), telephone operators (28%), postal workers (20%) and others [16].

For comparison, we present data on the demand for professions in the Ukrainian labor market. In August 2013, the International Personnel Portal grc.ua conducted a survey on the most promising professions in the Ukrainian market and professions that may disappear in the future. Among the professions that will disappear from the labor market, Ukrainians included the profession of driver / taxi driver (25% of respondents), teacher / educator (16%), working professions (plumber, turner, locksmith) (15%), service workers (cook, hairdresser, trade worker) (13%), serviceman (police, Ministry of Emergencies) (11%), researcher (8%), civil servant (8%), sales manager (6%), etc. [16]. Among the most promising professions Ukrainians in 2013 named IT professions (47% of respondents), entrepreneur or businessman (16%), legal professions (lawyer, prosecutor) (12%), engineer (11%), architect (10%) and etc. [16]. The professions of manager / director, banker, manager of advertising and PR, doctor, etc. were among the promising according to Ukrainians.

Continuing these considerations, Benedikt Frey and Michael Osborne note that most workers in the transport and logistics professions, most office and administrative support workers, and manufacturing workers are at risk [2:44]. Researchers also point to the extremely paradoxical fact that the decline in employment among people will occur among employees, where in recent decades there has been the greatest growth in jobs in the United States [2:44-45]. In turn, Carl Tippins focuses on 5 key professions that may disappear in the near future: travel agent, taxi driver, store cashier, fast food chefs, administrators of law firms. The researcher paid special attention to the process of automating the work of taxis, pointing out that at the end of 2020 Uber invested millions of dollars in profits in unmanned vehicle projects [8]. In fact, Uber taxi drivers have worked in recent years to be fired in the near future. Note that the demand for people-driven taxis may remain in the labor market in the future. However, the automation of taxis will inevitably lead to lower prices for transportation, and thus reduce the income of human drivers.

One of the factors in the loss of human labor in the fourth industrial revolution was the impact of the Covid-

19 pandemic on the disappearance of occupations in the labor market in most countries. This is a situation not only of social uncertainty and increased risk, but also of significant social challenges and human trials. Therefore, it should become the object of a thorough analysis for scientists, but it will be difficult to study it because of the significant number of indirect consequences for human life, both in the sphere of everyday life, education, and production [15].

Kenneth Terrell addressed this issue. He noted that in the week to August 15, 2020 alone in the United States, more than 1.1 million people applied to government agencies for unemployment [16]. Many of these unemployed once worked in restaurants, shops, theaters, gyms, closed as part of quarantine measures.

At the same time, it is quite difficult to predict whether these jobs will recover after the pandemic. The researcher identified a list of twenty professions that may disappear from the labor market, including under the influence of the Covid-19 pandemic. He included parking attendants, typewriters and printers, watchmakers, car mechanics, millers, telephone operators, postal workers, court clerks, administrators at various levels [16]. As we can see, the greatest risk of extinction due to the pandemic and the robotization of production in his interpretation are workers and professions in the service sector.

According to another forecast, labor market experts predict the disappearance of both service professions (drivers, cashiers, waiters, traders, security guards) and the professions of office workers and employees (travel agents, credit managers, bank employees, journalists, editors). The risk zone also includes working professions, such as builders [18].

The gradual transformation and even the disappearance of the profession of a builder is associated with the increasing use of 3D technology, which can make a building in 24 hours without the involvement of a significant number of people. However, we should emphasize that the profession of a builder is unlikely to disappear in the near future. Most likely, we should talk about the emergence of a new profession – the profession of builder-operator of robotic systems. Moreover, the number of jobs for human builders is in any case undergoing an irreversible reduction.

The professional sphere related to work in government or office institutions is also significantly reduced. Until a few years ago, there were a large number of people involved in the maintenance of archives in government agencies around the world, both at the local level and in ministerial departments. Nowadays, in most countries of the world archival materials are digitized. Thus, it is natural to conclude that the profession of archivist is a thing of the past. Nevertheless, this does not eliminate the problem of cybercrime, the threat of destruction of electronic databases and the need to archive and store information on non-electronic media.

Most experts consider the profession of travel agents to be disappearing. In the future, it can remain only "in the elite segment, where it will be particularly appreciated that a person works with the client to order individually, not the program" [12]. Similar transformations will touch upon the profession of legal adviser, because even now almost all regulations have been transferred into electronic form and people can have free access to them. This profession is very likely to exist for people only in the elite segment of legal services.

The work of a literary editor or journalist is also under threat. According to Yana Stepankovska, Bloomberg has already laid off some staff, starting to use a computer program that writes stock market news much faster than journalists do [12]. According to consulting companies, over the next two decades, up to 95% of media tasks will be solved by artificial intelligence.

There already exist programs that not only translate texts from one language to another, but also are able to adapt it to a certain style, journalistic or scientific. These programs are not yet perfect and their texts need to be verified by humans, but in the long run the profession of interpreter may disappear. Especially since computer programs can already write not only news texts. In March 2016, the Japanese algorithm was able to reach the finals of a prestigious writing competition with a novel, which he also wrote [19]. The pressure of digitalization and internetization also affects the profession of lecturer and teacher of higher educational institution. According to Albert Feldman, in many modern universities, teachers are no longer present during the lecture, they record their content in advance. This has advantages, because the lecture material will be well thought out and well presented [9]. However, after a while the question will arise, where to get professional scientists who will agree to receive a salary once a year, and the university will use their achievements for as long as possible. As a result, many university staff are already facing the prospect of joining a cohort of "extra people" and therefore have to reorient to other professional fields.

Automation and robotization of production processes in various branches of production leads, on the one hand, to cheaper production and increase the level of productivity of any production process. At the same time, savings in production costs are associated with the absence of the need to pay wages to workers, provide social insurance, sick pay, etc. On the other hand, robotics inevitably leads to a massive rise in unemployment and the emergence of tens and hundreds of millions of "extra people". Lack of confidence in the ability to keep or get a job, which haunts many of our contemporaries, leads to a permanent feeling of hopelessness of their own lives, increasing levels of neurosis and mental disorders. In the long run, this can cause conditions for the growth of antisocial behavior and crime. The direct consequence of these processes is the impoverishment of a large part of the population and, as a consequence, a reduction in the birth rate.

In this regard, in the developed countries of the world testing of mechanisms for the introduction of unconditional basic income is already underway as well as mechanisms for the formation of a "new middle class" [20; 21]. In addition, the need to retrain a large part of the population to obtain occupations in demand in the labor market for people in a post-industrial society remains relevant. One of the ways to solve the problem of "extra" people, some researchers (Albert Feldman) consider life through rent, capital, pre-accumulated by the person or his parents. By the way, for example in the United States, "the category of people who do not benefit is 10-12%. And in countries where the cult of work is high (Japan, South Korea), people who do not "fundamentally" work – 1-2% [9]. These are people who do not work at all, even from home, but live for their own pleasure.

Another researcher, Peter Fleming, is quite critical of Bill Gates and Elon Musk's initiatives to solve the problem of job loss for people with the idea of introducing a "robot tax". In contrast, he offers three ways to solve the problem of job loss for people.

First, the focus should be on developing and protecting the skills of human workers. Secondly, as the transfer of many people to temporary contracts, self-employment, has seriously undermined the collective union protection of workers, making them particularly vulnerable to regressive use of technology, it would be useful to introduce works councils and participatory budgets to democratize robotics. Third, the decentralization of the labor institution as a whole remains important in order to make people independent of the capricious labor market in the conditions of robotics by

means of the introduction of a three-day working week, the introduction of unconditional basic income and others [5:32].

Conclusions. In general, the rapid development of society at the beginning of the XXI century is accompanied by a qualitative transformation of not only urban and metropolitan design, but also changing professional space, the emergence of online professions, relentless robotization and digitalization of production and services. Humanity has gone through similar processes in the past centuries, albeit much more slowly. In the conditions of the fourth industrial revolution, these processes are significantly accelerated, producing serious challenges to man in the context of his professional orientation. Decades ago, man could focus on a profession that he planned to pursue all his life. At the same time, a narrow specialization was in demand, such as an architect or a biology teacher.

In today's digital society, people must be ready to change their profession every 3-5 years, quickly reorient and retrain instead. Therefore, their basic education should provide a wide universal field of competencies and knowledge. Many professions will either disappear or undergo significant changes in the future. There are several reasons for the disappearance of professions in modern conditions. The disappearance of professions is due to: a) automation or robotization of a particular field of production; b) decline of the sphere of production or services with the following disappearance of entire clusters of professions; c) qualitative change of socio-cultural preferences of people, which causes a lack of demand for certain professions.

The transformation of many professions in a post-industrial society will take place by means of digitalization and the shift to the Internet. Therefore, the wording "Internet" can be added to the name of many professions, such as "Internet marketer", "Internet psychologist", "Internet lecturer" and others. Under the influence of accelerated robotics and digitalization, professions and jobs associated with monotonous empirical intellectual work that does not require creative thinking are endangered. In particular, such professions include the work of librarians and archivists, the work of civil servants on the design of various types of documentation, certificates, etc.

Based on the analysis of expert assessments and labor market statistics, it is substantiated that in the coming years the largest number of jobs and professions will be lost in the middle segment of professional activity, where there are stereotyped monotonous functions. On the other hand, in the field of low-skilled, manual, low-prestige manual labor, even in the developed countries of the world, these vacancies will not disappear yet, but they will be occupied mainly by migrant workers. The work of migrant workers is still much cheaper for production owners than the introduction of much more expensive automated, robotic systems. Another important segment of robotics and automation in post-industrialism is the field of heavy, manual or monotonous physical labor. Therefore, the forecasts of a large number of experts about the threat of extinction of such professions as builder-stonemason, miner, taxi driver, public transport driver, etc. are justified. It is very likely that in the coming decades the control of machines in these service segments will be automated.

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