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SOVIETIZATION OF HIGHER TECHNICAL EDUCATION: CASE OF THE LVIV POLYTECHNIC INSTITUTE

The article examines processes of sovietization of higher technical education in Eastern Halychyna, under the conditions of its occupation and integration by the Soviet Union. From the autumn of 1939, fundamental changes took place in the content of region's education, according to the soviet model. The study analyses specific examples of the Lviv Polytechnic Institute Sovietization. Attributes of the Soviet model of technical education are described and the characteristic features of the colonial strategy of its implementation are defined.

In Ukrainian historiography, the issue of the transformation of technical education in the Soviet era is devoted to a small number of studies. Most often, you can find brief information on the websites of current higher technical educational institutions of Ukraine in the sections about their history. They lack an analysis of the implementation practices of the Soviet system of higher technical education. This determines the choice of the topic of the study. The research is based on post-colonial studies. The example of Ukraine, which went through a difficult experience of totalitarian colonization in the 20th century, is especially suited to the application of postcolonial methodology, which unmasks open and hidden mechanisms of colonial and neocolonial enslavement. Postcolonial methodology rejects the overt and implicit encroachments on power inherent in colonial and anticolonial positions and propagates a state of affairs where the antagonisms and competitive intentions of the colonizer and the colonized are eliminated. The purpose of the study is to demonstrate the colonial practices of Soviet technical education on the example of Lviv Polytechnic reorganized into Lviv Polytechnic Institute. The sources of the research are published archival documents, publications of periodicals.

It was found that the Union leadership, carrying out Soviet technical modernization and forming the Soviet technical elite, was interested in the fastest and widest possible implementation of Soviet models of technical education. The strategy of the Soviet model of technical education implementation on the territory of occupied Eastern Halychyna, indicates a colonial approach. This contributed to the communist ideological subjugation of technical sciences and the ideologization of scientific and technical projects, which significantly limited the development of academic life of the Lviv Polytechnic Institute and significantly complicated scientific and teaching work.

Key words: sovietization, colonial practice, technical education, Soviet model, Halychyna, Lviv Polytechnic Institute.

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РАДЯНІЗАЦІЯ ВИЩОЇ ТЕХНІЧНОЇ ОСВІТИ: КЕЙС ЛЬВІВСЬКИЙ ПОЛІТЕХНІЧНИЙ ІНСТИТУТ

У статті розглядаються процеси радянізації вищої технічної освіти у Східній Галичині в умовах її окупації та інтеграції Радянським Союзом. Починаючи з осені 1939 р., відбувалися докорінні зміни змісту технічної освіти краю за радянським зразком. У дослідженні проведено аналіз конкретних прикладів радянізації Львівського політехнічного інституту. Описано ознаки радянської моделі технічної освіти та визначено характерні риси колоніальної стратегії її впровадження.

В українській історіографії питанню трансформації технічної освіти в радянський час присвячено обмаль досліджень. Найчастіше можна зустріти коротку інформацію на сайтах теперішніх вищих технічних навчальних закладів України в розділах про їх історію. У них відсутній аналіз практик впровадження радянської системи вищої технічної освіти. Цим обумовлений вибір теми роботи. Дослідження базується на постколоніальних студіях. Приклад України, що пережила важкий досвід тоталітарної колонізації у ХХ столітті, особливо надається до застосування постколоніальної методології, яка демаскує відкриті та приховані механізми колоніального і неоколоніального поневолення. Постколоніальна методологія відмовляється від явних та імпліцитних зазіхань на владу, притаманних для позицій колоніальної та антиколоніальної, і пропагує стан справ, де антагонізми та конкурентні наміри колонізатора та колонізованого усуваються. Мета дослідження полягає у проявленні колоніальних практик радянської технічної освіти на прикладі реорганізованої у Львівський політехнічний інститут Львівської політехніки. Джерелами дослідження виступають опубліковані архівні документи, публікації періодичних видань.

З'ясовано, що союзне керівництво, проводячи радянську технічну модернізацію та формуючи радянську технічну еліту, було зацікавлене у якнайшвидшому і якнайширшому втіленні в життя радянських зразків технічної освіти. Стратегія впровадження радянської моделі технічної освіти на території окупованої Східної Галичини свідчить про колоніальний підхід. Це посприяло комуністичному ідеологічному підкоренню технічних наук та ідеологізації наукових технічних проєктів, що істотно обмежувало розвиток академічного життя Львівського політехнічного інституту та суттєво ускладнювало наукову і викладацьку роботу.

Ключові слова: радянізація, колоніальна практика, технічна освіта, радянська модель, Галичина, Львівський політехнічний інститут.

Introduction. The forced "reunification" of Eastern Halychyna with the Ukrainian Soviet Socialist Republic (USSR) in autumn 1939 "launched" the process of Sovietization of the newly annexed territories, which consisted in radical change of the entire pattern of educational, social, political, economic, cultural, and everyday life, and in the further formation of the Soviet "life style". From September 1939, the Soviet leadership began to implement the policy of divide et impera (divide and rule), that during the previous twenty years was effectively used as the main tool for managing public behavior in the USSR. The Soviet leadership was interested in the fastest and widest possible implementation of Soviet models of "folk" education. So, it started the process of forced implementation of the principles and rules of economic, social, political and cultural life, that were characteristic for totalitarian state, such as the Soviet Union. This process is called Sovietization in Ukrainian humanitarianism. Among the priority directions of sovietization was technical education of the region, embodied in the authoritative educational institution – Lviv Polytechnic.

Research analysis. In American and European historiography, there is significant amount of researches on Soviet technical modernization, Stalin's "cultural revolution" formation of the Soviet technical elite, etc. (Kendall E. Bailes, 1978; Loren R. Graham, 1993). Researchers convincingly prove that defeat of the Soviet modernization project is rooted in Soviet etatism and technological backwardness. Despite the colossal technological enthusiasm of the Soviet state,

and the development of technologies that was embedded in the global Soviet domination, USSR found itself on the technological periphery at the end of the 80s of the 20th cen. The main reasons for the defeat lay in extensive military-industrial "black hole" that were depleting key resources, technological conservatism, and in ideological subjugation of technical sciences (Chi Ling Chan, 2015). Separately, the "intrusion of politics" into science is evidenced by the life stories of famous mathematicians - Leonid Pliushch and Yurii Shykhanovych. They were arrested in 1972 and imprisoned in psychiatric hospitals for so-called "anti-Soviet" actions. These events pushed the mathematical research environment of Western Europe into a long public international political debate. Characteristic features of the entire scientific and technical process in the Soviet Union were its excessive centralization and extensiveness. At the same time, European and American scientists in their research absoluterly do not separate the development of technical science and education in the Ukrainian SSR from all-Union. This testifies to their perception of the USSR as a single unitary state. Also, in Western historiography, there are no separate studies of scenarios of Sovietization of educational and technical institutions in the Ukrainian SSR or in other republics of the USSR.

Preparatory analysis attests to a significant number of studies on the history of science and technology or individual technical specialties in Ukrainian historiography. A large number of them refer to the pre-Soviet period (Deshchynskyi & Denisov, 2011; Iskovych-Lototskyi & Sevostianov, 2015). On the other hand, very few studies have been devoted to the issue of the transformation of technical education in the Soviet era. Most often, you can find short references on the websites of current technical institutions of Ukrainian higher education in the sections about their history. They usually describe only the Soviet, so-called, "improvement" of the work of scientific and pedagogical personnel, "revision" of educational programs, creation of methodical councils, limitation of the library fund, lack of educational literature, distorted forms of the "struggle against cosmopolitanism", etc. They lack an analysis of the implementation practices of the colonial Soviet educational system. Instead, only numerous changes of the official name of Kyiv Polytechnic University directly testify to such a practice. Assigning universities the names of party figures who were implementing the Soviet system on Ukrainian lands, or commemorating the anniversaries of memorable dates connected exclusively with Soviet history, under the simple-minded idea "for success in training of qualified personnel and development of science" are examples of colonial labeling of educational space (Zerkalov, 2012, pp. 68-74). Researchers of the history of science and technology of Ukraine claim that the strategy of implementation of scientific and technical modernization on the territory of the Ukrainian SSR indicates a colonial approach. For example, in the early 80s of the 20th century. on the territory of the Ukrainian SSR, about 40% of all nuclear power reactors of the entire USSR were located – these are Chornobylska, Khmelnytska, Rivnenska, Zaporizka, and Pivdenno-Ukrainska. The vast majority of commissioned power plants were intended for energy supply of consumers in Eastern European countries and were built in the Dnipro's and Pivdennyi Buh's basins. With their appearance, there was a shortage of water resources in Ukraine itself. According to scientists, up to 6 cubic kilometers annually (Biesov, 2004, p. 306).

Only occasionally in the biographies of the Soviet technical intelligentsia can one find a brief comment about the pressure exerted on them personally or on their scientific researches by military or party departments of the USSR. However, explanations for this pressure were sought only in the area of their so-called excessive independence. There are few studies describing the resistance of students of the Lviv Polytechnic National University to the Soviet educational system and repression they suffered from the NKVD authorities (Levyk, 2017, pp. 79–80).

The **purpose** of the proposed article is to demonstrate the colonial practices of Soviet technical education on example of the Lviv Polytechnic. Several tasks are proposed for its implementation. First of all, it is an analysis of the sovietization process of a technical educational institution and identification of characteristic features of the Soviet model of technical education colonial strategy. The sources of this publication are published archival documents, publications of periodicals.

The main material. Form and content of higher technical education were of particular importance for the Soviet project of modernization of the region. According to the published documents, already from the end of 1939, educational process in Lviv universities was replanned in accordance with the curricula of other higher educational institutions of the Ukrainian SSR. Marking of the educational space by the Soviet leadership began with renaming of the educational institution Lviv Polytechnic to Lviv Polytechnic Institute. In 1978, the full name of the university was Lviv Order of Lenin Polytechnic Institute of the Lenin Komsomol. Its mission in the Soviet concept was to "forge" technical personnel for the entire USSR. In December 1939, the first enrolment of students to the Soviet already higher technical edu-

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cational institution was completed. Training began at six faculties: energy and mechanical engineering, electrical engineering, chemical technology, architecture and construction, road and water engineering, and agriculture. 728 people were enrolled as students (Soviet Lviv, 1956, pp. 140–141). In 1940, the seventh faculty was organized – forestry. Seventy-nine departments with 395 teachers worked at the institute. The educational institution was financed from the state budget of the USSR. In 1940 on the first course of Lviv Polytechnic Institute, were already 50% of Ukrainian students from the total number of first-year students. In contrast, in December 1939, there were only 12.9% of them (Kovaluk, 1993, p. 5). This testifies to the high demand for higher technical education among local Ukrainians.

Implementation of the Soviet model in technical education was carried out with the help of lecturers, primarily from the Russian SFSR and the eastern regions of the USSR. Under the Soviet model refers to introduction of a course system of education, examination sessions, compulsory attendance at lectures and practical classes, and change of all educational programs in accordance with all-Union requirements. An obligatory element of the educational process was a work of the newly created department of the foundations of Marxism–Leninism, which was given one of the priority roles in the educational system of higher education institutions. The Nazi occupation of the city interrupted the process of Sovietization of the region's educational system.

In 1944, after coming again of Soviet power, the reformation of the Lviv Polytechnic Institute continued. All seven faculties and eighty departments, created in 1939-1941, resumed work. 600 people were enrolled in the first course in 1944. These were young people from Kyiv, Kharkiv, Odesa, Donbas, Dnipropetrovsk, Moscow and Novosybirsk. (Soviet Lviv, 1956, p. 242). The Soviet leadership of the institute paid attention to the difficult living and working conditions of students, lecturers and employees of the university. In order to solve them, institute dining hall was opened and its continuous work was established, student dormitories were equipped with the necessary household furniture and appliances. In June 1944, an "auxiliary" (auxiliary) farm with a land area of 90 hectares was organized for the purpose of an additional and stable supply of food products for the institute canteen.

Throughout the second half of the 20th century, the Soviet authorities changed higher technical education, ultimately achieving the ideological subjugation of technical sciences. This was facilitated by the introduction and teaching of the educational course

"Fundamentals of Marxism-Leninism" based on the textbook on the history of the All-Union Communist Party (Bolsheviks), published for the first time in 1938 under the title "Short course of the history of the Central Committee of the VKP(b)", and expansion of work of the department "Fundamentals of Marxism-Leninism". In the first post-war year, it was headed by Professor Viktor Makeiev, who was assigned to work according to the so-called "passport of the Central Committee of the VKP(b)". At that time, only eight people worked at the department. In the future, the heads of the department were appointed on the basis of the decision of the Regional Committee of the CPSU, and then approved by the relevant Union Ministry. Thus, Vsevolod Astafiev, who headed the department after Viktor Makeiev in 1946-1953, was directed from the post of head of a similar department at the Siberian Metallurgical Institute. Later, he was fired due to a conflict with Mykola Maksymovich – rector of the institute. The directions of scientific research conducted by the department were focused exclusively on the role and significance of the "CPSU in the struggle for implementation of the Leninist-Stalinist national policy". With the increase of the number of students at polytechnic institute, the number of employees of the department grew. In 1948, eleven teachers worked at the department, three of them were part-time workers from the Regional Committee of the CPSU. And in 1950-1951 seventeen people worked at the department, including one associate professor. Also, one candidate of historical sciences – Havrilo Vakulenko, who defended his dissertation on July 1, 1950 at Kyiv University – already worked at the department. At that time, Volodymyr Chuhaiov – the future doctor of historical sciences and rector of Ivan Franko Lviv State University in 1981–1990 – began working as an assistant at the department (Terskyi, 2014, p. 3).

In the first post–war years, the main task of educational process was training of technical personnel for reconstruction of a region and integration of Western Ukrainian territories into the economic system of the USSR. The academics of the university were tasked with providing scientific and technical support for the development of industry in the western regions of the USSR, and contributing to the transformation of Lviv into a powerful industrial center of the Soviet Union in accordance with the adopted Stalin's fiveyear plan for the reconstruction and development of the national household of the USSR. Senior inspector of the Main Department of Polytechnic Universities of the USSR's Ministry of Higher Education emphasized that the variety of specialties at Lviv Polytechnic Institute, large number of students, their multinational composition, territorial location of the university in the far west of the USSR are prerequisite for the fact that the institute can be "a powerful breeding ground for highly qualified specialists who will raise our national economy to an even greater level" (Soviet student, 1949, no. 3 (91), 20 January). Scientific and technical support provided by university teachers to local industrial enterprises consisted in consulting in solving important technical tasks or in reconstruction of individual production facilities. Thus, the lecturers of the Department of Materials Technology advised the workers of the rebar plant on issues of heating and casting technology. At the Lviv Plant "Teplokontrol", that was renamed on "Lviv Plant of Electrical Measuring Instruments" in 1968, the Department of Electromechanical Instruments established production of the new devices of a high accuracy class. The Department of Organic Chemistry has developed a new method of production of decorative paints for the Lviv Paint and Varnish Plant. Experimental work on the implementation of methods for determining thermal conductivity was carried out at the institute to assist in the work of the Lviv Power Plant. The process of rational use of gas and reduction of its costs was also improved at then Ukrnafta oil industry associations. Methods were introduced to make the oil extraction process cheaper (Soviet student, 1949, no. 6 (94), 24 February).

During the Soviet period, the polytechnic institute introduced annual practical training or internship, which was called "production practice". University students gained practical experience at the largest enterprises of the USSR - the Kharkiv Turbogenerator Plant, the Dnipro Hydroelectric Station, and others. According to the Soviet model of education, this practice was one of the main elements for formation of the future technical elite – the Soviet engineer – the "commander of socialist construction". A scientific course on the organization of production was also compulsory for students in the last year of study, in which special attention was paid to the tasks of socialist organization of production process. This training course was supposed to help students understand that there is a socialist organization of production and "there is an overfulfillment of norms and early completion of the production program" (Soviet student, 1949, no. 5 (93), 17 February).

In the late 40s of the 20th century to mark the first successes of sovietization, polytechnic institute was awarded a certificate of honor from the Department of Higher Education under the Council of Ministers of the Ukrainian SSR with the award of a transitional Red Banner of the regional committee of the union of higher education workers "for implementation of decisions of

the party and the government" (Soviet student, 1949, no. 3(91), 20 January). Since 1948, it has been one of the so-called "advanced universities" of the USSR.

In the late 1950s and early 1960s, a chain of research laboratories was created at Lviv Polytechnic Institute. They performed scientific and research work at the expense of the state order and individual industrial enterprises. In addition, "closed" departments were formed in the institute, that worked for the military industry of the USSR, where they implemented a number of projects aimed at military needs and developments for the space industry. In 1967, scientific research was carried out on fifty-eight specialties and directions - energy engineering, radio engineering, mechanical engineering, geodesy, construction, chemical and oil industry, etc. According to the Soviet leadership, research work at polytechnic institute was aimed at raising the scientific level of employees and students, solving individual technical, technological, economic problems that were important both for science and for practical application in household sector of the USSR, in general. Certain projects were implemented in institute laboratories, including: complex chemical laboratory for synthesis of the new materials, laboratory for semiconductor materials and devices, laboratory for the simultaneous electrical energy of direct and alternating current transmission by common transmission lines, and others. Important and complex work was carried out by the research laboratory for the study of atmospheric effects on geodetic measurements under the leadership of Professor M. Myhal. Scientific studies of influence of earth's atmosphere on the results of geodetic measurements were conducted. Scientific and technical researches of the scientists and students of the institute were mostly aimed at improving and expanding the military and industrial potential of the USSR.

At the same time, ideologization of technical education continued. Since the 1956 until 1957 academic year, instead of the "Fundamentals of Marxism-Leninism" course, three independent subjects – the history of the CPSU, political economy, dialectical and historical materialism – were introduced as mandatory for all students in the higher technical educational institutions of the USSR. Therefore, in 1957, the Department of Fundamentals of Marxism-Leninism of the Lviv Polytechnic Institute was renamed on the Department of History of the CPSU. At that time, fifteen people worked on it. During 1960–1962, the department was headed by Hryhorii Lomov, graduate of Kharkiv University, associate professor, candidate of historical sciences. Before that, he headed the Lviv Pedagogical Institute, and in 1962–1966 he was the rector of the restored Kharkiv State Pedagogical Insti-

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tute named after Hryhorii Skovoroda. The next head of the department in 1962-1964 was V. Sulzhenko, a graduate of the Lviv Order of Lenin Ivan Franko State University, associate professor, candidate of historical sciences. The following heads of the department went through a similar path, through postgraduate study and dissertation defense at Lviv University: Hryhorii Tambovtsev – head of the department in 1965–1969, and Ivan Mykhailovskyi – head of the department in 1969-1985 (Terskyi, 2014, pp. 2-3). Employees of the Department of CPSU's History played an important role in the process of sovietization of the Lviv Polytechnic Institute. They were responsible for the ideological education of students, formation of materialistic worldview, and organization of the so-called "ideologically saturated" student life. Employees of the department had reduced teaching load in order to prepare effectively their lecture materials on the practice of socialist construction. They attended one-year training courses at Taras Shevchenko Kyiv State University. Such courses were organized for teachers of higher educational institutions of the USSR by party leaders. One-month courses were held in Moscow for all heads of departments of history of the CPSU. In order to accelerate the training of post-graduate students of social sciences, groups were created at Higher Party School under the Central Committee of the VKP(b), whose students had to prepare and defend a candidate's thesis within one to one and a half years (Shudryk, 2014, p. 147). For students of all specialities, compulsory readings of lectures on the history of the VKP(b), history of the USSR, philosophy, so-called "political economy", issues of foreign and domestic policy of the Soviet Union, etc. were held. (Soviet student, 1949, no. 2 (90), 13 January). Students had to study and annotate the works of Vladimir Lenin and Joseph Stalin. And all in order to achieve the so-called "excellent mastery of the basics of Marxist-Leninist science." Without the ideological communist component, according to the Soviet authorities, the students of the polytechnic institute could not become highly qualified technical specialists (Soviet student, 1949, no. 4 (92), 10 February).

Work of the branch of Marxism-Leninism Evening University was one of the sovietization elements of polytechnic institute. His listeners were a significant number of teaching and professorial staff of the university. The Communist Party Bureau made a decision to create a system of monitoring studies, attendance of students and the work of teachers. The leadership of faculty party organizations inspected the entire so-called "educational" process. It listened to the reports of the communists about the course of study, acquisition of material and degree of prepara-

tion for the examinations of students and teachers. Lack of the necessary amount of literature on the course of dialectical and historical materialism in the institute's library, as well as works lobbied by the Soviet authorities by the "classics" of Russian philosophy: Beliynskyi, Herzen, Chernyshevskyi, Dobroliubov was recognized as an significant shortcoming in work of the branch of Marxism-Leninism evening university at one of the party's bureau's of polytechnic institute meetings (Soviet student, 1949, no. 4 (92), 10 February).

A further element of the Sovietization of entire educational process was introduction of the so-called "imitation of best practices" and excursion visits to the centers of the Soviet metropolis. First of all, Moscow, Leningrad, Kyiv and other cities. In archival documents, you can find numerous reports that in order to familiarize students and lecturers of higher educational institutions of the western regions of the USSR with the main industrial and cultural centers of the Soviet Union, the Council of Ministers of the USSR and the Central Committee of the CP(B) of Ukraine facilitate the organization of such excursions during the summer holidays. They were carried out along a fixed route - Lviv-Kyiv-Leningrad or Lviv-Kyiv-Moscow, or Lviv-Kyiv-Kharkiv, Lviv-Kyiv-Stalino (today the Donetsk city), or Lviv-Kyiv-Zaporizhia-Odesa. The best second-, third-, and fourth-year students, professors, and teachers, exclusively from the local population, were selected to participate in cultural and ideological excursions. These persons were supposed to demonstrate the highest indicators of educational and public work. Excursions to Moscow included a mandatory visit to Red Square and the Mausoleum of Volodymyr Lenin.

Conclusions. Having occupied the territory of Eastern Halychyna in September 1939, the Soviet leadership was interested in the fastest and widest possible implementation of the Soviet models of higher education in a region. The Soviet totalitarian regime saw higher technical education in Lviv – the historical capital of Halychyna, one of the important ideological and educational methods of establishing the communist system on western Ukrainian lands. Therefore, the process of forced implementation of the principles and rules of educational life, characteristic for the Soviet totalitarian state, was launched in the Lviv Polytechnic, which was reorganized into the Lviv Polytechnic Institute. Sovietization was most intense in 1939–1941 and in the first post–war years. At the same time, it did not stop throughout the second half of the 20th century, before the collapse of the USSR, testifying to the lack of alternatives, categoricalness and determination in implementation of various elements of the Soviet model of technical education. One of its features was the so-called borrowing of "best practices" and sightseeing visits to the centers of the Soviet metropolis, creation and operation of the Department of Marxism's—Leninism's Basics (later the history of the CPSU), teaching of compulsory subjects for all students: history of the CPSU, political economy, dialectical and historical materialism. This contributed to the communist ideological sub-

jugation of technical sciences. And time–consuming and numerous discussions about "science on service of socialism", "Marxist–Leninist foundations" of scientific projects, significantly limited the Lviv Polytechnic Institute's development of academic life, and significantly complicated scientific and teaching work. It was a kind of the technical educational space marking, typical for colonial practices in building relations between the center and its periphery.

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