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**NATURAL AND PHYSICAL SCIENCES AT LVIV UNIVERSITY  
IN THE SECOND HALF OF THE XIXth – BEGINNING OF THE XXth CENTURY:  
STRUCTURAL AND PERSONNEL TRANSFORMATION**

**Abstract.** *The purpose of the research* – to reconstruct the network of scientific departments of natural and technical area at Emperor Franz I Imperial Royal University in Lviv during the second half of the XIXth – beginning of the XXth centuries; to describe the structural and personnel transformations which took place in scientific departments. **The research methodology** is based on the principle of historicism, application of general scientific and special scientific methods, in particular, a comparative historical method, a scrupulous analysis of contemporary statistical and information publications of Lviv University. **The scientific novelty** of the study consists in the fact that for the first time in Ukrainian and foreign historiography there has been generalized the information on the scientific units of natural and technical direction of Lviv University during the Austrian period (in the previous publications on this issue the emphasis is focused on the departments); a clear scheme (in accordance with scientific areas) of their reorganizations has been made, which is reflected in structural changes, name changes, management, etc. The factual material and concluding statements presented in the publication will be

important for the study of the history of science in Galicia. The factual material will become a kind of matrix for further studies in this area of historical local studies. **The Conclusions.** After the revolution of 1848 – 1849, the Austrian monarchy, which also influenced the activities of Lviv University, began its reform. It also affected the scientific sphere, taking place in the context of the development of science at that time (from the end of the 1850s – under the influence of positivism). From the middle of the XIXth century the university began to develop a network of units known under the term “scientific institutes” (these included structural units of various fields – technical, natural, humanitarian, as well as the Library). Within the natural sphere, these units included offices, collections, museums, laboratories, institutions, institutes, clinics and dispensaries, seminars, etc., as well as the Botanical Garden. In the majority of publications (since the end of the XIXth century) these units have either not been mentioned at all, or researchers identify them with the departments, consider these units as a part of departments. This approach led to the fact that we often see a lack of interest and attention to the official names of these units, which reflect both their specifics and features of reorganization during the second half of the XIXth – beginning of the XXth century. Special attention should be paid to seminars, which from the 1850s till the reform of the 1920s should be interpreted not only as a form of educational process, but also as a scientific institute. During the middle of the XIXth – beginning of the XXth century, on the example of the development of physical and natural sciences, we trace changes in the forms of scientific institutes (for example, office – museum – institution / institute) and observe the formation of scientific schools of famous scientists (heads of scientific units) on the basis of their assistant support staff (assistants, demonstrators, scholarship holders). The development of the network of scientific institutes reflects the development of science in general, the tendency to single out narrower areas (Physics, Meteorology, Astronomy, Chemistry, Geology, Biology, Botany, etc.) from previously integrated fields of scientific knowledge (eg. Physics or Natural History). Medicine, which received a new stage of development from the last third of the XIXth century, had its own specifics in terms of structure at Lviv University and it was intensified with the resumption of the medical faculty activity in 1894.

**Key words:** Lviv University, scientific institutes, physical sciences, natural sciences, museum, seminar; the second half of the XIXth – beginning of the XXth century.

## ПРИРОДНИЧІ Й ТОЧНІ НАУКИ У ЛЬВІВСЬКОМУ УНІВЕРСИТЕТІ В ДРУГІЙ ПОЛОВИНІ ХІХ – НА ПОЧАТКУ ХХ СТОЛІТТЯ: СТРУКТУРНІ ТА КАДРОВІ ТРАНСФОРМАЦІЇ

**Анотація. Мета дослідження** – реконструювати мережу наукових підрозділів природничого й технічного спрямування в Царсько-королівському університеті імені царя Франца І у Львові впродовж другої половини ХІХ – початку ХХ століть та охарактеризувати структурні й кадрові трансформації, які відбувалися з ними. **Методологія дослідження** ґрунтується на принципі історизму, застосуванні загальнонаукових та спеціально-наукових методів, зокрема, порівняльно-історичного методу, скрупульозному аналізі тогочасних статистично-інформаційних видань Львівського університету. **Наукова новизна дослідження** полягає у тому, що вперше в українській та зарубіжній історіографії узагальнено відомості про наукові підрозділи природничого й технічного спрямування Львівського університету австрійського періоду (в публікаціях попередників наголос зроблено на кафедрах), укладено чітку схему (за науковими напрямками) їхніх реорганізацій, відображено в структурних змінах, змінах назв, керівництва тощо. Представленні в публікації фактичний матеріал і висновкові твердження матимуть важливе значення для дослідження історії науки в Галичині, стануть своєрідною матрицею для подальших студій цій ділянці історичного краєзнавства. **Висновки.** Після революції 1848 – 1849 рр. в Австрійській монархії, що вплинула й на діяльність Львівського університету, розпочалося його реформування. Воно заторкнуло й наукову сферу, відбуваючись в контексті тогочасного розвитку наук (від кінця 1850-х років – під впливом позитивізму). Від середини ХІХ ст. в університеті розпочали розбудовувати мережу підрозділів, відомих під збірним терміном “наукові інститути” (до них належали структурні одиниці різних напрямів – технічного, природничого, гуманітарного, а також Бібліотека). В рамках природничої сфери, це були, зокрема, кабінети, збірники, музеї, лабораторії, заклади, власне інститути, клініки та амбулаторії, семінари тощо, а також Ботанічний сад. У більшості публікацій (починаючи від

кінця XIX ст.) зазначені підрозділи або взагалі не згадають, або ж дослідники ототожнюють їх з кафедрами, розглядають як їхню частину. Такий підхід спричинився до того, що дуже часто спостерігаємо недостатню увагу до офіційних назв цих підрозділів, що відображають як їхню специфіку, так й особливості реорганізації впродовж другої половини XIX – початку XX ст. Особливої уваги заслуговують семінари, які від 1850-х років й до реформи 1920-х років необхідно трактувати не лише як форму навчального процесу, а і як науковий інститут. Впродовж середини XIX – початку XX ст., на прикладі розвитку точних і природничих наук, простежуємо зміни у формах наукових інститутів (наприклад, кабінет – музей – заклад / інститут) та спостерігаємо формування наукових шкіл відомих учених (керівників наукових підрозділів) на основі їх допоміжних кадрів (асистентів, демонстраторів, стипендістів). Розвиток мережі наукових інститутів відображає й розвиток науки загалом, тенденції виокремлення у до того інтегрованих галузях наукового знання (наприклад, фізика чи природнича історія) вужчих напрямів (власне фізика, метеорологія, астрономія, хімія, геологія, біологія, ботаніка тощо). Свою специфіку з погляду структурного оформлення у Львівському університеті мала медицина, що отримала новий етап розвитку з останньої третини XIX ст. й активізувалася з відновленням діяльності медичного факультету в 1894 р.

**Ключові слова:** Львівський університет, наукові інститути, точні науки, природничі науки, музей, семінар, друга половина XIX – початок XX століття.

**The Problem Statement.** History of science – one of the important areas of historical knowledge, which has its own specifics. Thus, the humanities scientists do not often understand the development peculiarities of physical and natural sciences, limiting to the humanities area, but scientist of natural sciences cannot attach special importance to historical sources, researching which the specifics of the structure (departments, institutes, etc.) of a particular scientific field can be traced. These tendencies can be observed on the example of the history of Lviv University during the Austrian period – the Emperor Franz I Imperial Royal University in Lviv.

From the end of the XIXth century researchers of the University history began to characterize the development of science at Lviv University on the basis of the characteristics of the departments activity (at that time department was associated and identified with the person of the professor), which caused the “dissolution” of other units led by heads of departments. That is why, nowadays there is the objective to the researchers to reconstruct the network of these units and to trace the structural and personnel transformations which took place in the networks during different periods. The analysis of Lviv University history in the works of its lecturers is especially relevant on the eve of the 360th anniversary of Alma Matris foundation!

**The Analysis of Sources and Recent Researches.** The article is written on the basis of generalizations of official statistical information publications of the Emperor Franz I Imperial Royal University in Lviv, which were published for each semester of the academic year. During the XIXth – the first half of the XXth century the publications changed their names: the first half of the XIXth century – “Taschenbuch der apostolischen Majestat Franz I. allerhöchsten Namen führenden Universität zu Lemberg” (further – TFUL); in 1850 – 1879 – “Akademische Behörden an der k. k. Universität zu Lemberg, sammt der Ordnung der Vorlesungen an derselben“ (further – ABUL); in 1879 – 1918 – “C. K. Uniwersytet imienia cesarza Franciszka I we Lwowe. Skład personalu (Skład Uniwersytetu) i program wykładów” (“C. K. Uniwersytet imienia cesarza Franciszka I we Lwowe. Skład Uniwersytetu”) (further – CKUFL). In these publications there was a separate section “Scientific Institutes”, in which it was clearly written the name and address of the unit, indicated its head and assistant staff, etc.

To clarify and compare the information, we used the main works on the history of the university – a two-volume monograph by Ludwik Finkel and Stanislaw Starzyński

(Finkel, 1894; Starzyński, 1894), a two-volume “Encyclopedia of Lviv University” (Vakarchuk, 2011; Vakarchuk, 2014), as well as materials to it and other collective publications devoted to natural and physical sciences units, the main part of the articles to which, as well as the scientific editing of publications were carried out by Iryna Bilinska and Liubov Borsukevych, the leading experts in the history of biological and botanical science at Lviv University (Bilinska & Borsukevych, 2005), Geology – Peter Bilonizhka and Orest Matkovsky (Bilonizhka & Matkovskiy, 2004; Bilonizhka, Matkovskiy, Pavlun & Slyvko, 2010), Chemistry – Eugene Hladyshevsky (Hladyshevskiy, 2003), Physics – Olexiy Mykolaichuk and Astronomy – Bohdan Novosiadly (Mykolaichuk, 2007; Vakarchuk, Yakibchuk, Mykolaichuk & Popel, 2013; Novosiadly, 2011). Yaroslav Prytula is a leading researcher of the history of Mathematics at Lviv University. His publications on this issue, in particular, on the website of the Faculty of Mechanics and Mathematics (Prytula, 2015; Prytula, 2017) are written on the basis of a thorough study of the archival sources. The articles by Iryna Bilinska, Andriy Prokopiv and Liubov Borsukevych, Oleh Shablii and Yaroslav Prytula published in the issue of the university newspaper “Kameniar” and dedicated to the 350th anniversary of Lviv University are also important for the coverage of the topic (Bilinska, 2011; Prokopiv & Borsukevych, 2011). Significant are the publications of Oleksiy Sukhyi, which are focused on the study of Lviv University environment during the end of the XIXth – the beginning of the XXth century (Suchyj, 2011; Suchyj, 2013). We should single out the article by Volodymyr Kachmar and Roman Tarnavsky, in which the Faculty of Philosophy of Lviv University is described comprehensively (Kachmar & Tarnavskiy, 2013), as well as the edition “Uniwersytetowi Lwowskiemu dla upamiętnienia trzysta pięćdziesiątej rocznicy jego fundacji” (Łohman, 2011).

**The Purpose of Publication.** The purpose of the publication is to reconstruct the network of scientific units of technical and natural sciences at Lviv University and to characterize their structural and personnel changes during the second half of the XIXth – beginning of the XXth century.

**The Main Material Statement.** The middle of the XIXth century was a turning point in the scientific activity of Lviv University. Since the beginning of the 1850s, there began the development of a network of units, defined in the official publications of the University under the collective term “scientific institutes”. The first of the units appeared at the Faculty of Philosophy (including the humanities, natural sciences and physical sciences) in the first half of the XIXth century. The units specialized in the last two areas (natural and physical sciences).

From the beginning of the 1840s, at the University of Lviv there was a scientific unit in the field of Physics – the Physics Cabinet (headed by August Kuntsek). Under this name, the unit operated until the beginning of the 1850s, when it began to be mentioned in the sources as the Physics Museum more frequently. During the second half of the XIXth – beginning of the XXth centuries it underwent reforms: the Physics Museum, the Institute of Physics for Teacher Candidates, and the Physical Mechanical Machine Tool (1864) – the Institute of Physics, Meteorological and Magnetic Observation Station with Mechanical Physical Machine Tool, the Physics Museum and Textbook Library (1873) – Institution of Physics, Station of Meteorological and Magnetic Observations with Mechanical Physical Machine Tool, Physical Room and Library of Textbooks (1879) – Institution of Physics, Meteorological Observation Station with a Collection of Instruments, Library of Textbooks, Physical Workshop and Mechanical Machine Tool (1894) – Institution of Physics and Meteorological Station (since 1915). The heads of the unit were Alexander Zavadsky, Victor Pierre, Wojciech Urbanski, Alois Handl, Tomasz Stanecki, Oscar Fabian, and Ignatius

Zakszewski during the period of 1850 till 1918. For decades until 1881, the unit employed a university mechanic, Johann Leopolder, who was replaced by Jan Bochnig in two years, in 1883. In the 1880s and 1890s, the unit had an assistant position (in 1882 – 1886 it was occupied by its future head Ignatius Zakszewski, then by Zdzislaw Stanecki (1887 – 1893), Emil Snopek (1893 – 1894), and Jan Zaluski (1894 – 1896) and the others), and in the mid-1890s – also a scholarship holder position (in 1894 – 1896 – Józef Bleuth). After the construction of the university building in Długosz Street (nowadays – Cyril and Methodius Street), the Institution of Physics was located at Długosz Street 8. At the same address there was the Collection of Astronomical Scientific Funds, established in the first half of the 1900s and reformed into an Astronomical Institution before World War I (the unit was headed by Martin Ernst) (TFUL, 1843; ABUL, 1850 – 1879; CKUFL, 1880 – 1918; Finkel, 1894, s. 322–324; Starzyński, 1894, pp. 284–285; Mykolaichuk, 2007, pp. 37, 104, 138, 151–152, 161–164, 184; Vakarchuk, Yakibchuk, Mykolaichuk & Popel, 2013, pp. 23–25; Apunevych & Novosiadlyi, 2020, pp. 339–356; Vakarchuk, 2014, p. 575).

Seminars were considered scientific institutes of Lviv University since the beginning of the 1850s. The Mathematics Seminar was led by Józef Puzyna since the beginning of the 1890s. In the 1895/1896 academic year, this seminar was divided into a mathematical lower seminar and a mathematical higher seminar. Yu. Puzyna was responsible for both units, in the first half of the 1910s – together with Vaclav Serpinsky. In 1915, these seminars were again combined into one Mathematical Seminar, but as part of two units – lower and higher (headed by Yu. Puzyna and V. Serpinsky until 1918). The premises in which these units operated were located at Długosz Street 8. A Mathematical Physics Seminar operated there from the beginning of the 1910s, headed by Marian Smolyukhovsky and Konstany Zakshevsky from 1912 till 1918 (CKUFL, 1893 – 1918; Prytula, 2015; Prytula, 2017).

From the beginning of the 1850s, the leadership of Lviv University negotiated on the issue of a chemical laboratory establishment. It was opened in 1854, ten years later it was reformed into a Chemical Laboratory and a Collection of Instruments, and at the beginning of the 1870s – into a Chemical Laboratory with a Collection of Instruments, Preparations and a Library of Textbooks. Gustav Wolf (1854 – 1857) became the first head of the unit, then – Leopold Pebal (1857 – 1865), then his former assistant Edward Linneman (1865 – 1871). A new period in the activities of the Chemical Laboratory lasted from the beginning of the 1870s till 1910: the unit was headed by Bronislaw Radziszewski, who founded his scientific school. Thus, the assistants of the laboratory were Kazimierz Zaleski (1872 – 1874), Julian Grabowski (1874 – 1876), Piotr Dunin-Wonsowicz (1877 – 1879), František Mrozowski (1879 – 1880), Bronisław Liachowicz (1880 – 1882, 1891 – 1895), Pavel Vispek (1881 – 1883, 1884 – 1886), Julian Schramm (1882 – 1891), Józef Reger (1887 – 1892), Eugeniusz Kozerowski (1892 – 1894), Zdzisław Zawalkiewicz (1894 – 1896), and scholarship recipients – Franz Miazga (1873 – 1875), Adam Głogowski (1875 – 1876), Rudolf Zuber (1879 – 1880), Pavel Vispek (1880 – 1881), Ludwik Schul (1882 – 1885), Józef Reger (1885 – 1887), Michał Senkowski (1887 – 1891), Jaroslav Lomnicki (1891 – 1892), Stanisław Nemczycki (1892 – 1896) and the others. A Chemist Piotr Gornig worked as a laboratory assistant for decades. At the beginning of the XXth century, in the chemical laboratory under the leadership of B. Radziszewsky there was created a separate unit, headed first by Bronislaw Lyakhovych, and then Stanislav Tollochko. In 1910 – 1912 the position of the head of the chemical laboratory was vacant. In 1912 the Chemical Institute I (from 1915 – Chemical Institution I) was established on its basis under the leadership of Stanislav Tollochko and the Chemical

Institute II (from 1915 – Chemical Institution II), headed by Stanislav Opolsky. Both units, as well as previously Chemical Laboratory, were located at Dlugosz Street 6 (ABUL, 1850 – 1879; CKUFL, 1880 – 1918; Finkel, 1894, p. 318; Starzyński, 1894, p. 316; Hladyshevskiy, 2003, pp. 46, 48, 82, 91, 99–100, 111; Vakarchuk, 2014, pp. 611–612).

From the beginning of the 1840s, a separate research institute at the University of Lviv had Natural Science classrooms and a collection of economic subjects headed by Rudolf Kner, a professor of natural history and agriculture. At the beginning the 1850s, the unit was reorganized into the Natural History Collection, which consisted of the Mineralogical Office and the Herbarium (headed by Hyacinth Lobazhevsky). Instead, in the 1851/1852 academic year, there was the Natural History Museum under his leadership, and the following academic year, the Natural History Collection, among the departments of which was, in particular, the Mineralogical and Botanical Museum headed by G. Lobazhevsky (headed the unit till the beginning of the 1860s). In the 1863/1864 academic year, the Mineralogical Museum was established, headed by Ferdinand Zirkel. At the end of the 1860s, it was joined by the collection of a scientist-mineralogist and geologist, Count Stanislaw Borkowski, and the combined unit was headed by Hermann Maximilian Schmidt. The following two periods in the activities of the unit can be traced till the 1870s – 1880s (directed by Felix Kreutz) and the end of the 1880s – the end of the 1910s (directed by Emil Dunikovsky). During these years, the unit was reformed many times: Mineralogical Museum with Borkovsky's Collections (until 1879) – Mineralogical, Geological and Geognostic Cabinet with a Special Collection, a gift of Count Borkovsky (late 1870s – early 1880s) – Mineralogical, Geological and Geognostic Cabinet (1880s – 1890s) – Mineralogical and Petrographic Office (the beginning of 1900s – the mid-1910s) – Mineralogical and Petrographic Institution (since 1915). At first, the units had only a vacancy of a supervisor (Marcel Lewandowski in 1879 – 1881), and later – a demonstrator (Zygmunt Schneider, 1881 – 1885; Michał Novoselski, 1885 – 1887; Wilhelm Kuchera, 1887 – 1893) and a laboratory assistant (Michał Podgurski, 1884 – 1896), then – assistant (Valery Sichynski, 1893 – 1896). The mentioned above geological units were located at Dlugosz Street 6. From the mid-1900s, a separate Geological and Paleontological Institution, headed by Rudolf Zuber, a student of B. Radziszewski, also operated at Lviv University at Dlugosz Street 8. At the beginning of the 1890s, the Geographical Cabinet was founded, which was transformed into the Geographical Institute at the end of the 1890s. This unit, located at Dlugosz Street 27, was headed by Anthony Reman (1892 – 1910), and after a one-year vacancy as a director, by Eugeniusz Romer (from 1911) (TFUL, 1843; ABUL, 1850 – 1879; CKUFL, 1880 – 1918; Starzyński, 1894, pp. 129–130, 145–147; Bilonizhka & Matkovskiy, 2004, pp. 64, 74, 112; Bilonizhka, Matkovskiy, Pavlun & Slyvko, 2010, p. 8; Bilaniuk & Ivanov, 2016, pp. 4–5; Vakarchuk, 2011, pp. 334–339; *Scientiae naturales*, 2011, p. 5).

In 1852, a new Botanical Garden of Lviv University was founded: it was headed by Hyacinth Lobazhevsky, and the chief gardener was Carl Bauer, a corresponding member of the Thuringian Horticultural Union and a member of the Imperial Royal Galician Agricultural Society (worked until 1875, and after six years of vacancy this position was occupied by František Türschmid and Adam Blazek). As it was mentioned, G. Lobazhevsky headed the University Museum of Natural History, which in 1853 was reformed into Natural History Collections, which included two museums: Zoological (a director – Herman Maximilian Schmidt, a supervisor of natural sciences – Sigismund Jarolim) and Mineralogical and Botanical (a director – G. Lobazhevsky). However, as early as in 1863, the following reorganization took place: the Natural History Collections and Institutes were in the structure of the Zoological Museum (G. M. Schmidt and

S. Yarolim continued to work in the unit), the above mentioned Mineralogical Museum and the Botanical Museum together with the Botanical Garden and the Educational Institute for Horticultural Pupils (the botanical units were headed by Adolf Weiss). During the following years, the Botanical Garden as a unit was separated from the Botanical Museum. Thus, it was recorded under such names as the Botanical Garden with Seed Collection (1865 – 1869) – Botanical Garden with Seed Collection and Educational Institute for Horticultural Pupils (1869 – 1870) – Botanical Garden and Educational Institute for Horticultural Pupils (1870 – 1879) – Botanical Garden with Gardener Training Institution (1879 – 1896) – Botanical Garden (since 1896). The Botanical Museum underwent reorganizations as well, which is reflected in its name: the Botanical Museum (1864 – 1867) – the Botanical Museum with Herbarium Collection and a Special Library (1867 – 1870) – the Botanical Museum with Herbarium Collection, Preparations and a Special library (1870 – 1871). At the beginning of the 1870s, the management of the unit changed – it was headed by Teofil Tseselsky, in the context of which another structural reorganization took place – into the unit: the Botanical Museum with a Special Botanical Library, Herbarium and Collection of Preparations, and at the end of the 1870s – in the Botanical Office with a Herbarium of Galician, European and Exotic Plants, a Collection of Preparations, a Special Botanical Library and Botanical Workshop. Under this name, this scientific institute of Lviv University at St. Nicholas Street 4 operated until the leadership end of T. Tseselsky in the mid-1910s. In 1915, the Botanical Office was reformed into the Botanical Institution. Until the end of World War I, the position of its head was vacant, it was replaced first by Józef Nusbaum-Gilyarovych, and later by Kazimierz Kwetniewski. During different years Stanislav Griglevych (1875 – 1879), Shimon Trush (1879 – 1881), Yosyf Oleskiv (1881 – 1884), František Vogel (1884 – 1887), Zygmunt Schneider (1887 – 1892), Maximilian Schoenett (1892 – 1896) and the others were among the assistants of scientific institutes of botanical area (ABUL, 1850 – 1879; CKUFL, 1880 – 1918; Finkel, 1894, pp. 325, 339; Bilinska & Borsukevych, 2005, pp. 28, 81, 104, 170, 179; Prokopiv & Borsukevych, 2011).

The above mentioned Zoological Museum of Lviv University was headed by G. M. Schmidt from the beginning of the 1850s until 1876. At the end of the 1870s, already under a new director – Shimon Syrsky, the unit was reorganized into a Zoological Cabinet with a workshop (under this name it operated until the mid-1910s), and in 1915 – the Zoological Institution. The unit was located at St. Mykolay Street 4. After S. Syrsky, the position of its director was vacant for a year, in 1882 – 1883 it was occupied by Henryk Kady, in 1884 – 1906 – by Benedict Dybowski, in 1906 – 1916 – by Józef Nusbaum-Gilyarovych. Kazimezh Kvetnevsky occupied the vacant position of a director of the Zoological Institution in 1916 – 1918. The information on the assistant employees of the unit is the following: Marceliy Lewandowski (1873 – 1879) worked as a supervisor of the Zoological Museum after S. Yarolim, a supervisor. Then this position was replaced by a preparator (the position was occupied by Jan Zagurski). In the mid-1880s, a number of other assistant positions were introduced in the museum. Thus, from the mid-1890s in the structure of scientific institutes of the Faculty of Philosophy also operated Comparative Anatomical Institution (from the beginning of the 1910s – Institution of Comparative Anatomy) (a head – Józef Nusbaum-Gilyarovych, later – Kazimierz Kwetniewski; the address – St. Nicholas Street 4), and from the mid-1900s – Biological and Botanical Institute (from the beginning of the 1910s – Biological and Botanical Institution) (a head – Maryan Ratsiborsky, later – Zygmunt Vuytsitsky; the address – Długosz Street 5) (ABUL, 1850 – 1879; CKUFL, 1880 – 1918; Starzyński, 1894, pp. 250–258; Bilinska & Borsukevych, 2005, pp. 36, 59, 77, 81, 118, 133; Vakarchuk, 2011, p. 539).

During in the last third of the XIXth century at the Faculty of Philosophy, there were units which operated as scientific institutes and became the basis for the restoration of the Medical Faculty (it should be noted that in the 1840s there was an anatomical theater at the Faculty of Philosophy under the leadership of Karl Nagel. In the 1850s – the first half of the 1860s at the Faculty of Law and Political Science – Pathological and Chemical Laboratory of Forensic Medicine and Medical Supervision, headed by Franz Gutcher). At the end of the 1870s, at the Faculty of Philosophy there was established the Pharmacognostic Collection, which was transformed into a Pharmacognostic Institution at the beginning of the 1890s. The first head of the unit was Ignatius Gavranek, then for a decade it was headed by Mechyslav Dunin-Vonsovych, and in the first half of the 1890s – by Vladyslav Nemilovych. Demonstrators of the institution were Jan Krzyzanowski, Zdislaw Zawalkiewicz, Józef Grotowski, and Roman Merunowicz. The Anatomical Collection was founded at the end of the 1880s under the direction of Henryk Kadi, and it was reorganized into the Anatomical Institution at the beginning of a new decade. His assistant was Tadeusz Wenzlewski, the demonstrator was Alfred Buzynski. At the beginning of the 1890s, the Physiological Institution was founded, headed by Gustav Piotrowski, who was substituted by Adolf Beck in the middle of the decade. Boleslaw Blazzek worked as an assistant at the Institution (TFUL, 1843; ABUL, 1850 – 1879; CKUFL, 1880 – 1896; Finkel, 1894, p. 328).

It was the institutions under the leadership of Henryk Kady, Wladyslaw Nemilovich, and Adolf Beck which became the basis of the Medical Faculty of Lviv University, which was restored in 1894. Thus, the Institute of Descriptive Anatomy was first headed by Henryk Kady, and from the mid-1910s – by Józef Markowski, who began working as a demonstrator of the institution. It should be noted that Maryan Panchyshyn, a famous Ukrainian physician, worked at the Institute of Descriptive Anatomy: in 1906 – 1910 he was a demonstrator, and in 1910 – 1913 he was an assistant. When the Pharmacognostic Institution was included in the structure of the Medical Faculty, it was renamed into the Institution of Medical Chemistry (a head – Vladyslav Nemilovich, later it was headed by Stanislaw Bondzinsky). The Physiological Institution operated unchanged under Adolf Beck. Along with the described units, the first structural units of the Medical Faculty became the Histological and Embryological Institution (a head – Vladyslav Shymonovych), the Institution of Experimental Pharmacology and Pharmacognosy (first headed by Vaclav Soberansky, then by Leon (Leopold) Popelsky), the Institution of General and Experimental Pathology (headed by Jan Prus), Pathological and Anatomical Institution (renamed in 1915 into the Institution of Pathological Anatomy), which was headed by Andrzej Obżut at the end of the 1890s and the beginning of the 1910s, and then – by Zdzisław Dmochowski. All these scientific institutes were located at Pekarska Street 52. The Institution of Forensic Medicine, founded by Wlodzimierz Sieradski at the end of the XIXth century, was located there as well. The Institution of hygiene (a head – Pavel Kuchera), founded at the beginning of the XXth century, was located at Pekarska Street 52. At the end of the XIX century the Faculty of Medicine was established: the Clinic of Internal Medicine (a head – Anthony Glyuzinsky), the Surgical Clinic (a head – Ludwik Rydiger), the Obstetrics and Gynecology Clinic and the workshop for exercises in obstetrics and gynecological operations (a head – Anthony Mars) (all were located at Piariv Street 4); Dermatological Clinic (headed by Wlodzimierz Lukasewicz), at first it was located at Głowinski Street 7, and then – at Pekarska Street 81; Ophthalmic Clinic (a head – Emanuel Mahek, the address – Głowinsky Street 7). At the beginning of the XXth century at the faculty there was established Pediatrics, which was renamed into the Clinic of Pediatrics at the end of the 1900s. It was headed by Jan Raczynski. Initially, the unit was temporarily housed at St. Sofia

children's hospital, and from the mid-1910s it was located at Glovinsky Street 5. At the beginning of the XXth century in the structure of the Medical Faculty there was also created the Ambulatory of Nervous Diseases (a head – Henryk Galban), and at the end of the 1900s – the Laryngological and Otological Clinic (headed by Anthony Yurash). Both units were located at Hausner Street 9. From the beginning of the XXth century, the medical faculty, dental units were created, which underwent frequent reorganization: the Institute of Dentistry (1906 – 1911) – the Dental Clinic (1911 – 1917) – the Dental Institution (since 1917). The Institute of Dentistry was headed by Andrzej Gonka. After his death in 1909 and until 1913, the position of a head was vacant. In 1913 it was renamed into the Dental Clinic, later the Clinic was headed by Anthony Cieszynski. The dental departments of Lviv University were first located at Ossolinskikh Street 11 (the front side from Tykha Street), and from the mid-1910s – at Zelena Street 5a (CKUFL, 1894 – 1918; Bilynska, 2011; Vakarchuk, 2014, pp. 119–120; Zimenkovskiy, 2009, pp. 19–20; Zimenkovskiy, Gzhegotskiy & Lutsyk, 2009, p. XII).

**The Conclusions.** From the 1850s at the University of Lviv – the Emperor Franz I Imperial Royal University in Lviv – a special attention was paid to the development of a network of scientific institutes, which was connected with both general trends in the development of science and the reform of the University after the revolution of 1848 – 1849. These reforms covered all areas of knowledge, in particular, the physical and natural sciences, represented by scientific units (Physics and Natural Sciences, Anatomical Theater) during the previous period. At the beginning of the 1850s, the cabinets were turned into museums, but during the following decades – into institutes. Separate types of scientific institutes were the so-called collections (a term for units of different levels), laboratories and seminars, as well as ambulatories and clinics at the Medical Faculty.

Structural changes in the network of scientific units of Lviv University, recorded in the changes of their names, illustrate the development of science, elaboration of new scientific areas: on the basis of scientific institutes of Physics area there were units related to Meteorology, and later there was resumed the development of Astronomy; on the basis of institutions, first under the general terms “natural historical”, “natural” – the units of chemical, geological (with the subsequent division into mineralogical, petrographic, etc.), botanical, biological research areas. At the same time during the last third of the XIXth century, at the Faculty of Philosophy there were formed the units, which represented Geography and various areas of Medicine: Pharmacognosy, Anatomy, Physiology. With the restoration of the Medical Faculty, Lviv University was transformed into a higher education institution with a strong network of medical research units.

Scientific institutes, headed by leading scientists-professors, became the basis for the formation of the scientific schools. This happened under the condition that the units had positions of assistant scientific personnel – assistants, demonstrators, scholarship holders, etc.

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