

## REVIEWS

### Ukrainian Scientists in Emigration

The article aims to draw attention to Aleksandr Mankovskyi (1868–1946), a relatively less-known figure among modern scientists. Mankovskyi is a Ukrainian-Bulgarian scientist of Polish origin, whose life was linked to three countries: Ukraine, Bulgaria, and Poland. He, a specialist in histology and embryology, was a professor at Novorossiysk University and Sofia University.

Mankovskyi graduated from the Faculty of Medicine of St. Volodymyr University in Kyiv in 1894. Before graduating, he took actively part in the fight against the cholera epidemic in Bessarabia, in 1892 in Ackerman and 1893 in Bender. After graduating from the university in 1894, Mankovskyi left Kyiv and returned to Bender, working there as a zemstvo doctor.

Mankovskyi lectured at the St. Volodymyr University in Kyiv in 1894–1902. He was a professor at the Novorossiysk University in Odessa in 1902–1919. In 1919, he left Odessa, which was in revolutionary turmoil, travelled by sea to Bulgaria and settled there. Mankovskyi also established the Department of Histology and Embryology at Sofia University. In 1930–1933, he worked at Professor Witold Orłowski's clinic in Warsaw.

History of science is full of examples of the changing political situation in a country forcing people to emigrate. The beginning of the twentieth century in Ukraine was marked by certain revolutionary changes, so some scientists, who did not share the views of the Bolsheviks, moved to European countries, where progressive political views have always prevailed. Among them is the Ukrainian histologist of Polish origin Aleksandr Mankovskyi, the author of about 30 scientific works on histology and embryology.

Aleksandr Mankovskyi came from a noble family in Podolia with the Jastrzębiec coat of arms. He grew up on the Ukrainian-Moldovan border in relatively modest financial conditions.

In 1889, after graduating with a silver medal from the First Chisinau Gymnasium, which was one of the best educational institutions in the Odessa educational district, and receiving a personal scholarship to study from the Bender Zemstvo, Mankovskyi entered the medical faculty of St. Vladimir's University in Kyiv (Bashly, 2020).

Mankovskyi managed to combine his university studies with practical activities. He worked as a laboratory assistant in the laboratory of general pathology under the supervision of Professor Volodymyr Pidvysotskyi. In addition, Mankovskyi practised as intern at the zemstvo hospital. He took active part in the fight against the cholera epidemic in Bessarabia, in 1892 in Akerman and 1893 in Bender. Mankovskyi's report on the results of his business trip to Bender is kept in the library (*Otchet...*, 1893).



Aleksandr Mankovskyi (1868–1946).

Among the medical student's tasks on this expedition was to take care of the patients' hygiene and nutrition. To accomplish that task, Mankovskyi first decided to get to know the patients, their way of life, and their financial situation, in order to ensure their proper nutrition and treatment. Reading Mankovskyi's report reveals how important it was. Investigating the circumstances, the habits of the local people, which were conditioned by religion and financial situation, was an important decision as the local people usually followed a specific diet during fasting. For example, they refused to eat meat. Therefore, Aleksandr Mankovskyi had to urgently change the orders for products that were very different from those previously planned. This fact shows us that while still a student, the future doctor showed an extraordinary mind and medical savvy.

After completing his medical education with honors, Aleksandr Mankovskyi, having received a scientific scholarship from the Bender Zemstvo, first worked as a zemstvo doctor in Bender. Three years later he moved to carry out research at Kyiv University. As already mentioned above, he made his first scientific investigations in the laboratory of the famous Ukrainian pathologist Volodymyr

Pidvysotskyi. Mankovskyi recalls his work in the laboratory: “There was a special, unique spirit of unity and cordial reciprocity, which closely united all those who worked with each other and with Vladimir Valerianovich as if in one ‘laboratory family’” (Mankovskyi, 1914).

A follower of Roman Catholic faith, Aleksandr Mankovskyi encountered difficulties in advancing in his academic career. Thanks to Pidvysotskyi, who highly appreciated his student’s talent, Mankovskyi managed to keep his teaching position at the university and carry out a number of interesting scientific researches. He investigated the secretory function of the adrenal glands and pancreas. Mankovskyi made a great contribution to the elaboration of methods for the purposes of obtaining an extract from the adrenal glands, which he first achieved in 1898, calling it ‘adrenal stimulus’ (Mankovskyi, 1898). At that time, the young scientist was not aware that he had obtained adrenaline. Three years later, the American scientist of Japanese origin Jokichi Takamine developed a technology for obtaining adrenal hormone in crystalline form, described its formula and gave it the name—adrenaline. Mankovskyi investigated both the physiological and pathophysiological effect of the extract. It has been demonstrated in various ways that the secretions of the adrenal glands increase blood pressure. Moreover, the dose required to get a physiological effect is much lower than their toxic effects. The scientist also studied the morphofunctional organization of the pancreas (Mankovskyi, 1900).

Together with Pidvysotskyi, Aleksandr Mankovskyi took an active part in the creation of the scientific journal *Russkii arkhiv patologii, klinicheskoi meditsiny i bakteriologii* (‘Russian Archive of Pathology, Clinical Medicine and Bacteriology’). In his work both in science and at the journal, Mankovskyi proved to be a man of inexhaustible energy and efficiency. Since 1897, he worked as secretary of this journal.

In 1900, Aleksandr Mankovskyi, together with his teacher Pidvysotskyi, moved to Odessa, where he became one of the active founders of Novorossiysk University. Mankovskyi lived in Odessa for about 20 years and made a significant contribution to the development of medical education in Ukraine.

At Novorossiysk University, Mankovskyi started his career as an associate professor at the Department of Histology and Embryology, later he became a professor. In 1907–1909, he worked as secretary of the medical faculty of Novorossiysk University, and in 1907–1910, as the vice-rector of the university.

Since 1911, Mankovskiy began working part-time as a teacher at the Higher Women's Medical Courses, and in 1913 was elected to the pedagogical council of the courses.

Mankovskiy managed to combine administrative and pedagogical activities with scientific ones. His works received international recognition and he was an active participant in numerous scientific symposia, congresses and conferences. In particular, in 1909, he was abroad on a business trip to the University of Cairo to get acquainted with the educational process at the Faculty of Medicine. Also, that same year, Mankovskiy took part in the International Congress of Physicians in Budapest.

Aleksandr Mankovskiy was also active in public matters. In 1910, he became a member of the Society for the Promotion of Academic Life of the Imperial University of Novorossiysk, he was a member of the Society of Russian Physicians, and had the rank of state adviser (Vasylev, 2007).

Unfortunately, at Novorossiysk University, students began to organize revolutionary rallies, criticizing professors who did not support revolutionary sentiments. Among them was Professor Aleksandr Mankovskiy, whose views were regarded as conservative. In addition, students often disrupted Mankovskiy's lectures. These sinister events forced Mankovskiy to decide to emigrate from Ukraine (Mankovskiy & Kotenko, 2012).

A search for candidates for management positions often leads to the invitation of specialists from other countries. In these years, the administration of Warsaw University in Poland was looking for a candidate for a management position of the Department of Embryology, and offered Aleksandr Mankovskiy a position in the department. The scientist decided to take the opportunity to move to Poland. Another circumstance in Mankovskiy's life became a shining example of a twist of fate. During the trip, he stopped in Bulgaria. On arriving in Sofia, a transport workers's strike forced him to stay there for some time. This circumstance proved significant in the life of both Sofia University and Aleksandr Mankovskiy. At the time, the scientific community of Sofia were concerned about the creation of the Medical Faculty of Sofia University. The position of the head of the Department of Histology and Embryology of the Medical Faculty of Sofia University remained vacant. Bulgarian scientists informed the Academic Council of the University that Mankovskiy was in Sofia, so, the Academic Council of Sofia University decided to offer him the position.

Representatives of the university's administration, together with Mankovskyi's students from Odessa, repeatedly visited him with a proposal to head the department and, when they handed him a letter from the Academic Council, he agreed. The letter read:

Dear Professor, at the meeting of the Academic Council, highly appreciating your scientific and professorial activity, we unanimously decided to invite you to give lectures on your specialty at our university. We hope that you will give this honor to the Bulgarian alma mater and agree to our proposals, for which we thank you in advance. (Mankovskyi & Kotelko, 2012)

At Sofia University, with his inherent enthusiasm and boundless constructive ideas, Mankovskyi undertook to organize a medical faculty. He managed to find employees not only for his department, but also helped other medical departments to find specialists. During these years, many professors from Novorossiysk University began working at Sofia University, among them A. Medvedev, V. Zavyalov, D. Krylov, and M. Popov (*V poiskakh...*, 2009).

The Department of Histology and Embryology would later become the basis for the establishment of the Institute of Histology and Embryology, which was also founded by Aleksandr Mankovskyi. At this institute, the scientist continued his work for the benefit of Bulgarian science. Tsar Boris III of Bulgaria awarded Aleksandr Mankovskyi the Order of St. Alexander III.

Teaching any discipline requires high quality textbooks. The money allocated by the administration of Sofia University was not enough to purchase the required amount of literature. So, Mankovskyi decided to compile his own textbooks. According to the scientist's daughter Maria Mankowska, who also worked as his assistant, Professor Mankovskyi solved the problem of enriching educational literature at his own expense and through his own work. As Mankovskyi was skilled in drawing, painting and sculpture, he illustrated the books himself. He also involved his assistants and students in creating textbooks. Inspired students drew tables, drawings for the manual, and models in their spare time. Mankovskyi included a list of the creators in all the works, thus perpetuating their names in the history of the Institute of Histology and Embryology (Mankovskyi & Kotelko, 2012). The Institute of Histology and Embryology became known in scientific circles not only in Bulgaria but also abroad. Foreign delegations often visited the institute to exchange experiences. It should be noted that Mankovskyi also established a museum of embryology at the institute, displaying mainly exhibits brought by himself from his scientific expedition around the country.

The purpose of the expedition was to visit hospitals in various cities in Bulgaria. In the hospitals he was given embryos at various stages of development, and various pathological drugs. In Varna, Dr. V. Smolenskiy worked as a senior resident in the gynaecology department and provided a large collection of embryological preparations for the museum (Vasiliev, 2005).

In 1929, Aleksandr Mankovskiy retired and started private practice. A. Khadzhilov (1903–1994), his student at Sofia University, became head of the department.

Around this time he was invited to work in Warsaw. From 1930 to 1933, Mankovskiy worked at the Warsaw Clinic of Professor Witold Orłowski. In Warsaw, he also translated the textbook *Private Pathology and Therapy* from Polish into Bulgarian.

Aleksandr Mankovskiy died in Bulgaria in 1946. His tomb was renovated in 2010 as part of a programme carried out by the Polish Cultural and Educational Association in Bulgaria (Mańkowski, 2013).

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