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Nikolay Pigorov

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Stamp Profile

Country of Origin: Jointly by Ukraine and Russia

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- Russia: 30 mm x 42 mm
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Colour: multicolor

Denomination:

- Russia: 20 Rubles (Souvenir sheet)
- Ukraine: 1.50 Ukrainian hryvnia

Description:

- Russia: The stamp depicts a monochrome image of portrait of Nikolay Pirogov. Scene of aiding the wounded in a temporary military camp is illustrated on the fields of the sheet.
- Ukraine: The stamp depicts a monochrome image of portrait of Nikolay Pirogov. His signature is printed on the left side, along with an image of aiding the wounded in inset.



Image 1: Stamp issued by Russia



Image 2: Stamp issued by Ukraine



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PERSONALITY PROFILE

Nikolay Ivanovich Pirogov was born on November 13, 1810, in Moscow as the youngest of 13 children in a military family. His father, Ivan Ivanovich Pirogov, was a major in the commissary service, while his mother, Elizaveta Ivanovna, came from an old merchant family. After his father's death in 1824, the family faced financial hardships. Initially aspiring to be a civil servant, Pirogov's interest in medicine was sparked by family friend, Professor Yefrem Osipovich Mukhin, faculty of Anatomy and Physiology at Moscow University. One of Pirogov's older brothers was suffering from rheumatic fever and was bedridden for an extended period. After several doctors failed to provide effective treatment, the family sought the help of Professor Yefrem Mukhin, who successfully treated him, leaving a lasting impression on young Pirogov; was who encouraged pursue medical studies at Moscow University at just 14 years old—two years earlier than the typical entrance age. Despite the poor quality of medical education at the time, where dissection was rarely practiced and outdated textbooks were used for theoretical lectures, Pirogov graduated as a physician in May 1828 at the age of 17.

After qualifying as a physician in May 1828, Nikolay Pirogov was encouraged by Professor Yefrem Mukhin, now Dean of the Moscow University Medical Faculty, to pursue further studies at the prestigious German-Baltic University of Dorpat (currently Tartu in Estonia). Mukhin recognized Pirogov's talent and helped him gain admission, where only 20 students from all Russian universities were accepted each year. With a government scholarship, Pirogov began his postgraduate training in July 1828. Initially interested in physiology, he had to pivot to specializing in surgery and anatomy due to the unavailability of physiology courses at Dorpat. He studied under Professor Johann Christian Moier, a disciple of the renowned surgeon Antonio Scarpa, who provided extensive mentorship and hands-on experience in the anatomical theater.

During his first year, students were required to write a research essay on a designated topic, with the best essay earning a gold medal. Pirogov's topic was "What is observed when a large artery is ligated?" His essay on this innovative yet risky procedure won him the gold medal. Although his scholarship was limited to two years, geopolitical tensions between Russia and Poland prevented him from traveling abroad for further studies, forcing him to remain at Dorpat for an additional two years. During this time, he conducted autopsies on cholera victims and gained recognition for his skills, even attracting invitations from French professors to study in France, which he declined. Instead, he focused on a research project concerning the ligation of abdominal aortic aneurysms. This work culminated in his doctorate dissertation, "*Num vincitura aortae abdominalis in aneurismate inhunali adhibitu facile ac tutum sit remedium [Is the ligation of the ventral aorta an easy and effective therapy for inguinal aneurysm?]*", which he successfully defended in August 1832, establishing him as a prominent figure in the field of surgery.

After receiving his doctorate, Nikolay Pirogov awaited permission from the Ministry of National Education to travel to Germany for two years of postdoctoral study in anatomy and surgery at the Charité Hospital in Berlin, starting in 1833. During his first semester, he

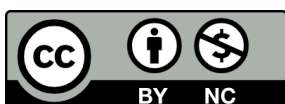
was assigned several prominent mentors: Professor Friedrich Schlemm for anatomy and cadaver studies, Professor Johan Nepomuk Rust for clinical lectures, Professor Karl Ferdinand von Gräfe for ophthalmology, and Professor Johann Friedrich Dieffenbach for surgery. He also attended lectures by physiologist Johann Müller, who conducted animal demonstrations. While studying at Dorpat University, Pirogov developed an international perspective on medicine. After completing his studies in Berlin and Göttingen, he returned to Dorpat as a professor of surgery at just 25 years old in March 1836, succeeding his former mentor Moier. In March 1841, he became a professor at the Military Medical Academy in St. Petersburg and served as Chief Surgeon of the Second Military Land Force Hospital. However, his tenure in St. Petersburg was fraught with challenges due to opposition from an incompetent administration and jealousy from colleagues.

On October 16, 1846, William Morton conducted the first public demonstration of ether anesthesia at Massachusetts General Hospital in Boston, marking a pivotal moment in surgical history. Pirogov likely learned about this groundbreaking event through Russian newspapers and medical journals, including Northern Bee and the Friend of Health. Initially hesitant to adopt ether anesthesia, Pirogov had concerns about its safety and potential excitatory effects during recovery. However, recognizing the Russian government's interest in this new development, which funded scientific research into ether, he began experimenting with it in January 1847.

Pirogov's first operations using ether anesthesia took place on February 14, 1847, at the Second Military Land Force Hospital in St. Petersburg, where he used a rudimentary inhaler made from a green bottle and rubber tubing. He continued to perform surgeries under ether, on February 16 at Obukhov Hospital and again on February 27 at Peter and Paul Hospital. His fourth operation involved a successful palliative procedure on a young girl with a purulent stump following a leg amputation. For this surgery, he upgraded his equipment to a device invented by Charrière but ultimately designed his own inhalation mask with instrument maker L. Rookh for better administration during procedures. The mask enabled Pirogov to administer ether while he was operating without the help of an assistant. The valve allowed adjustment of the mixture of ether and room air, allowing him to regulate the depth of anaesthesia. In his own words, ether anaesthesia was "... a remedy, that in one sense can transform the whole of surgery" ..

Within a year of Morton's demonstration, Pirogov had performed over 300 surgeries using ether, both in his practice and on the battlefield. He published his first monograph on ether anesthesia on May 17, 1847, where he emphasized the importance of administering a test anesthetic due to individual variations in response. Although initially enthusiastic about rectal administration of ether for patients unable to cooperate with inhalation, he later became less favorable towards this method as it never gained widespread acceptance.

In the spring of 1847, amid renewed rebellion by mountain tribes in the Caucasus, the Russian government faced significant casualties among its soldiers. The Tsar mandated the use of ether anesthesia in surgical operations, believing it would motivate soldiers to fight,





knowing they could avoid severe pain if wounded. On May 25, 1847, Pirogov was appointed as an Ordinary Professor and State Councillor to instruct doctors in the Separate Caucasian Corps on using ether during surgery. Along with his assistant, Dr. Peter Y. Nemert, and senior paramedic Ivan Kalashnikov, Pirogov prepared for their journey to the war zone. Traveling by carriage in June, Pirogov introduced ether anesthesia to local physicians in various towns. He transported 30 inhalers and 32 kg of ether, successfully preserving the ether despite high temperatures during the journey. In Pyatigorsk, he organized training sessions for local doctors and performed 14 operations.⁷ To demonstrate ether's effectiveness and alleviate soldiers' fears, he operated in front of them, which proved successful in encouraging them to seek surgery without trepidation. At the Samurtsky military detachment, Pirogov worked under primitive conditions but managed to anesthetize 100 wounded soldiers on the battlefield. He performed 47 surgeries himself and demonstrated ether anesthesia techniques to local surgeons. Between February 1847 and February 1848, he collected data on 580 operations performed under anesthesia, recording a mortality rate of 1 in 5.4 surgeries.

In search of an effective teaching method, Nikolay Pirogov pioneered a technique he termed "ice anatomy," which involved anatomical research on frozen corpses. This innovative approach led to the establishment of a new medical discipline known as topographic anatomy. Between 1851 and 1854, Pirogov published the first anatomical atlas, "Topographical Anatomy of the Human Body," in four volumes.

During the Caucasian War, Pirogov also introduced a novel dressing technique using bandages soaked in starch. His significant contributions continued during the Crimean War, where he arrived in Simferopol on December 11, 1854. During the siege of Sevastopol, Pirogov introduced a triage system for categorizing wounded soldiers, and advocated for female volunteers to serve as nurses, forming an organized corps under the Saint Petersburg Charity Encyclopedia established by Grand Duchess Yelena Pavlovna in 1854. Recognized as the father of Russian field surgery, Pirogov implemented plaster casts for fractures and developed the "Pirogov amputation," a new osteoplastic method for foot amputations.

Upon returning to Saint Petersburg following the Caucasian War, Pirogov encountered an Asian cholera epidemic, which he studied extensively through approximately 500 autopsies. This research led to the creation of an atlas on the pathological anatomy of cholera and a corresponding textbook published in 1850. His atlas focused on pathological changes in the intestinal mucosa, reflecting his belief that cholera primarily affected the intestinal canal. The atlas received praise from Rudolf Virchow in 1852, who noted its quality while suggesting Pirogov expand on certain details in a more comprehensive text.

Nikolay Pirogov applied his surgical expertise when he was consulted in 1862 by surgeons treating Italian freedom fighter Giuseppe Garibaldi, who had been shot in the foot during the Italian unification conflict. Unable to locate the bullet, the surgeons sought Pirogov's opinion. He accurately identified the bullet's posi-

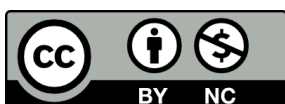
tion near the lower tibia and recommended conservative treatment without immediate surgery. Following his advice, the bullet migrated to just beneath the skin within six weeks and was easily removed. Garibaldi expressed his gratitude in a letter, thanking Pirogov for his care and support.

After the Caucasian conflict, Nikolay Pirogov led a delegation of Russian students abroad in 1862 to prepare for professorship, residing in Heidelberg. Upon returning to Russia in 1866, he settled at his estate, where he provided medical care to local peasants and established a free clinic. In 1870, Pirogov served as a representative of the Russian Red Cross, visiting battlefields and field hospitals during the Franco-Prussian War. He later worked as a field surgeon in the Russo-Turkish War from 1877 to 1878, treating both Russian and Bulgarian soldiers while organizing field hospitals. In 1879, he published "The Old Physician's Diary" and "Questions of Life."

Pirogov made his final public appearance on May 24, 1881, before passing away later that year at his Vishnya estate in Podolia Governorate (now Vinnytsia, Ukraine). His body was preserved using embalming techniques he developed and is interred in a church in Vinnytsia. Unlike Lenin's meticulously maintained corpse, Pirogov's remains rest undisturbed in a glass-lid coffin at room temperature, requiring only occasional dusting.

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