

ANATOMICAL MUSEUMS OF UKRAINE – CULTURAL, SCIENTIFIC AND EDUCATIONAL HERITAGE

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ABSTRACT

The article provides information about the largest anatomical museums of Ukraine. The most interesting exhibits, their number, significance for the training of specialists in clinical and veterinary medicine, as well as for ordinary citizens who want to learn more information about the structure of the human and animal body, are considered.

The importance of preserving anatomical specimens for further educational, training, and scientific work of universities is shown.

Key words: anatomical museum; educational, scientific, behavioral work; university; clinical and veterinary medicine.

Museums play an important role in the study and preservation of national and world monuments of material and spiritual culture [1, 2]. A special place among the museums of Ukraine is occupied by those for which exhibits were collected or made by university teachers and students themselves, namely morphological museums.

A large number of preparations, drawings and photos of which can be found in anatomical atlases, textbooks and manuals for surgeons, traumatologists, future artists, veterinary medicine specialists, creates a special atmosphere, whose influence inspires, motivates and promotes the interest of new generations of students of natural sciences in studying the development, formation, variants and anomalies of the structure of various representatives of the animal world, and especially humans. There are about 20 morphological museums in Ukraine, varying in size and variety of exhibits. Usually they are educational units of departments of morphological direction of medical, natural and classical universities.

The **aim** of our work was to investigate the importance of anatomical museums of Ukraine in the training of doctors of clinical and veterinary medicine.

The Historical Museum of the Department of Human Anatomy of the Odesa National Medical University (Odesa)

This museum is considered to be the Ukrainian “pearl” among anatomical museums. It is one of the richest in Europe in terms of its collection of comparative anatomy specimens, exhibits of fossil animals and mummies from the Egyptian pyramids, a unique collection of skulls of representatives of different races, as well as in terms of the number of specimens demonstrating developmental abnormalities. This museum was founded in 1900 by the first head of the Department of Normal Anatomy of the Medical Faculty of Novorossiysk University (now Odesa National Medical University), professor M. Batuyev [3].

The premises of the future museum were included in the project of the anatomical building (architect M. Tolvinsky) and became an integral part of the Department of Human Anatomy. In the first decades after its foundation, the museum’s exposition was actively replenished with specimens made by the employees of the department – part as an illustration of their own scientific works, part as educational material for demonstration to students. The preparations created by the gifted laboratory assistant of the department S. Ivanov are currently stored in the museum in excellent condition. These were times when archaeological work was actively carried out in Egypt, so the teachers of the department also had the opportunity to participate in expeditions from where mummy heads and mummy fragments were brought. Also, in the same period, part of a mammoth jaw and its teeth were brought to the museum. These preparations remain the oldest acquisitions of the museum. The widow of M. Pirogov and his son V. Pirogov donated valuable relics – personal belongings, printed publications, which, unfortunately, were later transferred to the M. Pirogov Museum, which was being created in Petrograd [3].

The next head of the department, professor M. Lysyonkov, continued the work on expanding the museum's exposition. For a major scientific work on anthropology, professor Lysyonkov collected a collection of over 400 skulls, including skulls of ancient tribes of Southeast Asia [4].

An outstanding anatomist, a student of academician V. Vorobyov, professor M. Kondratiev, who headed the Department of Normal Anatomy in 1923, significantly enriched the museum's exposition – thanks to the completion of dissertations by the employees of the department, a large number of unique preparations of the peripheral and autonomic nervous systems of vertebrates of various classes appeared [4].

Another student of academician V. Vorobyov, professor F. Volynsky added to the museum a collection of preparations of the nervous system of the heart, intestinal plexuses, organs of the human urinary system and some vertebrates [3].

Throughout the existence of the museum, Odesa doctors supplemented the collection with their own finds. Thus, collections of embryogenesis, developmental defects, variants of the structure of individual skeletal formations, etc. were created. Sailors of the Black Sea Shipping Company from all over the world brought stuffed animals of marine mammals and other inhabitants of the seas and oceans to the museum. By joint efforts, a collection was created that illustrates the main postulates of comparative anatomy.

Today, the collection of the Historical Museum of the Department of Human Anatomy has almost 2 thousand exhibits, which are carefully stored by the employees of the Department of Human Anatomy for endless visitors, among whom the vast majority are schoolchildren, our future!

***The Museum of the Department of Vertebrate Biomorphology named after
academician V.G. Kasyanenko of the National University of Life Resources and
Environmental Sciences of Ukraine (Kyiv)***

A doctor who is not an anatomist is not only not useful, but also harmful. These words of professor Efrem Mukhin, which were spoken back in 1815, clearly speak of the importance of anatomy in the training of a doctor, especially a doctor of veterinary medicine. Confident and deep knowledge of the anatomy of various animal species is the key to a correct and successful experiment. The richest collection of exhibits of representatives of almost all classes of vertebrates can be boasted by the Anatomy Museum of the Department of Vertebrate Biomorphology named after academician V.G. Kasyanenko of the National University of Life Resources and Environmental Sciences of Ukraine [5].

This museum, starting from September 1, 1989, began to be created by O.P. Melnyk, who was still a student at that time, and now a Doctor of Veterinary Sciences, Professor, Head of the Department of Vertebrate Biomorphology. During this time, the professor produced over 1,000 exhibits, for the collection of which he used any opportunity – business trips to the most remote corners of the former USSR and a number of other countries, cooperation with the Kyiv Zoo, and being a hunter, his successful hunts, as well as field collections of scientific material, came in handy. Later, Associate Professor O.O. Melnyk, who makes both skeletons and stuffed animals of various animals, joined the creation of the exhibits of the Anatomy Museum of the Department of Vertebrate Biomorphology of the National University of Life Resources and Environmental Sciences of Ukraine. Today, this museum has about 2,000 exhibits from fish to a blue whale. In addition to a large number of anatomical exhibits, the artistic design of this museum deserves special attention, reflecting the life of representatives of the animal world in carved and painted paintings.

***The Museum of the Department of Normal Anatomy of Danylo Halytsky Lviv
National Medical University (Lviv)***

This museum not only stores and multiplies anatomical preparations of its own exposition, but also, through the efforts of the head of the department, professor L. Mateshuk-Vatseba, a grandiose work was carried out to recognize it as a National Heritage. From 1894 to the present, more than 2 thousand preparations have been collected and stored in authentic cabinets from the times of the Austro-Hungarian Empire [6]. The museum is located in the Anatomical Building, built in 1891-1895 according to the design of architect Józef Braunzes, which he created together with Professor Henryk Kady and architect Ivan Lewinsky [6].

An entire hall of the museum is dedicated to the collection, which was personally created and purchased by the founder of the museum, Professor Henryk Kady, and contains mummified preparations of the cardiovascular system, limbs, variants of the branches of the aortic arch, renal arteries, brachial artery. One hall is entirely devoted to osteology, arthrology, age and comparative anatomy of the skeleton, in another hall you can see mostly wet preparations of the viscera of the head, neck, chest, abdominal and pelvic cavities (Fig. 3).

The museum's collection also includes the "Archive of Histological Preparations" from 1897 and the "Archive of Images" – X-ray films, slides, films and photos. Visiting the museum is informative, exciting and extraordinary!

Exposition of the National Museum of Medicine (Kyiv)

In 1853, through the efforts of professors O. Walter and M. Kozlov – students of M. Pirogov, the Anatomical Theater was built in Kyiv, which housed the collection of the Vilnius Medical and Surgical Academy [7].

The exhibits of the Anatomical Theater of the Department of Human Anatomy of the Medical Faculty of the Imperial University of St. Volodymyr (now the National Medical University named after O. Bogomolets) later became the basis of the exposition of the National Museum of Medicine [8].

The museum has created original interiors with portrait figures of famous scientists and doctors, the first operating room at the Medical Faculty of Kyiv University with full equipment of that time and full-size figures of M. Pirogov and V. Karavaev, the office of the prominent epidemiologist professor D. Zabolotny, etc., as well as dioramas dedicated to significant events in Ukrainian medicine; you can examine bone preparations with changes due to injuries.

The "Museum of Human Formation" of the Kharkiv National Medical University (Kharkiv)

On December 18, 1931, at the Kharkiv Medical Institute (now the Kharkiv National Medical University), on the initiative of academician V. Vorobyov, the "Museum of Human Formation" was created, in which, according to the idea of the outstanding anatomist, exhibits were collected that illustrate the development of organs and systems of vertebrates and humans in ontogenesis [9].

The museum has unique mummified preparations of human body organs, which were made back in the 18th century. Some of them were purchased by the first heads of the department in Germany, others were made by teachers directly at the department. At present, the main number of preparations of this museum are preparations from doctoral and candidate theses of the department's employees over the past 80 years. Of particular value are natural preparations on the anatomy of the lymphatic system, made by the student of academician V. Vorobyov – G. Iosifov. This museum has become a scientific and methodological center for medical scientists, biologists and representatives of veterinary medicine.

The Museum of the Department of Human Anatomy of Ivano-Frankivsk National Medical University (Ivano-Frankivsk)

There is a very young, opened in 2015, but very cozy and interesting museum of the Department of Human Anatomy of Ivano-Frankivsk National Medical University, which is located in the historical building of the former Jesuit College [10].

An atmosphere has been created here for reflection on the centuries-old history of the development of philosophy, biology, medicine, the stages of the formation of specialists in morphological sciences – anatomy, histology, embryology. The repair, arrangement, and assembly of the museum's exposition were the painstaking and persistent work of the head of the department, professor O. Popadynets. Reproductions of famous paintings hang on the walls, in particular a fragment of the fresco "The Creation of Adam" by Michelangelo, "Venus before the Mirror" by Diego Velázquez, as well as thematic ones, such as those that correspond to the place: "The Anatomy Lesson of Dr. Tulip", "The Anatomy Lesson of Dr. Dejman" by Rembrandt, "The Anatomy Lesson of Dr. Willem van der Meer" by Michel Mirevelt, "Still Life with a Skull and a Goose Feather" by Peter Klaas, "Anatomy" by Gabriel von Max, "Anatomy of the Heart" by Enrique Simonet, etc. In addition

to the usual anatomical preparations, of which there are almost 600 in the museum, you can see all the details of the skeletons of a horse and a dog. Preparations of autonomic nerve plexuses, made by Yefim Melman, the former head of the department, a student of professor F. Volynsky, with whom they improved the method of macro-microscopic preparation, are carefully preserved.

The Museum of the Department of Human Anatomy of the Ternopil National Medical University named after I.Ya. Gorbachevsky (Ternopil')

Among those created in the last half century, the museum of the Department of Human Anatomy of the Ternopil National Medical University named after I.Ya. Gorbachevsky is noteworthy, which was founded in 1959 by the then head of the department, Professor M. Polyankin, and a major restoration in 2009-2010 was carried out under the leadership of the current head of the department, Professor I. Gerasimyuk [11].

A significant contribution to the replenishment of the museum was made by the heads of the department at different times, V. Koveshnikov and Ya. Fedonyuk. In particular, Professor V. Koveshnikov introduced a unified method of manufacturing anatomical museum preparations. Today, on 596 wet and dry preparations, you can see the natural shape of organs, their topographic relationships, projections of vessels and nerves. A very rich section on teratology "Developmental malformations in children", which describes in detail the original preparations obtained from clinical institutions of Ternopil'.

CONCLUSIONS:

anatomical museums have an important educational, cognitive, historical, cultural significance. In many medical and natural science universities, they have become research units of morphological departments, which play a powerful role in the training of future doctors of clinical and veterinary medicine.

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