

ИСТОРИЯ МЕДИЦИНЫ

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The first, private and unknown small anatomical Ruijsch collection of Peter the Great*I. F. Hendriks¹, I. A. Goriacheva², M. V. Tvardovskaya²,
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The anatomical collection of Frederik Ruijsch (1638–1731) concerning injected dry and wet preparations attracted the attention and interest of several generations of scientists and other admirers, including Tsar Peter the Great of Russia (1672–1725). Even today, this interest has not weakened since its manufacture more than three hundred years ago. The main collection of the famous Dutchman was purchased by Tsar Peter the Great in 1717 for his Kunstkamera, now Peter the Great's Museum of Anthropology and Ethnography in Saint Petersburg. In books and articles, first written by A. I. Tarenetsky, later by M. A. Tikotin, and again by V. V. Ginzburg was pointed out that several dozens of preparations of Frederik Ruijsch are located in the anatomical museum of the Military Medical Academy named S. M. Kirov in St. Petersburg. This collection is called “the small collection” and was acquired by Peter the Great in 1697–1698 as a private collection. This collection was intended for educational purposes and is nowadays almost unknown in, and outside the scientific world. We set ourselves the task to study the history of the acquisition of this small collection, to find out its journey to the end destination by researching early published or unpublished sources. The small collection paved the way for other botanical, zoological, and anatomical collections and has significant historical importance.

Keywords: medical history, Ruijsch, anatomy, zoology, the Netherlands, pre-1917 Russia.

Introduction

Tsar Peter (Alekseevich) the Great was born on 9 June 1672 in Moscow. As a child, Peter had many friends in the Nemetskaya Sloboda, the foreigners' area in Moscow [1–3]. One of his closest friends were the family's court physicians, Johan (Ivan) Termont, a skilled barber-surgeon, and Zacharias van der Hulst, a doctor *medicinae*. They were both of Dutch origin and Peter's first theoretical and practical medicine teachers. They, together with other Dutch people, taught him also the Dutch language [4]. His childhood friends and later his travels abroad influenced his vision for Russia's modernisation. He wanted a better connection with Europe and the implementation of reforms and innovations, also in Medicine in his country. Peter knew he had to travel to Europe to develop his visions and ideas.

In the seventeenth century, the centre of anatomical studies moved from Italy to France, England, and particularly to the Netherlands (Holland). Papal edict excluded all non-Catholics at Italian universities, a consequence of the Reformation, which took place in the seventeenth century [5–7]. The Leiden university, founded in 1575 by Stadtholder Willem the Silent, was open to all students irrespective of race, nationality or religion and became famous for its anatomical and medical school. Even Tsar Peter the Great was aware of that [1].

After the death of his brother Ivan, Peter made his first visit to Europe with the Grand Embassy (a diplomatic mission to strengthen Russia's alliance with a number of European countries) during 1697–1698, which he again repeated in 1716–1717 [1, 2, 8, 9].

One of Peter's great loves: Medicine

Late summer of 1697, Tsar Peter arrived in the Netherlands, and during his stay, Peter lived first in Zaandam but moved to Amsterdam after a short time [3]. From a very early age, Peter had an above-average interest in surgery and trauma management. In October 1697 and April 1698, he visited Leiden and Leiden University, its botanical garden and anatomical theatre [1, 2, 10, 11]. In October 1697, he became acquainted with professor Govert Bidloo, an anatomist and rector *magnificus* of the Leiden University and Nicolaas Bidloo, the nephew of Govert Bidloo. The Tsar took a lot of interest in the setup of Leiden University. Therefore, he was presented a Latin general description of everything concerning the university and a copy of the bylaws [1, 12, 13]. Nicolaas Bidloo became the personal physician and built, together with Peter the Great, the first medico-hospital school with an anatomical theatre and a botanical garden following the example of the Leiden University in Moscow. This newly built "Bidloo" school was officially opened in 1707 by Peter the Great himself.

During Peter the Great's first Grand Embassy (22 August 1697 — 3 June 1698), his host and "guide" was Nicolaes Witsen. Witsen was born into a very influential and prosperous family [14]. He had studied law from January 1663 — July 1664 at the University of Leiden, and among his fellow students were the anatomists Fredrik Ruijsch and Jan Swammerdam. In 1664, after his graduation, he went on a trade mission to Russia as a Nobleman of State. He had the pleasure of meeting Patriarch Nikon and Tsar Aleksei Mikhailovich Romanov twice.

In 1682 Witsen became Amsterdam's mayor and held the governor position of the United East India Company (VOC). In the 17th and 18th centuries, scientific and commercial networks were essential in distributing new findings. People in high places acted as patrons and formed information hubs between people. Nicolaes Witsen was one of them in the network to which scientists including Ruysch, Swammerdam, Christiaan Huygens and Antoni van Leeuwenhoek belonged [14, 15].

At that time in Europe, due to the United East India Company in Holland, it became a trend among wealthy people to collect and supply exotic curiosities. Many royal courts and private houses of the rich and famous gathered these kinds of curiosities and rarities. Even special curiosity cabinets were founded [1, 9, 14, 16]. Peter did not want to stay behind and wished to own a Cabinet to educate his people and take Medicine to a higher level. The Tsar, together with Nicolaes Witsen, visited several cabinets of curiosities [14]. Witsen also had a Cabinet of curiosities. One of his curiosities was a Surinamese toad, *Pipa pipa* (Fig. 1). In the Netherlands, Witsen was the first to own such a toad, and Jan Swammerdam likely put this first toad on "strong water" for him. They had been good friends since their university studies. Peter saw a glass jar in Witsen's Cabinet containing this Surinamese toad *Pipa pipa* on "strong water". Peter was so impressed that he requested Witsen to get him such a toad with her siblings. Witsen immediately took the glass jar with the *Pipa pipa* from his Cabinet and gave it to Peter as a gift [14, 15]. This amphibian is likely the particular *Pipa pipa* that, together with some other reptiles, was rediscovered by the authors in 2020 at the Military Medical Academy in Saint Petersburg.



Fig. 1. The *Pipa pipa*:

- a) A glass jar with the *Pipa pipa*, a gift to Peter the Great in 1697 from Nicolaes Witsen. Photographer R. I. Tamchenko. © Military Medical Academy named S. M. Kirov, 2020. Published with permission;
 b) Drawings of the *Pipa pipa* by Fredrik Ruijsch [*Arlebout Y. G. Alle de ontleed- genees- en heelkundige werken van Fredrik Ruijsch. Eerste deel. Met veele Kopere Plaatn.*, Table IV, vol. 1. Amsterdam: Janssoons van Waesberge; 1744]. In public domain

In 1685 Fredrik Ruijsch, an alumnus of Leiden University was appointed professor of anatomy and botany at the Amsterdam Atheneum Illustre. He also became the chief instructor of midwives [7, 14, 17, 18]. Frederik Ruijsch became more befriended with Witsen and his Cabinet of curiosities included after his appointment in Amsterdam. Witsen allowed Ruijsch to dissect a *Pipa pipa*, because he was interested in the toad's reproduction [14, 15, 19]. It was known that Frederik Ruijsch and the Amsterdam pharmacist Albert Seba also owned such a toad in their collections of rarities because later, more toads were sent with the VOC ships.

The Tsar and Nicolaes Witsen visited the anatomical theatre of the Leiden University, the anatomical theatre of the Amsterdam Guild of surgeons, and the private Cabinet of curiosities of Frederik Ruijsch [1, 4, 9, 11, 14]. Since 1672, Ruijsch has perfected the preparation technique of anatomical specimens and blood vessels by injecting dyes and resins. He also put them in "strong water" in glass jars. He perfected the method of Jan Swammerdam, his former fellow student. Ruijsch accumulated a unique collection of museum exhibits of human beings (congenital abnormalities and malformations) and created the first anatomical museum in Amsterdam. His museum possessed a rich collection of anatomical and zoological objects, dried plants, insects, and birds. All were carefully described in great detail in his *Thesauri*. Peter the Great greatly admired the anatomical specimens of humans and animals and visited them more than once in this museum.

Peter attended the anatomical lectures by Ruijsch in the anatomical theatre in Amsterdam and even carried out post-mortems. Peter could extract teeth, perform phlebotomy, make surgical incisions, suture wounds, and carry out post-mortems. The Tsar was now even able to diagnose patients and prescribe medication. Peter was very grateful for the medical education received from Ruijsch. Bogolovskii writes that a document concerning a sable fur gift can be found in the Russian State Archive of the Ministry of Foreign Affairs of Russia concerning Austria [4, 20]. We were able to trace this particular document (Fig. 2).

«...дохтуру Руюшу, который казал анатомию, пара соболей в десять рублёв, две пары по осми рублёв пара...» [“...For Doctor Ruijsch, who had shown anatomy, a pair sable furs of 10 roubles, and two pairs sable furs each worth 7 roubles...”].

The hand-written paragraph was found in the Russian State Archive of Ancient Acts (RGADA), f. 32 “Relations of Russia with Austria and the German Empire”, op. 1, account book 47, concerning the income and expenses of sables and various fabrics during the Great Embassy 1697–1698, maintained by the clerk M. I. Rostodamov, on sheet 55, dated 7 January 1698.

Therefore, Ruijsch, in return as an appreciation of friendship, presented Peter with a small collection of 26 dry and wet anatomical specimens [1, 3, 4].

Ruijsch used microscopes to inject wax into the very smallest blood vessels [1, 4, 20, 21]. Ruijsch had demonstrated Peter's use of the Leeuwenhoek microscope. Peter the Great visited the city of Delft. There he met Antoni van Leeuwenhoek, who showed the microscope to him. Peter was fascinated by how the microscope allowed him “to see such tiny objects” and took one of the microscopes back with him to Russia.

In 1697 the Tsar also bought his first zoological collection containing birds, fishes, reptiles in glass jars and insects [1, 4, 10, 11, 22]. He purchased a travel pharmacy and

Пара Куданки Александръ Мѣшчанинъ
 Прошу сия Яко вѣще Александръ Мѣше Забо
 Грѣшнѣиши Паради Плати парѣ Куданкѣ
 рѣке Пара, Авторъ рѣиса Которо
 Рѣза Акатионѣ Пара Вѣдѣтѣ рѣисѣ
 Автѣ парѣ Поѣси рѣисѣ парѣ. Мѣше
 Пова Рѣисѣ Плати Плати Плати Плати
 Плати рѣисѣ Пара, Рѣисѣ Рѣисѣ Мѣ
 Шеребѣси Пара Плати Рѣисѣ
 Плати парѣ Плати рѣисѣ Пара,
 Прошу сия Иванъ Яковъ Великого Гуръ
 Хакеланѣ Вѣрши Алѣ Епо Рѣисѣ
 Яко Плати Рѣисѣ Плати рѣисѣ Рѣисѣ
 Рѣисѣ вѣ. Е. Яко Иванъ Яковъ
 Хакеланѣ Рѣисѣ Рѣисѣ, Плати
 Мѣшнѣ Пара Рѣисѣ Вѣдѣтѣ рѣисѣ
 Рѣисѣ вѣ. Е. Иванъ Яковъ

Fig. 2. The hand-written paragraph was found in the Russian State Archive of Ancient Acts, f. 32 "Relations of Russia with Austria and the German Empire", op. 1, account book 47, concerning the income and expenses of sables and various fabrics during the Great Embassy 1697–1698, maintained by the clerk M. I. Rostodamov, on sheet 55, dated 7 January 1698. In public domain

pharmaceutical products for personal use. Especially for the court physicians, Termont and Van der Hulst, he purchased medical instruments in the Netherlands and England [2, 4, 10, 11, 23, 24]. Therefore, it could be that several old instruments in the Hermitage St. Petersburg as well are descended from these two doctors. His purchases were collected



Fig. 3. Drawing of fregat “the holy apostles Peter and Paul”, on which Tsar Peter worked at the wharf of the East-India Company in Amsterdam. Drawing, Abraham Storck, 1697 [<https://archieff.amsterdam/beeldbank/detail/b1d9efe7-014c-0885-42f0-667d4b505467>]

in the large Pharmacy “het Gouden Doel” and brought to the East India Company ship wharf in Amsterdam. From where his assets were transported to Moscow to the Apterkar-sky Prikaz (Ministry of Healthcare), of which the Dutchman Andrei Andreevich Winius was the head [4, 14]. Winius was a friend of Peter the Great and Nicolaes Witsen [14]. During his first visit, Peter worked at this East India Ship wharf at the Oostenburg. He participated in building two frigates “the holy apostles Peter and Paul” built by the Russians under the supervision of Gerrit-Claesz Moes and the “Amsterdam” under the supervision of Klaas Pool (Fig. 3). After the ships were finished, Tsar Peter sent the “Peter and Paul” to Arkhangelsk [1, 4, 25]. This ship could have transported his purchases, including the small collection by Arkhangelsk and on a further transport to Moscow.

When back home after his first Grand Embassy to Europe, Peter gave in 1699 a series of medical lectures in Moscow for the boyars (noblemen) on the extraction of teeth with a demonstration on a patient and anatomy with a demonstration on a cadaver.

The separation and reunion of the private small collection of Peter the Great

The history of the “*private wet and dry small collection*” is closely connected with the Apterkarsky Prikaz, the Medico-hospital school of Bidloo, the Meditsinskaya Kantselyariya, Meditsinskaya Kollegiya of Russia (forerunners of the Ministry of Healthcare) [26, 27] (Tab. 1) and the Imperial Medico-Surgical Academy (now Military Medical Academy named S. M. Kirov) in St. Petersburg. During our research, it came out that not only Peter the Great but also Emperor Paul the First played a role in the last destination of this collection.

Table 1. Overview of the development of the “Ministry of Health”, with the names used, the founder of the governmental structure, the founding year and the individual or collective in charge. I. F. Hendriks is owner of this table

Name	Founder or Renamer	Founding or renaming year	In charge
Aptekarskii Prikaz	Mikhail Fyodorovich	1620	Apothecary
Aptekarskaya Kantselaryariya	Peter the Great	1707	Doctor medicinae (Arkhiyater)
Meditsinskaya Kantselaryariya	Peter the Great	1725	Doctor medicinae (Arkhiyater)
Meditsinskaya Kollegiya	Catherine the Great	1763	board of three directors (Collegium) inclusive doctor medicinae
Meditsinskaya Kollegiya	Aleksandre I	1802	Ministry of Internal Affairs with a Medical Department
			Ministry of Education with department Medical education

During or after Peter’s first Embassy the *small* collection arrived in Russia, at the request of Peter, the collection became instantly part of the Aptekarskii Prikaz in Moscow for educational purpose. With his Dutch court physician Nicolaas Bidloo, Peter built the first hospital and medical school with an anatomical theatre and botanical garden in Moscow. Peter the Great officially opened the medical hospital school on 21 November 1707. The Emperor regularly attended dissections. In the same year, Peter renamed the Aptekarskii Prikaz to Aptekarskaya Kantselyariya.

The authors discovered that the *dry* specimens of the small collection were transferred from the Aptekarskii Prikaz to the “Bidloo school”. Peter and his court physician Bidloo knew the anatomical theatre in Leiden well. Probably like in Leiden, the *dry* specimens of the private small collection of Peter (Fig. 4), together with the colour copper plate of the anatomical theatre of Leiden University (Fig. 5), decorated the anatomical theatre and served as educational material.

In 1786, the schools of the Bidloo medico-hospital in Moscow and the navy-land force hospital in St. Petersburg were separated from the hospital and became independent medico-surgical schools. In 1798, 12 years later, Emperor Paul I renamed the medico-surgical schools of Moscow and St. Petersburg to Imperial Medico-Surgical Academies.

The Moscow Medico-Surgical Academy was closed in 1798 [28] (Tab. 2). In November of that year, not only its 45 students but also the colour copper plate of the Leiden anatomical theatre, the medical instruments, the library and “the small private Ruijsch collection of *dry* specimens of Peter the Great” were transferred by Emperor Paul I to the Imperial Medico-Surgical Academy (now the Military Medical Academy named S. M. Kirov) in St. Petersburg. As prof. Tarenetskii wrote: “...A few *dry* preparations came from the anatomical cabinet of the Imperial Medico-Surgical Academy in Moscow...” [27]. This school was a former part of the medico-hospital school of Nicolaas Bidloo [29, 30].

The anatomical museum at the Imperial Medico-Surgical Academy in St. Petersburg consisted mainly of the collections donated by the Meditsinskaya Kollegiya [27].



Fig. 4. Some examples of the dry collection of Ruijsch. Photographer R. I. Tamchenko.
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Fig. 5. Theatrum anatomicum of the Leiden Academy, 1609, Bartholomeus Willemsz. Dolendo, naar Jan Cornelisz. Van 't Woudt, 1609. Photographer R. I. Tamchenko.
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Table 2. Simultaneous development of medical education in Moscow and Saint Petersburg during the ages. F. Hendriks is owner of this table

Year	Moscow		Saint Petersburg	
1654–1714	Barber-surgeon school at the Aptekarskiy Prikraz			
1707	“Bidloo school”, anatomical theatre, botanical garden, hospital, preparatory school for postdoc PhD-title	–	–	–
1710		–	Navy hospital with school Preparation for barber-surgeon in military service	Landforce hospital with school Preparation for barber-surgeon in military service
1755		Establishment of the Lomonosov University of Moscow		
1786	As well as in Moscow as in Saint Petersburg the schools were separated from the hospitals			
1786	Medico-surgical Academy	Lomonosov University	Medico-surgical Academy	
1798	Merger of the Moscow Medico-surgical Academy with the Saint Petersburg Medico-surgical Academy			
1798–now	Lomonosov University		Imperial Medico-surgical Academy (since 1881 Military Medical Academy named S. M. Kirov)	

In 1712 the Aptekarskaya Kantselyarya was partly transferred to St. Petersburg, then the new capital of Imperial Russia and with it, “the small private Ruijsch collection of wet specimens of Peter the Great”. In 1763 the small collection of wet specimens became part of the Cabinet of the Meditsinskaya Kollegiya, a follow-up of the Aptekarskaya Kantselyarya.

These specimens were officially included in the inventory list of the anatomical museum of the Meditsinskaya Kollegiya. In the inventory list of these preparations, belonging to the Meditsinskaya Kollegiya, were listed a hand and foot of a child, filled with red mass, covered with skin, and wrapped in lace prepared by Ruijsch [31]. The inventory documents can be found in the Archive of History of the SSSR in Leningrad (now the Russian State History Archive) describe, that doctor Ruijsch carried out the injected preparations. For example, preparation No. 125 is characterised by the following words: “...Sant arteriae manus arte Rheusihiana repletae”, in other words “...the arteries of the hand were filled by doctor Ruijsch...” [31]. The Meditsinskaya Kollegiya was located next to the Hospital School of the Second General Landforce Hospital in St. Petersburg (now all included in the territory of the Military Medical Academy named S. M. Kirov).

In favour of creating an anatomical cabinet, the Imperial Medico-Surgical Academy received in 1798 by decree of Emperor Paul I from the Meditsinskaya Kollegiya a “collection of malformations” of Johann Nathanael Lieberkühn (1711–1756). More importantly, by the same decree at that exact moment, the “small Ruijsch collection of wet specimens” was transferred to the department for physiological anatomy of the Imperial Medico-surgical Academy (Fig. 6). Since its arrival in Russia in the late 1690’s, this fluid-conserved anatomical and zoological collection was located in the museum of the Meditsinskaya Kollegiya [26, 27]. This collection also included at least five zoological specimens: a Pipa pipa, other amphibia, and reptiles (Fig. 7).

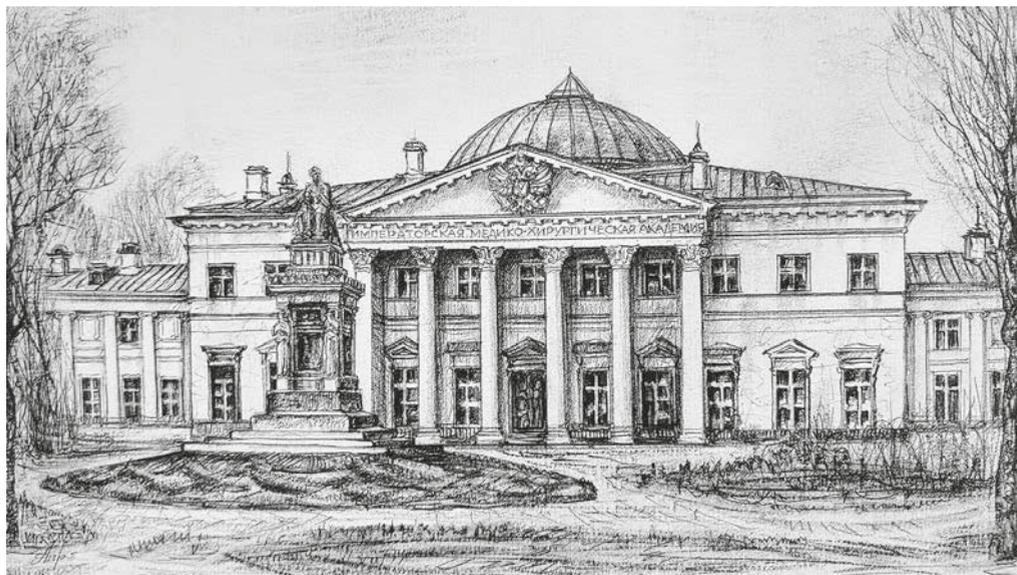


Fig. 6. Imperial Medico-Surgical Academy in St. Petersburg. Pen-and-ink drawing, 2019, artist Margarita V. Apraksina. Private collection. Published with permission



Fig. 7. Zoological specimens of the “small” Fredrik Ruijsch collection.
Photographer R. I. Tamchenko. © Military Medical Academy named S. M. Kirov, 2020.
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In 1798, Professor Zagorsky (1798–1833), the first head of the department physiological anatomy of the Imperial Medical Medico-Surgical Academy, very well knew and appreciated the specimens of the famous Ruijsch. He directly started the assessment of the state of the Ruijsch collection. He corrected the anatomical names and recorded the speci-



Fig. 8. Museum of Anatomy of the Military Medical Academy in St. Petersburg (the former Imperial Medico-Surgical Academy). Photographer R. I. Tamchenko. © Military Medical Academy named S. M. Kirov, 2022. Published with permission

mens. His attention was focused on the accounting of the specimen of the Ruijsch collection, which was recorded in the inventory of the fundamental museum of the Department of Regular Anatomy of the Imperial Medical Medico-Surgical Academy.

It is known that Ruijsch published a detailed description of his home museum in Amsterdam in the form of separate issues, “*Ruijschii Thesaurus anatomices per scrinia divisus*”. In the library of the Military Medical Academy named S. M. Kirov is stored his work “*Ruijschii Thesaurus*” [9, 32]. These intertwined catalogues of eleven different books were published during 1721–1729. Each catalogue has a number and a title, an indication of the preparations it contains and followed their enumeration and a brief description. Table 3 of the fourth catalogue, published in 1724, presents two images of an adult’s heart with large vessels. Ruijsch was very proud of the elegance and naturalness of his preparations. Comparable dried embalmed hearts can be admired in the museum of the Military Medical Academy [33].

Determining the further fate of “the small collection” of anatomic preparations of Ruijsch was not easy. The Ruijsch specimen were since 1799 located in the building of the library of the Imperial Medico-Surgical Academy. This library was located next to the conference hall, in the centre of the main building of the Academy. Luckily, this rare collection was preserved and not damaged when in 1803, a fire arose in the anatomical theatre located on the Neva embankment.

Nowadays, the collection is stored in the museum of the anatomical Department of the Military Medical Academy located in the anatomical institute designed by the famous Nikolay I. Pirogov in 1844 and built under his supervision in 1846 (Fig. 8). This building still exists in its full glory and underwent a capital restoration a few years ago, just like the wet collection of Ruijsch. The extensive description of the small anatomical collection is published in a separate article elsewhere.

The search for the formula of the preservation fluids of Ruijsch

Peter the Great purchased the large collection of Ruijsch in 1717. Together the collection he obtained the written details of the preservation fluids. Ruijsch had developed his own methods to preserve the specimens in response to others. Harvey had discovered the blood circulation. He tried to protect his preparations by removing perishable blood from the vessels and filling them with air [16]. When inflated, the thinnest branches of veins and arteries became visible and allowed for interesting observations, but the process was highly labour-intensive, and the results were difficult to preserve. Frederik Ruijsch, therefore, sought a different method. He had derived a technique for preserving wet and dry specimens based on what he had learned when working with Jan Swammerdam. Swammerdam was another Leiden medical graduate who made important contributions to the study of anatomy. Swammerdam used oleum spicae (spike oil) as a balsam to weaken eggs of different varieties [34]. The finesse of the liquid is in the oleum spicae, which comes from the *Lavandula latifolia*, a broad-leaved Lavender, also known as *Lavandula Spica*. The Dictionary of dryers shows: "... It is not uncommon for the lavender oil to be adulterated with turpentine oil, nail oil or wine spirit, both of which are the first due to the peculiar smell of turpentine, the latter due to the reduction in volume after shaking with water it is easy to discover..." The oil dissolved in wine spirit (the distillate) provides flexibility [35]. Oleum spicae made of the *Lavandula Litifolia* / *Latifolia* consists of the following composition: d-Camphor (36 %); Eucalyptol (33 %); d-Borneol (4 %); α -Pinene (4 %); β -Pinene (3 %); Caryophyllene (2 %); d-Camphene (2 %); Guaiazulene (2 %); Linalool (? %); Geraniol (? %).

The formula of the liquid used by Ruijsch still raises questions. Because the Leiden University Medical Centre was asked to help to restore the "small collection" additional historical research was carried out. From 1730 to 1732, Johann Christoph Rieger was not only the personal physician of Tsarina Anna Ivanovna, better known as Anna Johanna, but also the minister of health care [22, 36, 37]. Rieger replaced Johannes Deodatus (Ivan Lavrentevich) Blumentrost and was entrusted with the Ruijsch recipes. Because of his position, he had access to everything related to the Ruijsch collection. Rieger has uncovered the secret of the liquid for the preparations from Johann (Ivan) Daniel Schumacher, who was responsible for the Ruijsch collection [37, 38]. Johann Christoph Rieger did not hesitate to unveil the secret of Ruijsch's liquid in his treatise *Introductio adnotitiam rerum naturalium et arte*. Under the paragraph 'animal' Rieger wrote his treatise after he had left Russia for the Netherlands in 1734. Rieger stated that Ruijsch had written down the formula of the liquid in a letter, which he sold with the anatomical preparations to Peter the Great of Russia [37]. The liquid used by Frederik Ruijsch was wine spirit (distillate) or a grain distillate, rectified, to which a third part of water had been added. He even added a little black pepper to the wine spirit, so the liquid would penetrate better into fleshy areas. To better use the balm, another part has been added to prevent stiffness, as Swammerdam teaches in his book *Bibl. Wet. Part I. p. 305* namely oleum spicae to maintain suppleness [34]. Probably some other not mentioned balm herbs were additionally added [37].

The enlargement of the anatomical and zoological collections in Russia

In 1703 Peter the Great started to build St. Petersburg as the new capital. In 1712, he moved a part of the Apterkarsky Prikaz, including his private library, his first zoological

and anatomical collection, to his Summer Palace in St. Petersburg [4, 16, 28]. In 1714, he founded the *Kunstkamera*, a Cabinet for curiosities [4, 39]. In his diary, Bergholtz describes that he had seen “...a lot of jars with different kinds of animals among them birds, fishes, snakes but also parts of human beings among them whole bodies, malformations, embryos of both sexes conserved in alcohol...” [39]. Bergholz was fascinated by a head in which all the arteries were excellently injected with red wax, depicting the brain’s complex structure.

On 13 February 1718, Peter the Great issued an order that in case of congenital defects in both humans and animals in the Russian Empire were detected, they should be sent to his Cabinet for curiosities in St. Petersburg [2]. The collection grew and therefore the *Kunstkamera* contains a vibrant collection of “Monsters”.

The second (large) Ruijsch collection of anatomical and zoological preparations and a herbarium were purchased by Emperor Peter the Great during his second Great Embassy to Europe in 1717 [2, 9, 16]. He was also offered to buy the Albert Seba collection of curiosities and he bought also this collection. Both collections were intended for the *Kunstkamera* and were transported to Russia [17, 18]. When the two new large collections of Ruijsch and Seba arrived, the Summer Palace seemed too small [16, 39]. Peter decided to temporarily exhibit these collections in the Kikin Mansion, one of the oldest buildings in Saint Petersburg. The diminutive residence was commissioned in 1714 by Alexander Kikin, a bojar, who fell in disgrace and was executed in 1718. His mansion was confiscated by the crown and used to house the Royal library and the Cabinet of curiosities, the *Kunstkamera*. In 1719, the grand opening of the *Kunstkamera* took place in the Kikin Mansion. It had two storeys and was incomplete. Therefore, a third storey was added in the 1720s. The Kikin Mansion is still located at the Stavropolskaya ulitsa nr. 9 and nowadays houses a music school.

Even in 1721, a complete medical library and a rich collection of other rare items, such as minerals and shells that had belonged to Peter’s court physician Robert Erskine, were likewise added to the *Kunstkamera*. The collection grew at the seams and asked for a larger building.

Peter the Great decided to establish along the lines of the French Academy the Academy of Sciences in Saint Petersburg [2, 28]. Peter wanted the Academy to function as a scientific and educational institute. Therefore, he built a new building. He donated his library and the *Kunstkamera* (now known as *Kunstkamera*, Museum of Anthropology and Ethnography) to the Imperial Academy of Science. Unfortunately, Peter failed to see his creation as he died on February 1725. His widow, Catherine the First (1725–1727), continued his work. The first meeting of the Academy took place on 27 December 1725 in the presence of the Empress, and its grand opening was held on 1 August 1726.

The Emperor paid for his second collection and other purchases from Ruijsch 20,000 guilders. The anatomical preparations were delicate by art and the injections [22]. Ruijsch wrote a letter concerning this Cabinet in which he stated [*“...that the price of 20.000 Dutch guilders was too low and was out of proportion to the time, to the money I spent and the undertaken risks for myself to put this Cabinet together. Even though others would have offered more money, I wanted the collection to be Peter’s one because of an old affection between the Majesty and me. This is in the end, also the reason why I did not ask for an additional amount of money for my secret recipes for embalming, injecting and preserving this preparations and monsters...”*] [9, 22]. The contents of this letter show a completely

different view of the sale of the collection and the secret recipes than what we have found in other contemporary literature [2, 9, 17, 18, 40].

The Russian court physician and minister of Healthcare, the Scotsman Areskine, had tried to obtain the secret of preparation, injection and preservation of the specimen, as well as the secret of embalming bodies. Frederik Ruijsch understood that the collection needed to be preserved. He only wanted to entrust his personal secret to Peter the Great on the condition of not revealing it. The Emperor kept his promise and did not share it except with his first court physician Doctor Johannes Deodatus (Ivan Lavrentevich) Blumentrost, who had communicated it to Johann (Ivan) Daniel Schumacher. He was the first appointed Librarian of the Academical Library and secretary of the Academy of Science and kept the post for over 35 years till 1761 [9, 32].

Johann (Jean) Vollrath Bacmeister (1732–1788) was a German historian who, from 1772 to 1792, worked as an assistant librarian of the Imperial Academy of Science. The *Kunstkamera* was a department thereof [22]. Bacmeister explains in his essay the responsibilities of the employees. The President or the Director of the Academy was responsible for the immediate management of the library. The Librarian and the assistant Librarian watched over this precious possession. His manuscript contains a history of purchasing books and curiosities, including human specimens (monsters) and a part of the zoological collection in the third Cabinet (hall). In this manuscript, we will concentrate on the specimens of Frederik Ruijsch. But it is worth mentioning some medical books in the collection, which were and probably still are located in the library. The list in his book describes 83 titles, and among them are as he wrote, “...splendid & rare works of Hipocrates in 13 Volumes, Galenus in 5 Volumes, Avicenna in Arabic from the print of Cardinal Ferdinand de Medicis, two other rare editions of the same author from 1564 & 1608. Abubetrus Rhaza, Oribosius, Bidloo, Cut, Chesseldin, Eustachius, Albin, Camper, Smellie, Boerhave, Haller, van Swieten, and Gorter...”

Bacmeister describes in his book the third Cabinet (hall), which contained the second collection of the anatomical preparations of Ruijsch. The collection was spread out over 18 glass cupboards [22]. The anatomical treasures of the collection were arranged into several divisions like the epidermis, the skin, the muscles, the brain, the senses, the lungs and heart, the stomach and intestines, the liver, the spleen, pancreas, kidneys, noble parts, uterus, embryos, and the formed fetuses. Also could be seen sick parts of the body and malformations. Each piece is an instructive one. Because it is impossible to list them all here, the authors of this chapter pay attention to a few general observations among the description of an eye and the fineness of injections.

[“... We first notice the Choroid, whose outer surface shows the direction of its vessels and the nerves, with which it is strewn; then the Ruijschiene, which is a different layer and separated from the Choroid; then the Retina and the Iris, whose tissue is only an extension of vessels. Finally, an Eye that presents all its different tunics, the Scleroticque, the Cornea, the Ruijschiene, the Choroid, the Retina, the Ligament and the Ciliary Processes.

We find the same art in the injected eyelids, which could be the Lacrimal Points, the Meibom-conduits, and the Inner Skin (cadnata) of the eyelid. It was even better than in a living human being...” [22].

It was known that Frederik Ruyjsch discovered or claimed he had found a singular membrane in the eye, the Ruyjschienne [22]. To support his honour and discovery, he spared neither time, trouble, or expenses, preparing the eye and all its parts so superbly. At that time, anatomists strongly opposed the difference he made between the Choroid and its Ruyjschian, but he was the one who knew how to divide the Choroid into two membranes.

Bacmeister also paid attention to the vessels of the brain and the admirably injected vessels of the pia mater [22]. He was surprised by the number of arterioles of the most incredible fineness, which spread in the brain. Nevertheless, they do not contribute to the composition of the medullary substance. The prepared pieces of the corticosteroid substance in the brain are not less remarkable for their beauty but also for the effort the author had put into them. Ruyjsch wanted to prove that the substance consists only of vessels. He used it to refute Malpighi's hypothesis, claiming that this substance consisted mainly of a composition of small glands. Bacmeister points to the discussion of the medullary substance of the brain as they are all white, despite the hardship that Ruyjsch gave himself to inject this parenchyma to make it red. They served to prove that this substance is not composed of vessels. This argument was part of an ongoing debate between scientists about the nature of the composition of tissues of either glands or vessels, for instance, between Ruyjsch on the one hand and Govert Bidloo and Martin Lister on the other hand [41].

Bacmeister describes that many preparations, like those of the skin, stomach, and intestines, confirm the vascular structure of the viscera [22]. The best result is the angiology of prepared intestines in a skeleton to demonstrate the distribution of the vessels [22]. Ruyjsch had first injected them and then dipped them in an acidic liquid to rid them of the corroded cellular tissue, which binds the vessels between them. Then one can see the most beautiful branching of blood vessels, which perfectly shows the composition of the natural shape of the intestines. Bacmeister also points to a skeleton of a newborn child with its liver, with a display up to the ends of the vessels, which push out smaller blood vessels in the form of brushes. Spleen, lungs and kidneys are prepared in the same way [22]. Objects related to the generation, the successive progression of the germ, from the moment of conception to that of birth, are unique. They have long been the subject of admiration from scientists. The number of fetal embryos is 110; they form a complete series, from the size of a grain to that of fully formed children.

The collection also shows preparations that are produced in the human body against the natural order, such as worms, polyps, hydatids, hair and various parts of the body which are pathologically deformed or deformed by an extraordinary accident. Their number is over 200.

This Cabinet contains a vast collection of malformations. The Academy commissioned Mr Wolff, an academic, to provide anatomical descriptions that shed significant light on a generation's theory and other aspects of physiology [22]. Additionally, the Cabinet also contained 88 amphibians.

Another assistant librarian of the *Kunstkamer*, Osip P. Belyaev, also gave a further insight into the "Cabinets" of Peter the Great, which he describes the inventory very accurately [42, 43]. He takes the reader by the hand and guides you through the halls, which are classified per subject and category. He also mentions the number of "cabinets" per subject and per category and what the cabinets contain. He even made up several tables, which give an insight into the total amount of curiosities among them anatomical and

zoological specimens, books and other objects. His manuscript made it clear that Peter never lost his love for the Netherlands. When Dutch skippers and boatmen arrived in St. Petersburg, he invited them to his Summer Palace or visited their boats. Once he asked them why they still sailed to Arkhangelsk, they answered that they served very tasted blinis (small pancakes) in that city. He called in his chef-cook, ordered him to prepare blinis for the next day, and invited the skippers again. After his main meal, Peter the Great always ate Dutch Limburg cheese.

Conclusion

The research into the archives and the analysis of the state of the first private “small anatomical collection of Ruijsch” and the zoological collection of Peter the Great showed that these collections were brought to Russia by Tsar Peter the Great in 1698, apparently as a gift(s) and a rarity. These collections were first transferred to the Apterkarsky Prikaz in Moscow for educational purposes. In 1707 the dry part of the small Ruijsch collection became part of the Bidloo medico-hospital school. The wet part of the collections stayed in the Prikaz.

Almost a hundred years after arriving in Russia and being separated for a long time, Emperor Paul the First reunited the first private “small Ruijsch collection” and “the zoological collection” of Peter the Great in 1798. The wet part of the Ruijsch collection and the small zoological collection were transferred from the Meditsinskaya Kollegiya (a later follow-up of the Prikaz) to the Imperial Medico-surgical Academy in Saint Petersburg in 1798. The dry part of the Ruijsch collection was transferred in 1898 after closing the Imperial Moscow Medico-surgical Academy (the follow-up of the “Bidloo school”).

Unlike the large anatomical collection purchased by Peter the Great in 1717 for the Kunstkamera as a curiosity, the first “small Ruijsch collection” and the small zoological collection” found in the Military Medical Academy were personal gifts of Frederik Ruijsch and Nicolaes Witsen to the Russian Tsar in 1698. Both collections were used purely for the education of medical students and are still used in this way today.

The revealed new facts prove that the specimens, which nowadays are located in the Department of Normal Anatomy and Biology of the Military Medical Academy museum never belonged to the main collection or were exhibited in the Kunstkamera, now known as *Peter the Great's Museum of Anthropology and Ethnography*.

The first and second collection have a world-historical significance and reveal the development of anatomy as a science in Europe.

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References

1. Golikov I. I. *Acts of Peter the Great, wise transformer of Russia, Collection of reliable sources and locations per year*, part I. Moscow, University printing press of V. Okorokov Publ., 1788. (In Russian)
2. Richter W. M. *Geschichte der Medicin in Russland. Dritter Theil*. Moskwa, N. S. Wsewolojky Publ., 1817.
3. Samoylov V. O. *History of Russian Medicine*. Moscow, Epidavr Publ., 1997. (In Russian)
4. Bogoslovskii M. M. *Peter I. Materials for a biography. First international travel*, part I, II. Moscow, Ogiz Publ., 1941. (In Russian)
5. Lyons A. S., Petrucelli R. J. *Medicine. An Illustrated History*. New York, Harry N. Abrams Inc., 1987.
6. Guthrie D. The influence of the Leyden school upon Scottish Medicine. *Med. Hist.*, 1959, vol. 3 (2), pp. 108–122.
7. Huisman T. *The Finger of God. Anatomical Practice in 17th-Century Leiden*. Leiden, Primavera Pers, 2009.
8. Richter W. M. *Geschichte der Medicin in Russland. Zweiter Theil*. Moskwa, N. S. Wsewolojky, 1915.
9. Golikov I. I. *Acts of Peter the Great, wise transformer of Russia. Collection of reliable sources and location per year*, part V. Moscow, University printing press of V. Okopokov Publ., 1788. (In Russian)
10. Golikov I. I. *Supplement to the acts of Peter the Great*, vol. IV. Moscow, University printing press of V. Okorokov Publ., 1790. (In Russian)
11. Golikov I. I. *Supplement to the acts of Peter the Great*, vol. V. Moscow, University printing press of V. Okorokov Publ., 1791. (In Russian)
12. Haneveld G. T., Fokke H. T. Geneesheer en Hoogvoorleezer in de Ontleding en Heelkunst. Govert Bidloo en Koning-stadhouder Willem III. *Op het lijf geschreven. Bekendheden en hun lijffarts*. Amsterdam, Overveen, Boom, Belvedere, 1995, pp. 95–103.
13. Anonymous, Bidloo Govart (Govert). *Leiden Medical Professors 1575–1940*. Leiden, Boerhaave Museum — Leids Universitair Medisch Centrum, 2007.
14. Peters M. *De wijze koopman. Het wereldwijde onderzoek van Nicolaes Witsen (1641–1717), burgemeester en VOC-bewindvoerder van Amsterdam*. Amsterdam, Bert Bakker/Promothous, 2010.
15. Arlebout Y. G. *Alle de ontleed- genees- en heilkundige werken van Fredrik Ruijsch. Eerste deel. Met veele Kopere Plaat*, vol. 1. Amsterdam, Janssoons van Waesberge, 1744.
16. Radziun A., Christov Y. *The first scientific collections of Kunstkamera. Exhibition guide*. St. Petersburg, Diton Publ., 2012.
17. Boer L., Radziun A. B., Oostra R. J. Frederik Ruysch (1638–1731): Historical perspective and contemporary analysis of his teratological legacy. *Am. J. Med. Genet.*, 2016, Part A, vol. 173A, pp. 16–41.
18. Ijma F. F. A. *The Anatomy Lessons of the Amsterdam Guild of Surgeons*. Enschede, Gildeprint, 2016.
19. Ruijsch F. *Thesaurus Animalium primus. Cum figuris Aeneis. Vol. I. Amstelodami* (Amsterdam), Janssinio-Waesbergios, 1725.
20. Scheltema J. *Peter de Groote, Keizer van Rusland, in Holland en Zaandam, in 1697 en 1717*, vol. I. Amsterdam, Hendriks Gartman, 1814.
21. Sobol S. L. *The history of the microscope and the microscopic research in Russia in the 18th century*. Moscow, Leningrad, Academy of Science SSSR Press, 1949. (In Russian)
22. Bacmeister J. *Essai sur la Bibliotheque et le Cabinet de curiosites et d'histoire naturelle de l'academie des sciences de Saint Peterbourg*. St. Petersburg, Weitbrecht & Schnoor, 1776.
23. Golikov I. *Acts of Peter the Great, wise transformer of Russia, Collection of reliable sources and locations per year. Part VII*. Moscow, University printing press of N. Novikov, 1789. (In Russian)
24. Golikov I. *Acts of Peter the Great, wise transformer of Russia, Collection of reliable sources and locations per year. Part IX*. Moscow, University printing press of N. Novikov, 1789. (In Russian)
25. Romanov P. A. *Travel journal, 1695–1703. Journal 1697 written by Tsar Peter the Great*. St. Petersburg, 1853. (In Russian)
26. Tikotin M. A. *P. A. Zagorsky and the first Russian anatomical school*. Moscow, Medgiz Publ., 1950. (In Russian)
27. Tarenetskii A. I. Foundation of the Medical-Surgical Academy and the Department and Museum of Normal Anatomy. *Department and museum of normal anatomy of the human being under prof. H. F. Zakorskii from 1799 till 1833 Historical sketch*. St. Petersburg, Imperial Military-Medical Academy Press, 1895, pp. 3–143. (In Russian)
28. Sorokina T. S. *History of Medicine*. Moscow, Academia Publ., 2008.

29. Hendriks I. F., Zhuravlev D. A., Bovill J. G., Boer F., Gaivoronsky I. V., Hogendoorn P. C. W., DeRuiter M. C. *Nikolay Ivanovich Pirogov (1810–1881): Anatomical research to develop surgery. Clinical Anatomy*, 2020, vol. 33 (5), pp. 714–730.
30. Hendriks I. F., Bovill J. G., Zhuravlev D. A., Gaivoronskaya M. G., Gaivoronsky I. V., Boer F., Hogendoorn P. C. W. The development of Russian Medicine in the Petrine era and the role of Dutch doctors in this process. *Vestnik of Saint Petersburg University. Medicine*, 2019, vol. 14 (2), pp. 158–172.
31. Unknown “Small collection of anatomical preparations by F. Ruijsch” in the Museum of the Meditsinskaya Kollegiya. *Edited by Russian State Historical Archive USSR SP-L*, fund 1294, inventory 1, vn. 17, file 2 Saint Petersburg — Leningrad; 1762–1763.
32. Staehlin von J. *Original anecdotes of Peter the Great. Collected from several persons of distinction at Petersburg and Moscow*. London, Edinburgh, J. Murray, J. Sewell and W. Creech, 1788.
33. Ruysch F. *Thesaurus Anatomicus Primus. Cum Figuris aeneis. Het eerste Anatomisch Cabinet. Met koperen Platen*. Amstelaedam, Joannem Wolters, 1701.
34. Swammerdam J. *Bijbel der Nature, Historie der Insecten. Deel I*. Leyden, Isaac Severinus, Boudewijn van der Aa, Pieter van der Aa., 1737.
35. Beets M. N., Meijlink B. *Woordenboek van droogerijen, bevattende eene uitvoerige beschrijving der onderscheidende in den handel der droogerijen begrepene voorwerpen etc. Tweede Deel F-N*. Amsterdam, Beijerinck, G. J. A., 1844.
36. Rieger J. C. *Introductio adnotitiam rerum naturalium et arte factarum*, book 2, parts B, C. Hagae Comitum, Petrum Cosse, 1743.
37. Rieger J. C. *Introductio adnotitiam rerum naturalium et arte factarum*, book 1, part A. Hagae Comitum, Petrum Cosse, 1743.
38. Rieger J. C. *Introductio adnotitiam rerum naturalium et arte factarum*, book 1, part 2. Hagae Comitum, Petreum Cosse, 1743.
39. Bergholz F. W. *Dairy of the gentleman in waiting Bergholtz, kept by him in Russia during the reign of Peter the Great, from 1721 to 1725*, vol. I. Moscow, Katkov and Ko. Publ., 1858.
40. Kooijmans L. L. *De doodskunstenaar. De anatomische lessen van Frederik Ruysch*. Baarn, Bakker, 2004.
41. Kooijmans L. *Frederik Ruijsch (1638–1731). Op het snijvlak van kunst en wetenschap*. Amsterdam, Uitgeverij Lias BV, 2018.
42. Belyaev O. P. *Kabinet of Peter the Great*, part I, vol. I. St. Petersburg, Imperial Academy of Science Press, 1793. (In Russian)
43. Belyaev O. P. *Kabinet of Peter the Great*, part II, vol. II. St. Petersburg, Imperial Printinghouse, 1800. (In Russian)

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Первая частная неизвестная «малая анатомическая коллекция Рюйша» Петра Великого

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Анатомическая коллекция Фредерика Рюйша (1638–1731), посвященная сухим и влажным препаратам, привлекала внимание нескольких поколений ученых и исследователей, в том числе российского царя Петра Великого (1672–1725). С момента создания препаратов прошло более трехсот лет, но интерес к ним не ослабевает и до сих пор. Основная коллекция знаменитого голландца была приобретена царем Петром Великим в 1717 г. для его Кунсткамеры, ныне Музея антропологии и этнографии Петра Великого в Санкт-Петербурге. В книгах и статьях, написанных А. И. Таренецким, М. А. Тикотинным и В. В. Гинзбургом, было указано, что в анатомическом музее Военно-медицинской академии имени С. М. Кирова в Санкт-Петербурге хранятся несколько десятков препаратов Фредерика Рюйша. Это собрание называется «малым» и было приобретено как частное Петром Великим в 1697–1698 гг. Коллекция предназначалась для образовательных целей и в настоящее время в научном мире, а также за его пределами почти неизвестна. Мы поставили перед собой задачу изучить историю приобретения этой небольшой коллекции, исследуя ранее опубликованные и неопубликованные источники, выявить ее путь к настоящему месту хранения. Небольшая коллекция, положившая начало для других ботанических, зоологических и анатомических собраний, имеет большое историческое значение.

Ключевые слова: история медицины, Рюйш, анатомия, зоология, Нидерланды, Россия до 1917 г.

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