

Frederik Ruysch (1638–1731)

Frederik Ruysch made anatomical drawings and collected and preserved human specimens, many of which were infants and fetuses, in the Netherlands during the seventeenth and eighteenth centuries. Ruysch had many interests, including anatomy, botany, and medicine, and he discovered structures of the lymphatic system and of the eye. His collection of preserved human specimens were used as education tools for his students and for other physicians, and they were displayed in a museum of his own making that was open to the public.

Ruysch was born in The Hague, the Netherlands, on 23 March 1638 to Anna van Berchem and Hendrik Ruysch, who worked for the state. After the death of his father in 1654, Ruysch became an apothecary's apprentice to help support his mother and five siblings. He opened his own shop, but he had to close it until he received his official apothecary license on 17 June 1661. That year, Ruysch married Maria Post, the daughter of architect Pieter Post. Soon after marrying, Ruysch began his medical studies at the University of Leiden in Leiden, the Netherlands. In the laboratory of Johannes van Horne, Ruysch observed the tissue preservation work of fellow students Jan Swammerdam and Reinier de Graaf. Swammerdam and de Graaf influenced Ruysch, and Ruysch applied some of their techniques in his own preparations, which were mostly human anatomical specimens that he dried and treated with varnish. On 28 July 1664 Ruysch received his medical degree from the University of Leiden, and he wrote a thesis on the inflammation of the lining of the lungs, a condition called pleurisy. Following his graduation, Ruysch established a medical practice in The Hague, the opening of which coincided with an outbreak of the plague in the city.

In 1665 Ruysch demonstrated that the lymphatic system contains valves, settling a debate between his mentor, van Horne, and a self-taught anatomist, Louis de Bils. In 1666 Ruysch became the praelector of anatomy for the surgeon's guild of Amsterdam, a position that prompted him to move to Amsterdam, in the Netherlands. In this role, he taught anatomy to surgeons in training and expanded his purview to include educating students in obstetrics and midwifery. In 1672 Ruysch became the city obstetrician for Amsterdam, a task that put him in charge of the training and examination of all of the midwives in Amsterdam. This position also gave Ruysch access to miscarried embryos and fetuses, which he preserved using some of the techniques that he had developed in van Horne's laboratory.

In 1679 Ruysch was appointed doctor to the court of justice in Amsterdam, and was tasked with reporting on persons wounded or killed while committing crimes. His role in the legal system gave him access to the bodies of executed criminals, which he preserved and kept as anatomical teaching specimens. Ruysch argued that the bodies should be used for research and education; a position that was often at odds with city officials. Ruysch perfected his preservation technique and amassed hundreds of specimens which he displayed in a museum comprised of a series of small rented houses. Ruysch's displays often depicted his specimens dramatically, and they frequently had inscriptions about the brevity of life. Ruysch's museum, which in the terminology of the time was called a 'Cabinet', can be compared to Gunther von Hagens' Body Worlds exhibit, which features human bodies preserved through the process of plastination.

Unlike von Hagens' work, few criticized Ruysch's displays during his time. As the historian Gijsbert van de Roemer stated in 2010, the artistic element in Ruysch's displays was meant to celebrate the beauty of life and to immortalize those that never had the opportunity to live. Ruysch predicted that his specimens would last for hundreds of years, and over 900 of his original 2,000 persisted into the twenty-first century. The preservation of Ruysch's collection is partly due to Tsar Peter the Great of Russia, who purchased the collection in 1717 and moved it to St. Petersburg, Russia. Many of

the pieces are still housed in the Kunstkamera Museum of the National Academy of Sciences in St. Petersburg, Russia.

Ruysch described his anatomical collection in his work, *Thesaurus Anatomicus*, a series of twelve books published between 1701 and 1728. The books contain detailed drawings of the specimens in the Cabinet, as well as descriptions and poems. Ruysch originally drew the pictures himself, but as he gained prestige, other artists began to contribute to the volumes. Ruysch also became the subject of several pieces of art. In 1670 and 1683, Ruysch was painted by artists Adriaan Backer and Johan van Neck, respectively.

In 1685, Ruysch joined the Amsterdam Athenaeum Illustre, a predecessor to the University of Amsterdam, as a botany professor. Towards the end of his life he became a member of the Academia Caesarea Leopoldino-Carolina, the Royal Society of London, and the Paris Académie des Sciences. Ruysch died on 22 February 1731 at the age of ninety-three.

Sources

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