



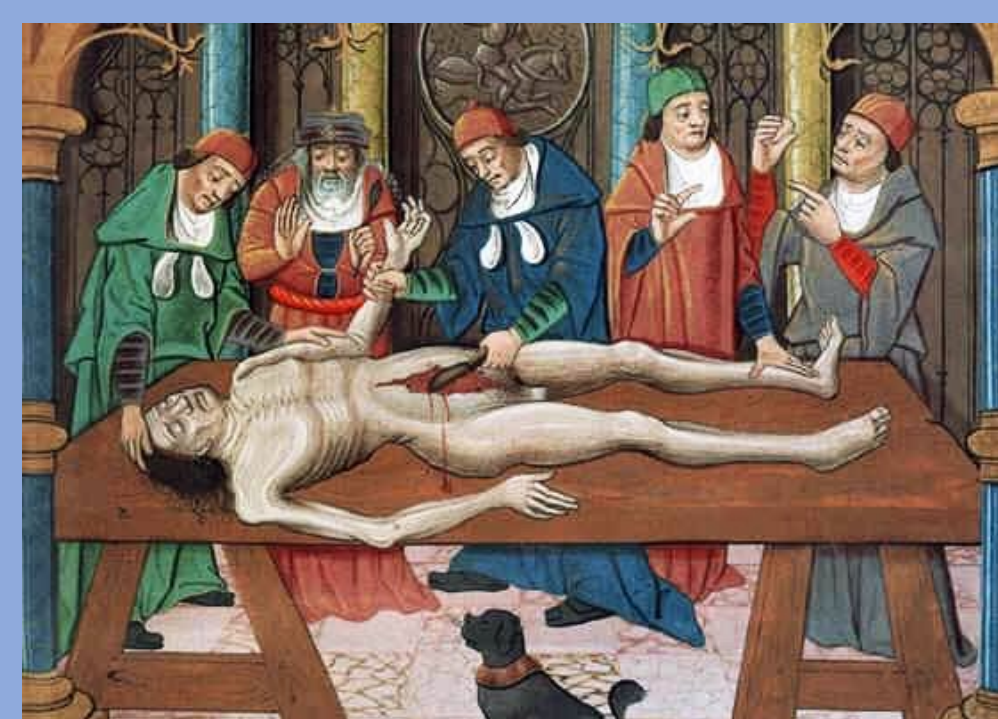
Early-Modern Forensic Pathology in French and English Legal Medicine

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Early Anatomists and Methodology

In ancient times, different cultures performed various forms and techniques of dissection when preparing the body of the deceased. In Egypt, organs from the torso would be removed from the body and put into jars in a tomb and the brain would be extracted from the skull via a passage in the nose. In Babylon, early surgeons would dissect animals in order to discern how human organs functioned. Greek surgeons and medical philosophers would dissect bodies in order to find a source for the human soul. Aristotle was hailed as the Father of Comparative Anatomy and Physiology.

While monotheistic religions would stigmatize anatomical dissections, under the Tudor Dynasty, dissections would occur when there had been a suspicious cause of death, such as a poisoning.



The Study of Morbid Anatomy

Morbid anatomy is the study of tumors and other aggravated forms of diseased organs and tissues. This subfield of pathology grew in fascination in France after the French Revolution of 1789. Oftentimes the diseased organs would indicate the cause of death or contribute to it in some fashion; those who died in this manner would have been examined by anatomists and surgeons in their studies.

Following the French Revolution, there was an increased access to medical schools with anatomy courses. Morbid anatomy was included in these courses because of its complex nature and its status as a subfield of forensic pathology. Due to the complex nature of tumors and diseased tissues, student who studied morbid anatomy gained a greater knowledge of how organs functioned and how diseased organs can lead to death.

France vs. England: Pathology Evolution

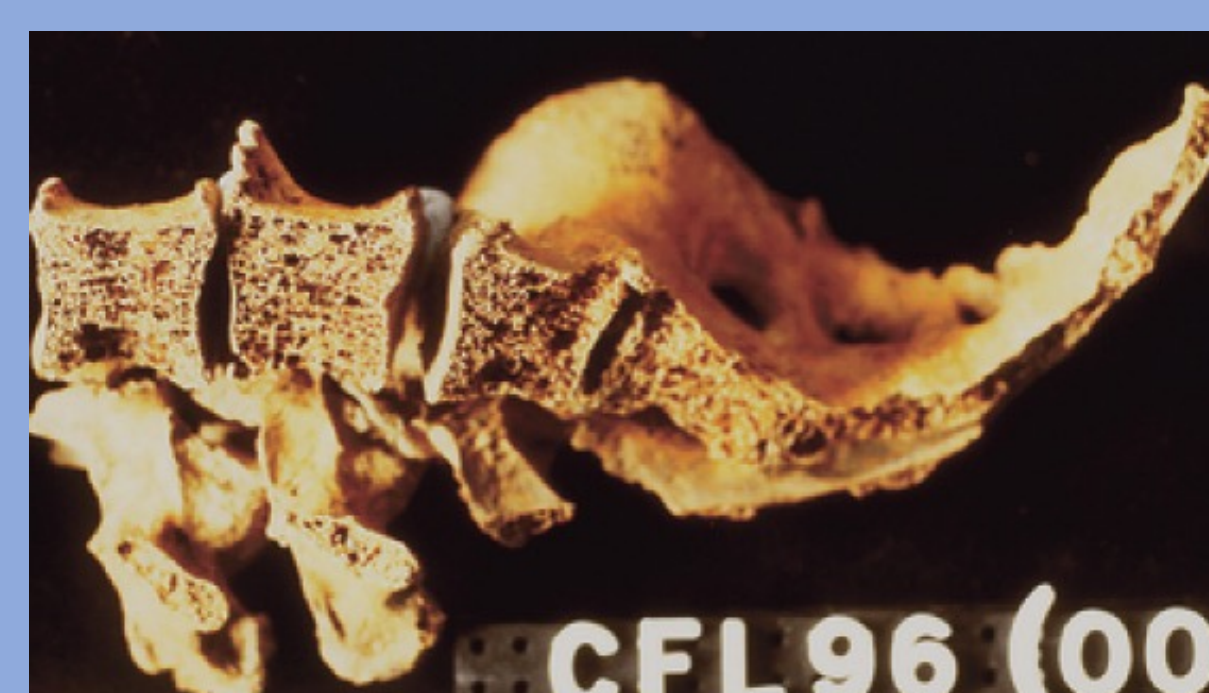
France:

French law, prior to the eighteenth century was tumultuous: there were intense fluctuations in government leadership, monarchical power, and the legal system. Because of the social disarray, anatomical study was very niche and only available to wealthy upper-class men. Under early Napoleonic rule and deriving inspiration from the Age of Enlightenment, more medical schools openly and legally taught anatomical dissection practices to men of different economic classes. New techniques emerged in Montpellier, Strasbourg, and Paris, primarily by the insistence of surgeon Antoine Francois de Fourcroy, who was a chemist and an anatomist in the Société Royale de Médecine. Many surgeons and anatomists, such as Fourcroy, were scholars of morbid anatomy and general surgery practices.

England:

Printed books about modern anatomy began circulating in Europe and by the early eighteenth century, these books eventually arrived in England and became readily available. Some hospitals offered services to poor and impoverished families. Those who died in these hospitals, their corpses would be given to independent anatomy schools as cadavers. This cooperation allowed medical students to learn more about the human body and determine causes of death of different patients.

Newcastle Infirmary, founded in 1751, was excavated in 1996; the infirmary gravesite held around 210 fully articulated skeletons and roughly 400 disarticulated individuals. These skeletons showed evidence of several procedures: post-dissection skeletal evidence showed "sixty-one craniotomies, transected clavicles and ribs from thoracotomy procedures, and transecting of the spine in the sagittal plane."

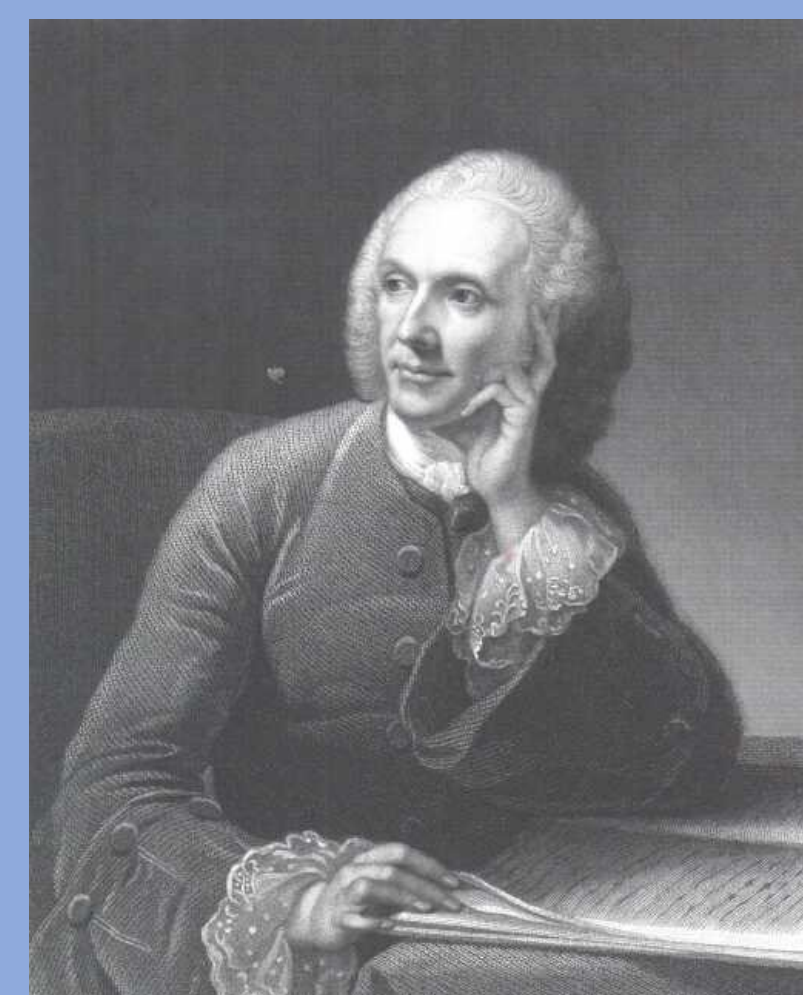


Sacrum and lumbar vertebrae (left) from the Newcastle Infirmary (far left) burial ground, transected in the sagittal plane suggesting an anatomical dissection was performed.

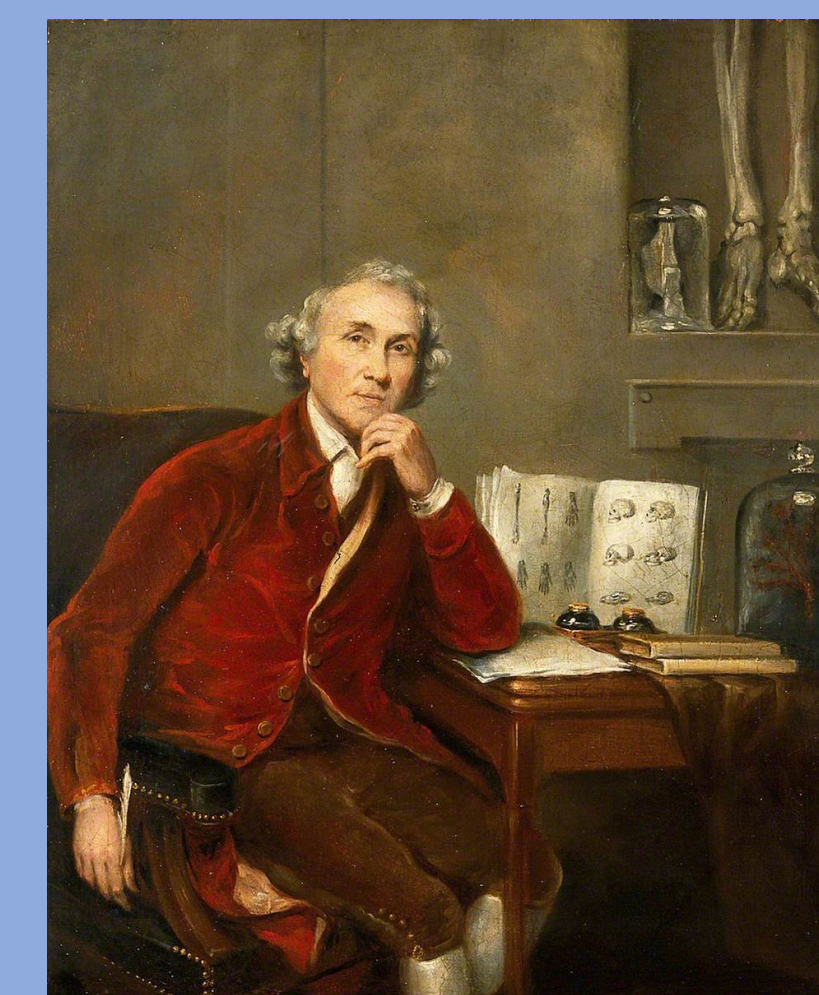
Hunterian Schools

Two brothers streamlined the field of pathology in London. William and John Hunter pioneered pathology and the "art of dissection". William Hunter opened his own anatomy school for students in September of 1746 while his brother, John, took after his brother. He studied at his brother's anatomy school at the Covent Garden Anatomy School, however, he began to perform his own dissections and in 1764, he opened his own anatomy school; a few years later, he was indoctrinated in the Royal Society three years later and was appointed Surgeon-Extraordinaire to King George III in 1776.

The Hunterian schools established practices and methods that would become standard form in pathology. These schools of anatomy established practices and experiments that greatly improved the knowledge of the human body; they also created and implemented new tools and techniques for extracting viscera and blood from small vessels in the body.



William Hunter: chemist, surgeon, anatomist (1718-1783)



John Hunter: surgeon, anatomist (1728-1793)

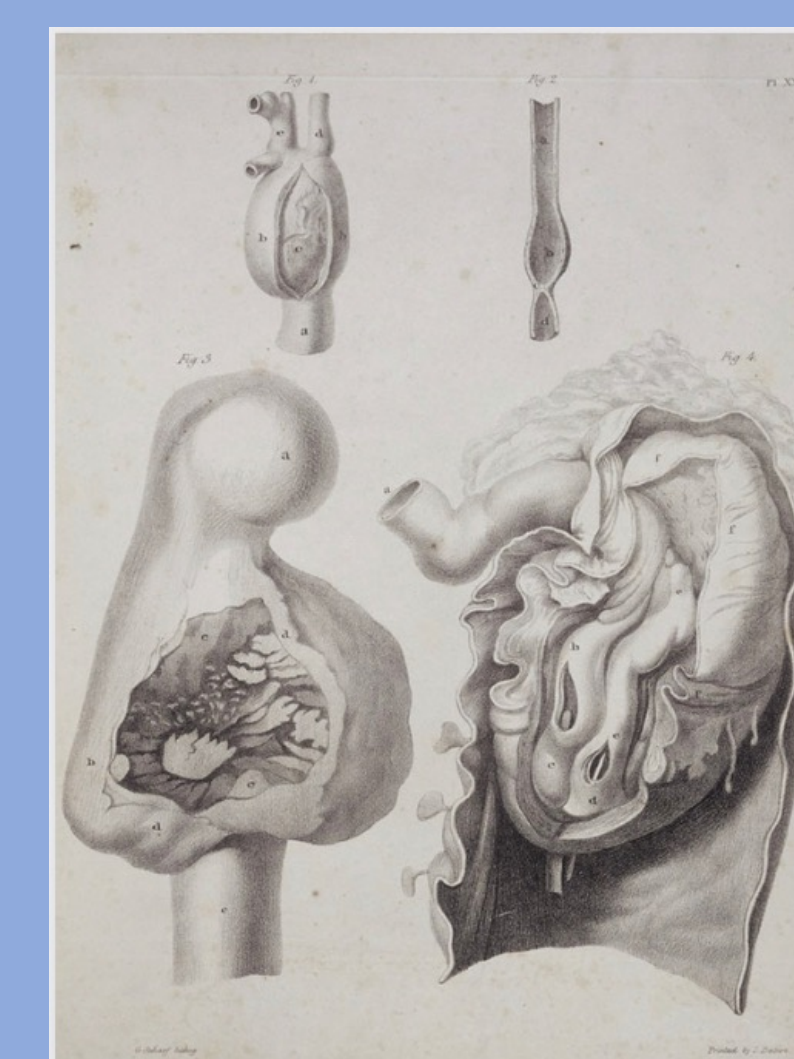
Hunterian Tools and Methodology

Many of the physical practices taught in Hunterian schools were similar to how the ancients studied and dissected a cadaver. However, the Hunterian schools in London and Glasgow eventually pooled all of the knowledge of anatomy into courses for early surgeons, apothecaries, and anatomists to study. However, some tools were invented to offer better access to delicate tissues and fiber, such as small needles, which allowed easier access to veins and arteries.

Other tools and devices included the usage of plaster and metal joints to replicate the human body in a more realistic and non-invasive manner of study, such as the lead and plaster cast shown. Sketches of different body parts became a standard operating practice for all medical students attending Hunterian courses. These sketches allowed students to examine organs and tissue layers in greater detail, while also allowing them to record what observations they make for posterity.



Visual tools, such as the plaster womb (above) and the sketches of the heart (right) were used to view organ systems when a cadaver was not available for study.



Claudine Rouge- A French Case Study

Claudine Rouge of Lyon France disappeared from her home on 25 June 1767 and a body matching her description was found five days later on the banks of the Rhône. Her body was found by a passerby, a local surgeon, on 30 June in Condrieu; he noted her body was bloated from being in the water; her throat showed bruising, indicating signs of strangulation; and that her genital area showed signs she had been raped. She was then buried in St. Michel sous Condrieu and, on 5 July, was exhumed from the cemetery and identified by her uncle based on her clothing. Her father on 7 July openly denounced Mme. Forobert, Antione and Jean Perra, Jeanne Bolmier, and Pierre Metra as the criminals responsible for the rape and murder of his daughter; his denunciation would then demand an autopsy of her body for evidence proving both evidence of rape and the cause of death.

Two graduate master surgeons from Lyon, Faissole and Champeaux, who attended to the exhumation of the body in Condrieu and performed the anatomical dissection on Mme. Rouge's body. In their report, they noted the body's disfiguration.

"[W]e found the head without tegument, the skull exposed and unfractured, the face, neck, and upper extremities nibbled by worms, the chest and stomach had not yet been opened by these insects...the decomposition of the natural parts under the [pubic] hair, and the labia...and the external orifice of the vagina also eaten by worms, and the lower extremities were extremely bloated and without epidermis or skin."

Several factors went against the prosecution and the attending surgeons responsible for the autopsy. Firstly, even in death, the body went through a physically traumatizing ordeal: she was disposed of in the Rhône, where she was left to the elements and her soft tissue surrounding the vaginal cavity and the face had been eaten away by the river's animal life, making identification difficult and rape difficult to determine. Furthermore, she had been submerged in water, then exposed to the sun on the bank, then buried in sand, exhumed, buried in the cemetery in St. Michel sous Condrieu, exhumed again for the trial and dissection, then finally laid to rest.



This is an image of an eighteenth-century night dress, similar to the one Claudine Rouge was wearing when she was last seen.

Ann Ruddle- An English Case Study

On the 9th of January, 1793, John Ruddle was indicted for assaulting his wife, Anne Ruddle. He testified that he and some of his work friends had gone out to a pub to drink and the late Mrs. Ann Ruddle was in attendance. After leaving the pub, Mr. and Mrs. Ruddle continued to drink with their neighbor, Mrs. Ann Baker, around midnight. When Mrs. Baker, their neighbor, retired for the evening, the couple continued to their home, and had a disagreement. Both were intoxicated and according to Mr. Ruddle's testimony, Mrs. Ruddle attacked him with a fire poker. He states that he reacted by striking her multiple times with his fists and feet.

The surgeon, Mr. John Makinder, testified that he did both an initial examination of Mrs. Ruddle's body at the Ruddle residence, which entailed a general overview of the body once he arrived at the home and later performed an anatomical dissection on the body. Mr. Makinder discovered that the only sign of violence was around the neck with swelling and an "extravasation of blood", or a collection of blood, surrounding the cerebrum and the cerebellum.

The surgeon further revealed that there was a hypothesis that explained the extravasation of blood in the neck area. Mr. Ruddle's testimony described him beating her with his hands and feet in various parts of the body, not just the neck but the coroner never found any evidence of such an act of violence. He does testify that his findings did suggest that she had been strangled, with a "violent pressure about the neck had been used" which suggests that the cause of death was strangulation. He further implies in his testimony that the late Mrs. Ruddle, based on the type of injuries she had sustained in the altercation with her husband, was a victim of domestic abuse via her husband that unfortunately ended her life.

Based on the forensic evidence supplied by the anatomical dissection, it was concluded that John Ruddle strangled his wife and on the 20th of February 1793, Mr. Ruddle was charged with manslaughter, imprisoned for a year and also fined.