

# Anatomy and Autopsy: A short history of dissection

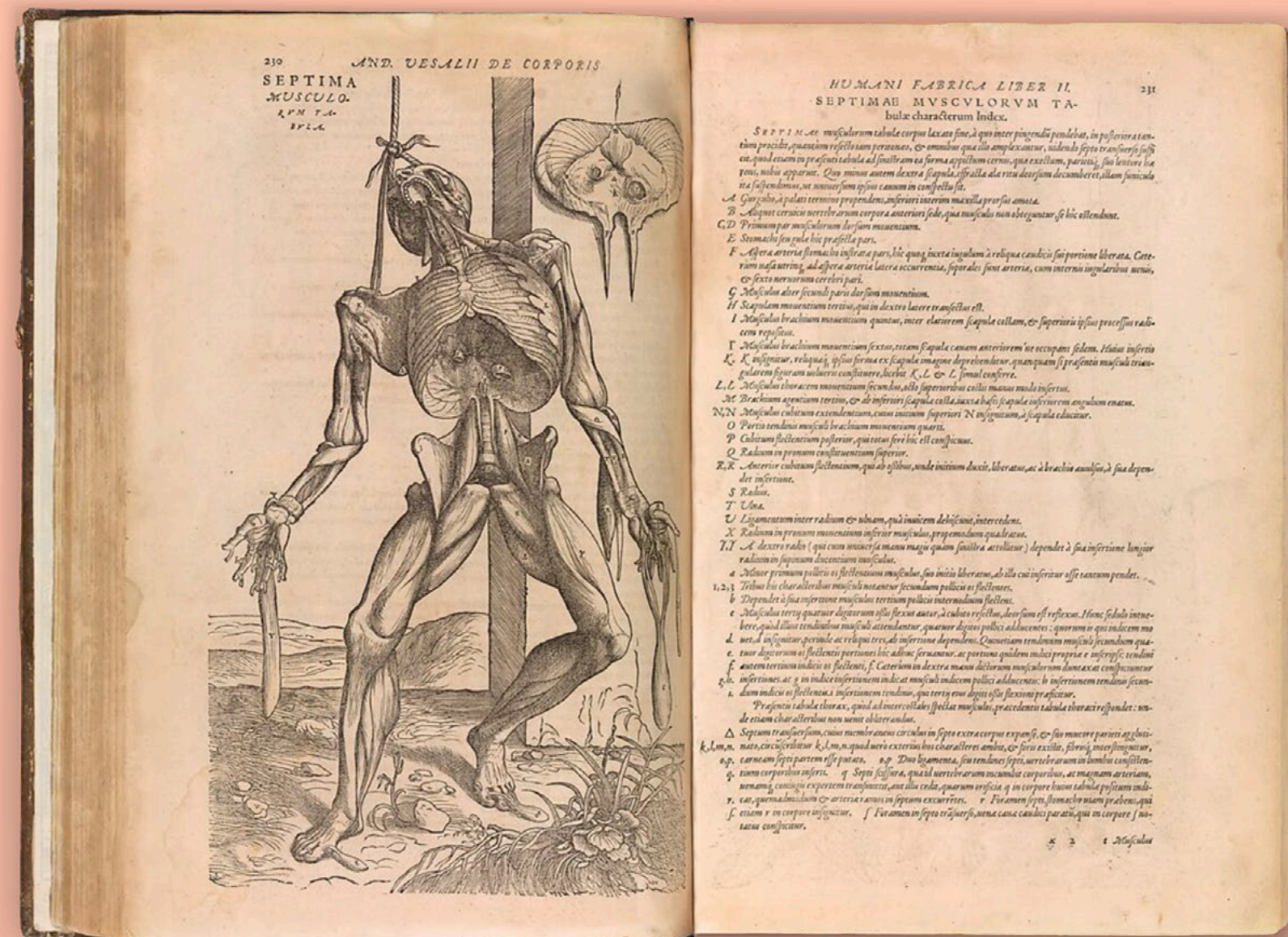
Edinburgh in the early 19th century was a leading centre for anatomical study, the result of which was a shortfall in the number of bodies available for dissection and the spectre of the so-called resurrection men and the notorious murderers Burke and Hare. However, interest in anatomy and dissection predates this somewhat grisly episode of medical history by several thousand years.

Anatomical examination of the dead from a clinical perspective to establish a diagnosis antedated and gave rise to the study of normal anatomy by dissection. The ancient Egyptians first practised the removal and examination of human internal organs during the embalming process. Such practices included surgery and autopsy. In ancient Greece, morbid anatomy was not performed on humans, probably as a result of religious and ethical prejudice as only dissection of animals was acceptable.

- Herophilus (335 BCE) was probably the first person to perform and report a systematic dissection of the human body. Together with Erasistratus, who searched for the anatomical causes of disease, they were accused of performing autopsies on live subjects by Celsus.
- The written works of Herophilus were destroyed in the fire of the Library in Alexandria in 391 CE.
- Procopius records autopsies being performed during the Plague epidemic in Constantinople in 545 CE. (The Plague of Justinian).

From the 13th century autopsies on humans virtually ceased as dissection of bodies was rejected by society.

- Many believed there was little use of the practise of anatomy and interfering with a dead body was immoral as the body needed to be whole ready for the day of resurrection.
- Moreover, unburied bodies could generate sickness and compromise the individual's salvation since being whole even after death was of religious consequence.



De Humani Corporis Fabrica – Metropolitan Museum of Art



Mortsafe protecting a grave



Andreas Vesalius – Britannica

## Anatomy in the Absence of Dissection

Galen, in 129 CE, documented anatomical observations of seriously wounded gladiators to complement the practice of dissection of monkeys and pigs. His beliefs had to be compatible with the major monotheistic religions, but his writings were anatomically imperfect.



Burke and Hare

## The 'Resurrectionists' and Consequent Anatomy Act

The recognition of the use of medical dissection in medicine led to the shortage of bodies.

People known as 'resurrectionists' stole corpses from graveyards under cover of darkness for medical schools. The practice became so well known that relatives used mortsafes, iron coffins, and graveyard patrols to protect their deceased relatives.

William Burke and William Hare, the most famous of these characters, coopted a Scottish hotel in which they suffocated 16 victims and sold the bodies to Doctor Robin Knox, a professor of medicine at Edinburgh University. Burke was hanged and publicly dissected as punishment after Hare turned witness.

Body snatching became such a problem that the government of the day passed the Anatomy Act 1832 in a bid to prevent this practice. The Act, however, did allow for the dissection of unclaimed bodies of the poor from workhouses or charitable hospitals.

Anatomical dissection subsequently flourished under generations of famous surgeons such as John and William Hunter who created large numbers of anatomical preparations for educational use.



ANATOMY ACTS,  
1832 and 1871.

Government Anatomy Acts

The Resurrection Men at work

## Anatomical Dissection and Autopsy

The published works of Galen led to a recognition of the use of anatomy in medicine.

The educational use of anatomical dissection was considered to outweigh the ethics of performing dissection. Hence, in 1231, Frederick II allowed two bodies of executed criminals every two years to be dissected for medical education. Every physician was obliged to attend.

- **1315** The first dissection in public by Modino de Luzzi performed on an executed criminal. Dissection subsequently received legal support in Europe between the 11th and 14th centuries with some countries having lower limits on dissections and only on criminals, but were allowed in criminal investigations.
- Leonardo da Vinci became a pre-eminent anatomist at the beginning of the 16th century. Transitioning from animal corpses to humans, his drawings were made from 30 human dissections. However, his work was stopped by Papal decree in 1513 because he was not a physician and his speculations on embryos disagreed with the official statements of the Church.
- **1507** Benvieni published his book, *The Hidden Causes of Disease*, containing brief details of 15 autopsies.
- **1543** The Flemish physician Andreas Vesalius published his work entitled *De Humani Corporis Fabrica*, the first printed anatomical textbook which combined medical science with illustrations making it possible to distinguish abnormal from normal anatomy. Vesalius emphasised hands-on dissection and investigating how the body actually functioned. This approach influenced the work of William Harvey, who took his MD in Padua in 1602.
- **1689** Theophilus Bonetus of Geneva collected a total 3000 autopsy reports.
- **1771** G B Morgagni studied pathological anatomy and stated that anatomy was necessary to link a patient's symptoms to disease.
- Karl von Rokitansky described findings seen with the naked eye at autopsy in the early 19th century.
- Cellular doctrine, changes in cells forming the basis of disease, in pathology and autopsy was introduced by Marie Bichat in the later 19th century.

**Bodies to Blocks:**  
**A Brief History of Cell Science**  
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