

Anatomy Museums

Past, Present and Future



Prof. Will Ayliffe

Gresham College

September 26th 2012

St. Bartholomew's Hospital

Sources

Archivists at St Bart's

Nikolai Serakoff , Wellcome Collection

David C. Lindberg: *The Beginnings of Western Science*

Huff, Toby: *The Rise of Early Modern Science* (second edition)

Royal College of Surgeons

Royal College of Surgeons Edinburgh

Wikipedia

Friends and colleagues

Gresham College

Anatomy and pathology were once in the public domain

Its removal into a purely clinical realm arouses the suspicion of the general public and leads indirectly to problems

Alder Hey



Purpose

Collection

Preservation

Teaching

Study:

Comparative anatomy

Criminology

Phrenology

Educated people willed their parts to be displayed

Controversial

Source of material (punishment/body snatching)

Ghoulish

Waxworks

Obscene

Closure

Alder Hey

WARNING

Power of the dead body to shock even today



1812: Assassination

11th May 1812 expensively dressed Liverpool Merchant waited in the lobby of the House of Commons, PM shot at 5.15pm.

Spencer Perceval, KC (1762 – 1812) PM 1809:

Kindly man; opponent of slave trade, but harsh policies in Ireland

1803: *Soluvre*, sank in the White Sea.

Lloyds refused to pay the owners, suspecting fraud.

Shipowners, deferring costs, legal proceedings against carriers.

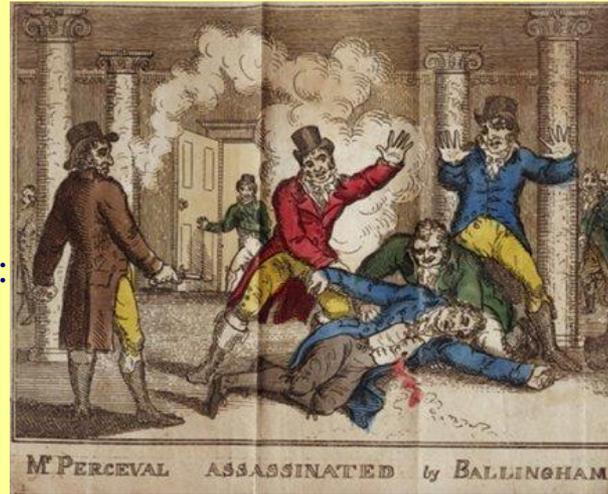
John Bellingham Already in dispute over 2000 roubles Archangel merchants **Dorbecker & Co** had cargo: arrested, Russian prison.

unable to pay; kept in custody as a bankrupt for 6 yrs

1809: released; Returns sets up Business in Liverpool

Repeatedly Petitions Chancellor Perceval for compensation. Ignored. Refused

Revenge and compensation.



Spencer Perceval
George Joseph 1812 based on death mask

"Recollect that my family was ruined and myself destroyed, merely because it was Mr. Perceval's pleasure that justice should not be granted; sheltering himself behind the imagined security of his station, and trampling upon law and right in the belief that no retribution could reach him."

I trust that this serious lesson will operate as a warning to all future ministers, and that they will henceforth do the thing that is right, **for if the upper ranks of society are permitted to act wrong with impunity, the inferior ramifications will soon become wholly corrupted**

It only now remains for me to pass the dreadful sentence of the law, which is –"That you be taken from hence to the place from whence you came, and from thence to a place of execution, where you shall be hanged by the neck until you be dead; your body to be **dissected and anatomized** ."Tried by the Third Middlesex jury, before Sir James Mansfield .

Henry Brougham, "Trial the greatest disgrace to English justice."



Monday 18 May. Public hanging

Watched by Byron

8AM: Bellingham dropped down as far as the knees. The most perfect and awful silence prevailed;

Body carted to St Bart's, followed by a crowd of the lower class privately dissected.

Bills carried: 'Beware of entering the crowd! Remember thirty poor creatures pressed to death by the crowd when Haggerty and Holloway were executed.'

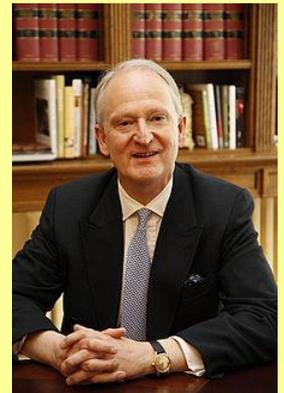
Soldiers at Islington and Blackfriars Bridge, Volunteers under arms the whole day.

"Farewell poor man, you owe satisfaction to the offended laws of your country, but God bless you! you have rendered an important service to your country, you have taught ministers that they should do justice, and grant audience when it is asked of them." **René Martin Pillet**

Subscription widow and children



Henry Bellingham, descended from Bellingham's, elected in 1983 MP NW Norfolk. 1997 he lost the seat by 1,339 votes. Attributed to the 2,923 votes for Referendum Party candidate, **Roger Percival**, descended from Perceval



Ancient attitudes to dissection

C4th: Aristotle animal dissection

C3rd BCE: **Herophilus** of Chalcedon:
Contemporary of Euclid, begins human
dissection in Alexandria.

Joined by **Eristratus**

51 lines on a stele in his native Ceos record
sacred law on disposal of corpses. Cleansing
rituals for attendants.

The theory of pollution of the corpse, ideas
about the skin and cutting prevented dissection
in antiquity.

Teles, contemporary philosopher; contrasts
Egyptians “We Greeks shrink from both
looking at and touching corpses”

Ptolomaic Alexandria was not a democracy so
Herophilus not condemned by his peers

Later scientists condemn

Knowledge from other sources

Dissection falls out of fashion

Galen of Pergamon: learns from Gladiators and
animal dissection



Erasistratus discovers the illness of **Antiochus**.

Jacques-Louis David (1774)

Kings son is in Love with new wife of his father
Seleucus I, Alexander's general



Antigone and the dead **Polynices**, Nikiphoros Lytra Nat Gall, Athens, (1865)
Sophocles play: Oedipus expelled from Thebes, his 2 sons rule until cursed
they kill each other in battle. King Creon, ascends, decrees Polynices not to be
buried on pain of death. Antigone, the sister, disobeys, caught, killed

Medieval Anatomy

Galenic teaching dominates

Salerno:

1080: Constantine the African translates Haly Abbas. Sole source of anatomical knowledge for next century

1150: Copies of English and French anatomies:

C12th: dissection of a pig; first Salernitan demonstration.

1250: Dissection of a man executed by drowning. Illustration (stylistic not naturalistic)



Salerno c 1250. .



1345: Guy of Pavia: 'Liber notabilium Philippi Septimi, francorum regis, a libris Galieni extractus'. Dissection of cadaver



dissection of Mother Agrippina

The Church and dissection

Louis IX (1214 – 1270) died of flux at Tunis, Muslim territory, his body was subject to *mos Teutonicus*

Benedetto Caetani: Pope Boniface VIII; 1294- 1303
1300; Bull: De Sepulturis condemns cutting up the bodies of the dead, cooking separating bones from flesh, for transportation and burial in their homelands.

Autopsies conducted to determine whether natural causes or foul play,

Pope Innocent III (1198-1216), ordered the autopsy of a suspicious death,

University of Bologna f.**Hugh of Lucca** 1160-1257:

William of Salicetum 1300: autopsied nephew of **Marchesi Pallavicini** was death due to poisoning

Mondino de Luzzi 1270 – 1326: systematic study of anatomy and dissection into a medical curriculum

1315: First public dissection of an executed criminal
Sanctioned by Vatican

1316: treatise *Anathomia*



Mondino de Luzzi,
"Lesson in Anatomy",
Anatomia corporis humani, 1493.

Medieval Anatomy

John Arderne (1307–1392),

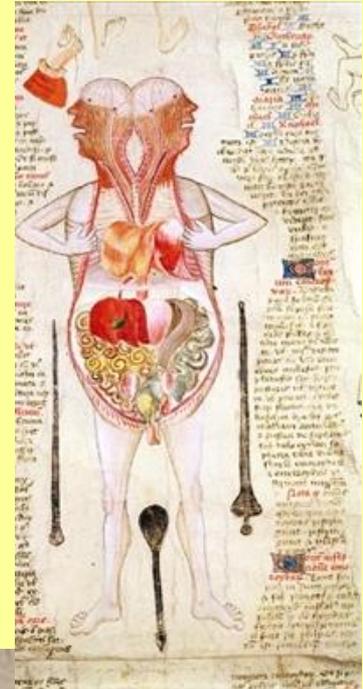
De Arte Phisicali e de Chirurgia:

Master surgeon of Newark; personal experience treating injuries of war

Hundred Years' War first battles to use gunpowder.

Man split from head to perineum.

Realistic representation based on a dissection.



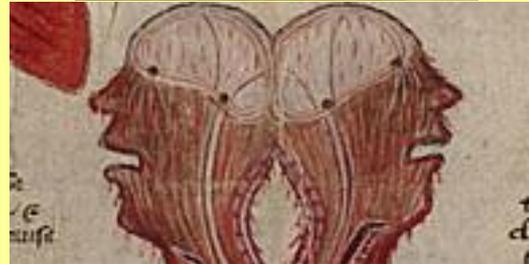
Guy de Chauliac, 1300-68, Montpellier and Bologna.

"A surgeon who does not know his anatomy is like a blind man carving a log"

attendance at dissections was obligatory for medical students at Montpellier

1363: *Chirurgia magna*

Personal physician to 3 popes at Avignon.



Sixtus IV

University of Padua,

1482: papal bull allowing local bishops to give the bodies of executed criminals and unclaimed corpses for dissection.

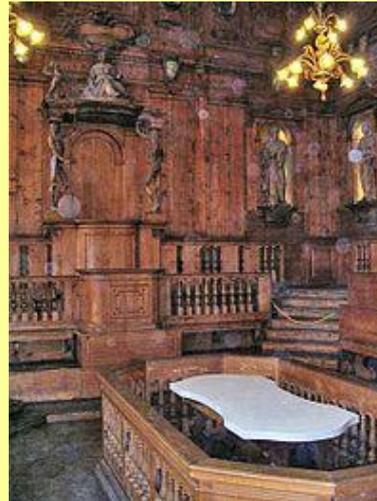
Enables **Vesalius** and **Jan Stephen van Calcar** (Titian's pupil) to produce anatomical text *De humani corporis fabrica*.

Anatomy teaching in all medical faculties

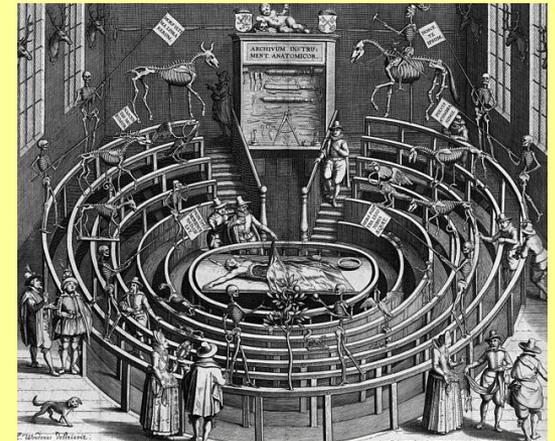
Specialised theatres



Padua 1446



Bologna: 1637



Leiden 1663

Michael Servetus (1511-1553)

Studies with Versalius in Paris

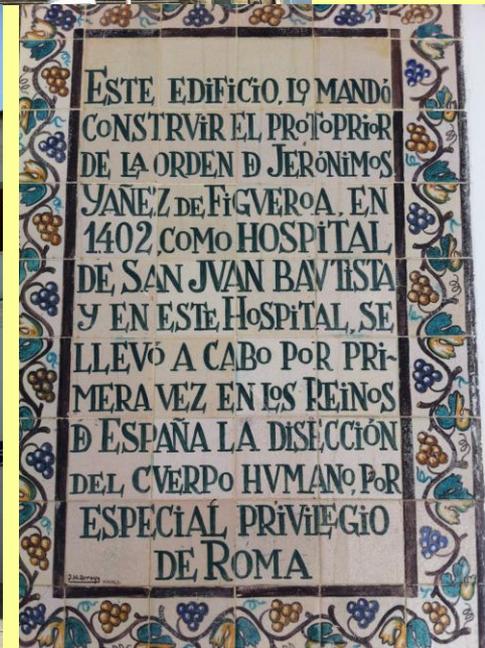
reading the Koran, Jesus was a human prophet; the Trinity was a sham created not by the writers of the Gospels but by Greek philosophy. Mad even by standards of time

Calvin, detested him. heretical condescending abusive. "If he comes here...I will never permit him to depart alive."

Physician to archbishop of Vienne, 1553

Cristianismi Restitutio. Includes his discovery of pulmonary circulation copy gets to **John Calvin**, who forwards it to Catholic authorities! Escapes to Geneva

burned at the stake on October 27, 1553, just outside Geneva. For theology not dissection



Churches display anatomical models and body parts

Detailed knowledge shows
access to dissection

Hyperrealism

greater realism, glass eyes and
tears, as well as ivory teeth
and human hair to their
sculptures.

polychroming, specially
trained painters, flesh tones.

Pedro de Mena, Juan Martínez
Montañés and Gregorio
Fernández.



1540 the Surgeons Guild and the Company of Barbers amalgamate cannot undertake each other's work

Licensing of dissection; allotted 4 executed criminals yearly. Public demonstrations in Great Hall crowd around a table. Attendance was compulsory for all 'free' surgeons.

Thomas Vicary (1490-1562), Surgeon to Barts & Henry VIII, Master 1541, starts anatomy teaching

John Caius; Reader in Anatomy (1546) , re-founder of Gonville and Caius College, Cambridge.

1683: **Inigo Jones**, purpose-built structure (3rd in W. Europe, Padua (1594) Leiden (1597).

1745: surgeons' departure redundant demolished 1784

Surgeons Company later, in 1800, the Royal College of Surgeons of England



John Banister anatomical lecture at Barber-Surgeons' Hall. 2 anatomical masters stand beside him, one holds scalpel, other probe. Two stewards white protective sleeves. Teaching from the octavo second edition of the *De re anatomica*. (Paris, 1562); by **Realdo Colombo**. Assistant and successor to **Vesalius** at Padua



Leonardo da Vinci (1452–1519)

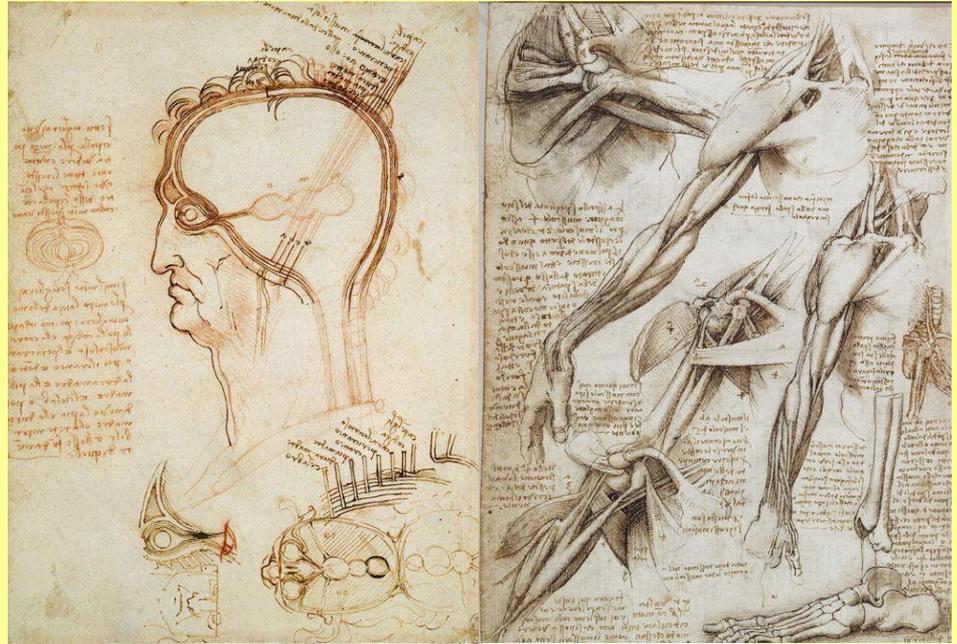
1489: Leonardo da Vinci series of anatomical drawings

Huge *Battle of Anghiari*. scene now lost
hall of 500 in Palazzo della Signoria
(Vecchio) Florence. In preparation many
detailed drawings of male musculature,
based on flayed bodies

1510/11 collaborates with **Marcantonio della Torre**, Professor of anatomy at Pavia; access to human material, dissected 20 corpses

1511 Milan descended into chaos, war. Marcantonio died of the plague, L retires to the country, restarts anatomy using animals. Unpublished, until C20th, studies lost to the world

The 150 surviving sheets Royal Collection, bound into an album with 450 of his more artistic drawings



Rubens's copy of *Battle of Anghiari*.

Andreas Vesalius 1514-1564

Student, anatomy Paris

Lecturer use **Galen** 1000 yr old txt

assistant points to the equivalent details in a dissected corpse.

If not as described, the corpse; not Galen is in error.

1537: Prof of Surgery/Anatomy Padua

1540: Public demonstration of the inaccuracies

1543 Basle- *De humani corporis fabrica*

1584 dissections were moved indoors.

Opposed ventricular theory; “Such are the inventions of those who never look into our makers ingenuity”.

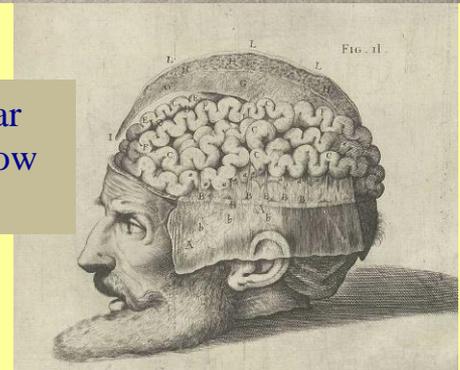
Animals had ventricles but not souls?

A foolish extravagant spirit full of forms, figures, shapes, objects, ideas apprehensions, motions, revolutions. They are begat in the ventricle of memory, nourished in the womb of pia mater.

Love's Labours Lost.



However gyri shown in similar fashion to medieval images. Low status organ.



Juan Valverde de Amusco (c.1525)

1556: *Historia de la composicion del cuerpo humano*, Pub Rome, .

Copperplate illustrations were taken from Vesalius's *De humani corporis fabrica*.

Vesalius criticises few dissections and plagiarism.

However muscles of the eyes, nose, and larynx correct Vesalius

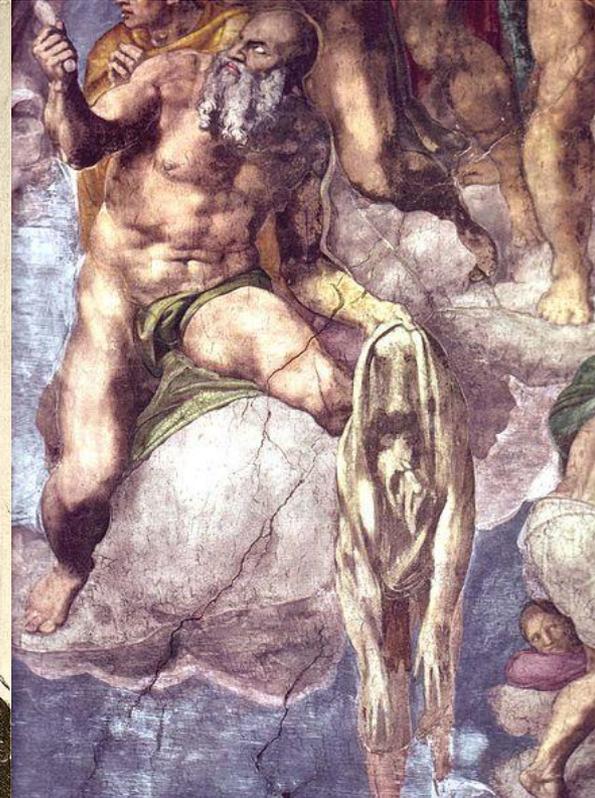
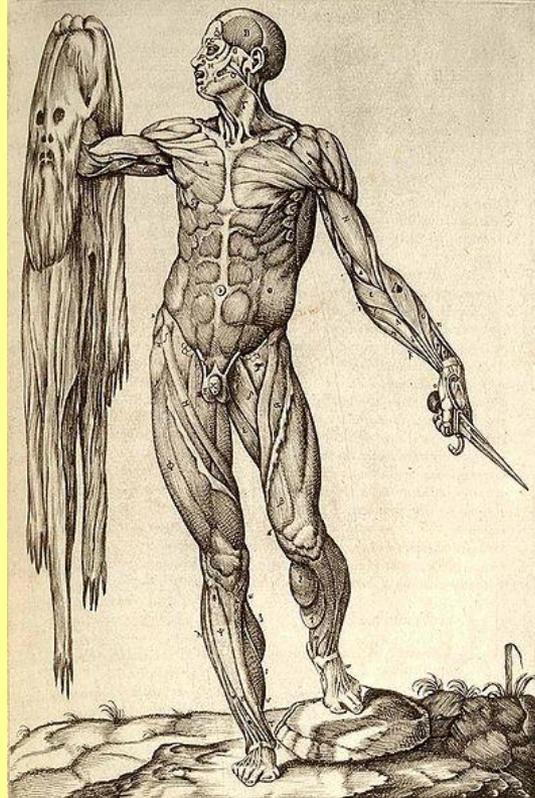
Plates drawn by **Gaspar Becerra (1520–1570)**, Spanish artist who trained under **Michaelangelo**

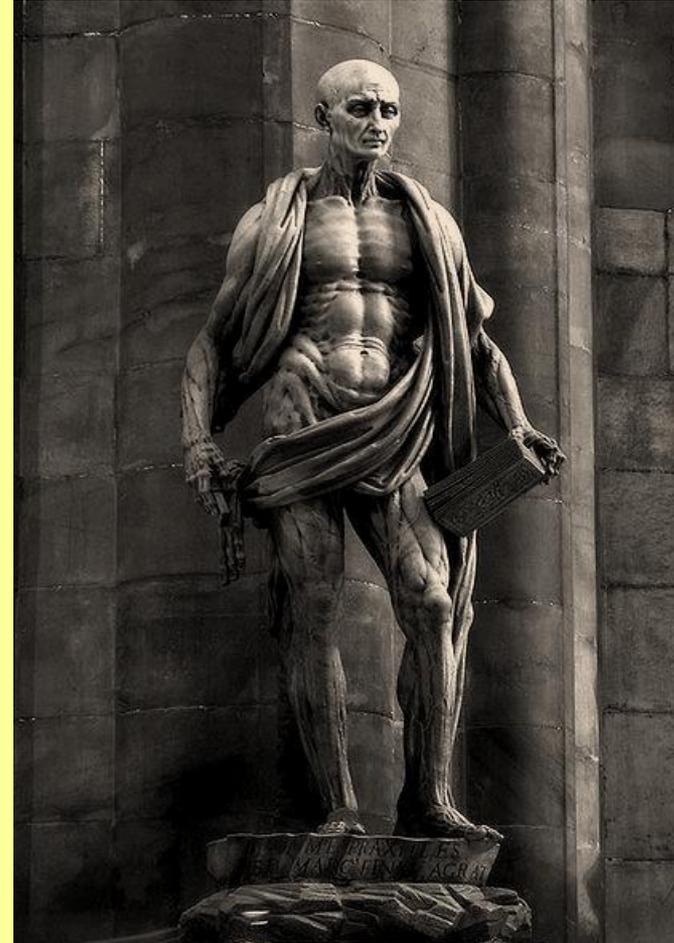
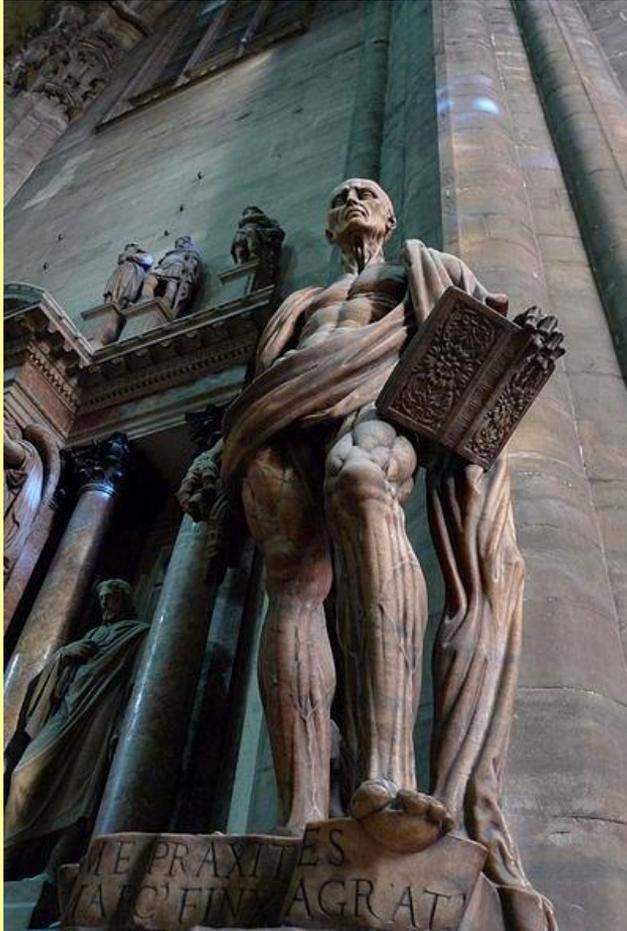
Similarity to Last Judgment St Bartholomew; Sistine Chapel Altar wall 1536-41.

Papal Master of Ceremonies **Biagio da Cesena**

“no work for a papal chapel but rather "for the public baths and taverns,”

Portrayed as Minos; judge of the dead with Asses ears signifying stupidity, coiled snake biting genitals rather than a tail.





Marco d'Agate (c. 1504 -c. 1574)
St Bartholomew.
Transept: Duomo Milan

Écorcher: f.to flay

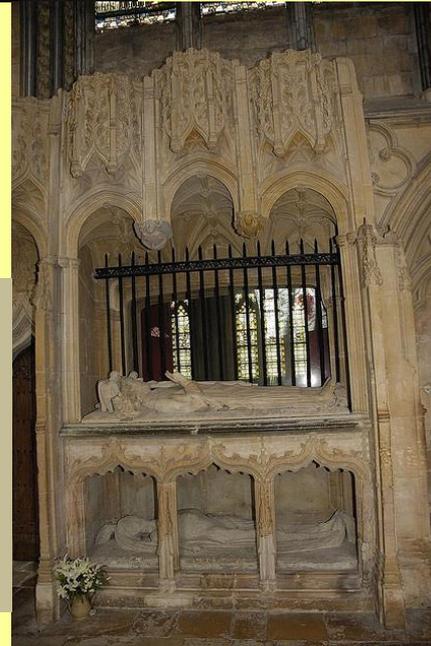
Figure drawn, painted, or sculpted showing the muscles of the body without skin.

Ligier Richier churches of his native Saint-Mihiel. 1530, worked for Duke Antoine of Lorraine, some wood, mostly local pale, fine-grained soft limestone



cadaver tomb: Le Transi de René de Chalon, Church of St. Étienne, Bar-le-Duc,

Founder of Lincoln College "Once I was a clever boy learning the arts of Oxford..
Bishop Richard Fleming (c.1385-1431) on his tomb Lincoln Cathedral.



Dijon fine arts museum

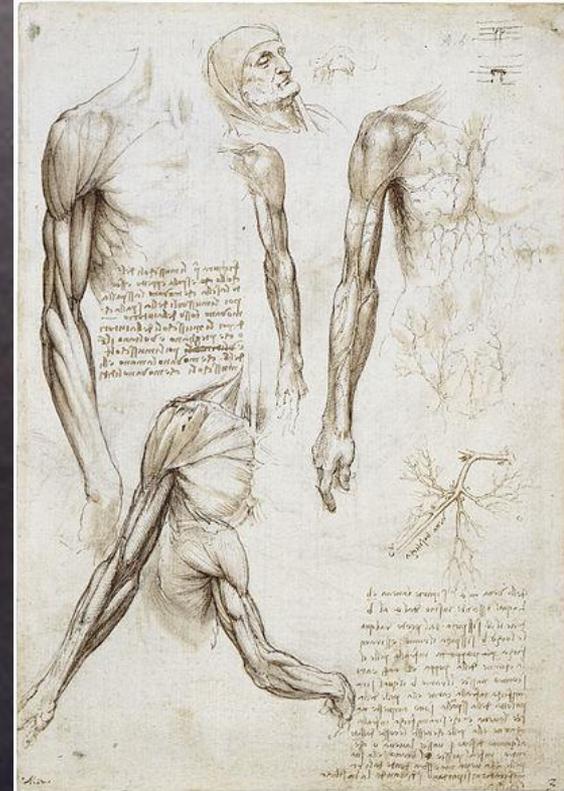
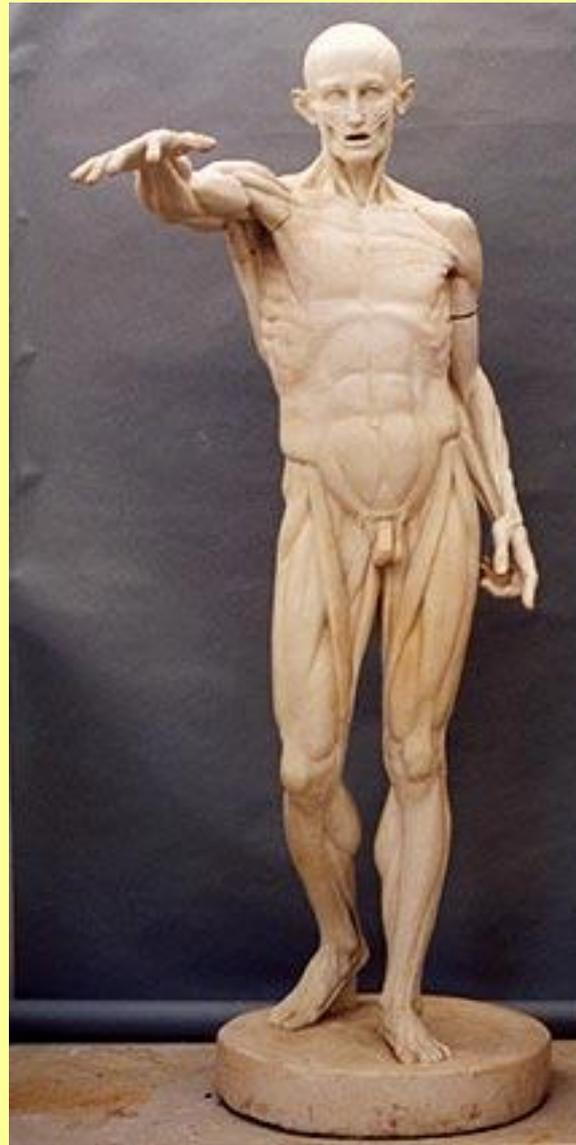
Écorcher:

Leon Battista Alberti: painters should first arrange the muscles and bones, then depict the overlying skin

Leonardo

Jean-Antoine Houdon (1741-1828) "L'Ecorche" sculpture
life-size plaster casts were made after 1766

a "flayed" version of Houdon's sculpture of St. John the Baptist



Capella Sansevero de' Sangri or Pietatella Naples

1590, an innocent man in chains saw **di Sangro** palace garden wall collapse image of Madonna place of pilgrimage

Duke Giovan di Sangro, seriously ill, prays to Madonna. Miraculously cured, erected “small chapel”

son **Francesco di Sangro**, d1633 Patriarch of Alexandria, converts chapel mausoleum
Reconstructed **Raimondo di Sangro** (1710 – 1771), VII Prince of Sansevero “the **Sorcerer Prince**”. Neapolitans cross themselves. Polymath, linguist, scientist, procurer of castrati

“black legend”.

1590: family home **Palazzo Sansevero**, composer **Carlo Gesualdo** caught his wife and , Duke of Andria *in flagrante delicto*, hacked to death, displays mutilated bodies, the lover in his wife’s clothes.

Popular belief, **Raimondo** “had two of his servants killed, a man and a women, and had the bodies strangely embalmed so that they showed all the viscera, the arteries and the veins”.



Disinganno
(Disillusionment)
Genoese Francesco
Queirolo (1704-66)



Veiled Christ
Giuseppe Sammartino, 1753

Sansevero Anatomical Machines

In Underground Chamber, *Anatomical Machines*, skeletons of a man and woman, arteries and veins intact.

Made by **Dr. Giuseppe Salerno** of Palermo, under the direction of **Raimondo di Sangro**; 1763. Amazing preservation of the circulatory system. How?

Legend: outcome of vivisection killed injection of embalming substances in their blood vessels.

Renata Peters Lecturer in Conservation of Archaeological Artefacts UCL Institute of Archaeology

polarized light microscopy, scanning electron microscopy (SEM) and Fourier transform infrared spectroscopy (FT-IR). vessels have a core made out of a metal wire twisted with fibres, and coated with a mixture of pigmented waxes



Preservation of dead

Capuchins' Catacombs
Palermo, thousands of
corpses lined on the walls
1599 local priests
mummified monk to pray to
him after death.

locals wanted their relatives
remembered in this same
way.

dehydration by placing
bodies on grilles in cells
called strainers along the
passageways for 8m. taken
out washed in vinegar before
being exposed to the fresh
air.

dressed and put in niches



William Harvey (1578-1657)

Caius then Padua: mentor was the great anatomist,
Fabricius of Aquapendente,

1609: Physician St. Bartholomew's:

Lumleian lecturer 1616. 7yrs, with the purpose of
"spreading light" and increasing the general
knowledge of anatomy throughout England.
dissected his father and sister

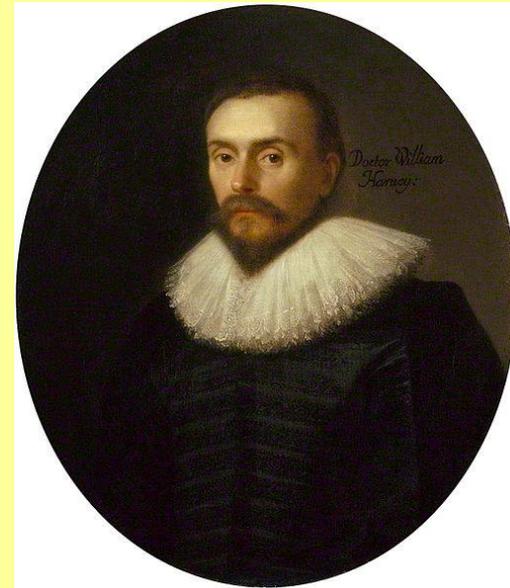
"To show as much as may be at a glance, the whole belly
for instance, and afterwards to subdivide the parts
according to their positions and relations.

To point out what is peculiar to the actual body which is
being dissected.

To cut up as much as may be in the sight of the audience

To enforce the right opinion by remarks drawn far and
near, and to illustrate man by the structure of animals

Not to praise or dispraise other anatomists, for all did
well, and there was some excuse even for those who are
in error.



Hermann Boerhaave,
nothing that had been written before
Harvey was any longer worthy of
consideration.

Anatomisation of Thos Parr

claimed born 1483, farmer in Winnington.

80yo, married, had an affair when he was about 100 years old and fathered a child born out of wedlock. married a second time alleged age of 122

Thomas Howard, 14th earl of Arundel, brought the old man from Shropshire to London to meet **Charles I**

Died November 1635, blind only one tooth Harvey Purchased the corpse, dissected in the presence of the court Queen's birthday.

diet of "subrancid cheese and milk in every form, coarse and hard bread and small drink, generally sour whey", "On this sorry fare, but living in his home, free from care, did this poor man attain to such length of days."

The cause of death seemed fairly referrible to a sudden change in the non-naturals, the chief mischief being connected with the change of air, which through the whole course of life had been inhaled of perfect purity – light, cool, and mobile, whereby the praecordia and lungs were more freely ventilated and cooled.



THO: PARR OF YE COUNTY OF SALLOP.
BORNE IN AD: 1483. HE LIVED IN YE
REIGNES OF TEN PRINCES VIZ: K.ED.4.
K.ED.5. K.RICH.3. K.HEN.7. K.HEN.8.
K.EDW.6. Q.MA. Q.ELIZ K.JA. & K. CHARLES.
AGED 152 YEARES. & WAS BURYED HERE
NOVEMB. 15. 1635.

fugit hora' (literally, 'the hours flee')

C17th students anatomical education

1672, Alexander Flint anatomy student doodles during lecture by James Pillans.

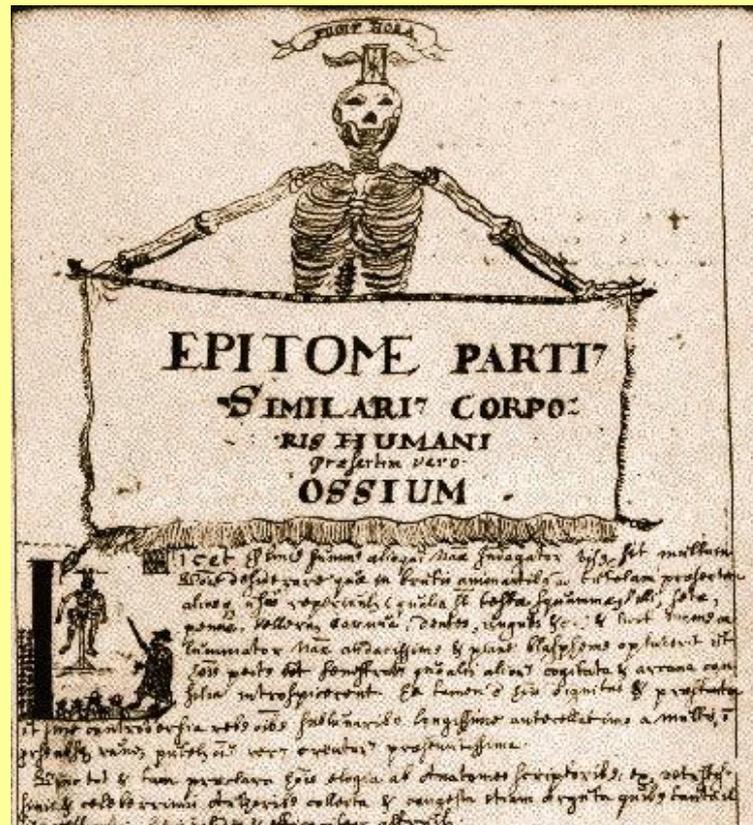
not yet emotionally detached from dead bodies in the dissection theatre.

'**clinical detachment**', Ruth Richardson points out is not a side effect of medical education; it is the intention.

Desensitised (clinically detached) are 'objective'. Unaffected by the sight, smell and sounds of the human body.

Joseph-Guichard Duverney (1648-1730), French anatomist, remarked that by 'seeing and practising' on dead bodies, 'we loose foolish tenderness, so we can hear them cry, with out any disorder'

The process does not always give the desired outcome.



The anatomy lesson of Dr. Joan Deyman: Rembrandt 1606-69

Joris Fonteijn of Diest, Black Jan, thief
sentenced 27 Jan 1656.

Anatomy theatre attic of meat market,
29th: dissection took place after prayers for
good coming from evil.

1st: stomach and intestines were removed first,
then the dissection of the brain.

The assistant holding the skull cap is
Gysbrecht Calcoen, master Guild of Surgeons
(f.1552 Surgeons separated from Wooden Shoe
and Ice Skate Manufacturers Guild).

Deyman was paid with 6 silver spoons worth
31 guilders 19 stuivers, for three
demonstrations.

The painting was mostly destroyed by fire in
1723.



Osteology lesson of Dr. Sebastiaen Egbertz

Twice weekly lessons on the bones held at Surgeons Guild.

The praelector is wearing the hat.

The skeleton is that of an English Sailor executed for piracy in 1615 and dissected that year.

1619: Guild moves to new room at Sint Anthonieswaag, Nieuwmarkt. The painting marks this event; the observers are guild wardens.

1691: Theatrum Anatomicum built on 2nd floor
Central dome allowed light into medieval building
Auditorium with seats and standing room around the table.

Public lectures ticketed, annual dissections in Winter.

The weigh house acquires nickname “Snyburgh”
cutters castle



Nicolas Pickenoy (1591-1653)



Nicolaes Tulp 1593-1674

Q Leiden 1614. Appointed preaelector,
lecturer in Anatomy in Amsterdam

Rembrandt paints him in 1632

Good medical care. Apothecaries and
doctors supervised by Collegium
Medicum

Surgeons trained and belonged to
Chirurgijngilde 1 surgeon for every
800 people.

Expand business to include haircut and
shave



Thomas Willis 1621-1675

Gresham connection

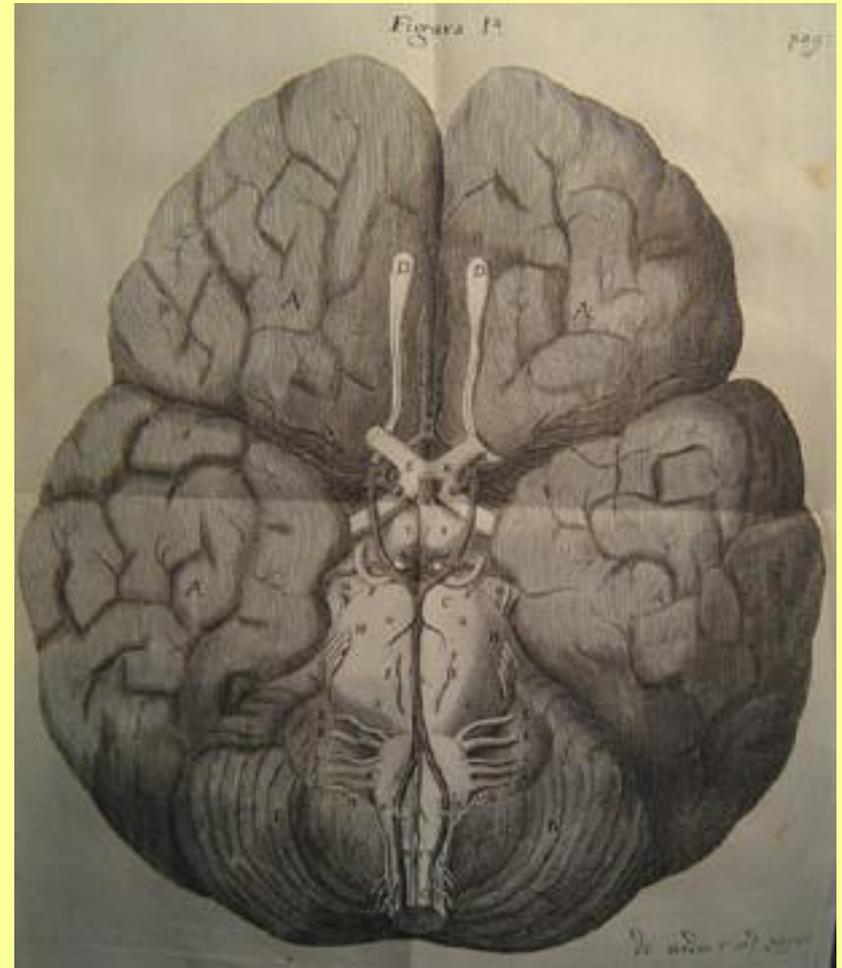
Christopher Wren (1632–1723). familiar with anatomy, made models of muscles and eyes. Injected India ink into the carotid arteries,

Alcohol -preserved specimens of brains.

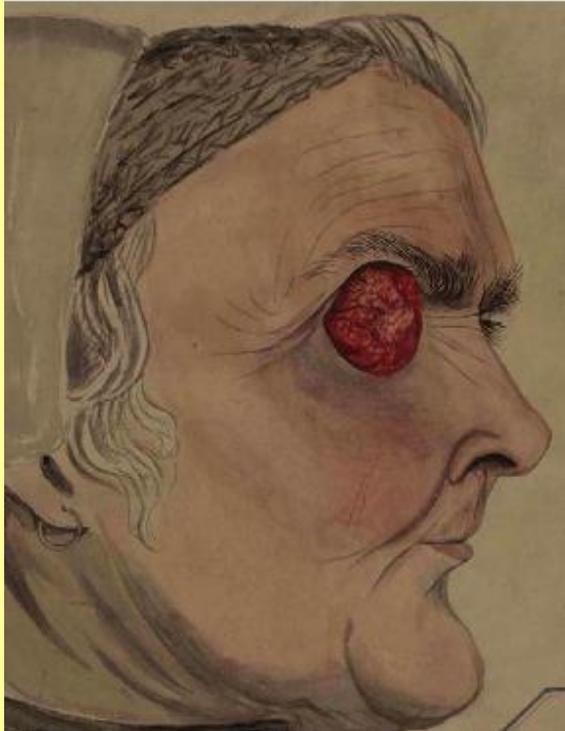
1664: Thomas Willis: Cerebri Anatomie first systematic functional anatomy of the brain.

Opposed the concept of ventricular localization of brain function and proposed 3 areas in the brain: the corpus striatum received sensory input, converted to perception and imagination in the hard overlying tissue, corpus callosum, before passing on to **cerebral cortex** where they were stored as memories.

Theory on brain function achieved widespread influence for more than a century.



Drawings and wax models for teaching



Caroline Lamb

Petrus Camper **Samuel Thomas Soemmerring**

Pierre Camper (1722–1789): Surgeon, skilled in anatomical drawing and perspective. Precise studies of the anatomy "body calculus" in an anatomy book for art students. drew them according to measurements obtained from 3 points,

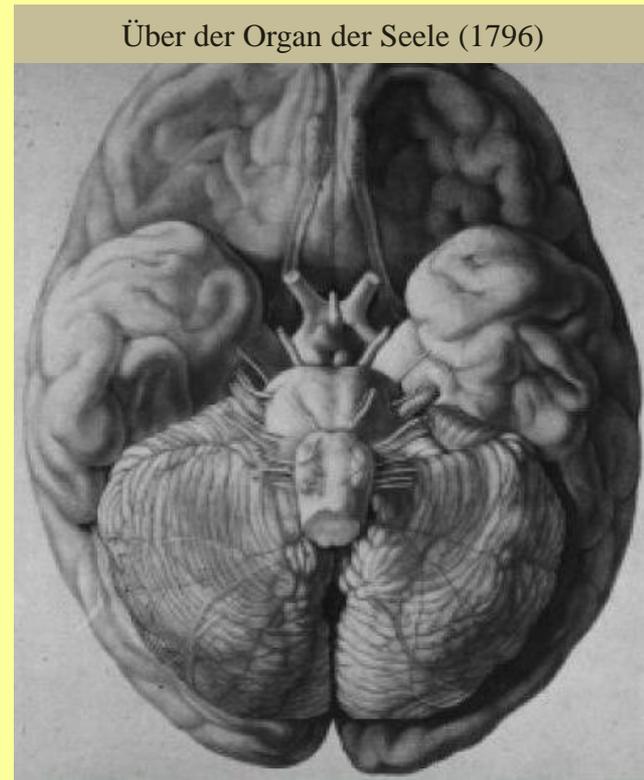
Samuel Thomas Soemmerring (1755-1830)

Q 1778 Göttingen. less concerned with correct perspective

Trained artist, Christian Koeck, supervised engraver, Ludwig Schmidt, for his work *Über der Organ der Seele*, 1796



The Anatomy Lesson by Dr. Petrus Camper, oil on canvas, by Tibout Regters (1758)



1752 Murder Act

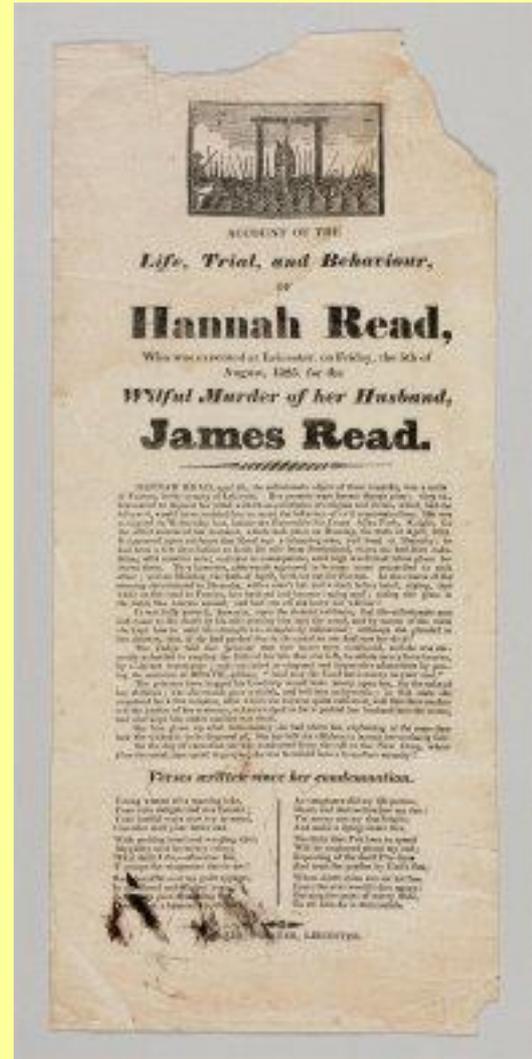
linked dissection with the criminal justice system

"Whereas the horrid Crime of Murder has of late been more frequently perpetrated than formerly and particularly in and near the Metropolis of this Kingdom, contrary to known Humanity and natural Genius of the British Nation: And whereas it is thereby become necessary, that some further Terror and peculiar Mark of Infamy be added to the Punishment of Death, now by Law inflicted on such as shall be guilty of the said heinous Offense;...

1752, -1796, when the Surgeons' Company moved to Lincoln's Inn Fields, over one hundred bodies were dissected at Surgeons' Hall, next to Old Bailey

Surgeons awaited in the wings to cut down the body and rush it to dissection.

Hangings Monday mornings at 8 am cut-down at 9.
De Quincy anecdote: surgeon receiving corpse of the Lancashire Highwayman still alive in a chaise and four; coup de grace given in the private anatomy museum by a student.



1688: 50 offences punishable by death,
1776: <200
George Savile: Men are not hanged for stealing horses, but that horses may not be stolen"

William Hunter (1718-83)

anatomist and man-midwife

1st Professor of Anatomy at the Royal Academy

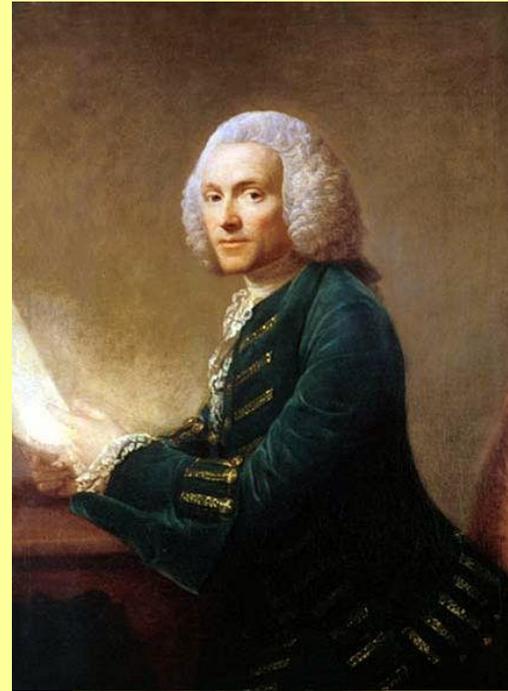
1768: school in Great Windmill Street in use until 1830's

‘Anatomy is the Basis of Surgery, it informs the Head, guides the hand, and familiarizes the heart to a kind of *necessary Inhumanity*’

tenancy agreements for his first anatomy school in Covent Garden reveal a pragmatic approach to the potential problems of domestic dissection, with clauses allowing for termination by mutual agreement if Hunter disturbed his neighbour, or if his teaching was in turn disturbed.

a well dug in the back part of his premises, wherein was thrown the putrid flesh, and with it alkalines, in order to hasten the consumption

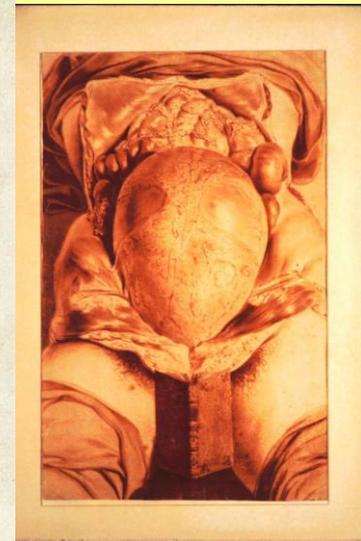
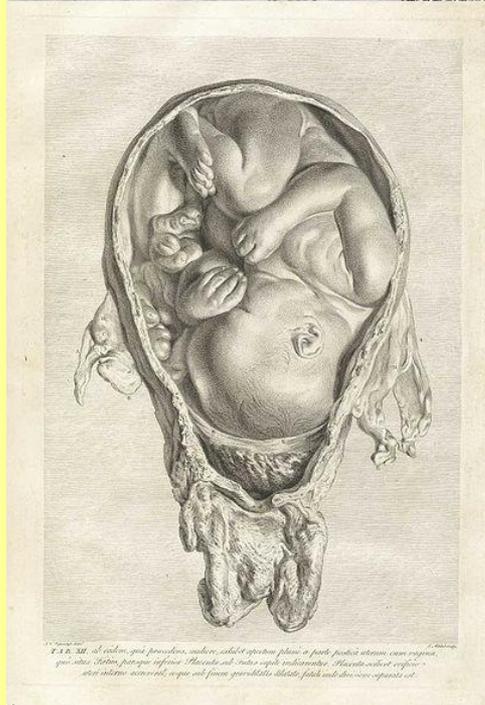
bequeathed his museum to his alma mater, the University of Glasgow.



1782, Thomas Rowlandson,
 interior of William Hunter's anatomical
 museum on the Last Day of Judgment
 corpses search for missing body parts.
 what happened to the body after death of
 great concern.



Between 1752, -1796, when the
 Surgeons' Company moved to Lincoln's
 Inn Fields, over one hundred bodies were
 dissected at Surgeons' Hall, next to Old
 Bailey



Smugglerius

écorché sculpture posed as ancient Roman sculpture the Dying Gaul.

1776 Agostino Carlini: bronze cast: for William Hunter, , body of criminal, flayed after hanged at Tyburn.

thought to be a smuggler, cast given cod Latin name "**Smugglerius**".

1840 drawing: William Linnell Fitzwilliam Museum

1854: original lost, plaster copies William Pink Royal Academy and Edinburgh College of Art.

2010 tentatively identified the "smuggler" as **James Langar**, hanged on 12 April 1776 after being convicted at the Old Bailey on 21 February as a footpad (convicted on two charges, and acquitted on two other charges).

Royal Academy of Arts, letter sculptor John Deare to father, "I have seen two men hanged and one with his breast cut open at Surgeon's Hall. They took the other, being a fine subject, to the Royal Academy and covered him with plaster of Paris, after they had put him in the position of the Dying Gladiator."

However, Langar was not sentenced to be dissected and anatomized (unlike, Thomas Henman and Benjamin Harley, smugglers convicted of murdering a customs officer on 22 May 1776 and executed 5 days later).



Sir Charles Bell 1774

q. Edinburgh, 1799. He and his brother had brilliant draughtsmen.

Taught anatomy at the Royal College of Surgeons (Ed).
He and his brother two volumes *A System of Dissection Explaining the Anatomy of the Human Body*.

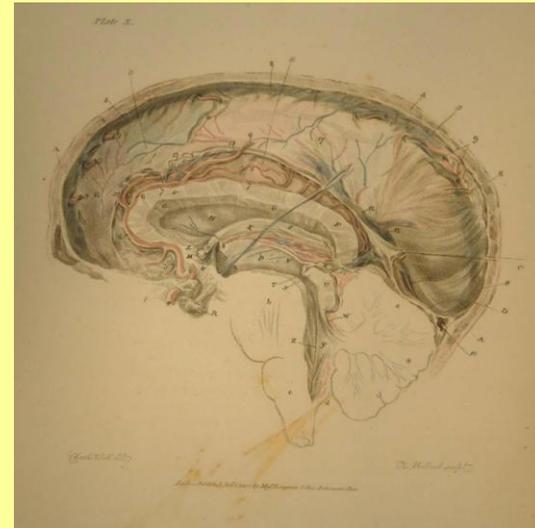
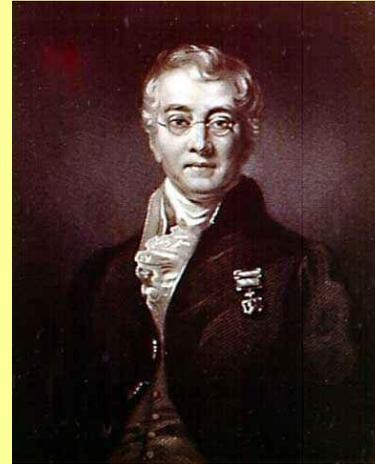
2 additional volumes in 1802 and 1804.

Jealous local physicians, barred from practice at the Edinburgh Royal Infirmary.

1804: moved to London; private surgery and school of anatomy.

1812 - 1825, he ran, with his brother, the **Great Windmill Street School of Anatomy**, which had been founded by **William Hunter**.

Military surgeon at Waterloo.



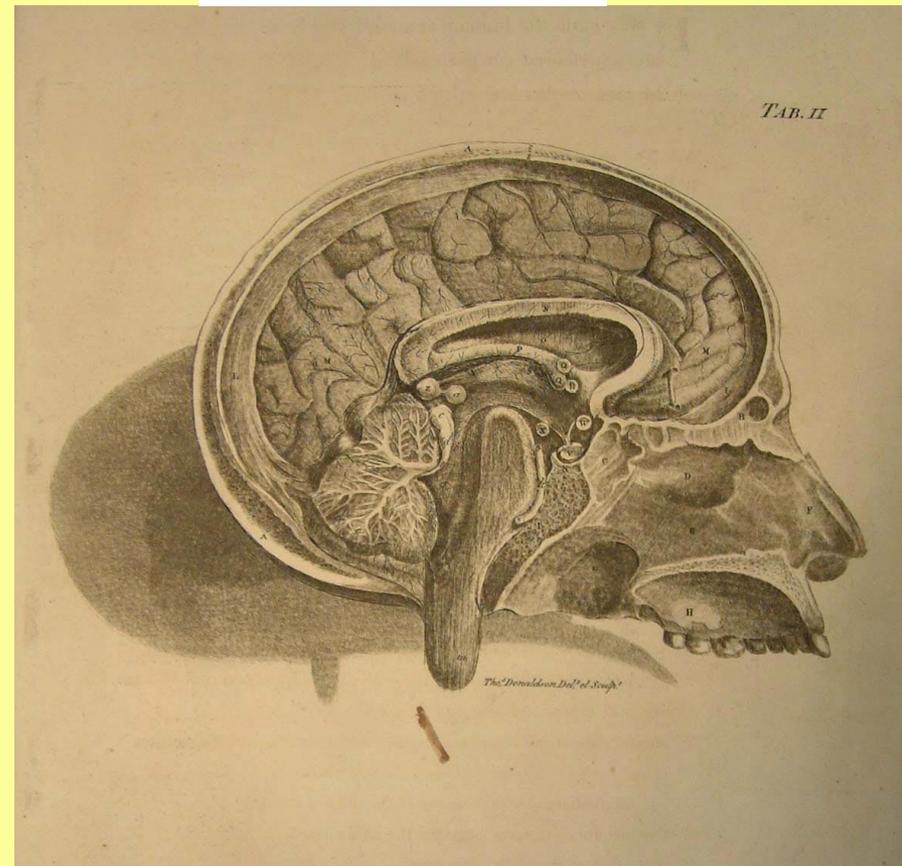
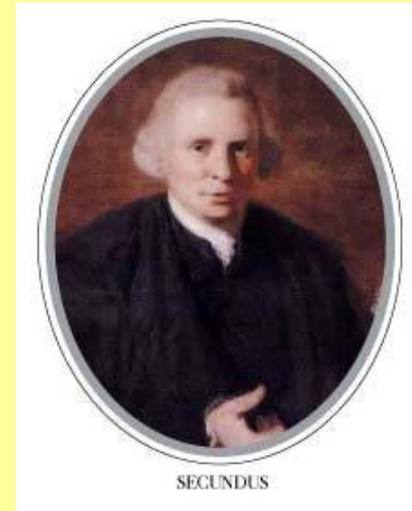
Alexander Munro Secundus

b Edinburgh 1733, third and youngest son of Alexander Monro primus.

Aged 12 he enrolled in an arts course at the University. In 1750 he began medical studies under his father, showing a talent for anatomy.

1783: Observations on the Structure and Functions of the Nervous System

Beautiful accurate drawings. No idea of brain function. The cortex is depicted as a thin featureless grey rind covering the white matter.



Many private anatomy museums and schools

Joshua Brookes (1760-1833),
anatomy school and museum on Great
Marlborough Street

John Heaviside (1748-1828),
museum, built between George Street
and New Bond Street

Rackstrow's public museum in the
Strand, which included an 'anatomical
exhibition' with 'a collection of real
anatomical preparations' and 'a great
variety of skeletons'



'Locpletissimi Rerum Naturalium Thesauri' by
Albertus Seba (1665-1736) 1734-65

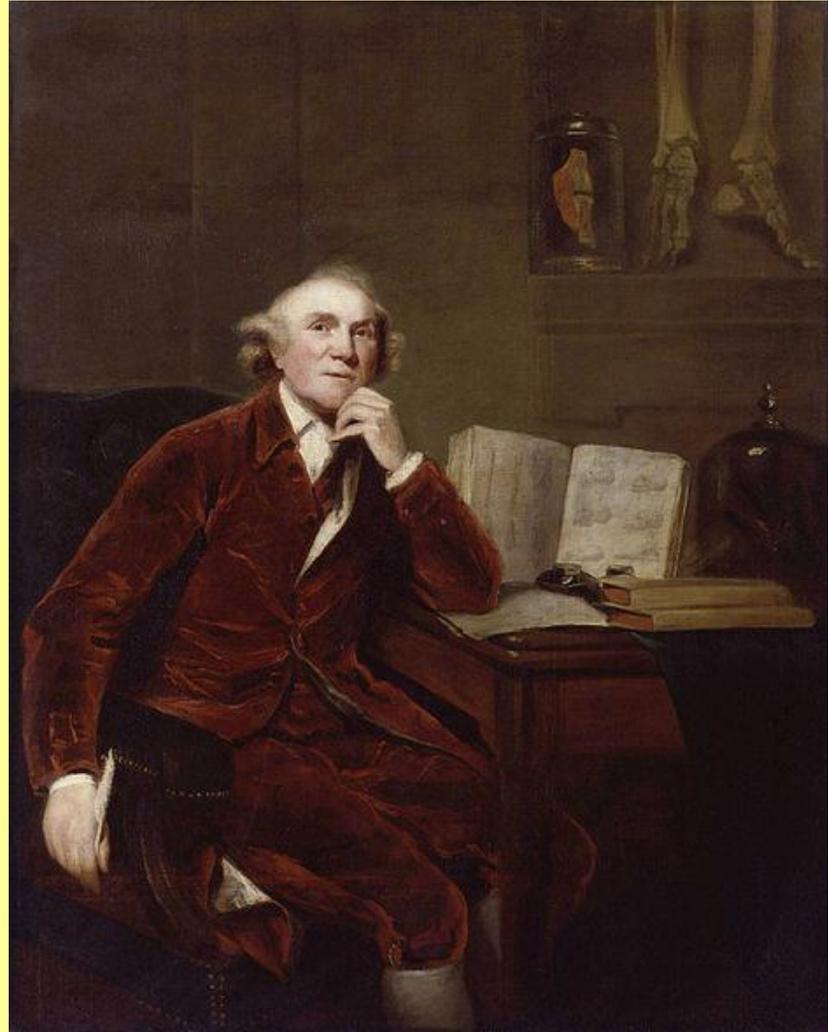
John Hunter (1728-93).

1746 relaxation on the rules governing anatomical dissection that followed the split of London's Barber-Surgeons' Company the previous year

Assistant in brother William's anatomy school:

1768 elected Surgeon to St. George's Hospital, Rooms in Jermyn St.

1783: Leicester Square: house-anatomy school: wife, the poet Anne Home Hunter, and their children unparalleled skill in dissection purchased by the government in 1799 for £15 000



Tourist attractions

Hunter widened access to the museum. As well as opening it each autumn to tempt in prospective students he also threw open the doors for one month each year for:

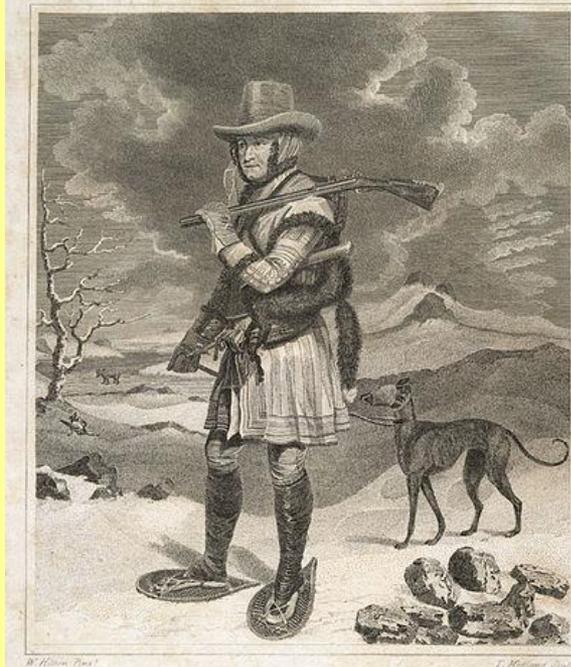
George Cartwright 1772;

5 Inuit to London. Introduced to King, Royal Society & Hunter's collection, in small apartments in Jermyn Street.

'in which stood a glass case containing many human bones' and with 'horror and consternation' asked whether they were the remains of those who Hunter had 'killed and eaten'.

Cartwright :... *the bones of our own people, who had been executed for certain crimes committed by them, and were preserved there, that Mr Hunter might better know how to set those of the living, in case any of them should chance to be broken; which often happened in so populous a country.*

Only one, Caubvick survived the journey home.



Living in the charnel house

October 1793, James Williams 16 yr-old surgical student—writes to his sister in Worcester:

living quarters in John Hunter's anatomy school

My room has two beds in it and in point of situation is not the most pleasant in the world. The Dissecting Room with half a dozen dead bodies in it is immediately above and that in which Mr Hunter makes preparations is the next adjoining to it, so that you may conceive it to be a little perfumed. There is a dead carcass just at this moment rumbling up the stairs and the Resurrection Men swearing most terribly. I am informed this will be the case most mornings about four o'clock throughout the winter.

There is something horrible in it at first but I am now become reconciled.



Insufficient supply

Demand exceeded the supply of cadavers from the gallows.

riots caused by the Beadles of the Company going to Tyburn for the bodies of murderers. This rioting was carried to such an extent that it was found necessary to apply for soldiers to protect the Beadles. "28th May, 1713. Ordered that the Clerk go to the Secretary at War for a guard in order to get the next body

1701-1744, 24 lecturers in anatomy are known to have been active in London

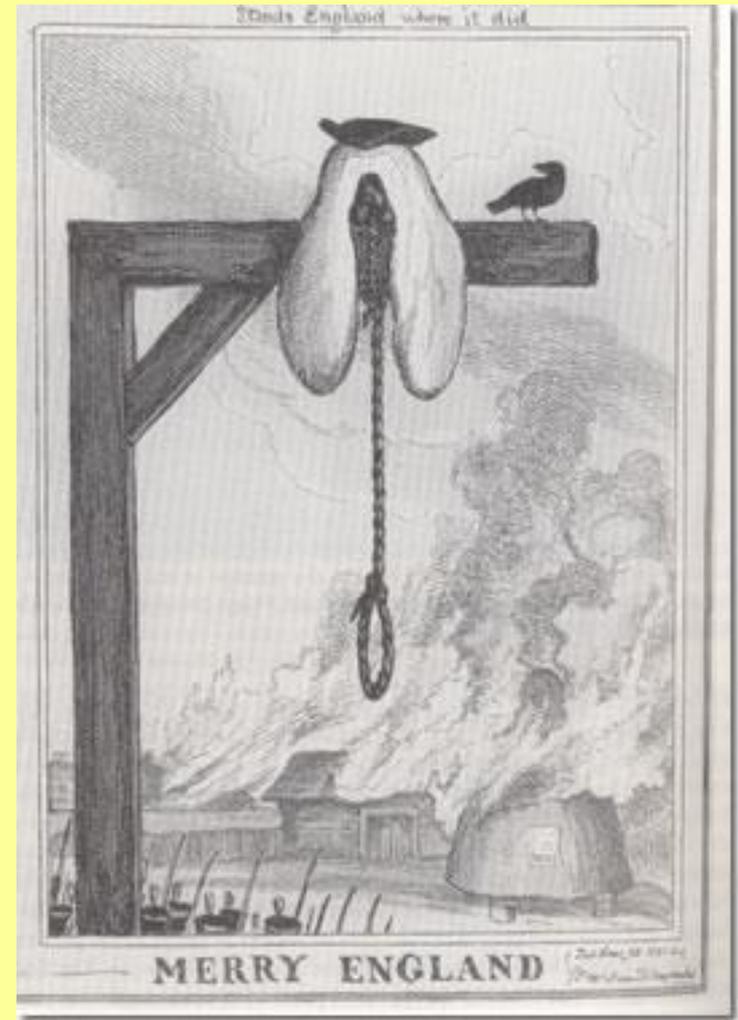
1745-1800 over 40 individuals advertised anatomy lectures in London,

1800-1833: 521 public hangings: Only 44 (8.3%) for murder

1826: 592 bodies were dissected by students at London anatomy schools.

1. anatomists get corpses of hospital patients - surreptitious payments to hospital porters
2. 'Resurrection Men' or grave-robbers

1319: First prosecution for body-snatching students brought a body to master Albert, a lecturer in medicine at Bologna and he dissected it for them.



Increasing demand

Requirement 1000 corpses a year

1793 200 medical students in London,

1823 there were over a thousand

earliest grave robbers surgeons themselves.

1721 a clause was inserted into apprentices indentures issued by the Edinburgh college of surgeons forbidding trainee surgeons from becoming involved in exhumation.

1780s the work was left to the professionals -Resurrectionists or 'Sack 'em up' men.

1795: A professional gang of 15 body snatchers was rounded up in Lambeth.

They worked, winter only, serving 'eight surgeons of repute' from 30 burial grounds.

Corpses cost two guineas and a crown -£2.35 and children six shillings for the first foot and nine pence for each extra inch.

C18th master tailor or carpenter 30 s/wk (£1.50)

East End silk-weaver working 12 hours a day might only earn 5-10 s/wk (50p)

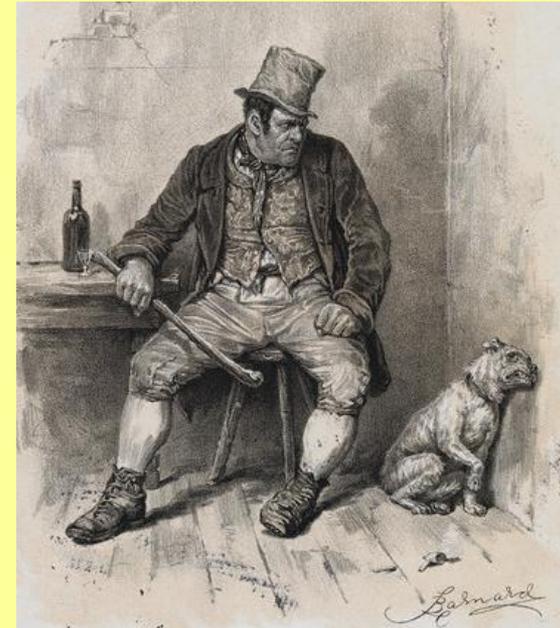
Unusual cost more.

1783 7' Irish giant O'Brian purchased for £500 by J Hunter, wish to be buried at sea. Skeleton in entrance of the Royal College of Surgeons in London

1818: Patent Coffin £3 10s anti-resurrectionist

1819: Abernethy suggests use of paupers bodies

1820 the cost was up to 20 guineas.



The snuffbox which Mr Sowerberry offers Mr Bumble in chapter four of *Oliver Twist* is a miniature model of the patent coffin. Fagin and Sykes are ex-resurrectionists. They have been made redundant by the Anatomy Act and are turning to new forms of crime.

body snatching was not an offence.

1788 court decision: Corpse not property, cannot be owned or stolen.

Episodes of body snatchers whipped, unclear legally.

Only if property – clothes/shroud removed was the robber a thief.

easier if the graves of the poor were robbed.

mass graves pits 20' deep, filled with coffins over few weeks

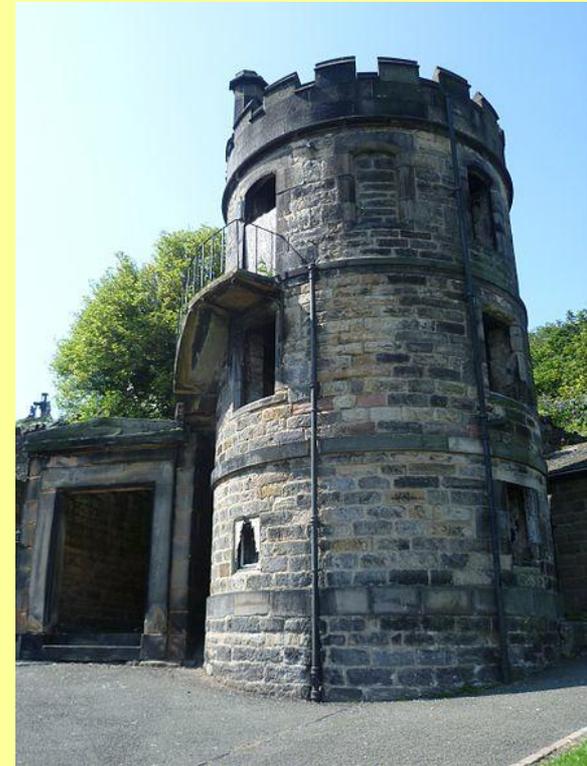
wealthy, could buy metal coffin (1781), employ guards.

The poor, kept bodies in the parish mortsafe or 'jankers' until rotten.

1828 two medical students caught body snatching threatened by a large crowd jailed at their own request. Next day several hundreds 'assembled round the gaol , provided with axes'.

Yarmouth, Hereford, Greenwich and Lambeth similar cases.

1832: Riot broke out in an Aberdeen when a dog unearthed human remains. Anatomy School was looted and burned. The crowd, estimated at 20,000 denied access to the fire engine.



Graveyard watchtower, Edinburgh

Museums not popular with poor

1792 John Hunter carting hampers of body parts for disposal at his country home in Earl's Court.

Children tried to steal what they thought were apples but instead found 'the Putrid half dissected arms of a Man'. A 'hallo-balloo' ensued, house threatened with destruction so resident students were called from the dissecting rooms to come to the defence. **William Clift**

1784 Henry Watson (1702-93)

Tottenham Court Road anatomy school burned by crowd protesting at his involvement in the resurrection business.

1785: Thomas Young, was charged for receiving bodies for dissection at his school in Fenchurch Street

1785: Andrew Marshall's anatomical theatre in Thavies Inn was raided caught red-handed in receipt of a hamper containing the bodies of two children, he escaped legal sanction.



William Hunter ... in a country where liberty disposes the people to licentiousness and outrage, and where anatomists are not legally supplied with dead bodies, particular care should be taken to avoid giving offence to the popular or to the prejudices of our neighbours.

The student experience

Decomposing bodies had been buried for days

Dissecting filthy work: aprons absorb body fluids from fetid bodies as they were opened up, but many students wore their everyday clothes.

Bore stench and filth of their anatomical lessons.

Some did not have the ‘constancy of Mind’

1821 Hector Berlioz, quit his surgical training, ‘It seemed to be the utter reversal of the natural conditions of my life—horrible and impossible’.

John Keats, similarly, changed careers after spending too much time amongst putrefied bodies and the ‘death-rattles of the dying’

Dangerous

1788, Charles Darwin—son of Erasmus Darwin of Lichfield—cut his finger dissecting a child.

hours later, terrible headaches and haemorrhaging.

next day, he was dead.



1832 Anatomy Act

1828: lodger at Mrs Hare's lodging house died: body to Dr Knox's anatomy school for £7.50.

Another befuddled with whisky, smothered and sold for £10.

Fifteen more followed.

1828: Astley Cooper President of RCS told parliamentary committee that grave robbers were lowest dregs of degradation. He dealt with them only out of necessity



The riots, the murders and public opinion something had to be done key issue in the election of 1832.

Jeremy Bentham, founder of University College London.

anyone applying to a hospital for treatment was giving permission for use of their body, for dissection, followed by Christian burial.

In effect poor people/workhouse

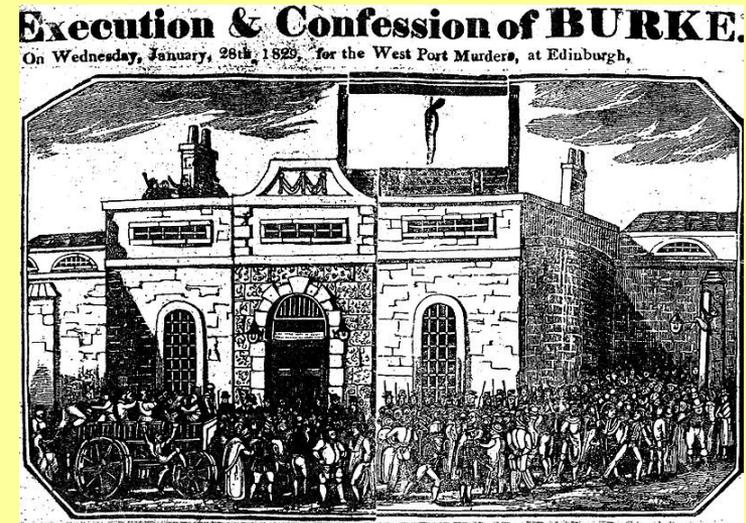
1828: Bentham was publicly dissected by Dr. Southwood Smith at University College.

After agreement with Peel, PM, so the death rates in the workhouse should not be made public the bill became law.

Bodies of those maintained by the state (i.e. Workhouses) if not claimed by relatives (for burial at their expense) became the property of the Anatomist.

Saving by weekly installment Burial clubs common

By World War 1 10% of income of women in Lambeth set aside for 'Industrial insurance'. still a fear of a 'pauper's funeral'



6 weeks later Anatomy Act transferred the fear of dissection from the criminal to the poor.

Pathological and Anatomical waxworks

The anatomic waxworks Between the end of the 17th century and the half of the 20th century, because of the problems concerning the preservation of corpses “artificial” anatomy was developed.

Signor Sarti's exhibition, with an anatomical Venus and Adonis, opened at 27 Margaret Street in 1839

Also used in Medical Museums

Torino

Guy's Hospital

Bart's Hospital

Rome

Florence



Guillaume Desnoues' (1650-1735)

full-length anatomical models were
brought to London in 1719

to educate the curious 'without exciting
the feeling of horror men usually have
on seeing corpses'



Obscene Publications Act 1857

1836: Frederick Knox wrote that “without museums the profession [of anatomy] would be in the state of man without a language”

The Obscene Publications Act was first employed against an anatomy museum in 1860 in Leeds,

London police and magistrates indifferent

medical profession funded private prosecutions in the 1870s,
the last of the public anatomy museums closed down



1782: Clemente Susini

Private anatomy museums closed

18 December 1873, Marlborough Street magistrates' court, Messrs Roumanielle, Davidson, and Dennison pleaded guilty to offences under the Obscene Publications Act 1857

Magistrate ordered their property, which had been held by the court since February, be destroyed.

part of Kahn's Anatomical Museum

1851: **Dr Joseph Kahn's** Anatomical and Pathological Museum best-known and visited.

to show the 'wondrous' structure of the body and to warn of the harmful consequences to health of abuses that 'distort or defile' its 'beautiful structure'.

Later owners sale of quack remedies for venereal disease damaged the reputation of anatomy museums.

Over 22 years, many legal cases, opposition from the medical profession and anti-vice campaigners (whiff of anti-semitism)

Successful prosecution of Kahn's museum meant all public display of specimens potentially obscene. anatomical education subsequently restricted to medical professionals



Anatomical Venuses ancient way of teaching

Popular; C19th-Century, centerpiece of museums and itinerant shows of all kind crowd-pullers.

life-sized wax anatomical models of idealized women, extremely realistic in appearance and often adorned with real hair and ornamental jewelry. These figures consist of removable parts that can be "dissected" to demonstrate anatomy

Anatomical Model of a Pregnant woman, Flemish, 18th century (carved ivory)



Ivory: German c1600
Museo Nazionale Dell' Arte Sanitaria, Rome, Italy

Battista Manfredini

Modena



"Luigi Rolando" Human Anatomy Museum (Turin)

1739, Prof Gian Battista Bianchi Royal University Museum

Criminal brains, particular significance in C19th Turin.

Cesare Lombroso theories about criminality and relation between deviant behaviors and anatomical anomalies.

The craniological collection

“phrenological heads” of Gall, the founder of the discipline, and plaster casts of skulls and heads of famous people. Raphael, Napoleon, prince of Talleyrand and criminals Giorgio Orsolano aka

1835 Giorgio Orsolano was publicly hanged after he had confessed that he had killed and cut to pieces young girls sold as sausages. “**the hyena of San Giorgio Canavese**”.



Cesare Lombroso Museum Turin

1866 military Dr; collected skulls, skeletons, brains private museum, first housed at his home in Turin. Criminals and madmen, which he from prisons and asylums.

1878, Prof Forensic Medicine Turin, 2 rooms in the C17th Monastery of San Francesco da Paola

d 1909 his remains – skeleton, head, brain and internal organs – went to the museum



'Hospital Santo Spirito in Sassia

1200: Hospital f. **Innocent III**

Old hospice (Schola Saxonum) of the English. "Sassia" from "Saxonum".

Guido di Montpellier, establishes l'Ordine Ospedaliero di Santo Spirito care of orphans, abandoned and illegitimate children, board, lodging, education

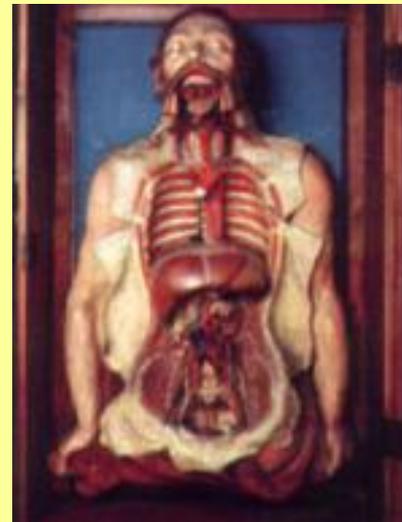
Foundling wheel

Anatomical museum in C17th wing

Benedict XIV, also patron of the anatomical collections in Bologna.

Museum's first director was **Giuseppe Flajani (d.1808)**.

1779: collection of wax, ordered by Cardinal Francesco Saverio de Zelada, Secretary of State of Pope Pius VI, Battista Manfredini, under the direction of University of Bologna Anatomist; Carlo Mondini.



Anatomical Museum "Taruffi" in Bologna

1804 during the Napoleonic era, to collect specimen and wax anatomical models.

Cesare Taruffi (1821-1902):
Addition of tetralogy specimens

wax anatomical models from the second half of 1800's by Cesare Bettini and Giuseppe Astorri



Musée d'Anatomie Pathologique de la Faculté de Médecine de Paris



Plaster cast: Syphilis



("Sifilide Congenita"), early 1800's.

*Musée de la médecine de
Bruxelles*

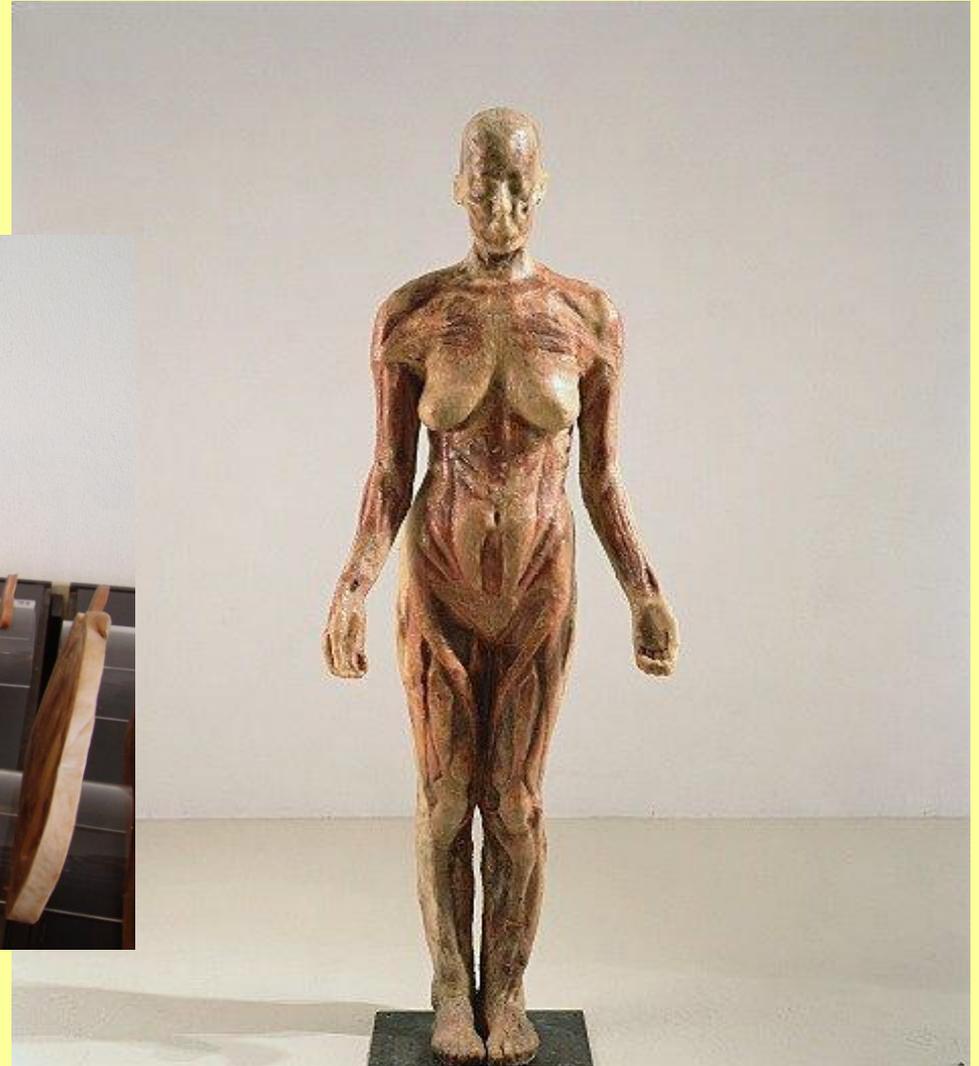
Celebration of human body
Auzoux's big man



Images still have power to shock



Anatomy museum Chicago
Human body in 0.5" sections



2002: Public attitudes to displays of anatomical specimens challenged plastinated anatomical specimens (1st public museum of anatomy in England for 130 yrs), was brought to London,

Professor Gunther von Hagens, 840 000 visitors.

medical professional bodies opposed.

The Royal College of Pathologists ‘macabre’.

The Anatomical Society ‘mere spectacle’ that would ‘sensationalise and trivialise’ its subject.

BMA ethics committee ‘grotesque’.

After closure, parliament legislated, that prevented its return; ‘offended the sensibilities of a number of our constituents’.

2004: The Human Tissue Act unlikely for a private anatomical museum to be licensed in England

The medical monopoly of anatomy not good: anatomy museums closing down and anatomy teaching trivialised.

Some undergraduate anatomy courses now contain less material than Pinnock's ninepenny *Catechism*



Unless you're Harry Potter

THANK YOU

