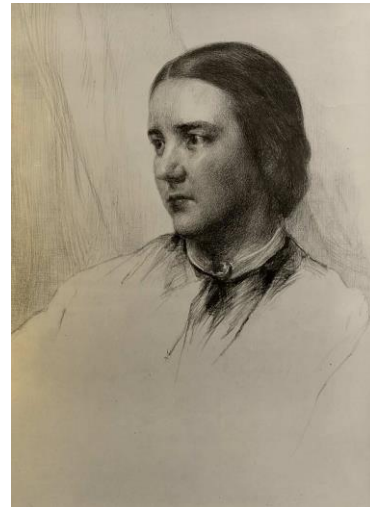


# Some Scottish Contributions to Medical History



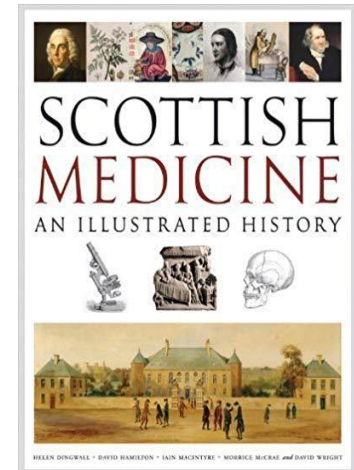
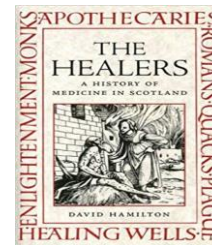
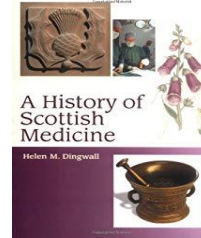
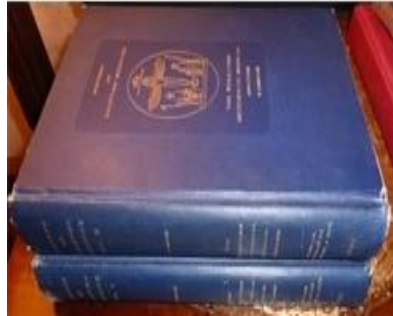
# Overview of the talk

- Sources and their interpretation
- Setting the scene
- Medical education
- Some contributions in surgery
- Some contributions outwith Scotland
- The 20<sup>th</sup> century
- Some concluding thoughts



# Some sources

- Books



- Images



- Video, websites and places to visit



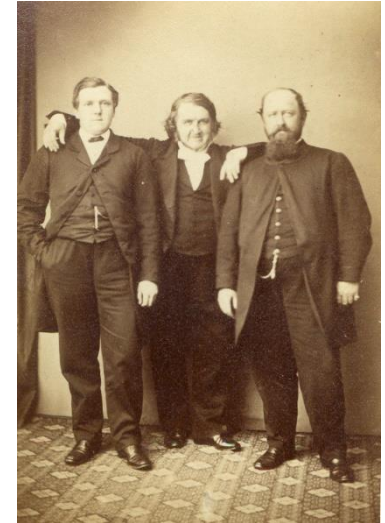
# Interpretation of sources (images)

- When (contemporary? at what stage of life? special occasion?)
- Who (and with whom? who produced image?)
- Where (at work? in a studio?)
- What (people, place, thing?)
- How (painting? photograph?)
- Why (to inform? to impress? to amuse?)
- Confirmatory evidence (clothes, companions)



# Interpretation of sources (images)

- When (contemporary? at what stage of life? special occasion?)
- Who (and with whom? who produced image?)
- Where (at work? in a studio?)
- What (people, place, thing?)
- How (painting? photograph?)
- Why (to inform? to impress? to amuse?)
- Confirmatory evidence (clothes, companions)



# Setting the scene

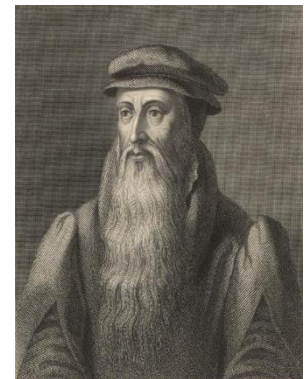
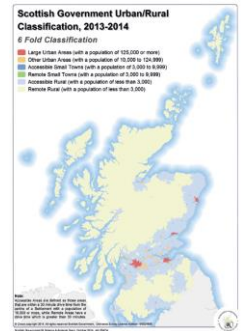
- Scotland's geography and history
- Scotland and England
- Scotland and the rest of the world
- Wars in Europe and elsewhere
- The Scottish Enlightenment



# Scotland's Geography and History

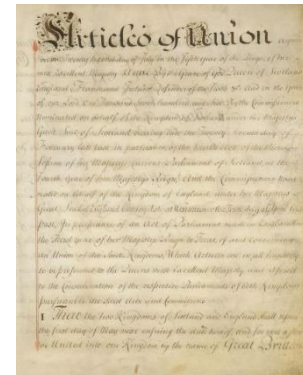
- Area in square miles  
Scotland 30,414, England 50,350
- Population in millions S (E) and %
 

1500	0.5 (2.2)	23%	1707	1.0 (5.2)	19%
1801	1.6 (7.5)	22%	1901	4.5 (30)	15%
2001	5 (49)	10%	2017	5.5 (56)	9.8%
- Development of central urban areas means rural depopulation
- Kingdom since 843
- An early adopter of the ideas of the Reformation
- The Scottish Kirk is Presbyterian  
John Knox 1560 *First Book of Discipline*
- An education system which encouraged schooling for all and a pride in “a lad of pairts”



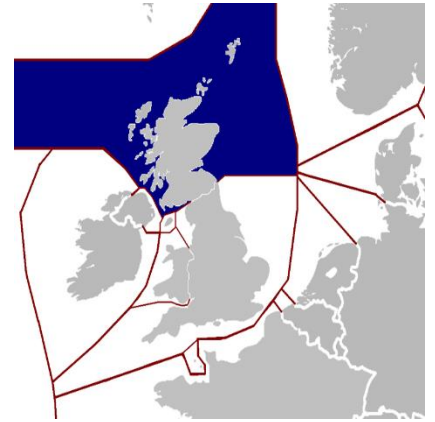
# Scotland and England

- Many centuries as separate, (occasionally warring), nations
- 1603 Union of the Crowns (James VI and I)
- 1707 Union of the Parliaments
- Together as Great Britain they became a world force and, during the 19C, Glasgow developed into the second city of the British Empire.



# Scotland and the rest of the World

- Europe - East coast ports had historic trade with Scandinavia, the Baltic, Russia, Holland and France, (wool, fur, timber, wine, pottery)
- America - Glasgow became a major port for North American trade (tobacco, sugar and cotton) as well as a major shipbuilding centre



# Some wars between 1618-1815

- 1618–1648 30 Years War
- 1652–1674 Anglo-Dutch Wars
- 1701–1713 War of the Spanish Succession
- 1775–1783 American Revolutionary War
- 1803-1815 Napoleonic Wars



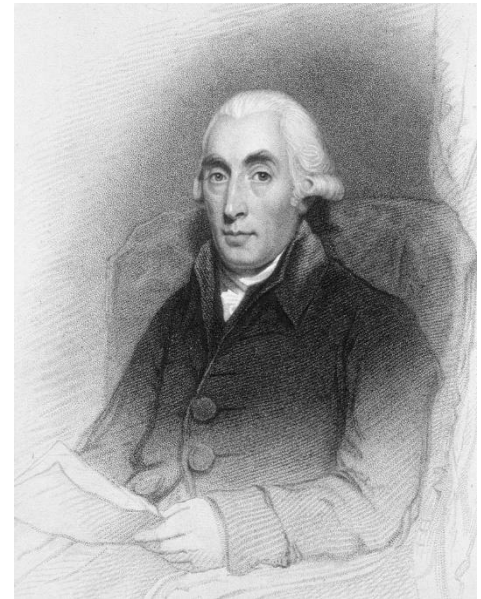
# The Scottish Enlightenment roots

- Parliamentary union 1707
- Increased trade and commerce
- Increasing urbanisation in Glasgow, and Edinburgh
- Individuals such as Francis Hutcheson, David Hume and Thomas Reid, building on the ideas of Descartes and Locke, encouraged critical thinking and ideas of common sense
- Development of a network of institutions such as universities, reading societies, libraries and periodicals, offering mutual support to intellectual thinking



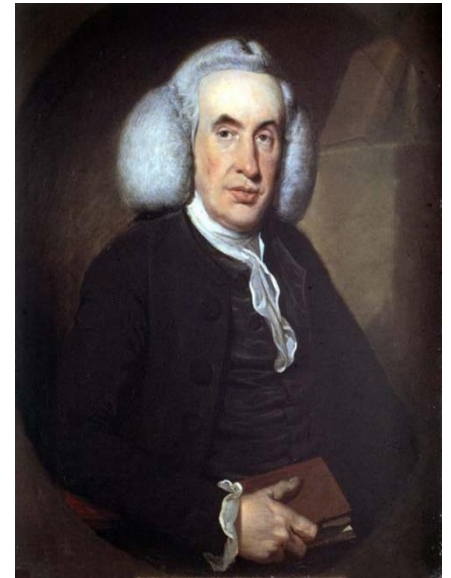
# The Scottish Enlightenment medical consequences

- Establishment of Scottish Medical Schools
- Great increase in graduates coming from England and elsewhere
- Major developments in such fields as anatomy (Monros) and chemistry (Joseph Black)
- Contributions from Scots such as John and William Hunter working in England and others working abroad



# Medical Education-some context

- Ancient Universities in Britain
- Role of European universities in medical education up to 17<sup>th</sup> century
- Unsettled conditions in Europe in 17<sup>th</sup> and 18<sup>th</sup> centuries
- Oxford and Cambridge had religious restrictions on entry until abolished by Universities Test Act (1871)



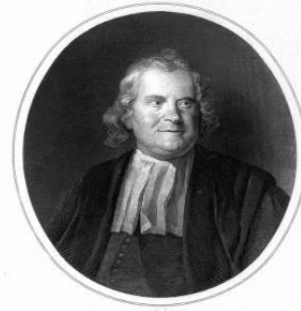
# The Ancient Universities

- Oxford (1096)
- Cambridge (1209)
- University of St Andrews (1413)
- University of Glasgow (1451)
- University of Aberdeen (1495)
- University of Edinburgh (1583)
- University of Dublin (1592)



# The development of the Edinburgh Medical School

Herman Boerhaave  
(1668-1738), Leiden



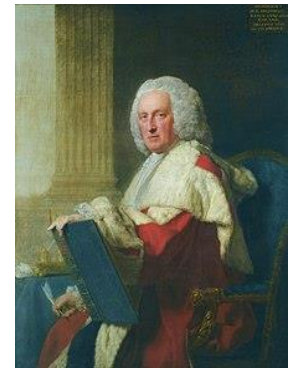
John Monro (1670-1740)



George Drummond  
(1688-1766)



Archibald Campbell  
(1682-1761)



# Three Professors Alexander Monro (1722-1846)

Alexander Monro *primus* (1697-1767)

Professor of Anatomy at Edinburgh (1722-1756)

One of the founding professors of the Edinburgh Medical School (1726)

*Anatomy of the Human Bones* (1726)

Alexander Monro *secundus* (1733-1817)

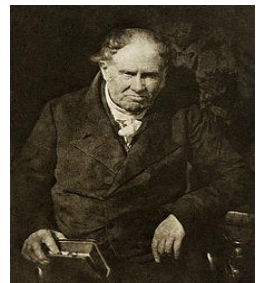
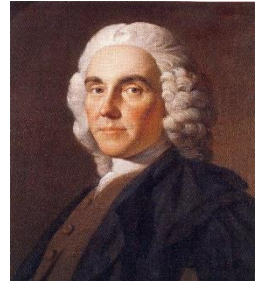
Professor of Anatomy at Edinburgh (1756-1804)

*Observations on the Structure and Functions of the Nervous System* (1756) Foramen of Monro and concept of ICP

Alexander Monro *tertius* (1773-1859)

Professor of Anatomy at Edinburgh (1804-1846)

Darwin found him “so dirty in his person and actions” that he decided not to study medicine

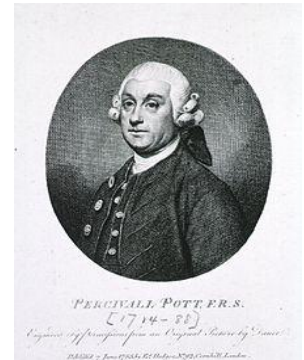


# Place of training of medical graduates practising in Britain

	Oxford/ Cambridge	Europe	Scotland
1600-1650	599	36	0
1650-1700	933	197	36
1700-1750	617	385	406
1750-1800	246	194	2,594
1800-1850	273	29	7,989

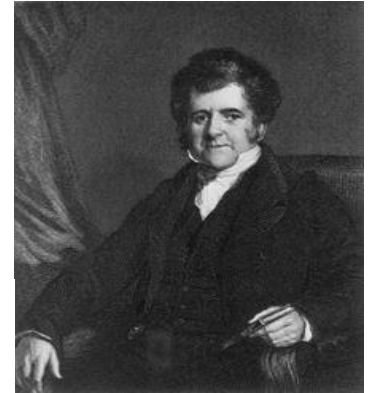
# Doctors practising in Britain

- Most English doctors did not qualify as MD, but trained at London teaching hospitals, for example St Bartholomew's with Percival Pott, or Guy's with Astley Cooper
- They were then examined and licenced to practice by the Royal Colleges or the Society of Apothecaries
- However, until English university medical schools were set up in the late 19<sup>th</sup> C, (following the 1858 and 1886 Medical Acts), most medical graduates in Britain studied at Scottish Universities



# Three men of Guy's

- Richard Bright (1789-1838) MD 1813



- Thomas Addison (1793-1860) MD 1815



- Thomas Hodgkin (1798-1866) MD 1823



# The extra-mural schools of medicine

- Set up in Edinburgh and Glasgow to cope with the demand for teaching that the universities were unable to meet
- Glasgow - Anderson's Institution as well as private tuition (Alan Burns)
- Edinburgh - Surgical teaching included John and Charles Bell, John Barclay and Robert Knox
- Classes in many other disciplines
- Extra mural teaching continued in Edinburgh until the 1940s



# The supply of bodies for dissection

- The 1505 Seal of Cause gave Edinburgh surgeons the right to dissect the body of one condemned man a year
- Increasing demand led to grave robbing, despite watchmen and mortsafes
- 1828 With Robert Knox's classes exceeding 500 in a year, Burke and Hare's murderous activities caused public outrage
- 1832 Anatomy Act allowed unclaimed bodies from infirmaries, poorhouses, workhouses, asylums and jails to be given (or sold) for anatomical teaching



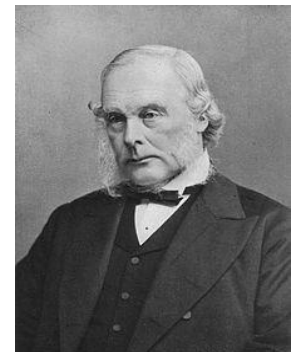
# Robert Liston and James Syme

- Robert Liston (1794-1847) MD  
1815 Anatomy teacher  
Surgeon in RIE 1818-1834  
Professor of Clinical Surgery  
UCL 1834-1847
- James Syme (1799-1870) MD  
1820 Anatomy teacher  
Professor in RIE 1833-1847 &  
1848-1869  
Professor of Clinical Surgery  
UCL 1847-1848



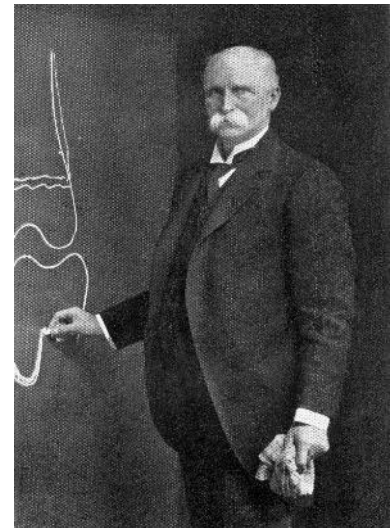
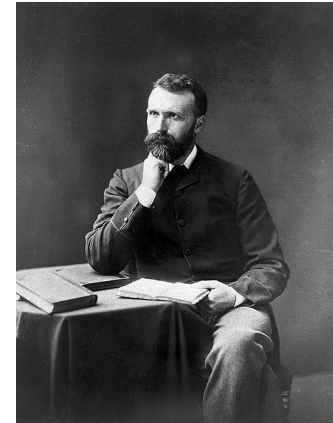
# Joseph Lister (1827-1912)

- English born, medical training at UCL
- 1852 to Edinburgh to work for Syme
- 1855 Lecturer in Surgery RIE, worked on inflammation and infection with his wife, Syme's daughter, Agnes
- 1861 Professor of Surgery GRI
- 1865, after reading Pasteur's work, began using carbolic acid dressings
- 1867 *Antiseptic Principle in the Practice of Surgery*
- 1869 Professor of Surgery RIE (Carbolic spray)
- Agnes Lister died in 1893



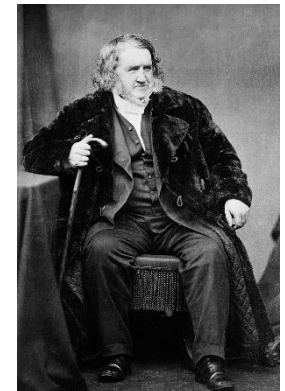
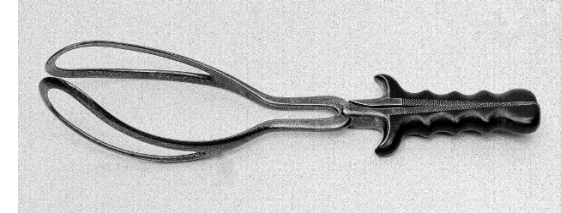
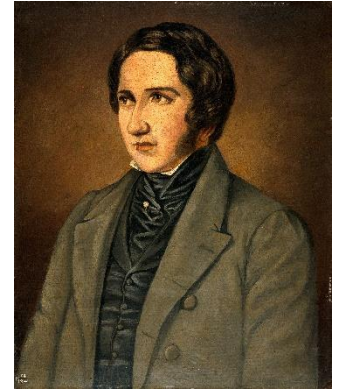
# William Macewen (1848-1924)

- 1877 Aseptic surgery, steam sterilisation of instruments, towels and dressings, scrubbing of hands and arms
- 1892 Regius Professor of Clinical Surgery at Glasgow University
- Neurosurgery
- Orthopaedics
- Pneumonectomy
- Use of oral endotracheal intubation



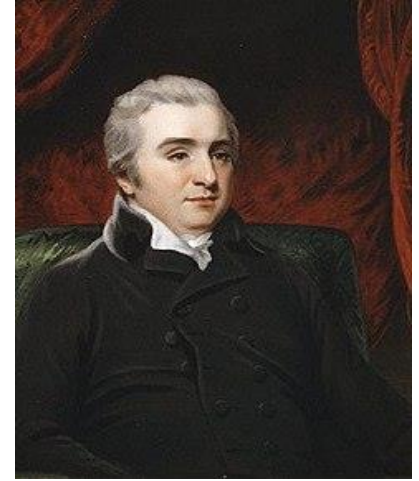
# James Young Simpson (1811-1870 )

- 1832 Edinburgh MD
- 1839 Professor of Medicine and Midwifery, Edinburgh
- 1847 Introduced chloroform as a general anaesthetic
- Primarily an obstetrician
- 1870 death, following ischaemic heart disease, widely mourned



# Scottish contributions outwith Scotland

- William Smellie  
(1697-1773)
- William Hunter  
(1718-1783)
- John Hunter  
(1728-1793)
- Matthew Baillie  
(1761-1823)



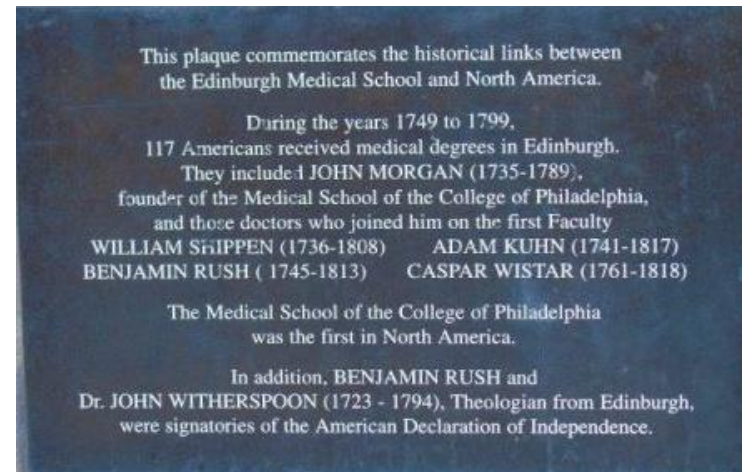
# Scottish Influence on the USA

Between 1749-1799, 117 North Americans graduated from Edinburgh, (plus another 533 in the next 50 years)

Factors included reputation, teaching in English and the efforts of Benjamin Franklin

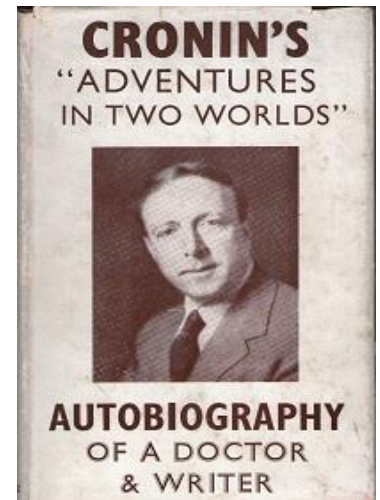
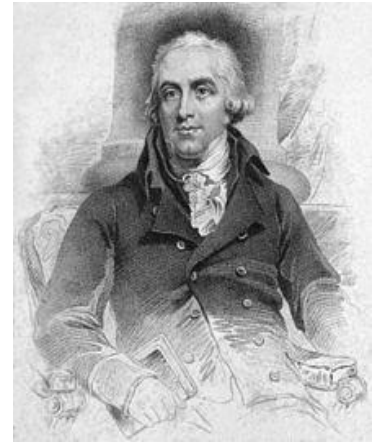
The first medical school in the USA, in Philadelphia, was based on Edinburgh's

Benjamin Rush was one of the signatories of the Declaration of Independence



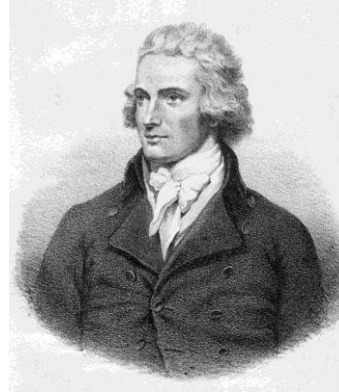
# Publishing and literature

- Publishers included the Foulis brothers, John Murray, William Creech and Charles Elliot
- William Smellie (1740-1795)  
*Encyclopaedia Britannica* (1768-1771)
- William Buchan (1729-1805) and  
*Domestic Medicine*
- *Edinburgh Medical and Surgical Journal* (1805)
- Writers include Arthur Conan Doyle (1859-1930) and AJ Cronin (1896-1981)

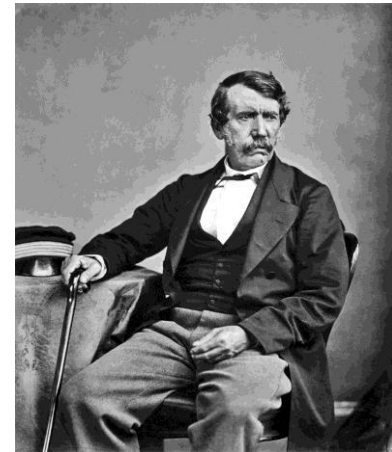


# Scottish doctors in Africa

- Mungo Park (1771-1806)  
West Africa  
Explorer



- David Livingstone (1813-1873) Central Africa  
Missionary-Explorer

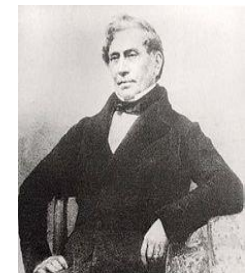
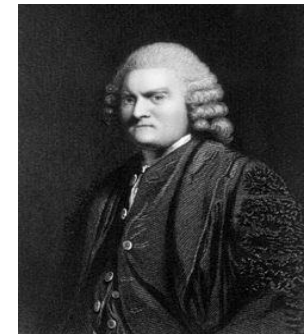


- Neil Macvicar (1871-1949) South Africa  
Missionary



# Scots and Naval and Military Medicine

- James Lind (1716-1794)
  - Thomas Trotter (c1760-1832)
  - Gilbert Blane (1749-1834)
- 
- John Pringle (1707-1782)
  - James McGrigor (1771-1858)
  - George Ballingall (1780-1855)
  - James Miranda Barry (c1795-1865)



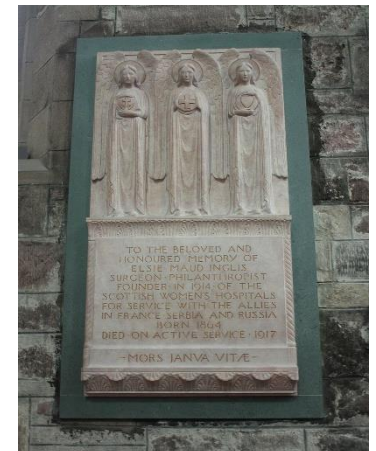
# Sophia Jex-Blake and medical education for women

- The Edinburgh Seven 1869
- Surgeons' Hall Riot 1870
- London School of Medicine for Women 1874
- Graduated MD Berne 1877
- Set up practice in Edinburgh 1878
- Edinburgh School of Medicine 1887
- Cadell sisters expelled and Edinburgh MCW set up 1889



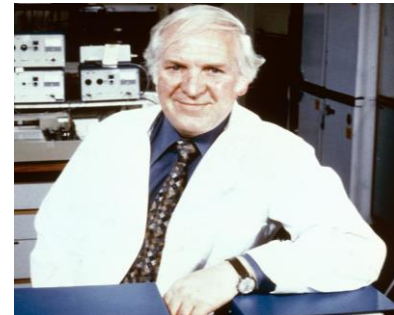
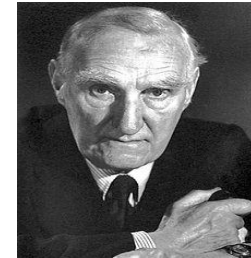
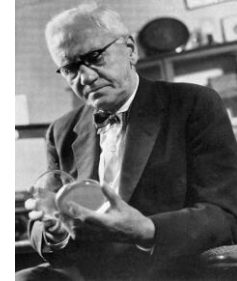
# Elsie Inglis (1864-1917) and the Scottish Women's Hospitals

- 1885 Student at ESMW
- 1889 Student at EMCW
- 1892 Licentiate of Royal Colleges
- 1894 The Hospice with Jessie Macgregor
- 1905 Appointed to the Bruntisfield Hospital
- 1914 First SWH
- 1916 travelled to Serbia, evacuated to Russia and then died in Newcastle



# Three 20<sup>th</sup> C Scottish Nobel Prize winners

- Alexander Fleming (1881-1955)  
(1945 Medicine)
- John Boyd Orr (1880-1971)  
(1949 Peace)
- Sir James Black (1924-2010)  
(1988 Medicine)



# Some omissions

- People Peter Lowe, William Cullen, Joseph Black, the Gregory family, Alexander Gordon, Andrew Duncan, Alexander Ogston, Ian Donald, Norman Dott, RD Laing, Bryan Jennett
- Places Aberdeen
- Things Ultrasound, HIMS, GCS, Maggie's centres

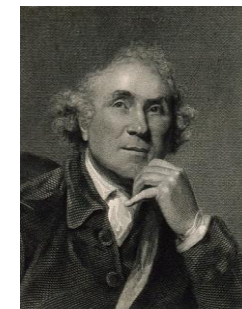
A form titled "NEUROLOGICAL OBSERVATIONS" and "GLASGOW COMA SCALE (GCS)". It includes fields for "Date", "Time", "Patient Name", "Referral Number", "Referral Date", "Referral Source", "Referral Ref", "Referral Date", "Referral Source", "Referral Ref", "Referral Date", "Referral Source", "Referral Ref". It also includes a section for "Glasgow Coma Scale (GCS)" with sub-sections for "Eye", "Verbal", and "Motor". Each sub-section has a scale from 1 to 4, with "1" and "2" marked with dots. The form is a grid with many empty cells for recording observations.

# Some concluding thoughts (a)

- People Scots and non Scots, genes and environment, relationships, partnerships, competition, dead and alive (bodies and souls)
- Places Edinburgh, Glasgow, Aberdeen, Dundee, St Andrews, Lanark, West Lothian, Scotland as a nation, hospitals, universities, laboratories
- Things medical education, specialties, instruments and equipment, food, drugs, travel

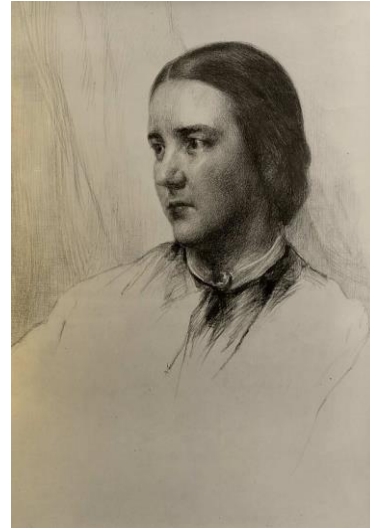
# Some concluding thoughts (b)

- Some ideas are dead ends
- Tragedies may lead to some good
- One's fame may owe much to others
- Difficult advances may need difficult people
- Remember Scots working outwith Scotland and non-Scots working in Scotland



# Some concluding thoughts (c)

## The four ladies









# Silhouettes of Lister, by his father (JJ Lister)



# Peter Lowe

Peter Lowe (c1550-1610)

*The Whole Course of Surgery* (1597), (in the vernacular rather than in Latin)

Joint founder of the Glasgow Faculty of Physicians and Surgeons (1599)

