

Veterinary Surgeons and Human Doctors - Two links in the chain of medicine

**Dr D G Clayton Jones, B Vet Med,
DVR, DSAO, Hon FRCVS, DHMSA.**

claytonjonesref@gmail.com

Objective / disclaimer

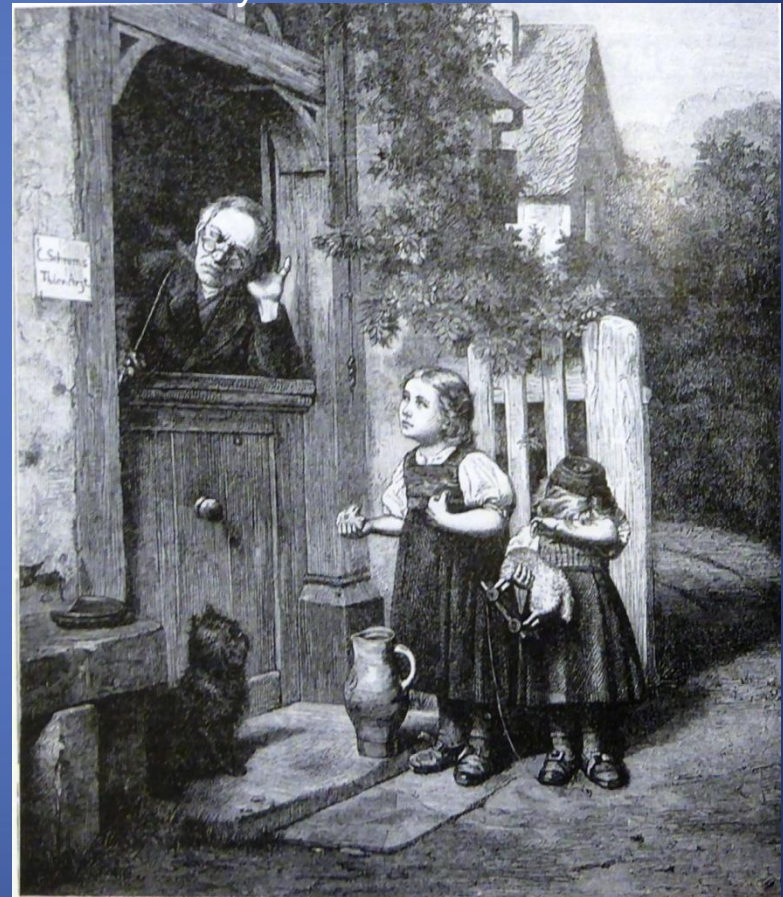
- This lecture is not intended to cover the entire history of veterinary medicine, but to compare and contrast the development of veterinary medicine with human medicine; and to show common historical features and some of the differences between our professions. I shall also mention the part played by human medicine in developing early formal veterinary education.

Vets

Thomas Rowlandson
Dog Doctor 18thC



'At the Vet'
Germany 1878



At the veterinarian, drawing by F. Sonderland, 1878.

‘Cinderella’ through history?

- *“Our art seems to sink beneath the dignity of collegiate science; that there is no room for Mr Dick's chair within the walls of the great, the proud University of Edinburgh. The elder sister appears to disown the relationship, or secretly ashamed of the Cinderella, scarcely acknowledges the connexion”.*
The Veterinarian, 1828.
- “Cinderella of the professions”
Daily Telegraph 1960s

Ancient Man

- Hunter gatherers -
fit / not fit to eat
'Disease' not recognised until
- Domestication of animals -
ploughing, dragging, milk,
meat, skin, guarding
hunting, herding etc
- Only then - likely
recognition of 'illness'

Domestication of Animals - Years ago

- | | |
|------------------|-------|
| • Dogs | 15000 |
| • Sheep | 10000 |
| • Pigs, Cattle & | |
| • Chickens | 8000 |
| • Horses | 6000 |

(American museum natural history)

The 'First' Veterinary surgeon?

- Urlugaledinna in Mesopotamia often quoted as the first at approx 3000 BC
- “expert in healing animals”

Ancient Civilisations

- Mesopotamia
 - Code of Hammurabi
 - Haruspicy
- Egypt
- Greece
- Rome
- Jewish and Moslem
- Hindu (TB bull Wales)

Disease causes –
superstition, religion,
astronomy and the
elements

Power of the priests

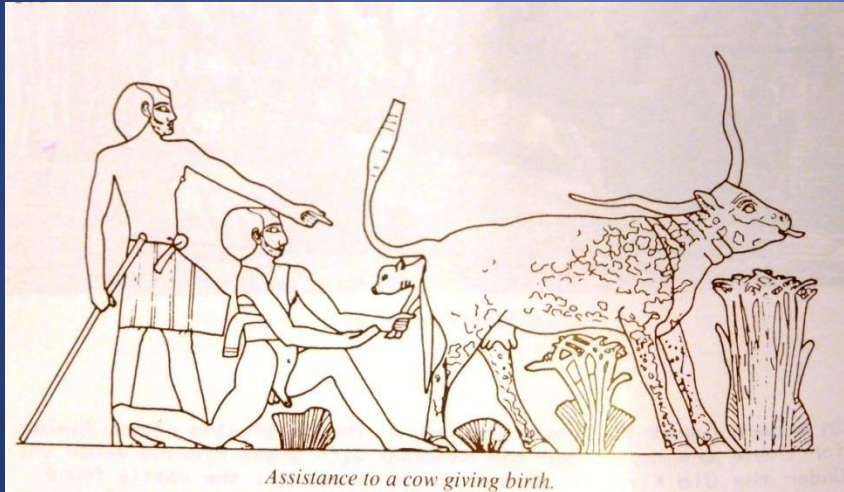
Animal and human illness
treated by the same
educated persons

Rules and Food inspection

Code of Hammurabi 18C BC

- [224] If a veterinary surgeon perform a serious operation on an ass or an ox, and cure it, the owner shall pay the surgeon one-sixth of a shekel as a fee.
(2 to 10 for human Dr)
- [225] If he perform a serious operation on an ass or ox, and kill it, he shall pay the owner one-fourth of its value.
- BUT (*Hands cut off or replace slave for human Dr*)

Egypt - Animals important in Life and Religion



ANIMAL	EGYPTIAN DEITY
• APIS BULL	PTAH
• COW	HATHOR/
• NYMPHTHYS	
• GOAT	AMUN
• RAM	KHNUM
• CAT	BUBASET
• LION	SHU
• LIONESS	SEKHMET
• JACKAL/ WOLF	WEPWAOT
• WEASEL	OTO

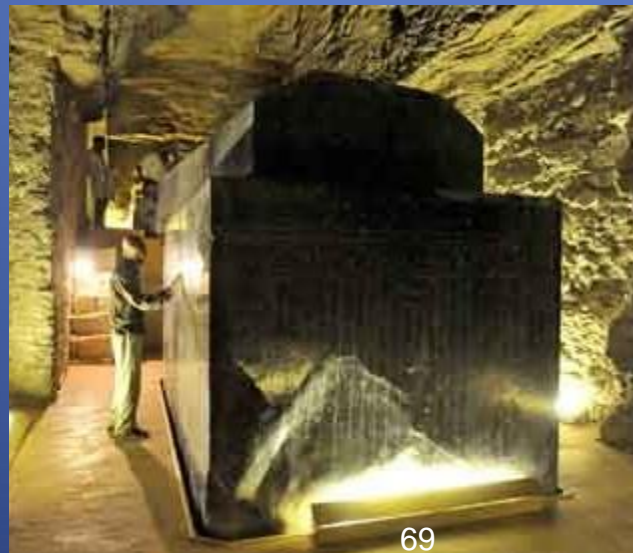
Egypt - Medicine supervised by priests

- Incantations
- Magic
- Bleeding
- External Cold water application
- Enema
- Drugs
- Animal products
- Sacrifices
- Kahun Papyrus 4000 BC
- 3 Cattle Case Histories arranged by :-
 - Title, symptoms, admonition, treatment, prognosis, progress, reinspection, further treatment
- Bovine Malignant Catarrh,
- Rinderpest
- An Eye disease

Egypt – Many animals mummified and in large cemeteries

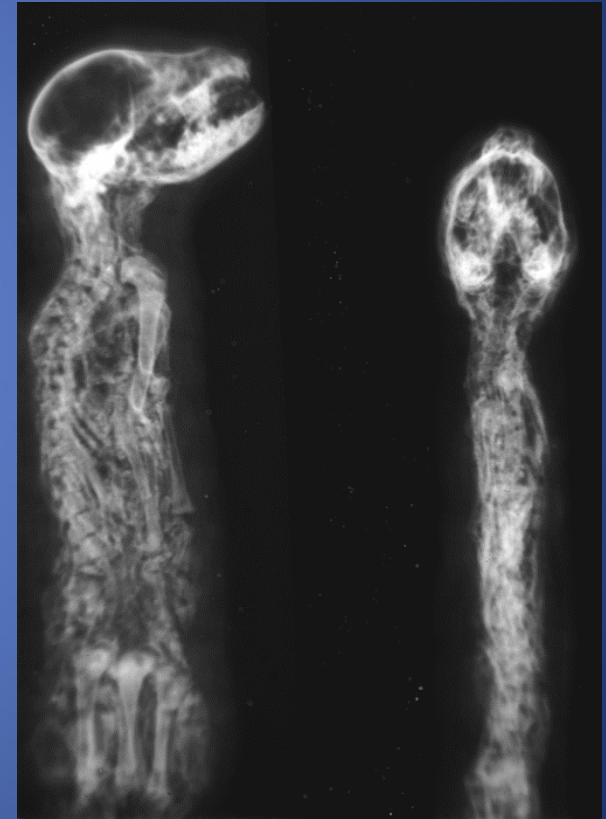


ibis



69

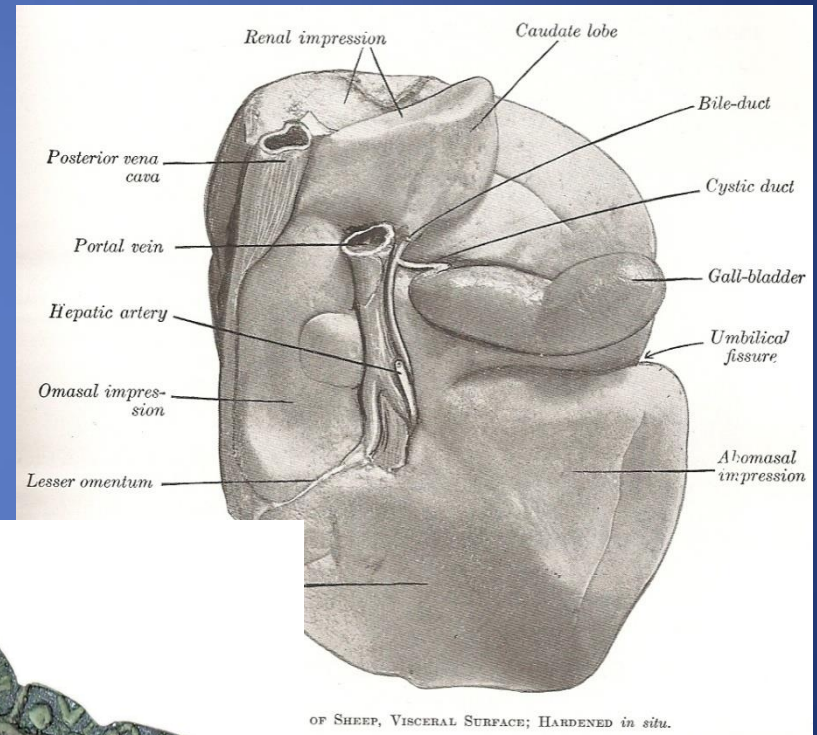
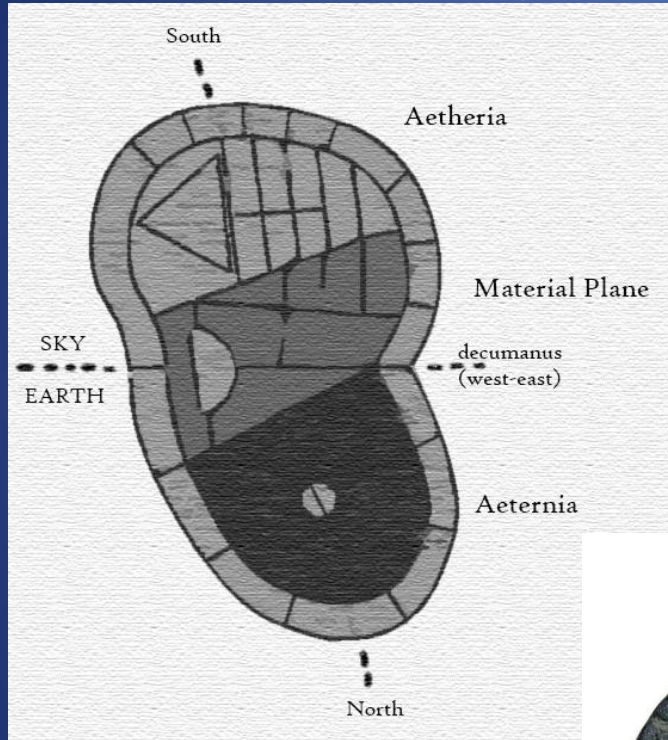
Puppy mummified as cat !!



bull

Haruspicy - liver examination (hepatoscopy) - many civilisations until Romans

What did they see / learn?



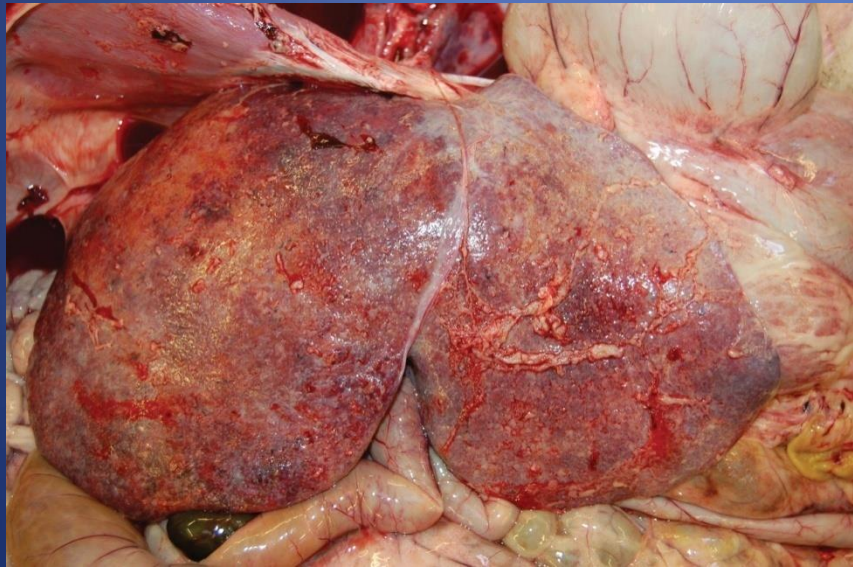
Babylonian clay model

Was it

Liver fluke - cattle and sheep ?

Remains a serious disease in
many countries

Early changes = bad prognosis
for the animals and those dependent
on them



Greeks - good physicians

- *later translated into Latin*

- **Aristotle**

- in 'History of animals Book 8'

- Tetanus, Strangles - horses

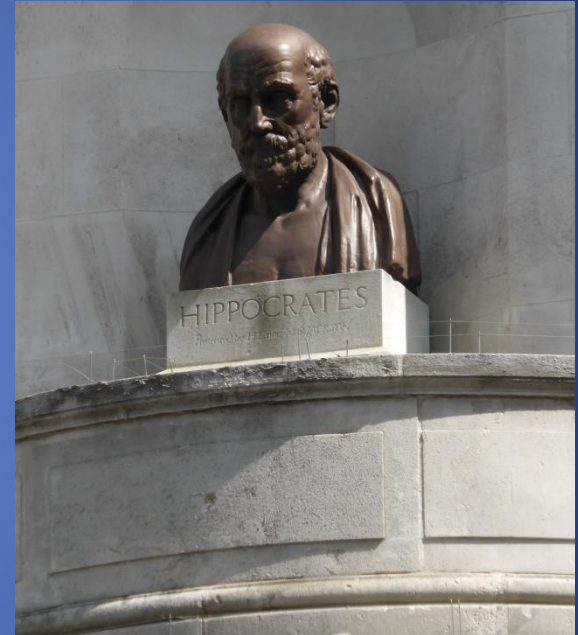
- Anthrax, Foot and mouth - cattle
sheep and pigs

- Castration

- Rabies – not transmissible to man !!

- **Hippocrates** -

- Hydatid cyst in goat brain (*gid* or *sturdy*) so human epilepsy not result of demons



Ancient Civilisation Rome

- Latin derivation of '*veterinary*'
- 've-' = capable, tested, experienced
- 'ter-' = animal, beast
- to 'vet' – to examine carefully
- also *vet eran* – old/ mature (able to move a burden)
- '*Medicus*' - someone who treats = doctor
- *Medicus veterinarius* – domestic animal doctor from *Veterinus/a/ae* - beast/s of burden/ cattle
-
- **Publius Vegatius Renatus** 450 AD
Digesta Artis Mulomedicinae,

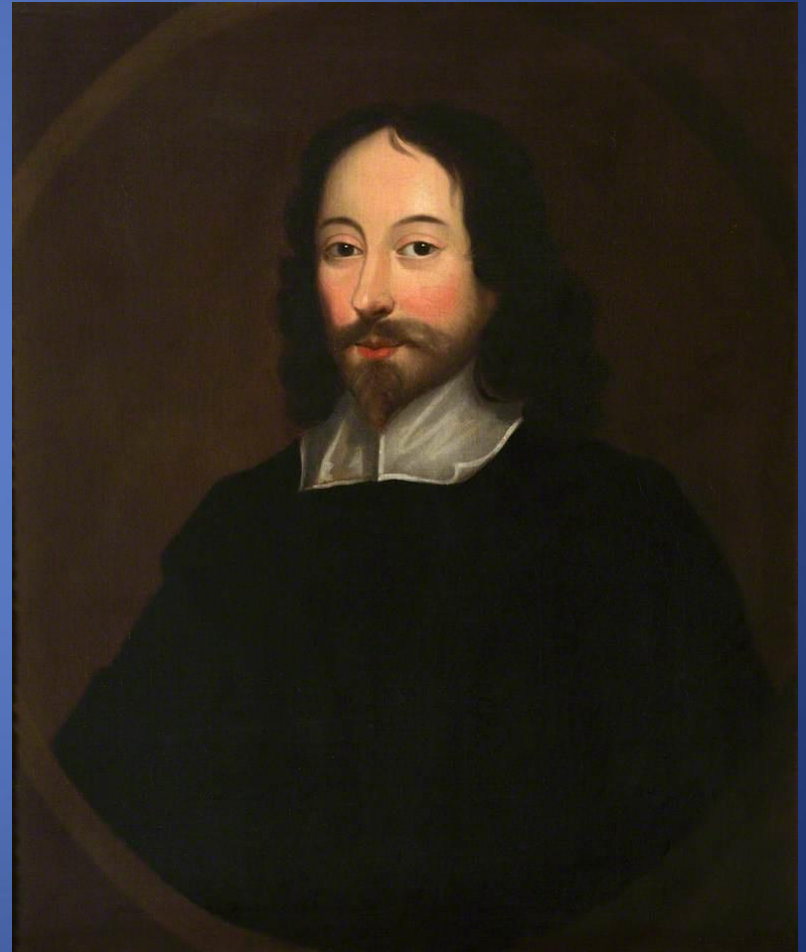
Thomas Browne 1605 - 1682

First use of '*veterinarian*' in OED

- Polymath, Author,
- Winchester ; Pembroke Oxford
- Studied Padua, Montpellier, Leiden,- Medical degree 1633
- Strange words = neologisms

Volitation – bird flight

Tauricornus – horns like Bulls



Roman veterinary medicine

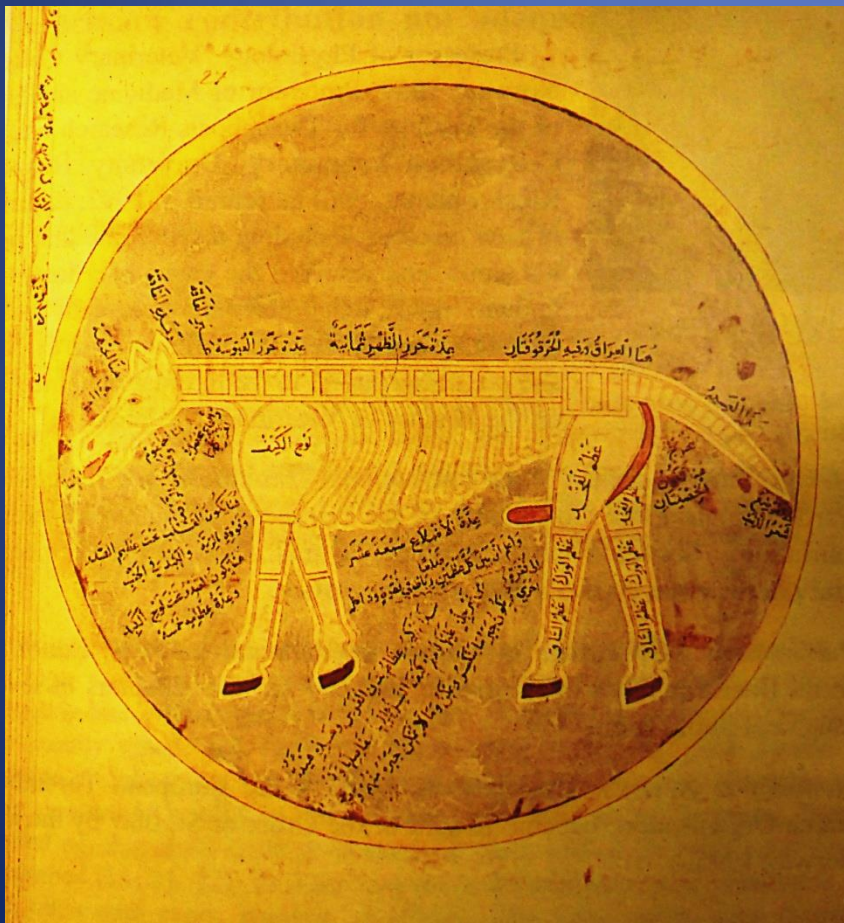
Writings by many authors
mainly agriculture and
management of horses
and oxen



- **Cato** – ‘de agricultura’
- **Virgil** – ‘Georgics III’
Bees and sheep
- **Columella** – ‘de re rustica’
- **Pliny** – ‘Opus agriculturae’
- **Pelargonius** – ‘Ars veterinaria’
- **GALEN**

Arab Veterinary Medicine

Manuscript circa 1460



An anatomical view from the ventral of a horse
Kitab az-Zardaka (Fol. 21^a) (see p. 189)

Medieval – importance of the Christian church

Human and Animal disease

Saints Cosmas and Damien



St Eloi



Eynsham Village Oxon. Saxon origin (5 m NW Oxford)



Cartulary (medieval ecclesiastic manuscript) of Eynsham Abbey (founded 1005)

Service to prevent Pig and Sheep disease

- *originated in France as contains French words*

- Bells to call to Mass
- 4 Gospel passages
- Sprinkle holy water
- Charms - Amen
- Our Father X 3
- Ave Maria
- Collect =

*'Almighty Godyou not permit us
to lose those things we need
, without which the human condition
is not sustained'*

300 - 500 sheep in a flock /cote

40,000 sacks of wool exported in 1310 ea. 364 lbs

= 170,000 broadcloths



1476 OSNEY Abbey Sheep Records

	Number	Deaths
• Rams	9	3 sickness
• Wethers	941	214 sickness, 2 shearing
• Ewes	878	322 sickness, 12 dogs
• Hogs	450	32 sickness, 1 shearing
• Lambs	658	388 sickness, 4 wolves, 3 casteling
• Final figures	1877 sheep	959 deaths
• Treatment	Tarpic ; Redding ; Grease 12s 9d	

Chaucer: The Pardoner's Tale 1386-9

- “Then shewe I ... crystal stones y crammed full of cloutes and bones

Relics they be ... have I a sholder-boon of an holy Jewes sheep
....If this boon be washed in any welle.

If cow or calf or sheep or ox swell, that any worm hath ete or
worm y stonge

Take water of this welle and wash his tonge and it is hool anon
and forthermore of pokkes and scab and every sore shall
every sheep be hool.”

- *Sheep scab / Anthrax*

Medieval Veterinary Work

- 'Farriers' and 'Animal Doctors'
 - but standards uncontrolled
 - [from Fr 'ferrier' Latin 'ferrarius' = working with iron or 'horseshoes']
- 1356 London Mayor Dissatisfaction so :- Farriers formed Fellowship = basis of WORSHIPFUL COMPANY.
- Charter 1674 Charles II
- Not just horseshoeing , but general treatment of animals
- (650 years celebrated 2006)

Farriers treating horses 16 C

Drenching a horse restrained
in a travis = oral medicine
1584



Cautery of *fistulous withers*
(Brucellosis)



Farriers in 21st C

now shoeing horses not veterinary work

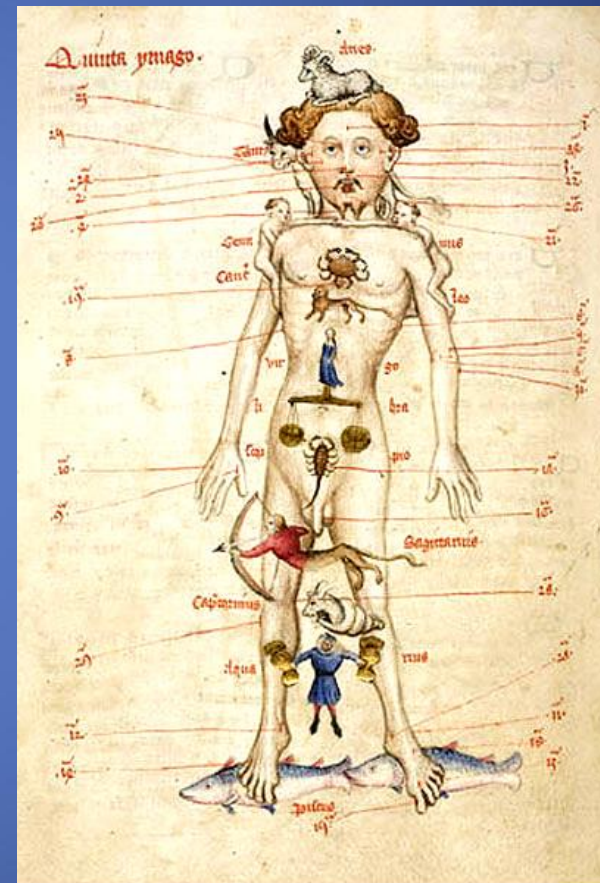
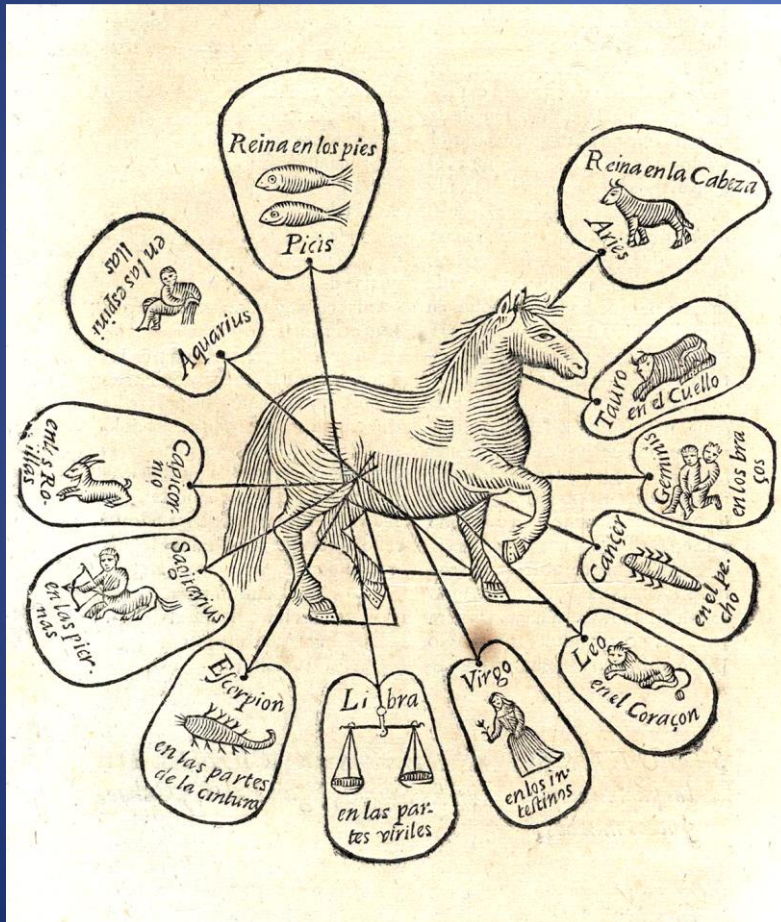
- Farriers continue in the Army in cavalry regiments



Compare Human/Vet Medicine

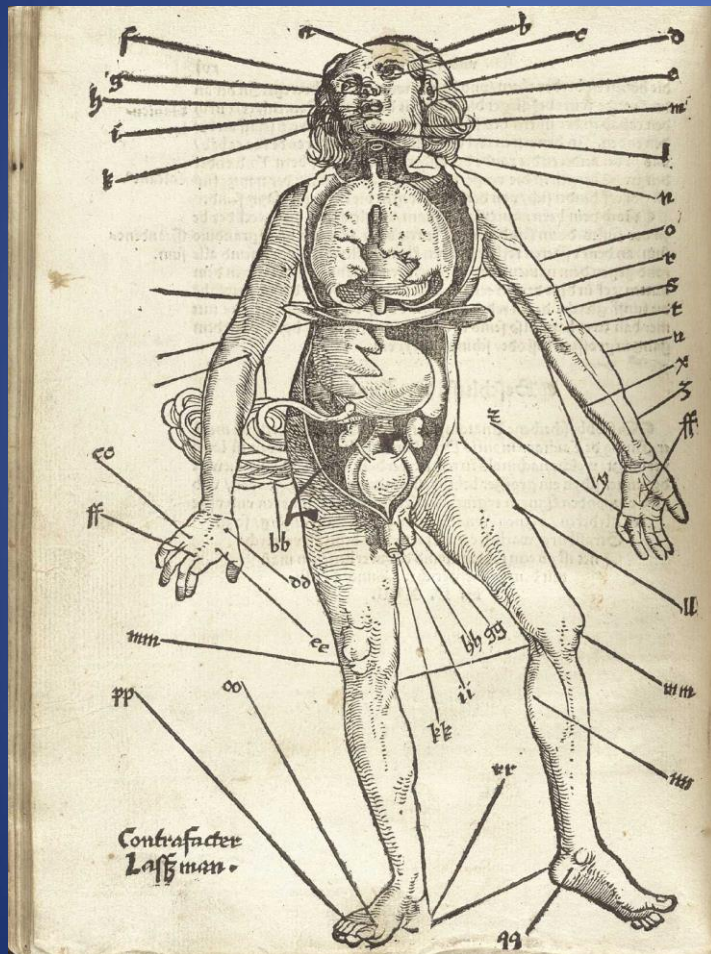
Zodiac horse and man

John de Foxton 1408



Zodiac Man.
John de Foxton, *Liber Cosmographiae*, 1408.
The Wren Library, Trinity College R.15.21

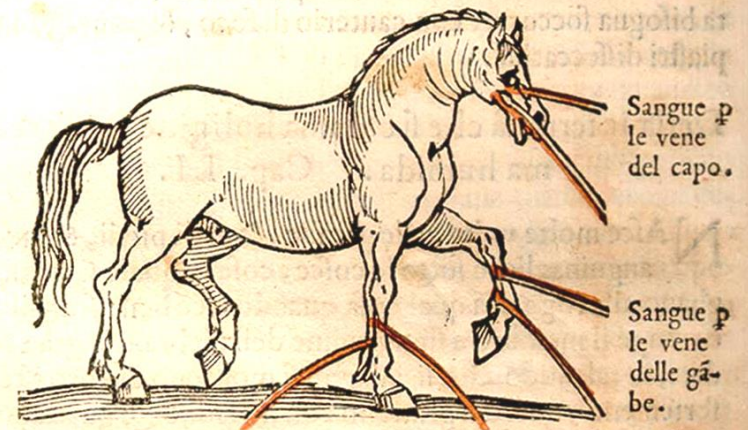
Bloodletting



Hans von Gersdorff 1517

Della podagra delli animali, delli dolori delli piedi, & delle gambe. Cap. LII.

LA podagra suole auuenire alli animali; li segni della quale infermità sonno questi, non può star ritto, ne andare, & quando si sforza zoppica, & giace in terra, la quale infermità fa mal paidire per il dolore, & però va il sterco mesto con l'orzo sodo, & per questo diuenta l'animale con il pelo rabuffato, e sta caldo, e le vene sonno gonfie, & polleggiano, li testicoli sonno retirati, li piedi sonno stercorosi, si come sonno li schiacciamenti delli piedi: La cura di detta infermità, non lassiar giacere, ma fallo andar tritamente in loco secco, tanto che sudi, volse sfregare con mano di molti huomini, accioche sudi fortemente cauagli sangue dalle vene del capo di sopra, ma poco, & il secondo di gli



ne caui dalle vene delli piedi dereto, sopra li talloni, il terzo di gli ne caui dalle gambe, sotto li lochi dou'è il dolore, ma poco, dagli a bere acqua calda, con farina de grano, & salni-

Filippo Scaccho da Tagliacozzo.
Opera di Mescalzia. (Rome: P. Blado, 1591).

Renaissance – 16 / 17th century

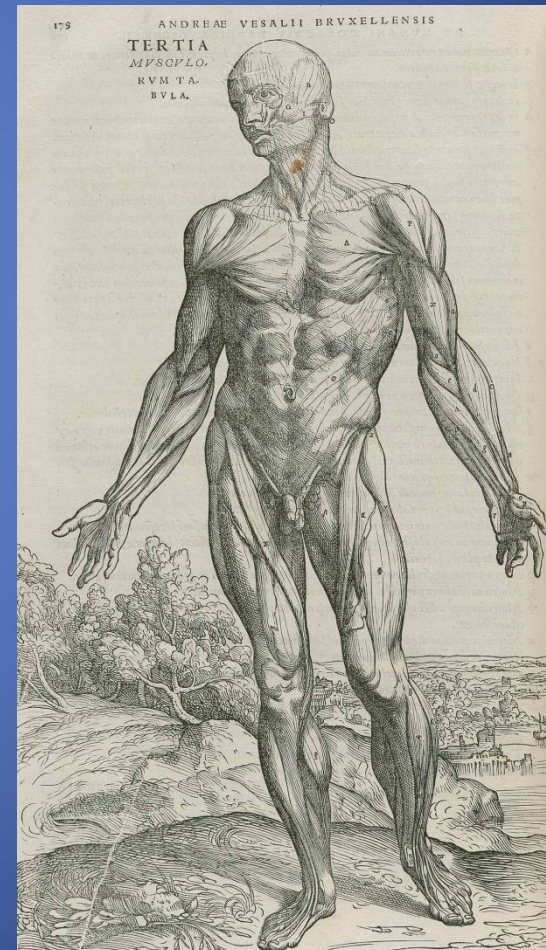
- The rise of science
- Anatomy - artists and doctors

Carlo
Ruini
1598



69

Andreas Vesalius 1543



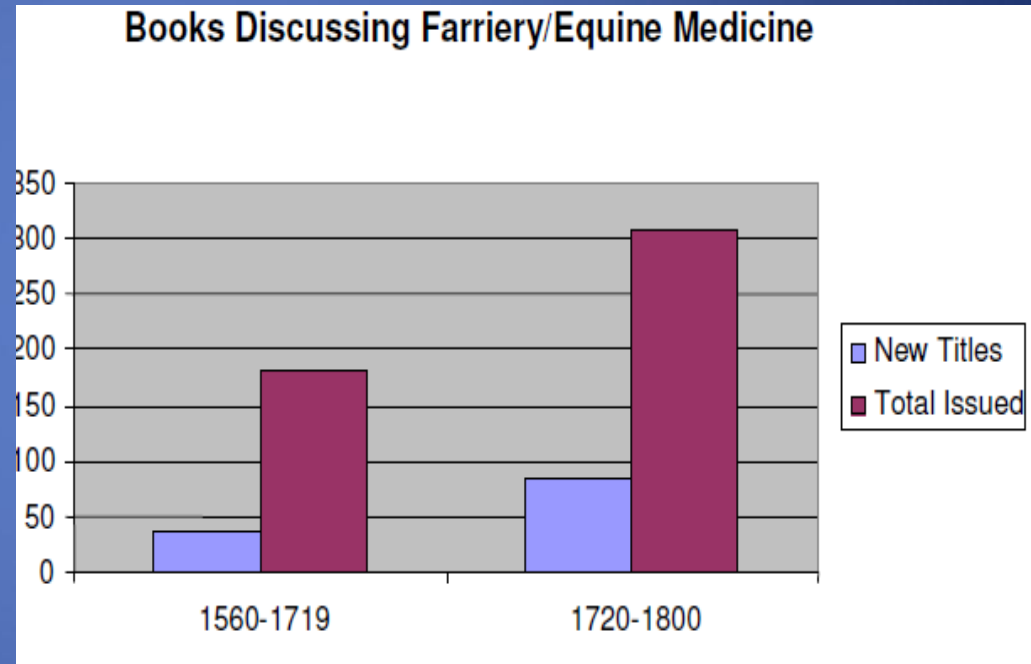
29

Burdon 1732 (author)

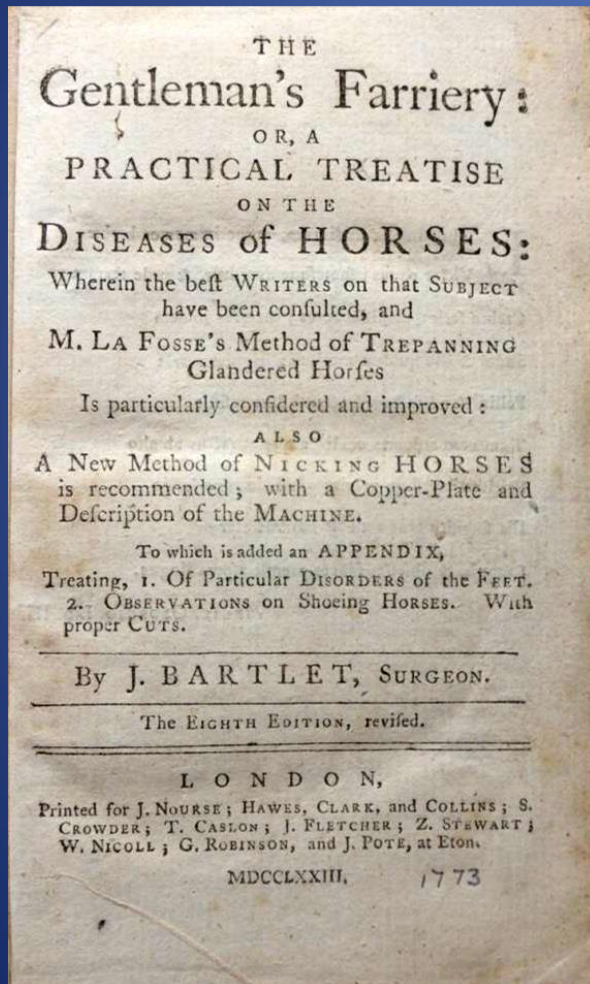
- **Farrier** - as useful a trade as any in H M Dominion - *we commonly call him 'Dr' because he professes Physick and Surgery among horses ; some are good and sensible men; but people who are able to give their sons learning, seldom bind them to the trade, so farriers are bound to take such apprentices as they can, without regard to their education.*

Medical authors in veterinary medicine 18c

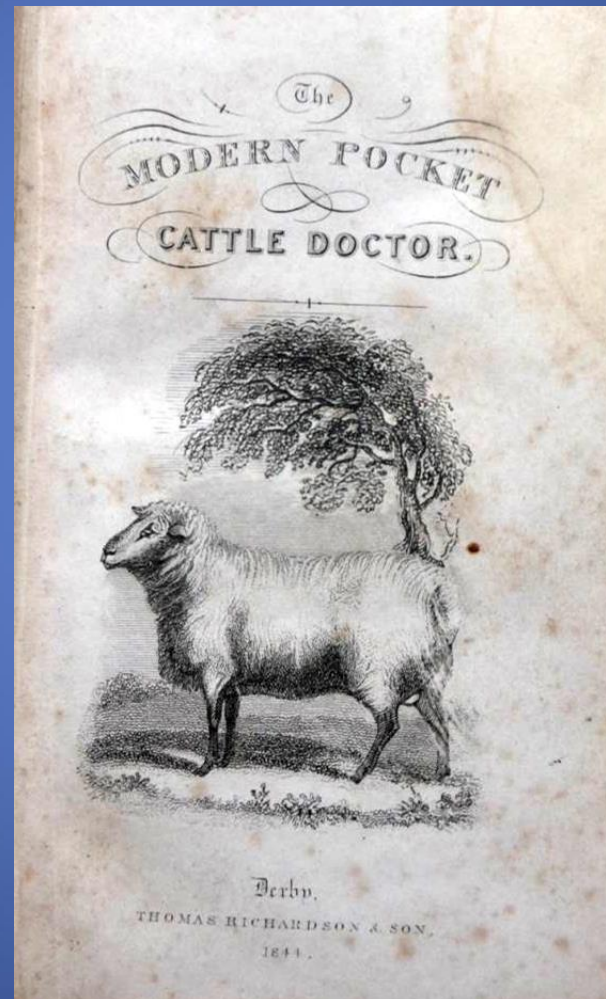
- As wars led to treaties -> unemployed doctors
- Doctors and Surgeons publish /write books
'Farrieries' aimed at those who could read 'gentlemen'
- Copied from previous authors - no experience and often erroneous



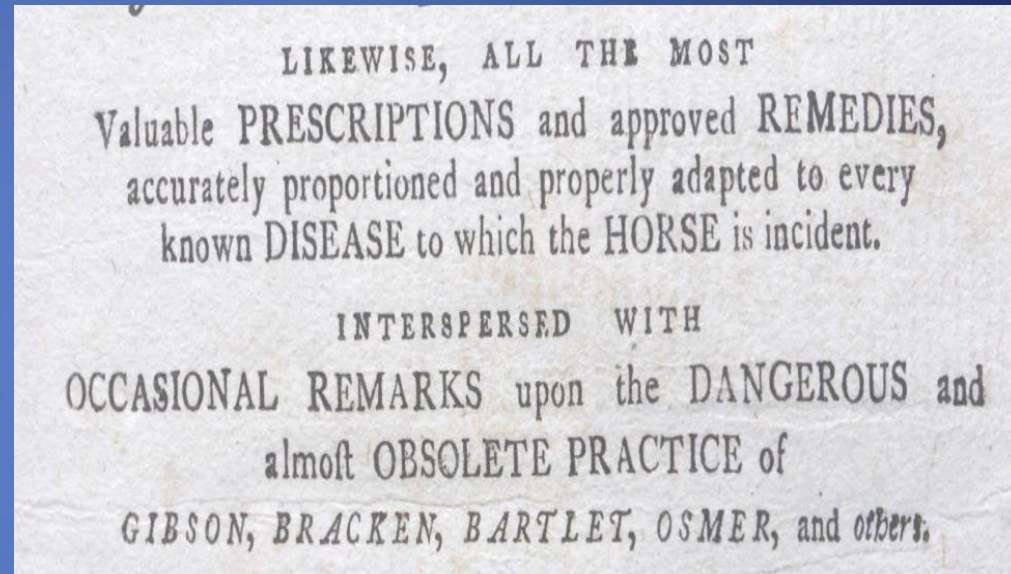
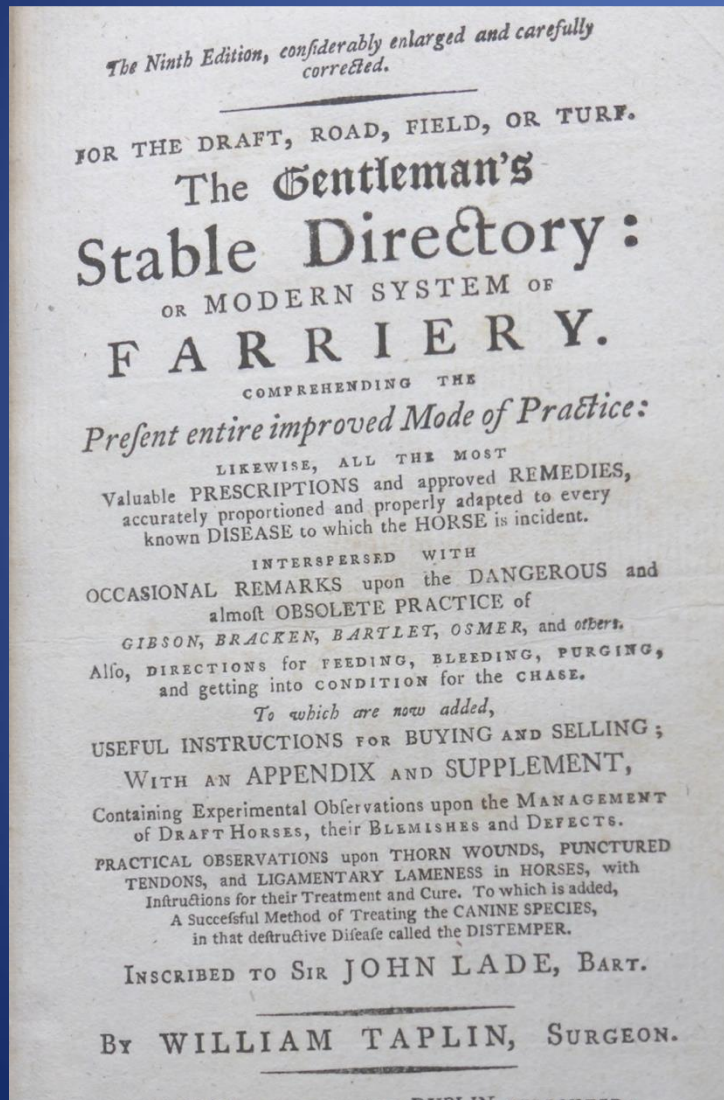
Bartlet's Farriery 1773



Pocket Cattle Doctor – *no author*



Criticism often vitriolic



TAPLIN 1790

Humoral veterinary medicine

- Purging and bleeding
- Hot iron - '*actual cautery*'
- Blisters
- Rowels and setons
- 'Courageous' medication



John Hunter's fleam
In Science museum

18th C. Veterinary School education formalised because :-

- Population movement from country to town - industrial revolution
- Food production pressure – population size
- Cattle plagues 1762 Europe
e.g. Friesland (1769) 97,756 dead of 130,336 cases
- Wars - Demand for Military horses
- Colonisations - India etc.
- Dissatisfaction with animal health 'status quo'

18th Century Veterinary Schools

cf medical schools

- Lyon *Fr* 1762 = Claud Bourgelat
- Paris (Alfort) *Fr* 1765
- Vienna *A* 1768
- Turin *It* 1769
- Copenhagen *Dk* 1773
- Padua *It* 1774
- Skara *Sw* 1775
- Hannover *De* 1778
- Dresden *De* 1780
- Budapest *H* 1781
- Bologna *It* 1785
- Milan *It* 1789
- Munich *De* 1790
- **LONDON *GB* 1791**
- Madrid *Esp* 1792
- Naples *It* 1798

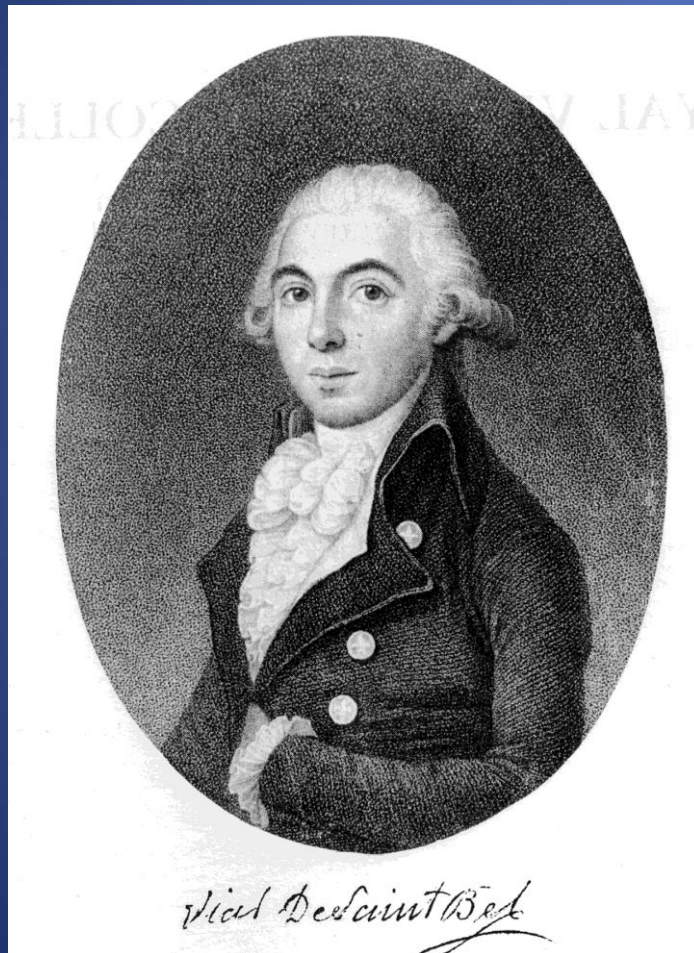
The London Veterinary School



- ‘A Scientific Veterinary Education’ – suggested by Odiham Society 1785
- Possibly encouraged to develop the College in London by John Hunter who donated £200



Vial de St Bel 1750 - 1793



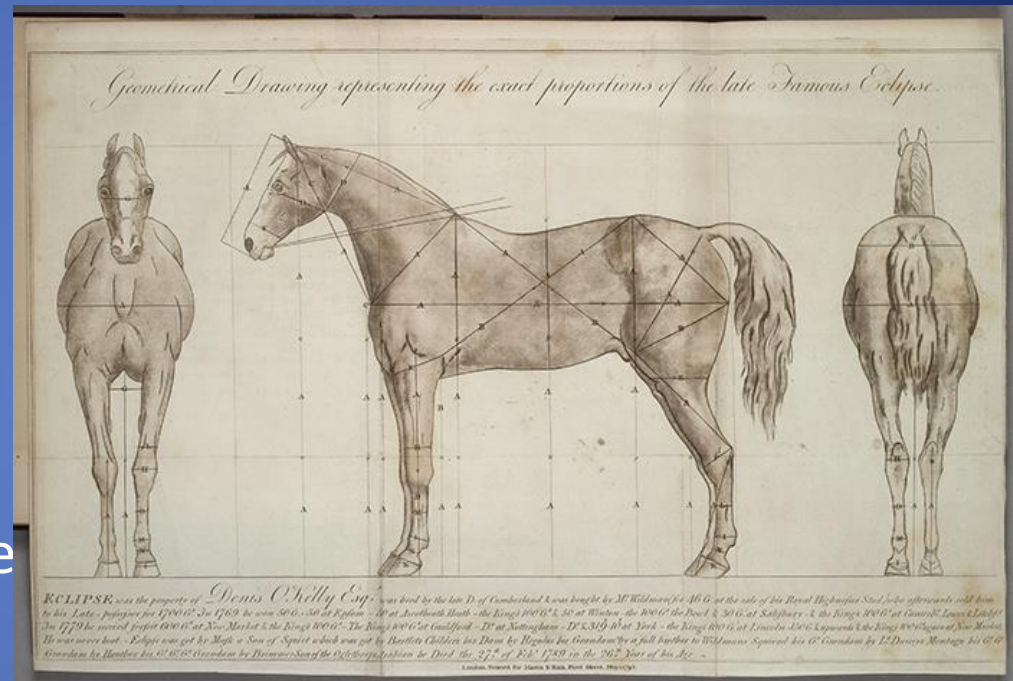
Refugee French Revolution
Dissects ECLIPSE
(assisted by Edmund Bond)
Had already prepared –
‘Plan for a Vet School’



Eclipse 1764-1789

80% of English th'breeds have him in their pedigree

- Arabian horses arrive -- creating the 'English Thoroughbred'.
- Greatest racehorse ever ?
- Believed that accurate measurement would lead to being able to create the perfect racehorse

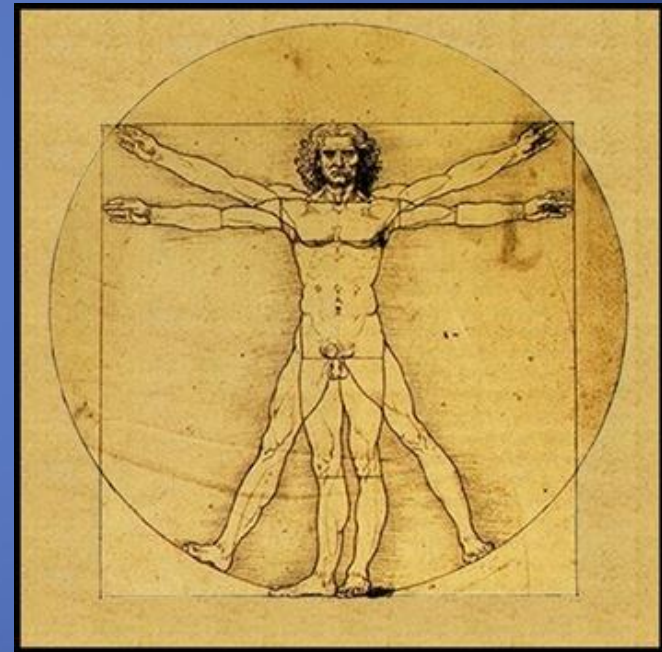
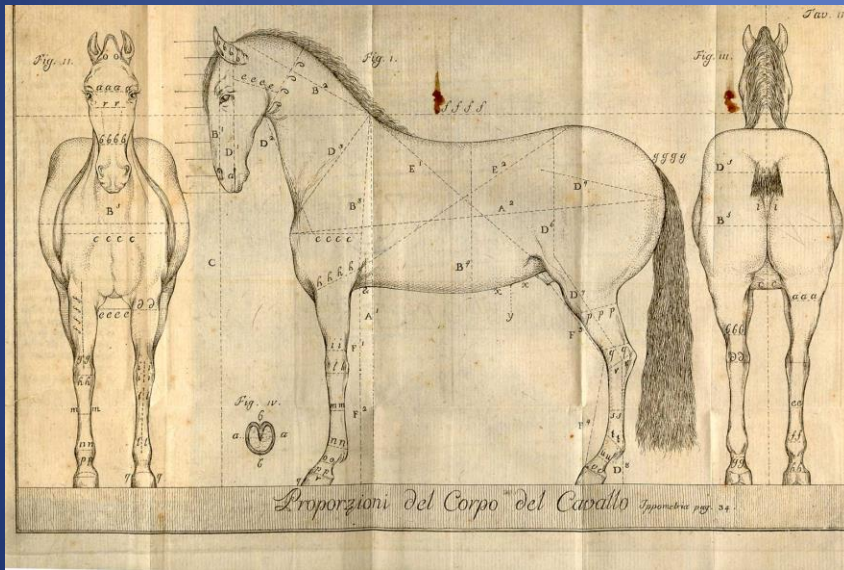


- 'Essay on the proportions of Eclipse' by St Bel

Geometry = Proportions indicate health and function

Leonardo da Vinci

Bourgelat



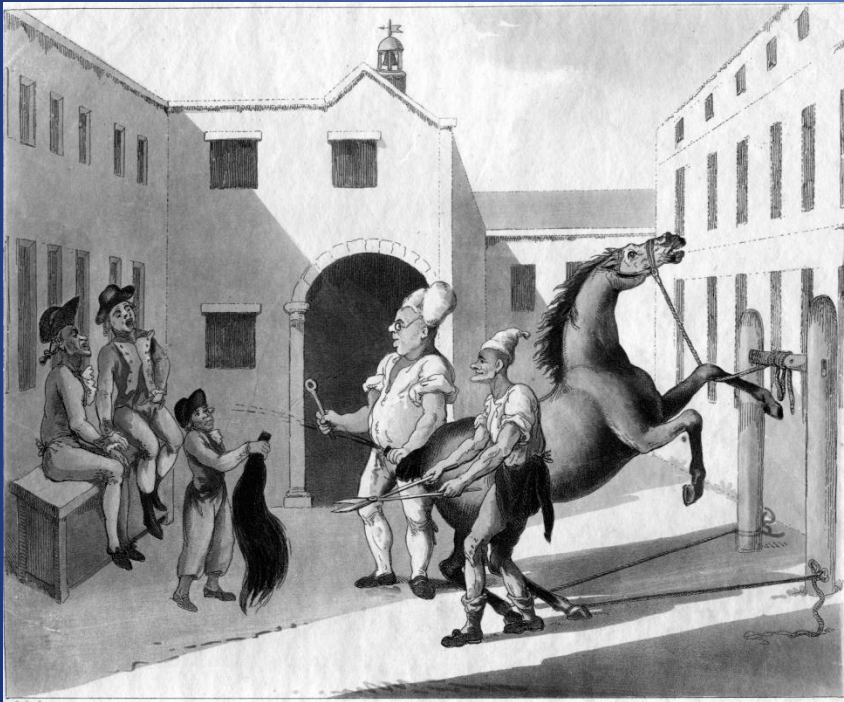
St Bel and London Vet College

- Appointed Prof 1791
- 4 Students in St Pancras
- Frenchman -poor English, difficult to understand, & needed lectures translated
- Strict with the students –
Not allowed into London in case they meet Drs !!
- Many caricatures of the college by farriers

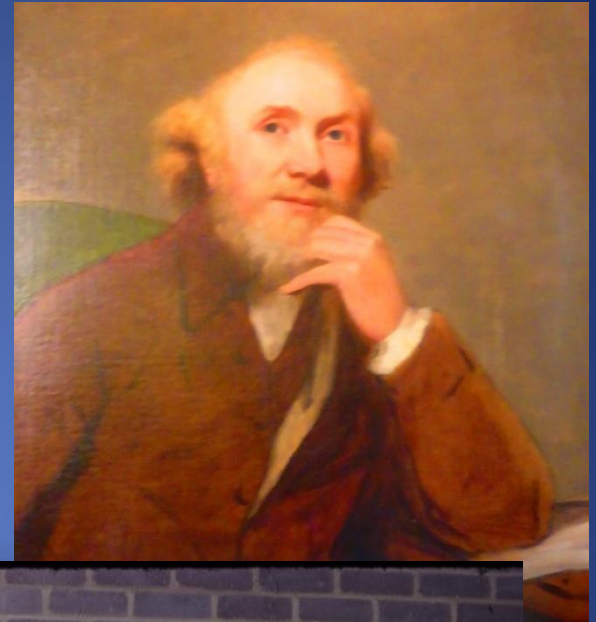


'Popping a ball' by Jukes

Francis Jukes prints



St Bel 's first operation
Supernumerary digit in a horse
John Hunter advised !!



Influence of Doctors

May 1792 Complaints about suitability of St Bel as professor - First task of Medical Committee

- 18 members ; 5 members = quorum
- Dr G Baker, Dr Sandeman
- Dr Crawford, Dr Hamilton, Dr Layard
- Dr Lister, Dr Packwood, Dr Scott
- **Messrs J Hunter , H Cline, Wm Houlston**
- **Vaux , Pilliner, Peake, Brooks**
- **J Sheldon , Everard Home, Wm Fordyce ,**
(10 Surgeons / 8 physicians)

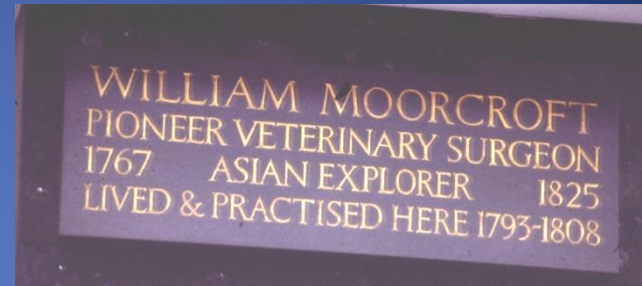
Veterinary College London

- 1793 St Bel dies from Glanders
- Future of College in doubt but J Hunter arranges for the students to attend medical lectures in London with Baillie, Cline and Home
- Hunter dies late 1793



After St Bel

- Medical committee suggest two replacement professors
1. W MOORCROFT (Dr and VS qualified from Lyon)
 2. E COLEMAN (surgeon, great friend of Astley Cooper = students of Henry Cline together)
 3. Moorcroft leaves after 6 weeks
- Coleman remains for 45 years – only teaching horse medicine



Indian portrait, said to be of Moorcroft, 1820

19th C - Medical Control of the veterinary profession

Edward Coleman 1766- 1839

- **Exams** conducted only by medical men until William Sewell joins the staff
- Vets progressively demand a share of the examining but resisted by Cooper and Coleman until 1839
- Vets finally gain Royal Charter in 1844
- Medics resign and Vets take over their own profession



Diploma RVC 7 Feb 1828

Veterinary College.
7th day of February 1828
These are to certify that M^r. Dennis Christmas
has attended the VETERINARY COLLEGE as a Pupil
for Twenty Months and having been examined by us
We consider him as Qualified to Practise the
Veterinary Art
Edw Coleman Professor
M^r. Jewell Assistant Professor
Joseph Henry Greek
Attey Cooper
Wm Babington
M^r. C. L. Bell
J. Luke M. D.
Colm. Aburnethy
George Parson M. D.
B. B. B. B.

Final examiners meeting - March 1844

Resolved, That, whereas it appears by the
Charter lately granted to the Royal College of
Veterinary Surgeons the present board of Examiners
is virtually dissolved, we the individual members of
the said board respectfully tender our resignation,
with every sincere wish for the success of
the Veterinary College, an Institution of such
paramount importance to the interests of the
Public..

Joseph Henry Green
John Ayrton Paris.-
Edward Stanley
R. Liston
Richard Bright
Bransby Cooper

March 20th 1844 -
Wm Sewell. Professor

- Joseph Henry Green
- John Ayrton Paris
- Edward Stanley
- Robert Liston
- Richard Bright
- Bransby Cooper
- Wm Sewell VS Professor

The Veterinary Surgeons Act and Royal Charter 1844

- Recognised the "veterinary art" as a profession and incorporated the College;
- Power to administer examinations for students to pass to be styled veterinary surgeons and have the privileges of members of a profession;
- The College to be managed by a Council, who could appoint staff, and had power to hold property.



Some important veterinary milestones

- The first Trypanosome
- Tuberculosis and a vaccine
- Germ free animals – isolation nursing
- Eradication of Rinderpest
- First female Vet Surgeon Aleen Cust (Ireland) completed studies Edinburgh 1897 – not accepted as RCVS Member until 1922

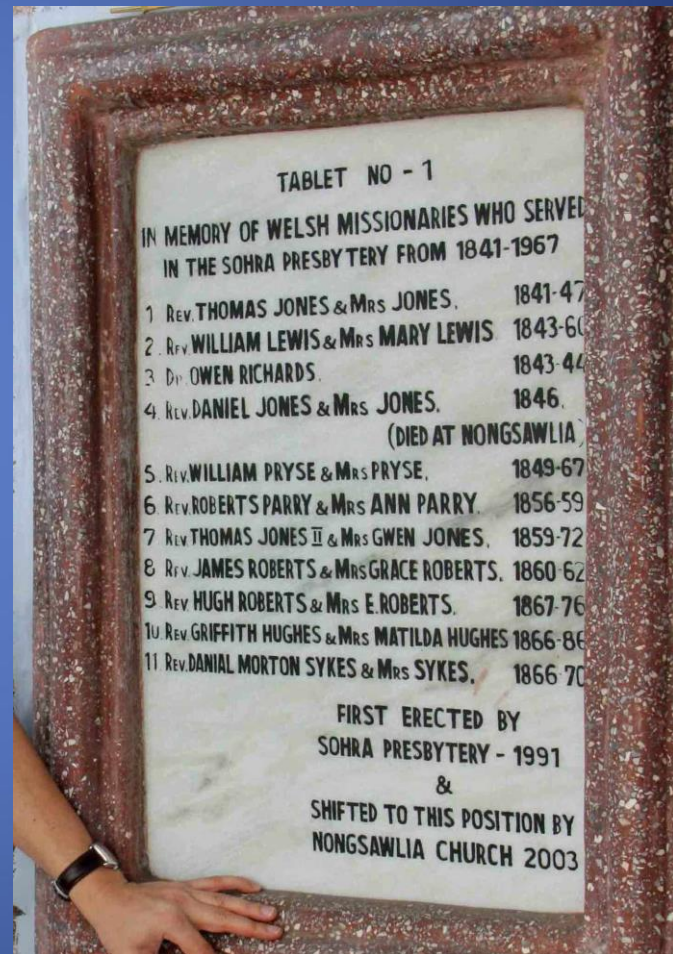
Griffith Evans 1835 - 1936

- Born Meirionethshire
- RVC 1853 – 1855
- Army vet 1860 - graduated MD 1864 McGill University Canada
- 1880 investigated 'Surra' in British Punjab
- Discovered the cause – *Trypanosoma evansi* - the first Trypanosome and its transmission via fly bites
- (*Sleeping sickness in man identified 1903 by –Sir David Bruce already found T brucei in cattle 'Nagana'*)

Griffith Evans - Welshman



Visited Welsh Presbyterian mission church in N India - where my great grandfather had been the minister shortly before.



TB and Welsh Dairies in London



Milk by 'milk train'
OR cows in mews!



T.B. Sir John Mcfadyean (1853-1941)

How to get farmers to test for TB ?

Royal Herd Windsor 1897

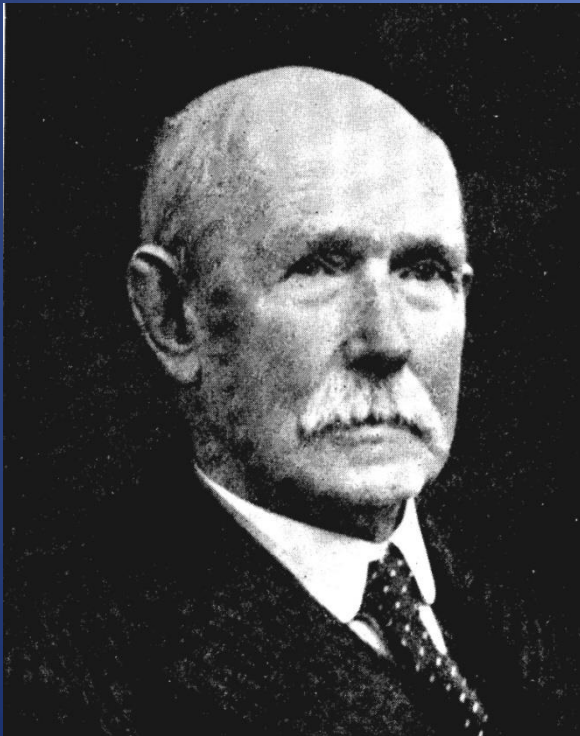


'Buffie' 1848 by T S Cooper

- Queen Victoria's cows
- Test = injected tuberculin + monitor temperature rise 15hrs
- 'Bustle' at 3 hrs -106.5
- 36/40 tested positive although no physical signs
- Whole herd slaughtered

Sir John Mcfadyean (1853-1941)

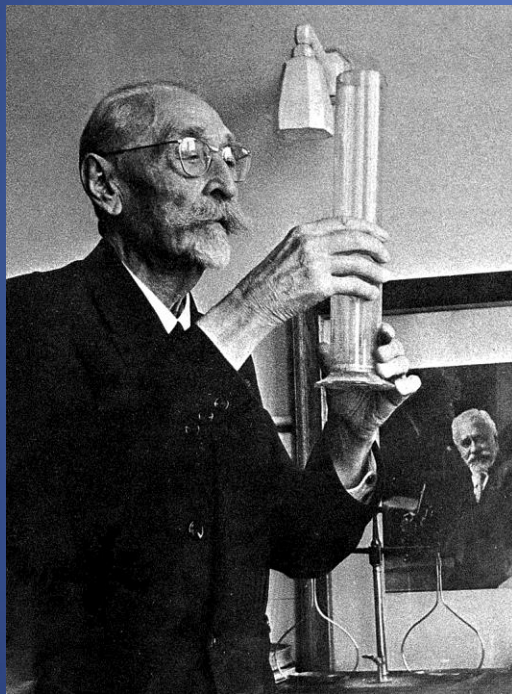
President NVMA 1901
Principal RVC -1927



- 1901 London Tuberculosis Conference
- **Robert Koch** - *no risk to human health from flesh or dairy products*
- **J M** - *'in a position which compels me to criticise one whose shoe latchet I am not worthy to unloose'*

Bacillus Calmette Guerin = BCG

J M Camille Guerin 1872- 1961



(Calmette R background)

- Qualified Alfort - Vet 1896
- Institut Pasteur Lille
- Made Calmette's serum against snake bite
- Developed Smallpox vaccine using rabbits
- Developed BCG vaccine as German army vets allowed research WW1
- First used July 1921
- Head of TB services at Institut Pasteur Paris

Veterinary contributions - 20th century

- Campylobacter discovered
- Ebola virus
- Eradication of Rinderpest
- Identification of Leukaemia Retrovirus by Jarrett et al (Glasgow vet school) 1964
- Veterinary Surgeons in Experimental Surgery
- 'Named Veterinary Surgeon' to supervise all Experimental Animals

John McFadyean

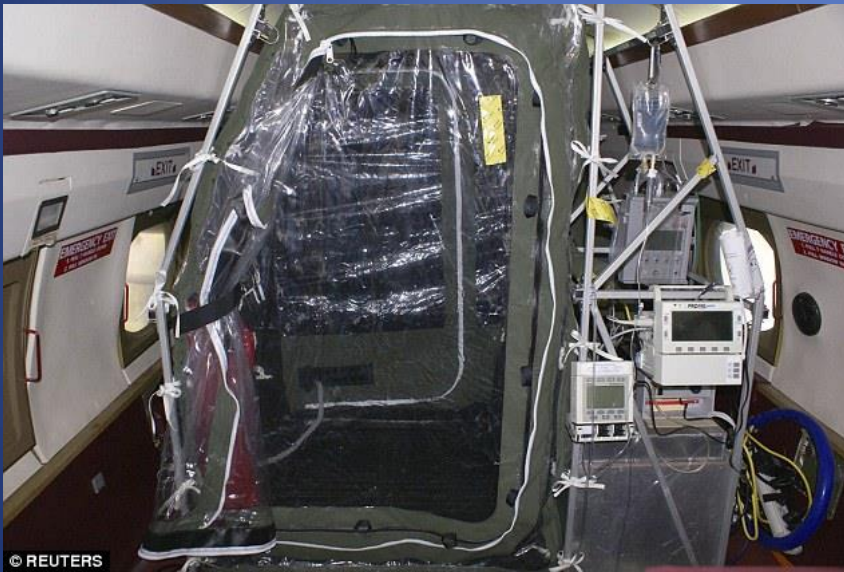
- 1906
- Isolated the first *Campylobacter* spp.
- Investigating the causes of Epizootic abortion in cattle and sheep with son in law Sir Stewart Stockman CVO
- Initially called *Vibrio fetus* renamed in 1973

Flexible film negative pressure Isolator technology at RVC developed by P. C. Trexler 1970



- Technique for germ free animal production
- Cattle and pigs
- Subsequent use in Surgery

Portable isolators – air evacuation Ebola patients 2015



Rinderpest

Prof Walter Plowright FRS FRCVS
Prof Microbiology RVC 1971-78



1923 – 2010



South Africa 1900 90% deaths

Rinderpest

(discharge, diarrhoea, death !)

- Viral disease of Cattle, Buffalo, Giraffe and other ungulates. A Biblical plague
- 3 Panzootics 18th C UK 1865 -66
- Fever, Eye and nose discharge, diarrhoea.
- High mortality < 100%
- Kidney cell culture live attenuated vaccine
- **2001 - The Second world wide disease to be eradicated** (Smallpox 1st)

Animal cruelty

- Overwork, poor feeding and management.
- RSPCA 1824
- Blue Cross 1897

Progressed to -

- Control / supervision of Experimentation on animals
- 'Named veterinary surgeon'



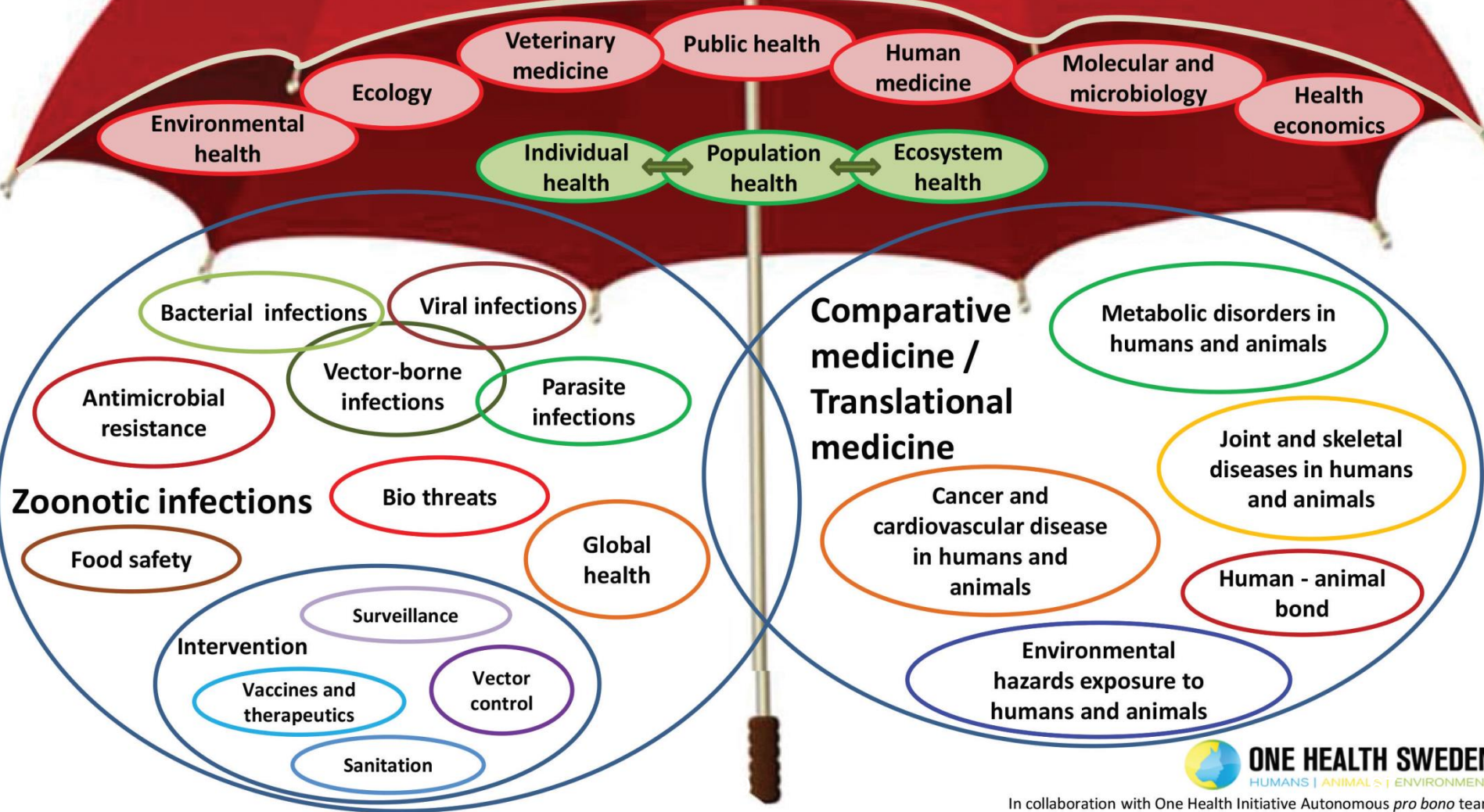
21stC Dogs – Health and Medicine

- Guide Dogs for the Blind
- Hearing Dogs for the Deaf
- Assistance Dogs – disabled , Autism
- Disease detection - seizures, hypoglycemia, cancer, Covid19
- ‘Pat’ dogs – mental health
- Rescue dogs - avalanche, mountain rescue, water.
- Police /Military/Fire and rescue - drugs, explosives, weapons, tracking, crime prevention, money, people rescue avalanche , earthquake, mountains, corpses

'One Health'

A concept which began as a result of global fear over possible pandemic of HPA1 H5N1 influenza (Bird Flu)

One Health



ONE HEALTH SWEDEN
HUMANS | ANIMALS | ENVIRONMENT

In collaboration with One Health Initiative Autonomous *pro bono* team

One Health- Recent veterinary literature reports

- Antibiotic Microbial Resistance
- A reducing use of antibiotics in agriculture
- Rabies control progress
- New zoonotic parasites –imported ‘rescue’ dogs
- F and M virus – useful in pancreatic cancer tr.
- Human risks of feeding raw foods to pets
- Rise of African Swine Fever in Europe
- Control of TB ? Badger vaccination
- Risks from ‘wild animal’ farms’ in China

Rudolf Virchow 1821 - 1902

- *Between animal and human medicine there is no dividing line – nor should there be. The object is different, but the experience obtained constitutes the basis of all medicine.*

CINDERELLA now ?

- **Any comments or questions**

claytonjonesref@gmail.com

