

Galen of Pergamum,

a Greek physician, catalogued experiments performed by Alexandrian physicians from 300BC, on differences between sensory and motor nerves and tendons.

129 - 199

Landmarks in Animal Based Research

Key Moral Statements



1260

### St Thomas Aquinas

declared in his Summa Theologiae that humans were unique and opposed the use of data based on vivisection on the grounds that all other animals were incapable of rationality because they possessed no mind.

1250

1275

1300

1325



1514 - 1564

### Andreas Vesalius

Illustrated public lectures of anatomy with systematic non-human vivisection.

1500

1525

1550



1595

### Rene Descartes

exaggerated the Christian centered prevalent humanist attitude into a mechanistic philosophy, the concept of beast-machine, which provided a convenient ideology for early vivisectionists.



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16

The first people to  
subjects were prof



1628

### William Harvey

Demonstrated the circulation of blood using animals, extrapolated the results to humans and showed the value of vivisection for comparative physiological investigation.

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lectures of  
stematic  
ection.

1550

1575

1600

1625

1650

1675



Alexander Pope  
1688-1744



Samuel Johnson  
1709-1784

English essayists and poets who argued that animals may feel pain and that this ought to be taken into consideration.



Marshall Hall

pioneered welfare issues in science by proposing that procedures be regulated that took into consideration the suffering of animals.

1790



Robert Boyle  
1627-1690



Robert Hooke  
1635-1703



Richard Lower  
1631-1691

First people to record their genuine concern for the welfare of some of their experimental subjects were professional physiologists based on a moral objection to perceived cruelty

Humphrey Primatt 1776

extended the principle of justice beyond the sphere of humans, to include all animals. The anthropocentric world view was being challenged by the notion that animals ought to be protected for their own sake. Whether an animal had a soul or not was no longer an issue.

1824

UK Royal Society for the Prevention of Cruelty to Animals founded



Jeremy Bentham

The beginnings of the theory of utilitarianism. Shift from an anthropocentric world view towards animals' capacity to suffer.

1748



August Comte

Development of Positivism: differentiation between empirical investigation and ethical values.

1798



1813



Francois Magendie

Determined that many bodily processes resulted from the cofunctioning of several organs. This was the basis of modern physiology and set in train numerous invasive animal-based experiments.

1783

1700

1725

1750

1775

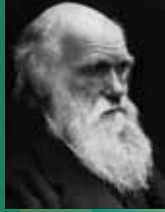
1800

1825

**1823** **Hall**  
 and welfare issues from within  
 by proposing that physiologi-  
 dures be regulated in a way  
 into consideration the  
 of animals.

**1875**  
 The UK House of Commons was presented with a Bill aimed at regulating vivisection, and a contrary Bill allowing for a regulation-free environment resulting in the appointment of a first Royal Commission of Inquiry to investigate laboratory procedures involving animals which found no instances of animal abuse but recommended that animal experimentation be regulated. The Cruelty to Animals Act received royal assent in 1876.


**1824**  
 UK Royal Society for the prevention of Cruelty to Animals founded.

**1871**  
  
**Charles Darwin**  
 Publication of The Descent of Man and Selection in Relation to Sex and Expression of the Emotions in Man and Animals.


**1847**  
 RSPCA changed its position to objection to painful procedures being performed on animals.

**1871**  
**British Association for the Advancement of Science** published guidelines that aimed to minimize suffering and discourage conducting experiments of dubious scientific merit.



**1906**  
 Continuous lobbying by anti-vivisection societies resulted in the Second Royal Commission on Vivisection. However, due to medical advances described and the advent of World War I which focused the UK society's attention in other directions, the public were less keen to condemn all experimentation.


**1842**  
  
**Crawford Long**  
 Discovered the anaesthetic properties of ether.

**1902**  
 Extraction of the first hormone.

**1823**  
  
**Claude Bernard**  
 Demonstrated that a precise approach to experimentation must involve the study of one parameter while holding other variables constant.

**1882**  
 Discovery of bacterium responsible for tuberculosis.  
 Discovery of diphtheria antitoxin which reduced infant mortality from 40% to 10% .

**1920**  
  
**Frederik Banting**  
  
**Charles Best**  
 Isolation of insulin.

**1847**  
  
**William Morton**  
 Further work on the anaesthetic properties of ether led to technically sophisticated surgical procedures.

**1909**  
 Chemical treatment for syphilis.

