Edward Jenner’s Zoological Perspective

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1796: the famous experiment
AN INQUIRY INTO THE CAUSES AND EFFECTS OF THE VARIOLÆ VACCINÆ, A DISEASE DISCOVERED IN SOME OF THE WESTERN COUNTIES OF ENGLAND, PARTICULARLY GLOUCESTERSHIRE, AND KNOWN BY THE NAME OF THE COW POX.

BY EDWARD JENNER, M.D. F.R.S. &C.

London: PRINTED, FOR THE AUTHOR, BY LAMPSION LOW, NO. 7, BERWICK STREET, SOHO: AND SOLD BY LAW, AVE-MARIA LANE; AND MURRAY AND HIGLEY, FLEET STREET. 1798.
Q: what was Jenner doing?

A:
Inventing the first vaccine
Paving the way for smallpox control (& eradication)
Doing ‘One Health’

In his own words:
‘an enquiry into the causes and effects of this singular malady ‘
‘facts...at once curious and useful’
‘philosophical researchers’
Revisiting Jenner

Q1 Why was he looking at cowpox?

Q2 How did he study the disease?

Q3: What did he find out?

Q4 How were his findings received?
1. Why cowpox?

A1: A major problem in his area
1. Why cowpox?

A2: Part of a wider Enlightened study of the natural world
2. How did he study it?

- Observations and experiences from practice
- Experimental inoculations
- Observations on farms
- Information gathering from farmers and horsemen
3. What did he find out?

• Features of cowpox in cows and humans
• Likely preventive powers of vaccination
3. What did he find out?

Likely origin in horses.

Derived from the disease known as ‘grease’

Raised bigger questions about animal-human disease spread
4. How was it received?

Drs Woodville & Pearson, London:
- Engaged in medicine, not ‘philosophical researches’
- Interested in vaccination
- Disinterested in cows & horses
4. How was it received?

- Fact finding enquiries
- Attempts at grease inoculation
- Inoculated cowpox lymph and afterwards arm-arm.

All shed doubt on Jenner’s claims.
4. How was it received?

Jenner response:

critics had shown ‘a want of due discrimination of the real existence of disease either in the brute or in the human subject, and also of that stage in which it is capable of producing the change in the animal economy which renders it unsusceptible of the contagion of small pox.’
1801: the animals disappear?

i) Spread of vaccination marks acceptance as a medical procedure

ii) Distribution of human lymph reduces dependence on cows

iii) Jenner preoccupied with priority dispute over the discovery of vaccination
‘Equination’ continues....

- Early 1800s: use of horse lymph to inoculate people in UK and parts of Europe
- 1939: vaccinia isn’t cowpox
- 1981: was grease horsepox? Is vaccinia virus horsepox?
- 2018: synthesis of horsepox virus – for use as smallpox vaccine?