Edward Jenner's Zoological Perspective

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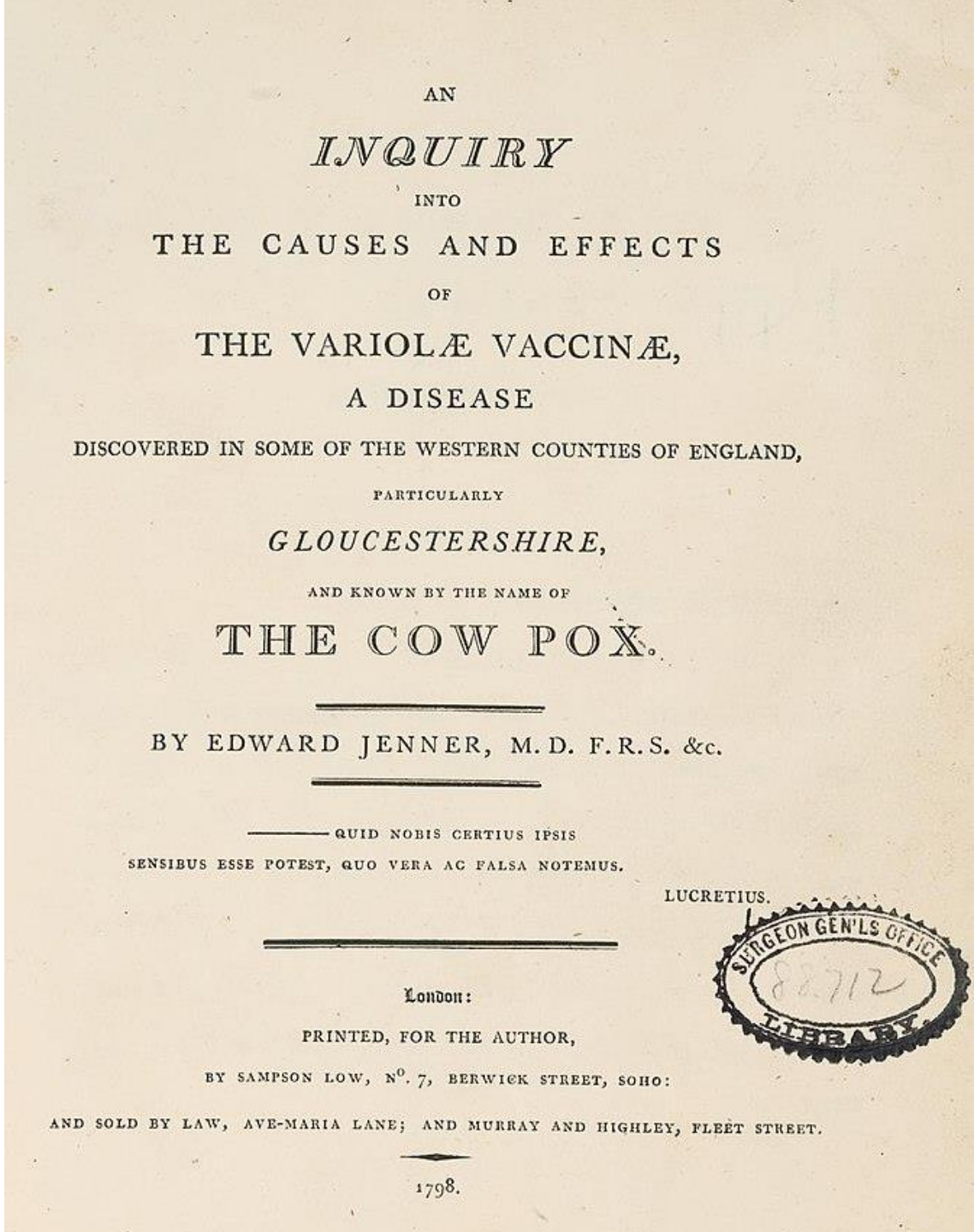
1796: the famous experiment

1798
The famous publication



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.

——— QUID NOBIS CERTIUS IPSIS
SENSIBUS ESSE POTEST, QUO VERA AC FALSA NOTEMUS.

LUCRETIUS.

London:

PRINTED, FOR THE AUTHOR,

BY SAMPSON LOW, N°. 7, BERWICK STREET, SOHO:

AND SOLD BY LAW, AVE-MARIA LANE; AND MURRAY AND HIGHLEY, 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?

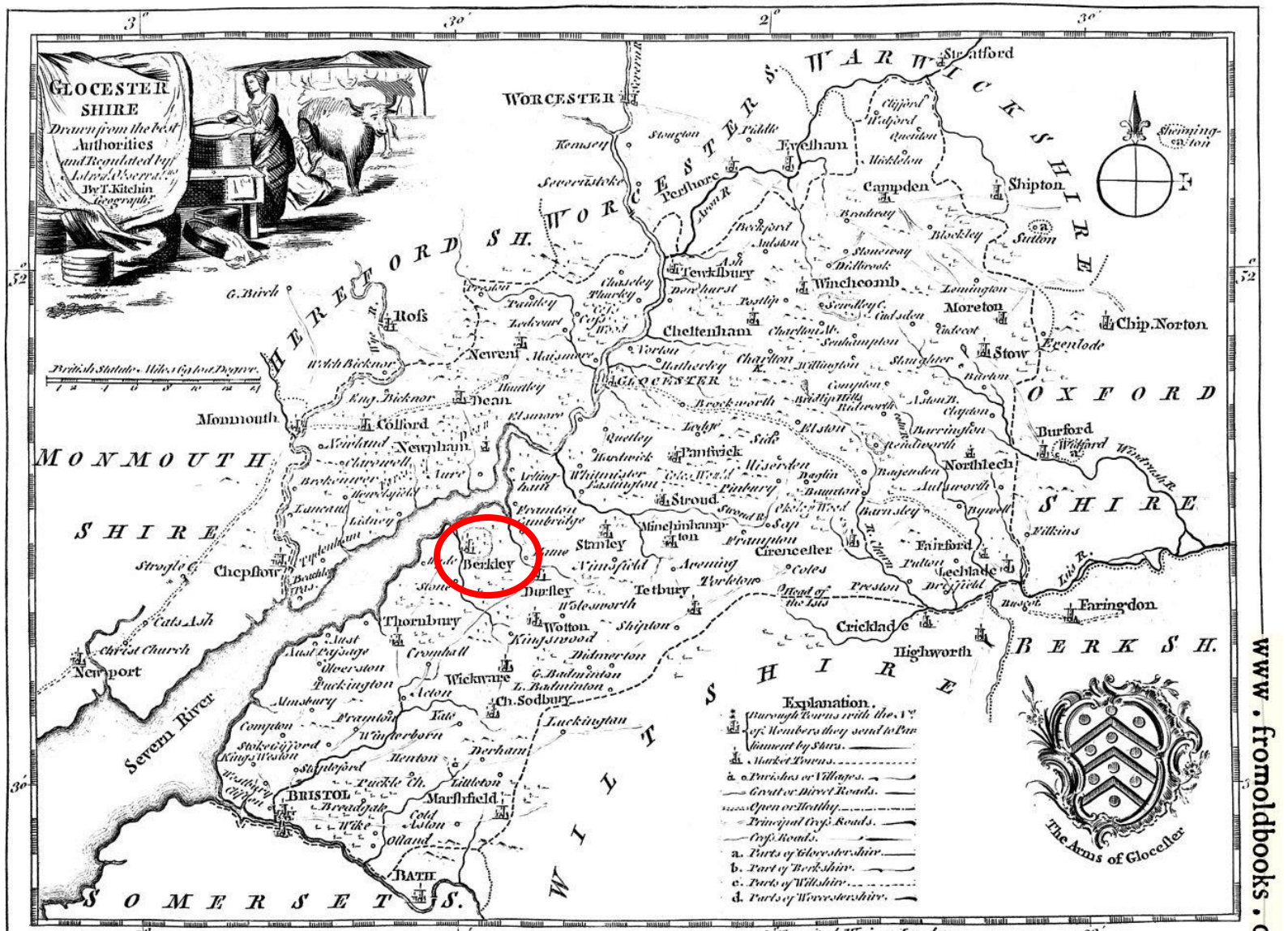
Q2 How did he study the disease

Q3: What did he find out?

Q4 How were his findings received?

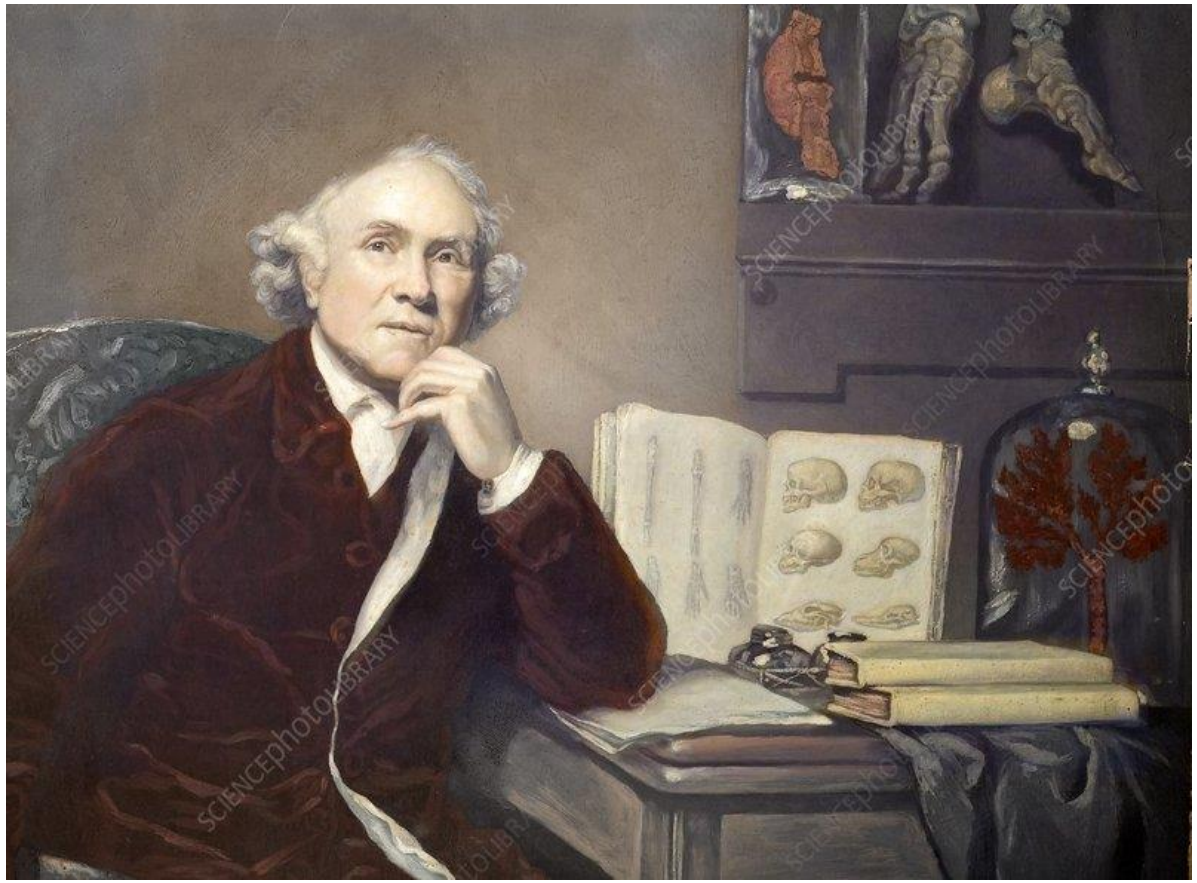
1. Why cowpox?

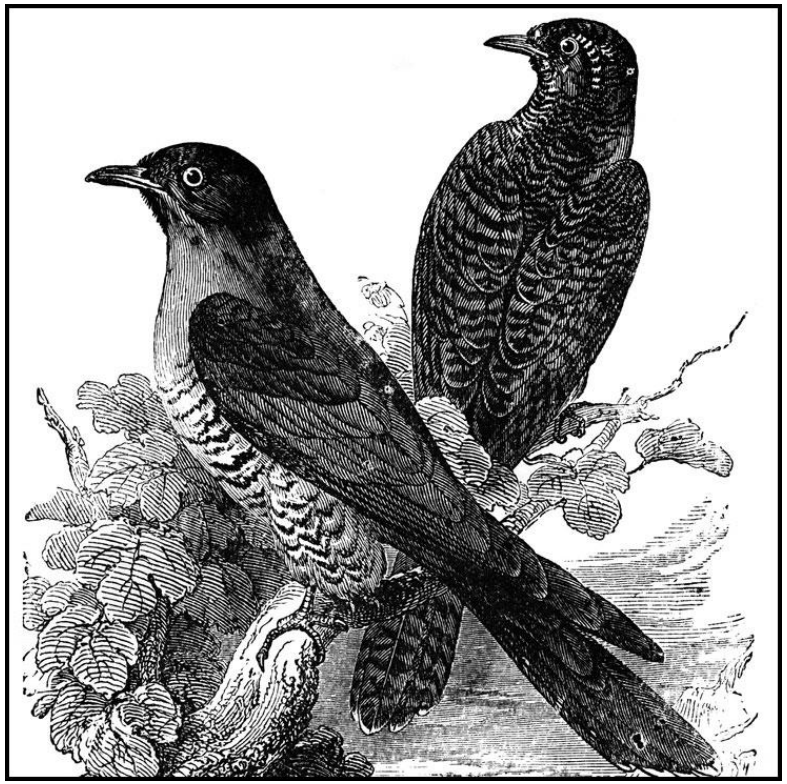
A1: A major problem in his area



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?

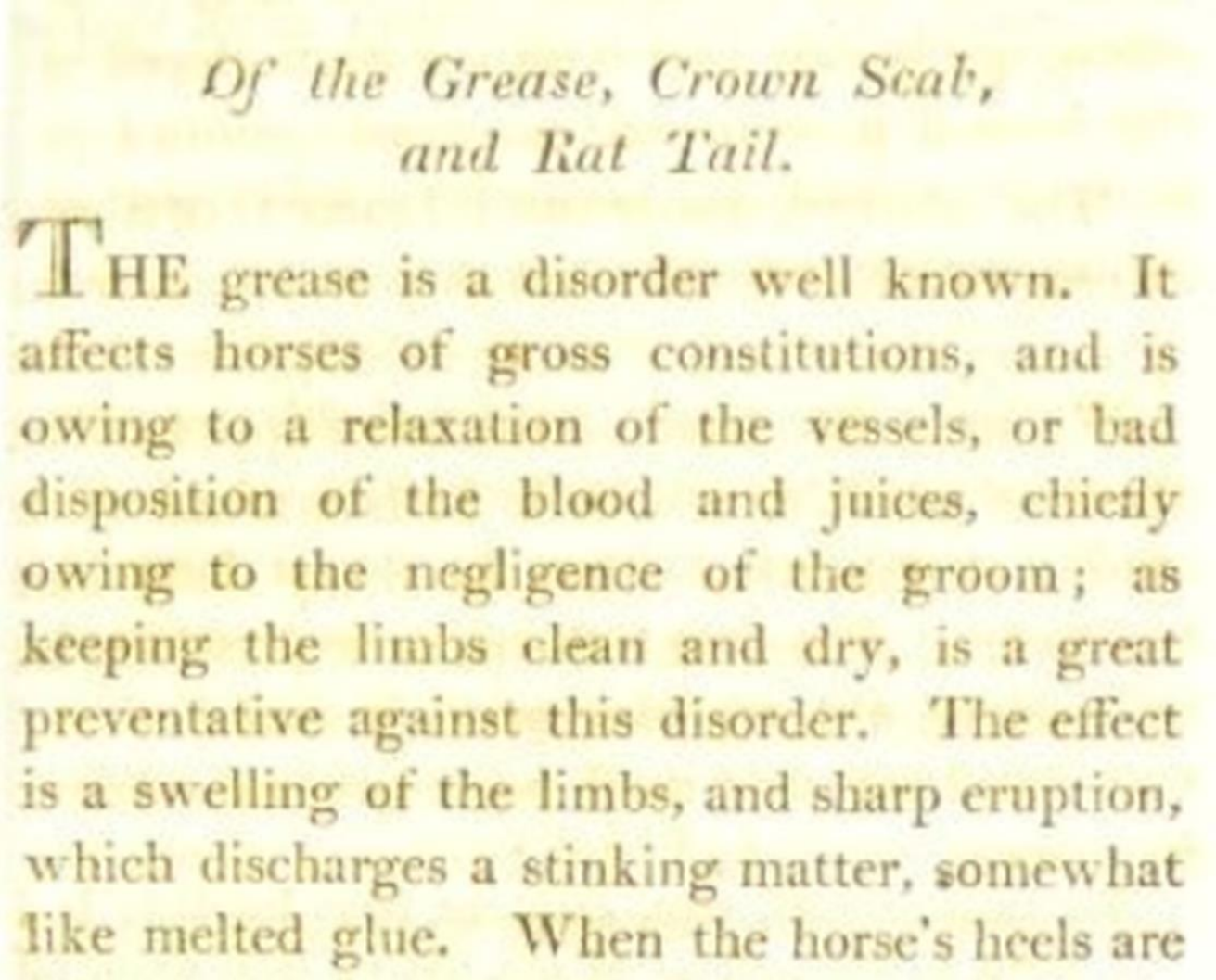
- Features of cowpox in cows and humans
- Likely preventive powers of vaccination

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



Of the Grease, Crown Scab, and Rat Tail.

THE grease is a disorder well known. It affects horses of gross constitutions, and is owing to a relaxation of the vessels, or bad disposition of the blood and juices, chiefly owing to the negligence of the groom; as keeping the limbs clean and dry, is a great preventative against this disorder. The effect is a swelling of the limbs, and sharp eruption, which discharges a stinking matter, somewhat like melted glue. When the horse's heels are

4. How was it received?

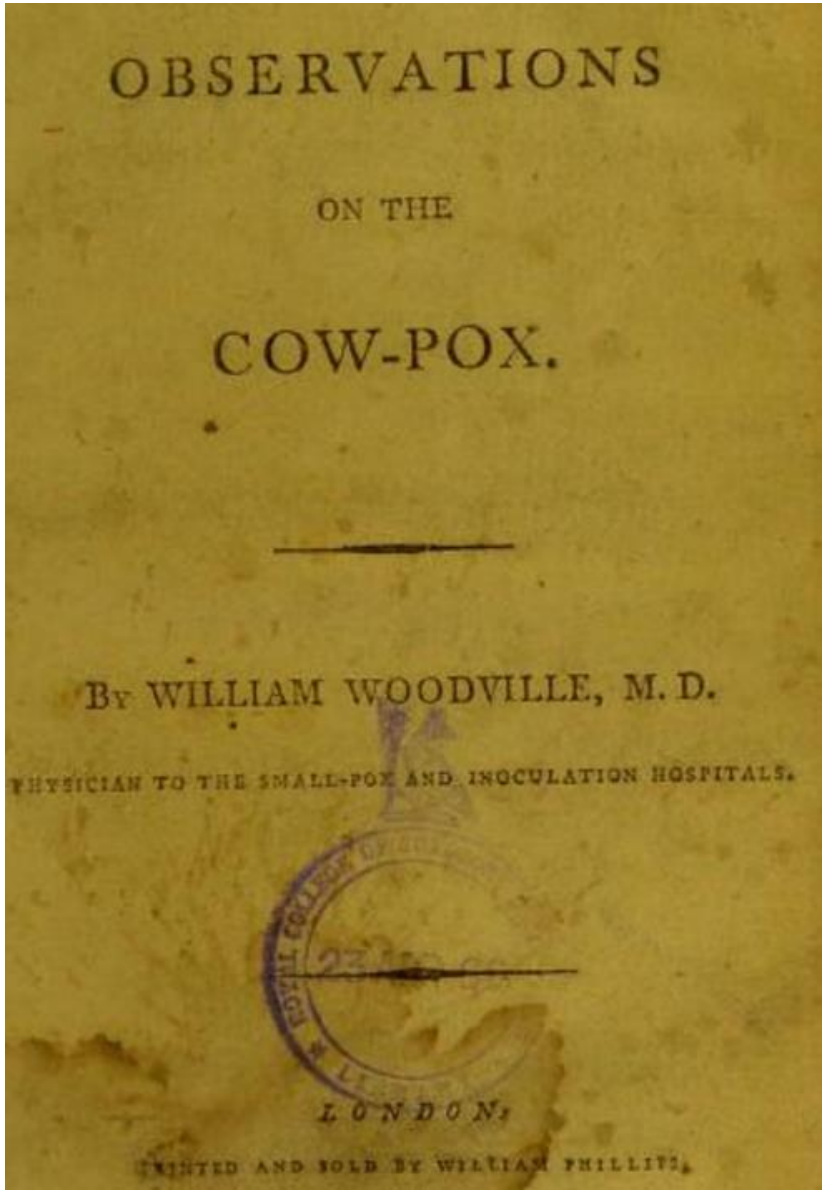
Drs Woodville & Pearson, London:

- 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.

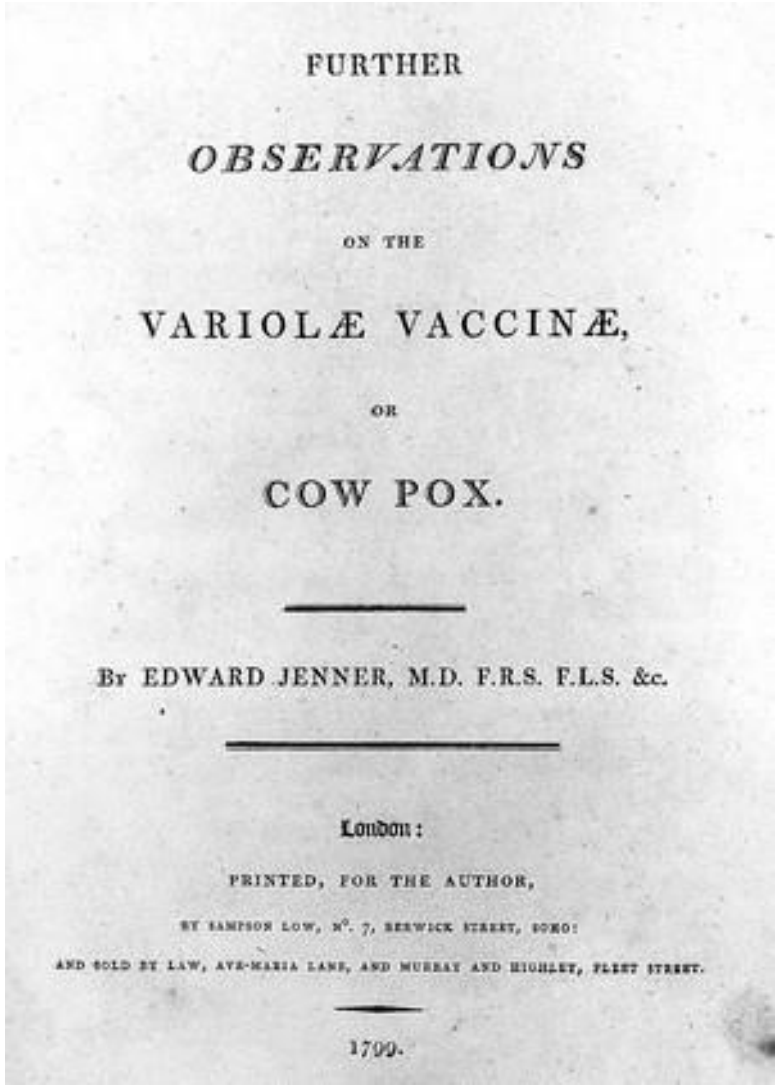
All shed doubt on Jenner's claims.



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.’



FURTHER

OBSERVATIONS

ON THE

VARIOLÆ VACCINÆ,

OR

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1799.

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?