

# Edward Jenner

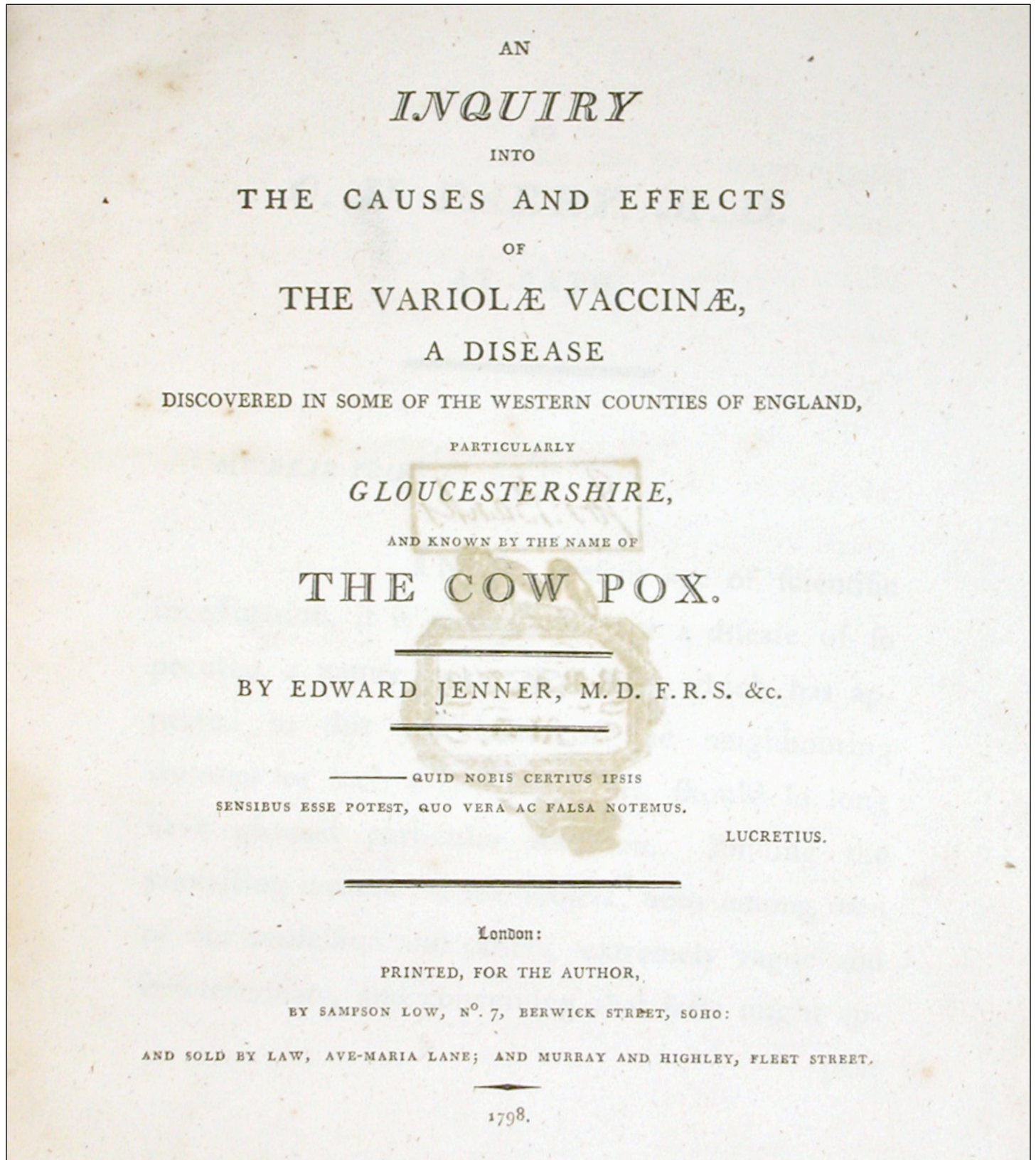
## The Mystery of the Milkmaids

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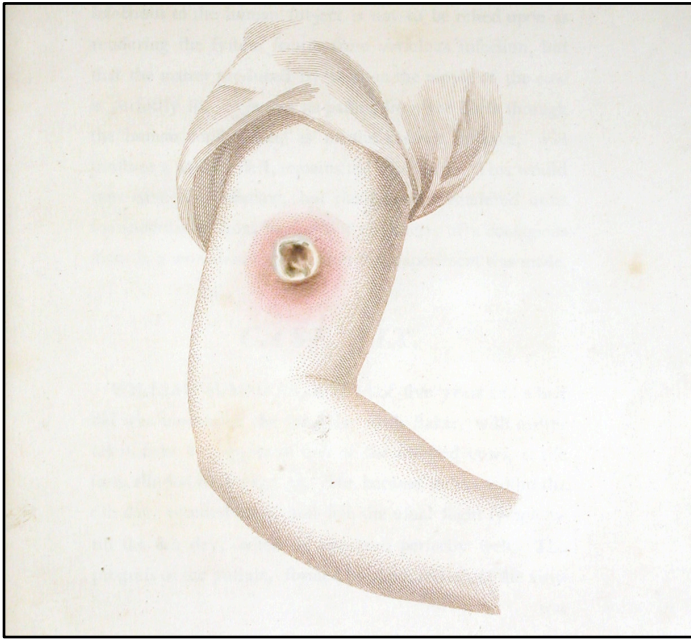
Edward Jenner, *The Cow Pox* (London, 1798).

Exhibit: Galileo's World | Gallery: Galileo and the Health Sciences | No.: 15

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What was Jenner's contribution to the study of immunology?



## Edward Jenner & Vaccinations

Smallpox was a disease well-known throughout Europe for the small sacks (*latin pocke*) left on the skin. By the eighteenth-century physicians throughout England began practicing "inoculation," a practice whereby portions of a smallpox pustule was placed beneath the skin. Such a practice came to be identified as one way to prevent the smallpox disease.

It was during this time, as certain physicians were making use of the technique of inoculation, that Edward Jenner (1749–1823) studied with John Hunter, an influential English surgeon, biologist, and experimental scientist. Early in his career as a physician Jenner demonstrated his exceptional medical abilities.



Traditional medical knowledge demonstrated that milkmaids who contracted the disease cowpox became immune to smallpox. On account of this information Jenner surmised that pus from cowpox blisters (such as shown in the pictures) could be used to inoculate against smallpox. In 1796, Jenner transferred matter from a cowpox pustule on a milkmaid's hand into a cut on the arm of an 8-year-old boy. After becoming slightly ill for a few days, the boy recovered and never contracted smallpox, even when later exposed to it. From this Jenner developed an arm-to-arm method of administration to transfer cowpox from one person to another to prevent future episodes of smallpox. He coined the term *vaccination*, meaning "from the cow."

Thomas Jefferson took note of Jenner's work and advised Lewis and Clark to carry cowpox on their journey to protect American Indians in the event of smallpox epidemics. Not until 1840 did the British government adopt a policy of providing free cowpox vaccinations. The World Health Organization declared smallpox an eradicated disease in 1980.

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