

The Newgate Guinea Pigs

by Prof. Art Boylston

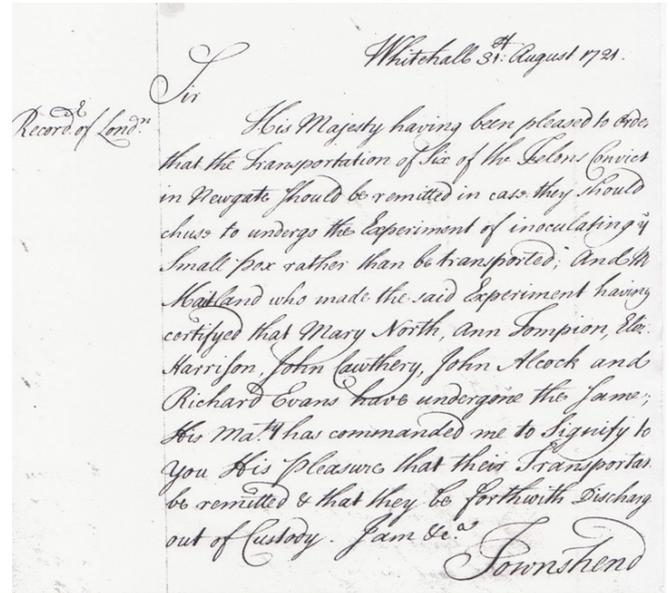
The notorious Newgate prison, where London's condemned criminals and many others were jailed, stood on the corner of Newgate Street and Old Bailey, where the central criminal court now stands. Famous for the dreadful conditions under which inmates were confined, and for its stench which was offensive several streets away, it is not well known that one of the earliest, possibly the first, clinical trial was carried out there.

In 1721 Lady Mary Wortley Montague sent for her surgeon, Charles Maitland, to inoculate her daughter, also Mary. Inoculation, which would now be known as variolation, was the practice of deliberately infecting someone with smallpox to produce a mild form of the disease giving lifelong immunity. Lady Mary had learned of inoculation in 1717, when she was in Turkey accompanying her husband who was ambassador to the Porte. She was so impressed by the accounts of many Europeans who had had their children inoculated that she arranged for Maitland to find the Old Greek woman who was the chief inoculator and together they successfully inoculated her five year old son.

The Wortley Montagues returned to London, and, in 1721, as a smallpox epidemic raged through the town, Lady Mary decided to have her daughter inoculated. Maitland wanted witnesses because the operation had never been performed in England and he feared for his reputation if something went wrong. Lady Mary opposed the idea, but eventually relented. In April the child was inoculated in the presence of three medical witnesses and had a mild case of smallpox as expected. One of the attending doctors, John Keith, was so impressed that he demanded that his only surviving son be inoculated, the others had died of smallpox and he was desperate to save his child. Maitland also performed the operation and again, the result was favourable.

Sir Hans Sloane, president of the Royal College of Physicians, recollected that the operations of little Mary and young Keith had coincided with a severe bout of smallpox affecting Princess Anne, the oldest daughter of the Prince and Princess of Wales. The child was so ill that Sloane thought that she might die, and the Royal parents consulted with him about the advisability of inoculating their two younger daughters. He had participated in discussions of inoculation at the Royal Society, but felt that tales from abroad and the good results in only two children were insufficient evidence of the benefits to justify recommending the operation for two such prominent children. He sought advice from a Dr. Terry who had practised medicine in Turkey who reassured him that the practice was always successful and never dangerous. But by then Princess Anne had recovered and the threat to her sisters had receded

Inoculation seemed promising, but no doctor would risk his reputation and livelihood on foreign rumours and good luck with



Pardon issued by George I for the Newgate Guinea Pigs

two children. After all, natural smallpox was sometimes a very mild illness. Perhaps Lady Mary had been lucky. In early June a group of physicians, perhaps led by Sloane, decided to pursue the issue further. They petitioned the King through his legal advisers asking "whether His Majesty may by law grant his gracious pardon to two malefactors under sentence of death upon condition that they will suffer to be tried upon them the experiment of inoculating the smallpox". On June 14th offers of remission of sentence "on condition of undergoing experiment of inoculation for smallpox" were made and on the 17th King replied "the lives of persons being in the power of his Majesty, he may grant a pardon to them upon such lawful condition as he shall think fit". Furthermore the King was pleased to do so "because carrying on this practice to perfection may tend to the general benefit of mankind".

Six prisoners who swore that they had not had smallpox came forward:

Mary North, 36, had been tried on Mar 3, 1720 for shoplifting. Despite her defence that she was a lunatic, and her attempt to act crazy in court, she was sentenced to the new punishment of transportation. A year later, Mar 1, 1721, she was one of the first criminals convicted of returning from transportation without permission and sentenced to hang.

Ann Tompion, 25, alleged to be the best pickpocket in London, stood trial with her brothel keeper husband on Oct 12, 1720 for stealing 11 guineas from a woman they had lured into travelling down the Thames with them. Although their defence was based

continued...

The Newgate Gunea Pigs (cont.)



on the testimony of several of the whores Tom Tompion employed, Ann was convicted of theft and sentenced to death.

John Cauthrey, 25, was convicted of the theft of three wigs from his master. Potentially a capital crime, since they were worth more than 5 shillings, the jury seems to have been moved to lenience and found that he was guilty only of theft to the value of 4s 10p, thereby reducing the sentence to transportation. Alone among the Newgate prisoners he was not facing the gallows when he volunteered.

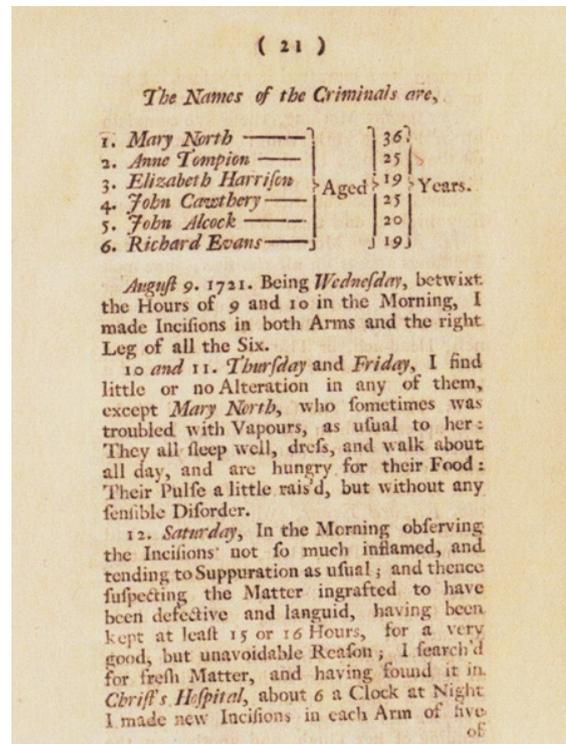
John Allcock, 20, was charged with theft, animal theft, and grand larceny. In the space of a few days he had stolen a horse from Sarah Powell, a Holland shirt, silk handkerchief, and cravat from Charles Blanchard, and a pair of silver spurs from a Mr. Barlow. When apprehended he confessed and returned the stolen property, but was still convicted on all three charges and sentenced to hang.

Richard Evans, 19, was indicted for stealing 14 yards of Persian silk and a riding hood from the shop of Samuel and Richard Dickens. He was convicted and sentenced to hang.

Elizabeth Harrison, 19, confessed that she had stolen the huge sum of 62 guineas from her mistress and was also sentenced to death.

Throughout July preparations for the experiment were underway at Newgate. The Prince of Wales and his wife, Princess Caroline of Ansbach, became official sponsors of the trial and gave it unparalleled stature. Several physicians and surgeons employed by the royal couple accompanied by their apothecary visited the prison and arranged to move the volunteers into more favourable accomodation. The condemned cell, where they had been lodged, was a stone walled room below ground, with an open sewer running down the middle of the airless room. Lice were so thick on the floor that they crunched whenever the prisoners walked around. The stench was legendary. Jail fever (typhus) was rampant. In this noisome, noisy hole many did not survive long enough to trouble the hangman. As matters progressed the legal machinery moved forward. On July 4 they were given conditional pardons. On July 21 they were reprieved. Eventually, on Wednesday, August 9, the experiment began. Maitland made incisions in both arms and the right leg of each prisoner and rubbed smallpox pus into the cuts. Sir Hans Sloane, supervised the operation along with Dr. John Steigherthal, the King's personal physician. About 25 physicians, surgeons, and apothecaries, among them many famous members of the Royal Society, witnessed the affair. One German observer noted that the prisoners shook with fear when Maitland took out his inoculation knife because their fellow inmates had told them that they were actually going to be bled to death.

Mary North suffered from the "vapours" as she frequently did, but otherwise the prisoners had no symptoms. On Saturday Maitland felt that the wounds were not sufficiently inflamed and suspected that the inoculum he had used was defective because he had kept it



The prisoners inoculated at Newgate with some of Maitland's comments.

overnight before he instilled it. He found a fresh supply and regrafted five of the prisoners in their arms. There was insufficient material to treat Evans a second time. The surgeon had been unnecessarily pessimistic. The original incisions showed signs of infection the next day and on the seventh day after inoculation the first blemishes appeared on the convicts' faces.

It emerged that Richard Evans had lied. He had had smallpox the previous September while in prison, and had pretended that he had not had it to join the experiment in the hope of escaping execution. Maitland noted that he had no symptoms at any time and that his inoculation sites did not become inflamed. This was an important piece of evidence that inoculation really did produce smallpox since it was well known that natural smallpox produced immunity to further infection. The failure of inoculation to have any effect meant that immunity worked in both directions. It also confirmed the accounts of Timonius and Pylarinius that inoculation had no effect on someone who was already immune.

The five successful inoculees remained healthy, despite the presence of their pustules, until, on the 10th day Alcock added to the experiment when he pricked open all his pocks with a pin, causing the surgeon great consternation. He had no idea what would happen to the boy as a result of his foolishness. Although Alcock was the most severely affected of the prisoners, he had only about sixty pocks, a trivial number compared to the hundreds or even thousands on a patient with natural smallpox. Maitland continued

continued...

The Newgate Guinea Pigs(cont.)

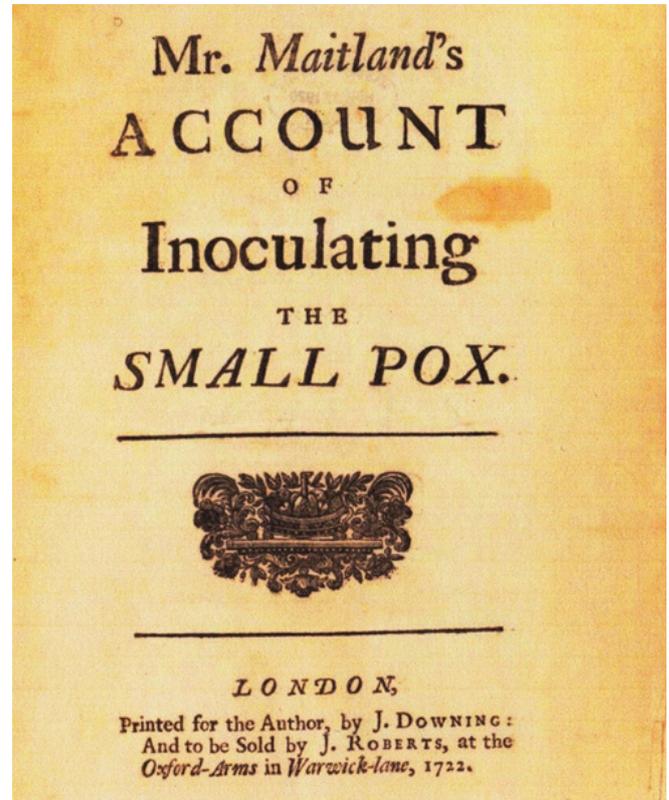
to observe his charges carefully, noting that all were progressing well and that the pocks duly dried up and dropped off, even Alcock's, just as they would after a mild case of natural smallpox. "And on the sixth of September, they were all dismissed to their several counties and habitations." Evans, who could have been hanged for lying, was forgiven.

Maitland admitted that he was surprised by the good outcome since the prisoners had been given no special preparation. They had a very unfavourable "*habit of the body, and circumstances*" not the least of which were the foul conditions in Newgate prison. During their illness an eminent "Turkey merchant" came to inspect the prisoners and their incisions and eruptions. He commented that the results were just like those he had observed in Constantinople, which pleased the surgeon.

Mary North, Ann Tompion, and John Cauthery disappeared from sight. But John Allcock and Richard Evans returned to the London underworld. Alcock had been free for only six weeks when he was caught stealing a wig from a barber and sentenced to transportation. His sentencing notice recalls his recent inoculation. Evans stayed out of trouble for a year, but in February 1723 he was caught at 2 am walking through London with 50 pounds of sugar balanced on his head.. Unable to give a reasonable account for this odd behaviour, and on the evidence of the owners of the sugar that it was marked with their stamp and had been stolen that evening, he was convicted and given transportation.

Sir Hans Sloane was convinced by the Newgate experiment that inoculation resulted in mild smallpox. However, there was no evidence that inoculation conveyed immunity from natural infection, and without immunity the procedure was pointless, so Sloane and Stiegherthal decided to test whether Elizabeth Harrison really was immune. They paid for her to accompany Maitland home where she was put to work nursing a servant with smallpox. When a boy at the local school came down with the severe form of the disease she was ordered to sleep in the same bed with him throughout his illness. After ten weeks of continual exposure to patients with the most extreme forms of the disease she had not contracted the infection. Maitland accepted that this proved that Harrison's inoculation had produced immunity because she would surely have caught the disease after this much exposure to the infection if she had not been immune.

In December Elizabeth Harrison returned to London, and to her old ways. Even a heroine has to eat. On Feb 3 she was accused of stealing 3 pounds from John Barter. As the testimony unfolded, she argued that she had only taken 8 pence, the change from the pot of



Title page of Charles Maitland's Account of the Newgate Experiment.

gin he had ordered. Barter had offered her the money for sex, which she refused, and swore that he had only accused her to get revenge. But she was found guilty of the theft of 10 pence and sentenced to transportation. In July 1722 she left aboard the *Alexander* bound for the West Indies. Uniquely among transportation voyages there is no record of which prisoners were landed at particular ports. She was sold into servitude in either Nevis or Jamaica and disappears from the historical record.

The Newgate guinea pigs provided the evidence that inoculation could be carried out safely and resulted in mild smallpox and immunity. Gradually the practice became widely accepted and affordable so that by the 1760s members of several European royal families had been inoculated along with two future presidents of the United States and hundreds of thousands of ordinary English men and women. In time inoculation would make it possible for Edward Jenner to replace smallpox with cowpox and develop vaccination which eventually led to the eradication of smallpox.

About Art Boylston

Professor Art Boylston a pathologist/immunologist with a long-standing interest in the history of smallpox inoculation. His book Defying Providence - Smallpox and the forgotten 18th century Medical Revolution is the first complete history of variolation and its role in the origins of scientific medicine and immunisation. Many of the salient events during this "revolution" happened in or around London especially at the Royal Society. The book is undergoing final proofing and should be available in a couple of months.