

Dr John Snow: an unsung hero of water and sanitation

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Monday 16th June was the 150th anniversary of the death of Dr John Snow (1813-1858), who, at the age of 45 had already achieved excellence in three areas of medical science: anaesthesia, the epidemiology of waterborne disease and the chemistry of various compounds and poisons. He became the first professional anaesthetist shortly after ether was demonstrated as an anaesthetic in 1846 in the

USA, applying scientific method where others treated it as a novelty; and his expertise with chloroform in childbirth made pain relief for labour respectable when Queen Victoria praised that “blessèd chloroform”. But in this WHO Year of Water and Sanitation, we should applaud him particularly for his proof that cholera was spread by drinking water contaminated by sewage.

In 1854, Snow was working as an anaesthetist in London when a savage outbreak of ‘King Cholera’ occurred in Soho, killing 500 people in a few days. As a young doctor in Newcastle, Snow had witnessed one of the first UK epidemics of cholera: in 1831 he was sent to the mining village of Killingworth to treat the cases. He described the mine as one huge privy where men ate without washing their hands: his early – and at the time outlandish – suspicion that cholera arose from the excrement of cases was strengthened by studies in London, indicating higher rates of cholera where the water supply was more contaminated. The 1854 Soho outbreak supplied the final evidence: for example, brewery workers were spared because the brewery had its own well, while others had to take water from street pumps (so, although he was a teetotaler, the pub now



Photograph courtesy of RSC

Professor Jim Feast, *President RSC*; Rt Hon Alan Johnson MP; Dr Rosalind Stanwell-Smith, *John Snow Society*; Mr Jeremy Pelczer, *WaterAid*.

bearing his name could be said to commemorate the brewery evidence). Evidence from a map of cases implicated the Broad Street pump: this early use of medical geography has made Snow an icon for cartographers, although Snow also realised the importance of outlying cases, for example a widow in Hampstead who had resided in Broad Street and so liked the pump-water that she had a flagon of it sent to her daily: she became the only recorded case of cholera in Hampstead during that epidemic. Snow persuaded the parish guardians to take the handle off the Broad Street pump – an act commemorated by a plaque on the pub at the site in what is now called Broadwick Street. Later investigation of the pump’s well showed that sewage from an adjacent cesspit had seeped into the water.

Snow published his findings in ‘*On the Mode of Communication of Cholera*’: bacteria had not yet been isolated and the idea of disease carried by water was considered laughable by many, including the medically trained editor of *The Lancet*. However, the problem of contamination of street wells was appreciated: a Cholera Inquiry Committee concluded in 1855 that all surface wells should be abolished and that water companies should provide a

continuous supply of water – previously supply had been limited to about 2 hours a day and never on a Sunday. London’s sanitation was appalling, with sewage contamination of the Thames worsened by widespread installation of water closets: scarcely a month after Snow’s death the ‘Great Stink’ of July 1858 prompted, at last, the legislation required to install a scientifically

designed sewer system in the city. Joseph Bazalgette, Chief Engineer to the Metropolitan Board of Works had been waiting years for agreement to his plans. The modern flushing toilet, invented in England, could now discharge safely and public conveniences were also pioneered in British cities. Although Snow’s work provided the essential evidence that sewage should be kept away from drinking water, there is no memorial to match that of Bazalgette on the Thames Embankment.

As the chair of the Inconvenience Committee of professional Blue Badge tourist guides, I would argue that he would have supported our campaign for free public toilets for all visitors and tourists as both necessary to a civilised society and based on good hygiene science and medical need. It probably requires legislation and a change of view, just as was needed for the control of wells and Bazalgette’s sewer plans – and perhaps benefactors such as Richard Whittington, who as Mayor of the City of London bequeathed a large public toilet by the Thames in 1423. Whether or not you agree, raise a glass of our now safe drinking water to Dr John Snow to celebrate the anniversary of a great British scientific hero.