

HISTORICAL NOTE

The 'John Snow'

D. D. C. HOWAT

The 'John Snow' public house (Fig. 1), on the corner of Broadwick Street and Lexington Street in Soho, W.1, has recently been threatened with demolition. It was built in the 1870s and was originally called the 'Newcastle-upon-Tyne'. In May 1955, on the



Fig. 1. The 'John Snow' public house, Broadwick Street, Soho, London, W.1.

occasion of the centenary of John Snow's researches into the causes of the cholera epidemic of 1854, its name was changed to the 'John Snow' and the new inn-sign was

D. D. C. Howat, MB, BS, FFARCS, Consultant Anaesthetist, St George's Hospital, London, S.W.1.

unveiled by Professor (now Sir Austin) Bradford-Hill, then President of the Section of Epidemiology and Preventive Medicine of the Royal Society of Medicine. In the saloon bar are a photograph of the unveiling ceremony, a short account of John Snow's life and work and a copy of a letter written to *The Times* by some of the local residents about the inadequacies of the drainage system at that time. Some wit has even photographed the 'ghost' of the pump outside on the pavement. Although John Snow was apprenticed to a Newcastle surgeon, William Hardcastle, in 1827, there is no evidence that the previous name of the inn was other than fortuitous and, incidentally, Snow disapproved of the consumption of strong drink and only occasionally took a little wine.¹

John Snow and the Broad Street pump

The site of the famous Broad Street pump is marked by a red granite kerb-stone (Fig. 2), a few feet from the wall of the public house, which itself bears a commemorative plaque (Fig. 3).

The story of the removal of the pump handle is well known to many anaesthetists, but is often misquoted.² The following account is given in order to emphasise the real extent and value of Snow's work. His description of the painstaking investigation into the epidemic is a model of clear thinking and concise writing.

'The most terrible outbreak of cholera which ever occurred in this kingdom is probably that which took place in Broad Street, Golden Square, and the adjoining streets a few weeks ago.* Within two hundred and fifty yards of the spot where Cambridge Street† joins Broad Street,‡ there were upwards of five hundred fatal attacks of cholera in ten days. The mortality in this limited area probably equals any that was ever caused in this country, even by the



Fig. 2. The site of the famous Broad Street pump is marked by a red granite curb-stone (arrow).

* The preface to the second edition of Snow's monograph is dated 11th December 1854.

† Now Lexington Street.

‡ Now Broadwick Street.

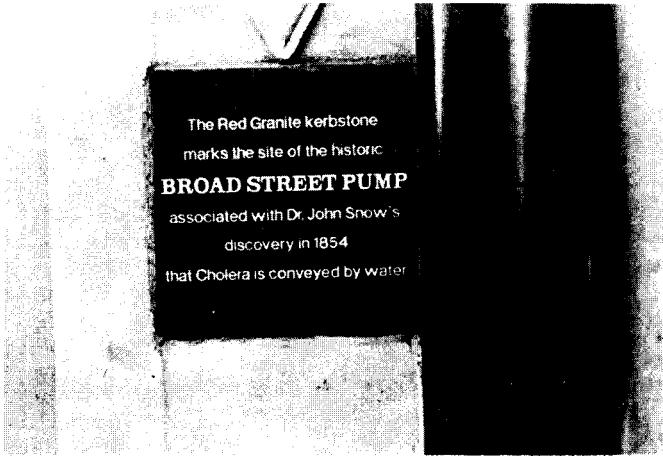


Fig. 3. The commemorative plaque on the wall of the 'John Snow'.

plague: and it was much more sudden, as the greater number of cases terminated in a few hours'

'There were a few cases of cholera in the neighbourhood of Broad street, Golden Square, in the latter part of August; and the so-called outbreak, which commenced in the night between 31st August and the 1st September, was, as in all similar instances, only a violent increase of the malady. As soon as I became acquainted with the situation and extent of this irruption of cholera, I suspected some contamination of the water of the much frequented street-pump in Broad Street, near the end of Cambridge Street; but on examining the water, I found so little impurity in it of an organic nature, that I hesitated to come to a conclusion. Further inquiry, however, showed me that there was no other circumstance or agent common to the circumscribed locality in which this sudden increase of cholera occurred, and not extending beyond it, except the water of the above-mentioned pump'.³

During the next 2 days Snow examined the water and found variations in the amount of impurity even to the naked eye. He obtained a list of the deaths from cholera in the area reported to the General Register Office during the week ending 2nd September. He found that nearly all the deaths had occurred within a short distance of the pump. There were no other outbreaks of or increase in cholera in that part of London except amongst those who habitually used the pump.

'I had an interview with the Board of Guardians of St James's parish, on the evening of 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed the following day.'³

Snow's investigation now really began in earnest. Other deaths not obviously associated with the Broad Street pump could have been due to the victims having drunk the water without realising it. Snow discovered that it was used—

'for mixing with spirits in all the public houses around, in dining rooms and coffee shops, and in various little shops with a teaspoonful of effervescing powder under the name of sherbet, and possibly in other ways . . .'

'The pump was frequented much more than is usual, even for a London pump in a populous neighbourhood.'³

He noted that this was probably because the water appeared purer than that from other wells in the vicinity. He discovered that only five of the 535 inmates of the Workhouse in Poland Street (near the site of the present Marshall Street Baths) died of cholera; it had its own pump. The Brewery in Broad Street itself was near the pump, but no brewer's man died; the brewery had a separate well and the owner told Snow that he did not think the men drank water anyway! Snow followed up many deaths in places remote from Soho, and even outside London, and found that the victims had taken water from the pump. He drew a map of the district showing the distribution of all the deaths and tabulated the rise and fall of the epidemic. After 1st September, the number of deaths fell off rapidly; the pump handle was not removed until 8th September and Snow himself had no illusions about the importance of his advice to the Board of Guardians.

'There is no doubt that the mortality was much diminished, as I said before, by the flight of the population, which commenced soon after the outbreak; but the attacks had so far diminished before the use of the water was stopped, that it is impossible to decide whether the well still contained the cholera poison in the active state, or whether, from some cause, the water had become free from it.'³

Snow presumed that contamination came from a nearby sewer and this led to the well being opened; no crack or crevice could be found in it, but the well was 28 to 30 feet deep and the sewer passed within a few yards of it at a depth of 22 feet. He had the water examined microscopically; even to the naked eye it had 'minute white flocculi' in it.

'Dr Hassall, who was good enough to examine some of the water with the microscope, informed me that these particles had no organised structure, and that he thought they probably resulted from decomposition of other matter. He found a great number of very minute oval animalculi in the water, which are of no importance, except as an additional proof that the water contained organic matter on which they lived.'³ The water contained a lot of chloride, which suggested contamination, and 'Mr Eley, the percussion cap manufacturer of 37 Broad Street', said it was 'offensive to smell and taste, after being kept for about two days'.

Snow went on to make a survey of the water supplies of the whole of the London area and concluded by making recommendations which he believed would eliminate cholera from the country. He was quite right.

Summary

The 'John Snow' public house in London is threatened with demolition. Its history and

that of John Snow and his connection with the Broad Street pump and the cholera epidemic of 1854 have been recalled.

References

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3. SNOW, J. (1855) *On the Mode of Communication of Cholera*, 2nd edn, pp. 38–52. J. Churchill, London.