

Warm up

Aqua vita

P McCrory

When I first travelled to England, it was as a medical student during our “gap year” between the fifth and sixth years of our course. The terms of the elective were broad enough to encompass almost anything medical and as a life experience it was far more valuable than anything that could be taught didactically. After a sojourn in India and Nepal, I headed to St Bartholomew’s Hospital in London to soak up the history that dripped from those walls. As a mere colonial scion, it was repeatedly emphasised to me that the venerable standing of the hospital, with its tradition of almost 1000 years of life on the Smithfield site, was far more significant than some banana republic whose main claim to fame lay in the ability to beat England at almost any given sport. Those history (and sporting) lessons have stayed with me and I have even put pen to paper to discuss the life and times of one of the hospital’s famous physicians and founding members of the sports neurology fraternity—Percivall Pott.¹

During my time in London, I worked with David Simpson, who was then director of Action on Smoking and Health (ASH)—a political lobby group directing their energies against smoking and its terrible toll on humankind. In a previous life, David had been the director of Amnesty International and was instrumental in the origin of the now famous “Secret Policeman’s Ball” benefits. For anyone with a DVD handy, David can be seen in the clips at the end of the first SPB trying to buy a stuffed Norwegian blue parrot from Harrods for the legendary Monty Python “Dead Parrot” sketch. Anyway, back to the story. David’s interest is in epidemiology and he took me to a small hotel in Soho to sample what the English describe erroneously as beer and to show me a discoloured flagstone in the street outside. Rather surprisingly to my practised Australian drinking eye, the pub seemed full of Japanese tourists and stray epidemiologists who were more interested in

the history and in buying souvenirs than in the consumption of the amber fluid. The pub, of course, was *The John Snow* in Broadwick Street and the stone was the site of the famous Broad Street Pump.

I was reminded of this recently when I discovered that this year is the 150th anniversary of John Snow’s famous exploits. On the 7th of September 1854, Dr Snow made the parish Board of Governors of Soho remove the handle of the aforesaid pump, which in turn ended a notorious cholera outbreak and resulted in the birth of the science of epidemiology.

Snow was born in York in 1813 and later became a surgeon in Newcastle-upon-Tyne. By 1836, Snow had set up practice in Soho and in the 1849 cholera epidemic, 11 000 Londoners died. Snow plotted the deaths around his practice on a street map and a pattern became obvious. Only those folks served by the Broad Street pump caught cholera. He concluded that the infection must be from the water and by removing the pump handle he removed the source of the contagion. This understanding seems obvious to modern observers but remember that in 1854, Pasteur and Koch and the demonstration of a germ theory of disease was still a quarter of a century later. At this time, disease was still believed to arise through bad air rising from corpses—the so-called miasma or malaria—and Snow’s leap of logic was extraordinary and a testament to good science.

Snow recorded his thoughts in a book *On the communication of cholera*, which was published in 1855. It sold just 56 copies and he died unrecognised just three years later at the age of 45. It wasn’t until 1936, when Wade Hampton Frost published the book *Snow on Cholera* that Snow’s visionary concept was fully appreciated.

After a few years, the Broad Street pump handle was put back and further cholera outbreaks followed. In a letter to *The Times* newspaper on 28th July 1866,

two eminent scientists pleaded once again for the removal of the pump and reported that when examined, the pump water was found to be “...little else than unfiltered sewage...”

Oddly enough, it wasn’t the result of Snow’s work that ended the free flow of open sewage through the streets of London, but rather the smell. A Victorian engineer—Joseph Bazalgette—had campaigned unsuccessfully for years to rebuild London’s drains and it wasn’t until the appalling smell of the Thames sliding past the Houses of Parliament was so dreadful that sittings had to be held outside London that the politicians gave into progress. This story was recently aired on the BBC series *The seven wonders of the industrial world* in an episode entitled *The Sewer King*. Quite ironically John Snow had a cameo part in the episode although it is unknown whether the two figures ever met in real life.

The fact that Snow died a visionary but unrecognised scientist underlines the fact that good research can arise from very simple approaches to a problem. The first step is asking the right questions. In Snow’s case, who is dying, where do they live, and what do they have in common? The next step is collecting some useful data and Snow used a local street map to achieve this. Having got this information, he looked for patterns. In many cases, experienced clinicians or scientists often have an intuitive idea as to the basis of the problem being studied and patterns often are obvious to the prepared mind. The final step is getting published, and Snow experienced the real difficulties of academia in this regard. Research doesn’t need to be difficult and many young potential researchers are terrified by the prospect of embarking upon a project and as a result tend to shy away from this career.

Go to *The John Snow* pub in Broadwick Street, Soho and take the time to read Snow’s diary and original papers, which are displayed on the walls. Check out the curb stone outside marking the site of the original pump. Then have a drink and buy a John Snow T-shirt. Research is easy.

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REFERENCE

- 1 McCrory P. Sir Percivall Pott—the first sports neurologist? *Br J Sports Med* 2001;**35**:278–80.