REFERENCES


[May 17, 1955]

A Meeting Held at the London School of Hygiene and Tropical Medicine in Celebration of the Centenary of the Publication of John Snow's Classic Treatise "On The Mode of Communication of Cholera"

An exhibition illustrating Snow's life and writings and the sanitary conditions of the time had been set up by the Department of Public Health of the London School of Hygiene and Tropical Medicine and was opened by the President of the Section on May 17. Amongst many other features this exhibition included illustrations of the episode of the Broad Street pump and of the classic investigation into the epidemic of 1853 in South London. Two copies of "On Cholera" signed by the author himself were on view together with a portrait of him believed to have been executed by a painter to the Court some time after Snow had administered chloroform to Queen Victoria at the birth of Prince Leopold in 1853. This portrait was lent by Miss Una Snow, a grand-niece of John Snow. With her permission it is reproduced (Fig. 1) together with a few illustrative items from the exhibition (Figs. 2, 3 and 4 are reproduced with the kind permission of the London County Council).

Two communications were presented to the Section: Snow—the Man and his Times by Professor J. M. Mackintosh, and Snow—an Appreciation by Professor Bradford Hill.

Snow—the Man and His Times

By J. M. MACKINTOSH, M.D., LL.D.

In the sixth decade of the nineteenth century England presented a picture of noble prosperity. The Great Exhibition of 1851 was a triumph for the merchant. Ownership of land gave it supremacy to expanding trade. The virtues of thrift and hard work fitted well into the prevailing morality of steadfast marriage and abundant family life. It is true that Punch and some other journals made fun of the Queen's fashions, but she had the Junges' card. There is no doubt that the administration of chloroform by a relatively obscure physician called John Snow, as the birth of Prince Leopold. By 1852 Snow had taken residence in a substantial house at 18, Sackville Street and has been described as a "fashionable" physician. Neither his income nor the attitude of his professional brethren supports this view. More probably he was regarded as a useful, but limited, auxiliary in anesthetics. It is significant that he did not sign the bulletin announcing the birth of Prince Leopold or in 1857 of Princess Beatrice.

It worth observing that Snow was not a member of Sir Benjamin Hall's Medical Council which failed to sweep back the incoming tide of cholera in 1854-55; and his views received scant and impatient attention from the official investigating committee.

To understand the reasons for this we must pay closer attention to the temper of the times. Mach of England's prosperity was illusive and its mortality superficial. The victories which had been won since the tawdry Regency were in clashes between social class and its rival. The aristocratic doctrine of government non-interference was replaced, not by any popular reformation, but by increasingly active legislation in favour of the merchant princes. The new throne was made of gold and studded with jewels, but it was set up in the City, not the Palace of Westminster. For in this world of cue-chest competition and trade rivalry the puny infant of public health was born. An Act of Parliament designed to check the gross abuses of filth was passed in the year 1846, but this statute and its immediate successors were so circumcised as to interfere as little as possible with the trade and profit of those who produced filth. At this time one of the most insistent advocates of public health was the sceptre of cholera, and even this giant creature had a hard battle against the vested interests of the private water companies. Early in 1854, for example, an outbreak of cholera in Newcastle showed effectively that the disgusting
In many parts of London the sanitary conditions were no better. Cecil Woodham Smith, in his history of Florence Nightingale, gives this vivid flash:

"In the summer of 1854 children broke out in London, particularly in the miserable annexed slums around St. Giles, in the West End of Tite合成. The hospitals were overcrowded; many inmates died alone, afraid of loneliness, or hunger. In August, the Nightingale was a volunteer to the Midwives Hospital, "to understand the manner of choleraunday." This hospital was ordered by the authorities of the cholera to be used as a refuge for adults in order to free the hospitals for patients suffering from the plague and yellow fever, caused by the accident of the Europe. This post was the opportunity for nurses-such as those of cholera and those of the Nightingale-to be up day and night, looking after them. The women were filthy and dirty, crowded, with tears and bile.

The local society set up a committee to make an effort to stop the outbreak. They began by writing to the Benjamin Hall asking for any information about the local outbreaks. Hall declined to help, on the pretext that investigation of this kind was more valuable when successful. In some of this official report the outbreak got to work. Anticipating the methods of their successors in social science of a century later they started off with a questionnaire. This was unfruitful. They then embarked upon a house-to-house visitation, with an interviewing team consisting of three doctors (including the experienced Lancaster and Snow), two clergymen and a lawyer. This system worked well, and reports
of real value were issued. In addition to Snow's report a most interesting corroboration was given by the Rev. H. Whitehead who made a most painstaking personal investigation.

The crucial test of the merits of spread of cholera took place in South London, and it was Snow who made the "grand experiment". The issue was made relatively simple by the fact that, shortly before this (1854-55) period, the Lambeth Water Co. had begun to supply relatively pure water from the Dutton area, well above the tidal reaches. The Southwark and Vauxhall Water Co., on the other hand, continued to supply (to use Simon's phrase) "the filthiest stuff ever drunk by a civilised community". Snow noted that the atom of the two supplies overlapped, and in these the mains of the two companies went down the same main street. He had no difficulty in pinning out the Southwark Company's supply because it contained forty times as much salt as the Lambeth. He found that cholera was fourteen times as fatal in the Southwark supply during an epidemic period. This finding was supported—although with less striking figures—by a committee of enquiry appointed by the General Board of Health.

Why, then, did the issue remain obscure? The first answer was that the housing and the general sanitary conditions of most of the cholera-stricken areas were bad beyond description. No real improvement had taken place since Lord Normanby had informed the House of Lords ten years earlier:

"I am obliged to remember the negro baths in the West Indies, many hundreds of which I have visited in other days, and I feel bound to admit that before the Emancipation Act, the greatest outcry would have been raised against any proprietor who would have had indeed his slaves in such residences as those I have lately seen within a walk of your Lordship's House."

The result of this was that a number of men of goodwill, including Sir John Simon himself, had become so overawed by the Reports on the Sanitary Conditions issued by Chadwick that they were unable to connect a specific agent of disease, acting independently of sewage-contaminated water and "filthiest" air.

The second point is that Snow's arguments were attacked by men of ill-will, notably representatives of the waterworks companies;
The most sustained attack upon Farr and Snow was made by an anonymous writer to The Times whose letters were subsequently published as a pamphlet. The writer disclaimed any personal interest in the conflict, but he was, in fact, Secretary to the Private Enterprise Association.

The next matter for question is why Snow's views were not more readily accepted by the Medical Press and by his own professional brethren. Snow was an admirable and conscientious medical scientist, and his progress to the Presidency of the London Medical Society shows that his views were regarded with growing respect. Snow was not what might be called a clubbable man; he was a bachelor, vegetarians, aeronautical and a rather solitary worker. Richardson tells us that he had no claims to elegance nor had he the gift; a peculiar harshness of voice rendered his bearing from him painful. If he had gone, so to speak, eating and drinking he would probably have gained much more ready acceptance for his brilliant work, but he tended to be regarded as a crank and indeed the Lancet says:

"Therefore Dr. Snow says gases from animal and vegetable decomposition are innocuous! If this logic does not satisfy reason, it satisfies theory... The fact is, that the whole science Dr. Snow draws all the truth is in the main wrong. His prey, or den, is a drain. In riding his hobby very hard, he has fallen through a gully-bite and has never since been able to get out again."

The personal difficulties of Snow were probably of little account in comparison with the scientific attitude of his age. As early as 1840 Henle had elaborated a germ theory of infection. But his views were not widely accepted. Sirast has shown that Henle, like Snow, was a man out of his time. The invention of the microscope and the increasing exactness of observation had displaced the age of theory, and people demurred to the witness of the eye. An age had passed even before the deaths of Wellington and Melbourne, and a revolution in human thought and action far more dynamic than the Reformation was taking place. The age that was coming to birth was the Machine Age of which the so-called industrial revolution was merely a premonitory symptom. This bleak era tried men, women and children as part of their machines. Its masters were far more brutal than the economic theorists of laissez-faire; they were fanatically machine-minded, and their cruelty was as deliberate as it was senseless. In this dark period of British history it is surprising that any advance at all was made towards the removal of causes of disease or the improvement of health.