Virtual Mentor
American Medical Association Journal of Ethics
July 2009, Volume 11, Number 7: 541-545.

HISTORY OF MEDICINE

Michael Furnell's Crusade against the "Local Influences" Theory of Cholera

Sheldon Watts, PhD

The heroic efforts of Madras Presidency Sanitary Commissioner Dr. Michael Furnell to adhere to his Hippocratic Oath in defiance of the British authorities in India and London can be pieced together by documents in *Parliamentary Papers* and other collections now in the public domain. From them we learn that Furnell had been in the Indian medical service for some 30 years before he ran afoul of official policy. This policy was that of the secretary of state for India and his under-secretaries in Whitehall, London, and was accepted without question by other members of the British cabinet [1].

This official position was that India's deadly disease cholera (Asiatic cholera) was *not* a contagious affliction spread directly or indirectly through water, as John Snow (of York and London) had suggested in 1849 and 1854 (and as Robert Koch of Berlin would confirm in Calcutta in 1884). Neither was the causal agent transferred from place to place in the guts of a cholera carrier. Official policy instead held that cholera was generated and caused by human filth (excreta), assisted by meteorological conditions or an unknown "something."

In short, according to India's War Office and Army Sanitary Commission, the cause of cholera was of strictly *local* origin. It was produced within the houses and settlements of "Village India" because of local people's unsanitary practices, followed from time immemorial. According to British records starting in the late 1850s, cholera killed a quarter of a million Indians—in a "good" year. In a "bad" year it might kill upwards of half a million. There is no certain record that it had ever existed in epidemic form before the British conquest.

The official obstinate denial of the cholera "truths" that John Snow had discovered in 1854—truths that John Netten Radcliffe (assistant in the Medical Office of the Privy Council) fully confirmed in 1866—dated from the months just before completion of the Suez Canal in November 1869 [2]. Cut through the deserts of Egypt, the canal created a new all-water route between the port cities of India—Bombay, Calcutta, and Madras—and the port cities of West Europe. In 1882, a critical year for Furnell, 3,198 ships passed through the canal with a total weight of 6.8 million tons. Eighty percent of these ships were British [3].

On the eve of Robert Koch's definitive discovery of the causal agent of cholera in Calcutta in early 1884, mainland European medical scientists correctly assumed that this deadly disease was in one way or another contagious. They also agreed that its

only source and place of origin anywhere in the world was somewhere in deltaic Bengal. From that sole point of origin, in the early 1830s, from 1847 to 1848, and again in 1854, the deadly affliction traveled overland to Afghanistan, Persia, and southern Russia before causing death and destruction in West Europe, Africa, and the Americas. Then, in 1865, for the first time, it crossed into Europe by sea, traveling across the Mediterranean from the Egyptian north coast to Italy, southern France and Spain, Britain, and America. It was now more than ever a global disease [4].

To counter this unprecedented threat of the invasion of Europe by an epidemic killer traveling by sea, West Europe's leading medical scientists met in Istanbul in 1866. From their discussions—which lasted from February to August—protocols emerged that directed the future activities of two preexisting Quarantine Control Boards, one in Alexandria, Egypt, the other in Istanbul, then the capital of the Ottoman Empire. These protocols were renewed with no dissenting vote at Vienna in 1874 [3]. The two boards, with representatives of 20-some European countries, plus Egypt and the Ottoman Empire, had international sanction to hold suspect ships from India in the isolation of quarantine for as long as it took to ensure that the ship was not carrying cholera. The near absence of cholera from West Europe between 1873 and 1879 strongly suggests that these quarantine-control activities were successful, especially given the fact that Indian ports from which British ships sailed—Bombay, Calcutta, and Madras—were often awash with the disease.

Furnell's troubles arose because British statesmen were intellectually unprepared (the curriculum at the public schools was dominated by the classics and excluded anything resembling modern experimental science) to accept that mainland European cholera specialists knew what they were talking about. More particularly, during this era of free trade and "splendid isolation," Britain's ruling elite refused to accept that any international agency staffed by foreigners—some of whom were Muslims—had the right to interrupt the passage of British ships and put them in quarantine. Many of these ruling-class gentlemen had investment portfolios in Indian development projects. Others invested heavily in the shipyards in Tyneside, Clydeside, and Belfast, which were building special-purpose, coal-driven ships for the Suez Canal India-to-United Kingdom route. Others had close ties with the City, center of world finance. Among the latter was Evelyn Baring, Lord Cromer, effective ruler of Egypt after the British invasion. On April 18, 1885, Baring let it be known that Her Majesty's Government had never given any group of foreign powers or their delegates jurisdiction over British ships and that jurisdiction could not exist without the express consent of Her Majesty's Government [5].

As a firm believer in medical professionalism and ethical behavior, Furnell was in deep water from the first day he took over as sanitary commissioner of Madras and its 30 million inhabitants in May 1880. In his second annual report (for 1882) he torpedoed the notion that cholera was never imported from Bengal and that it was always generated locally, by citing statistics of cholera mortality in previous years. These showed a huge variation; 313 dead in 1874, but 357,430 dead in 1875; 613

dead in 1880, but 23,604 dead in 1882. If all cholera was generated locally, given that people's sanitary habits tended to remain constant, one would expect that annual mortality totals would be more or less the same. But obviously they were not. It logically followed from this that the supposition that people's filthy household habits were at fault was erroneous. Furnell added to this that the interiors of Madras peasants' huts were more neat, tidy, and clean than those he had seen in Europe.

In 1882 (a bad cholera year in Madras—23,604 officially registered dead from cholera) Furnell visited the tiny French enclave at Pondicherry and found that no one there was dying of cholera even though much cholera was found in British territories nearby. He attributed this to the presence of 40 deep-dug artesian wells and other sources of pure, cholera-and-fecal-matter-free water. Furnell also traced the fallout from the explosion of cholera at the Tirupati fair and cited numerous local medical doctors' and surgeons' accounts showing how devotees had carried the disease by rail and road to numerous places elsewhere in the Madras Presidency. Furnell turned in his completed report in April 1883.

The following August, the British vessel S.S. Columbian brought cholera to Aden, the halfway point between Bombay and Suez. Aden was under the jurisdiction of Bombay. From Aden, the disease spread in epidemic form to the holy cities of Mecca and Medina, causing hundreds of deaths. Aside from this needless loss of Muslim lives, what most enraged the members of the Quarantine Control Boards was that the British authorities at Aden had sent the guilty ship, the Columbian, onwards toward Suez with a clean bill of health.

In consequence of what they took to be British deceit, the international boards placed a lengthy quarantine on all ships coming from India. In the protests that followed, several people high in the hierarchy of British power perjured themselves, including the Prime Minster, William Ewart Gladstone. Furnell was accused of having caused the international boards' full-alert quarantine on British ships coming from India by writing in his report for 1882 that cholera was a water-borne contagious disease carried far a field in the guts of cholera victims fleeing from the Tirupati fair. In vain did he point out that the boards had slapped the full alert quarantine on the British ships in August, but that his own report had not been published and made available to the boards until December. So, Furnell said, "I fail to see how my words could have assisted in any way to determine the action of the Board" [6].

The government of India and the home government thought otherwise. Furnell was summoned to London to defend himself before a parliamentary subcommittee against a charge of rank insubordination and was summarily relieved of his post as sanitary commissioner [7]. In his final public appearance 4 years later, Furnell, bloody but unbowed, announced that the continuing deaths of millions in India annually from cholera was due to the wrong-headed official cholera policy which insisted that cholera was generated by "local influences." Furnell continued his speech saying "Although this term is unintelligible, it is at present in India, by

Authority, the only true faith and woe to the sanitary officer who publishes his belief in any other cause but local influences" [8].

On May 24, 1888, a few short weeks after delivering this damning speech, Furnell was dead. He was said to have died of a cardiac infection [9, 10]. There is no indication that an autopsy was performed or that detectives of the Sherlock Holmes or Hercule Poirot variety sorted out the true cause of his death. Medically knowledgeable Victorian detectives were very much aware of the rich variety of subtle, slow-acting poisons found on the Indian subcontinent. Furnell, while alive, was a standing reproach to the government of Great Britain. In death he was a martyr to medical professionalism.

Notes and References

1. United Kingdom (LII), Sanitary Measures in India, 1881-1882, *Parliamentary Papers.[P.P.] 1883*; (LIX), Sanitary Measures in India, 1882-1883, *Parliamentary Papers.[P.P.] 1884.*
2. Watts S. Cholera politics in Britain in 1879: John Netten Radcliffe's confidential memo on quarantine in the Red Seas, *Journal of the Historical Society.* September 2007; VII(3):291-347.
3. Government of India, Home Proceedings (Sanitary): P/ 2048:215. In which Foreign Secretary Granville suggests that the international boards be abolished.
4. Watts S. World trade and world disease. *History and Policy.* May 2002. http://www.historyandpolicy.org/papers/policy-paper-07.html. Accessed May 12, 2009.
5. Government of India, Home Proceedings (Sanitary) P/ 3885: 639. Salisbury (F.O.) to Secretary of State, India.
6. *Parliamentary Papers 1884* (LIX): 223.
7. United Kingdom. *Hansard Parliamentary Debates.* 3rd Series, vol. 290, (15 July 1884) col. 1128. *Parliamentary Papers 1884*, (LIX), East India (cholera) return of. Address to the Honourable House of Commons. (25 July 1884).
8. Cholera and water in India. *Lancet.* April 28, 1888: 840.
9. Obituary. *Lancet.* June 18, 1888:1225.
10. Vincent D. *The Culture of Secrecy, 1832-1998*. New York, NY: Oxford University Press, 1999.

Sheldon Watts, PhD, is a medical historian. He has taught at the University of Illinois at Chicago, among other U.S. universities, the University of Ilorin, Nigeria, and the American University in Cairo. Dr. Watts is the author of *Epidemic and History: Disease, Power and Imperialism* and *Disease Medicine in World History,* and he is currently writing a book on cholera, contagion, and science in Britain and India.

The viewpoints expressed on this site are those of the authors and do not necessarily reflect the views and policies of the AMA.