Nightingale, Chadwick, and Farr

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The civil servant Edwin Chadwick (1800-1890) dominated public health policy from 1848 until he was obliged to take early retirement in 1854. This chapter describes how the coordinated activity of Chadwick, Florence Nightingale, and William Farr between 1858 and 1871 produced one of the most successful social reforms in modern history.

This chapter from *Florence Nightingale's Pandemic* was published in the Journal of Medical Biography: https://doi.org/10.1177/0967772020951083

INTRODUCTION

Edwin Chadwick (1800-1890), secretary to the Poor Law Board and proponent of drainage, water supply and ventilation to prevent ill health, has had several biographers. The focus of their research has been his rise to power as Commissioner of the General Board of Health and his eclipse when government reorganised the Board in 1854. The prevailing view of Chadwick's subsequent 36 years of retirement, expressed in *The Oxford Dictionary of National Biography* (2008) is that "[h]e continued to offer advice behind the scenes but it is doubtful whether any of these initiatives made much impact."

But, to revise Omar Khayyam: the moving finger, having writ, moves backwards when new primary sources become accessible. The sources are the digitised correspondence of Florence Nightingale[1] and digitised parliamentary debates and Bills from the 1870s. They reveal that Chadwick played an important but hitherto unrecognised role in the passage of the 1875 Public Health Act, which resolved the uncertainty in the state's approach to disease prevention. Chadwick, a lawyer by training, had emphasised an infrastructure planning approach while his successor John Simon, a surgeon and pathologist, chose to devote more resources to medical research. Recognition of Chadwick's role will help to clarify why the 1875 Act led to a steady increase in national life expectancy.

THE CHADWICK ERA 1838-54

Chadwick was secretary to the Poor Law Board and did most of the Board's work, having been passed over for a more senior role because the government considered that his 'station in society was not as would have made it fit that he should be made one of the Commissioners'.[2] Resentment at this class discrimination, and a determination to prove his superiority, may have engendered the uncompromising approach that blunted Chadwick's undoubted intellectual capacity and productivity.

The Board began to take an interest in the health of the poor as epidemic disease became an increasing cause of unemployment, poverty, and public expenditure. In 1838 the Board authorised Chadwick to identify ways to reduce this expensive ill-health. He published his *Report on the Sanitary Condition of the Labouring Population of Great Britain* in 1842. 'Sanitary' had been until then a synonym for 'healthy', but because Chadwick's report identified the filthy state of the growing industrial towns as a cause of epidemic disease, his supporters began to use the word in its 'sanitarian' sense of cleanliness.

Chadwick believed, like many medical practitioners in the 1830s, in the miasma theory that epidemic disease was propagated by 'atmospheric impurities produced by decomposing animal and vegetable substances, by damp and filth, and close and overcrowded dwelling'.[3] The lack of

ventilation in the dwellings of the poor, he believed, exacerbated the action of the polluted atmosphere. His proposed solution was to remove the filth from dwellings and streets by means of sewer pipes regularly flushed with water delivered under pressure.

Chadwick's work led to the 1848 Public Health Act which set up a General Board of Health for an initial period of five years, annually renewable. Chadwick was the Board's guiding force. The 1848 Act was 'permissive': a minority of voters could opt their locality into the oversight of the General Board of Health but there was no compulsion unless the mortality was above the national average. The Act allowed levying of rates on property owners to finance the sewers. A newspaper campaign accused Chadwick and the Board of 'centralisation', a code word for attacking the local vested interests of property owners. Some civil engineers, who might have helped him to market his infrastructure projects, also opposed his 'all or nothing' approach which required both sewerage and a constant supply of water. Their municipal clients often wanted only one or the other - for example. water distribution for fighting fires. When Parliament debated a prolongation of the Board in 1854, Chadwick could not muster enough personal support. The Board survived in a restructured form, but Chadwick was obliged to retire from the Civil Service.

THE SIMON ERA 1854-71.

After Chadwick's departure, the General Board of Health appointed the surgeon and pathologist John Simon as its chief medical officer. The Board continued in existence until 1858, when a new Public Health Act transferred its functions to the Privy Council.

Simon had been critical of the coercive powers and 'despotism' of the General Board of Health.[4] His medical department was under continual threat of closure as national government veered between liberal proponents of sanitary expenditure and conservative anti-sanitary forces. Simon was careful not to be as coercive as Chadwick in enforcing sanitary legislation which would increase property taxes and provoke reaction from property interests that would imperil his medical work.

Professionally, too, it suited Simon to occupy his department with medical research that fitted with his training as a surgeon and pathologist, rather than venture into sanitary enforcement. Even after new legislation in 1866 imposed compulsion on the local authorities, rather than simply giving them permission to act,[5] Simon continued to argue that persuasion was better than 'invidious' compulsion, justifying the addition of highly-qualified medical staff to his department:

> *We no doubt might from time to time come on a case of wilful and obstinate sanitary malfeasance against which we must have to take the invidious position of public complainant; but we knew that, with infinitely greater frequency, the cases claiming attention would be cases of imperfect local enlightenment, … [and] the local authorities, which ought to be instituting reforms in the spirit of the new law, would often be most glad that the enquiring [Medical] Department should give them its skilled interpretation of the local sanitary needs.*[6]

It is unclear in the quotation above, whether Simon was using the expression 'sanitary needs' in its original sense of 'relating to health' or in Chadwick's newer sanitarian sense of 'cleanliness'. He had defined 'sanitary progress' as progress in medical science, not cleanliness, in his *Papers Relating to the Sanitary State of the People of England* (1858):

> *'the sanitary progress of localities is almost an educational matter (wherein enlightenment counts for much more than compulsion) … local authorities, most of all where large populations are concerned, are imperatively bound to keep themselves properly advised by skilled officers as to the special causes of disease operating within their respective jurisdictions.*[7]

It is clear from this that Simon saw his role as developing a comprehensive state medicine which would cure or prevent specific diseases after identifying their causes. At a time when germ theory was a vague etiological hypothesis, alongside such alternatives as electricity in the atmosphere, bad smells, or damp ground, Simon's technocratic vision was futuristic. It could also blind him to sanitarian solutions that would improve clinical outcomes *without* identifying specific diseases and their causes. For example, his 1858 *Papers* poured cold water on what he called Dr John Snow's 'peculiar doctrine' that cholera could be transmitted through the faecal-oral route. 'We must wait for scientific insight, the fruit of larger observation', Simon told his superiors.[8]

Despite the exalted powers conferred on Chadwick and then Simon by the Public Health Act of 1848, there was no improvement. Between 1840 and the mid-1870s national average life expectancy in England remained at forty years. Outside the towns, life expectancy was increasing as it had been doing for a century. This rural improvement was being cancelled out by deteriorating life expectancy in the towns as a large proportion of the population migrated there for better wages. In 1801 only one fifth of the population had lived in towns. 50 years later, in 1851, it was more than half. Liverpool's population had multiplied by nearly five. Contemporaries were shocked to be told the average age of death of those born there to labourers' and artisans' families was fifteen years.[9]

THE SANITARY UNDERGOUND 1858-75

Florence Nightingale became involved with the sanitarian campaign in 1858 out of dissatisfaction with the treatment of common soldiers during the Crimean War.[10] After returning from the Crimea in the summer of 1856, she worked intensively with the radical epidemiologist William Farr on the statistics of deaths from sickness during the war.

In March of the following year, when she and Farr had concluded that sanitary defects had caused the high mortality of the Crimean army from sickness, she wrote an exhortatory, even messianic, letter to her father showing that Chadwick's ideas on sanitation had taken on a deep significance for her: "Do you believe that He stops the fever, in answer not to 'From plague, pestilence and famine, Good Lord, deliver us' but to His word & thought being carried out in a drain, a pipe-tile, a wash-house …"[11]

The expression 'pipe-tile' can only refer to Chadwick's idea of using glazed earthenware pipes flushed with water to construct the local sewage collection networks. This unconventional technical proposal had caused many civil engineers to oppose him.[12] Addition of professional engineers to his already extensive list of opponents had helped to provoke Chadwick's downfall in 1854. There is no evidence that Nightingale had met or corresponded with Chadwick before this, and it is likely that she learned about Chadwick's unconventional sewer designs from Farr.

In the spring of the following year she wrote to Chadwick, then nearly four years into his retirement, inviting him to visit her. She wanted his help in publicising the report of a Royal Commission into the Sanitary State of the Army. Chadwick visited her in Mayfair and began to publish positive reviews of the report.

Later that year Chadwick wrote to Nightingale to explain why he had turned his attention from Poor Law expenditure to prevention of disease: 'The truth is that my conception of poor law legislation was for prevention rather than repression, but finding I could not move others beyond repression, I directed my labours to measures for the prevention of disease: hence the report of 1842 & subsequent sanitary reports.'[13] He may have tailored this explanation to soften his hard-hearted Poor Law image with Nightingale, but there is truth in it. The government left his preventive proposals out of the Poor Law Amendment Act of 1834 to speed its passage through Parliament. A more important truth is that his four years of intensive study of data submitted by

many knowledgeable observers throughout the country had changed his perception of poverty. Chadwick no longer held the view that 'poverty and the consequential resort to the parish were evidence of shortcomings of character which could only be cured by a deterrent poor law'. His treatment in the 1842 sanitary report of the public expenditure issue, the original cause of the Poor Law Board's interest, was cursory. The Board refused to sign his radical report which he therefore published as sole author at his own expense, ensuring his unique place in history.[14]

Nightingale drew Chadwick's attention to John Simon's 1858 report and its claim that epidemics of whooping cough, measles, and scarlet fever were 'practically speaking, unavoidable causes of premature death'. Simon based his reasoning on figures that showed uniform distribution of these diseases, and the fact that they were transmitted from person-to-person so that victims could contract them 'wherever human beings can cross one another's path'.[15] Nightingale told Chadwick that Simon was dismissing Chadwick's remedies of improved drainage and ventilation.[16] Simon's readers could infer that these were not a 'practical' means of reducing mortality.

After reading Simon's report, Chadwick confessed to Nightingale that he had previously been taken in by Simon's 'sounding generalities'. He had been mistaken about how much Simon knew about sanitation. He wrote gratefully to Nightingale 'I assure you that your approval of my labour is a restorative of sinking spirits, amidst the almost solitude in which I have been living … and that it will be a stimulus to further exertion.'[17]

Shortly afterwards, Simon's co-author Edward Greenhow wrote to *The Builder* objecting to an article which associated a reduction in scarlet fever with improved drainage. 'It is so very important that no false expectations of the benefits derivable from sanitary exertions should be raised in the public mind', Greenhow wrote, 'There are, indeed, certain diseases which are preventable, but this does not apply to scarlet fever.' Nightingale responded in *The Builder* pointing out that the article he criticised had been about reducing *mortality* from the disease, not about preventing it, i.e. reducing *morbidity*. When Greenhow responded that he knew of a district where improved drainage had *not* reduced scarlet fever, Nightingale replied that drainage was only one of the 'sanitary exertions' that Greenhow had accused of raising false expectations. Ventilation and reduction of overcrowding, the other weapons in Chadwick's sanitarian armoury, were also important.[18] Simon and Greenhow may have been incompletely informed about sanitarian policies.

Nightingale's investment in turning Chadwick against Simon was to pay a handsome dividend more than a decade later when, as we will see below, Chadwick used his Poor Law Board contacts and reputation to terminate Simon's career. Meanwhile, Nightingale sent Chadwick a copy of her report to the Minister of War, stressing that it was confidential. 'I thought however I was in duty bound to send a copy to you who have always been our leader.'[19] In reality she was leaking it to prominent citizens in all walks of life, under seal of confidentiality, to mobilise opinion in favour of sanitary reform.[20] Her confidential report laid the blame for the excessive army mortality on neglect of Chadwick's doctrine of ventilation, drainage, and reduced overcrowding. 'The operative causes of our great mortality were - 1. Overcrowding of the Patients in the buildings, so that it may safely be said that, treated under a hedge, they would have had more chance of recovery. 2. Extremely defective drainage.'[21]

These exchanges show that Nightingale's main priority had become to revive Chadwick's defunct sanitarian movement. The government had dismissed Chadwick just two months before Nightingale went to the war. Soon after she had arrived in Turkey, military and meteorological reverses had caused the huge influx of patients in the hospitals. If Chadwick's team had not been dismissed in August 1854, they would have remedied the hospital sanitation. Lord Palmerston had sent three of them to perform that task as soon as he became Prime Minister in January 1855.

Nightingale publicly criticised Simon in her *Contribution to the Sanitary History of the British Army* (1859) over his claim of 'practically speaking, unavoidable causes of premature death'. She included her polar area chart, a before-and-after diagram which rebutted Simon by showing that the sanitary and supply improvements in 1855 had dramatically reduced deaths from epidemic disease.

Nightingale's written output over the next decades was prodigious, and she constantly promoted Chadwick's ideas on ventilation and drainage. She wrote for every level of society, from parliamentarians, royalty, and scientists to domestic servants. Her most famous book, *Notes on Nursing,* (1860, suggested to her by Chadwick[22]) was a self-help manual for keeping premature death out of the home. It was more about domestic hygiene than hands-on patient care, and introduced the concept of 'health of houses' which depended on "Pure air, pure water, efficient drainage, cleanliness and light". Written in simple non-literary language, it sold 15,000 copies in the first month, at five shillings, and a cheaper edition quickly followed at two shillings.[23] It has never been out of print. Her *Notes on Hospitals* (1863) made her a respected worldwide authority on hospital construction, advocating the system of separate 'pavilions' to admit fresh air. She organised 'health missioners' and district nurses to spread the message by word of mouth to an even less literate audience, on occasion poaching hospital nurses from the Nightingale Fund training school at St. Thomas's for the purpose.[24] Her reputation among the working-class families whose sons had died in their thousands during the war, her social standing, her communication skills, and the tacit support provided by liberal politicians, enabled her to convince all classes of the need for better sanitation. At first she adopted the same miasmatic theory of disease as Chadwick, but by the late 1870s she diverged from him and began to promote specific hygiene measures against bacteria.[25]

THE NIGHTINGALE ERA 1871-75

The chief obstacle to enforcement of sanitary legislation under John Simon had been the 'landed interest' in Parliament, perpetuated by the restriction of the voting franchise to property owners.

The 1867 Representation of the People Act almost doubled the electorate by extending the franchise to men who paid rent. In the subsequent general election of 1868, this working-class electorate returned fewer landlords to Parliament and established a government made up of political parties of liberal leanings. This government initiated a Royal Sanitary Commission which in 1871 drafted a new Public Health Bill which for the first time would have made mains sewer connection compulsory, but only for new houses.[26] Responsibility for seeing the Bill through Parliament fell to one of the most progressive members of the government, James Stansfeld, a Radical Party MP and President of the Local Government Board. The Board took over John Simon's Medical Department from the Privy Council, along with the Poor Law office and the Registrar General's Office including its chief statistician William Farr, Nightingale's ally and mentor.

Chadwick told Nightingale that he planned to advise Stansfeld 'to take counsel independent of Simon'. Together they drafted a memorandum advising Stansfeld to recruit people less versed in 'theoretical medicine'.[27] Nightingale then wrote to her brother-in-law Sir Harry Verney MP asking him to urge Stansfeld to amend the Royal Commission's Public Health Bill to cover *existing* houses, as well as new, and to give inspectors the right to examine *indoor* sanitary facilities as well as the *outside* connection to mains drainage. [28]

Two months after this, Stansfeld's Public Health Bill had its first reading in the Commons. *Hansard* reported that he had extended the legislation to existing houses and to indoor sanitation, as Nightingale had asked:

> *… the first great necessities, from a sanitary point of view, were pure air and pure water; and he [Stansfeld] would add that pure air was more needed in-doors than out. Outside there might be much that was offensive; but even noxious gases, if mixed with a sufficient supply of life-giving air, might not be dangerous. But when such gases penetrated into poverty stricken, unventilated, and over-crowded houses, they were extremely dangerous. Therefore, he had taken the responsibility of recommending that the local sanitary authority should have the function, and at least the right of looking to the condition of drains, not only outside but inside houses, and of taking care that sources of disease should not, through a bad system of drains, affect the health and lives of the population.*[29]

'You will see that he inserted 'our' clause in his sanitary bill,' Nightingale wrote to Verney a month later, 'and some say it is one of the best clauses in it.'[30]

In July, *Hansard* recorded Stansfeld's aversion to the medicalising approach followed by Simon:

> *'He [Stansfeld] had had many discussions with medical men on the subject, and had not always agreed with them. He had no intention of committing the whole sanitary administration of this country to medical men . . .*[31]

Simon acidly described his status under the new legislation: 'the transferred Medical Officer of the Privy Council … was duly pigeon-holed.'[32]

The provisions of Stansfeld's Bill eventually passed into law in the 1874 Sanitary Law Amendment Act, repealed and replaced by the 1875 Public Health Act. This landmark legislation marked the turning-point in England's dismal public health record. Urban population continued to grow, but despite this life expectancy steadily increased from 40 years to 60 over the next 60 years, before medical treatment could make any contribution (Figure 1).

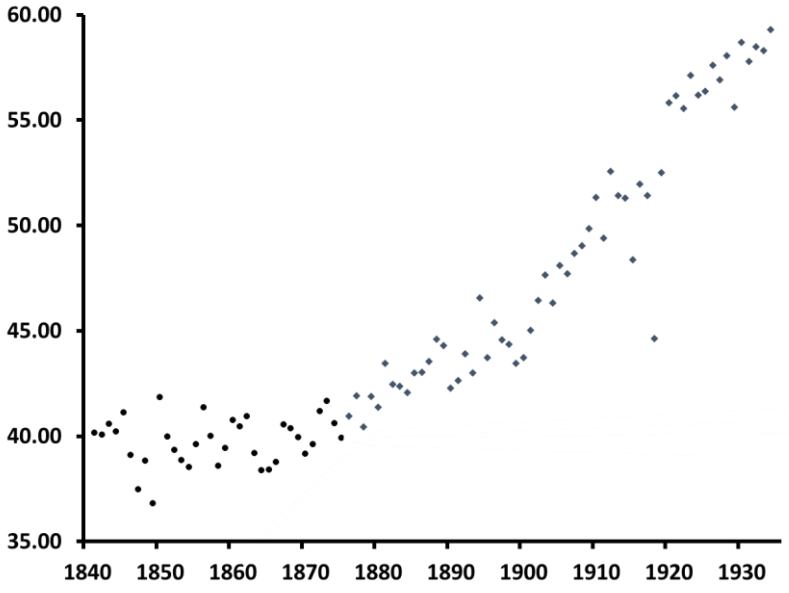

Figure 1: English male life expectancy 1840 - 1935

Source: Office of National Statistics

The registered causes of death that declined most in the period after 1875 were infectious diseases transmitted by microorganisms in air, water, and food. Statistical analysis suggests that the main cause of the improvement was the expansion of mains drainage infrastructure and the decentralised enforcement of relevant legislation.[33] Disposal of human waste from dwellings through closed drains obviously greatly helped to avoid contamination of water and food and thus reduced mortality from typhoid, dysentery, and diarrhoea. Running water in the home facilitated

hand-washing and cleanliness, reducing the faecal-oral infection route.[34] Less obviously, these 'classic sanitation' diseases often left their survivors permanently weakened, making them more likely die from airborne diseases later. Farr had pointed out as early as 1839 that in fatal respiratory diseases the 'pulmonary inflammation was, in many cases, developed in the course of measles, influenza, and other diseases of the first class [the class which also included the very common typhoid, dysentery, and diarrhoea].'[35] Farr was pointing out that the disease cited on the death certificates might be the last disease seen in the company of the deceased, so to speak, and therefore the prime suspect in the killing. But the real perpetrator (and possible focus for preventive efforts) might be an earlier infection.

THE INVISIBLE SANITARY REVOLUTION

History has been strangely silent on the impact of the 1875 Public Health Act. For most of the last fifty years historians portrayed the post-1875 increase in life expectancy as a collateral benefit of unrelated changes in society. The most widely known theory is still that of Thomas McKeown, which attributed the decrease in premature mortality mainly to increased national income and standard of living, and consequent improvements in nutrition. McKeown reached this conclusion after eliminating improvements in medical therapy and arguing that sanitation played only a minor role.[36]

It was easy for McKeown to eliminate improvements in medicine because he could show that therapies used during the period of greatest reduction were now known to be ineffective. McKeown's case against sanitation, though, contained several errors. One was that he equated sanitation with drainage only and did not include ventilation and reduction in overcrowding which affected mortality in respiratory disease. Another error was that he did not allow for the possibility that mortality from pulmonary infections could be a secondary and derivative effect of prior history of disease caught from sewage due to inadequate drainage.[37]

Simon and Greenhow had made both of these errors in 1858 by ignoring the findings of Chadwick (ventilation) and Farr (prior history). McKeown might have avoided repeating the errors if the scientific basis of the sanitarian campaign leading to the 1875 Public Health Act had been more widely known. McKeown's objective was to deflate the pretensions of the medical profession and its historians. Because civil service leadership of sanitarian initiatives had seemed to die out with the eclipse of Simon in 1871, it was an easy mistake to throw out the orphan sanitarian baby with the medical bathwater.

THE INVISIBLE EDWIN CHADWICK

History's neglect of the 1875 Act may be partly explained by Chadwick having dropped off the radar. Of the many biographers and historians who dealt specifically with Chadwick, none even mentions his post-retirement conflicts with John Simon. Even if he were misguided, one might expect Chadwick's successful lobbying against Simon would be worthy of note. Only Royston Lambert in 1963 mentions Chadwick's hostile reaction to the 1858 report in which Simon claimed that premature mortality was 'unavoidable', and his role in Simon's 1871 demotion. Lambert dismissed Chadwick and Nightingale as 'etiological bigots' consumed with 'smug layman's arrogance'.[38] Lambert's scholarly and partisan biography of Simon is an example of the medical myth-making that McKeown set out to debunk.

F. B. Smith's obsessively critical study of Nightingale (1982), like his earlier *The People's Health*, was strongly influenced by McKeown's anti-medical bias. Despite this, Smith was so determined to criticise Nightingale that he found himself defending the medical men, Simon and Greenhow, whom she opposed.[39]

Both Lambert and Smith quoted extensively from Nightingale's correspondence in the British Library on the subject of Chadwick's cooperation with her. Earlier biographies by Finer and Lewis (both 1952) did not mention that source, which was not available when they were researching their doctorates in the 1940s. Of the two, Finer is more supportive of Chadwick; his working-class background would have made him sympathetic to the class discrimination that Chadwick suffered. In writing of Chadwick's retirement, Finer describes many effective posts and interventions, perhaps too many, and maintains that Chadwick's contemporaries recognised that the final adoption of sanitary measures nationwide was due to his pioneering efforts. He does not mention Chadwick's involvement in the 1875 Public Health Act, which is only documented in Nightingale's correspondence.

It is curious that Finer, speaking of the period before 1870, says that "the national figure in sanitation was no longer Chadwick, but Florence Nightingale".[40] One might wonder why he omitted John Simon. But in the working-class inner London of Finer's experience, slums, epidemics, and 'fever hospitals' were still commonplace, and folk memories of Nightingale's sanitarian leadership trumped the pretensions of the medical hierarchy.[41]

Chadwick's more recent biographer Brundage (1988) counters what could be perceived as Finer's starry-eyed portrait. Brundage's chapter on the post-retirement years mentions none of the honoured positions catalogued by Finer, concentrating instead on humiliating rebuffs like the failed attempts to enter Parliament. Chadwick appears to be the quintessential loser. In retirement, Brundage claims "time had not abated his enthusiasms for the severe doctrines of 1834". This is factually inaccurate: as already shown, they were abated even before the 1834 Poor Law was enacted. Brundage quotes Lambert's biography of Simon, but fails to call in evidence Lambert's most serious charge – that Chadwick aborted a nascent state medicine by conspiring to have Simon dismissed. Such a damning accusation would have taken down Nightingale too, the other conspirator, whom Brundage admiringly deploys as a witty deflator of some of Chadwick's less sensible ideas.[42]

It is Hamlin's 1998 study of the Chadwick era that draws the appropriate conclusion from Chadwick's rise and fall. The date range in Hamlin's subtitle, *Britain 1800-1854,* explicitly leaves out Chadwick's 1858 split from Simon and his 1871 role in demoting him, but this detracts nothing from the logic. On the contrary it gives Hamlin's analysis a predictive power to explain post-1854 developments. Hamlin pushes back on the thesis of Oliver MacDonagh which he characterises as maintaining that the nature of society's harms, once known, predetermine the solutions that will occur by a natural organic process. Epidemics of infectious disease automatically lead to municipal sanitation, would be an example. Hamlin bases his counter- argument on two observations. First he quotes E. P. Thompson: "We forget how long abuses can continue 'unknown' until they are articulated; how people can look at misery and not notice until misery itself rebels."

Second, Hamlin says that "conditions do not *explain* changes in social thought or institutions." History shows that such changes are not predetermined by the problem. A society chooses among various solutions, based on the perceived 'wisdom of the group'. The decisions of 1848 and 1854 are prime examples. In 1848 Chadwick's solution caught the imagination of society, but by 1854 his loss of public and political support led to an alternative being chosen: John Simon's medical project to find cures for specific diseases. Simon's 1871 demotion and the localisation of enforcement is an even better example and illustrates what Thompson means by 'until [abuses] are articulated'. For a decade Nightingale had been spreading the Chadwick gospel, rebranded under her name and illustrated with her Crimean War mortality statistics. The political power of the new more inclusive government was necessary but not sufficient to act: the cabinet could now make its choice knowing that Nightingale had created a new 'wisdom of the group'. The political decision

to remove Simon was a choice that blocked other avenues. Who can say whether the decision did, indeed, abort a nascent national health service as Royston Lambert claimed? Simon's research into the causes of disease had not yet born fruit when his Civil Service career was cut short at the same age as Chadwick's. How much he might have been able to achieve in the emerging science of bacteriology can never be known.

CONCLUSION

Nightingale was the leader of the revitalised sanitarian movement from 1858 which implemented Chadwick's 1848 plan: lock, stock, and tubular glazed earthenware pipe. She was not just the leader: she was the propaganda department that created the new national consensus. She restored Chadwick's self-respect and unleashed his prodigious energy, and she put Farr's statistical expertise in front of the audience that his humble birth, lowly civil service rank, and controversial opinions denied him. She negotiated the key provisions of the 1875 Public Health Act with the government.

But the biggest winner was Edwin Chadwick, who received his knighthood in 1889 a few months before he died. When he had absolute power, success and public recognition eluded him, but when he had none it fell into his lap.

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