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Published in:
Modern History Review

Publication date:
2021

Document Version
Author accepted manuscript

[Link to publication in ResearchOnline](#)

Citation for published version (Harvard):
Greenlees, J 2021, 'Unhealthy environments in Victorian Britain: when air quality began to matter' *Modern History Review*.

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Unhealthy environments in Victorian Britain: When air quality began to matter

Janet Greenlees

The unhealthy Victorian environment is often considered solely within a context of overcrowded towns and cities, poor sanitation and the Great Stink of London in the summer of 1858, with reforms ascribed to individuals like **Edwin Chadwick**, **John Snow** and **Joseph Bazalgette**. However, the growing interest in environments enabled the sanitary focus to expand to include air quality, both internal and external, although associated reforms were more complicated.

The challenge of urban environments

By 1851, Britain for the first time had become a nation with more town than country dwellers. This rapid urban growth was captured in the Censuses and created many health problems. The poor, who comprised most of the new urban residents, were crammed into filthy, poorly ventilated dwellings, with inadequate drainage and sewage. These were also the people who worked in crowded, noisy, dusty workplaces. Both the living and working environments were such that the poor were most susceptible to associated diseases, including, the 'filth diseases'. Victorians classed 'filth diseases' as those which infected the gastrointestinal and respiratory tracts and included diarrhoea and dysentery, typhoid, bronchitis, pneumonia and tuberculosis. Yet the very term 'filth diseases' placed blame on the living conditions rather than the people who, by poverty, were forced to live in them. This shift in responsibility led to environments rather than individuals becoming the focus for reform.

In his 1842 *Report on the Sanitary Conditions of the Labouring Population*, Edwin Chadwick pleaded for the improvement of sanitary structures, including water supplies, drainage and waste removal. Within twenty years of the report, this best-selling publication influenced major improvements in all these areas and was supported by many middle-class citizens from fear of deadly diseases like cholera. By the 1880s, due to national and local government efforts, certain sanitary standards of Britain's major cities had undergone vast improvements, while air quality was more controversial.

Air Quality: Public and Private

Victorian debates about air quality centred around the miasma theory which, since ancient times, had dominated medical and public beliefs about disease contagion. The theory held that diseases like cholera were caused by bad air, including the 1850s cholera epidemic that swept through London and Paris. This belief was justified when during the long hot summer of 1858, the water level in the River Thames lowered so that the human and industrial waste that had been regularly dumped in the river for many years became visible on its banks. The associated stench became known as the Great Stink, with many believing these

smells were spreading diseases. Despite the efforts of doctors like John Snow, it was the 1880s before germ theory became the dominant belief about contagion.

Yet not all air pollution was believed unhealthy. Victorians considered the coal smoke from both the home fireplace and factory chimneys to be good, honest dirt and not out of place. The traditional open fire which heated most homes was thought to provide ventilation and create a 'homely' atmosphere. Even in the early 1900s, many still believed that one of the best ways to ensure the circulation of air within the home was using an open coal fire. For this reason, few local or national politicians considered regulating coal fires and were also fearful of regulating the private space of the home.

The industrial smoke which polluted the air throughout the cities was also viewed positively. To politicians and the middle-classes, this smoke was a sign of industry, wealth and civic pride. To workers, billowing factory smoke meant employment; its absence, unemployment, hunger and poverty. Hence it is unsurprising that new residents to industrial towns quickly adapted to the pollution rather than objecting to it.

This is not to say that there were no efforts to combat industrial air pollution. The **1875 Public Health Act** obliged town councils to prosecute polluters if their furnaces were not constructed to consume their own smoke and if their chimneys released enough black smoke to be a nuisance. Yet this legislation was so ambiguous that employers could easily avoid prosecution. The ever increasing air pollution drove birds and other wildlife out of the cities and aggravated existing respiratory complaints like bronchitis and pneumonia of the people who lived in them.

Air Quality in Workplaces

Throughout the nineteenth-century discomfort, disfigurement and loss of life posed regular industrial hazards, yet the air quality within many workplaces posed additional health risks for those employed. Miners worked long hours underground, inhaling air laden with coal dust which caused the potential fatal respiratory diseases **emphysema** and **silicosis**. The atmosphere of factories in a wide variety of industries was little better. Standing for ten or more hours a day in frequently hot buildings with little or no ventilation, workers inhaled fine particles from the materials with which they worked. The steel fork-grinders in Sheffield inhaled metal into their lungs, so that few reached the age of forty. Potters in Stoke-on-Trent inhaled clay silica, which could cause silicosis, as well as coal-dust and smoke from the ovens, and few lived past age 46. Lancashire cotton workers inhaled fine particles of cotton dust which could cause **byssinosis**. In addition to occupationally specific diseases, the regular dust inhalation aggravated existing respiratory problems, including bronchitis and pneumonia. While from at least the 1830s, workers and some doctors recognized how dusty work atmospheres caused respiratory problems, and there were limited efforts to regulate the working environment, the air quality on the shop floor improved little during the century.

Responsibility for and awareness of air quality in workplaces

While by the third quarter of the nineteenth-century ventilation and extraction technology was increasingly able to manage the aerial environment in workplaces, not all employers invested in it; nor did workers always follow safety precautions. While the various Factory Acts restricted the working hours of women and children and sought to improve health and safety, the atmosphere was not among the reforms. This inaction stemmed not from the lack of political desire to improve the air quality in workplaces, but from the difficulty assigning responsibility for health at work. All levels of government believed employers knew what was best for industry. Employers successfully argued that industrial regulation would damage the British economy. Instead, they blamed their workers for carelessness and an unwillingness to change their workplace practices. This holds limited merit for workers paid by the piece (the amount produced) rather than by the hour. They feared how simple changes which could improve the atmosphere, like opening windows, might reduce their productivity and hence, their wages. However, financial necessity does not necessarily mean ignorance or apathy on the part of workers.

Parliamentary enquiries and novelists reveal how townspeople were very aware of the respiratory hazards caused by local industries. For example, in her 1854-55 novel *North and South*, Elizabeth Gaskell's Lancashire character Bessy, described how in the **carding-room** in the cotton mill where she worked, the 'fluff got into my lungs.' 'There's many a one as works in a carding-room, that falls into a waste, coughing and spitting blood, because they're just poisoned by the fluff.' While it was the late nineteenth century before the disease byssinosis acquired its names, workers were well aware that inhaling cotton dust made them feel unwell and recognised the symptoms. With similar timing, silicosis acquired its formal name. Yet workers in all the dusty industries were acutely aware that inhaling industrial dust damaged their health.

Coping with an unhealthy working environment

There is no reason to assume that people living in the 1800s were any less concerned about their health than people today. It would also be wrong to assume that workers always prioritized money before their health. Instead, workers and their unions argued for improvements, occasionally struck and also adopted coping mechanisms. Remembering that workers lived in damp, chilly houses, with frequent exposure to contagious diseases, alongside the high **infant mortality rates**, expectations surrounding what comprised a healthy body were different from those in the twenty-first century. Nevertheless, individuals recognized that excessively dusty workplaces created additional health hazards which needed managing.

Workers were used to dealing with whatever life threw at them, rather than merely accepting it. Some firms gained reputations for having better conditions and workers actively sought work in these firms. Switching firms was more common among female than male workers because they were denied access to the more skilled and better paid jobs. However, when switching firms was not feasible workers developed coping mechanisms. For example, to try and remove dust from the lungs, workers spat. When this did not work, workers, both men and women, chewed tobacco to induce coughing to try and clear the airways. They also turned to the herbal remedies and the many patent medicines on offer

during the nineteenth century. Among the sellers' many claims were that their product could prevent or cure fatigue or clear coughs and associated diseases, including bronchitis, pneumonia and tuberculosis. With little regulation of contents, these elixirs comprised mostly alcohol and sometimes morphine. While the alcohol could quiet the cough and morphine would block any pain, more broadly, these remedies enabled workers to manage some of the daily health risks faced both at work and home.

Legacy

It was the twentieth century before the true health impact of these aerial hazards was understood, urban air pollution was tackled and extensive technological investment enabled proper dust extraction in workplaces. Yet the rapid industrial growth in Victorian Britain raised questions surrounding the role of governments in regulating air quality, relationships between health, work and responsibility, and connections between industry and environments. While Britain's air quality, both inside and out, has improved considerably since Victorian times, the questions raised then remain under debate today.

Points for discussion

Why was air pollution controversial in Victorian Britain?

Who was responsible for air quality?

Which was healthier for the Victorian industrial worker, the home or the workplace?

How would you explain workers' choices for dealing with the poor air quality?

Further reading

British Library, Victorian Britain: Health and Hygiene in the 19th century:

<https://www.bl.uk/victorian-britain/articles/health-and-hygiene-in-the-19th-century>

The Victorian Environment: <http://www.victorianweb.org/science/environment/index.html>

Victorian Medicine, From Fluke to Theory:

http://www.bbc.co.uk/history/british/victorians/victorian_medicine_01.shtml

Public Health Act, 1875: <https://navigator.health.org.uk/content/public-health-act-1875>

Air Pollution in Victorian-era Britain – its effects on health now revealed:

<https://theconversation.com/air-pollution-in-victorian-era-britain-its-effects-on-health-now-revealed-87208>