

To what extent were
the changes in
sanitation main



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ly responsible for Bristol's improved healthiness between 1849 and 1870?

In 1869 the Times reported that Bristol was one of the healthiest towns in the country. Yet just less than quarter of a century earlier that same newspaper made a very different claim. Bristol was seen as the third most unhealthy town in Britain. If we are to believe these reports it seems that a transformation had come about in a relatively short period of time. This study seeks to identify what improvements did take place in Bristol during the 1850s and 1860s and the extent to which an improved sanitary system led

to increased life expectancy and a healthier environment.

There are many different characteristics of an unhealthy city. These include a poor water supply, inadequate sewage systems that couldn't cope with the population explosion of the 1820s in Bristol, a lack of street lighting in the poorer districts of the city and unsanitary refuse disposal. The quotations from the Times suggest that some of these factors were drastically changed during the period 1849 and 1870 in particular water supply, sewage disposal and refuse disposal.

In 1850 George Clarke investigated the condition of Bristol in his report to the General Board of Health in London. His findings were shocking portraying Bristol as having many problems connected with the sanitation of the city. He reported that the mortality of the city was twenty-six deaths per thousand. This mortality and the sickness that it represents caused the city to lose money, as there was a loss of productive labour, medicines and relief. Mr Clarke believed that the excessive mortality and sickness was to be attributed to the bad condition of the houses that the labouring classes
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(which form 54. 8% of the population) of Bristol lived in, the want of drainage and water; and to the " filthy" state of most of the suburban streets and lanes; also the want of scavenging arrangements in parts of the old city and Clifton.

He found that parts of the old city and Clifton, parts of the districts of St. Philip and Jacob were imperfectly lit and Bedminster had no apparent lighting. He found that the gas rates in Bristol in comparison with other places were exorbitantly high for a city with such a fortunate geographical site.

He found that the powers of the local government were quite insufficient for the sanitary wants of the city. The sewerage of the city was confined almost entirely to the old parts of the city (in 1850) and Clifton.

Bedminster was without any sewers at all but the general flow was towards the Frome or the Avon. The Dock Company laid the Broad Street sewer to convey from St Philips and Jacobs sewers into the new cut alongside Coronation road 1803-1809. They also laid another sewer in the Hotwell road, opening onto the river.

The city burial-grounds in 1850 were utterly insufficient being almost full and surrounded by houses. Burial grounds were raised above the surface of the adjacent land, and the walls were invariably in bad repair. The corpses already deposited will continue for several years to cause a discomfort to the living. Such grounds it was suggested, should be lowered, with all decency, the walls removed or rebuilt, a deep drain carried round the whole space and the surface either flagged or laid down in turf and planted.

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These burial grounds were gradually amended through citizens writing to the local board of health, who then sent a surveyor to the site who reported on the condition and what repairs needed to be done, then the repairs were done.

Bristol Water Company (1846) met strong and expensive opposition from parliament in 1846 during the execution of the works, but they must have succeeded as in 1847 part of the water supply was being bought into Bristol. There were three service reservoirs constructed for constant distribution over the district and stores for fire. These were at Bedminster Down for the supply of Bedminster and the south of the city, secondly, on Whiteladies road to supply the lower parts of the city and Durdham Down for the supply of the more elevated parts of Bristol such as Redland, Clifton and Kingsdown. There were also three compensating reservoirs built for flooding and storage for distribution over the district. This (if people were prepared to pay the rates) supplied much needed water to a large proportion of the city. The water was conveyed from

Barrow Gurney in 20-inch clean pipes to Whiteladies road, this water was also filtered - this was a new phenomenon. However in George Clarke's report of 1850 there are reports of spring water pumps looked identical to river water suggesting that river water was simply conveyed into the city instead of spring water. Although Bristol water company was providing safe water, in context to a city that was full of dirty stagnant water this was an achievement, however many parts would still have been rife with

diseased

water. The change Bristol Water Company's formation had on the city of Bristol was a direct effect on the sanitation as some people were receiving a clean water supply.

Although many of the houses in and around Bristol were altogether without sewers, there was considerable storage of night soil in the ditches that intersect the low lands. Outside of the City the contents of these ditches were pumped onto farm land to use as manure. However when not dealt with

these ditches became horrendous producing a widespread " nuisance".

Bristol

lies in a basin, drained by the Avon and smaller rivers and streams that feed it. The Avon has the second largest tidal range in the whole world.

The sewage problem became acute in 1809, when the floating harbour was constructed. Before that, the Avon and the Frome were both tidal right through the city, daily ebb and flow were enough to carry away most of the waste produced by a small population. The construction of the floating harbour in 1809 made the centre of Bristol into a cesspool. The stagnant waters of the floating harbour rapidly filled up with sewage and conditions became harsh. The streets were no better than the rivers, as sewer building had not kept pace with the population. There weren't enough of them and many were badly constructed. Some houses were on the receiving end of sewers, which ran backwards. Even when some sewers were put in people did

not pay for it. Sir Henry de la Buch conducted a survey in 1845 and found <https://assignbuster.com/to-what-extent-were-the-changes-in-sanitation-main/>

the city "nauseating". A raging cholera epidemic was the last straw, 1848 Council at last determined to clean the city up and formed a Sanitary Committee, in direct response to the 1848 Public Health Act, the Local Board of Health. This was one of the most important developments in improving Bristol's health. It took responsibility for executing legislation passed in the recent act; James Harris was appointed clerk and Charles Paul became treasurer. The minute book clearly shows how grievances were raised and the remedies that were put in place. These minutes are official and at the beginning of each meeting the minutes from the last meeting were read and agreed on showing that the source is both accurate and reliable.

Letters of complaint were sent to the Board from members of the general public to be immediately addressed by discussion and a surveyor was then sent to make an official report into the grievances. The report made by the surveyor was then discussed at the next meeting and resolved by organising repairs and direct action. Organising the highways and corresponding with highway surveyors to rebuild or just build roads in accordance with the 1848 public health act was one of the first tasks addressed by the Board.

All proposed building plans had to be approved by the Board who sent a surveyor to investigate the drainage and check plans making sure that they met the standards of the 1848 public health act. Also people who wished to modify and carry out improvements on their property, e. g. building a cellar had to apply to the board of health. This is how architecture, poor

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sewerage and refuse disposal, unsafe flagging and lighting and many other grievances were addressed.

The board had to organise the lighting of streets and footpaths, and they were also the mediator between the person proposing to build and those who

have objections with the building. A finance committee was set up to deal with the financing of the local board of health. They investigated matters of levying rates and corresponding with London about the legality of collecting money.

In and around the city there were numerous and very large deposits of ashes, sweepings from the limestone roads, bones, rags and similar refuse, all of undeniable value to the meadows of Somerset and Gloucester, but which no one had either the time or energy or capital required to make arrangements for the removal via canal or train. The Sanitary Committee made this a priority setting up a transport system from the city to the countryside surrounding the city. The manure was collected from cesspits regularly and transported train to supply the meadows with greatly needed fertiliser. This refuse phenomenon greatly improved the cleanliness of the streets of Bristol and also there was less leakage from the cesspits into the water supply.

The Bristol Sanitary committee suggested that at long last water rates should be levied and was answered in the local press in August 1850 by an outraged citizen: "Gentlemen! Beware your pockets!" There was another cholera epidemic in 1854. It was only years later that the general The

General Board of Health issued a statement of the duties of " officers of health". These included " giving instructions and directions for the removal or prevention of causes of disease common to several persons, and also for the prevention or removal of causes of disease to individuals, where those causes come within the province of local administration under the Public Health Act". The officers were required to report quarterly to the General Board of Health on the nature and amount of sickness and death which had prevailed in their areas during the quarter, and annually to provide more details about the nature, location and rates of sickness and death, and possible future action for preventing identified causes. The consensus believed at last what Dr William Budd, physician at St Peter's Hospital from 1842 had been saying since his appointment that the disease did not arise from poisons in the air but from a living organism carried into the body namely from water into the body. However it was not compulsory for towns to have a Medical Officer of Health until 1875 so Bristol did not appoint a Medical Officer of Health until 1861. " Davies" an ex-police officer, he disinfected reported areas of disease and dirt, kept reports of deaths and births for statistical purposes and generally focused on improving the general health of the town. He should have been appointed earlier for a greater effect.

The compulsory vaccination act of 1853 introduced a mandatory vaccination for all infants within four months of birth against smallpox, but contained no powers of enforcement. Responsibility was with the poor law guardians.

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This vaccine would have decreased the number of people with small pox and therefore increased the general healthiness of a city such as Bristol. As a consequence to the production of this vaccination, many vaccinations started to be developed. Again findings contributing to increased healthiness of the masses. Medical developments were international, in France Louis Pasteur's work for French wine growers on fermentation led to the 'germ theory of disease' - that micro-organisms in the atmosphere were responsible for souring wine also making people ill. Robert Koch devised techniques needed for isolation and identification of individual bacteria.

As more and more bacteria were identified affective treatment and cures could be devised, however Robert Koch's findings were not developed and used before 1870.

Medical ignorance contributed to a high death rate particularly among young children, infant diarrhoea was common. Doctors could only relieve symptoms of common childhood diseases such as whooping cough, measles, scarlet fever and diphtheria. Compulsory education ensured infectious diseases became wider spread.

William Farr was a doctor who worked for the Registrar General of Births, marriages and Deaths from 1839 to 1879. during the 1840s he brought in a system of accurate recording of the causes of all deaths in each district.

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A death certificate had to be signed by a qualified doctor, giving the cause. This meant that by the 1850s there were plenty of accurate statistics that could be used to show that disease was far worse where sewerage and water systems were bad.

Another breakthrough came with the cholera epidemic of 1854. John Snow had experienced previous outbreaks in 1832 and 1848, and was convinced that it was a water-borne disease. This time he provided conclusive proof by mapping out the cases in Soho, central London, implicating a single, contaminated well. The epidemic subsided soon after the pump's handle was removed. Snow also analysed cholera's incidence in water that was bought from different suppliers, demonstrating that households buying from companies drawing water from the Thames downstream - after many sewers had flowed in - suffered a death rate 14 times greater than those buying water from companies drawing upstream. Following on from this research, he recommended boiling water before use.

Finally people began to take notice of the research that was taking place and began to believe that cholera was transported in water and that the key to avoiding cholera was clean water, so people began to pay the water rates and receive what clean water was available to them and in doing so increasing the quality of their life and health.

In 1866 parliament passed an act that ordered all local councils to appoint sanitary inspectors to inspect the sanitary condition of the houses and towns. This again increased awareness of sanitary measures. In 1865 Joseph Lister established anti-septic surgery that would have decreased the risk of infection during operation, this will have also contributed to a decrease in death rates and therefore reflectively the general healthiness of a city.

In 1853-56 the Crimean War exposed weaknesses in the British army's supply

and hospital systems. The war took lives indicating on statistics that there was poor health and many soldiers could not be treated effectively enough to overcome their injuries after the war. In 1860 the Food and Drugs Act restricted adulteration of food, which made it harder for merchants to con people into buying impure food, discouraging weight fixing

that greatly effected the health of people in towns. In 1869 the Contagious Diseases Act required medical examination of suspected prostitutes in ten towns near army bases, with forced incarceration and treatment if infected with syphilis. This reduced the spreading of sexually transmitted diseases through prostitution that was provided to the army causing an increased healthiness in the armed forces.

The formation of the sanitary committee ensured that citizens of Bristol could address their grievances with the government that had the powers to amend problems. The changes in sanitation that occurred greatly improved Bristol's healthiness however medical developments and the discovery that <https://assignbuster.com/to-what-extent-were-the-changes-in-sanitation-main/>

the cholera disease travelled in water led to a reformation of the water supply and sewerage systems which increased healthiness from 500 deaths per

million children to 400 deaths per million people. The appointment of C.

Davies in 1861, ensured closer inspection of healthiness from 1861 onwards in Bristol, however an earlier appointment would have helped the health problem earlier on. The movement of stinking refuse from inner city to the countryside also helped the healthiness of Bristol a great deal as there was less diseased refuse lying about. The arrival of clean water also helped the healthiness of Bristol extensively as people were no longer drinking, washing and cooking in the water that they emptied their sewerage into. More sparsely populated burial grounds also helped to decrease health and disease problems along with more sanitary burial practices.