

‘SHABBY TOWNS OF SMOTHER AMID SMOTHER’ POLLUTING THE BLACK COUNTRY

Janet Sullivan

The Black Country made a significant contribution to the national economy through its extractive and metal-working industries, but the reports of visitors in the nineteenth century focused on the grim appearance of the area. Even its name invoked a negative picture.



Courtesy of Dudley Museum & Art Gallery, Dudley MBC

The green fields disappearing beneath the spread of industry. *View of Dudley* by Walter Scott Boyd, c. nineteenth century

Before industrialisation, the Black Country was an upland farming district of rolling hills and small fields within Shropshire, Worcestershire and Staffordshire. Livestock farming, small farmsteads, hamlets and villages characterised the area.

The Forging of the Black Country

During the industrial revolution, swathes of countryside vanished beneath a landscape of slag heaps, mines and manufacturing waste as small villages were transformed into industrial towns. To the outsider the towns appeared to be

meshed together to form an interminable village of houses interspersed with blazing furnaces, forges and engine chimney stacks. Atmospherically, a pall of smoke hung over the district.

Green spaces disappeared, and the name 'Black Country' was coined. With industrial growth came pollution, a factor that was to change the landscape and the lives of the people.

The Beginnings

Industrialisation started in the north of the area, where the coal outcropped. Coal mining was recorded in Sedgley from 1273 and Wednesbury from 1315. Ironstone was located within the coal seams and was mined for local use and exported to Birmingham and further afield.

The antiquary John Leland recorded, in 1543, that 'yren' and 'see coale' was exported from Staffordshire to Birmingham and Ogilby's map of 1675 shows the area around Dudley covered in 'cole pits' and pit mounds. Encouraged by the interest of local landowners, such as the Dudleys and Heronvilles, mining and manufacturing spread.

The towns in the south of the Black Country experienced slower industrial growth, and some towns, such as Oldbury, did not take off until the early nineteenth century. Oldbury provides an example of the process: in 1815 it was a predominantly rural village, but within thirty years, by 1845, it was a busy industrial town.

Pre-industrial Oldbury

The 1845 tithe map reveals much about the town. It details the names of the fields, many of which allow us to recreate its farming past, and provides information on landowners and land use, which was primarily agricultural. Stock farming was still taking place, and much of the land was given over to pasture and cultivating animal feed.

The water supply came from a small brook, which was fed by the many springs in the surrounding hillsides. It was one of the main tributaries of the River Tame. The brook ran along the eastern edge of the town, and during the thirteenth century supported five water mills, three of which were still in operation in the nineteenth century.

Oldbury developed late as an industrial town because coal was deep in the vicinity and the absentee Lord of the Manor was primarily concerned with land transactions and not industrial development.

Towards the end of the eighteenth century, this changed. It became easier to mine deep coal more safely than before and entrepreneurial industrialists moved into the area.

Over the next few years coalmining began to the north and south of the village and the area to the west became covered in marl holes as clay was extracted to make the blue bricks for which the Black Country became famous. By 1815 there were four blast furnaces and two steel manufactories in close proximity to the village, alongside a number of smaller concerns.

The Polluted Town

The growth of industry in Oldbury led to a population explosion as people flocked to the village in search of work. By 1851 over 10,000 people were crowded into the small industrial town.

Houses were built in a haphazard fashion to accommodate the population, without a supply of clean water or sewerage system. The brook and the springs that fed it, along with the canal which looped round the town, continued to provide the main water supply. By the 1850s they were increasingly polluted. Piles of refuse were abundant and liquid sewage lay in pools around the doors of houses or ran into open ditches. The few sewers that existed had their outfalls into the brook or the canal.

Filth, Disease and Death

Typhoid and diarrhoea were endemic and the death rate rose above the national average, with young children being most at risk.

Over a nine-month period in 1855, when data were collected to support an application for the formation of a Board of Health, 319 deaths occurred, 210 of which were children under five years of age and 150 of these were under one year old.

A Report to the Board of Health in London described the yards and streets where the children played as 'saturated and unwholesome', exposing them to 'filth and disease'. The lower-lying areas of the town experienced virulent fevers running through whole families, which frequently terminated in death.

This high rate of mortality was not unique to Oldbury. It was experienced by all the Black Country towns. They also lacked a clean water supply and sanitation. In 1855 Staffordshire was recorded as having the highest mortality rate in the country, along with another substantial industrial area



The danger of water contamination. *Death's Dispensary, open to the poor, gratis.* Cartoon by unknown artist, 1866.

Private Collection / Bridgeman Images



Wolverhampton Art Gallery © Christopher Bayliss

A Black Country industrial landscape. *Tipping the Slag*, Edwin Butler Bayliss, undated.

(Lancashire), and of the sixteen Staffordshire towns with the highest levels of mortality, all but two were in the Black Country.

A government report in 1871 noted that Oldbury was still destitute of drainage, with a very defective water supply. The brook and canal were 'in effect the town sewer'. The majority of the Black Country towns only saw an improvement in service provision in the last quarter of the nineteenth century.

Smoke, Smells and Acid Rain

A further problem facing Oldbury and other industrial towns was air pollution. Industrial activity polluted the air with a nauseating variety of unpleasant smells. Oldbury had a tar works, brewery, slaughter house and alkali and phosphorus works, which added to the acute discomfort of the population.

Smells were only one aspect of the problem. The smoke and 'noxious gases' which escaped into the air included nitrogen oxides and sulphur dioxide which irritated lung tissue and exacerbated bronchial and lung problems. Hydrochloric acid gas from Chance's Alkali Works destroyed crops, leading to the compensation of farmers by the manufactory. It took the colour out of drapers' goods and was a 'very grievous nuisance' to the inhabitants, when the wind carried it into the town.

Industrialists argued that the smoke had 'disinfectant power' and the town would be worse off without it. They also claimed that it was only a problem in wet weather when the gas fell as acid rain. The inhabitants did not agree. Neither did those in the adjoining town of Smethwick who lodged a complaint with a Select

Committee of the House of Lords about the damaging effects the discharges were having on their town.

Respiratory and Other Ailments

Air pollution was accepted by the population as a natural consequence of the industry that provided them with a livelihood. It was tolerated until it reached such proportions that it began to transform the environment and the lives of the people. All the cases of bronchitis, pneumonia and inflammation of the lungs in the 1855 medical report for Oldbury occurred in the under-five age group, indicating that it was the youngest members of the community who were most at risk.

A report by the 1878 Royal Commission on Noxious Vapours attributed other health problems, which did not appear in the health reports, to the effects of smoke and gas. These included nausea, poor digestion, lack of appetite, general malaise and sleepiness.

These environmental problems, which were the cause of poor health in many of the English towns, took several decades to solve. Measures to improve air quality required government intervention.

Spoil and Slag Heaps

The sweep of industry left behind it a marred landscape, with spoil and slag heaps, rubbish and industrial waste of all kinds strewn over wide areas. Each Black Country town had its own problems.

In many, underground mining caused houses to subside, in others spontaneous combustion of coal from old workings led to

burning fissures opening in the roads. In Wednesbury a fire burned below ground from 1895 to 1897, destroying the sewer pipes.

Oldbury's particular problem was the 150,000 cubic-yard mound of chemical toxic waste from Chances Alkali Works. Blue Billy, as the mound was called, was the vat residue from the chemical works, where salt-cake (sodium sulphate) was manufactured for the glass industry, producing large amounts of waste calcium sulphate.

In its contaminated form, calcium sulphate forms a blue-grey ash which constituted the main body of the Blue Billy. The mound dated from 1850 and created problems as sulphide-bearing liquors seeped into the town brook which ran beside the mound. These turned the water a stinking yellow. The mound also emitted noxious fumes from escaping gas, and a portion of it was permanently in a state of combustion, giving out smoke.

The River Tame

The pollution of their main water supply was disastrous not only for the people who lived in Oldbury, but also for other towns across the Black Country. The River Tame was contaminated at its source. One hundred yards above the works the water was pure, one hundred yards below, it was heavily polluted.

The brook, and its bright yellow contents, passed through Oldbury and began its route across the Black Country and beyond. On its journey the colour changed according to the type of industry which poured its effluent into the Tame. In some areas it was red, in others orange or turquoise blue, as different elements were added to the stream. By the time it reached the

outskirts of Birmingham it was a flow of grey green sludge, rather than a river.

The problem continued to trouble the town for many years. In the 1890s Staffordshire County Council and Birmingham Corporation took legal proceedings against Oldbury for polluting the Tame with untreated sewage.

A further injunction was brought in 1905 when it was stated, in their defence, that, although the town had introduced and updated its sewage works, their difficulties were exceptionally great owing to the large proportion of liquid waste from chemical manufactories. The constitution of the sewage was 'defying all ordinary known methods of treatment'.

Hearing Loss and Noise Pollution

Noise, which today is a pollutant, was regarded as a nuisance in the nineteenth century, but one that had to be endured since it was an

integral part of manufacturing. It affected both the workers in noisy industries and the lives of the people who lived close to the works. A severe effect of working in a noisy industry was hearing loss. Medical practitioners commented on its presence among metal workers, where the din was continuous.

Tests undertaken in Glasgow in 1886 found that, compared with a normal hearing range, boilermakers had only 9.5 percent and ironworkers 45.75 percent. The research highlighted the effect of work on the social life of metalworkers. Several stated that they had stopped going to church or public meetings, because they either could not hear what was being said, or they missed so much



Courtesy Jenni Dixon

The River Tame still flows through the Black Country. A view beneath the M6 at Bescot, Walsall.

that it was not worth attending. In Glasgow, it was estimated that about 10 percent of people attending a meeting were hearing impaired.

Given the size of the metal industry in Oldbury and other Black Country towns, workers undoubtedly experienced the same problems.

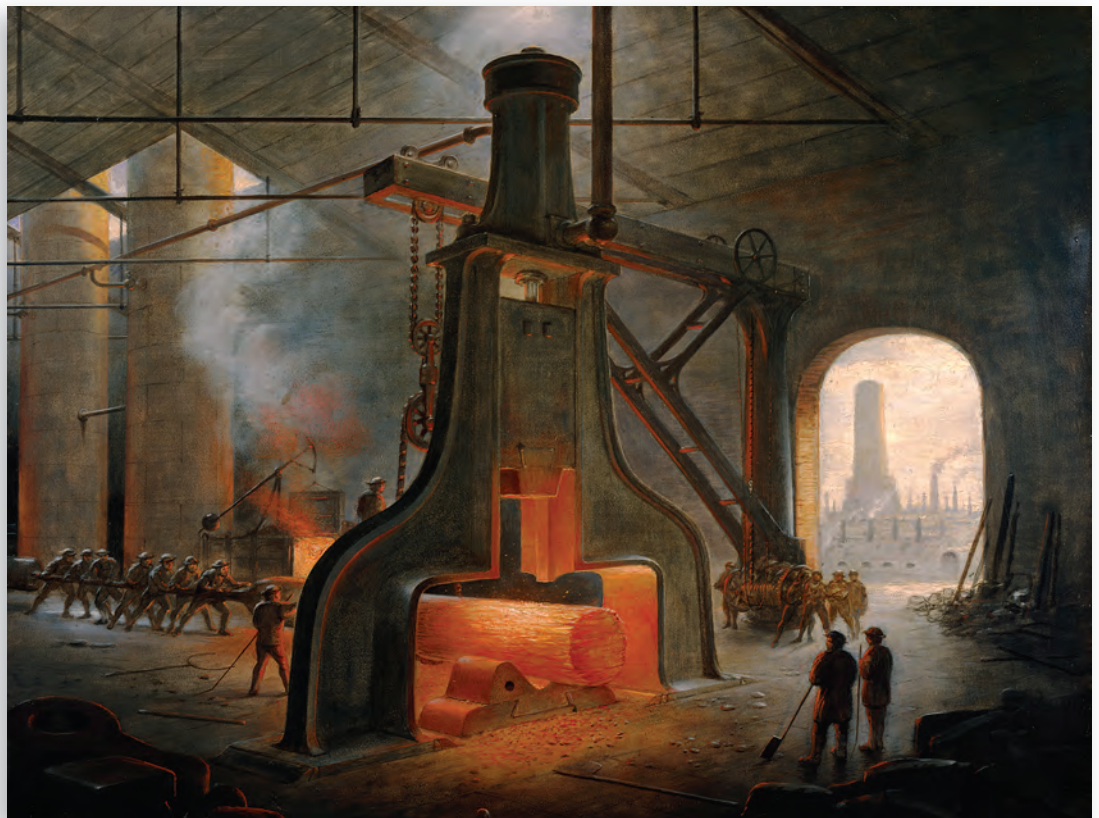
Local inhabitants as well as workers were affected by noise, especially those occupying the cheaper accommodation adjacent to the works. People in Oldbury complained that the huge steam hammers of the iron works could be heard for a considerable distance. Although the sound level was unlikely to produce hearing defects, it still affected their lives. Sleep deprivation is noted in a number of nineteenth-century reports, especially as machinery continued in operation through the night. Noise levels were mentioned by factory inspectors, who examined the teaching of children. In 1843 the clatter from the machinery was so great that it was difficult to hear anyone speak.

In 1876 Blenkinsopp, the sub-inspector for Wolverhampton, stated that, in the iron mills and blast furnaces, 'you may scream yourself hoarse, and then fail in ascertaining anything'. He found inspection in the iron mills the most exhausting work imaginable. As all of the schools in Oldbury were in the vicinity of industrial works, it is highly probable that the education of the children of the working classes was seriously affected.

Searching for an Answer

From the early nineteenth century the standard of living and high death rates in industrial towns became a cause for concern. The government recognised a need for action. Acts of Parliament were produced, enabling town authorities to raise rates to improve paving, lighting, cleansing, and provide sanitation. Small towns found it difficult to apply the acts, however, due to a lack of technical knowledge and finance.

Many acts relating to industry had loopholes, which undermined their effectiveness. In order to improve the health of the population, industrial pollution needed to be addressed, but to apply constraints might damage industry and affect the country's economy.



Steam hammers in the iron industry caused hearing loss to workers.
A Steam Hammer at Work by James Nasmyth, 1871.

Many larger industrialists worked with the government, but a solution was difficult, and had little effect on industrial zones, such as the Black Country.

Conclusion

Pollution had an impact on both the landscape and the lives of the people during the nineteenth century. Lack of sanitation, smoke emissions, dumping of industrial waste, water pollution and noise, faced all burgeoning towns to a greater or lesser degree. The Black Country stood out among industrial regions for the way in which pollution affected an entire conurbation of small towns, the results being 'legible in the registers of death'.

In the words of James Nasmyth, the inventor of the steam hammer, who visited the Black Country as a young man: the region paid a price 'for our vaunted supremacy in the manufacture of iron'. ●

Dr Janet Sullivan is Picture Editor for History West Midlands, and a freelance historical researcher.

Further Reading

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