



Environment & Society Portal



The White Horse Press

Full citation:

Hawes, Richard. "The Municipal Regulation of Smoke Pollution in Liverpool, 1853–1866." *Environment and History* 4, no. 1 (February 1998): 75–90. <http://www.environmentandsociety.org/node/2957>.

Rights:

All rights reserved. © The White Horse Press 1998. Except for the quotation of short passages for the purpose of criticism or review, no part of this article may be reprinted or reproduced or utilised in any form or by any electronic, mechanical or other means, including photocopying or recording, or in any information storage or retrieval system, without permission from the publishers. For further information please see <http://www.whpress.co.uk>.

The Municipal Regulation of Smoke Pollution in Liverpool, 1853–1866

RICHARD HAWES

*Centre for Continuing Education
The University of Liverpool
PO Box 147, Liverpool L69 3BX, UK*

SUMMARY

Overcrowding and epidemic disease helped to promote tremendous municipal sanitary activity in Liverpool from the late 1840s, including an attempt to limit smoke pollution. A smoke prevention committee supervised the work of two specialist inspectors and maintained detailed minutes. These show how councillors decided that 'black smoke' was preventable. The council offered advice on smokeless fuels, furnace design, and other improvements, but much time was spent confirming the prosecution of offenders. Appearing before the magistrates were not only the owners of steamships, glass factories, bakeries and breweries, but also poor law officers, hospital workers and the council's employees. Prominent individuals such as David and Charles McIver, founders of the Cunard Company, and Henry Tate also appear.

Although public health matters explains some of this involvement, the need to protect the city's new public buildings was more frequently emphasised. Sadly, the end of the minutes in 1866 makes it difficult to discover the duration of such regulation, and by the late nineteenth century, Liverpool was becoming notorious for its polluted atmosphere.

The smoke-filled city is one of the most familiar images of mid-Victorian Britain. Although the attempts to regulate such pollution have been outlined at national level by examining the various Parliamentary investigations and the work of central government departments, there appear to have been few local studies.¹ Indeed it has been indicated that for the middle decades of the century, smoking chimneys might be celebrated as a measurement of local prosperity and progress rather than condemned as unsightly or harmful to health.² Reformers have been portrayed as facing severe obstruction. Councillors in even the worst affected districts could warn that any interference would see the disgruntled offenders decamp to neighbouring boroughs, thereby reducing employment opportunities and the rateable value. In many industrial areas such gentlemen

were often the owners of offending premises. Local legislation has been seen as no real ally to the improvers for it was weakened by the number of exceptions it was obliged to include and the relatively low financial penalties prescribed. Finally, manufacturers could complain that they were being unfavourably singled out to the neglect of the domestic hearth.³

Each of these well-rehearsed arguments was employed in Liverpool during the 1850s and 1860s. There, however, they were to have far less impact, and the survival of the minute books of the council health committee's smoke prevention sub-committee [hereafter smoke committee] indicates that a real attempt was made to limit such pollution. The records run between September 1853 and October 1866, a time when the council's authority in nuisance control came from their private Improvement Acts of 1846 and 1854, before they were superseded by the requirements of the national Sanitary Act of 1866.⁴ These manuscript records allow us to make preliminary remarks about the administrative measures adopted by a large, active municipal authority apparently uninfluenced by any outside campaigning body.

How extensive was smoke pollution in Liverpool? This is very difficult to demonstrate. By the 1850s the occupational structure suggested by the census, as well as contemporary comments, shows that the city was becoming a centre of commercial rather than manufacturing activity.⁵ Although the 'industrial revolution' has been argued to have passed Liverpool by, and a period of de-industrialisation appears to have taken place early in the nineteenth century, manufacturing trades were far from absent. In 1855 many were associated with shipbuilding and ship repair. The town possessed some forty block and pump makers, nearly fifty canvas and sailcloth manufacturers, twenty-five chain-cable makers, seventy ship and anchor smiths, as well as numerous boiler and tank makers. A second group comprised those trades associated with processing imported raw materials; there were twenty rice-mills, nine sugar refineries, a dozen tanneries, and twenty-five tobacco factories. Liverpool was also home to manufacturing chemists, glass works, china and earthenware manufacturers, fifty iron foundries, sixty soap boilers and tallow chandlers, wire-works, coppersmiths, and brass founders.⁶ Although the city's smoke problems were perhaps less than many boroughs, heavily polluting trades were located there. As will be shown, however, the council's interests extended beyond these into some unexpected areas.

Concern at the state of the air had been apparent at the end of the eighteenth century. In 1770 the council is thought to have pressured Charles Roe and Co., copper smelters, from the town,⁷ and William Moss's *Liverpool Guide*, dated 1796, warned visitors to keep at a safe distance from the oil-house at the bottom of Parliament Street when whale blubber was being rendered.⁸ Sometime between 1796 and 1805, when William Jones's *The Picture of Liverpool* was published, the saltworks which gave its name to the town's second dock had

SMOKE POLLUTION IN LIVERPOOL, 1853–1866

moved to Garston 'to the great relief of the town; as the vast quantity of smoke emitted from it, made it very offensive'.⁹ In 1819 Joseph Gregson, a building surveyor, appeared before the first Parliamentary Committee of investigation into smoke pollution and described the increase he had witnessed in the past twenty years which now obscured his view of the Mersey.¹⁰ Protest at the effects of the acid waste released during Leblanc soda manufacture developed during the 1820s, and in 1843 Dr David Reid, who was to arrange the ventilation of Liverpool's St. George's Hall, and later worked on the new Palace of Westminster, described to another Parliamentary inquiry how the growth of the trade continued to affect the town's atmosphere very badly.¹¹ The council was certainly showing an interest in smoke regulation by this time for in December 1841, when the initial stages of what became the Liverpool Improvement Act of 1842 were under discussion, the town clerk was instructed to gather information on the form and effectiveness of the smoke clauses in other local Acts,¹² and in 1845 the council sent their Parliamentary agent suggestions for the inclusion of smoke clauses in national legislation.¹³

The 1840s saw the beginning of tremendous sanitary activity in Liverpool after decades of neglect, spurred on by the effects of massive immigration, epidemic disease, the city's place at the bottom of the registrar-general's league tables, and the advice of Dr William Duncan, the medical officer of health, and James Newlands, the borough engineer.¹⁴ Using the powers awarded to the council's health committee by the Liverpool Sanitary Act of 1846, significant programmes of house improvement, street cleaning, and water supply began to be carried out. The Act also contained the first local smoke regulations, pinpointing that from steam-engines, mills, dye-houses, bakeries, factories, breweries, gas-works, and all other buildings used for trade and manufacture, as well as steam boats and steam tugs.¹⁵

In September 1848 the health committee formed a sub-committee to deal solely with smoke pollution, and preliminary discussions were held about the employment of an engineer to help enforce the new bye-laws.¹⁶ If black smoke was observed by a nuisance inspector or a policeman lasting for ten minutes or longer, the offender might receive a written sanitary notice as a warning. If the nuisance continued then legal proceedings could begin, but only if the notice had been disregarded and the engineer's investigation had discovered neglect. Much leeway was given to the manufacturers, and, according to the chief inspector of nuisances,

Whenever any practical difficulty has been found to exist, either in the construction of the furnaces or the nature of the manufacture, the proceedings have been abandoned.¹⁷

Between 1847 and March 1851 some 700 sanitary notices were served for smoke pollution, and in ninety-three cases this led to a prosecution. The inspector

attempted to demonstrate the success of this work by noting the decline in the number of complaints from people whose newly whitewashed walls had subsequently been smeared with grime and smuts.

During 1853 the council agreed to promote a new Improvement Act which included increased powers over smoke nuisances. Of immediate concern here was the need to reduce the pollution from river traffic. Inspiration came from the clauses recently introduced to London by John Simon, the medical officer for the City, and the home secretary, Lord Palmerston. Indeed, clause 27 of the Liverpool (Sanitary Amendment) Act, 1854, was closely modelled upon the Metropolitan Act.¹⁸

In May 1854 the smoke committee agreed to identify the borough's worst offenders.¹⁹ Journeys of inspection were undertaken and attention became focused upon three manufacturers and the boats of the New Brighton and Woodside ferries. However, without the authority the new Act would provide, and lacking any reports and recommendations of a consulting engineer, the council decided to move slowly. Leaflets were printed and circulated to every proprietor of works within the borough advising them that new smoke regulations were in preparation, and advice on smoke control was published and distributed to every steam engine owner and to the owners and captains of steam boats on the Mersey.²⁰ At the same time the council agreed to employ a specialist smoke nuisance inspector and sought 'a competent man to be inspector of furnaces' at an annual salary of £150, for an experimental period of twelve months.

The new Improvement Act came into force at the beginning of 1855.²¹ The smoke clauses do not appear to be radically different to the earlier ones. The maximum penalty (£5 per day the offence continued after conviction) remained, but the list of premises specified for close attention was more than doubled and the magistrates were empowered to order chimneys to be raised and other improvements made with an additional daily penalty of £2 should the owners fail to act. As before, no penalty could be demanded if it could be shown that an offender had made a serious attempt to reduce a nuisance. It was the interpretation of this section, however, which was to change in Liverpool, for from this point the council actively sought to demonstrate that practical techniques did indeed exist and that polluters should be encouraged to use them.

The first prosecution under the new Act was successfully completed in March 1855.²² Within a week representatives from six of the ferry companies had come to the smoke committee to plead for an extra fortnight's grace to allow them to improve their boilers.²³ Although this leeway was provided few changes were made, and between July and December 1855 prosecutions were begun against the owners and masters of fourteen river steamers as well as twenty manufacturers. In December a new deputation from the ferry owners complained to the health committee that the law should not be applied to their boats, but their request for clemency was rejected.²⁴

There then arose an unexpected hitch. Mr Fairbairn, the consulting engineer who had inspected the offending properties, who had offered the owners specific advice, and who had acted as an expert witness in the subsequent court cases once they had failed to improve, presented the council with a bill for 100 guineas for his services. It required a meeting of the full health committee to agree to pay this sum.²⁵ Fairbairn's name disappears from the records from this point, and no engineer appears to have been employed in a similar capacity for the remainder of this period. Nevertheless, 1855 was to mark a watershed in smoke regulation for Liverpool: the new Improvement Act came into operation, a specialist smoke inspector had been appointed, and the council had begun prosecutions. An assistant smoke inspector was also employed and the borough divided into quarters to allow a 'comprehensive smoke survey' to be completed so that those premises thought most likely to offend could be noted.²⁶ Early the following year, offices in the municipal buildings in Cornwallis Street were prepared, to house the members and records of the new smoke department.²⁷

Who were the councillors responsible for such regulation? Although it is no indicator of diligence, the background of those who sat on the smoke committee was similar to the council as a whole, comprising a mixture of merchants, large shopkeepers, and professional persons.²⁸ Between 1853 and 1866, the committee of seven persons had a total of just twenty-four members, nine of whom served for five years or longer. The most senior, alderman Dover (a builder remembered in Dover Street) served throughout. Councillor Beckwith (the son of an East India Company's ship's captain, and the owner of the borough's most fashionable haberdashery) sat as chairman between 1855 and 1861 when he was replaced by councillor Holden of Grassendale House, Aigburth, a major coal merchant, who had been a member since 1856. Attendances varied, but there was a core of councillors who rarely missed a session over the municipal year. Those responsible for smoke control in Liverpool, then, were a fairly stable group of prosperous gentlemen, most of whom were prepared to give time to complete their civic duties over several years. The committee was not packed with novices or time-wasters.

What of the staff at their disposal? The qualifications demanded of the first smoke inspector were that he should be a 'competent man'.²⁹ By June 1860 these had evolved to become 'an intelligent, respectable and practical engineer, whose age should not exceed 40'.³⁰ Neither the inspector nor his assistant were permitted to be involved in any other council business and were later to receive clerical assistance in routine record-keeping. They were also instructed to make themselves available to the public so that complaints could be made directly to them. What we find in smoke control is the professionalisation of municipal servants, found earlier with the town clerks and perhaps the borough surveyors, and later with the medical officers of health.³¹

Relevant experience, however, did not always guarantee top-grade personnel. The first smoke inspector, James MacDonald, had only just served his

twelve months' probation before he resigned with 'nervous exhaustion' caused by 'mental excitement', the result of dark financial activities which eventually saw him appear before the county court.³² His replacement was his assistant, Robert Wignall. His service petered out in mid-1860, the result of illness. Wignall's successor, William Swale, was appointed in July 1860, but he resigned the following month, to be replaced by William Swift. Illness kept him from work for much of January 1863, and his assistant (Benjamin Greetham, who had served as a chief engineer in the Royal Navy),³³ was employed for less than four months before retiring on health grounds.

One of the more oblique indications of their effectiveness, however, is that the smoke inspectors became the target of bribery. In September 1859, Mr Wood of Wood & Co. (anchor smiths) offered Mr Wignall £1 to turn a blind eye to an offence.³⁴ In 1864 it was reported that Mr Williams of the Boundry Brewery, Hope Street, had offered Mr Edwards a goose a few days before Christmas. This had also been refused, but the bird had found its way onto the assistant inspector's doorstep. Mr Williams had made two earlier attempts to deflect a prosecution by offering free railway tickets to the countryside to the inspector and his family.³⁵

The council frequently turned to the courts to enforce its smoke regulations. In 1866 a return to the home office records the number of prosecutions undertaken in a dozen or so large authorities over the previous few years.³⁶ In Stoke-on-Trent, Sunderland, Huddersfield, and Wolverhampton there had been none. The reply from Stoke records that 'The ... law is a dead letter throughout the pottery district.' In Birmingham there had been 380 prosecutions and in Sheffield 445. The total for Liverpool was 653.

1855	73	1861	20
1856	28	1862	41
1857	46	1863	38
1858	53	1864	105
1859	84	1865	142
1860	11	1866	12

TABLE 1. Return of the number of prosecutions begun by the Smoke Prevention Sub-Committee, Liverpool, 1855-1866, as requested by the Home Office, 1866.

The staffing problems may account for the small number of prosecutions between 1860 and 1863, and this period also coincides with Duncan's long illness and death, and with the fear of economic dislocation caused by the

Lancashire cotton famine, but their place, if any, cannot be devised. What do we know of prosecution procedures? Before one took place a sanitary notice had to be served. For a number of years after 1854 as many as four notices might be issued before a prosecution was considered, although the time span over which they could be given is difficult to discover.³⁷ In June 1865 it was agreed to prosecute after the second notice.³⁸ The arrival of the home office's request for information in March 1866 was to bring a further change, for at the smoke committee meeting at which it was read it was agreed to prosecute on receipt of notice of each offence.³⁹ Until this point there had been sixteen prosecutions; in the six months before the new Act came into operation there were to be ninety-nine others. A further complicating factor is that the committee was not dogmatic in its pursuit of offenders, and, as the bye-laws required, if it could be convinced that real efforts were under way to reduce a nuisance a prosecution was not begun, no matter how many notices had been served. Unusual circumstances, such as industrial disputes, or the death of a key member of a firm, were also taken into account.⁴⁰

Who were the offenders? The group which appears first, and which remained throughout this period, were the steam ships working on the Mersey. The Liverpool steamship owners were to establish a pattern which was to be followed by the representatives of many defaulting trades. They initially denied that any improvement was possible, then pleaded for extra time to allow any changes to be effected, and finally faced prosecution. Thus the ferry owners began by stating that local circumstances made the tight regulation taking place in London inappropriate because the relative shortness of many ferry journeys made frequent stoking essential, as did the strain of pulling against far stronger ebb tides than those found on the Thames.⁴¹ The council's opinion, however, was that poor working habits were at fault, and that the stokers habitually crammed the boilers as full as they could and hurried on deck as soon as possible 'leaving to chance whether the smoke is consumed or a great quantity made'.⁴²

Between 1856 and 1866 there were to be over 240 prosecutions against the owners or masters of steam ships – about one-third of the grand total. Sadly, the majority cannot be readily identified, but the Mersey ferries appear amongst the most frequent offenders. In 1858 there were thirty ferry boats controlled by five companies, the largest being the Woodside Improvement Commissioners with ten vessels. In all some eleven million passengers were carried annually, of which the Woodside carried half.⁴³

Each of the ferry companies was to fall foul of the smoke department: the Birkenhead Improvement Commissioners on nine occasions and the Rockferry Company on fifteen. Pride of place, however, went to the Wallasey ferry whose boats were fined on twenty-four occasions. Before the 1860s, all were small paddle boats c.150 tons, often converted tugs, with little shelter for passengers and with a tendency to break down. Thus the *Thomas Wilson* carried a special crowbar which the engineer pushed through holes in the deck to lever the crank

around for a new start.⁴⁴ The early 1860s, however, saw new vessels, new passenger comforts, but more prosecutions. The Wallasey Commissioners built the *Waterlily*, the *Wildrose* and the *Mayflower*, the last two being over 240 tons with room for 800 passengers. The *Mayflower* was perhaps the most offensive vessel on the Mersey with seven prosecutions between May 1864 and September 1866. Even the *Heatherbell*, described as ‘the crack boat of the fleet’⁴⁵ was served with two prosecutions in its first twelve months’ work.

Second in frequency came the working boats belonging to the tug companies (with thirty-six prosecutions), the worst offenders being the boats of the Steam Tug Company and, secondly, the *Resolute*, *Retriever*, *Reliance*, *Rover*, and *Relief* of the (presumably separate) Liverpool New Steam Tug Company.

The council was to have mixed success with the ferry and tug owners. In June 1856 the owner of the Tranmere ferry promised

to compel his stokers and servants to enter into an engagement similar to that adopted by the Steam Tug Company⁴⁶

and the Wallasey Board’s letter books record that from August 1863, sums of one shilling began to be deducted from every engineer and fireman towards smoke fines.⁴⁷ However, the attempt to regulate steamships threw up unexpected problems. In January 1861 the inspector reported that many of the vessels causing most nuisance could not be identified because they had neither their name nor port of registration visible. Several of the Wallasey ferries lacked a name, and others had one marked on their sides which was different to that in which they had been registered.⁴⁸ A second problem emerged when proceedings were attempted against the owners of the ferries *Mona’s Queen*, the *Ellen Varin*, and the *Tynwald*, the directors of the Isle of Man Steam Packet Company. The company’s agent argued that Liverpool’s magistrates had no authority over their ships because they were registered in Douglas. Neither of these problems had been dealt with by 1866, and both were recorded on the return to the home office.⁴⁹

The second area to receive attention was also decided by the council – the pollution resulting from glass manufacture. In May 1856, Mr Redfern, the owner of a glassworks in Kirkdale, described to the smoke committee that it was

impossible [for him] to make any alteration. This being the same answer as had been given by other glass manufacturers.⁵⁰

In this instance the committee sought solutions by writing to the councils of other towns seeking details of any techniques used in their districts to reduce the volume of smoke coming from glass cones. Journeys of investigation were then undertaken to Leeds, Sunderland, Newcastle, Glasgow, Leith, Bristol, and Manchester.⁵¹ The delegates concluded that a solution did indeed exist and the owners of two of the worst offending premises were instructed to appear before the smoke committee. There they promised to make the necessary alterations to

SMOKE POLLUTION IN LIVERPOOL, 1853–1866

their works, but the smoke continued and indictments followed.⁵²

The council seemed to have gained a reputation amongst its fellows in this area. In May 1857 the town clerk of the South Shields council wrote to his counterpart seeking information on smoke prevention:⁵³

In the course of our enquiries your Borough has frequently been spoken of as taking the lead in this movement, and that you have succeeded in applying the Smoke Nuisance Clauses of your Act to glasshouse cones...

The reply concluded as follows:

after considerable anxiety on the part of the Health Committee...means have been found for suppressing the nuisance and the magistrates invariably convict in the cases brought before them.

A slightly different approach was employed with the committee's supervision of smithies. The council responded to complaints from the public about the smoke coming from foundries.⁵⁴ In 1857 they had undertaken a series of experiments at their own forges in Cornwallis Street where it was shown that a combination of coke and slack made a suitable substitute, something the smiths denied. Thus armed the inspectors turned their attention to the polluting premises and recommended the new mixture. In March 1857 one offending firm, Paul McCappin & Son, described how

We are now using coke which we think answers the purpose. Please give us a call tomorrow – say in the forenoon when we expect you will be satisfied.⁵⁵

During 1858 the smiths came under the inspectors' close scrutiny.

Any improvement was less immediate with the giant Mersey Iron and Steel Works. In this instance the smoke committee accepted a range of advice. Several inventors presented the committee with ideas for reducing smoke from puddling furnaces,⁵⁶ and armed with these, as well as information gleaned from other councils, and in the light of a new series of field visits, the inspectors were permitted to turn their attention to Messrs Horsfall & Co.⁵⁷

The company was less easily intimidated than small foundries such as McCappin's. By 1860, however, it was employing the proprietor of a rival iron works where systems of smoke control were already in use as an adviser, and he was supervising the installation of new equipment.⁵⁸ The following year the inspector witnessed experiments upon four puddling furnaces where careful feeding resulted in two hours' work without serious pollution at a minimal extra cost.⁵⁹ Any improvements were short-lived, however, and in April 1865 the manager was once again invited to the committee to explain what was being done to reduce the smoke. Although it was agreed that the new designs were 'more than adequate' and that no new steps would be demanded, the council thought it appropriate to describe to the home secretary how 'puddling furnaces at ironworks cannot be reached'.⁶⁰

Although a small number of ships' biscuit bakers had been prosecuted before 1858, no action appears to have been considered against bread bakeries. In August, however, complaints were received about the smoke coming from bakers' ovens.⁶¹ An investigation showed that there were several hundred bakeries in Liverpool, none of them regulated.⁶² The ovens were heated by portable chafing dishes called 'waggon' which were filled with coal, lit, and then pushed into the oven. The flue was usually shared with the house chimney. Some 200 sanitary notices had been served, but the bakers as a body had resisted any change, arguing that no suitable alternative design existed, and that should they be obliged to rebuild, then the council threatened the quality of the bread, risked a sharp increase in price, and the closure of many businesses.

What followed is the now familiar story. The smoke committee, recognising that it risked interfering with the food of half a million people, undertook its own investigations and a journey of inquiry to London, where experiments by government engineers had shown that an almost smoke-free oven could be worked. As the cost of converting an oven was modest, the councillors decided that the Liverpool bakers should be asked to change their working methods. The council not only provided advice to individual bakers, it appears to have used some of its own workmen to alter their ovens.⁶³ At the same time it increased its supervision of the bakers, and between December 1859 and April 1860, some eighty-four individuals were issued with a sanitary notice and there were four prosecutions.

The Liverpool Bakers' Association insisted that any changes should be delayed because the new ovens made bread which was unsuited to Liverpool tastes, but this was brushed aside, and it was decided to judge each case on its merits. After a delay of several months the number of prosecutions began to increase: three during 1863, seventeen during 1864, and seventeen the following year. In 1866, however, bakers appeared before the courts on sixty-six occasions, sixty of them after the arrival of the circular from the home office.⁶⁴

What has been examined so far – the council's treatment of the owners of steam-powered boats, glasshouses, smithies, iron and steel works, and bakeries – seems to form a separate group. In these cases, the council's experiments and investigations convinced them that a practical solution existed. No such inquiries were made for other trades, where it can be assumed that the council regarded smoke pollution as simply the result of neglect. Who else fell foul of the smoke department?

Discovering an answer is made easier in the committee's first few years' work as their records identify not only the owner, but their trade and location. Later, entries usually provide only a name and refer to their 'works'. If we take a small sample – the years 1856 to 1858 inclusive, the minutes list 132 prosecutions. The largest number (twenty-three) were against the owners or masters of steam vessels. Second came the processing trades. Rice millers appear on sixteen occasions, as do sugar refiners and flour mills with ten each. With the rice millers, twelve of the sixteen prosecutions were against individual firms, and

in only two instances was a second prosecution undertaken. Manufacturing was represented by glass firms, iron foundries, cement grinders, and a brass foundry, but there were also five soap boilers, five saw mills, an upholsterer, a comb maker, hair and feather dressers, a scale beam maker and a sausage manufacturer. There were two outstanding names in this sample. The first was the chemical works of James Muspratt and Sons, Vauxhall Road, which was prosecuted on five occasions between 1856 and 1858, and the second John Macfie and Son, sugar refiners, of Batchelor Street, which accounts for six of this group's ten prosecutions.

Moving away from these years, we find prosecutions against a wide range of businesses. The L.N.W.R. was a frequent target. In 1856, 1858, and 1865, action was taken in order to reduce the smoke coming from a chimney at Edge Hill station, and in 1859 for the same offence at premises in Waterloo Road.⁶⁵ Their locomotives were also offenders. In 1859 it was *The Sutherland*, and in May 1860 *The Vizier* and *The Eclispe*.⁶⁶ Breweries were another frequent target, appearing before the courts on twenty-three occasions in 1864 and on fourteen others in 1865.

Those involved in local affairs were not at liberty to pollute. Amongst the very first premises prosecuted was the Apothecaries' Hall.⁶⁷ In 1858 the guardians of the West Derby workhouse were prosecuted for a smoking infirmary chimney,⁶⁸ and in 1866 it was the members of the select vestry in respect of the workhouse on Brownlow Hill.⁶⁹ The trustees of the lunatic asylum shared the same fate.⁷⁰ The council's own employees were also carefully watched. In 1859 and 1861, the manager of the water works at Everton was prosecuted⁷¹ and in July 1866, the proprietors of the council's printing offices in Castle Street.⁷² Prominent individuals were not ignored. Henry Tate's name appears for his sugar houses located on Earle Street and Edward Street,⁷³ as do the names of David and Charles McIver for their steamers *Jackal* and *Shamrock*; both were founders of the Cunard Company.⁷⁴ Perhaps the most notable individual was the Earl of Balcarres who was prosecuted for allowing his private locomotive *Lindsay* to foul the air whilst using the Lancashire – Yorkshire Railway.⁷⁵

Smoke regulation, then, was regarded seriously in mid-Victorian Liverpool. The smoke inspectors were specialists to whom the public had access and who responded to their complaints, from whatever social background. Thus the campaign against the smiths was begun after the complaint of a Mrs Hughes, described as a 'small landlady', acting on behalf of her seven tenants, and the prosecution of a saw mill on Seel Street originated with the vice-president of the prestigious Liverpool Institute, Colquitt Street.⁷⁶ A committee was devoted to smoke control containing some of the council's senior members, it met regularly, and was always quorate. It was here, however, that real authority lay rather than with the inspectors. It was the councillors who ordered the specialist reports and experiments, they who formed the various deputations, and who decided priorities. The smoke inspectors remained the council's servants with no

innovatory role. The ‘professionalisation’ of this area had yet to proceed very far.

Why was the council so involved? Was it anything more than a facet of a productive period of municipal sanitary activity? Here we are obliged to speculate. The smoke prevention sub-committee’s minutes are largely a record of actions taken, not a *verbatim* account of their discussions. The minutes of the full health committee shed no more light, and the smoke committee’s meetings were not reported regularly in the local press.

The need to protect the public’s health was certainly a feature of their deliberations. In 1854, during the debates about the need for a new Improvement Act, councillor Hodson queried

Why...gentlemen [went] to reside in Aigburth, West Derby and other places? Why because it was good for their health,

and at the same time Robertson Gladstone, the brother of the chancellor of the exchequer, advised that

there was not a medical gentleman in Liverpool who would not say that smoke was a serious injury to the health of the inhabitants, and if so, why should not the Council attempt to purify the atmosphere...?⁷⁷

At other times different arguments were expressed, some concerning the image councillors wished their city to present. In 1855, Robertson Gladstone noted that

those who passed by St. George’s Hall frequently could scarcely fail to observe how completely the beautiful ornamental work...was becoming spoiled by the state of the atmosphere, arising from the smoke. Now, all the imposing effect of that structure would be lost, and in all human probability it would become as black as St. Martin’s-in-the-Fields.⁷⁸

Councillor Moss added that his concern over the river steamers originated with the remarks of Mr Lee,

a gentleman who came here in reference to the Public Health Act for [he] attributed the dirty black state of our public buildings to no other cause

and councillor Hodson unfavourably compared Liverpool to its great rival, Manchester, by maintaining that ‘The smoke in Liverpool destroyed the appearance of the buildings’.⁷⁹

Such comments may involve more than alarm at the erosion of recent, expensive stonework. John Belcham has recently described how the city fathers ‘took exaggerated pride in its commercial image, aspiring to the status of “the modern Tyre”’.⁸⁰ Councillor James Picton, whose efforts led to the establishment of a public library and museum in 1852, was already promoting a grander scheme of street widening and improvement which would encourage the people of Liverpool to ‘render the external appearance of their town worthy [of] the exalted rank she seems destined to fill in the commerce of the world’.⁸¹ Some of

SMOKE POLLUTION IN LIVERPOOL, 1853–1866

the city's most imposing public buildings were completed or refurbished in the mid-1850s: St. Nicholas's church was extensively re-built, the new corn exchange was opened as was St. George's Hall; there were new council offices, new police courts, and in the early 1860s the museum and library complex on William Brown Street. The two businesses which appear most frequently in the committee's records were Muspratt's chemical works – whose fumes had helped to blacken St. Martin's church so soon after it had been opened – and Macfie's sugar refinery on Batchelor Street, located immediately opposite the Exchange railway station, where those living in the fashionable districts to the north of the city alighted.

Finally, how effective was the work? This again is difficult to assess. In his annual report for 1861, the smoke inspector could remark how the manufacturers were generally cooperative

for they appear to know the advantages to be derived from so doing especially as they have not been called upon to make any expensive alterations in their works or furnaces.⁸²

During the Parliamentary debates over the introduction of the Sanitary Act of 1866, Algernon Egerton could somewhat hopefully argue that 'Smoke has been done away with in all steamers on the Thames and the Mersey', and the home secretary, Sir George Grey, could remark that 'effectual means have been taken in Leicester for the consumption of smoke in manufactories. The same statement would apply to Liverpool and some other towns'.⁸³ The council certainly considered its efforts had been valuable. The return required by the home office describes how the 'smoke nuisance [is] considerably diminished', but noted that

prevention would be more effectual if the fines were more uniform. The highest fine is £5, however often the person may have offended.⁸⁴

CONCLUSION

This paper presents an interesting diversion from the orthodox view that municipal authorities paid scant attention to smoke control in mid-Victorian Britain, but it does not seek to assault it: the period and area explored are simply too small and the sources of information too narrow. It invites the continuation of research after 1866, but this is not easy. There appear to be few manuscript records and newspaper comment is scanty. From the 1870s, evidence of a continuing interest in smoke control comes mainly from those tables detailing the number of sanitary notices served which were part of the medical officer of health's annual reports. By the late nineteenth century Liverpool's smoke problem was becoming notorious, but whether this reflects the abandonment of control, industrial growth, or a change in domestic coal usage is unknown. Finally, it will only be in the light of other local studies that Liverpool's experience can be assessed.

NOTES

- ¹ Ashby and Anderson 1981: 1-19; Beck 1959: 475-489; Brimblecombe 1987; Bowler and Brimblecombe 1990: 49-55; Clapp 1994.
- ² Wohl 1984: 205-210.
- ³ Ashby and Anderson 1981: 6.
- ⁴ Liverpool Record Office [afterwards Liv. R. O.] 352 MIN/HEA II 27/1 and 27/2, (Minutes of the health committee's smoke prevention sub-committee).
- ⁵ Lawton 1956: 89-120; Staples 1976: 131-143; Power 1992: 21-37.
- ⁶ Fraser 1855: 181-183; Baines 1870: 367.
- ⁷ Barker and Harris 1957: 227.
- ⁸ Moss 1974: 24-25.
- ⁹ Jones 1805: 47.
- ¹⁰ Parliamentary Papers 1819 (574) *Select Committee to inquire into the practicability of compelling persons using steam engines or furnaces to erect them in a manner less prejudicial to the public health.*, evidence by Joseph Gregson, 14 June 1819.
- ¹¹ Port 1976: 218-220; Parliamentary Papers 1843 (583) *Select Committee on smoke-prevention*, 19 July 1843, evidence by David Boswell Reid, Qq. 363-367.
- ¹² Liv. R.O. 352 MIN/HEA I 1/1, 1 Dec. 1841 (Minutes of the Health of the Town Committee).
- ¹³ Liv. R.O. 352 MIN/HEA I 1/1, 28 April, 1845.
- ¹⁴ Frazer 1947: 22-78; Sheard 1993: 102-121.
- ¹⁵ 9 & 10 Vict. Cap. cxxvii, Section 126.
- ¹⁶ Liv. R.O., 352 MIN/HEA II 34/1, 7 Sept. 1848 (Minutes of the health committee).
- ¹⁷ Liv. R. O., H 352.6 HEA, T. Fresh, chief inspector of nuisances, Report to the health committee of the town council of Liverpool, 1851, pp. 45 – 46 (Health committee, various reports – printed, 1847 – 1851).
- ¹⁸ Ashby and Anderson 1981: 15-19; *Liverpool Mercury*, 13 Jan., 27 Jan. 1854.
- ¹⁹ Liv. R.O., 352 MIN/HEA II 34/2, 12 May 1854 (Minutes of the health committee).
- ²⁰ Liv. R.O., 352 MIN/HEA II 34/2, 15 Aug., 25 Oct. 1854.
- ²¹ 18 & 19 Vict. c.155.
- ²² Liv. R.O., 352 MIN/HEA II 34/2, 22 March 1855.
- ²³ Liv. R.O., 352 MIN/HEA II 34/2, 5 April 1855.
- ²⁴ Liv. R.O., 352 MIN/HEA II 34/2, 24 Dec. 1855.
- ²⁵ Liv. R.O., 352 MIN/HEA II 34/2, 26 July 1855.
- ²⁶ Liv. R.O., 352 MIN/HEA II 34/2, 6 Aug., 13 Aug. 1855.
- ²⁷ Liv. R.O., 352 MIN/HEA II 34/2, 28 Jan. 1856.
- ²⁸ Shimmin 1863.
- ²⁹ Liv. R.O., 352 MIN/HEA II 34/2, 25 Oct. 1854.
- ³⁰ Liv. R.O., 352 MIN/HEA II 27/1, 28 June 1860 .
- ³¹ Sheard, *passim*.
- ³² Liv. R.O., 352 MIN/HEA II 27/1, 16 June 1856.
- ³³ Liv. R.O., 352 MIN/HEA II 27/2, 4 June 1863.
- ³⁴ Liv. R.O., 352 MIN/HEA II 27/1, 5 Sept. 1859.
- ³⁵ Liv. R.O., 352 MIN/HEA II 27/2, 2 Jan. 1865.
- ³⁶ Parliamentary Papers 1866 (218) *Summaries of replies to the letters sent by the Secretary of State to the mayors or local authorities in certain large towns in England concerning the laws with respect to the consumption of smoke.*

SMOKE POLLUTION IN LIVERPOOL, 1853–1866

- ³⁷ Liv. R.O., 352 MIN/HEA II 27/1, 29 March 1858.
- ³⁸ Liv. R.O., 352 MIN/HEA II 27/2, 22 June 1865.
- ³⁹ Liv. R.O., 352 MIN/HEA II 21/2, 19 March 1866.
- ⁴⁰ Liv. R.O., 352 MIN/HEA II 27/1, 28 Sep. 1857, 29 March 1858.
- ⁴¹ *Liverpool Mercury*, 11 Sept. 1855.
- ⁴² Liv. R.O., 352 MIN/HEA II 27/2, 20 Jan. 1862 .
- ⁴³ Poole 1861.
- ⁴⁴ Woods and Brown 1929: 117.
- ⁴⁵ *Ibid.*: 120.
- ⁴⁶ Liv. R.O., 352 MIN/HEA II 27/1, 16 June 1856 .
- ⁴⁷ Woods and Brown 1929: 124.
- ⁴⁸ Liv. R.O., 352 MIN/HEA II 27/1, 28 Jan. 1861, 27/2, 28 Nov. 1864.
- ⁴⁹ Liv. R.O., 352 MIN/HEA II 27/1, 29 Dec. 1856, 21 Sept. 1857; 27/2, 2 July 1866.
- ⁵⁰ Liv. R.O., 352 MIN/HEA II 27/1, 12 May 1856.
- ⁵¹ Liv. R.O., 352 MIN/HEA II 34/2, 16 June 1856.
- ⁵² Liv. R.O., 352 MIN/HEA II 27/1, 21 July 1856, 26 Jan., 8 June, 27 July, 3 Aug. 1857.
- ⁵³ Liv. R.O., 352 MIN/HEA II 27/1, 25 May 1857.
- ⁵⁴ Liv. R.O., 352 MIN/HEA II 27/1, 1 Feb. 1858.
- ⁵⁵ Liv. R.O., 352 MIN/HEA II 27/1, 9 March 1857.
- ⁵⁶ Liv. R.O., 352 MIN/HEA II 27/1, 17 Nov. 1856, 2 March 1857.
- ⁵⁷ Liv. R.O., 352 MIN/HEA II 27/1, 22 June 1857.
- ⁵⁸ Liv. R.O., 352 MIN/HEA II 27/1, 12 March 1860.
- ⁵⁹ Liv. R.O., 352 MIN/HEA II 27/1, 18 Feb. 1861.
- ⁶⁰ Liv. R.O., 352 MIN/HEA II 27/2, 24 April 1865; P.P. 1866, Returns for letters by Secretary of State.
- ⁶¹ Liv. R.O., 352 MIN/HEA II 27/1, 2 Aug. 1858.
- ⁶² Liv. R.O., 352 MIN/HEA II 27/1, 9 Aug. 1858.
- ⁶³ Liv. R.O., 352 MIN/HEA II 27/1, 26 Aug., 11 Oct., 13 Dec., 28 Dec. 1858, 28 Feb. 1859.
- ⁶⁴ Liv. R.O., 352 MIN/HEA II 27/1, 7 March 1859, 30 May 1859.
- ⁶⁵ Liv. R.O., 352 MIN/HEA II 27/1, 31 March 1856, 15 Feb. 1858, 21 Nov. 1859; 27/2, 9 Oct. 1865.
- ⁶⁶ Liv. R.O., 352 MIN/HEA II 27/1, 25 July 1859, 7 May 1860.
- ⁶⁷ Liv. R.O., 352 MIN/HEA II 27/1, 24 Sep. 1855.
- ⁶⁸ Liv. R.O., 352 MIN/HEA II 27/1, 16 Aug. 1858.
- ⁶⁹ Liv. R.O., 352 MIN/HEA II 27/2, 2 July 1866.
- ⁷⁰ Liv. R.O., 352 MIN/HEA II 27/2, 7 May 1866.
- ⁷¹ Liv. R.O., 352 MIN/HEA II 27/1, 29 Aug. 1859; 27/2, 25 Nov. 1861.
- ⁷² Liv. R.O., 352 MIN/HEA II 27/2, 2 July 1866.
- ⁷³ Liv. R.O., 352 MIN/HEA II 27/2, 12 May 1861.
- ⁷⁴ Liv. R.O., 352 MIN/HEA II 27/1, 4 Oct. 1858, 31 Jan, 1859.
- ⁷⁵ Liv. R.O., 352 MIN/HEA II 27/1, 30 Sept. 1861.
- ⁷⁶ Liv. R.O., 352 MIN/HEA II 27/1, 21 June 1855, 1 Feb. 1858.
- ⁷⁷ *Liverpool Mercury*, 13 Jan. 1854.
- ⁷⁸ *Liverpool Mercury*, 12 Jan. 1855.
- ⁷⁹ *Liverpool Mercury*, 13 Jan. 1854.
- ⁸⁰ J. Belcham, 'Introduction: The peculiarities of Liverpool' in Belcham 1992, pp. 2 – 3.
- ⁸¹ Picton 1853: 24.
- ⁸² Liv. R. O. 352 MIN/HEA II 27/2, 20 Jan. 1862.

⁸³ *Hansard's Parliamentary Debates*, Third Series, 29th. Victoria 1866, Vol. CLXXXI, 9 March 1866, cols. 1823-1824, col. 1828.

⁸⁴ P.P. 1866, Returns for letters by Secretary of State.

REFERENCES

- Ashby, E. and Anderson, M. 1981. *The Politics of Clean Air*. Oxford: Oxford University Press.
- Baines, E. 1870. *The History of the County Palatine and Duchy of Lancaster*, vol. 2. London: Routledge.
- Barker, T. C. and Harris, J. R. 1957. *A Merseyside Town in the Industrial Revolution. St. Helens, 1750–1900*. Liverpool: Liverpool University Press.
- Beck, E. 1959. 'Some aspects of the history of anti-pollution legislation in England, 1819–1954', *Journal of the History of Medicine and Allied Sciences*, **XIV**: 475-489.
- Belchem, J. (ed.) 1992. *Popular Politics, Riot and Labour. Essays in Liverpool History 1790–1940*. Liverpool: Liverpool University Press.
- Bowler, C. and Brimblecombe, P. 1990. 'The difficulties of abating smoke in late Victorian York', *Atmospheric Environment*, **24B**, 1: 49-55.
- Brimblecombe, P. 1987. *The Big Smoke. A History of Air Pollution in London since Medieval Times*. London: Methuen.
- Clapp, B. W. 1994. *An Environmental History of Britain since the Industrial Revolution*. London: Longmans.
- Fraser, R. H. 1855. *Fraser's Guide to Liverpool and Birkenhead*. London: Kent.
- Frazer, W. M. 1947. *Duncan of Liverpool*. London: Hamish Hamilton.
- Fresh, T. 1851. *Report to the Health Committee of the Town Council of Liverpool*, Liverpool: Liverpool Town Council.
- Jones, W. 1805. *The Picture of Liverpool: or, Stranger's Guide*. Liverpool.
- Lawton, R. 1956. 'The population of Liverpool in the mid-Nineteenth century', *Transactions of the Historic Society of Lancashire and Cheshire*, 107.
- Moss, W. 1796 (reprinted 1974). *The Liverpool Guide*. Liverpool: Wilmer Bros.
- Picton, J. A. 1853. *Liverpool improvements, and how to accomplish them*. Liverpool: Howell.
- Poole, B. 1861. *A Report to the Commissioners of the Wallasey Board of Health, on Ferries and their Management*. Liverpool.
- Port, M. H. 1976. (ed.) *The Houses of Parliament*. London: Yale University Press.
- Power, J. 1992. 'The growth of Liverpool' in J. Belchem (ed.) 1992.
- Sheard, S. 1993. 'James Newlands and William Henry Duncan of Liverpool: a partnership in public health', *Transactions of the Lancashire and Cheshire Antiquarian Society*, 87.
- Shimmin, H. 1863. *Liverpool Sketches*. Liverpool.
- Statutes of the United Kingdom*, 9 & 10 Vict. 1846.
- Statutes of the United Kingdom*, 18 & 19 Vict. 1855.
- Staples, J. B. 1976. 'The economic structure of port cities in the mid-Nineteenth century: Boston and Liverpool, 1840–1860', *Journal of Historical Geography*, **2**.
- Wohl, A. S. 1984. *Endangered Lives. Public Health in Victorian Britain*. London: Methuen.
- Woods, E. C. and Brown, P. C. 1929. *The Rise and Progress of Wallasey*. Wallasey: Public Libraries Department.