

THE 'SMOKE NUISANCE' AND ENVIRONMENTAL REFORMERS IN LATE VICTORIAN MANCHESTER

Stephen Mosley

A recent national survey of air quality revealed that Manchester has the foulest air in Britain, with the possible exception of Belfast. Readings taken on the Manchester Town Hall roof on December 22 1994, as 65,000 cars entered the city centre between the hours of 7am and 10am, showed high levels of both nitrogen dioxide and carbon monoxide.¹ Pollutants from vehicle exhaust fumes have been linked to a frightening rise in respiratory diseases and an increase in the incidence of a variety of cancers in urban areas. Manchester's ascent to the top of the national air pollution league table sparked protests from environmental campaigners in the city, who swiftly formed an alliance called Fresh Air Now. New radical direct action groups, such as Reclaim the Streets, have been springing up all over the country in an attempt to bring cleaner air to Britain's cities. Against this backdrop, it is an opportune moment to relate an aspect of Manchester's history that has been

sorely neglected – the fight against smoke pollution in the late nineteenth century. This paper aims to make a contribution to a recent call for more information about early environmental reformers by looking at who comprised the membership of the Manchester and Salford Noxious Vapours Abatement Association (NVAA), founded in 1876, and what motivated them to attempt to clean up the city's atmosphere.² Initially, however, we must briefly look at how contemporaries viewed the main effects of a century of severe air pollution on the city and its inhabitants.

Impact of the 'Smoke Nuisance'

Manchester, the 'shock city' of the industrial revolution, attracted visitors from all over the world to wonder at the new 'mandscape' of colossal textile factories and warehouses, and its forest of smoking chimneys. Economically, Manchester was one of the world's most important cities due to the success of its trade and industries. But the impact of the coal-fuelled steam engine on Manchester's environment was to prove both damaging and ugly, as over the new society there hung a veil of black smoke generated by the grim ranks of industrial smokestacks. The traveller approaching Manchester in the late nineteenth century first became aware of the city's existence from a distance of several miles as "the beautiful, clear, blue sky is changed into a dark, murky, cloudy haze".³ After a century of rapid urban and industrial growth Manchester had become "synonymous with everything that is depressing, dingy-looking, and smoke begrimed".⁴ In a *Punch* cartoon of 1882, which poked fun at the notion of the planned Ship Canal bringing the 'seaside' to Manchester, the smoky image of the city is graphically illustrated. Manchester, once 'the symbol of a new age', had come to epitomise the grimy, polluted industrial city, where a perpetual funereal pall obscured both the sun and the clear blue sky in an age of smoke.

By the 1870s the 'smoke nuisance' had caused the destruction of the natural and architectural beauty of Manchester. Massive growth meant that by mid-century there were few green spaces left in the city centre that had not fallen prey to the builder, and those that remained were under threat. In 1846 Manchester and Salford's first three public parks had been opened: Queens Park in Harpurhey, Peel Park in Salford, and Philips Park in Bradford. In an age when most cities were heavily polluted by coal smoke, parks were looked upon as the 'lungs' of a city, where the poorer residents especially could, in their leisure hours, breathe purer air and at the same time enjoy a refreshing glimpse of greenery. But the reality was that the parks in Manchester suffered from the same pollution as did the rest of the city. In 1870 an official report described the conditions in Philips Park thus: "So considerable was the quantity of smoke sent through the Park ... that the atmosphere was perfectly clouded by it, and the smell of the smoke was stifling. It is quite impossible that healthy vegetation can subsist in such atmospheric conditions".⁵ Moreover, in 1882 a local doctor bemoaned the effects of smoke pollution upon the vegetation of the whole Manchester region:



A veil of black smoke blotted out the sun.

... fruitful vales where vegetation flourished, roses grew in abundance, and the most delicate flowers thrived, have been changed by the deleterious compounds of coal-smoke into barren deserts. There is now no vegetation, no roses, no flowers. What once were trees with wide-spreading branches have either disappeared or are represented only by a stunted rotten stump.⁶

Like Manchester's parks and gardens, its public buildings and monuments were also seriously damaged by smoke pollution. In 1875 the noted architect Thomas Worthington proclaimed Manchester "the inland metropolis of the North – the Florence, if I may so describe it, of the nineteenth century".⁷ However, the fate of Manchester's innovative and varied architecture may be summed up by the experience of the immense gothic monument to civic pride and commerce that is Manchester Town Hall. The year 1877 saw the completion of Alfred Waterhouse's masterpiece at the cost of around £1 million, yet its outside walls quickly blackened and its ostentatious ornamentation soon became mere traps for soot and grime. Thomas C. Horsfall later questioned the wisdom of spending so much money on a town hall when "most of its architectural effect would be lost because ruined by soot and made nearly invisible by smoke".⁸ The rapid defilement of many recently erected 'architectural beauties' was the cause of great concern – as was the flight away from the smoke and stinks of the city by Manchester's middle classes.

Air pollution contributed in no small part to the separation of the classes. In 1885 Fred Scott, secretary to both the NVAA and the Manchester and Salford Sanitary Association, commented upon a process that had been in question since the beginning of the century:

All who can afford to escape from the polluted atmosphere of the town for their leisure hours naturally do so ... the separation of the classes which has been steadily going on for some years in Manchester has now become so completely effected that the Medical Officer of Health for the city describes Manchester as being, from a residential point of view, a city of cottages.⁹

The retreat from the smoky environs of Manchester saw the expansion of middle-class communities in the cleaner, greener climes of places like Alderley Edge, Altrincham and Wilmslow. However, by so isolating themselves the middle classes left themselves open to claims that they lacked proper concern for Manchester's social problems. The city's 'natural leaders' departed, leaving the masses behind to cope as best they could with polluted and insanitary conditions, low and uncertain incomes, and bad housing. Lack of social contact with their 'betters' was often cited as an explanation for the 'failings' of the masses. "The estrangement thus created between the cultured classes and those compelled to live in depressing surroundings", warned Fred Scott, "has been frequently pointed out as productive of many evils".¹⁰ Potential civil discord, crime, drinking, gambling, and prostitution were just some of the 'many evils' that reformers such as Scott warned against. Moreover, the role that the city's polluted atmosphere played in the perceived physical degeneration of Manchester's poorer inhabitants was also a matter of grave concern.

Air pollution was linked to the increased incidence of chronic respiratory diseases, especially bronchitis, in poor urban areas, with one report showing that the average death rate from respiratory diseases between the years 1868-73

was just 2.27 per thousand in Westmorland, 3.54 per thousand for the whole of England and Wales, while for Salford it was 5.12, and for Manchester 6.10 per thousand. In 1874 the death rate from these causes had risen to 7.70 per thousand in Manchester, leading the report's author to conclude "that Manchester suffers more from diseases of respiratory organs than any town or city in England".¹¹ Moreover, the smoke-laden atmosphere of Manchester blotted out the sun, and this 'destruction of daylight', coupled with the impure condition of the air, led to fears during this period that "the race is being made weak, bloodless, and depressed".¹² A correspondent to the *Manchester Guardian* in June 1888 described the atmospheric conditions in Ancoats:

The atmosphere in the neighbourhood is so dense with smoke that it is impossible to see any object at a distance of a few hundred yards; as for sunshine, I have lived here ten years and have never seen what could be called 'brilliant sunshine'. Everything is befouled within and without with soot and smuts, and this is the air we have to breathe!¹³

The subject of the physical and moral degeneration of the urban British race, though a recurring theme throughout the nineteenth century, did not take a firm hold of the public imagination until the early years of the twentieth century.¹⁴ Nonetheless, that the presumed physical deterioration of the working population in Manchester was of concern in the early 1880s, and that it was thought by some to be caused directly by the heavily polluted atmosphere, can be plainly illustrated:

If we place a plant in a dark gloomy cellar, it is no matter of surprise to us if it seems blanched and sickly. We know we cannot expect anything more from it; we have placed it in artificial conditions, and the results are a moral certainty. Yet such is our inconsistency that we express surprise at the stunted forms and complete deterioration of the inhabitants of the smoky, lurid back streets of Manchester.¹⁵



Punch cartoon of 1882 showing Manchester's smoky image.

The noxious atmospheric conditions had produced not only a stunted and etiolated vegetation, but they were also believed to be responsible for manufacturing a stunted and etiolated populace. An active minority of environmental reformers were convinced that if the growing air pollution problems created by urbanisation and industrialisation were allowed to continue unabated, Manchester would soon be compelled to address them. At this juncture a more detailed examination of the views of two reformers, Thomas C. Horsfall and Herbert Philips, who were at the heart of the NVAA, will bring the motives that underpinned the smoke abatement movement more clearly into focus.

Contrasting Views of Smoke

Thomas Coglean Horsfall, founder of the Manchester Art Museum and a staunch member of the NVAA, felt obligated by a humanitarian 'sense of duty' to help improve Manchester's social and environmental conditions. Indeed, in 1877 Horsfall, in a letter to John Ruskin, wrote; "that it is the duty of our class ... to give the people light and pure air, and all that light and pure air, and only they, would bring with them".¹⁶ Born in Manchester, Horsfall had seen at first hand the conditions in which the poor had to exist as he passed through the slums of Ancoats every day on his way to work in his father's cotton business. He was, however, a delicate child and at the age of eighteen he travelled extensively for his health.¹⁷ In stark contrast to the smoky and disorganised industrial city of Manchester, he had encountered the relatively clean, orderly, and attractive environments of the great cities of Europe. In his letter of 1877, Horsfall informed Ruskin that it was "the brightest sunshine in Italy and Switzerland [that] began to make me see chiefly the gloom and foulness of Manchester".¹⁸ In 1895 Horsfall described the city as "uglier than nearly all other towns", and argued:

*... that till the air was much purer, open spaces could not be made attractive, and therefore could not be of much use, that houses could not be well ventilated or be kept very clean, that health could not be very good, or the habit of drinking to excess, or that of seeking recreation from betting in holes and corners, be very much weakened.*¹⁹

The campaign for smoke abatement was seen as a fundamental issue by the environmental reformers, one which would buttress social progress in other spheres, such as sanitation, education and charity. In short, there could be little moral, physical or intellectual improvement as far as the masses were concerned without there first being an improvement in atmospheric conditions. Moreover, the members of the NVAA were labouring to produce environmental conditions that would not only improve the lot of the working man, but would also encourage the businessman to once again make the town his home, and not merely his office.

Herbert Philips, founder of the Committee for Securing Open Spaces for Recreation and president and treasurer of the NVAA, condemned the practice of 'going to live out', as:

*Manchester people live in happy forgetfulness of Manchester concerns outside their own business. Worse still ... so it comes to pass that men of wealth and leisure are getting yearly scarcer here, and that some of the leading Manchester institutions complain of weak committees and failing funds. This is an exhausting process under which no city can prosper.*²⁰

Philips imagined the lifeblood of the city to be slowly ebbing away, as those who made comfortable livings in Manchester fled from the noisome atmosphere. He felt that the first step towards successfully staunching the flow was to re-introduce something of nature back into Manchester, with the object of ending 'unnatural' class segregation and restoring what were perceived as traditional social bonds in the city. By making Manchester's inner suburbs more attractive with an 'abundance of ornamental grounds' and the addition of 'sylvan scenery', Philips hoped that "rich people will settle in them, live and die in the houses they build, and bequeath them to posterity."²¹ Moreover, the environmental reformers believed that there would be no substantial regeneration of the city's environment unless "those whose residence would tend to promote [its] healthiness and beauty" could be persuaded to return to live as well as work in Manchester.²² The abatement of the smoke that still abounded in the city was essential for the success of this strategy.

The smoke, however, was widely accepted as a necessary by-product of industry: as "the inevitable and innocuous accompaniment of the meritorious act of manufacturing".²³ For many the smoke of the industrial cities had a positive significance, which was equated with production, prosperity, progress, and jobs. The production of smoke warranted no apologies from most industrialists, who pointed to their belching chimneys as a barometer measuring economic success and social progress. What did it matter if aesthetically Manchester did "not make a good show, except of dirt ... it is only work-day dirt after all - the grime of a collier who has to deal with coal".²⁴ The prevailing view amongst Manchester's toiling masses was that smoke was inseparable from good trade and a full stomach, an opinion echoed throughout the textile districts and beyond. Charles Dickens captured the quintessential spirit of the age when he has Josiah Bounderby of Coketown say: "First of all, you see our smoke. That's meat and drink to us. It's the healthiest thing in the world in all respects".²⁵

Concern for industrial interests always predominated in the constant stream of nineteenth-century legislation passed to control the 'smoke nuisance'. Critics noted that the law left numerous loopholes which allowed smoke producers to easily bypass penalties against emissions. The most widely utilised escape route for polluters during this period was the 'best practicable means' clause which existed in nearly all anti-smoke legislation. For example, the Public Health Act of 1875 allowed a complaint to be dismissed if it could be shown that a furnace had been:

*constructed in such a manner as to consume as far as practicable, having regard to the nature of the manufacture or trade, all smoke arising therefrom, and that such fireplace or furnace has been carefully attended to by the person having the charge thereof.*²⁶

As there was no consensus regarding what was practicable at this time, it was very difficult to prosecute a successful legal action if industrialists maintained that they had 'done their best' technically to abate smoke emissions. Moreover, local authorities rarely invoked the law to curb emissions of dense black smoke as they feared losing the factories as important employers and ratepayers. A member of the Health Committee of the Salford Corporation, G. M. Jones, found great favour with the mainly working-class audience at a public meeting against smoke pollution, organised by the NVAA, when he protested that: "he would be sorry to see a persecution commenced against the manufacturers, for if they were driven from the borough, where would the



Smoke from domestic chimneys played a large part in polluting the Manchester atmosphere.

bread of the working man come from?"²⁷ But despite the willingness of the majority of Britain's businessmen, politicians, and workers to endure polluted air in the name of growth and prosperity, an active minority of influential environmental reformers continued to question the popular belief that smoke was indeed synonymous with progress – not least in Manchester. Let us now see how the Manchester and Salford Noxious Vapours Abatement Association was formed, and who constituted the personnel of the smoke abatement movement.

The Environmental Reformers

On 2 November 1876 concerned Manchester residents met together in the Town Hall to discuss the problems caused by noxious vapours from alkali and other chemical works. The object of the meeting was: "... to form in Manchester a branch society to co-operate with the Lancashire and Cheshire – the Liverpool – and other similar associations – for controlling the escape of noxious vapours ... from manufactories, especially by rousing public attention to the evils in question."²⁸ The Royal Commission appointed to investigate air pollution from chemical works, which started work in July 1876, undoubtedly helped to spark the appearance of such an association in Manchester at this particular time. The emphasis of the new pressure group soon began to change, however, as the main source of Manchester's problems regarding air pollution was recognised to be coal smoke. In 1876 there were only seven works under the jurisdiction of the Alkali Inspectorate in Manchester and its immediate environs, and even after the passing of the Alkali & Works Regulation Act in August 1881, this number had only increased to 32 by 1884.²⁹ In

contrast, a petition of 1843 estimated that Manchester had nearly 500 industrial chimneys discharging smoke into the atmosphere.³⁰ By the year 1898 that figure had more than doubled to around 1,200 industrial chimneys, with neighbouring Salford adding a further 760 chimneys of its own.³¹ There were, of course, thousands of domestic chimneys in Manchester which also polluted the atmosphere of the city. Horsfall wrote in 1893 that "it is safe to assume that most of the smoke in all large English towns is due to domestic fireplaces".³² However, there was no law prohibiting domestic smoke, and the reformers could do little more than to call upon public-spirited citizens to "voluntarily [make] their homes or the houses they own smokeless".³³ Parliament was reluctant to legislate as: "If an Englishman's house is his castle, the domestic fireplace is the keep of the castle, the very centre and citadel of the stronghold".³⁴ Despite the flagrantly obvious contribution domestic smoke made to the air pollution problem, contemporary public opinion would not have tolerated the imposition of the smokeless fuels and closed stoves that could have reduced smoke in cities, let alone the intrusion of smoke inspectors checking on the construction of hearths in private homes. The NVAA, therefore, concentrated the greater part of its endeavours upon emissions from factories, where some tightening of the existing regulations was thought to be possible. But total freedom from smoke pollution was still regarded by many as a utopian goal and those who pressed for the abatement of smoke were often dismissed as irksome, interfering do-gooders. This view of the environmental reformers prevailed for many years, but, in fact, what sort of people were they?

Ernest Simon, Lord Mayor of Manchester and one of the prominent figures in the smoke abatement movement during the early twentieth century, penned the following stereotyped image of the environmental reformer: "The smoke abater is almost universally regarded as an amiable and unpractical faddist".³⁵ However, an examination of the composition of the NVAA's committee clearly shows that it was not simply an organisation made up of 'enthusiastic amateurs'. From the outset it recognised the complex nature of the problem, and set out to recruit those best qualified to tackle it. The NVAA was able to attract some of the most prestigious and respected men in Manchester, including the Town Clerk, Sir Joseph Heron, the noted philanthropist, Oliver Heywood, and the Dean of Manchester, the Very Rev. John Oakley. The practical bent of the committee is revealed through the occupations of committee members such as Arthur Ransome, M.D., Lecturer on Public Health at Owens College; A. Hopkinson, Professor of Jurisprudence and Law at Owens College; Charles Estcourt and J. Carter-Bell, the City Analysts for both Manchester and Salford Corporations respectively; and Lavington E. Fletcher, Chief Engineer to the Steam Users' Association for the Prevention of Steam Boiler Explosions. The environmental reformers maintained links with Robert Angus Smith and Alfred E. Fletcher, successive Chief Alkali Inspectors, and also with other smoke abatement associations which were springing up in towns and cities around the country, including Glasgow, London, and Leeds, exchanging ideas and information, organising joint petitions, and comparing the common experiences of their cities regarding the smoke problem. The NVAA, therefore, included in its membership, and had ready access to the expertise of, men who were numbered amongst the country's foremost authorities in their respective fields. The NVAA was clearly not merely a collection of ignorant, altruistic meddlers, although it was undoubtedly in the interests of Manchester and Salford's manufacturers to label them as such.

The composition of the committee of the NVAA over the years, as is shown in Table 1 indicates that the problem of smoke prevention was recognised to be a shared problem of medicine, law, science, and technology, and demonstrates effectively its willingness to engage with all facets of the air pollution problem in late-Victorian Manchester.

The presence of the manufacturing element on the committee throughout the years, allied to the engineers and chemists

Table 1: Committees of the Manchester and Salford Noxious Vapours Abatement Association, 1879-94

Occupations	1879	1884	1889	1894
Merchants and Manufacturers	5	6	6	4
Medical Men	6	2	1	2
Lawyers	2	2	1	—
Ministers of Religion	1	2	2	1
Professionals	3	3	4	5
Unknown	3	1	1	1
Total	20	16	16	14

Source: Annual reports of the Manchester and Salford Noxious Vapours Abatement Association and, Slater's Manchester, Salford and Suburban Directory for the above years. Medical men and lawyers, for reasons that will become obvious, have been presented in categories of their own. Professionals include engineers, city analysts, architects, estate agents and others. Merchants and manufacturers have not been differentiated here as in the great majority of cases their entry in Slater's Directory recorded them as both.

who also served, suggests a potent source of technical and scientific knowledge. That the committee included a significant number of manufacturers was particularly important at a time when the value of theoretical knowledge regarding smoke prevention was still viewed with suspicion by many 'practical men'. The reformers attempted to persuade manufacturers that a practicable technology to abate smoke was available, the cost of which could be recouped through increased fuel efficiency. The NVAA, for example, successfully negotiated the transfer of the London Smoke Abatement Exhibition of 1881, jointly organised by Ernest Hart's National Health Society and Octavia Hill's Kyrle Society, to Manchester, and it was re-opened at Deansgate on 17 March 1882.³⁶ But, despite the fact that in test situations many of the inventions on show had reduced smoke considerably, most Manchester manufacturers did not adopt the new apparatus. Although waste was abhorred by the cost-conscious Victorian businessman, and unburnt smoke was recognised to be wasted fuel, there was no substantial commercial benefit to be gained from the efficient combustion of coal. Coal was relatively cheap, and the great majority of factory owners, especially the marginal operators, were only concerned with their immediate financial outlay. However, the problem of smoke prevention was not seen solely as a question of science and technology, of simply persuading reluctant manufacturers to adopt the latest smoke-preventing appliances, although this was a key aspect of the NVAA's work.

As the internal dynamics of the committee stabilised with time, the active nucleus of 'enlightened' manufacturers can be seen to have been supported by specialist 'cells' of experts. These 'cells' could be activated as and when required, depending on the direction the campaign was taking, to advise or speak out authoritatively on their particular specialisation. The physicians frequently



Trees near Pendleton seriously affected by air pollution, July 1857.

highlighted the link between air pollution and the high incidence of death from respiratory diseases in Manchester. In 1882, for example, Arthur Ransome estimated that in the preceding decade 34,000 people had died from 'diseases of the lungs' in Manchester and Salford.³⁷ However, statistics connecting smoke pollution and mortality rates were not thought conclusive proof of damage being caused to health, and the legislature remained unwilling to impose restraints upon industry. Doctors were at first strongly represented on the committee, which reflects the close ties that existed between the NVAA and the Manchester and Salford Sanitary Association, to which it became affiliated in 1881. The inclusion of so many ministers of religion could be construed as the committee merely adding more moral weight to their already eminently respectable numbers; but it is also a strong indication as to the importance of concerns over the erosion of public morals. It may also reflect the fact that many Manchester clergymen actually lived in their parishes, and could see and experience at first hand the damage that smoke and dirt wreaked on health and home.

The committee's lawyers could be relied upon to advise upon legal difficulties regarding the lax enforcement of the laws relating to smoke. For example, in a report prepared for the NVAA in 1881 Professor Hopkinson suggested that the emission of black smoke should be placed under the jurisdiction of the Alkali Inspectorate.³⁸ To have the smoke problem placed under the control of a national body, which would ensure uniform action was taken across the country, was one of the main aims of the reformers. The abundant nineteenth-century laws concerning the control of smoke were fatally flawed, as serious loopholes, such as how much smoke was permissible and what constituted the 'best practicable means' of abatement, were present in all legislation down to, and including, the smoke clauses in the Public Health Act of 1875. The reformers recognised that if the problem were to be solved, it must be removed from the local domain, where "the great hindrance to effective administration of the law ... from long experience ... [was] found to be the result of the strong representation on Local Authorities and the Bench, of those who create the nuisance".³⁹ But, (particularly during the 1890s), the environmental reformers' numerous appeals for a strong centralised smoke inspectorate went unheeded by the government.

There was considerable expertise available to the NVAA which was efficiently utilised in an attempt to educate industrialists and the public alike as to the dangers deriving from air pollution. The NVAA published pamphlets on all facets of the 'smoke nuisance', held public meetings and lectures on the subject, organised exhibitions and tests of both domestic and industrial smoke abatement equipment, and commissioned scientific experiments on the effects of smoke on Manchester's air and rainwater. The NVAA's propaganda to win over public opinion shrewdly placed great emphasis on appeals to economic rationality, as this excerpt from its Annual Report of 1886 demonstrates:

... much may be done by steadily impressing upon the public mind some leading facts and principles ... the gain to traders by better preservation of their stock from the present serious injury; the gain to consumers in the greater durability of clothing &c.; the gain to owners of house property, now standing empty by reason of offensive surroundings; the gain in health to wage-earners by the possibility of cleanliness and pure air in their small houses and narrow streets; ... and, finally, the gain to the whole community in the happier, healthier, and more vigorous lives of its members.⁴⁰

Change of Tactics

For almost two decades environmental reformers tried to achieve their aims by "conciliatory and educational means rather than by coercive measures."⁴¹ However, the NVAA's placatory overtures were continually spurned by Manchester's manufacturers, and the reformers finally lost patience with these tactics and opted for compulsion in order to protect the atmosphere of Manchester from industrial smoke pollution. In 1894 the NVAA, frustrated and disappointed at the lack of any visible atmospheric improvement in Manchester, resolved to form a Lancashire Smoke Abatement League, with branches in all the county's principal towns. In 1895 the Manchester and Salford Noxious Vapours Abatement Association became the Manchester and Salford Branch of the Smoke Abatement League, whose "main object ... is to enforce the law prohibiting unnecessary pollution of the air by coal smoke."⁴² Any discontented citizen, under the provisions of section 105 of the Public Health Act of 1875, could take proceedings against offenders. The new League intended to pursue private prosecutions through the courts in cases where the authorities failed to take action against persistent lawbreakers. The Smoke Abatement League's affiliated branches in Middleton and Sheffield pursued an active policy in the prosecution of smoke producers, but without any marked success. For example, the financial records of the Sheffield and Rotherham Branch show that they expended the sum of £60 13s 11d on "Counsel's Fees, Witnesses, etc." in 1895 in order to take action against five manufacturers; just three were convicted incurring fines of only £3 3s 6d between them, including costs. The costs awarded to the Sheffield Branch by the court amounted to £2 10s 6d. Sheffield's environmental reformers, however, considered this outcome to be 'satisfactory'.⁴³ But, despite threatening similar action, Manchester's environmental reformers did not take proceedings in a single case. They could not, for the League's Manchester branch had not got the financial wherewithal to prosecute a legal action. The failure of the reformers' final venture meant that the 'smoke nuisance' continued to be a serious problem in Manchester up to the end of the century and beyond.

Conclusion

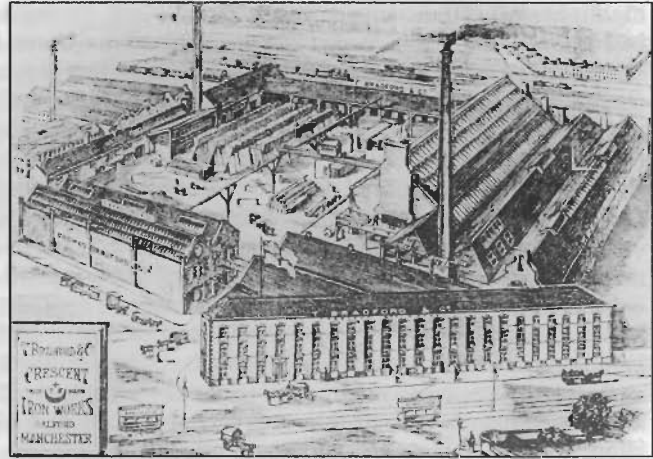
By the 1880s Manchester had acquired an unenviable reputation for dirt, smoke and gloom. The origins of efforts to improve the air of Manchester lay in the environmental reformers' notion that "coal smoke by itself makes the general attainment of a high level of civilisation impossible in our towns".⁴⁴ They believed that smoke banished nature from urban life, caused the physical and moral deterioration of the populace, separated class from class, and defaced the beauty of the city's art and architecture. But the NVAA was chiefly concerned with exposing to public view the damage that the 'smoke nuisance' caused to the health and welfare of Manchester's working classes. That does not mean to say that they were unaware of other factors, such as bad housing and poor sanitation, that contributed to the problems of the modern industrial city. The contrary is true: but the environmental reformers believed that smoke was the principal bane of urban life. The roots of the smoke abatement movement in Manchester lay in yearnings for a greener, healthier, cleaner, and more aesthetically pleasing city that was fit to house *all* classes. The reformers were beginning to see that an investment in the non-human environment – in clean air and in healthy, flourishing vegetation – was also a way to increase or measure the public wealth of a city. At the foundation of the NVAA

Herbert Philips complained that unless something could be done to combat air pollution in Manchester:

*We should ... have a city in which no one would willingly reside unless he was obliged, and no-one could consider that a triumphant result of what we call modern progress and civilisation.*⁴⁵

There was a growing sense that modern technology was not being used wisely, and that wasteful emissions of smoke were causing unnecessary injury to both the natural and built environment.

Unlike most contemporaries, the environmental reformers had refused to accept the dominant view that smoke pollution was a necessary and harmless corollary of 'progress'. They worked tirelessly to disseminate reliable information concerning the best existing technology for abating smoke, to discover by rigorous scientific investigation new and improved methods of smoke prevention, and to raise public awareness of the seriousness of the harm done by the 'smoke nuisance'. Yet, considering the prominence of some of its experts, the NVAA's actions were surprisingly unsuccessful with regard to bringing about changes in policy, legislation, and attitudes concerning smoke. The activities of the environmental reformers gained considerable, and mainly favourable, press coverage; but their protests and campaigns against the 'smoke nuisance' failed to attract widespread public support. The strength of the scientific, technical legal, and medical arguments that the NVAA's prestigious experts employed when lobbying both local and national government counted for little in the face of wholesale public indifference about smoke pollution. Just as today, the problem of pollution control was often viewed in simplistic terms, with the manufacturers presenting a stark choice between economic stagnation or smoky prosperity when environmental safeguards were proposed. Modern industrial methods provided much needed jobs and higher living standards for Manchester's inhabitants, but clearly exacted a high price in return through a reduced standard of health and comfort, and severe environmental degradation. However, the vast majority of Manchester's working men



The production of smoke warranted no apologies from most industrialists.

and women undoubtedly believed the manufacturers' claims that they would actually be worse off without the industrial smoke which polluted the air.

The environmental reformers failed to win over public opinion in their fight against smoke, and the name of Manchester long continued to be associated with dull, grey polluted skies. It was not until the two decades after the passing of the 1956 Clean Air Act that pollution of the air by smoke from both industrial and domestic sources was at last significantly reduced in the city. It is, therefore, a worrying development to discover that Manchester is once again acquiring notoriety for having the foulest atmospheric conditions in the land. But, unlike the past, for some years now the public have demonstrated a good deal of support for environmental groups such as Greenpeace and Friends of the Earth, with opinion polls repeatedly showing that the public trust the campaigners, rather than the government or industry, on environmental issues.⁴⁶ We cannot be over-confident, but, with the support of the public, current efforts to bring clean air to Britain's cities are unlikely to take over a century to prevail.

NOTES

- 1 *Guardian*, 20 January 1995, p.9.
- 2 Christopher Hamlin recently wrote: "A key problem in understanding the origins of efforts to improve the environments of industrial cities is understanding why people came to see a particular problem and to take action. We need to know who cared, why they cared". See C. Hamlin, 'Environmental Sensibility in Edinburgh, 1839-1840: The "Fetid Irrigation" Controversy', *Journal of Urban History*, 20 (1994), p.311.
- 3 *Exhibition Review*, (hereafter *E.R.*), 22 April 1882. National Society for Clean Air Archives, Brighton.
- 4 *Manchester Guardian*, (henceforth *M.G.*), 27 August 1887.
- 5 Bradford Local Board Report. Cutting in Salford Local History Library, 614.71.
- 6 *E. R.*, 22 April 1882.
- 7 A. Pass, 'Thomas Worthington: Practical Idealist', *Architectural Review*, 155 (1974), p.268.
- 8 T. C. Horsfall, 'The Government of Manchester', *Transactions of the Manchester Statistical Society*, (hereafter *T.M.S.S.*), (1895-96), p.12.
- 9 F. Scott, 'The Need for Better Organisation of Benevolent Effort in Manchester and Salford', *T.M.S.S.* (1884-85), pp.141-2.
- 10 *Ibid.*, p.143.
- 11 *Manchester and Salford Sanitary Association Annual Report*, (henceforth *M.S.S.A. An. Rep.*), (1876), p.9.
- 12 J. W. Graham, *The Destruction of Daylight: A Study in the Smoke Problem* (London 1907), p.4.
- 13 *M.G.*, 13 June 1888.
- 14 For a recent discussion see: D. Porter, 'Enemies of the race: Biologism, Environmentalism, and Public Health in Edwardian England', *Victorian Studies*, 34 (1991), pp.159-78.
- 15 *E. R.*, 29 April 1882.
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