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INTRODUCTION

IN 1899, THE Chinese ambassador was asked his opinion of Victorian London at the zenith of its imperial grandeur. He replied, laconically, ‘too dirty’.¹ He was only stating the obvious. Thoroughfares were swamped with black mud, composed principally of horse dung, forming a tenacious, glutinous paste; the air was peppered with soot, flakes of filth tumbling to the ground ‘in black Plutonian show’rs’.² The distinctive smell of the city was equally unappealing. Winter fogs brought mephitic sulphurous stinks. The summer months, on the other hand, created their own obnoxious cocktail, ‘that combined odour of stale fruit and vegetables, rotten eggs, foul tobacco, spilt beer, rank cart-grease, dried soot, smoke, triturated road-dust and damp straw’.³ London was the heart of the greatest empire ever known; a financial and mercantile hub for the world; but it was also infamously filthy. The American journalist Mary H. Krout, visiting London for the Diamond Jubilee of 1897, found Londoners’ response to the dirt strangely apathetic. She felt sure that, if the same conditions were visited upon Washington or New York, some solution would have been found.⁴

This was a peculiar state of affairs. The Victorians, after all, had invented ‘sanitary science’ – the study of public health, dirt and disease – and considered cleanliness the hallmark of civilisation. Moreover, they had not been idle. London had seen millions of pounds invested in a vast network of modern sewers. This was a gargantuan project, planned and managed by Joseph Bazalgette of the Metropolitan Board of Works, and brought to fruition in the

1860s – a concrete testament to the importance accorded ‘sanitary reform’. Indeed, mile upon mile of meticulously executed brickwork still survives beneath modern streets, and popular histories regularly credit Bazalgette as ‘the man who cleaned up London’ – which only makes the filthy condition of the late-Victorian metropolis all the more baffling.

In fact, the Victorian passion for sewerage – and latter-day awe at Bazalgette’s engineering genius – has obscured the true history of metropolitan dirt. The fight against filth was waged throughout Victoria’s reign on many fronts, with numerous battles ending in stalemate or defeat. Reforming zeal was frequently met with plain indifference. The stench of overflowing dustbins, dung-filled thoroughfares, the choking soot-filled atmosphere – even the peculiar history of the public toilet – these are as much part of the (in)sanitary history of Victorian London as the more familiar story of its sewers. The aim of this book is to give these overlooked aspects of ‘dirty old London’ their due; and to explain why, far from cleansing the great metropolis, the Victorians left it thoroughly begrimed.

The capital’s century-long struggle with filth was intimately connected with its unprecedented growth. Between 1801 and 1901, the population of London soared from one million to over six million. Suburbia replaced green fields, ‘crushing up the country in its concrete grasp’.⁵ Waste products multiplied in due proportion, whether smoke from household fires or mud from ever-increasing horse traffic. Some types of dirt posed a challenge in terms of the sheer volume of unwanted matter; others contained a real or perceived danger to public health. Nuisance and discomfort abounded. Some saw metropolitan dirt as the harbinger of moral decay. Filth implied social and domestic disorder; and, when discovered in the home, inculcated immoral habits – for it was widely agreed that working men, faced with poor housekeeping, sought refuge in the glittering comforts of the gin palace.

The worst types of filth, solely in terms of volume, were human excrement; mud on the streets; and ‘dust’ (cinders and ash from coal fires). In the eighteenth century, their disposal had been less problematic. Human waste was stored in household cesspools, emptied occasionally by ‘night soil men’, who sold it to farmers as manure. Mud was swept up by parish contractors, and, likewise, sold as fertiliser. Ashes and cinders were collected by dustmen and sold to brickmakers, who added the ash to their bricks, and used cinders as fuel. These tried-and-tested recycling arrangements, however, were not suited to the

expanding nineteenth-century metropolis. The brickfields, market gardens and farms grew ever more distant; the country more separate from the town. Transport costs mushroomed; and the sheer volume of refuse produced by Londoners began to outstrip any possible demand – ‘such a vast amount of sheer useless rubbish’.⁶ Simply finding somewhere to put the mess became a problem.

Nineteenth-century Londoners also grew increasingly apprehensive about the health risks associated with dirt. This heightened awareness is generally associated with the ‘sanitary movement’ of the 1840s – when public health reform became the subject of intense national debate – but its roots go further back. Doctors at the London Fever Hospital were attempting to organise systematic cleansing of the slums, to eradicate typhus, as early as 1801. The smoke from factories and furnaces was damned in parliament as ‘prejudicial to public health and public comfort’ in 1819. Fears about water pollution were first raised in the 1820s, when wealthier households began to connect more and more water closets to the main drainage, which ultimately fed into the Thames. In 1827, a pamphlet was issued which pointed out that a west London water company was drawing its domestic supply from the river at Chelsea, within a few yards of a sewer outfall. When a doctor examined the resultant murky-looking tap water, ‘the very sight of the turbid fluid seemed to occasion a turmoil in his stomach’.⁷ The gentlefolk of Westminster, although accustomed to a degree of mud and sediment, were shocked to discover they had actually been imbibing a solution composed of their own ‘ejunctamenta’.

The important link between drinking-water and disease would, admittedly, not be fully recognised for several decades; and even Bazalgette’s sewers would be built on the widely held, mistaken assumption that ‘miasma’ (foul air, generated by decaying matter) was the cause of cholera and typhoid. Indeed, the connection between dirt, *smell* and disease was a source of ongoing anxiety, not limited to sewers. The refusal of dustmen to remove household waste from slums (largely because slum inhabitants could not provide tips) generated its own worrying stench. Many a backstreet contained ‘a sort of pigstye’ accommodating the refuse of dozens of households: ‘cinders, bones, oyster-shells, broken bottles and rag, flavoured by a sprinkling of decaying vegetable matter, or a remnant of putrefying fish, or a dead and decomposing kitten’.⁸ The repellent odour from overcrowded, poorly maintained metropolitan burial grounds was the catalyst for a lengthy campaign in favour of the introduction of out-of-town cemeteries.

The sheer public nuisance occasioned by dirt should not be underestimated. Again, foreigners marvelled at locals' toleration of filthy streets ('An American town-bred lady would as soon think of swimming up the Thames against tide as walking far in such ankle-deep mud').⁹ Added to mud was general litter, varying from the relatively harmless – 'old newspapers, cast-off shoes, and crownless hats'¹⁰ – to broken glass and mouldering food. Lady F.W. Harberton, inveighing against the fashionable 'train' in female dress (i.e. a trailing skirt), presented the following gruesome inventory to her readers, of relics recovered from a train allowed to drag along the Piccadilly pavement: '2 cigar ends; 9 cigarette ditto; A portion of pork pie; 4 toothpicks; 2 hairpins; 1 stem of a clay pipe; 3 fragments of orange peel; 1 slice of cat's meat; Half a sole of a boot; 1 plug of tobacco (chewed); Straw, mud, scraps of paper, and miscellaneous street refuse, *ad.lib*'.¹¹

The air, meanwhile, was vitiated by smoke. Ladies of refinement were advised to wash the face repeatedly, to remove the fine patina of soot that accompanied every sojourn outdoors ('if one lives in dear, dirty old London, or in any smoky city, three times a day is none too often').¹² Clothing was continually sullied by cascades of 'blacks', i.e. soot-flakes. Public buildings, parks, gardens, statuary – everything outdoors acquired a dull, dirty coating, making London 'a city in which no beautiful thing, on which art and trouble has been bestowed, can long keep its beauty'.¹³ When winter came, there was the additional danger of soot-drenched fogs. Tourists marvelled at a population that could accustom itself to days spent in complete darkness; doctors noted the rising mortality from bronchitis and other pulmonary complaints. The capital ended the century with the nickname of 'The Smoke' – a city named after its most enduring pollutant.

There were various bodies responsible for clearing up this mess, some more serviceable than others.

Managing dust and mud fell to London's vestries – the backbone of local government – parish committees composed of eminent ratepayers. Vestries, in turn, usually employed private contractors to remove refuse, largely because contractors were often willing to work for free. The potential profits from selling on dust to the brick trade were such that entrepreneurs vied for exclusive rights to empty household bins. Many even paid for the privilege, or cleaned the streets at a discount. Unfortunately, whilst vestrymen congratulated

themselves on the economy of this arrangement, the public often suffered. When demand for bricks dropped – e.g. when the stock market bubble of the mid-1820s burst, and the building trade slumped – the demand for dust plummeted. Contractors went bankrupt; dustmen and street cleaners disappeared; complaints about unemptied bins were legion (‘Bribes offered to the dustmen, complaints lodged at the Court-house, and appeal to Hobbs, the dust contractor, have all alike been utterly futile’).¹⁴ Construction booms – e.g. during the railway mania of the 1840s – which encouraged brickmakers to over-produce and stockpile, with the inevitable drop in prices, had a similar knock-on effect.

The vestry system was reformed in the mid-century, amalgamating smaller authorities into ‘district boards’, and abolishing various antiquated arrangements. Some of the new vestries began to take over cleansing work from contractors. Ratepayers, however, were sceptical that officialdom could provide a better service. Lord Shaftesbury damned local government as full of ‘obstinate and parsimonious wretches’; others preferred the Dickensian catch-all of ‘Bumbledom’, with its overtones of pomposity and self-interest. In truth, sanitary enthusiasm and activity varied from district to district. Some local authorities were better organised than others; some were wealthier. Revenue from the rates would not be put into a collective metropolitan pot until the 1890s. For most of the century, therefore, West End parishes had considerably more money to spend on sanitary matters than their pauper-ridden counterparts in the east.

London’s sewerage, unlike dust and mud, was not parish business. At the start of the century, sewers were mainly the responsibility of eight ancient Sewer Commissions, each with its own portion of the capital. Londoners, however, had no more respect for these officials than for vestrydom. Their work would be derided in the 1840s as ‘a vast monument of defective administration, lavish expenditure and extremely defective execution’.¹⁵ They would ultimately be replaced by the Metropolitan Board of Works, which would commission Bazalgette’s masterwork, incorporating 82 miles of tunnels, ornate pumping stations and the Thames Embankment. Yet even this much vaunted improvement was imperfect. The new sewer system removed filth and stink from central London, only to shift it upstream to Beckton and Crossness. When sewage was discharged, twice a day, the river seemed to revolt against the imposition, ‘hissing like soda-water with baneful gases, so black that the water is stained for miles, and discharging a corrupt charnel-house odour’.¹⁶ In the

1850s, this was not terribly troublesome – the new sewage outfalls were several miles beyond London's boundaries. By the 1880s, the volume of sewage had grown and the spread of the East End had outpaced Bazalgette's 'out of sight, out of mind' solution. The inhabitants of new working-class suburbs like East Ham found their lives blighted by the same stench of decomposing excrement which had once troubled the inhabitants of Westminster. Worse still, more and more filth was swept back on the estuarine tide towards central London.

Smoke proved an equally intractable problem. Legislation was introduced in 1853 to reduce factory emissions, with some success; and the police were deputised to watch factory chimneys for infractions. Yet the voluminous filth poured into the atmosphere by tens of thousands of domestic coal fires went completely unchallenged by parliament. Prolonged, black winter fogs prompted reformers to try to persuade householders to invest in 'smoke consuming' grates. The English, however, were too fond of the cheery, blazing hearth, the symbol of cosy domesticity, and content to take the consequences, even as the soot filled their lungs. The overwhelming public response to agitation on the 'smoke nuisance' was the grim resignation which Miss Krout found so mystifying on the eve of the Jubilee.

There were, of course, some worthwhile reforms. The introduction of extra-mural cemeteries put a definitive end to noxious, overcrowded burial grounds, and the gruesome churn of bodies by gravediggers ('I have severed heads, arms, legs, or whatever came in my way, with a crowbar, pickaxe, chopper and saw').¹⁷ The London County Council, established in 1889, took an interest in all things 'sanitary' and would prosecute local authorities for failure to carry out regular collections of rubbish. There were also magnificent new facilities for communal cleansing, including public baths and public toilets (although the latter were a long time coming). The improvement of slum housing, principally through social housing schemes established by various 'model housing' charities, also had a modest but measurable impact on the filth-ridden lives of some working-class families.

Nonetheless, at the very end of the Victorian era, it was remarkably difficult to gainsay the damning, undiplomatic remark of the Chinese ambassador. London was, without question, 'too dirty'. This book will examine the nature of that dirt; tally both the successes and failures of reformers; and consider why filth emerged triumphant.

1

THE GOLDEN DUSTMAN

THE HUMBLE DUSTMAN, the collector of household refuse, was a familiar figure on London's streets. In the early 1800s, he wore 'a fan-tailed hat, loose flannel jacket, velveteen red breeches, worsted stockings, short gaiters'.¹ This traditional get-up was protective clothing and its key elements would not change during the century. The hat with a long reversed brim of canvas material, trailing over the back of the neck, prevented filth from shouldered baskets of rubbish entering clothes. Gaiters and/or straps and buckles offered similar protection to the legs and feet. It was a distinctive outfit which also served as the unofficial uniform of the trade, albeit supplied by the dustman himself, not his employer. The distributors of coal wore a similar working costume, including the fantail hat, but they were easily distinguished. Coalmen and their clothes were always black with coal dust; dustmen were uniformly grey, covered in cinders and ash, which formed the vast bulk of household waste.

Dustmen began their rounds early in the morning, working in pairs, driving a high-sided horse-drawn cart, announcing their presence with the loud toll of a handbell or a hearty shout of 'dust ho!'² Collection was very much an 'on request' service. Householders or servants, if they wanted rubbish to be removed, were expected to catch the dustman's attention. This was partly a matter of age-old custom, and partly because domestic bins were not portable. They were typically fixed brick or wooden bunkers (known variously as the 'dust-bin', 'dust-hole' or 'ashpit'),³ situated unobtrusively in the basement area, backyard or back garden. Someone from the house, therefore, needed to

be present, to provide access to the bin and generally supervise proceedings. This was particularly important when a property lacked a basement or side-entrance and the dustman had to walk, back and forth, through the main hallway, to bring out several loads of filth. This troublesome progress was rarely accomplished 'without leaving some trace of his visit on the wall-paper or floor'.⁴

There were some cases of street collection. In the crowded, central areas of London, especially in areas like Soho where shops and houses had no basement area at the front of the house, and little in the way of gardens or yards, rubbish would be left outside the front door in 'wooden boxes, tin pails, zinc bins and every conceivable vessel'.⁵ Nonetheless, most London homes retained an old-fashioned static bin until the turn of the twentieth century, emptied on a rather ad hoc basis. The practicalities of emptying such bins did not change. At the dust-hole itself, one dustman would act as the 'filler', shovelling the dust into a large wicker basket. His workmate would act as the 'carrier', shouldering the basket and carrying it out to the open cart. Some bins had a sliding panel, allowing the contents to spill out on to the ground, to facilitate shovelling; and the dustcart was usually equipped with a ladder so that the carrier could climb up high enough to deposit his load. When their cart was full, the dustmen would go to 'shoot' the rubbish at their employer's 'dust-yard' – essentially a recycling centre, where refuse was stored by the contractor, to be sorted and sold on. A pair of dustmen could usually manage to fill four or five cartloads in a day.

In theory, this process was straightforward enough. There were, however, several recurring, long-standing sources of friction between householder (or servant) and refuse collector.

First, getting the dustman's attention could prove difficult. The onus was on the household to avail itself of the dustman's services. Arguments over houses being missed out were commonplace, particularly as dustcarts often came at unexpected hours, no more than once a week (often considerably less frequently). To avoid confusion about calling, some areas introduced 'cards of request' – nothing more complicated than a large 'D' neatly printed on a piece of card. These were to be placed in windows, to let the dustman know that his services were required. Residents, however, complained that these were ignored. Vice versa, dustmen grumbled that, if they called too regularly at a house – particularly when large bins could hold a month's worth of refuse – they would be rudely dismissed and told that their visit was 'not convenient'.

The use of open carts, which persisted well into the twentieth century, was another source of complaint. Ashes were constantly being blown out of the carts, peppering the road, neighbouring houses, passing vehicles and unwary pedestrians. This was a perennial problem. A contract between the Commissioners of the Clink Pavements and a contractor, made in 1799, specifies (one suspects more in hope than expectation) 'fitting carriages with covers, ledges, or other conveniences to prevent the dust ashes and filth and soil from blowing shaking or falling out'. In practice, few contractors went to such trouble. A hundred years later, the London County Council was still attempting to enforce the use of covers.⁶

By far the greatest bugbear for the householder, however, was the dustman's insistence on tips. Providing 'beer money' for labourers was an old tradition, which dustmen exploited to the full. Before taking his leave of a premises, the dustman would request either beer or a tip for his trouble, quaintly known in the trade as 'sparrows'. To ignore this demand – even if it was only a hint, a cough, or an open palm – was a dangerous business. At best, it was likely to result in the house being conveniently 'forgotten' during the next collection; at worst 'clumsiness' or 'accidents' as the dust was conveyed through the kitchen or hallway. The customary gratuity was two or three pence. Anything less was not taken kindly. Occasionally matters came to a head, and individual cases went to court:

Mrs. Elizabeth Pierce, a lady who keeps a haberdasher's shop, deposed that . . . the defendant called at her house to take away the dust, and when taking away the last basket he opened the shop door and asked her for the price of some beer, or something to drink. This she refused on account of his general inactivity, upon which he jerked the basket off his shoulder on to the floor, scattering the dust all over the place and seriously injuring many of the articles in her shop and window.⁷

Tips were not seen as an optional extra by the dustmen, but their right. There was some justification for this attitude. If we look at figures from the 1850s, quoted by the journalist Henry Mayhew, dustmen would be paid by the cartload at eightpence per load; or, alternatively, they might receive a flat salary, on condition they fill a certain number of loads per day. In either case, this could amount to as little as ten shillings a week, a low wage for a manual labourer. Tips

could add another several shillings to the weekly income. Small wonder, then, that dustmen were quite zealous in demanding their 'sparrows'; not least because many dust contractors systematically underpaid their workers, on the grounds that tips would inevitably boost their earnings.

This insistence on gratuities, however, was not merely an irritation for the middle class. It had wider unintended consequences for where and how often rubbish was collected, particularly in poor districts. If the bin of a disgruntled middle-class householder was not emptied, he might make peace with the dustmen with renewed 'sparrows'; or he might attempt to obtain some redress from the vestry or the magistrate. Those living in poverty had nowhere to turn. The poor were unlikely to tip or to complain, and suffered as a result. Slums and poor areas were referred to as 'dead pieces' by dustmen, and treated accordingly. It was not unknown for the tenements and crowded courtyards in East End districts not to see the dustcart for weeks on end, conveniently overlooked in favour of more remunerative portions of the parish. Such wilful negligence created a vicious circle as miscellaneous rubbish accumulated, making collection even less appealing.

Contractors regularly promised to stem the practice of taking tips. The London County Council would make it an offence in the Public Health (London) Act of 1891. Whitechapel had 'No Gratuity Allowed' painted on the side of dustcarts.⁸ None of these measures seems to have made much difference. Charles Booth, the late-Victorian social investigator, was one of many who noted the dustmen's implacable determination to retain their time-honoured perquisites: 'though gratuities are almost in every case forbidden, she is a bold woman who risks the cleanliness of her house by neglecting to tip the dustman, and it is of course notorious that the rule is systematically broken'.⁹

The underlying thread running through all this discord was the dustman's healthy disregard for authority and the general public. Dustmen would be somewhat harshly characterised by Henry Mayhew in the 1850s as part of 'the plodding class of labourers, mere labourers, who require only bodily power and possess little or no mental development',¹⁰ but they did possess a certain rough-hewn independence and solidarity, which enabled them, amongst other things, to demand gratuities and, if thwarted, to exact their messy revenge with some degree of impunity. The *Builder* would damn them for this conduct, as coming from 'a class of men so brutal and degraded that their very

presence in a decent household is an offence'.¹¹ Yet their lack of anxiety about 'customer satisfaction' reflected the nature of the work. Dustmen, employed by private contractors, were in no sense public servants, or part of a 'public sector' – a concept which barely belongs to the Victorian era. Collecting dust was a profit-making enterprise and the individual dustman's wage depended on how many loads he could shift in a day. The convenience of the public was of little concern.

The profits for contractors lay in recycling. Our ancestors were adept at converting all sorts of refuse into cash. Numerous articles from contemporary periodicals describe with relish the thrift and ingenuity of the dust trade. Food, offal and bones could be sold for manure; linen rags to manufacturers of paper; 'hard-ware' or 'hard-core', consisting of broken pots, crockery and oyster shells, could be crushed and used as a foundation for roads; old shoes could help 'making the fiercest of fires for colouring fine steel' or, more commonly, be used by bootmakers as stuffing; bread scraps might serve as pig food; old iron utensils, empty meat and biscuit tins could be melted down and used by trunk-makers for clamping the corners of their trunks. Even dead cats were a valuable commodity, once sold to furriers ('sixpence for a white cat, fourpence for a coloured cat, and for a black one according to her quality').¹²

All the above, however, played second fiddle to ashes and cinders – the great bulk of household refuse – which could make the recycling of rubbish a potential gold mine. Ashes had always had some value to farmers as fertiliser, and could be profitably mixed with the dung of road sweepings, but the great market in the early nineteenth century was amongst the brickmakers, whose works ringed the ever-expanding capital. Fine ash was mixed with clay in the manufacture of bricks, and the larger cinders or 'breeze' – coal that was incompletely burnt in household fires – were used as fuel. These cinders were placed between layers of clay bricks in the great open-air 'clamps' of the brickfields. Once fired, the cinders both kept the bricks separate from each other and provided the slow combustion necessary for brick-making. As London grew at an unprecedented rate, the construction industry's demand for bricks – and breeze – was insatiable. The profits for the dust contractor were commensurate. Wags joked that London was a phoenix, rising again from its own ashes. In fact, this was doubly true. It was common to use hard-core as a foundation not only for roads but for new houses.

There were large sums to be made – and the wealth of certain contractors would become notorious. Mr Boffin of Dickens's *Our Mutual Friend* (1865) is Victorian literature's famous dust contractor (the 'Golden Dustman') having inherited Mr Harmon's King's Cross dust heap, together with £100,000 (earned from the dust business). Dickens's portrayal of Boffin's new-found wealth – he can suddenly afford a West End mansion and all the trappings, although it does not suit him – would not have struck his readers as an exaggeration. Boffin was most likely based on Henry Dodd, a successful contractor from Islington, whom the great author met while both were involved in an attempt to set up a charity for retired actors. Dodd reputedly began his working life as a farmhand. When he died in 1881, he left a thriving business in London and a renovated Jacobean manor house in Essex, with his personal estate worth an astonishing £111,000 (in comparison, Dickens's estate, in 1870, was worth £93,000 – both men would have been millionaires by modern standards).

The sheer scale of Dodd's wealth was, in fairness, exceptional; but his background was typical. Contractors were, as a rule, working-men-made-good – with the 'plain-speaking' typical of the type. Thomas Rook of Gibraltar Walk, Bethnal Green, for example, was brought before the local magistrate by his neighbours in July 1859, in the heat of the summer. They complained of the stench from rotting material in his dust-yard. Rook merely turned to the judge and replied insouciantly: 'It only smells when it's stirred.'¹³ The verbatim minutes of an interview between the Chairman and Directors of the Southwark and Vauxhall Water Company and a certain Mr Covington (a contractor whose dust was blowing into the company's reservoirs), preserved in the London Metropolitan Archives, reveal a similar native truculence. During the entire meeting, Mr Covington repeatedly and doggedly demands £200 to help him to amend his working practices, whilst the company's chairman grows increasingly exasperated by this unwarranted insistence on compensation: 'It is all very well to laugh over it, but there will be another summons taken out against you . . . But you see the sentiment of the thing? Dust!! And we drink the water and must stop it!'¹⁴

Not only were contractors intransigent, but they jealously guarded their privileges. In 1793, the Contractor for Cleansing for Holborn, a certain Mr Haygarth, expended £200 – a sum which might have paid the annual wages of half a dozen of his dustmen – on various court cases, trying to obtain redress from other scavengers who had infringed his exclusive contract to

remove household refuse within the parish.¹⁵ Contractors would distribute handbills informing inhabitants of their right to collect dust and ashes ‘in preference to any other Dustman’.¹⁶ The great object was to defeat ‘flying dustmen’ – for the value of dust was such that it was even worth stealing (i.e. removing before the official parish contractor could acquire it). In 1822, two men were caught, having been ‘in the constant habit of creeping down into the area, and removing by stealth ashes from the dirt-hole’, from a house in Downing Street. They confessed that they ‘sold the cinders for 4d. or 5d. a bushel, and disposed of the small dust to the brick-makers’.¹⁷

Fictionalised versions of Dodd and his bluff contemporaries remained of interest to the public throughout the Victorian era, appearing repeatedly on the stage, both in adaptations of *Our Mutual Friend* and in plays like *The Dustman's Belle* (1846) and *Our Party* (1896). The former play is particularly interesting, prefiguring several aspects of Dickens's plot. A simple dustman is left a fortune by ‘Thomas Windfall’ a wealthy contractor; predatory ‘friends’ attempt to covertly rob him of the money; and the audience learns the moral, ‘people aint always happier because they're richer, specially people that haven't been used to it like’. *Our Party*, on the other hand, a ‘musical absurdity’ written by and featuring the music-hall star Arthur Lloyd, revolves around a retired dust contractor named Marmaduke Mugg – again, the archetype of a ‘self-made man’. Keen for his heiress daughter to marry an aristocrat, he cannot quite shake off his working-class roots and his belief in the power of hard cash. Talking of his daughter's happiness, he opines:

‘Nothing as it were – squelches her.’

‘Squelches her?’

‘I mean nothing puts the kybosh on her.’

‘Don't talk like that, dear. I've often begged you to drop those slang phrases, I think you might oblige me. You know how people stare at you when you make use of such language.’

‘Let 'em stare. I ham as I ham and – as the song says – I can't be any hammer. Never mind, old girl; I've got the coin, the dinari. That's wot licks 'em. They may say wot they like. Money makes the man.’

Yet, although dust contracting was lucrative, not every ‘golden dustman’ retired as complacent and content as the fictional Mr Mugg. There were risks

as well as opportunities. In particular, contractors were extremely vulnerable to changes in the demand for ashes and cinders. The price paid by brick-makers for ashes was volatile, mirroring fluctuations in the building trade. Contractors' finances, in turn, could swiftly become very precarious. Records from the 'Day Book' of a contractor in the early 1800s show prices dropping from 16s. per chaldron (wagon-load) to 9s. within the space of two months, and down to 6s. within a year.¹⁸ The annual accounts of individual parishes, likewise, show how prices rose and fell. In St Clement Danes, Westminster, the dust contractor paid £1,100 for the privilege of collecting dust in 1824/25 but only £900 guineas in the following year. In 1826/27, when it was clear the metropolitan economy had fallen into a spectacular slump, 'he would give nothing, nor would he have it at all'.

Less prudent contractors, gambling on how much they might get for dust in any given year, were constantly dodging bankruptcy. William Hearn of Stangate Wharf, Lambeth, finally bankrupted in 1854, owed the magnificent sum of over £5,000 to his creditors, with £2,000 worth of assets, in 'brick field horses and carts'. Hearn had moved into brick-making in conjunction with refuse removal, making the most of the circular trade between brickfields and the metropolis – i.e. taking dust out to the kilns, and using the same horses, carts and drivers to return with finished bricks. Others invested in their own fleets of barges, used for shipping London dust ever further afield. The stubborn Mr Covington owned his own fleet of sixty boats, taking breeze from his Thames-side wharf at Battersea. Henry Dodd, whose dust yard was on the banks of the Regent's Canal, left in his will £19 9s. to 'each of the Captains of my two Canal Boats, whose names I do not recollect' and, more impressively, £5,000 to provide annuities for 'the support and comfort of poor Bargemen and Lightermen'. Not everyone, however, had Dodd's business acumen; and what seemed like a canny investment in carts or barges, reducing transport costs, could soon turn into a costly liability when the market for dust collapsed. Some dustmen were golden; others had feet of clay.

Bankruptcies pointed to the weakness inherent in the contracting system – the reliance on the brick trade. As the century progressed, dramatically rising costs, and an increasingly poor service to the public, threatened to undermine the whole lucrative enterprise.

There had, of course, always been some complaints about failure to collect rubbish. Some parishes actually had very effectual remedies. The detailed logs of activity preserved by the paving committee for the parish of St James in Mayfair, for instance, show that ‘dust complaints’ were frequently resolved by dustmen returning on the same day to make good their mistake.¹⁹ St James’s, however, was wealthy, central and compact; sprawling suburbia and the slums tended to receive a poorer response. Contractors themselves were generally reluctant to shoulder the blame for their omissions, with excuses ranging from the personal (‘he had been ill and obliged to trust the business to the care of his Brother’) to the whims of householders (‘That on account of the late extreme cold weather and winds the Inhabitants did not like to have their Dust removed’) ²⁰ and the financial (‘he had given a very high premium for the contract and is obliged to wait until he can turn the Bills taken by him for the Breeze into Money’).²¹

Some better organised parishes, aware of the problem, provided their own ‘quality control’. St Andrew and St George, Holborn, possessed an active and enthusiastic ‘paving, cleansing and lighting committee’ (which heard the above excuses) and had its own Inspector of Nuisances, patrolling the streets and giving notice of any neglect, as early as the 1790s. Other parishes simply waited for complaints from the public and responded as best they were able. Contracts did include penalty clauses for negligence but, as a rule, fines and the threat of legal action were employed sparingly. Few cases went to court and most parishes ‘shewed a disposition to relieve their Contractors’ when they fell into financial difficulty.²² Charitably, they preferred to avoid legal costs and keep the machinery of refuse collection working, however imperfectly. Less charitably, contractors had undue influence on their employers – accusations of corruption in awarding contracts were frequently levelled.

For better or worse, this tolerance of failure was predicated on the assumption that contractors would return to paying for the privilege of collecting refuse – perhaps not this year, but the next year, or the one after that. In the second half of the century, this model became increasingly unsustainable; rubbish did not yield profits; and the contracting system began to buckle under the strain.

In essence, there came a tipping point, where the outward expansion of the metropolis became a negative rather than a positive for contractors. There was

some irony in this. The growth of London had created enormous wealth in the dust trade, because of the synergy with brickmaking, but then London grew *too* big. There were inklings of this change in the 1850s, and the trend became clear over the next two decades. The supply of cinders and ashes from the ever larger metropolis began to exceed the demand. Likewise, the transport costs involved in shipping breeze to ever more distant brickfields increased proportionately. The price paid for dust by brickmakers dropped and – unlike in the past – did not always recover. The railways also brought more and more factory-made bricks from the provinces, not cut from London clay. The Chelsea vestry, newly constituted after the reformation of London's local government in 1855, would summarise the consequences for the general public in its second annual report:

When building operations are brisk, the parish receives large payments for the privilege of collecting the ashes &c., and the accumulations are rapidly removed; when, on the other hand, it is of little or no value, notwithstanding that the parish pays for its removal, the complaints are numerous.

In other words, the contractors, with their traditional profits from the sale of dust squeezed, tried to reduce costs in the most obvious way possible – by cutting corners, missing out places where it was difficult or unremunerative to collect waste. Complaints from the public grew more numerous. Dozens of neglected homes became hundreds, and even thousands.²³ Rich and poor alike found themselves with overflowing bins.

Local authorities did attempt to address the growing problem, taking various measures to supervise their existing contractors. Suburban Chelsea, from the beginning, prided itself on the stringent nature of its contract and the regular imposition of fines for failing to remove rubbish. The district of Bethnal Green, replete with slums, terribly ill served by its contractors for much of the century, grew better organised in the 1880s and divided its territory into eighteen 'blocks' which were to be 'cleared daily in rotation in accordance with a printed list and block plan, copies of which are supplied to the contractor', such that 'the dustmen are thus restrained from wandering all over the Parish at irregular intervals as heretofore'.²⁴ St Giles District Board appointed an 'Inspector of Dustbins' in 1883, who reported that he had carried out 41,168 inspections in his first year in office.²⁵ Similar supervisory

measures were adopted throughout the capital, the Victorian aptitude for organisation and order belatedly applied to the collection of rubbish.

But this improved supervision came at a price. The contractors, forced to stick to the terms of their contracts, were obliged to charge for their services to make any kind of profit. Contractors became unwilling to pay for the rights to collect refuse; vestries, in turn, faced a growing administrative and financial burden. Sprawling St Pancras received £1,525 from its dust contractor as late as 1867 and yet, by the end of the century, was paying out over £16,000 for the service. The result was that some vestries began to question whether contracting out remained value for money – and reluctantly concluded it did not.

Faced with rising costs, local authorities began to take on responsibility for ‘dusting’, employing their own men, hiring vehicles, investing in plant, arranging for disposal of rubbish. This did not happen overnight – nor, by any means, did every vestry choose to abandon the contracting system – but a growing number of authorities elected to do without ‘the golden dustman’.²⁶

Revised sanitary priorities in the capital were also a factor. With Bazalgette’s great sewers completed in the 1870s, public health reformers had begun to look afresh at sanitary problems, and focus more on the minutiae of daily life. The International Health Exhibition, held in Kensington in 1884, provided fresh stimulus and ideas for sanitary improvement – and this also encouraged local authorities to think again about dust.²⁷

The exhibition contained a typically Victorian mixture of the quirky and the educational: a recreation of an insanitary medieval London street (‘London in the Olden Times’); the ‘largest display of electric lighting in the World’; ‘Laundries in operation’; ‘A Chicken Hatching Establishment’; and a selection of ‘English and Foreign Restaurants’ (including the capital’s first Japanese eaterie).²⁸ Amongst the more down-to-earth exhibits were two full-sized model houses, one ‘sanitary’ and one ‘insanitary’, through which visitors could parade, moving from ‘insanitary’ to ‘sanitary’ establishment via a bridge between the upper floors – as if following the march of progress. The insanitary house displayed poor heating and plumbing, arsenical wallpaper and, in the basement area at the front of the house, ‘a large wooden dustbin, placed as is frequently the case, where its malodorous and often dangerous contents must be a constant nuisance on the premises’. Worse still, visitors could observe, ‘there is no lining, and as will be seen inside, the damp has struck through the wall of the house’. The humorous magazine *Punch* did its best to mock the

whole 'Insane-itary Exhibition' but struggled to find much fault with the two houses and their object lesson. Rival magazine *Fun* pictured depressed homeowners going home and dynamiting their own universally defective residences, leaving the capital a derelict ruin, containing only remnants of 'slack-baked bricks, defective drains, poisonous cisterns, malarious dustbins'.²⁹

Dustbins and rubbish began to feature more prominently in discussions about overcrowding and slum clearance, particularly amongst the local officials responsible for public health. Medical Officers of Health, Surveyors, Sanitary Inspectors et al., issuing annual reports to their respective vestries, drew attention to long-standing public health problems with the disposal of domestic rubbish.³⁰ Vestries, in turn, having abandoned contractors (or held them to better account) began to reframe refuse collection: not as a failed profit-making enterprise but a civic good; an overlooked sanitary necessity that now demanded the full attention of local government. Others had argued for reform in the past – the Metropolitan Sanitary Association, founded in 1850, had listed 'non-removal of refuse' amongst the evils it hoped to address – but this was a change of heart *within* local government. Vestries would also be supported and encouraged by the newly created London County Council (LCC), formed in 1889, which made rubbish collection one of its first priorities, both in the Public Health (London) Act of 1891 and subsequent by-laws.

One sign of this change was that dustbins themselves were finally given due consideration as a potential public health problem. Suggestions for improvement were put forward. A lengthy correspondence appeared in *The Times* during 1885. The *British Medical Journal* ran an article, summarising the discussion, entitled 'A Domestic Problem in Public Health'.³¹ The lady vice-president of the National Health Society proposed the removal of bins and the introduction of re-usable sacks, which could be hung up outside houses, ready for swift collection.³² Others looked at sanitising existing bins. The dustmen of St Giles – servicing one of the poorest and most disease-ridden districts in the capital – were obliged to sprinkle carbolic powder in emptied dust-holes from the early 1880s. The Metropolitan Board of Works (the overarching administrative body for London, from 1855 until 1889, before the LCC) took a belated interest in rubbish and canvassed support for 'an amendment of the law, so as to provide for the abolition of dustbins', both in 1884 and 1888,³³ keen to replace bins with the 'moveable receptacles' used elsewhere in the country.³⁴

One possibility, widely adopted in the East End, was the galvanised pail, a small and transportable open bucket – ‘18 inches deep, 15 inches diameter at top, 12 inches diameter at bottom weighing 16 pounds’³⁵ – that could be left outside the house and collected at fixed times – even daily. Pails were particularly suited to those living in social housing and tenements, where communal bins often became foul and fell into disuse. Bethnal Green had introduced a thousand pails for the use of some of its poorer inhabitants in 1883, and had 18,000 in use by 1889. Although their size prevented large accumulations of rubbish, pails could still cause difficulties. The frequency of collection – the level of attention which innumerable small pails required – was a challenge in itself. The Chief Inspector of Bethnal Green’s sanitary department, evaluating the system in the following decade, found pails left too long in the street, and workers emptying them in a slipshod and neglectful manner (‘Whatever energy our Pail-men may lack in other respect, is more than made up for in explaining away complaints to their own entire satisfaction’).³⁶ Whitechapel, adopting the same system, found fault with the general public, who put pails in the street ‘with very little regard in many cases to the time at which the dust cart is due’.³⁷ Hackney complained of ‘pails used for other purposes, such as coals and in one instance a corn-bin for a pony’.³⁸

In the end, all London would be legally obliged to follow London County Council by-laws and use portable bins, ‘constructed of metal . . . with one or more suitable handles and cover . . . capacity no more than 2 cubic feet’.³⁹ It would be several decades before a standard metal bin actually became universal; nonetheless the principle was established in the final years of the nineteenth century.⁴⁰

Frequency of collection also now came under fierce scrutiny – much discussed in the 1880s and addressed by the London County Council in the 1890s. The LCC, having produced a detailed report on rubbish collection in 1894, mandated once-a-week removal⁴¹ and decided to interpret ‘once-a-week’ as ‘irrespective of whether occupier indicates by placing a card in the window or [asks] in any other way for a call to be made’.⁴² This irked several local authorities that relied on the ‘D’ card. Some pointed out that residents themselves were liable to refuse dustmen access. There was some truth in this. After complaints about non-collection of waste in Kensal Green in the 1880s, the vestry demanded that their contractor call on *every* house in the district during the following week. A total of 3,092 houses were visited; 359 had dust

removed; 2,549 refused access; and 184 houses were vacant at the time of the dustman's call. The vestry concluded that, as these houses possessed traditional capacious bins, which were capable of holding a month's worth of rubbish, few householders saw the point in weekly refuse collection disrupting their routine. But a test case challenging the LCC rules, in which a member of the public refused dustmen entry to his home ('it was an unnecessary annoyance to collect his refuse once a week') was lost.⁴³ Obstructing weekly removal of domestic waste, actively or passively, henceforth meant a fine for the householder.

Meanwhile, the LCC employed its own specially appointed sanitary inspector to covertly observe the worst-managed areas of the metropolis over a period of several months. This proceeding, naturally enough, caused some resentment. But in Marylebone and Camberwell, the inspector found very familiar problems – failure to collect; complaints unanswered; 'a very large number of accumulations of refuse due to non-removal for periods of from two to twelve weeks' – and threatened to prosecute the vestries involved. This threat proved remarkably effective, coming from a body with the power and resources of the new County Council. The LCC would proceed to do a thorough job of enforcing a weekly standard across the capital. Full of sanitary enthusiasm, the LCC also organised two London-wide conferences on rubbish collection, and a competition for an improved design for dustcarts.

The LCC would end the century justifiably proud of its intervention in refuse collection; and the general public undoubtedly benefited. But it did not take a comprehensive approach to the subject. There was a wider issue emerging, which both vestries and the LCC struggled to address – or perhaps did not want to address: the final destination for metropolitan rubbish. When contractors held universal sway, there was an element of 'out of sight, out of mind', i.e. once rubbish left the home, it was no longer a concern. Whenever local authorities took back control from dust contractors, they were faced with the fundamental problem of disposing of their own dust – and it proved something of a challenge.

Vestries, of course, had a template to follow. Historically, once removed from the dust-hole, London's rubbish proceeded to the contractor's dust yard, for sifting and sorting, ready to be sold and shipped on to likely buyers. Most of these yards were located near the capital's network of canals – sites such as Paddington Basin,

home to several contractors – or along the bank of the Thames. This was so that ashes and cinders could be swiftly removed by barge to the countryside and the waiting brickfields. The dust yards themselves were more than just vacant lots containing heaps of filth. They were, in effect, recycling centres, with not only dust and sundry labourers, but related plant – including a furnace for material that was not recyclable, and some machinery.⁴⁴ The actual process of sorting and sifting, however, remained primitive, performed by female dust-sifters using large metal sieves to separate out the valuable fine ashes and cinders and find other small objects. Dust-sifters themselves were somewhat weary, bedraggled figures – ‘[wearing] stout aprons of leather or sackcloth, often with men’s jackets over their shoulders . . . [they] sometimes indulge themselves in a pipe of tobacco’⁴⁵ – usually the wives of dustmen, toiling, knee-deep in the towering heaps.⁴⁶ Contemporary journalistic accounts mock their appearance and rude, plebeian habits – yet the enormous wealth of the mid-Victorian dust contractor relied upon the back-breaking labour of these hard-pressed females.⁴⁷

Vestries that took over refuse collection began to build or let their own yards, and hire their own employees. They soon found it was an expensive business. Bethnal Green, investigating the possibility of abandoning contractors in the early 1880s, concluded that it would cost them too much money.⁴⁸ Mile End, a growing industrial district further east, having taken the opposite decision, noted despondently in its annual report that the expense of sifting was greater than their receipts. Another predictably heavy expense was transportation: not so much purchasing dustcarts as the care and feeding of horses.⁴⁹

Not only were costs high, but finding ways to dispose of rubbish proved increasingly vexing. Although most districts still sent some of their dust to brickmakers, much was left behind – there was simply insufficient demand.⁵⁰ Burning refuse, unsorted, produced foul stinks and public protest.⁵¹ The alternative was the use of ‘shoots’ where rubbish could be dumped, or dumping at sea. ‘Shooting’, however, brought its own problems. Shoots within the metropolis and its immediate vicinity were constantly under threat of being closed.⁵² Magistrates had acquired greater powers to deal with ‘nuisances’ under legislation passed in the 1840s and 1850s; and local residents were themselves less tolerant of foul stench from dust yards and their ilk. Mile End, for example, having obtained an interest in a shoot at Carpenter’s Road, Stratford (now buried deep under London’s Olympic Park), found itself

subjected to the close scrutiny of the local West Ham District Board, who prohibited the dumping of organic matter in their district. LCC inspectors also weighed in when shoots were sited too close to nearby residential areas.⁵³ Disposing of rubbish began to give local officials nightmares: 'One morning you will find that it [dust] will have to be left in the houses, attended with all the serious results which must arise from such a catastrophe, or you will be in the ignominious position of having to accede to any terms contractors may dictate.'⁵⁴

By the mid-1890s, local authorities found themselves between a rock and a hard place. Contractors were inordinately expensive; performing the work 'in-house' involved high start-up costs, was more challenging and often resulted in no savings. The increasing use of gas fires did mean that household refuse came in slightly smaller quantities, but that greater proportions were useless and unsaleable. Without the high-value recycling of cinders, the remainder of household rubbish was barely worth sorting. East London vestries, like Mile End, began buying up land in Essex, transporting their rubbish ever further afield, dumping at Rainham or Gravesend, with all the increased transport costs that entailed ('Barges, steam-tugs and cranes are used for this purpose, the cost of which is serious to contemplate').⁵⁵ An LCC official would note ruefully that, in the absence of any other answer, 'the natural solution is to shoot it in some sparsely inhabited district where public opinion is not strong enough to effectually resent it being deposited'.⁵⁶

The picture did vary a little across the capital. Some local authorities found ingenious ways to make their refuse yield a return. In the 1870s St Mary Newington developed an extensive business selling 'Newington Mixture', an artificial manure conjured up from street sweepings and dust,⁵⁷ shipped by rail from its dust depot to purpose-built storage facilities at Meopham and Longfield in Kent, whence it was sold to farmers. It was claimed that Newington had invented 'the only system hitherto adopted in London that completely covers the entire annual outlay for scavenging'.⁵⁸ But Newington's business was an exception – and it did little more than break even.⁵⁹ Most of the vestries that had ditched contractors found themselves faced with rising costs, growing heaps of rubbish and few options, apart from the expense of shooting rubbish in ever more distant locations. In 1889, Kensington was obliged to send its rubbish to Purfleet in Essex, 16 miles below London Bridge, the nearest wharf downriver that would accept it.

Then a ray of hope shone through the gloom – the great answer to the rubbish problem – the white heat of technology.

Vestries, scrabbling around for a solution to their difficulties, were drawn to a new machine, first developed in the mid-1870s, already used in industrial cities like Manchester, Liverpool and Leeds – the dust destructor. Destructors were essentially giant incinerators. Some London authorities and contractors already burnt rubbish – but usually only in modestly sized furnaces at the dust yard, or sometimes torched piles of refuse in the open air.⁶⁰ Destructors, on the other hand, could burn 24 tons of refuse in a day and reduce the weight to 4 tons of inert ‘clinker’,⁶¹ which could then be used as ballast in road-making or similar work. Depending on the design, they could even accommodate street sweepings and ‘sewer residuum’, i.e. not merely household rubbish. An LCC survey from 1892 reveals the local authorities that made early experiments in incineration: Whitechapel was the pioneer, purchasing a ‘Fryer’s’ destructor in 1876 (Albert Fryer was the original patentee of the technology, in 1874), then Mile End in 1881, followed by the City of London in 1884. Battersea and Hampstead followed suit in 1888, the first districts to put the entirety of their rubbish through the process; then Woolwich in 1892. The great advantage of incineration was the reduction of the bulk of refuse and consequent reduction in transport costs. The disadvantage was the heavy investment in plant – which also had to be centrally located. The chimneys of destructors emitted bad smells and smoke, which annoyed local inhabitants. It seemed perverse for any sanitary activity to be adding to the foul atmosphere of the metropolis. A resident in Lambeth, writing to *The Times* in 1892, complained of the Battersea destructor: ‘All last week, the smell was perceptible in Whitehall and Parliament-street. The dust permeates everywhere, as witness the silk hats of our parish.’

Despite these problems, the destructor appeared to be the future of refuse disposal. The reason was another new technology: electricity. This was the period when the commercial generation and supply of electricity became a realistic possibility throughout the capital (although it was far from clear whether this would be largely by private companies, local authorities or a mixture of the two). In 1893, Shoreditch Vestry saw the opportunity to kill two birds with one stone – it commissioned a feasibility study for the creation of a destructor integrated with an electric lighting station (using heat from

the destructor to power a steam engine to generate the current).⁶² The dream was – in effect – to make rubbish pay for itself once more, by generating electricity. There was also a secondary agenda. The complexities of Board of Trade regulation of the nascent electric industry meant that the vestry had to put down a marker, promising to create its own electricity supply, or see the district controlled by private firms.⁶³

In one leap, local authorities went from taking on refuse collection to generating power for the people.

Before the 1890s, few local authorities would have considered undertaking such a demanding new role – but the political landscape of local government was changing, in favour of more civic-minded, less parochial, less penny-pinching authorities. Two crucial pieces of legislation in 1894 would accelerate this change and put ‘progressives’ in charge: the Rate Equalisation Act shared funds for local government across the metropolis, effectively distributing money from wealthy corners of the capital to the poorer, heavily populated districts (like Shoreditch); and the Local Government Act removed rating qualifications and opened up membership of vestries to all local residents, including women. Vestries, once dominated by ‘tradesmen, publicans, builders and solicitors’,⁶⁴ with a smattering of aristocrats and MPs adding their names to the list, were now wide open to political activists from every background and social group. Fabian pamphlets began to appear, urging socialists to stand for the vestry, citing the parsimony of previous administrations:

In many a narrow court, where the poorest people dwell, the dustbins are not emptied for months at a time, the water-closets are allowed to remain out of order, the drains smell, and all manner of filth pollutes the air. This is because the Vestrymen are not doing their duty. Many of the smaller streets are badly paved, dark and often very dirty. When the snow comes, little or no attempt is made to sweep it away. All this neglect by the Vestry may save money, but it means discomfort and misery and disease to the poor.⁶⁵

Socialist candidates did stand. Furthermore, in Shoreditch, the success of ‘municipal socialism’ became bound up with the proposed dust destructor project. Progressive electoral candidates felt obliged to make the creation of a

destructor their key electoral pledge – so vast was the proposed expenditure, it was essential to have public backing. The progressives won, and Shoreditch embarked on a groundbreaking project which would cost the ratepayer £70,000, borrowed at low interest from the LCC.⁶⁶

The opening of the new plant, in Coronet Street, Hoxton, in 1897 was marked by the issue of a souvenir brochure with full details and photographs. The building was emblazoned with the motto 'E PULVERE LUX ET VIS' ('From dust, light and power'). Electricity was made available to 'artisan and small users of motive power in the parish' (i.e. local workshops, particularly in the furniture trade which dominated the area) via penny-in-the-slot meters;⁶⁷ electric street lighting was introduced on major thoroughfares (although the district would not be completely lit by electricity until the 1920s); surplus heat was used to warm the adjoining public baths. The project attracted national and international attention and others would follow Shoreditch's example, most notably Bermondsey (which likewise wished to see off the private interests that threatened to dominate the local electricity supply). By the time the Bermondsey destructor opened in 1902, London's vestries had been reorganised into new metropolitan boroughs. The Bermondsey site, containing not only the destructor but 'town hall, library, baths and wash-houses, mortuary, disinfecting station, electric light works', remained a grand memorial to the late-Victorian vestry's vaulting ambition.

The Shoreditch model, however, was a false dawn. It swiftly became clear that the demand for electricity in the metropolis was such that dust could only provide the smallest fraction, even after burning refuse from industry. Most districts decided it was more economical to rely entirely on the most obvious source of power. Coal would drive the capital's electricity stations and, ultimately, only a handful of authorities would doggedly persist in the attempt to turn dust into light.⁶⁸

Ultimately, this was the lesson for London's local authorities: there was no simple economical solution to the disposal of refuse. Certainly, in the following decades, no single method of disposal would come to dominate: some dust would still go to brickmakers; some would be dumped in the Home Counties, some at sea; incinerators would continue to be used, to reduce the bulk of material, as well as new processes like mechanical crushing. Metropolitan boroughs of the twentieth century employed a variety of these methods, according to local topography and previous custom and practice.⁶⁹ Dust-sifters

would be gradually replaced by mechanical sorting – a process already being tried in the 1890s.⁷⁰ The collection of rubbish, on the other hand, changed very little, except for the gradual introduction of portable bins. Contractors, although out of favour in the early 1900s, did not disappear from the scene. Full of enthusiasm for destructors and reform, the officials of metropolitan boroughs were happy to resolve, at an LCC-organised conference in 1903, that ‘dust collection should be carried out by the responsible officers of the sanitary authority, without the intervention of a contractor’.⁷¹ In fact, private firms would return to dominate refuse collection in the capital.⁷²

The hope of making a profit from dust finally died away. Indeed, the last decades of the nineteenth century, through to the end of the Edwardian era, can be viewed as a long and tortuous period of readjustment, in which vestries reluctantly accepted the inevitable – that the days of the ‘golden dustman’ and his bounty were no more.

The lasting influence of the Victorians – or, at least, the late-Victorian vestries and the LCC – is still visible today in London’s regular and systematic collection of rubbish. Victorian solutions to disposal have not been improved upon. The dust destructor actually had a future, albeit not generating profits. London currently disposes of a fifth of its waste by incineration; and this is expected to continue. Landfill, likewise, still accounts for almost 50 per cent of London’s rubbish, although here the clock is ticking. Waste is still despatched to the Home Counties but ‘These regions are increasingly reluctant to accept London’s waste and this landfill capacity is due to expire by 2025.’ It is hoped that recycling, composting and anaerobic digestion will take up the slack. There is another Victorian survival – or perhaps a phoenix from the ashes. The latest strategy document from the Mayor of London notes that ‘Many waste authorities have not yet capitalised on the growing markets for recycled materials or on the demand for the energy that can be produced from waste’, blaming ‘long-term, inflexible contracts’ with private firms and a ‘preference to outsource risk’. The report concludes that ‘waste authorities have not actively pursued the opportunity to generate income from their waste management activities’.⁷³ The nineteenth century’s alchemical dream of extracting gold from dust is alive and well, and living in City Hall.

2

INGLORIOUS MUD

IT IS PERFECTLY possible to find contemporary paeans to the streets of Victorian London. Some hymned ‘the rapid current of human life’; others praised grand architectural statements, like Nash’s Regent Street; or monumental feats of engineering, like Holborn Viaduct. Nonetheless, throughout the nineteenth century, London was routinely damned by visitors for having ‘the dirtiest streets of any city in the civilised world’.¹

Mud was the great culprit, covering the road, bespattering the pavement. This was not the mud of the field or the stable-yard. For a start, although largely composed of horse dung, it was black. The capital’s sooty atmosphere tainted everything it touched, even the dirt on the streets. London mud was also terribly sticky, ‘enough to suck off your boots’,² because it contained a large proportion of macadam, the granite used to surface the majority of carriageways.³ Macadam had many advantages – a relatively cheap road surface, composed of layers of small pieces of stone, compacted together – but it was prone to becoming pocked and rutted. Thus, ground-down particles of stone combined with moist dung to create an adhesive paste. The amount of grit ‘in solution’ was astonishing. A twelvemonth survey by Dr Letheby, the City of London’s Medical Officer, found the average blend of London mud, once moisture was evaporated: ‘Horsedung, 57 parts; abraded stone, 30 parts; and abraded iron, 13 parts’ (with the last of these coming from iron-shod wheels and horseshoes).⁴ The water, of course, was crucial in determining the mud’s overall consistency, making roads ‘greasy when there was fog, sloppy

when there was mist, and liquid when there was drizzle'.⁵ Yet even the driest summer months were not free of vexation, producing a 'coffee-coloured sirocco' of desiccated filth, which besmirched clothing and stung the eyes and throat.

The sheer volume of London traffic, drawn by the humble, long-suffering horse, was the principal source of all this dirt. By the 1890s, it took 300,000 horses to keep London moving, generating 1,000 tons of dung daily, not to mention a large volume of urine.⁶ Livestock being driven to market also contributed. Smithfield market, which traded in live animals until 1855, could house 4,000 cattle and 30,000 sheep – all of which were driven weekly into the very heart of the city.

The mud was not only foul but dangerous. Streets could be rendered so greasy that horses might 'flounder about upon it as they would upon ice'.⁷ Tests showed that traction on granite blocks was actually improved by a smattering of dung, but there was rarely the correct amount or consistency of filth. Newer, smoother road surfaces, particularly wood paving and asphalt, once muddied, became hazardous with only a light fall of rain. These dangers were patent and some local authorities did grit major roads. Still, the spectacle of a 'downed' horse, flailing in the mud, remained a common sight ('I have myself frequently seen three or four omnibuses standing in a line in London, each with its fallen horse').⁸ Most falls were relatively minor but, without fail, curious crowds gathered to offer advice.⁹ In the worst cases, when the animal was judged beyond help, the more morbid stayed to witness the work of the slaughterer. By end of the century, the firm of Harrison Barber had seven depots in strategic positions round London, with carts and men 'on call' by telephone, just for this purpose. They stood by, 'in readiness, tools and all, like fire engines, ready to be turned out', a grim sort of emergency breakdown service.¹⁰

Humans, too, had their share of spills in the mud – 'many a sprained ankle, "jarred" spine and "shocked" nervous system'¹¹ – and finding somewhere safe to cross the street could be a risky undertaking. The greatest impact, however, was on clothing. Women required a good deal of skill and judgement, if they were to modestly raise the mass of underclothes beneath their skirts, such that filth did not ruin their petticoats. Even the most dainty and careful pedestrian could be splashed with filth by passing vehicles. Removing mud from shoes and clothing was a daily chore. Guidance on brushing down

material, proper treatment of fabrics and useful chemicals abounded in women's magazine advice columns. More delicate fabrics were, ideally, not to be exposed to the streets at all. The aristocratic ladies who remained in their carriages on Regent Street or Bond Street, letting milliners and shop-girls bring out samples to their coaches, were not merely declaring their social status but protecting their outfits, avoiding the hazards of the pavement. For those who had to step out, one answer was goloshes, rubber overshoes, which allowed one 'to enter a friend's drawing-room in the smartest of patent foot-gear, instead of with the mud-bespattered boots resulting from even a short walk in London streets in the winter-time'.¹²

Men, naturally, suffered less damage to their sparser attire, but still had to make their own accommodation with the mire. It was said that an Englishman abroad could always be recognised by his turned-up trousers, a practice which became second nature.¹³ From 1851 onwards, gentlemen could, at least, resort to the Shoe-Black Brigade – a charity initially founded to give boys from the Ragged School movement employment during the Great Exhibition. The Brigade, under the patronage of Lord Shaftesbury, provided uniforms and cleaning equipment, and placed its boys at fixed locations, ready to scrub and polish footwear for a penny. A previous attempt to introduce shoeblacks, commonplace in some Continental cities, had failed due to Londoners' innate modesty – 'foot passengers evinced great reluctance to have their boots or shoes cleaned in the open streets'¹⁴ – but the Exhibition brought more unabashed foreign customers, and made the work acceptable.¹⁵ Yet, even if the discerning gentleman took every precaution, there was also the possibility of collateral damage. For example, in the cramped conditions of the London omnibus crinolined skirts of females spread mud and dust over the knees of fellow passengers.¹⁶

Shoes and clothing were not the only casualties. Mud splashed deliveries of food and goods, house fronts and shop windows, and personal possessions were lost or damaged in the muck. The *Lady's Newspaper* advice column was obliged to concede in 1850, to one inquirer, 'there is nothing we know of to remove mud stains from a book'.¹⁷

The responsibility for cleaning the streets lay with vestries and their contractors, with one important caveat. Historically, cleansing the 'footway' (or 'foot pavement' or 'side walk' – i.e. what we would now call 'the pavement') was

considered the responsibility of each individual householder. In some districts this was merely customary. Other local authorities, however, actually required residents to sweep the pavement outside their home at regular intervals or face a fine.¹⁸ Under the Metropolitan Paving Act of 1817, regardless of local statutes, the removal of snow from pavements was also made obligatory for all the London householders. Unfortunately, by the early 1800s the tradition of exercising personal responsibility had already begun to die out. The capital had grown too large and anonymous for such a cosy arrangement.

The pavements, therefore, were often treated as nobody's problem; and grew filthy. In many districts, slipshod parish contractors, sweeping the road, splashed and splattered dirt on to the footway with impunity. There were also many 'blank walls', unoccupied houses and public buildings where the adjoining footway was never cleansed – but pedestrians still had to pick their way through the mire. The police did remind householders of their responsibility in the case of heavy snowfall but there seem to have been few prosecutions.¹⁹ Snow, in fact, was largely cleared from the footway by bands of men carrying brooms and shovels, 'usually far from prepossessing in appearance, or in language, who offered to do the statutory work of a householder for a remuneration perhaps ten times in excess of the proper value of their labour'.²⁰ This was clearly a poor way of proceeding – described by *The Times* as 'a grotesque survival of village organization in metropolitan conditions'²¹ – but survived until the 1890s, when the new London County Council intervened. Londoners, however, did not rejoice. The LCC, naturally enough, placed pavements in the charge of the vestries. The public had little confidence that the work would be performed adequately. These were the same local authorities, after all, that patently struggled to clear mud off the road.

Much of the blame undoubtedly lay with the vestries' contractors. The *Spectator* joked that the word contractor derived from 'the contracted interpretation which men of the class commonly give to their duties'.²² Not that street cleaning was inherently complex. Street cleaners worked in gangs, from two or three men to a dozen at a time, brushing the mud into heaps by the side of the road, from where it could be shovelled into a cart and thence removed to a dust yard or wharf. There was some additional technology available. From the 1840s, 'sweeping machines' – horse-drawn carts with rotating brushes at the rear – swept up mud into containers, or to the side of the street. Hoses, too, could be used to loosen up mud or sluice it into the sewers,

providing an ample water supply was available, which was not always a given. But both these methods were expensive to operate and rather blunt instruments, liable to damage macadam; and risked choking up gullies and drains. For the most part, therefore, street scavenging remained manual labour of the most straightforward type (although hosing was increasingly used as more durable smooth surfaces, like asphalt, were introduced).

The fundamental problem with the contractors' work was essentially that cleaning was not done thoroughly or systematically – and, as with dust, money was at the root of the neglect. For a start, street sweeping was often bundled together with refuse removal into a single contract for 'scavenging', and so suffered whenever the dust trade felt any economic pinch. Contractors who undertook street sweeping in order to win the lucrative dust contract let it slide when times were hard. Mud itself, meanwhile, although it could be resold as fertiliser, was never as lucrative a proposition as dust. There was little incentive to meticulously cleanse any given street, as long as a couple of token cartloads were cleared. Alleys and courts were mostly neglected.²³ Swept heaps of mud were allowed to grow higher and higher before mud carts arrived – left overnight or even longer, risking being churned up again by traffic – all to keep transport costs to a minimum. Collection of mud also became infrequent whenever the weather made the work difficult. Contractors were particularly chary of dealing with the consequence of heavy snowfalls, even if mandated by their contracts, because such work created massive extra costs, both in cartage and manpower, and generated little or no extra income.²⁴

In short, contractors, once again, tended to place profit above the interests of the public. They also faced a growing problem disposing of mud economically – just as with cinders and ashes. Transport costs increased as the city grew, making the sale of mud less and less profitable; competition in the form of guano and chemical fertilisers undermined sales further. Less scrupulous operators tried to keep down their costs by doing the absolute minimum of work. The practice of sweeping dirt down gutters into the sewers became widespread – the street equivalent of the housemaid sweeping dust under the rug.

Such failings were not universal – the multiplicity of local authorities and contractors allowed for great variation – but they were very common sources of complaint. Vestries themselves, meanwhile, were widely seen as negligent and/or corrupt, hand-in-glove with failing contractors. Many contemporary

commentators saw muck on the streets as symbolic of a greater malaise. Throughout the nineteenth century, poor and parsimonious administration, 'jobbery', factionalism, and the unaccountability of local bodies tarnished the collective reputation of vestrydom. The state of the streets seemed emblematic of everything that was wrong – as one writer put it, with heavy irony, 'an object lesson in the blessings of local government'.²⁵ After St George's, Hanover Square seemed to abnegate its responsibility for clearing away snow (and the mud beneath it), *The Times* ran a lengthy editorial, summing up the public mood, fulminating, 'The great duty of their officials is to raise difficulties and their own great delight is to see them and succumb to them.'²⁶

Certain local authorities would despair of the contracting system and choose to do their own scavenging. But they, too, would struggle with the question of how to clean the streets effectively and economically. Some looked to cheap labour. Holborn, for example, experimented in 1848 with '12 able-bodied Paupers taken out of the Workhouse for the purpose'.²⁷ Even paupers considered the work degrading – a previous trial in St Pancras in 1839 had been abandoned due to 'the insubordination and insult of most of the paupers (in spite of all encouragement to industry)²⁸ – and there was some debate as to whether pauper labour drove down the wages of the regular workforce. Ultimately, it was agreed that unmotivated paupers did an even worse job than the contractors.

Other authorities would attempt to shed contractors and replace them with their own employees, but the expense of maintaining carts and horses, as well as a workforce of street sweepers, made poorer vestries very nervous. Bethnal Green tried various combinations of employing its own staff *and* contractors during the 1860s, before finally abandoning the idea and reverting entirely to contractors in 1869. Nearby Whitechapel was more decisive, establishing its own scavenging department in the mid 1870s – but at a cost of over £7,000 a year. Others would follow suit. Many districts, however, were not prepared to make a long-term investment and, of necessity, kept faith with the contracting system.

The public despaired of ever walking on clean streets. But there was help at hand. The filthy swamp on London's carriageways created an opening for a lowly class of entrepreneurs.

Crossing-sweepers tried to scratch a living from the superabundant mud. They were beggars of a sort, demanding alms in return for a useful, almost

essential public service: clearing and maintaining paths from one side of the road to the other.

It is often mistakenly assumed that the 'crossings' in question were simply gaps in the mud, created by sweepers' brooms. Sweepers did brush anywhere they might turn a penny (including preceding likely benefactors along the pavement) and impromptu crossings did exist; but their traditional 'pitches' were 'paved crossings' which were part of the built environment. These were special sections of road made of stronger material than the main carriageway, 'so as to form a regular continuation of the foot paving for the convenience of foot passengers'²⁹ – a primitive predecessor of the modern pedestrian crossing. Some were even lit accordingly, 'illuminated at either end by a somewhat dim street lamp'.³⁰ They were often, but not exclusively, located at the junctions between side roads and main thoroughfares (junctions were themselves, confusingly, also referred to as 'crossings'). Local residents had crossings constructed;³¹ some petitioned paving boards to do the work for them;³² or local authorities and their surveyors simply had them built for the benefit of the public, without any special prompting.³³ Crossings seem to have varied in size (minutes of the Kensington paving board include arguments over whether their suburban crossings should be 6 feet or 9 feet wide)³⁴ but hard-wearing granite was the commonest material. They were used as clean, relatively safe places to cross over. A judge in 1862, for example, controversially ruled that compensation for a traffic accident was not possible, 'unless the child was walking on a paved crossing'.³⁵ These, then, were the principal haunts of London's self-employed crossing-sweepers.

Once installed on a crossing, the only equipment a would-be sweeper required was a handmade besom, with twigs bound together for a brush.³⁶ The art was finding a suitable pitch to claim as one's own – a spot that was not regularly swept by another sweeper, where plenty of people crossed the road and the local constable was amenable to a sweeper's presence. The most lucrative pitches were in the wealthy West End, particularly outside the gentlemen's clubs of Pall Mall and St James's, but sweepers could also be found in the City and the suburbs, even if only outside churches on a Sunday. Work literally 'dried up' during the summer, so the trade was very much a seasonal one.

The sweepers themselves, poor and ragged, were often children, the disabled or the elderly, since they were more likely to elicit sympathy than an able-bodied male. Adult sweepers, however, did exist. They might be accompanied by their own children (or those of friends and acquaintances, posing as their

own) with men 'bull-nursing' babies or even having pets with them, to suggest 'good nature'.³⁷ 'Exotic' sweepers were also of great interest to the public. St Paul's Churchyard had an individual variously described as a 'Hindoo' or Sikh, who won brief fame by being adopted as a translator by the Nepalese ambassador, and then reputedly retired to run an East End opium den.³⁸ Wounded and crippled soldiers turned to sweeping to supplement small army pensions, many wearing their old uniform or medals. A court case of 1859, for example, records a drunken sweeper in Bayswater Road, accused of assaulting a young girl – 'a man with two wooden legs . . . who receives a pension as an old soldier at the rate of 10s. 6d. per week . . . repeatedly convicted at this court for ruffianly attacks upon the police and others'.³⁹

The few able-bodied men who worked at sweeping were generally in rather a 'degraded' state. The inquest into the accidental death of one Thomas Kenning in 1891, aged fifty-one, records a typical downward spiral – the man in question went from owning a prosperous boot-making business to becoming a commercial traveller, an alcoholic, being deserted by his wife, and finally 'reduced to the position of a crossing-sweeper, lodging in the vicinity of Leather-lane, Holborn'. The work of crossing-sweeper was very much the last rung of the employment and social ladder. A combination of begging and their intimate connection to the filth of the streets made sweepers the lowest of the low. To remove the taint of mendicity, attempts were made by charities to form 'crossing sweeper brigades' in the same vein as the Shoe-Black Brigade, but none seems to have gathered much momentum.⁴⁰

It is undeniable that sweepers were beggarly. It is not difficult to find contemporary complaints against individuals accused of pursuing pedestrians with unwanted cries of 'tip us a copper!' or 'pitch us a brown!'; or, conversely, not appearing on their crossing in bad weather, when their services were most needed. One letter-writer, walking from Kensington to St James's, counted seventeen sweepers, 'nine or ten . . . troublesomely importunate, sufficiently so as to make the walk a nuisance', and testified that his wife and daughters positively avoided swept crossings, 'in order to escape the worry and occasional abuse that they habitually encounter'.⁴¹ It was claimed, only half in jest, that sweepers finished the day by sweeping dirt back on to their crossings, dubbing it 'shutting up shop for the night'.⁴² The most frequently levelled accusation was that sweepers, as beggars, could earn astonishing amounts of money. There was a persistent urban myth that a canny sweeper might earn

enough from a 'good' crossing by day to live in luxury by night, and pass as a gentleman. This appeared in the Victorian press as a 'true story' in various forms throughout the nineteenth century, and was given a literary incarnation by Thackeray in his short story 'Miss Shum's Husband'.⁴³ Another myth was that good pitches were sold on for hundreds of pounds. Unsurprisingly, actual examples are hard to track down. A case reported in *Reynolds's Newspaper* in 1885 with the marvellous headline of 'Wealthy Pauper Choked to Death' records a crossing-sweeper 'of sober habits' with a pitch outside Rectory Road Station in Stoke Newington, 'in receipt of parish relief up to the time of his death' but found with the magnificent sum of £27 6s. 9d. at his lodgings. That a supposed pauper should possess such savings was certainly notable; but, equally, this was not great riches. Certainly, in interviews and court reports, where actual sweepers mention their takings, they rarely amount to more than 1s. 6d. a day, often considerably less.

Yet, if crossing-sweepers were beggars, they were also rather useful. It is significant that there were several attempts by West End vestries to license sweepers – largely to ensure they were suitably respectful to pedestrians – rather than simply abolish them.⁴⁴ Partly this was charitable impulse; but partly it was because the value of a swept crossing was heartily appreciated. Many crossing-sweepers seem to have forged strong bonds with the respectable classes. Trusted sweepers were used by householders to run errands, hold horses and carry parcels, as well as being employed by the timid, elderly and infirm to help them cross the street – no easy feat in the busy metropolis. Some households were on surprisingly intimate terms with their 'local' sweeper. In larger houses, servants would employ a sweeper to do small jobs in the kitchen or pantry, in return for small helpings of food and drink. A court case of 1895 even mentions a crossing-sweeper 'engaged to make an inspection of all the doors and fastenings every evening' while the family took its annual holiday.⁴⁵ Charles Dickens himself took an interest in a boy-sweeper who industriously kept the pavement clean near his house in Tavistock Square, and 'saw to it that the little chap got his meals in the kitchen of Tavistock House, and sent him to school at night'. When the youth turned seventeen, he helped him emigrate to Australia – a more positive ending than the one the great author subsequently contrived for 'Jo' of *Bleak House*.⁴⁶ One can even find a few cases where sweepers were left small bequests, reflecting gratitude for long service.⁴⁷

Crossing-sweepers spied one sort of opportunity in the mud. There were others thinking on a grander scale. Charles Cochrane, radical, public health reformer and general busybody, is now almost entirely forgotten. Yet he developed his own grand scheme to rid London of mud – the only sanitary agitator to really address the problem – and spent the best part of a decade trying to bring his scheme to fruition.

Cochrane was the illegitimate offspring of an aristocratic father, who died and left him a substantial fortune. He first came to public notice, after a fashion, as the anonymous author of *Journal of a Tour*, published in 1830. The *Tour* was a record of Cochrane's teenage perambulation around Great Britain and Ireland whilst, bizarrely enough, disguised as a Spanish troubadour, 'Don Juan de Vega'. This unlikely spree gained modest notoriety – not least for the anonymous young author's gauche chronicling of feminine charms, and hints of amorous adventures. Restless for adventure, Cochrane then proceeded to lead a troop of volunteers into the Portuguese Civil War, albeit no longer masquerading as a Spanish nobleman. Both these episodes reveal something of his charisma, determination and eccentricity. By the end of the 1830s, however, he had settled down in highly respectable Devonshire Place in the parish of Marylebone, and found a new all-consuming passion – reforming the streets of London.

The catalyst for Cochrane's interest was a specific local dispute: choosing the best carriageway paving for Oxford Street. In 1837 Marylebone vestry threatened to replace the existing macadam road surface – which cost an appalling £4,000 per annum to maintain – with more durable granite blocks – which would cost £20,000 to install. Neither of these expensive alternatives was terribly agreeable (and both figures were disputed) and the proposed change angered many local shopkeepers. They feared losing trade during the roadworks and were concerned about the noise of granite blocks (the racket of iron-shod wheels rattling over hard stone deterred casual shoppers). With livelihoods seemingly at risk, it was not long before the argument became rancorous. Existing vestry factions of 'moderates' and more plebeian 'democrats' claimed to represent the best interests of the neighbourhood. Some dubbed it 'the Oxford Street job',⁴⁸ asserting that one of the chief 'repavers' on the vestry, a Mr Kensett, was taking money from the parish's stone contractor. Interminable, argumentative meetings occupied months of parish time. There was even the real threat of a new 'paving board' being established by Act of Parliament, to wrench the street from vestry

control – such was local politics. Finally, experimental sections of asphalt, bitumen and wood were laid down and, after much delay, the parish's paving committee recommended wood paving.⁴⁹ This, at least, satisfied many of the shopkeepers: wood was smooth and noiseless. The debate, however, was far from over. The following years were spent arguing retrospectively about the decision – not least whether wood was proving too slippery for horses when wet – and whether wood paving should be extended even further. It was amidst this endless wrangling that Charles Cochrane first entered public life, as a Marylebone vestryman. It is tempting to speculate that Marylebone's fevered debates over paving – in which both parties were accustomed to bring noisy 'deputations' into the vestry room – set the pattern for Cochrane's own heated exchanges with local authorities in the following decade.

At first, Cochrane's interests revolved solely around a single issue: promoting the case for wood paving in Marylebone. In 1842, unhappy with the vestry's progress, he founded the Marylebone Practical and Scientific Association for the Promotion of Improved Street Paving. The stated aim of the body was to lobby for better paving and support innovation by offering prizes for inventions and ideas.⁵⁰ The Association had a 'Museum of Paving' at its offices in Vere Street, and held meetings of engineers, scientists and omnibus proprietors to assess the latest technology, such as the 'concave horse shoe' (which purportedly gave better traction on wood) and the street-sweeping machine of Joseph Whitworth.

The following year, however, Cochrane's focus widened from paving to mud. The great argument against wood was that it became too slippery with mud – so why not abolish mud itself? Cochrane came up with a simple idea which he thought could revolutionise the state of the roads throughout London: that the able-bodied poor should be mobilised as a workforce to cleanse the streets, and scavenging should be constant, so as to prevent the streets ever becoming dirty. Under his scheme, workers would be allocated a stretch of road and remain on duty, continually busy, sweeping away dung as soon as it appeared. The work was not meant to be degrading. Cochrane would give his workers uniforms, and enjoin them to act as a 'ready, though unpaid, auxiliary to the police constable'. He envisaged them assisting in everything from arresting pickpockets to helping old ladies across the street.

Cochrane's proposal was different from the parishes' existing occasional use of paupers in that he advocated paying his workers a wage, albeit a low one, and

stressed the prevention of the accretion of filth, rather than its periodic removal. His stated aims included providing worthwhile labour for the struggling poor, saving them from the workhouse. A brief trial of the system, in Regent Street and Oxford Street on wooden paving in January 1844, received universal acclaim, particularly from the shopkeepers, with roads 'so clean that a lady's shoe would not be soiled in crossing at any part of them'.⁵¹ Buoyed by this success, never one to hide his light under a bushel, Cochrane began an endless round of public meetings, explaining his revolutionary idea to the masses, and trying to persuade – or shame – vestries into adopting something similar.

These meetings would also mark the beginning of a greater project, which would address wider problems relating to public health and poverty. Cochrane was drawn to Chartism and radical politics, and reform of the streets became linked in his mind to social reform. In 1846 he renamed the association the National Philanthropic Association and created a sister organisation, the Poor Man's Guardian Society, which would fight the harshness and iniquities of the 1834 Poor Law (highlighting complaints of physical cruelty to workhouse inmates, poor diet, overcrowded, verminous buildings etc.). Cochrane, with his trademark manic energy, began to write letters and hold meetings on a range of issues, not just paving. He now tackled the failings of workhouse authorities; demanded vestries build public baths and washhouses; promoted model housing schemes for the poor; investigated the notorious problem of the city's full-to-the-brim burial grounds; and explored and documented 'low lodgings' in the slums. Nor did he limit his activity to social investigation and propaganda. In January 1847, he set up a soup kitchen in Ham Yard, Windmill Street, with its own washing and bathing facilities for the general public, as well as public lavatories – including, most likely, the first public lavatory for women in the capital. At the close of 1847, he published a radical magazine, the *Poor Man's Guardian*, which ran for only eight issues but encouraged the poor to write in with accounts of their oppression. And, throughout all this, Cochrane still pushed his notion of systematic, constant street cleaning using workers whom he now called 'street orderlies'.

It was a novel idea and there was considerable interest. Several vestries in the West End trialled the system between 1845 and 1852, as did the City of London, and it was universally agreed that the results were a remarkable improvement in cleanliness. It could hardly be otherwise. Never had London streets received such detailed attention. The only difficulty was that not a

single West End authority decided to continue the experiment. After all the energy Cochrane had expended on the street orderly project, this must have been terribly frustrating.

One factor, regrettably, was Cochrane himself. With even the merest hint of diplomacy and tact, he might have done much better. Instead, he was proud, arrogant and made a point of lambasting those who disagreed with him, actively seeking out confrontation. For example, when St Martin's churchwardens advised him – quite reasonably – to address his scheme to the parish's paving committee rather than the vestry, he publicly accused them of being 'underhand', damned the committee in print as 'corrupt or ignorant' and advised parishioners to 'look to it themselves if they hoped for attention to their wishes'.⁵² Such rabble-rousing did little to endear him to local authorities. *Lloyd's Weekly London Newspaper*, a keen supporter of his work, still described him as 'a gentleman possessed with a greater share of personal vanity than any man ought to exhibit whose beard has imposed upon him a familiar knowledge of a razor'.⁵³

Cochrane's enthusiasm for grandstanding would also fatally undermine his wider ambitions. In 1848, when the ruling classes feared Chartism and revolution, he twice attempted to set up public meetings: both descended into violence, with slightly farcical overtones. The first, in Trafalgar Square, was declared illegal by the police. On this basis, Cochrane himself decided not to attend and felt obliged to advertise his absence on billboards – a peculiar sort of advertisement, intended to dissuade others from attending. Nonetheless, fellow Chartists spoke to a crowd of more than ten thousand, who finished the day in violent scuffles with the constabulary, spilling out into a general riot in St James's.⁵⁴ Fearing that he had appeared cowardly, Cochrane foolishly attempted to set in motion a new demonstration a month later, protesting against the Poor Law. Circling Leicester Square in an advertising van, showing enlarged lithographs of workhouse atrocities from the *Poor Man's Guardian*, he succeeded in attracting no more than a couple of hundred malcontents. The mob, although not large in number, swiftly engaged in pitched battles with a waiting contingent of police. The day ended with Cochrane meekly delivering a petition to a petty official in the Home Office, jeered by locals and ashamed of his own supporters.

The Times, wholly unimpressed by Cochrane's politics and methods, put the following in the mouth of a policeman at the scene: 'You want to get

notoriety at the expense of the country, and honest tradesmen are to be put to all this inconvenience to tickle the vanity of a strolling adventurer.⁵⁵ An unlikely editorialising sentiment in the middle of a riot, but the perception of Cochrane as a self-aggrandising rabble-rouser was one that stuck, and impacted on his credibility. It was an unfortunate fall from grace – only two months earlier his soup kitchen had been visited by Prince Albert, who ‘tasted the soup and pronounced it to be excellent’.⁵⁶ Any prospect of increased donations to the National Philanthropic Association disappeared. *Punch* repeated the accusations of self-promotion, timidity and cowardice, gleefully dubbing him ‘COCKROACH’.

It was not, however, Cochrane’s aggression and bombastic rhetoric – which one opponent described as ‘intended to be irritating and offensive’⁵⁷ – or his political radicalism, which ultimately decided vestries against adoption of the ‘street orderly’. The riots did him much harm, but Cochrane retained some supporters in the press, and vestries continued to trial the street orderly system for several years. Those authorities that did try Cochrane’s system were very happy with street orderlies’ work, which seems to have been exemplary. In fact, vestries were generally very interested in street orderlies – until they realised how much they cost.

The cost was initially opaque because virtually every trial of Cochrane’s system was managed at the National Philanthropic Association’s own expense. This was a rash policy, given that Cochrane had no intention of managing parish scavenging on a long-term basis and merely wished to display a ‘model’. True, the Association possessed some notable patrons but it continually struggled to raise cash.⁵⁸ By 1850 its balance sheet showed it was heavily in debt to its presiding genius,⁵⁹ and Cochrane frequently adverted to spending thousands from his personal fortune on the project. He doggedly argued that street orderlies would, ultimately, save parishes money – or, at worst, be no more expensive than the existing scavenging arrangements. He claimed parishes could offset the increased cost in manpower against decreased costs for maintaining paupers; proper street cleansing would remove the need to water down dust in the summer; less would be spent on road repairs; fresh dung could be sold at a greater profit. Such arguments, however, ignored the great expense of wages and cartage.

It was, therefore, presumably with some relief that Cochrane discovered that the City of London authorities were willing to attempt and, crucially, *pay*

for a third trial of street orderlies in 1852.⁶⁰ He had spent several months lobbying at 'wardmotes' (local meetings of each ward of the City) and generated sufficient interest and enthusiasm for one last effort.

In fact, this trial would prove the death knell of the National Philanthropic Association. First, there were questions about the quality of the work, with insufficient numbers of men, shoddy cleansing and 'an utter want of organisation'.⁶¹ In retrospect, this was unsurprising, since the City paid its regular contractor, Mr Sinnott, to make all the arrangements. It is unlikely Sinnott harboured much enthusiasm for the plan, not least since the system demanded supervision of a minimum of 265 men, working in shifts in multiple locations. Things seem to have got better as the months passed and the weather improved – but the condition of the streets was not the only problem. Cochrane had, as always, profoundly underestimated the money required. By the time the trial finished, the bill for cleaning proved to be nearly £12,000, more than double the contractor's usual figure.⁶² The City's General Purposes Committee met in May 1852 and 'much as they admired the clean state in which the city streets were now kept, they thought that it would be best to submit the whole matter to an open tender, so that, if they pleased the advocates of the orderly system might become contractors'.⁶³ Whole wards of City residents who had supported the project decided that it was 'not only an inefficient but a most expensive method, entailing on the over-taxed citizens an enormous increase to their burthens'.⁶⁴ Sinnott reluctantly worked with orderlies until the summer of 1853; but he was then permitted to return to the old system of cleansing.

Cochrane's private funds and the charities' coffers were all but exhausted. On the verge of bankruptcy, he fled to France and, seeking a new cause, became an ardent proponent of Sabbatarianism. He died two years later, 'alone and with his affairs in hopeless confusion'.⁶⁵

Cochrane's story reveals a good deal about the problems of vestry government, when it came to management of the streets. Choosing the paving material for a single road could cause several years' worth of rancorous debate; and the result could still differ markedly from the paving in the next road, let alone parish. Factionalism and rowdyism dominated many a vestry meeting; and it was necessary to win the same arguments time and again, in countless different locations, in order to make any impact on the metropolis as a whole. Cochrane

had the energy and enthusiasm of a dozen men – and still failed. Tellingly, his lithograph in the National Portrait Gallery's collection is captioned simply 'Travelling player and diarist', as if the creation of 'Don Juan de Vega' were his greatest achievement.

The street orderly scheme would, however, have a second life in the City of London, a decade after Cochrane's demise. This final twist was rather ironic, as it was the City's rejection that had put the last nail in the coffin of the National Philanthropic Association.

It is not entirely surprising that City officials eventually revisited the idea of the street orderly. The City was the financial and mercantile heart of London and, consequently, its crowded, narrow medieval streets suffered most from heavy traffic and mud. Part of the congestion problem lay in the character of the vehicles. The City was not merely a centre for commuters – full of clerks, bankers and stockbrokers, making it a hub for omnibus traffic – but packed with riverside wharves and warehouses. Large and sluggish four-wheelers, such as railway vans, drays and coal carts, dominated the road, causing lengthy 'stoppages' (traffic jams) simply by going about their business.⁶⁶ The roads took a heavy pounding, and mud exacerbated the problem. Every fall and accident meant damage to the City's economy – and hence street improvement was taken seriously. The City had, for example, ordered its principal thoroughfares to be swept daily as early as 1839, and this was extended to every street, alley and court in 1845; few other parts of London had such a regime.⁶⁷ Whether contractors fully lived up to these exacting demands was another matter, but their contracts spelt out the obligation in full.

The revival of the street orderly idea came after the officials took the momentous step of doing away with contractors in 1867. As in the rest of the metropolis, contractors' bills for refuse removal and street cleaning had been rising and service seemed increasingly poor.⁶⁸ Contractors blamed not only the fall in the price of dust but the 'nuisance removal' legislation of the 1850s which had forced them to remove several of their centrally located dust yards on grounds of public health, massively increasing their costs.⁶⁹ This was undoubtedly true, but their complaints received short shrift. Instead, it was decided to set up an entire City scavenging department from scratch, with men, carts, horses and wharf – and street orderlies would form part of this new model regime.

The high costs of Cochrane's plan were not forgotten; but the City would surmount the difficulty with a very Victorian strategy – the use of child labour. Cochrane had been happy to employ some boys; but the new workforce of street orderlies would be almost entirely comprised of teenagers, with a starting salary of merely five shillings per week and 'the right to a dip in the copper every morning – the dip being a gratuitous pint of hot cocoa'. This was a neat arrangement, in which large numbers of hands could be employed with low wages, under the eye of a few senior men and inspectors. In fairness, it may be a little harsh to talk of child labour in this context. It was the norm for teenage boys to make their own way in the world, particularly on the streets, with low-paid jobs ranging from selling newspapers to delivering messages. Boys were also more willing to do the work; grown men considered it had a 'workhousey, parish relief air about it'.⁷⁰ Likewise, boys were perhaps better suited to the military discipline which was Cochrane's legacy, wearing numbered badges, and a work uniform of 'frock, leggings, stout boots, and shiny hat', supplied at wholesale price from money taken out of their salaries.

The work itself was arduous, beginning in darkness in the early morning, and the hours long; but there were prospects in the new scavenging department for a boy 'by turns handling scraper and broom, and sorting in the yard, and driving a van, and making himself useful about the wharf'.⁷¹ Meanwhile, William Haywood, the City's energetic and hard-working surveyor constantly looked for ways to improve the orderly system. The squeegee – a rubber scraper, formerly used to clean ships' decks – was introduced to the orderly's arsenal of brushes and shovels and was found to be ideal for removing 'slop' from the newer road surfaces of wood and asphalt. The problem of heaps of mud awaiting collection by the kerbside was resolved by the introduction of 'street orderly bins'. It was a running joke in the 1870s that these bins, lidded metal containers to be filled with dung, were frequently mistaken for post-boxes by visitors from the country – much to their consternation. Other ideas were trialled but abandoned as impractical or too expensive – such as the use of a sprinkler system, built into kerbstones, to periodically sluice mud from the street.⁷²

Within a few years, the sight of uniformed 'boy scavengers', darting between the traffic, risking life and limb to scoop up horse muck, was as familiar and commonplace in the City as that of the humble crossing-sweeper. Indeed, a combination of new smoother street surfaces⁷³ and the work of street orderlies began to put City crossing-sweepers out of business; or, at

least, render them simply beggars and nothing more.⁷⁴ The overall results were very positive: 'It deserves to be recognised with gratitude that in the vast expanse of London mud the City offers an oasis where the streets are always clean and the roadway always in good order.'⁷⁵ By the 1890s, orderlies' wages had increased; and two hundred boys were employed.

In many ways, therefore, Cochrane was posthumously vindicated. St Giles District Board would also adopt a street orderly system in the 1870s, although still contracting out for the removal of the accumulated filth.⁷⁶ Likewise the small Strand District Board, which was employing forty boys by the 1890s.⁷⁷

London as a whole, however, remained plagued by mud. The scale of the problem at the end of century is, admittedly, rather hard to assess. Statistics are little help. Vestries tallied loads of mud collected; but we have no way of knowing how much went uncollected. Interestingly, at a meeting of surveyors and sanitary experts in 1899, William Weaver, the surveyor for Kensington, looked back at the 1850s and claimed that 'if a little mud was left in the streets now, there was more grumbling than formerly, when the mud was inches deep everywhere'. In his own territory, he stated that 'once upon a time he had taken 100 loads off the Brompton-road in one day, but he would have a job to get 100 loads in a month now'.⁷⁸ The leading speaker at the meeting, on the other hand, Thomas Blashill, inventor of the street orderly bin, was happy to describe London as, in his experience, the dirtiest city in Europe, and affirm that the dirt continued to increase. Such disagreements reflected the confused condition of the capital's roads. 'The State of London Streets' (the title of Blashill's speech) still differed dramatically according to the district and the whims of particular local authorities. No one was sure, in 1899, whether matters would improve; but there was one casual utterance at the meeting that would prove highly prophetic. Dr Smith of St Pancras noted in passing, regarding horse dung, that 'a great improvement would be noticed as motors became general'.

The 'horse-less carriage' first made its appearance in London in 1896. Some deplored the cold, lifeless machine – 'you can't give it a carrot or lump of sugar' – and the 'bloodless satisfaction' of a car journey. Others made rash predictions: 'The railways also were to have wiped out the horses, but have they? There are more horses now than there ever were.'⁷⁹

True, horses would remain on the London streets for decades, but their numbers began to diminish soon after Victoria's reign ended. The motor bus, in particular, would gain rapid popularity, instantly preferred to its flesh-and-blood rival ('almost invariably you see the passenger for choice mount the speedier conveyance').⁸⁰ There was no surer augury of the future than the London General Omnibus Company's decision in 1905 to take its existing buses and mount them on motor chassis – it became obvious that horses would become obsolete: it was merely a question of when.

The sanitary benefits, although incidental, were equally plain: the streets would gradually become cleaner. The car, of course, brought new forms of pollution, and some unexpected consequences. One writer to *The Times* in 1910 noted that automotives' fast, unpredictable movements meant the dogs were no longer trained to defecate in the gutter, leaving a new menace for pedestrians on the pavement.⁸¹ Traditional street filth was being replaced by new forms of rubbish, tokens of the new 'consumer society' of the period – more paper litter from discarded newspapers, bus and train tickets, wrapping and packaging.⁸² Nonetheless, the twentieth century promised one great improvement – the internal combustion engine would make both street orderlies and crossing-sweepers a relic of the Victorian age, and finally rid London of mud.