

Chapter 3

Environmental Health

The Cities of England in the Middle Ages were too small to keep their inhabitants week after week, month after month, in one deadly vapour-bath of foul gas; and though the mortality among infants was probably excessive, yet we should have seen among the adult survivors few or none of those stunted and etiolated figures so common now in England ... But there was another side to this genial and healthy picture ... Every now and then epidemic disease entered the jolly city – and then down went strong and weak, rich and poor, before the invisible and seemingly supernatural arrows of that angel of death whom they had been pampering unwittingly in every bedroom. They fasted and prayed; but in vain. They called the pestilence a judgement of God; and they called it by a true name. But they knew not (and who are we to blame them for not knowing?) what it was that God was judging thereby – foul air, foul water, unclean backyards, stifling attics, houses hanging over the narrow street till light and air were alike shut out – that there lay the sin; and that to amend that was the repentance which God demanded.

Charles Kingsley, 'Great Cities and Their Influence for Good and Evil' (1857)¹

In December 1421 jurors from the London ward of Farringdon Without indicted a local trader named William atte Wode for causing 'a great nuisance and discomfort to his neighbours by throwing out horrible filth on to the highway, the stench of which is so odious and infectious that none [of them] can remain in their shops'. Their other carefully itemised grievances included dangerous buildings and traffic hazards, whereby pedestrians were 'likely to be dismembered and lose their lives as well by day as by night', at least four blocked gutters and two thoroughfares that were 'flooded and heaped with filth'.² Similar problems were reported elsewhere in the City at this time: residents of Cordwainer Street Ward protested about 'the stinking filth thrown out by the wife of Sutton, grocer', while the state of the pavements, as well as nine 'defective, noisome and putrid' sewers, concerned the householders of Bishopsgate. Presentments from Bassishaw Ward began with a complaint about draymen who persistently dumped 'horrible noisome things outside the gate', and went on to report with unconcealed distaste that certain 'rents' lacked privies, thereby obliging the tenants to 'cast their ordure and other horrible filth and liquids before their doors, to the great nuisance of Holy Church and all people passing there'.³

On the face of things, evidence of this kind lends eloquent support to the longstanding assumption that 'the thoroughfares and byways of towns and cities

¹ This public address, delivered in Bristol, appeared three decades later in Kingsley, *Sanitary and Social Lectures*, pp. 194–6.

² CPMRL, 1413–1437, pp. 129–30.

³ CPMRL, 1413–1437, pp. 126, 117–18, 121–4.

were loathsome and deep with offensive matter'.⁴ Miscreants such as William atte Wode certainly highlight the apparent refusal of individual citizens to shoulder responsibility for the state of their surroundings that so many Victorian and Edwardian authors regarded as the principal cause of urban squalor. From their perspective, such stubborn indifference to basic matters of hygiene rendered medieval streets 'a constant danger to health and life', and explained why so little progress could be made towards the great goal of sanitary reform. Writing in 1906, Sir Walter Besant assumed that fourteenth-century London was only prevented from becoming completely 'defiled and impassable' by the rain, which flushed away much of the garbage, excrement and slops, and by airborne scavengers:

... they swoop down out of the sky, they alight in the street, they tear the offal with their beaks and claws, they carry it to the house-tops; these are the kites and crows who build their nests on the church towers and roofs, and find their food in the refuse thrown out into the streets. Were it not for these birds, London streets would be intolerable.⁵

Although Besant conceded that 'public opinion' demanded rather more than the unpredictable services of avian refuse collectors, his gothic imagery, borrowed without acknowledgment from a short story by Charles Dickens, caught the popular imagination.⁶ Almost a century later, in 2003, Anthony Quiney painted an equally lurid picture of life in the medieval Capital, observing that:

As in most towns, the mess of refuse and excrement was aggravated by horse dung, fertilizing a rich breeding ground for insects and beetles and a feeding ground for mice and rats. Crows pecked at putrid garbage, while, overhead, hawks hovered on the lookout for lunchtime snacks, and kites wheeled in the heavy air to prey on carrion.⁷

⁴ T. P. Cooper, 'The Mediaeval Highways, Streets, Open Ditches, and Sanitary Conditions of the City of York', *Yorkshire Archaeological Journal* 22 (1912), pp. 270–86, on p. 271.

⁵ Sir Walter Besant, *Mediaeval London*, vol. 1: *Historical and Social* (London, 1906), p. 171. But see also pp. 177, 346.

⁶ Dickens believed that Jacobean London was 'a perfect quagmire, which the splashing water-spouts from the gables, and the filth and offal cast from the different houses, swelled in no small degree'. He described the 'insupportable stench' of 'odious matters being left to putrefy in the close and heavy air' and the 'kites and ravens feeding in the streets (the only scavengers the City kept)': *Master Humphrey's Clock* (Oxford, 1958), p. 71.

⁷ A. Quiney, *Town Houses of Medieval Britain* (New Haven, CT, 2003), p. 93. In his defence we might, however, cite an Italian visitor to England, who noted in 1497 that the English protected ravens because they kept 'the streets of the towns free from all filth': C. A. Sneyd, ed., *A Relation of the Island of England*, CS 37 (London, 1847), p. 11. Moreover, some raven remains have been found in a late medieval refuse dump near Smithfield market in London: A. Telfer, 'Medieval Drainage near Smithfield Market: Excavations at Hosier Lane, EC1', *London Archaeologist* 10.5 (2003), pp. 115–20, on p. 119; Schofield, *London, 1100–1600*, p. 219.

As we saw in Chapter 1, not all historians have adopted such a negative stance, or succumbed so readily to the temptations of purple prose. In a reflective article of 1937, E. L. Sabine argued that the worst nuisances reported by early fifteenth-century London ward moots were generally confined to the suburbs, and that people were for the most part disgusted with such conditions when they came in contact with them.⁸ By dwelling upon the most flagrant cases of insanitary behaviour, he maintained, scholars had hitherto not only ignored wider questions of time and place, but had also disregarded – or at best dismissed – the many initiatives taken at both national and local levels to grapple with these problems.⁹ An analysis of archival material has more recently prompted Caroline Barron to conclude that 'one cannot read the records of medieval London without being made aware of a restless pursuit of high communal standards of public health and safety'.¹⁰ We shall examine the ways in which magistrates throughout England sought to improve the urban environment later in this chapter, but it is first worth noting two important factors that fostered growing anxiety on this score.

The list of criticisms directed at William atte Wode by his neighbours ended with the telling charge that his behaviour constituted 'a great reproof to all this honourable city, because of the lords and other gentlemen and men of the court who pass there'.¹¹ It is hardly surprising that Londoners should be sensitive on this score, since any failure to uphold acceptable standards of cleanliness invariably prompted a sharply worded reprimand from the crown.¹² Recognising that 'they were bound to preserve the good name of the City', the mayor and aldermen responded quickly to protests voiced in 1422 by the Franciscans of Newgate and others who lived in close proximity to the butchers' shambles by St Nicholas's church. In order to prevent the eponymous 'stinking lane' from being blocked with 'dung and foul intestines', they arranged for the construction of a gate to exclude the cattle that were herded there before slaughter, while also providing higher pavements and deeper gutters to facilitate the elimination of waste.¹³ We should note, too, that by the fifteenth century the officials responsible for removing refuse from each ward had to swear on oath that 'the weyys, stretes and lanys [would] be clensid of dunge and all maner of filthe for honeste of the Cite'.¹⁴

Even though they were less often exposed to a censorious royal gaze, the residents of other towns and cities also regarded dirty streets and polluted watercourses as a source of collective shame. In 1439, for instance, a Yarmouth jury presented various people for depositing rubbish, blubber, and the blood of slaughtered animals in a major thoroughfare by the gates. The ensuing stench was described as both a threat to health and a 'public rebuke' to the entire community.¹⁵ In the same spirit, plans for a comprehensive inspection of the streets, privies,

⁸ Sabine, 'City Cleaning in Mediaeval London', p. 26.

⁹ See pp. 17–18 above.

¹⁰ Barron, *London in the Later Middle Ages*, p. 266.

¹¹ CPMRL, 1413–1437, p. 129.

¹² See sections 1.3 and 1.4 above.

¹³ CPMRL, 1413–1437, pp. 147–8.

¹⁴ CLB, D, pp. 192, 201.

¹⁵ NRO, Y/C4/147, rot. 16r.

ditches, sewers and gutters of Salisbury were announced a couple of decades later in the hope that, once properly cleansed and repaired, they would again serve 'to the adornment of the city'.¹⁶ These sentiments emerge so often in the records of late medieval English towns as to appear almost platitudinous. Protests voiced in early sixteenth-century Canterbury that, although the streets were well paved, lack of proper refuse collection rendered them 'foule and full of myre to the grete dishonour of the Cite and the grete damage of the inhabitants by the corrupte and infectuose heires', were certainly far from unusual.¹⁷ Shortly afterwards a Nottingham jury castigated 'maister mayre' and his brethren in similar terms, begging them 'to remember the clensyng of the lanys at the coming in off the towne, for the townys *wirship* and profyte'.¹⁸ Significantly, because of the deference and respect due to them by virtue of their high office, future mayors of Lynn were empowered at this time to demand the removal of any laystall, or dung-hill, should they happen to live near one at the time of their election.¹⁹

It might be argued that concerns of this kind were largely cosmetic, in so far that they tended to focus upon superficial appearances.²⁰ But such an assumption fails to account for the second and far more pressing reason for mounting vigilance. Notwithstanding an obvious anxiety about the impression that heaps of rotting garbage and other signs of urban decay might convey to high status visitors, the chief priority in each of the above-mentioned cases was to eliminate 'corrupt exhalations and other abominable and infectious smells'.²¹ Our Yarmouth jurors, for instance, must have been desperate to avoid the 'infirmitie most infectif' then spreading throughout England, which they would have associated with rank and contaminated air.²² Sabine's 'hypothesis' that the dramatic and unprecedented rise in the number of sanitary measures recorded in the London Letter Books between 1350 and 1400 constituted a response to repeated onslaughts of plague was surely correct.²³ However, he did not venture beyond the suggestion that 'a genuine and serious-minded' effort was being made to combat disease. Nor did he consider the impact that current beliefs about the spread of epidemics might have had upon the regulation of urban nuisances. While doing much to refashion our image of late medieval cities, Sabine's successors have also fought shy of a more systematic

¹⁶ Carr, *First General Entry Book*, no. 453.

¹⁷ HMC, *Ninth Report*, part 1, appendix, p. 174. A carter was duly appointed to remove waste from the streets.

¹⁸ Stevenson, *Records of the Borough of Nottingham*, III.338.

¹⁹ KLBA, KL/C7/5, Hall Book, 1497–1544, fol. 35v.

²⁰ In his discussion of sanitary measures in seventeenth-century Prescot, for example, Walter King asserts that the residents adopted this approach because they 'had no concept of germs and were less concerned about odors and being odor free than we [are]': 'How High is too High? The Disposal of Dung in Seventeenth-Century Prescot', *Sixteenth-Century Journal* 23 (1992), pp. 443–57, on p. 454.

²¹ CPMRL, 1413–1437, p. 147.

²² See Appendix.

²³ Sixteen such entries are recorded between 1300 and 1350 and four times as many (sixty-five) during the next half-century: Sabine, 'City Cleaning in Mediaeval London', p. 28.

exploration of the medical rationale behind the impetus for a healthier urban environment. To conclude that such activity simply reflects 'a universal impulse shared by all communities' is to ignore the specific circumstances which gave rise to a spate of initiatives for cleaner streets and purer air.²⁴

3.1 Medical beliefs

In order to understand the late medieval preoccupation with 'infectif' matter and the avoidance of miasmas, we should briefly return to the physiological theories of the Ancient Greeks, as mediated through the work of Muslim physicians such as Al-Majusi (Haly Abbas) and Ibn-Sina (Avicenna). Whereas, in the first instance, the preservation of humoral balance, and thus of good health, depended largely upon diet, which determined the composition and quality of the natural or nutritive spirits, air had a more immediate impact upon the animal and vital spirits. These flighty, nervous creatures were responsive to odours, both bad and good, and if perturbed could retreat rapidly into the heart or brain, causing such alarming symptoms as palpitations, breathlessness, paralysis, or fainting. They could also play havoc with the body's internal thermostat, in extreme cases draining it of warmth, and thus of life itself, or suffusing it with dangerous levels of heat.²⁵ While agreeing that scent could have either a malign or beneficial effect, Greek physicians and natural scientists offered two rather different explanations for the phenomenon. For some, smells were composed of extremely fine particles which coalesced into a type of 'fumosity', or smoky vapour, somewhere between air and moisture. This misty substance was invisible to the naked eye, but able easily to enter the body through the nostrils, mouth and open pores of the skin. Odours absorbed through the spongy and permeable receptors of the nose would pass rapidly up the olfactory tract to the brain, transmitting to the animal spirit the 'prynte and liknes' – along with all the properties or attributes – of the things from whence they came.²⁶ Another school of thought regarded smells as *species* or immaterial forms which conveyed the very essence, rather than a mere copy, of whatever had produced them. According to both Aristotle and Galen, they were identical to 'the odoriferous body' in 'substance and qualities', and therefore just as potent.²⁷

The practical implications of these theories were frighteningly obvious. In the words of the thirteenth-century encyclopaedist Bartholomaeus Anglicus: 'yif the vapour is malicious, stinkinge, and corrupt, it corrupith the spirit that hatte [is called] *animalis* and often bringith and gendrieth pestilence'.²⁸ There were other ways in which polluted air could precipitate a rapid descent into sickness, if not

²⁴ Carr, 'From Pollution to Prostitution', p. 41.

²⁵ OPT, I.105–7; II.1298–9; Harvey, *Inward Wits*, pp. 16–17; see p. 56 above.

²⁶ R. Palmer, 'In Bad Odour: Smell and its Significance in Medicine from Antiquity to the Seventeenth Century', in W. F. Bynum and R. Porter, eds, *Medicine and the Five Senses* (Cambridge, 1993), pp. 61–8; Harvey, *Inward Wits*, p. 19; OPT, II.1297, 1301.

²⁷ R. E. Siegel, *Galen on Sense Perception* (Basel, 1970), pp. 155–6; Woolgar, *The Senses*, pp. 14–15; S. Kemp, 'A Medieval Controversy about Odor', *Journal of the History of the Behavioral Sciences* 33 (1997), pp. 211–19.

²⁸ OPT, I.116.

death, since whatever was inhaled into the lungs would contaminate the *pneuma*, or vital spirit that carried heat from the heart along the arteries to the other vital organs. At the same time, noisome air drawn through the open pores would pass from the capillaries into the venous system, obstructing the transmission of humoral matter throughout the body and poisoning its source of nourishment. As a general rule, however, the essential purity and sweetness of a fragrant aroma seemed to render it more powerful than anything unpleasant or toxic.²⁹ The scent of a rose or lily, for example, would be 'good to [the] brayne, for he comfortith the spiritis of the brest and of the herte and restorith the heed ... and cometh inward to comferte senewis'.³⁰ For this reason, well-stocked gardens offered a welcome resort for men and women who felt sick or lethargic, and were highly prized as a prophylactic by those town-dwellers who could afford to maintain them.³¹

Ever since the appearance of Al-Majusi's *Liber pantegni* in Europe during the late eleventh century, miasmatic air had been recognised as a major cause of illness.³² It was, however, during the century before the Black Death that the authors of *regimina* and medical text books began to focus more specifically upon the correlation between environment and disease. Their interest was fuelled by a growing appreciation of the ideas discussed above, most notably regarding the crucial role of *pneuma* as a source of heat and life. The frothy mixture of air and venous blood that had been warmed and refined in the heart was essential for survival, but dangerously vulnerable to 'the stynch and fylthye sauours that corrupte that ayre whyche we lyue in'.³³ As the physician Arnald of Villanova (d. 1311) advised one of his royal patients:

The first item or consideration with regard to the preservation of health concerns the choice of air. For among the things which, by necessity, affect the human body nothing changes it more than that which, inhaled by the mouth and nostrils ... and mixed with the spirit of the heart, travels along all the arteries, by which means all the activities of daily life are accomplished.³⁴

Already by this date medical authorities had not only begun to consider the physiological impact of environmental factors, but also to recommend the most salubrious towns in which to live. Drawing upon the concepts first advanced in Hippocratic texts such as *Airs, Waters, Places*, which dealt at length with these issues, the authors of medieval *regimina* generally agreed that an easterly location would be 'more temperate than others' and the inhabitants 'more healthy', especially if they enjoyed the advantage of pure sea breezes.³⁵ Sometimes quoting verbatim, if selectively, from these works, the authors of England's earliest urban

²⁹ Harvey, *Inward Wits*, p. 27.

³⁰ OPT, I.562; and also II.1299–1300.

³¹ C. Rawcliffe, "'Delectable Sightes and Fragrant Smelles": Gardens and Health in Late Medieval and Early Modern England', *Garden History* 36 (2008), pp. 1–21.

³² Al-Majusi, *Liber pantegni*, 'Theorica', book 5, cap. 11, fol. 20r.

³³ Thomas Phaer, *A Treatyse of the Pestylence* (London, 1544), fol. 10r.

³⁴ Arnald de Villanova, *Regimen sanitatis ad regem Aragonum*, p. 423.

³⁵ Hippocrates, *The Medical Works of Hippocrates*, ed. J. Chadwick and W. N. Mann (Oxford, 1950), pp. 90–4; Pierpont Morgan Library, New York, MS M.165, fols 34r–36v.

histories made much of the beneficial qualities of the towns and cities about which they wrote, temporarily forgetting the devastating effects of pestilence.³⁶ Henry Manship's early seventeenth-century *History of Great Yarmouth* provides a classic example of the continuity of ideas first developed almost two millennia earlier. Because of its position on the east coast, he observed, the port basked in the 'the first rising of the sun ... which doth disperse the mists and vapours from off the earth, whereby it purgeth and cleanseth the air'. Indeed, being 'as wholesome for situation as any town in the kingdom', it had come to enjoy a unique reputation among physicians for its healthy and invigorating climate.³⁷ Generations of sick and aged Norwich monks, schooled in the principles of the *regimen sanitatis*, had certainly enjoyed the therapeutic effects of 'recreations' in its bracing air, being regularly dispatched to the mother house's cells there and at King's Lynn for periods of rest and convalescence.³⁸

However, few men and women were free to follow this advice, and not even they could escape the hazards of daily life. All too often 'perceptible corruptions' from 'animal dung, corpses and other stinking putrefactions' were carried on the wind, multiplying and spreading as they travelled.³⁹ In 1252, for example, Henry III arranged for one of his servants, 'afflicted with insanity by the evil nature of the air', to enjoy the healthier environment of Wiltshire until he recovered. He may, perhaps, have fallen victim to the stench arising from the kitchens at Westminster, since eight years later considerable sums were assigned for the construction of a conduit to carry malodorous refuse directly to the Thames and thus avoid the likelihood of infection sweeping through the royal palace.⁴⁰ An influential passage in book four of Ibn-Sina's *Canon of Medicine* provided the rationale for such measures:

Vapours and fumes rise [into the air] and spread in it, and putrefy it with their debilitating warmth. And when air of this kind reaches the heart, it corrupts the complexion of the [vital] spirit that dwells within it; and surrounding the heart, it then putrefies it with humidity. And there arises an unnatural heat; and it spreads throughout the body, as a result of which pestilential fever will occur, and will spread to a multitude of men who likewise have vulnerable dispositions.⁴¹

³⁶ 'Bad air' was just as interesting to early modern topographers and physicians: Dobson, *Contours of Death and Disease*, p. 10, and chap. 1, *passim*; A. Wear, 'Making Sense of Health and the Environment in Early Modern England', in A. Wear, ed., *Medicine and Society: Historical Essays* (Cambridge, 1992), pp. 119–47.

³⁷ Henry Manship, *The History of Great Yarmouth*, ed. C. J. Palmer (Yarmouth, 1854), pp. 103–4.

³⁸ C. Rawcliffe, 'On the Threshold of Eternity': Care for the Sick in East Anglian Monasteries', in C. Harper-Bill, C. Rawcliffe and R. G. Wilson, eds, *East Anglia's History* (Woodbridge, 2002), pp. 71–2.

³⁹ Arrizabalaga, 'Facing the Black Death', pp. 255, 275.

⁴⁰ *Calendar of Liberated Rolls, 1251–1260* (London, 1960), pp. 59, 507.

⁴¹ Ibn-Sina (Avicenna), *Liber canonis medicine* (Lyon, 1522), book 4, fol. 329r. See also Arrizabalaga, 'Facing the Black Death', pp. 252, 255. According to the tenets of Galenic medicine, powerful odours were characterised by their innate heat, which was especially dangerous in epidemics.

Though shorn of their theoretical underpinnings, these ideas began to percolate downwards through society at a comparatively early date, their transmission hastened by renewed outbreaks of plague from the 1360s onwards. In many cases, urban magistrates simply repeated the unambiguous wording of royal directives such as that dispatched in 1332 to the rulers of York with regard to 'the abominable smell abounding in the said city', thereby embedding in their own ordinances the association between air pollution and pestilential disease.⁴² Echoing Edward III's complaint about the 'noisome smells arising from the streets and river', a proclamation of 1357 issued by the mayor and aldermen of London for improving cleanliness in the City refers explicitly to the 'corruptions', 'abomination and damage' occasioned by the dung, filth and other noxious detritus that littered the streets and clogged the Thames. These new prohibitions on the dumping of miasmatic waste were reinforced by stiff fines of 2s. for each offence, along with imprisonment in some cases, obliging even the most sceptical or obtuse Londoners to reflect upon their behaviour.⁴³ Letters close of 1372 for the removal of dung-heaps and other malodorous rubbish deposited on Tower Hill similarly refer to the 'manifest peril' likely to arise from such 'corruption and stench', especially as the air was 'so tainted thereby as to strike the men dwelling all about and the passers by with disgust and loathing'. These phrases were duly noted in the civic record and reappear in the wording of an inquiry designed to name and punish offenders. Not surprisingly, they, and similar warnings about other threats to survival, began to appear regularly in the presentments made by local juries.⁴⁴

From the late thirteenth century onwards Norwich leet courts sometimes went beyond the usual terse description of insanitary nuisances such as the dumping of dung and rubbish in the streets, and noted the environmental hazards that they presented. In 1288–9, for example, one Roger Benjamin was indicted for burying offal in a public muck-heap which badly polluted the surrounding air ('per quod aer pessime corrumpitur'), while a skinner faced similar charges arising from his thoughtless disposal of dead cats.⁴⁵ Mounting concern about the risks posed by miasmatic air is especially apparent in the case of presumed lepers, whose presence in towns and cities had to be reported so that appropriate measures could be taken for their removal to a hospital or lodging beyond the walls. Originally justified by the canonical ruling that suspects should live 'outside the camp', and thus based upon religious and cultural, rather than medical, criteria, this requirement gradually became a matter of public health.⁴⁶ A growing awareness that 'from infected bodies comme ... infectious and venomous fumes and vapours, the whiche do infecte and corrupte the aire' made people nervous, especially of the 'stinking breath' associated with the leprous. Alarm spread during times of pestilence, when physicians urged the need to 'avoide and eschewe all suche' as a precautionary measure.⁴⁷ The effect of their warnings is strikingly apparent

⁴² CCR, 1330–1333, p. 610.

⁴³ CCR, 1354–1360, p. 422; Riley, *Memorials of London*, p. 299.

⁴⁴ CCR, 1369–1374, p. 365; CLB, G, pp. 291–2; CPMRL, 1364–1381, pp. 140–1.

⁴⁵ Hudson, *Leet Jurisdiction*, pp. 23, 29.

⁴⁶ See section 6.7 below.

⁴⁷ Rawcliffe, *Leprosy in Medieval England*, p. 276.

from an analysis of the 113 presentments for leprosy made by Yarmouth juries between 1369 (the date of England's 'third pestilence') and 1501. Although other motives besides fear of infection are clearly apparent, intense bouts of surveillance invariably coincided with local or national epidemics, when the risks seemed particularly great. Moreover, from the 1390s onwards we can detect a shift in vocabulary, as Yarmouth jurors – or the scribes who recorded their complaints – began to indict specific individuals 'propter fetorem' (on account of the stench), and because of the likelihood of infection ('ad periculum et infeccionem populi').⁴⁸ Increasingly, too, in the records of cities as far apart as London and Berwick-on-Tweed, ordinances for the removal of lepers were inscribed alongside others for the elimination of noxious waste.⁴⁹

We should note in this context that it was the 'odious and infectious' smell of the refuse deposited by William atte Wode in 1421 that so incensed the residents of Farringdon Ward Without. Already by then a significant, if not overwhelming, proportion of the urban population recognised that 'wholesome aire' was 'faire and cleare without vapours and mistes ... lightsome and open, not darke, troublous and close ... not infected with carrian lying long above ground ... [nor] stinking or corrupted with ill vapours, as being neere to draughts, sinckes, dunghills, gutters, chanel, kitchings, church-yardes, or standing waters'.⁵⁰ The following pages furnish many examples of the ways in which these ideas affected the working practices of urban craftsmen. In 1455, for instance, the Horners of London undertook 'in eschuyng of the grete and corrupt stenche and grievous noyance of neyghbours' that they would no longer dismember carcasses within the City.⁵¹ On occasion, fear of miasmatic vapours even overcame the customary desire for elaborate funerary rituals, especially in plague time. Such was the level of anxiety in King's Lynn during the pestilence of 1528 that local magistrates were able to insist upon a dramatic curtailment of obsequies for the Christian departed. Because 'the corses & dede bodyes of ... inhabitauntes' brought to church on these occasions had 'enfected & putrefied the same churche & chapelles & the people resortyng theder to the grete perill, infection & hurtt of the same', a rapid transit from deathbed to grave, with no intervening ceremonial, seemed the most obvious precaution.⁵²

Although Classical ideas about the sense and nature of smell were effectively challenged during the seventeenth century, the conviction that epidemics spread

⁴⁸ Rawcliffe, *Leprosy in Medieval England*, pp. 282–3; NRO, Y/C4/103, rot. 10v; 186, rot. 15r.

⁴⁹ Smith, Smith and Brentano, *English Gilds*, p. 341; CLB, G, p. 301; Corporation of London Records, Journal 8, fols 21v–22r.

⁵⁰ Thomas Cogan, *The Haven of Health* (London, 1584), pp. 7, 262.

⁵¹ F. J. Fisher, *A Short History of the Worshipful Company of Horners* (London, 1936), pp. 22–3.

⁵² KBLA, KL/C7/5, Hall Book 1497–1544, fol. 276r. A century earlier, the master and clergy of St Michael in Riola, London, closed the cemetery on the east side of the church because 'the smells and infections of the bodies of the dead buried there' obliged them to vacate the premises in plague time: Twemlow, *Calendar of Papal Letters*, vol. 8: 1427–1447 (London, 1909), p. 341.

through the medium of polluted air remained unshaken until the reign of Queen Victoria.⁵³ The tenacity of this belief owed much to the fact that it offered a rational and intelligible explanation for the frequently observed connection between dirt and disease, while according perfectly with current interpretations of human physiology. However, the nose and lungs were not the only organs vulnerable to external attack. That complaints about dung-heaps, offensive latrines and the like so often refer to their unpleasant *appearance* as well as their disgusting smell may surprise a modern reader. During the plague of 1369 the 'abominable' and 'loathsome' spectacle of the offal dumped by London butchers caused just as much offence as the ensuing 'corruption and grievous stench'.⁵⁴ The catalogue of grievances presented by London ward moots in the early 1420s likewise includes several apparently aesthetic objections to sanitary hazards, such as a dilapidated privy in Ludgate. The 'horrible stench and *foul sight*' of overflowing ordure together contributed 'to the great discomfort and nuisance of all folk dwelling thereabout and passing thereby', besides constituting 'a disgrace to all the City'. No less abhorrent were the waste dumps from common latrines and 'other *horrible sights*' in Watergate Street.⁵⁵

Lepers, too, were feared not only because of their miasmatic odour but also the disfiguring effect of symptoms which so often rendered them physically repugnant. Indeed, it was only when a leper had become intolerable to the beholder ('tam deformis quod aspectus eum sustinere non posit') that he or she lost the right to plead in a court of law.⁵⁶ Significantly, this ruling was made during the thirteenth century, when Aristotelian theories about optics were gaining ground in the West through the work of Ibn-Sina and Ibn al-Haytham (Al-Hacen). According to these authors, the eye was a passive organ which absorbed the impressions, 'forms', 'virtues' or 'similitudes' that radiated outwards in a continuous sequence of multiple images from all visible objects and had a similar impact upon the body to smells.⁵⁷ Thus a beautiful or spiritually uplifting sight would conserve or even promote health, while that of a decaying corpse, stagnant gutter or mutilated beggar would have the opposite effect.⁵⁸ The physician Gilbertus Anglicus (d. c. 1250) regarded the *aspectus*, or appearance, of lepers as a potential source of infection, warning that the *species* of the disease might enter the eye of anyone who stared at them,

⁵³ Jenner, 'Civilization and Deodorization?', pp. 134–6.

⁵⁴ CPMRL, 1364–1381, p. 93; CCR, 1369–1374, pp. 31–2. In April 1370 offenders were threatened with imprisonment and a massive fine of £100: CCR, 1369–1374, pp. 177–9; RP, II.460.

⁵⁵ CPMRL, 1413–1437, pp. 141, 157.

⁵⁶ S. E. Thorne, ed., *Bracton on the Laws and Customs of England*, 4 vols (Cambridge, MA, 1968–77), IV.309.

⁵⁷ K. H. Tachau, *Vision and Certitude in the Age of Ockham: Optics, Epistemology and the Foundations of Semantics, 1250–1345* (Leiden, 1988), pp. 8–10, 94–5; D. G. Denery, *Seeing and Being in the Later Medieval World* (Cambridge, 2005), pp. 82–9.

⁵⁸ The clerk who described the refurbishment of the Colchester moot hall (see p. 84 above) observed that 'it rejoices the eyesight of the whole of the common people', thus implicitly doing them good: RPBC, p. 10.

polluting the animal spirit and eventually suffusing the entire venous system with corruption.⁵⁹ Following Galen, some physicians assigned a more dynamic role to the eye, maintaining that it could transmit as well as receive matter, notably in the case of plague victims, whose gaze was contaminated by toxic emissions in search of a new 'dwelling place'.⁶⁰ Basic information along these lines had already reached the general populace by 1344, when one Scottish chronicler observed that, during an epidemic affecting poultry, 'men utterly shrank from eating, or even looking upon a cock or hen, as though unclean and smitten with leprosy'.⁶¹

Anxieties about sight and smell alike were reinforced by the powerful religious imagery used to evoke the joys and torments of the next life. The aroma of sanctity, which enveloped so many saints in a delicious perfume, contrasted sharply with the feculent stench of evil. Populated by an army of physically repugnant devils, hell reeked with the sulphurous fumes of eternal damnation, while heaven exceeded all mortal concepts of sensory perfection.⁶² Purgatory, too, was envisaged in terms of disfigurement and filth. One fifteenth-century English translation of the *Vision of the Monk of Eynsham* describes the 'ful horrible clowde' of poison hovering above its frozen lakes and furnaces. Here, 'myxte and medylde to-gedir', arose 'a fume of brymstone wyth a myste, a gret stanche and a flame blak as pycche', while the deformed inhabitants breathed fire through their noses and exhaled foul breath from gaping mouths.⁶³ There was, as many preachers warned, a striking difference between superficial cleanliness and inner purity, but the association between dirt, disfigurement and sin still remained overwhelming. When the play of *The Last Judgement*, which brought the York Corpus Christi cycle to an end, reached its final station in the great marketplace known as The Pavement, hell (on stage left) looked onto the butchers' shambles, while paradise (on the right) lay reassuringly close to the church of All Saints where former mayors were buried.⁶⁴

As we shall see in the rest of this chapter, the practical application of these concepts in crowded towns and cities was rarely so straightforward (3.2). One of the first steps towards the creation of a more salubrious environment was to provide adequately paved streets, which were both safer and easier to keep clean. They also represented the public face of a community, and, as such, could provoke

⁵⁹ Gilbertus Anglicus, *Compendium medicine* (Lyon, 1510), fols 337v, 339r.

⁶⁰ Siegel, *Galen on Sense Perception*, pp. 71–8; Arrizabalaga, 'Facing the Black Death', pp. 263–4; Horrox, *Black Death*, pp. 183–4; Berger, 'Mice, Arrows and Tumours', p. 51. One option was to blindfold the patient: Aberth, *From the Brink of the Apocalypse*, p. 111.

⁶¹ John of Fordun, *John of Fordun's Chronicle of the Scottish Nation*, ed. W. F. Skene (Edinburgh, 1872), p. 358.

⁶² C. Classen, D. Howes and A. Synnott, *Aroma: The Cultural History of Smell* (London, 1994), pp. 52–4.

⁶³ R. Easting, ed., *The Revelation of the Monk of Eynsham*, EETS o.s. 318 (London, 2002), pp. 45, 49. Other visions dwell upon the 'fyr so horrible and stynkyng that all the creatures in the world myght not telle the wikked smyllynge ther-of': M. Powell Harley, ed., *A Revelation of Purgatory by an Unknown, Fifteenth-Century Woman Visionary*, Studies in Women and Religion 18 (New York, 1985), p. 59.

⁶⁴ A. Higgins, 'Streets and Markets', in J. D. Cox and D. S. Kastan, eds, *A New History of Early English Drama* (New York, 1997), p. 91.

shame as well as pride. Acknowledging the 'disworshipp' occasioned by their failure 'to maynteyne that thing which heretofore by ther predecessors have ben well maynteyned and lokyed unto', the rulers of Norwich observed ruefully in 1559 that from

tyme oute of mynde there hathe bene a comely and decent order used within this cittye for the payng of the stretes ... whiche thing hath not only bene a great ease and helthefull commodyte to the inhabitauntes of the same, but also a goodly bewtefyng and an occasyon that dyuerse [visitors] havynge accesse to the same cittye from ffare and strange places haue moche comended and praysed.⁶⁵

In addition to its obvious benefits, street paving facilitated schemes for refuse collection and the creation of communal dumps well away from residential areas (3.3). London, predictably, had the most complex and labour-intensive system, but many other towns opted to pay salaried cleaners, while at the same time imposing stringent penalties on householders who failed to discharge their personal responsibilities.

Even when the population was falling, the production of daunting quantities of human and animal waste, as well as dirt and rubbish, constantly threatened to contaminate thoroughfares and watercourses. Nevertheless, it would be mistaken to assume that people were oblivious to the need for better sanitation, if only because of their desire to avoid miasmatic air. Communal latrines, often of considerable size, were to be found in almost all late medieval towns; and private dwellings were increasingly equipped with privies whose location might well be determined by stringent building regulations (3.4). The growing appetite for meat gave rise to a similar problem with regard to the slaughtering of animals and disposal of carcasses, which attracted mounting concern in the aftermath of epidemics (3.5). Tighter controls on butchery were accompanied by efforts to tackle the thorny issue of urban livestock, most notably vagrant dogs and pigs, which not only endangered health, but all too often seemed to replicate the behaviour of the idle, feckless poor (3.6). We then turn to the growing preoccupation with man-made pollution, especially through the use of sea coal and the proliferation of noisy, unpleasant industrial processes (3.7), before finally considering the many practical steps taken to avoid the spread of fires, one of the greatest perils of urban life (3.8).

3.2 The problem of urban waste

As the sheer volume of records dealing with the problem confirms, the removal of mountainous quantities of waste was one of the greatest challenges to face the rulers and residents of medieval English towns. Alongside the ever growing heaps of human excrement, domestic refuse, cinders and garbage from shops, taverns, markets and workplaces, lay piles of filthy straw and dung produced by a surprising variety of animals and poultry, noisome mounds of offal, blood and entrails from urban slaughterhouses, yards full of rubble, timber, clay and thatch left by builders,

⁶⁵ RCN, II.133–4.

garden rubbish, and wheelbarrows crammed with the dirty rushes that had once been strewn on the floors of town houses. Muddy, unpaved thoroughfares made matters worse, since they were hard to clean, dangerous for pedestrians and irresistible to the casual fly-tipper.⁶⁶ Yet all this spoil could, on occasion, prove a valuable asset rather than a liability. Archaeological evidence of waterfront reclamation in towns and cities throughout Europe reveals that substantial areas of land were recovered from the sea or rivers by constructing timber revetments and filling the area behind them with compacted rubbish. Activity has been discovered in at least sixteen English towns, as well as London, whose size increased by at least ten per cent between the eleventh and sixteenth centuries as a result of riverside developments, sometimes involving deposits of garbage over ten metres deep.⁶⁷ Work on this scale would clearly have accounted for a great deal of the refuse generated by ordinary householders, and may in some instances have been undertaken specifically as a means of disposal.⁶⁸ Domestic refuse was also utilised in other structural projects, such as the raising and levelling of large public spaces, including Shrewsbury market and the site of the Augustinian friary in Hull, as well as for creating stable road surfaces in preparation for metalling with flints and cobbles.⁶⁹

There was, in addition, a constant demand for manure, both human and animal, on the part of local farmers, at least during periods of population growth when agricultural produce remained at a premium. The cost of transportation by cart or boat could easily be offset when food prices soared, but once the market began to contract so too did the need for intensive fertilisation. At St Giles's hospital, Norwich, dung from the precinct and adjacent properties was initially carried away to outlying manors in the empty carts that had brought in produce, while residents of Winchester were, for a time, able to sell manure for use on the nearby episcopal estates. The shift from demesne farming to a scaled-down *rentier* economy after the Black Death significantly curtailed such operations, although since urban populations were also in decline less waste was generally being produced.⁷⁰ Contraction was nonetheless a mixed blessing: on the one hand, marginal land became available for the creation of communal rubbish tips and dung-hills not too far away from residential areas, but, on the other, householders were inclined to take the easy option by dumping their waste on

⁶⁶ Keene, 'Rubbish in Medieval Towns', pp. 26–30.

⁶⁷ G. Milne, 'Medieval Riverfront Reclamation in London', in G. Milne and B. Hobley, eds, *Waterfront Archaeology in Britain and Northern Europe*, CBA research report 41 (London, 1981), pp. 32–6. See also B. Hobley, 'The London Waterfront – The Exception or the Rule?', in *ibid.*, pp. 1–9.

⁶⁸ Keene, 'Rubbish in Medieval Towns', p. 28; D. H. Evans, 'The Infrastructure of Hull between 1270 and 1700', in Gläser, *Lübecker Kolloquium*, p. 63.

⁶⁹ M. O. H. Carver, 'Early Shrewsbury: An Archaeological Definition in 1975', *Transactions of the Shropshire Archaeological Society* 59 (1973–4), pp. 225–63, on p. 247; Jørgensen, 'Cooperative Sanitation', p. 560.

⁷⁰ Rawcliffe, 'Sickness and Health', p. 312; B. Ayers, *Norwich: Archaeology of a Fine City* (Stroud, 2009), p. 100; Keene, *Survey of Medieval Winchester*, I.53. In London, boats took manure out of the City for agricultural use: Sabine, 'City Cleaning in Mediaeval London', pp. 24–5.

the nearest unoccupied plot. In 1521, the residents of King's Lynn were ordered to cease the antisocial practice of leaving garbage 'wher as houses or groundes stand speryd & buletten [bolted]'.⁷¹ As we shall see in the concluding section of this chapter, fire damage also tended to encourage this kind of insanitary behaviour.

The contemporary ring of many late medieval ordinances for waste disposal inevitably prompts a comparison with the practices deployed in modern British cities. We should, nevertheless, resist the temptation to evaluate these measures by our own standards, or to frame them within what Mark Jenner describes as 'a narrative of progress and deodorization'.⁷² Cultural attitudes to dirt and, indeed, the degree of offence caused by specific nuisances are subject to a wide and shifting range of priorities, which during the later Middle Ages hinged primarily – but not exclusively – upon a desire to eliminate 'those unsavory and noysome smells and stenches ... which hath a pestiferous influence on mans body'.⁷³ They were also tempered by a strong dose of pragmatism. Simply depositing rubbish in the road, for instance, was rarely regarded as an offence unless it seemed especially noxious or obtrusive. After all, since most refuse collections were made in this way, some measure of compromise was essential, even in cities such as York, where the heaping of dung in public places had been prohibited as early as 1301.⁷⁴ An ordinance of 1467 'for clensyng the strettes' in the borough of Leicester allowed residents three days in which to leave 'muke or fylthe' outside their front doors before facing a fine, although from 1508 builders were permitted greater leeway.⁷⁵ Norwich householders enjoyed four days' grace, but faced a draconian penalty of 40d. a day thereafter, in order to keep the market and major thoroughfares free of rotting garbage.⁷⁶ Contention generally arose only if a midden stood for too long, posed an obstacle to traffic, spilled in a 'disorderly' fashion onto the pavement, blocked drains or gutters, created a dangerous miasma or threatened to contaminate wells or watercourses.⁷⁷ Local juries frequently voiced specific

⁷¹ KLBA, KL/C7/5, Hall Book, 1497–1544, fol. 232v. For the use of depopulated areas for waste disposal, see Keene, *Survey of Medieval Winchester*, I.53.

⁷² Jenner, 'Civilization and Deodorization?', pp. 127–44.

⁷³ Jenner, 'Civilization and Deodorization?', p. 131.

⁷⁴ YCO, p. 17. This ruling was reiterated in 1364 and 1371: YMB, I.lxvi. From 1372 onwards, Londoners faced a fine of 2s. for leaving dung in front of their houses, and of 4s. for dumping it outside neighbouring property at any time (Riley, *Liber albus*, p. 289). A ruling of 1385 established that rubbish could only be placed in the streets when a cart was available to collect it (CLB, H, p. 255).

⁷⁵ RBL, II.291, 380. The early fourteenth-century customs of Southampton made a similar provision: Studer, *Oak Book of Southampton*, I.52–3, 131. Residents of the Durham borough of Crossgate had about a week in which to remove dung-heaps (RBC, nos 389, 393, 429, 483), as did those of Beverley (BTD, pp. 4–5), Cambridge (Cooper, *Annals of Cambridge*, p. 148), and Henley (P. M. Briers, ed., *Henley Borough Records: Assembly Books i–iv, 1395–1543*, Oxfordshire Record Society 41 (Banbury, 1960), p. 41).

⁷⁶ RCN, II.84.

⁷⁷ King, 'How High is too High?'

objections to dung-hills that hindered pedestrians or, even worse, filled them with nausea because of the unbearable stench.⁷⁸

Some towns, such as Ipswich, routinely imposed modest fines of 2*d.* or 3*d.* on about a score of residents for 'casting muck' and household waste in the highway and on common land. This practice may have constituted a form of licensing, akin to that imposed on brewers and bakers, rather than an attempt to penalise recidivists for polluting the environment. Quite possibly both factors came into play. An unusually full, but not continuous, set of leet court records for the borough reveals that between 1415 and 1470 the number of individuals presented in any one year never exceeded thirty-six and only reached thirty on four occasions. Some of these people were clearly deemed more reprehensible than others, being charged with dumping 'large quantities' of 'noxious' dung and, in quite a few cases, facing steep fines were it not quickly removed.⁷⁹ In the aftermath of the 1471 epidemic the authorities appear to have adopted a tougher line, since fifty-three offenders were then indicted. The number remained high during the plague year of 1479, rose again during the sweating sickness of 1485 and reached an unprecedented total of ninety-three in 1487. This striking burst of activity was also marked by growing vigilance in the matters of vagrant pigs, blocked drains, noisome gutters and offences such as brothel keeping, which undermined the moral health of the borough.⁸⁰ Since Ipswich was then experiencing a nascent economic revival after years of recession, some evidence of demographic growth might be expected, but it also seems likely that magistrates and juries recognised the sanitary implications of allowing even small quantities of refuse to contaminate the streets.⁸¹

Entrenched resistance to court orders could certainly incur serious punishment, especially if it involved the abuse of a senior official whose rank commanded respect. The woman who called alderman Simon de Worstede 'a false thief and broken-down old yokel' when he arrested her in 1364 for depositing filth into a London street was promptly dispatched to the sheriff's counter to contemplate the enormity of her offence. The astronomical – and clearly unfeasible – damages of £100 demanded from one of the city's dyers in similar circumstances some twenty years earlier reflect the same culture of deference to social superiors, but it is worth noting that an assault in 1390 on a lowly ward constable who had been collecting the street cleaners' quarterly wages earned both a fine *and* imprisonment.⁸² Each of these cases underscores the fact that the quest for a healthier environment not only cost money, but was also a collaborative undertaking whose success demanded the active participation of all, or at least most, citizens.

⁷⁸ Hudson, *Leet Jurisdiction*, pp. 3, 6, 7, 11, 23–4, 26–7, 29.

⁷⁹ SROI, C/2/8/1/2–13, 15, 16; C/2/10/1/2–5.

⁸⁰ See section 2.6 above, and sections 3.6 and 4.2 below.

⁸¹ SROI, C/2/8/1/14, 17–21; C/2/10/1/7. Amor documents the port's revival in the later fifteenth century; *Late Medieval Ipswich*, chaps. 6 and 7.

⁸² CPMRL, 1323–1364, p. 162; CPMRL, 1364–1381, p. 15; CLB, H, p. 360.

3.3 Paving and cleaning the streets

Contrary to popular belief, English towns and cities began paving their streets from an early date. The laying of cobblestones in alleyways, as well as major thoroughfares, seems already to have been adopted in twelfth-century York, while Norwich was by then using large quantities of locally excavated gravel.⁸³ Both materials were employed together in London, where a shift from predominantly gravel to predominantly stone composites occurred during the fifteenth century.⁸⁴ As noted in Chapter 1, the cost of this exercise might at first be supported by a royal grant, but the burden of repairing and replacing road surfaces more often fell upon those residents whose properties abutted onto the streets in question. Instead of undertaking the task themselves, they were increasingly expected to pay skilled craftsmen to 'make goode & sufficient pavyng' that would be uniform and even (plate 6).⁸⁵ During the early fourteenth century the corporation of London retained first four and then six master paviers on a permanent basis; indeed, there was such demand for paviers' services that by 1479 they had formed their own guild to regulate working practices.⁸⁶ In provincial towns such as Newcastle on Tyne one expert, along with his journeymen or 'fellows', could generally keep on top of routine maintenance.⁸⁷ Nevertheless, striking variations occurred, not only from town to town but also, crucially, from one neighbourhood to another.

In Winchester it appears that, despite the reluctance of some householders to discharge their obligations, major roads were initially maintained 'at least to a minimum standard'. Archaeological evidence suggests that regular metalling took place from before the Norman Conquest and that surfaces were renewed at frequent intervals thereafter. Flint and chalk would usually be deposited over a bed of impacted brushwood and rubbish, which may either have accumulated because of illicit dumping or have been placed there deliberately to consolidate the subsoil.⁸⁸ However, as so often happened, depopulation and recession took their toll on the condition of the streets, and thus upon trade, with the result that, in 1485–6, the mayor and bailiffs followed the example of other magistrates by securing a parliamentary act which empowered them to rectify the potholed and dangerous

⁸³ Jørgensen, 'Cooperative Sanitation', p. 560; Ayers, *Norwich: Archaeology of a Fine City*, p. 74; B. Ayers, 'The Infrastructure of Norwich from the Twelfth to the Seventeenth Centuries', in Gläser, *Lübecker Kolloquium*, p. 37.

⁸⁴ Martin, 'Transport for London', pp. 94–101.

⁸⁵ *Coventry Leet Book*, I.199; II.389. As Londoners often complained, 'freelance' repairs could be worse than none at all: *LAN*, nos 140, 142; *CPMRL*, 1458–1482, p. 117. See also Salusbury-Jones, *Street Life in Medieval England*, pp. 35–7.

⁸⁶ *CLB*, C, pp. 11, 115; Martin, 'Transport for London', chap. 2.

⁸⁷ C. M. Fraser, ed., *The Accounts of the Chamberlains of Newcastle upon Tyne, 1508–1511*, The Society of Antiquaries of Newcastle upon Tyne Records Series 3 (Newcastle, 1987), p. xxiv. A contract of 1502 awarded the town pavier of Nottingham 33*s.* 4*d.* a year, with a gown, for repairing and maintaining all the pavements with stone and sand provided by the chamberlain: Stevenson, *Records of the Borough of Nottingham*, III.309.

⁸⁸ Jørgensen, 'Cooperative Sanitation', p. 560; see section 1.1 above.



6 A fine example of a late medieval cobbled street excavated at the Royal Infirmary site, Chester. A central channel carried away water and liquid waste, while blocks of local sandstone made up the right hand curb.

state of Winchester's major roads. Henceforward, the owners or occupiers of any adjacent tenements could be compelled to lay a 'sufficient pavement' whenever necessary, upon pain of distraint to cover the cost.⁸⁹ Rather than risk the delays and disagreements likely to arise over personal contributions, some urban authorities were prepared to divert corporate funds for this purpose.⁹⁰ Despite his protests to the parliament of 1477 that no revenues could be spared, the mayor of Southampton managed to finance various 'cawsey' repairs and similar public works from his own budget. In 1488–9, for example, he spent over £4 on mending the East Street pavements, and slightly less in 1496 on those near God's House.⁹¹ But otherwise the burgesses remained responsible for the upkeep of roads, as we can see from the appointment in 1482 of a salaried pavior, who was employed 'to survey the state of the paving and to undertake repairs at the cost of the householders'.⁹²

⁸⁹ *RP*, VI.333–4. See also Vowell, *Description of the Citie of Excester*, p. 922; section 1.4 above.

⁹⁰ Jørgensen, 'Cooperative Sanitation', p. 556; Barron, *London in the Later Middle Ages*, p. 261.

⁹¹ His accounts reveal that in most years money was spent on road repairs, the removal of dung-hills and cleaning: Butler, *Book of Fines*, pp. 5, 44, 71, 78, 82, 109, 120.

⁹² *RP*, VI.180–1; C. Platt, *Medieval Southampton: The Port and Trading Community, AD 1000–1600* (London, 1973), p. 171.

The ubiquity of bye-laws and presentments on the subject of pavements suggests that evasion was common, regardless of whether an act had been obtained. Public-spirited citizens such as the Londoner William Wollechirchew (d. 1301), whose executors assigned the handsome sum of £80 for civic projects including repairs to the highway in Bishopsgate, appear to have been outnumbered by less generous souls.⁹³ As noted above, the much-vaunted 'use and custome' that from at least 1428 required residents of Norwich to lay and maintain stone pavements was eventually undermined by 'the great gredynes and obstynacy growne into dyuerse mens hartes, whiche neyther regarde the comodyte of helth, ther owne eses and ther naybors, nor yet the bewtefyng of the cittie'.⁹⁴ Coercive measures were adopted in towns such as Coventry, where, in 1423, burgesses who failed to repair their street frontages from the door to the gutter within six months faced a blanket fine of 40d.⁹⁵ In King's Lynn, on the other hand, the aldermen and ward constables who routinely inspected the streets and pavements charged negligent home owners at a rate of 1d. a yard, or 2d. if they proved recalcitrant.⁹⁶ Far harsher sanctions seemed necessary in Southwark, not least because the volume of traffic passing through the borough on its way to and from London took such a heavy toll on road surfaces. During the early sixteenth century some residents faced 'savage' penalties of as much as £10 for non-compliance (among them prominent figures such as the abbot of Hyde, who kept a town house there and was sufficiently affluent to disregard conventional fines).⁹⁷ Across the river, where, in theory, the pavements of each ward were regularly surveyed from the 1270s onwards, the mayor could order repairs to be undertaken within forty days or send in one of the City's paviors, who would charge the owner of the adjacent property for his services.⁹⁸

Yet even here complaints about pavements that were 'defective, dangerous and a nuisance to passers-by' seem to have been frequent, especially in the outlying wards and areas near the Thames, where narrow, insalubrious lanes ran down to

⁹³ *CEMCRL*, p. 151; Martin, 'Transport for London', p. 136; *CLB*, C, p. 130. In the event, only £19 was actually handed over, being either pocketed by the mayor or spent elsewhere: *CLB*, E, pp. 25–6. Perhaps for this reason some testators left building materials rather than cash, as we can see from the will of Robert Hardyng of Eye (d. 1470), who provided 120 loads of clay for road repairs in the town: P. Northeast and H. Falvey, eds, *Wills of the Archdeaconry of Sudbury, 1439–1474: Wills from the Register 'Baldwyne'*, vol. 2, Suffolk Records Society 53 (Woodbridge, 2010), no. 457.

⁹⁴ *RCN*, II.cxxix, 96–8, 133–4.

⁹⁵ *Coventry Leet Book*, I.58. In some boroughs, such as Lyme in Dorset, a blanket fine would be imposed on the entire community should roads not be repaired by a specific date: Dorset Record Office, DC/LR B1/2 nos 8, 19.

⁹⁶ *KLBA*, KL/C7/4, Hall Book, 1453–1497, p. 464.

⁹⁷ Carlin, *Medieval Southwark*, p. 234.

⁹⁸ Barron, *London in the Later Middle Ages*, pp. 261–2; *CLB*, L, pp. 84–5; *LAN*, no. 249. In 1495 a similar policy was adopted in Coventry, the common sergeant being authorised to charge anyone who failed to maintain his pavement for the cost of repairs, and also to issue a fine: *Coventry Leet Book*, II.568–9.

the quays.⁹⁹ To Continental observers, accustomed to higher standards or simply disposed to carp, there was undoubtedly room for improvement. Although he found much to praise about its 'pleasant and delightful' situation, an Italian who visited London at the turn of the fifteenth century was shocked by the impassability of major thoroughfares, noting that 'all the streets are so badly paved that they get wet at the slightest quantity of water'. Because of the constant press of draught animals and the incessant rain, he complained, 'a vast amount of evil-smelling mud is formed, which does not disappear quickly, but lasts a long time, in fact nearly the whole year round'.¹⁰⁰ We might note in this context that the popular English translation of the French romance *Partonopeu de Blois* begins in a magical walled city, celebrated for the cleanliness of its paved streets and the health of its inhabitants.¹⁰¹ Sometimes both must have seemed the stuff of fairy tales.

However imperfectly it may have been enforced, individual responsibility for the state of urban thoroughfares went far beyond the need to ensure that pavements were well maintained and roads free from potholes. Ordinances for the regular removal of noxious and unsightly heaps of muck and rubble from street frontages proliferated from the thirteenth century onwards, those of Bristol instituting an unusually steep fine of 40d. for every dereliction.¹⁰² From 1421 onwards each Coventry householder was expected to 'make clene the streyte before hur place' on Saturdays, while resisting the temptation to sweep domestic waste onto a neighbour's patch whenever it rained.¹⁰³ Similar arrangements were adopted in Leicester in 1467 and in early sixteenth-century Winchester, where it proved necessary to establish a communal rubbish dump on unoccupied land within the walls.¹⁰⁴ By then the rulers of Worcester had promulgated a rather optimistic ordinance for the daily cleansing of the streets, their principal concern being that refuse should be promptly 'caried away' before it clogged up the gutters.¹⁰⁵ In the Durham borough of Crossgate residents were customarily required to clear the front of their houses of any garbage, cinders, dung and builders' rubble between

⁹⁹ LAN, nos 141, 175-6, 186, 369; CPMRL, 1413-1437, pp. 118, 121-4, 132-3, 135-7, 139, 151, 156. Some of these nuisances had already been 'several times indicted'.

¹⁰⁰ C. H. Williams, ed., *EHD*, vol. 5: 1485-1558 (London, 1967), p. 189. A compatriot, who arrived sixty years later, reported that 'the streets are spacious and well paved with limestone and flint': C. Barron, C. Coleman and C. Gobbi, 'The London Journal of Alessandro Magno 1562', *London Journal* 9 (1983), pp. 136-52, on p. 142.

¹⁰¹ A. F. Trampe Böttker, ed., *The Middle English Versions of 'Partonopeu de Blois'*, EETS s.s. 109 (London, 1911), p. 25.

¹⁰² LRBB, II.31. Exasperated by the number of 'dunghylles in the stretes', the jurats of Winchelsea doubled this penalty, 'to be paide withoute any pardon' by recidivists: BL, MS Cotton Julius B IV, fol. 26v.

¹⁰³ *Coventry Leet Book*, I.23. Disposing of dung in wet weather, when it would turn into malodorous sludge, was specifically forbidden under a penalty of 40d. in York from 1371 onwards: *YMB*, I.lxvi.

¹⁰⁴ RBL, II.290; W. H. B. Bird, ed., *The Black Book of Winchester* (Winchester, 1925), pp. 124, 128. Weekly waste removal was also adopted in Dover by 1384-5 (BL, MS Egerton 2091, fol. 91r), and Faversham by 1446 (Harrington and Hyde, *Early Town Books of Faversham*, p. 85).

¹⁰⁵ HMC, *Twelfth Report*, appendix 9, p. 435.

each session of the bishop's court, which might also insist upon the removal of dirt from common lanes within a specific time on pain of fines ranging from a few pence to several shillings.¹⁰⁶ As many historians have observed, rules of this kind depended for their success upon a strong sense of community, although policing by neighbours, through presentments to local courts, and, increasingly, by officials with a specific brief to enforce sanitary regulations, must have curbed the activities of all but the most brazen individuals. In 1497, for example, the common sergeant and town crier of Coventry began patrolling the town on Sundays and Mondays to ensure that the residents had, indeed, disposed of all unsightly waste.¹⁰⁷

London's comprehensive network of officials and salaried employees with responsibility for the state of the streets provided a model which other towns could adapt to fit their own more limited budgets and requirements. Oversight of the City and its twenty-five wards lay with the mayor, aldermen and councillors, who possessed the authority to raise the necessary capital, introduce and enforce the relevant ordinances and manage the growing roster of cleaners. Supervision at a more local level was undertaken from 1293 by teams of scavengers, whose oath required them to ensure that pavements were properly repaired 'and that the weyys, stretes and lanys be clensid of dunge and all maner of filthe for honeste of the Cite'. They were also expected to report any potential fire hazards.¹⁰⁸ By this date, each ward employed at least one raker to remove rubbish and manure from public places. When necessary, the ward beades, assisted by the constables, had to lend a hand, while also helping to collect the rates levied from all householders for this service. The appointment in 1385 of a sergeant of the channel, with a specific brief to ensure that the banks of the Thames, markets and streets were 'wel and honestly clensid of filthis and dungehill' and to fine any delinquents, reflects the seriousness with which the authorities viewed matters of public health.¹⁰⁹

Not surprisingly, given their proximity to the capital, the rulers of Westminster opted for a scaled-down version of this system, employing six scavengers to keep the streets free of garbage by 1508.¹¹⁰ Elsewhere arrangements were more fluid. In Coventry, the common sergeant and deputy bailiff shouldered much of the burden, while the chamberlains might take charge of specific tasks such as cleaning the market.¹¹¹ From 1436 the rulers of Lynn assigned 26s. 8d. a year for a

¹⁰⁶ RBC, nos 160, 187, 236, 256, 259, 276, 371, 425, 441, 461, 473, 493, 521, 523, 551, 568, 573, 585, 591, 600, 642, 713.

¹⁰⁷ *Coventry Leet Book*, III.587.

¹⁰⁸ Barron, *London in the Later Middle Ages*, p. 262; Sabine, 'City Cleaning in Mediaeval London', pp. 21-3; MGL, III.125-6; CLB, D, p. 192. There were initially four scavengers per ward, but numbers later rose to as many as thirteen in some cases: Martin, 'Transport for London', pp. 188-90.

¹⁰⁹ MGL, III.135; CLB, A, p. 183; CLB, D, p. 201; CLB, H, p. 275; Barron, *London in the Later Middle Ages*, pp. 193-4.

¹¹⁰ Rosser, *Medieval Westminster*, p. 237. A scavenger's contract of 1561 may be found in A. L. Merson, ed., *The Third Book of Remembrance of Southampton*, vol. 2, Southampton Records Series 3 (Southampton, 1955), no. 247.

¹¹¹ *Coventry Leet Book*, I.113, 217; II.425.

raker to deal with the watergates and the town's two principal markets, the ward constables being otherwise accountable for any 'defautes of the ffylthines in the stretes'.¹¹² In Beverley, too, the burgesses paid a salaried cleaner specifically to tidy up the markets and the pavements along 'the Beck', where waste was often dumped, as well as two keepers for overseeing and dredging watercourses.¹¹³ The hiring of labourers for *ad hoc* cleaning tasks fell in Southampton to the stewards, who appear to have recruited workmen whenever it was necessary to clear heavily frequented areas, such as the gates, quays and conduits.¹¹⁴ Magistrates and residents alike made considerable demands of these officers, who could be removed if they proved negligent. In February 1485, for example, the rulers of York decreed that the streets were to 'be clenely kepid and wekely sweped at the sight of the officers of the maire in there wards upon payne of fforfaitting of ther office'.¹¹⁵ Shortly afterwards the common serjeant of Coventry received a terse reminder that he would be discharged unless he cleared heaps of dung from one of the gates, as previously requested.¹¹⁶ Following the introduction of heavy fines for 'lyeng muck in the markyttes', in 1500, the chamberlains of Leicester were made personally liable for every uncollected sum.¹¹⁷ The London ward moots were similarly quick to blame anyone whom they deemed to be lax or incompetent. In 1421 the chamberlain was roundly criticised for failing to pay a raker to cleanse the grates at London Wall, which had become 'evilly and horribly stopped up with mud and ordure to the great nuisance of all'.¹¹⁸

Activity on this scale required the creation of common laystalls, or dung-hills, where householders and street cleaners could dispose of their garbage well away from densely populated areas. Having already appointed a phalanx of scavengers and rakers, in 1378 the Common Council of London addressed various matters relating to civic health, including the need for designated places for the 'deposit of rubbish and filth'. This measure assumed particular urgency because of ongoing plans to cleanse the Thames and other waterways of malodorous waste.¹¹⁹ Even in a relatively small borough, such as Stafford, the introduction of bye-laws to curb 'the indiscriminate dumping of filth' led rapidly to the provision of a communal tip in 1397, followed by others outside the gates.¹²⁰ By the late 1420s Coventry had established five 'official' extramural waste pits and dumps, while the residents of

¹¹² KLBA, KL/C7/3, Hall Book, 1431-1450, fol. 60v; C7/4, Hall Book, 1453-1497, p. 300; C7/5, Hall Book, 1497-1544, fol. 335r.

¹¹³ Allison, *VCH York, East Riding*, VI.225; *BTD*, pp. 22-3.

¹¹⁴ H. W. Gidden, ed., *The Stewards' Books of Southampton from 1428*, vol. 1: 1428-1434, Southampton Record Society 35 (Southampton, 1935), pp. 13-15.

¹¹⁵ Attreed, *York House Books*, i, p. 352. From the early fourteenth century the streets were to be inspected 'twice a term' in order to ensure that they were free from dung: *YCO*, p. 17.

¹¹⁶ *Coventry Leet Book*, III.622.

¹¹⁷ *RBL*, II, p. 359.

¹¹⁸ *CPMRL*, 1413-1437, p. 117.

¹¹⁹ *CLB*, H, p. 108; see section 4.3 below.

¹²⁰ M. W. Greenslade and D. A. Johnson, eds, *VCH Stafford*, vol. 6 (Oxford, 1979), p. 231.

both Hull and King's Lynn could choose between at least three.¹²¹ In 1466 each parish in the Lincolnshire town of Stamford was assigned a designated spot for its own 'dunghylle', separate provision being made for local butchers, who were warned not to stray elsewhere.¹²² The acquisition of dung carts accelerated the move towards the development of authorised sites and the imposition of heavy fines upon those who persistently littered the streets or neighbouring properties when more acceptable alternatives were readily available.¹²³ For example, orders of 1500-1 for the purchase of a refuse cart in every ward of York were accompanied by restrictions confining the deposit of dung to pre-arranged collection points where agricultural workers could easily remove it.¹²⁴ Rather than leave residents to make their own *ad hoc* arrangements, magistrates increasingly favoured regular services funded from communal resources or by special rates levied upon all but the poorest householders.

As might be expected, London appears to have been the first English city to institute a ward-based system for refuse collection. By 1357 an unspecified number of horses and wagons had been supplied for this task, any official who appropriated them for other purposes being threatened with automatic dismissal. More were clearly needed: as part of a wider campaign for environmental health, an additional twelve tumbrels and twenty-four draught horses were purchased in 1372 for use in the central wards of the City alone; and a few years later civic officers were empowered to commandeer any cart that had brought building materials (but nothing else) into London for the transport of dung and rubbish on its return journey.¹²⁵ Other towns adopted similar practices according to their needs. In 1420, for example, the rulers of Coventry imposed a quarterly charge of 1d. upon every household and a half-penny upon each shop to pay a carter for weekly collections. Extra help was recruited on a daily basis to assist with the cleansing of ditches and gutters.¹²⁶ When considering the acquisition of two communal refuse carts at about this time, Salisbury's magistrates appear initially to have favoured a type of means test for contributors, but by 1443 had approved an identical rate based on fixed quarterly

¹²¹ Jørgensen, 'Cooperative Sanitation', p. 562; Evans, 'Infrastructure of Hull', pp. 60, 62; KLBA, KL/C7/4, Hall Book, 1453-1497, p. 388.

¹²² Rogers, *William Browne's Town*, pp. 18-19.

¹²³ In London, casting 'urine and filth' onto other people's property fell within the remit of the assize of nuisance (*LAN*, nos 525, 566, 644), as did depositing 'dung and other refuse' on the streets 'in abomination to the common people passing along the road at night' (*LAN*, nos 493, 494). See also Keene, 'Rubbish in Medieval Towns', p. 29.

¹²⁴ *YCR*, II.165. By 1491 the mayor of Southampton had designated specific places 'for castyng of dunge': Butler, *Book of Fines*, p. 18.

¹²⁵ Riley, *Memorials of London*, pp. 435-6; Sabine, 'City Cleaning in Mediaeval London', pp. 23-4; Barron, *London in the Later Middle Ages*, p. 262. When the city's carters formed a fraternity in 1517, they agreed to provide a supplementary refuse collection service: Martin, 'Transport for London', pp. 239-42.

¹²⁶ *Coventry Leet Book*, I.21; II.361, 552-3.

payments.¹²⁷ The Norwich Assembly, by contrast, preferred to allocate revenues directly from the civic treasury, voting £10 in 1517 for a tumbrel and a further 40s. a year for the 'canel raker' who made the weekly refuse collection and kept the gutters free from rubbish. Thanks to an additional yearly levy, it proved possible to acquire two more 'comon cartes for the avoyding of fylthe and vile mater', which had to be put out by residents on the appointed day 'ayenst ther own groundes ... upon rounde hepys redye to the carte'.¹²⁸ The householders of Leicester were less persuaded by the merits of communal action. The threat of imprisonment at the mayor's pleasure for those who failed to 'ordeyne a carte' for the removal of 'muk and swepynges and othere fylthes and corripcions' certainly suggests that consensus had yet to be reached during the 1460s.¹²⁹

Implementing these schemes required both patience and flexibility, as we can see from the records of King's Lynn, where investment in a costly new water supply was accompanied by a vigorous campaign to cleanse the streets and ditches of accumulated dirt.¹³⁰ Following their inspection of the existing facilities in November 1444, the mayor and aldermen instituted a twice-weekly round by the town's muck-cart, and recruited another carter specifically to ferry rubbish to a common pit (*puteus*) north of the town at 'Doucehill' (Map 1). In order to fund this greatly improved service, a rate of between one half-penny and 2d. a quarter was introduced, depending upon the amount of garbage generated by each household. Aware that people might seek to avoid payment by fly-tipping in unauthorised places, the mayor imposed a series of escalating penalties, as much as 4d. being forfeit for 'euery grete lepe' (large container) used. A further ordinance, in March 1445, restricted the disposal of waste to three designated spots, upon pain of a 12d. fine or imprisonment for each offence. At first all went well, and by November there were sufficient funds to appoint another cleaner. But within five years filth had again begun to accumulate in the streets because the carters were not being paid. The ward constables were duly instructed to confer with residents about alternative types of levy, the overall preference being for assessment on the basis of wealth. Perhaps because it seemed more equitable, this system worked better. No further problems occurred until 1478, when the mayor was obliged to issue a new scale of

¹²⁷ Carr, *First General Entry Book*, nos 271, 388. In 1445 the mayor entered a five-year contract with one carter for the removal of refuse (no. 396), but eventually, in 1485, the citizens decided to acquire a cart of their own and hire a man to drive it (Wiltshire Record Office, G23/1/2, Salisbury Ledger Book 2, fol. 159r).

¹²⁸ NRO, NCR, 16C/1, Assembly Minute Book, 1492–1510, fol. 62r; 16C/2, Assembly Minute Book, 1510–1550, fol. 52r; RCN, II.109–10. Further help came from Alderman Robert Jannys, whose 'memoriall' acts (see p. 71 above) included the provision of a rental income specifically for this purpose, and to assist in cleansing the River Wensum: NCR, 16D/2, Assembly Proceedings, 1491–1553, fol. 102r. Individual donations, such as the sum of £10 left in 1518 by Elizabeth Thorsby 'to the continuans of a comyn carte for the fowyng (cleaning) of the stretes', were also readily forthcoming: NRO, NCC Gyles, fol. 98v.

¹²⁹ RBL, II.290.

¹³⁰ See section 4.1 below. From at least the 1380s onwards the chamberlains of Lynn spent sums of up to 35s. a year on cleaning the streets and ditches, but this may no longer have sufficed: KLBA, KL/C39/39–45.

finer for the illicit disposal of 'synders' and other domestic waste, and to provide a fourth communal rubbish dump outside the east gate. Having finally secured a degree of compliance, magistrates had now simply to monitor the use of the existing laystalls, when necessary creating new ones or, as happened in 1519, moving some of the older, more unsightly and malodorous dumps to unoccupied ground further away.¹³¹

The incessant transport of tons of waste in heavy carts with iron-bound wheels created its own problems, as the authorities of York complained in 1524, when exculpating themselves from blame over the lamentable state of the streets. These cumbersome vehicles had caused so much damage to thoroughfares 'newe payvd to the great costs and chargs of the inhabitaunts' that cleaning operations had ground to a halt and conditions seemed far worse than before (plate 7). Henceforward, refuse was to be carried 'oonely [in] waines that hathe woulne [wooden] whellys or els uppon sledds'.¹³² York was, in fact, rather behind the times, since iron-shod carts had already been banned or obliged to pay substantial tolls in London (1277), Beverley (1367), Cambridge (1402), Lincoln (1423), King's Lynn (1449), Chester (by 1493) and Gloucester (1500) for this very reason, as well as from a desire to reduce noise levels at night.¹³³ In Salisbury in 1452 the authorities placed restrictions upon the use of trailers attached to the backs of wagons, and upon large packs transported on wooden poles, because of the harm that was being done to highways, gutters and ditches, not least by the mud churned up in their wake.¹³⁴ Even worse were the refuse collectors who worked for private hire. They were liable not only to leave behind an offensive trail of manure and garbage, but even to ditch their loads at the first opportunity, rather than go to the trouble of taking them away. In Ipswich during the 1440s, one John Plunket was fined for removing 'dung and soil from various households' only to dump it in the highway and other inappropriate places.¹³⁵ However tolerant they may have been of minor peccadilloes, communities were not prepared to countenance offences of this kind. Indeed, from 1405 onwards the tumbrels used in London had to be fitted

¹³¹ KLBA, KL/C7/2, Hall Book, 1422–1429 (addendum), p. 319; C7/3, Hall Book, 1431–1450, fols 194v, 195v, 197r–v, 200r, 212v, 271v, 274v, 278v; C7/4, Hall Book, 1453–1497, p. 395; C7/5, Hall Book, 1497–1544, fols 201v, 202r, 232v; Owen, *Making of King's Lynn*, pp. 218–19. In 1530 two additional dumps were established on staithes along the River Ouse, presumably so that refuse could more easily be removed by boat: C7/5, fol. 284r.

¹³² YCR, III.90–1. From 1489 onwards the driver of every 'bound wain' entering the city was supposed to pay 4d. towards the repair of the pavements and bridges, although the money may have been diverted for other purposes: YCR, II.165.

¹³³ CLB, A, p. 217; CLB, H, p. 352; CPMRL, 1364–1381, p. 196; Martin, 'Transport for London', pp. 86, 126–7, 226–30; BTD, p. 21; Cooper, *Annals of Cambridge*, p. 148; HMC, *Fourteenth Report*, appendix 8, p. 21; KLBA, KL/C7/3, Hall Book, 1431–1450, fol. 272v; CCA, ZS/B/4c, Sheriffs' Book, 1493, fols 30r–33r; HMC, *Twelfth Report*, appendix 9, p. 434. From 1445 carters in Lynn had to make good any damage that they might cause to the gates: KLBA, KL/C7/3, Hall Book, 1431–1450, fol. 197v.

¹³⁴ Carr, *First General Entry Book*, no. 453.

¹³⁵ SROI, C/2/8/1/7, 10, 12. It was not unknown for London rakers to deposit dung and garbage in another ward, rather than removing it from the City as they were supposed to do: CPMRL, 1381–1412, p. 71.



7 An engaging illumination from the Luttrell Psalter of c. 1320–45 depicts a heavy cart with iron-bound wheels, of the kind so often banned from late medieval cities. The studded nails used to attach the metal rims to the wood improved traction, but caused great damage to paved streets.

with a tall backboard to prevent the malodorous contents from spilling onto clean pavements.¹³⁶

3.4 Latrines, cesspits and privies

The common assumption that the streets of medieval towns were submerged under a morass of human excrement is confounded by an incident of 1307 in which one of the king's grooms became embroiled in a fight with two indignant Londoners who found him relieving himself in a side road. They upbraided him, remarking 'that it would be more decent to go to the common privies of the City', and were assaulted for their pains.¹³⁷ Although it was hardly uncommon – if increasingly unacceptable – for people to urinate in public thoroughfares, considerations of hygiene and common decency alike demanded that men, women and children should defecate in more private places, preferably those designed for the purpose.¹³⁸ A beggar child killed in 1339 by a cart when squatting in a London street ('secreta nature faciendo sedentem') is censoriously described in the record as little more than a savage.¹³⁹ With such considerations in mind, and in sharp

¹³⁶ *CLB*, I, p. 45; *CPMRL*, 1413–1437, p. 133.

¹³⁷ *CEMCR*, p. 255.

¹³⁸ Urination in the environs of important civic buildings, such as the London Guildhall, could prove especially contentious, as Paul Strohm has demonstrated: *Hochon's Arrow: The Social Imagination of Fourteenth-Century Texts* (Princeton, NJ, 1992), pp. 11–31, 173–7. Significantly, the guild merchant at Berwick-on-Tweed fined anyone who relieved himself at the gates or against the walls of the guildhall (Smith, Smith and Brentano, *English Gilds*, p. 340), while both the council chamber and the guildhall at Shrewsbury were equipped with 'urine tubs', which, when full, were presumably utilised by local tanners (Champion, *Everyday Life in Tudor Shrewsbury*, p. 17).

¹³⁹ Barron, *London in the Later Middle Ages*, pp. 260–1; *CCRCL*, p. 220.

contrast to the gloomy view of medieval sanitation espoused by most of his contemporaries, Ernest Sabine concluded his 1934 assessment of London's cesspits and latrines by suggesting that the citizenry deserved 'wholehearted praise and respect' for their efforts to maintain 'comfortable, clean and sanitary' facilities for both common and domestic use.¹⁴⁰ On his very conservative estimate, fifteenth-century residents and visitors enjoyed the benefit of just over a dozen public conveniences situated in the busiest parts of the capital. Some, such as the privies flushed with running water in the Stocks Market and in the aptly named 'long house' built on the bank of the Thames by the executors of Richard Whittington (d. 1423), catered for significant numbers at a time.¹⁴¹

Whittington's posthumous concern for the physical needs of his fellow citizens was far from unusual. Whereas some of the philanthropists who left money for the construction or upkeep of 'houses of easement' belonged, like Sir John Philipot (d. 1384), to the mercantile elite, or even royalty, others were less affluent.¹⁴² Indeed, the construction of public conveniences was often a communal venture. Although the type of prestigious building erected in 1382–3 by the wardens of London Bridge at a cost of £11 was clearly beyond the means of most people, a smaller latrine required fewer resources, especially if it could be placed over or near a watercourse, thereby obviating the need for an expensive stone-lined cesspit. And even those with just a few pence to spare could contribute towards cleaning and maintenance. It is interesting to note that a public privy near St Margaret's church, Lynn, built by John de Walton in 1309, was still attracting legacies eighty years later, when one elderly widow left a small bequest for repairs.¹⁴³ Family pride, as well as zeal for good works, no doubt prompted the wealthy London mercer John Woodcock to provide in his will for the upkeep of the 'common latrine' and market cross that his father had erected in his native Doncaster.¹⁴⁴ But rather than wait for donations to materialise, the residents of Buck Street in Winchester, which already boasted a number of shared privies, clubbed together to build a new one of their own over a culverted stream.¹⁴⁵

Evidence of this kind confirms that, although we know most about arrangements in the capital, a desire for better sanitation was certainly not confined to the elite of medieval London.¹⁴⁶ Often situated on heavily frequented

¹⁴⁰ Sabine, 'Latrines and Cesspools of Mediaeval London', p. 321.

¹⁴¹ Sabine, 'Latrines and Cesspools of Mediaeval London', pp. 307–9; P. E. Jones, 'Whittington's Long House', *London Topographical Record* 23 (1974 for 1972), pp. 27–34. For the remains of a substantial stone-built public latrine near the Guildhall, see B. Sloane, 'Archaeological Evidence for the Infrastructure of the Medieval City of London', in Gläser, *Lübecker Kolloquium*, p. 92.

¹⁴² *CWCHL*, II.276. A 'necessary house' was erected at Queenhithe by Matilda, the widow of Henry I, and extended in 1237 so that it continued to empty into the Thames: L. F. Salzman, *Building in England* (Oxford, 1967), p. 282.

¹⁴³ Owen, *Making of King's Lynn*, p. 214; *KLBA*, KL/C/50/63.

¹⁴⁴ *CWCHL*, II.398.

¹⁴⁵ Keene, *Survey of Medieval Winchester*, I.179–80.

¹⁴⁶ For a survey of the archaeological evidence for latrines and privies, see D. H. Evans, 'A Good Riddance to Bad Rubbish? Scatological Musings on Rubbish Disposal

bridges, where high demand combined with an easy means of flushing waste away, public conveniences are documented in almost all late medieval English towns and cities.¹⁴⁷ The colloquially named 'pissyngholes' and privies over the Ouse Bridge in York were maintained, like their equivalents in London, by bridge wardens, who were also responsible for cleaning and repairing the domestic privies in their various tenements throughout the city.¹⁴⁸ The contract made in 1544 with a local widow 'for keping cleyn' the conveniences on the bridge and allowing 'none to lye any wodd or other noysaunce in the same, nor caste no fylthe nor other ramell [rubbish] furthe ... into watter of Owse' continued the medieval practice of providing lavatory attendants and adequate lighting.¹⁴⁹ At Coventry the authorities rented out at least one of the common 'sege houses', along with a neighbouring bridge, on the understanding that the tenant would 'kepe & repair theym sufficiently' in return for any attendant profits.¹⁵⁰

Once magistrates began to invest in cleaner, well-paved marketplaces, the need for accessible facilities that could be used by traders as well as shoppers and sightseers became apparent. In 1411–12 the treasurers of Norwich recorded a substantial outlay on 'scouring and making new' the privies at the fish market and nearby Guildhall, where the mayor's court met; and over £10 was spent in the 1450s on the gutters leading from another latrine on the north-west approaches to this crowded area.¹⁵¹ Busy ports such as Southampton erected privies on the quays, while also ensuring that the constant flow of travellers entering the gates

and the Handling of "Filth" in Medieval and Early Post-Medieval Towns', in K. de Groote, D. Tys and M. Pieters, eds, *Exchanging Medieval Material Culture*, *Relicta Monografiën* 4 (2010), pp. 267–78.

¹⁴⁷ Reading had at least one 'common latrine' by 1420: HMC, *Eleventh Report*, appendix 7: *Supplementary report on the manuscripts of the Duke of Leeds, the Bridgewater trust, Reading corporation, the Inner Temple, etc.*, Royal Commission on Historical Manuscripts 22 (London, 1888), p. 173. In Exeter there was a long vaulted latrine, known as 'the fairy house', on the Exe bridge and another over the mill fleet during the 1460s: D. Portman, *Exeter Houses, 1400–1700* (Exeter, 1966), p. 15. In Salisbury a public convenience stood from 1406 on Fisherton Bridge: Carr, *First General Entry Book*, nos 71, 89, 127, 136. William of Worcester approvingly noted a 'privey' for women and men near Aylward's gate and another on the Avon bridge, Bristol, in c. 1480: J. Dallaway, ed., *Antiquities of Bristow* (Bristol, 1834), pp. 68, 72–3. Sixteen years later the town of Shrewsbury erected 'come[n] pryveys bothe for men and women for theyre eassments' on Welsh Bridge: Leighton, 'Early Chronicles of Shrewsbury', p. 251.

¹⁴⁸ P. M. Stell, trans., *The York Bridgemasters' Accounts* (York, 2003), pp. 122, 128, 209, 256, 257. In 1301 it was decreed that public latrines should be available in each of the four wards of York: YCO, p. 17.

¹⁴⁹ YCR, IV.122; Stell, *York Bridgemasters' Accounts*, pp. 204, 226, 243, 253, 296, 348, 375, 400, 435, 448. As at Whittington's 'long house' in London, a civic almshouse was situated above the latrines: Stell, *York Bridgemasters' Accounts*, pp. 204, 226, 243.

¹⁵⁰ *Coventry Leet Book*, I.194.

¹⁵¹ NRO, NCR, 7C, Treasurers' Account, 1411–1412; 7D, Chamberlains' Account, 1457–1458. By 1411 the city employed a designated 'fower latrinarum', or lavatory cleaner.

would not have far to search for a 'comyn wedraft housse'. In 1495–6, a small one was constructed in the walls at a cost of 30s., and regular sums were voted for the upkeep of various other conveniences throughout the town.¹⁵² Quite probably they were timber-framed and tiled like those used by visitors to Dover and Sandwich.¹⁵³ By the fifteenth century five rather more impressive 'places of easement for the common people' stood at regular intervals along the Hull waterfront, each being built and maintained from the public purse.¹⁵⁴ Well aware of the effect that unfavourable first impressions might have upon their collective reputation, in 1431 the rulers of Lynn appointed a committee of no fewer than ten leading burgesses to oversee repairs to a troublesome *cloaca* at the main eastern gate.¹⁵⁵

From a comparatively early date the more affluent residents of English towns opted to construct their own privies, while poorer people who rented lodgings in tenement blocks were increasingly able to share with other families.¹⁵⁶ Both decency and hygiene required that all latrines should be situated as far as possible 'out of the wey from syght and smellynge', but crowded urban life often made this impossible.¹⁵⁷ Many householders had little choice but to dig cesspits for the deposit of waste in backyards and cellars, often by means of intramural chutes or pipes, but those whose properties enjoyed access to streams or rivers understandably preferred to use running water. By the late fourteenth century, however, anxiety on the part of urban magistrates about the pollution and blockage of waterways heralded a shift away from privately owned riparian privies, which invited removal orders and stringent financial penalties. First set at 6s. 8d. in 1433, the fine imposed in Coventry rose to a substantial 20s. in just three years as the scale of the problem became glaringly apparent.¹⁵⁸ Given their often fraught relations with the university authorities, who complained repeatedly about their shortcomings, the burgesses of Cambridge must have derived considerable satisfaction from naming several scholars among the offenders with 'seges or privies overhanging the common river'.¹⁵⁹

Having initially sanctioned the construction of latrines over the Fleet and Walbrook rivers, the rulers of London performed a similar *volte face* in the fifteenth century, not least because of concern lest the inmates of the Fleet prison

¹⁵² C. Platt and R. Coleman-Smith, *Excavations in Medieval Southampton, 1953–1969*, vol. 1 (Leicester, 1975), p. 34; H. W. Gidden, ed., *The Stewards' Books of Southampton, from 1428*: vol. 2: 1434–1439, Southampton Record Society 39 (Southampton, 1939), p. 90; Butler, *Book of Fines*, pp. 42, 46, 109, 115.

¹⁵³ BL, MS Egerton 2107, fols 9v, 14v; Clarke *et al.*, *Sandwich: A Study of the Town and Port*, p. 134.

¹⁵⁴ One alone cost £5 to build in 1442 and was, apparently, 'quite an elaborate structure': Evans, 'Infrastructure of Hull', pp. 57 (fig. 5b), 60.

¹⁵⁵ KLBA, KL/C7/3, Hall Book, 1431–1450, fols 9v–10v.

¹⁵⁶ By the fifteenth century, at least, the lack of an accessible privy was regarded as a 'defect' to be amended: CPMRL, 1413–1437, p. 118.

¹⁵⁷ Salzman, *Building in England*, p. 283.

¹⁵⁸ *Coventry Leet Book*, I.202, 227.

¹⁵⁹ Cooper, *Annals of Cambridge*, p. 258; Williams, 'Plague in Cambridge', pp. 53–5; see section 1.4 above.

might succumb to 'abominable stench'.¹⁶⁰ By contrast, some of the City's other restrictions dated back to the reign of King John, if not before. The late twelfth-century *assisa de edificis*, which regulated the design and use of buildings, laid down precise rules for the situation of private cesspits, especially with regard to their proximity to neighbouring properties. Those that were simply lined with earth, and thus liable to seep into the surrounding soil, had to be sunk at a greater distance (3.5 feet) from party walls than pits with solid stone or timber linings (2.5 feet).¹⁶¹ Infringements generally resulted in an order for the removal of the offending nuisance within forty days, although the solution was, inevitably, less straightforward when neighbours shared the same pit. In such cases both parties might be ordered to empty it at their joint cost, or pay a hefty fee to the sheriff's officers for undertaking this thankless task.¹⁶² Whereas complaints regarding mephitic vapours from noisome latrines and cesspits were generally dealt with in London by the ward moots, rather than the assize, exceptions would be made if a breach of the building regulations had also been committed.¹⁶³

As we discovered in Chapter 1, archaeological excavations in Southampton have established a striking connection between changes in sanitary practice and increased sensitivity to the risks posed by noxious odours, most notably after the Black Death. Before the thirteenth century 'cesspits and rubbish pits of all kinds [were] scattered in a disorderly and unsystematic way', but from then onwards the construction of new and improved stone houses meant that 'the whole pattern of waste disposal changed'.¹⁶⁴ As in London, building regulations determined exactly where pits might be dug, while encouraging a trend towards the use of solid stone or timber, both to prevent seepage and to facilitate cleaning (plate 8). Some even possessed vaulted stone roofs in order to provide better ventilation and eliminate miasmatic air.¹⁶⁵ Even so, by the 1400s Southampton's wealthier householders seem to have favoured the immediate removal of waste by the night carts that regularly patrolled their streets. A similar picture emerges in Hull, where the introduction of weekly – and from 1481 thrice-weekly – refuse collections has been linked by archaeologists to the disappearance of back-yard middens. These developments, together with the growing popularity of purpose-built latrines, made the borough a far cleaner place to live.¹⁶⁶ The same is true of Norwich, where at least one ingenious fourteenth-century resident solved the problem of lining

¹⁶⁰ Sabine, 'Street Cleaning in Mediaeval London', pp. 33–6. Concern on this score began in the aftermath of the Black Death: E. Williams, ed., *Early Holborn and the Legal Quarter of London*, 2 vols (London, 1927), no. 209; see section 4.3 below.

¹⁶¹ *MGL*, I.323–4; J. Schofield, *Medieval London Houses* (New Haven, CT, 1995), pp. 33, 86–7; Schofield, *London, 1100–1600*, pp. 76 (fig. 4.9), 90.

¹⁶² *LAN*, p. xxv, nos 2, 3, 44, 60, 96, 98, 165, 191, 297, 384.

¹⁶³ *LAN*, nos 214, 364, 585, 644.

¹⁶⁴ Platt and Coleman Smith, *Excavations in Medieval Southampton*, p. 34. It is, however, likely that householders had more space for the hygienic disposal of rubbish before tenement boundaries were defined in the 1200s.

¹⁶⁵ Salzman provides some interesting examples of the construction of vents 'to voyd the heyr a wey' from privies: *Building in England*, p. 284.

¹⁶⁶ Evans, 'Infrastructure of Hull', pp. 60, 62, 65 (fig. 8).



8 This fine example of a late thirteenth-century stone-lined cesspit, excavated in Cuckoo Lane, Southampton, reveals that well before the Black Death more affluent home owners were taking steps to improve domestic sanitation.

his cesspit by sinking a large and solid wooden barrel into the ground (plate 9).¹⁶⁷ More prosperous citizens in the residential areas of Pottergate and King Street enjoyed the benefit of stone-lined pits filled by means of chutes or chimneys that speedily conveyed waste from upper-storey privies.¹⁶⁸ As in London and Lincoln, the town houses of leading merchants boasted separate, stoutly built flint and brick-rubble garderobes constructed as external features adjacent to, but safely apart from, the main range.¹⁶⁹

That effective sanitation was becoming a priority for many less affluent

¹⁶⁷ B. Ayers, ed., *Excavations at Fishergate, Norwich, 1985*, EAA 68 (Norwich, 1994), pp. 11–12, 49–50. For the use of casks or barrels as linings for cess pits, see also Greig, 'Investigation of a Medieval Barrel-Latrine', pp. 265–82. In 1278 two Londoners were killed while sinking a cesspit made of five wine casks stacked together: *CLB*, B, pp. 277–8.

¹⁶⁸ Ayers, *Norwich: Archaeology of a Fine City*, pp. 100, 121, 123–4.

¹⁶⁹ A. Shelley, *Dragon Hall, King Street, Norwich*, EAA 112 (Norwich, 2005), pp. 58–9. See also R. H. Jones, *Medieval Houses at Flaxengate, Lincoln: The Archaeology of Lincoln 11.1* (London, 1980), p. 12 and fig. 9. Proximity to kitchens meant that domestic privies were also used for the disposal of food waste: Schofield, *Medieval London Houses*, p. 70.



9 Large barrels served as a cheaper alternative to stone-lined cesspits. This effective, if rudimentary, fourteenth-century latrine was excavated, complete with human fecal remains, from domestic premises in Fishergate, Norwich.

people is apparent from the wills of men like the Londoner Alexander Heyrun, who left a house to his step-children in 1308 on the condition that they would regularly clean and maintain the privy that was shared with another property. Leases frequently imposed the same obligation upon tenants.¹⁷⁰ This was no mean requirement, as the emptying of cesspits could prove both expensive and unpleasant, being generally delegated to 'gongfermours', whose high rate of pay reflects the disagreeable nature of the work.¹⁷¹ Their scale of charges was customarily based upon the number of tuns, or large barrels, of waste removed, although institutional landowners such as the wardens of London Bridge were sometimes able to negotiate lower rates. Costs (which often included the wages of a master mason to breach and replace part of the stonework) were sufficiently high to explain why private

householders tended to postpone the day of reckoning and accidentally let their cesspits overflow. The extraction of nineteen barrels of waste from a single latrine pit in 1461–2 cost the wardens 47s. 6d.; and even at a cut price of just 20d. a barrel they still had to pay over £8 in 1501–2 for the removal of almost a hundred tuns of ordure from various dwellings.¹⁷² But despite the size of the bill, property owners who tried to economise by shirking their responsibilities might end up in court. In Durham, for example, the owners of latrines that annoyed their neighbours or polluted the water supply were expected to rectify the problem immediately

¹⁷⁰ CWCH, L197 (see also the will of John Walpol, p. 564); CPMRL, 1413–1437, p. 297; Schofield, *Medieval London Houses*, pp. 205–6.

¹⁷¹ For the problem of cleaning domestic latrines, see Portman, *Exeter Houses*, p. 15.

¹⁷² V. Harding and L. Wright, eds, *London Bridge: Selected Accounts and Rentals, 1381–1538*, LRS 31 (London, 1995), pp. 135, 156. See also, Salzman, *Building in England*, pp. 284–5. In 1466, the appropriately named John Lovegold contracted with the mayor of London to empty all the city's public latrines for the next ten years at a rate of 2s. 2d. a tun: CLB, L, pp. 67–8.

under threat of a cumulative fine.¹⁷³ Although, in comparison with their volubility about the dumping of waste in public places, Ipswich jurors made far fewer presentments on this score, offenders could still face stringent penalties. In 1436, for instance, one householder who had built his privy too close to the town ditch stood to forfeit 40s. for resisting a demolition order. Not surprisingly, he duly complied.¹⁷⁴

As a general rule, the landlords of multi-storey 'slum' dwellings in crowded side-roads proved most resistant to change. The catalogue of nuisances listed by London jurors in the 1420s included several offensive privies, as well as others that appeared 'defective and perilous' and likely to cause serious accidents. The note of exasperation apparent in some indictments, especially regarding the filthy narrow lanes leading down to the Thames, was clearly warranted, given that similar complaints had been voiced on and off since at least the 1270s.¹⁷⁵ An inquiry of 1343 into the blockage of these dank and malodorous alleyways had already painted an unsavoury picture of leaking and obstructive latrines, as well as garderobe chutes emptying directly from upper storeys into the street, sometimes upon the heads of unfortunate passers by ('super capita hominum transeuntium').¹⁷⁶ However vigorously they may have been expressed, official sanctions and peer pressure could only achieve so much. The challenge proved even greater in the case of butchers, whose capacity for polluting the urban environment was matched only by their notorious truculence in the face of authority.

3.5 Butchers and butchery

By the early fourteenth century butchers had established a significant presence in most English towns: both York and Norwich then supported about fifty, while Durham, which was far smaller and less affluent, could muster at least seventeen.¹⁷⁷ Their successors were among the first to benefit from the rise in standards of living discernible after the Black Death, when they secured a dominant position among the victualling trades as the demand for their products escalated.¹⁷⁸ This trend was accompanied by growing anxiety, clearly apparent before the first outbreak of plague, about the keeping and slaughtering of animals in residential areas, the contamination of surrounding streets and watercourses with blood, offal and carcasses, and the hazards posed by such offensive matter. Most plague tracts and *regimina* made a direct connection between the spread of pestilence and the noxious effluvia arising from 'the corruption of deed carreyne, the whiche dothe fortune often tymes in corrupte places'.¹⁷⁹ As a result, although

¹⁷³ RBC, nos 211, 413, 547, 580, 699.

¹⁷⁴ SROI, C/2/8/1/7, 9, 13; C/2/10/1/2.

¹⁷⁵ CPMRL, 1413–1437, pp. 124, 129, 132–3, 135, 141, 152, 154–7; CLB, A, p. 218.

¹⁷⁶ MGL, II.ii.444–53; Sabine, 'City Cleaning in Mediaeval London', pp. 32–3, 39.

¹⁷⁷ Bonney, *Lordship and Urban Community*, p. 151; YCO, p. 24; Rutledge, 'Economic Life', p. 171.

¹⁷⁸ See section 5.2 below.

¹⁷⁹ Horrox, *Black Death*, p. 176; Thomas Paynell, *A Moche Profitable Treatise against the Pestilence* (London, 1534), sig. Aiiij.

slaughterhouses such as St Nicholas Shambles in London were often situated in peripheral areas (Map 2), they still occasioned such concern that, by the 1360s, if not well before, systematic attempts were being made to impose stricter controls or to remove their 'grievous corruption and foulness' to the outer suburbs.¹⁸⁰ The uncharacteristic silence of Norwich's ruling elite on this topic is due to the fact that the resident butchers congregated on high ground to the extreme south-west of the city, where there was plenty of grazing land, easy access to the river for waste disposal downstream of more densely populated areas and a strong breeze to disperse any miasmas (plate 10).¹⁸¹ Elsewhere, however, the struggle to regulate an essential but potentially dangerous component of urban life gave rise to a battery of ordinances and complaints that provide a fascinating insight into the spread of medical knowledge, as well, perhaps, as growing sensibilities regarding the use of public space. Envisaged in 1515–16, Thomas More's *Utopia* is notable for its extramural slaughterhouses, where waste could safely be flushed away in streams and rivers. 'They don't allow anything dirty or filthy to be brought into the city', the narrator reports approvingly, 'lest the air become tainted by putrefaction and thus infectious.'¹⁸²

Since they had such a major impact upon the City's water supply, we shall explore the activities of London's butchers more fully in the next chapter. But it is worth quoting here from a parliamentary petition presented in the plague year of 1379 by a group of influential courtiers and other 'residents of the streets of Holborn and Smithfield', who protested that:

because of the great and horrible stench and deadly abominations which arise there from day to day from the corrupt blood [*sank corrupt*] and entrails of cattle, sheep and pigs killed in the butchery next to the church of St Nicholas in Newgate and thrown in various ditches in two gardens near to Holborn Bridge, the said courtiers, frequenting and dwelling there, contract various ailments, and are grievously exposed to disease [*trop grevousement mys a disease*] as a result of the infection of the air, the abominations and stench above-said, and also by many evils that notoriously ensue.¹⁸³

The royal response simply emphasised the need to enforce earlier directives against the pollution of the highways and river, but was followed, nine years and at least one regional epidemic later, by a statute comprehensively forbidding the deposit of butchers' waste and similar refuse in or near *any* English towns or cities because of the threat posed by miasmatic air.¹⁸⁴ Since the residents of Cambridge, where this parliament met, had recently been subject to an order from King Richard for the removal of all swine, dirt, dung and rubbish from the streets, it has been suggested that 'the filthy state' of the town gave rise to this particular item of legislation.¹⁸⁵

¹⁸⁰ CCR, 1369–1374, pp. 31–2.

¹⁸¹ Rawcliffe, 'Sickness and Health', p. 204; Kirkpatrick, *Streets and Lanes*, p. 16.

¹⁸² More, *Utopia*, p. 46.

¹⁸³ PROME, VI.181.

¹⁸⁴ SR, vol. 2, 12 Richard II, cap. 13, p. 59. For the East Anglian plague of 1383, see Appendix.

¹⁸⁵ Cooper, *Annals of Cambridge*, pp. 133, 134.



10 A somewhat idealised depiction of Norwich produced in 1558 by the physician William Cuninghame emphasises its healthy situation, in accordance with Hippocratic ideas about the environment. The butchers had been consigned for centuries to the southern periphery (on the right of this west-facing map), with easy access to grazing land and the River Wensum.

But fear of pestilence transcended the merely local, placing the general problem of urban nuisances high on the political agenda. Edward III had initially prohibited the slaughtering of animals in London during the second great national epidemic of 1361, although his attempts to remove its butchers to Knightsbridge (in the west) and Stratford (in the east) clearly had unwelcome consequences. Whereas some of them took the easy option of dumping their offal immediately outside the walls in the fields and ditches of Holborn, others raised their prices to allow for the cost of transport, thereby occasioning an outcry in the City.¹⁸⁶ As we shall see, the obvious solution lay in the construction of proper facilities for the disposal of processed waste into the tidal waters of the Thames, thereby making it possible to supply London markets with cheap, fresh meat on demand.¹⁸⁷

The proximity of the royal court inevitably exposed London's butchers to particular scrutiny, although alarm about the insalubrious activities associated with urban slaughterhouses was certainly not confined to the capital. As early as 1301, the customs of Sandwich imposed a ban upon butchering in shops and streets, an insanitary practice against which other towns and cities (including

¹⁸⁶ Sabine, 'Butchering in Mediaeval London'; P. E. Jones, *The Butchers of London* (London, 1976), pp. 78–80.

¹⁸⁷ See section 4.3 below.

Chester, Lynn, Northampton, Winchelsea and York) also took action, not least because of the filth and congestion caused by animals awaiting slaughter.¹⁸⁸ By the 1380s Yarmouth butchers faced heavy fines for herding and killing their beasts in public highways 'to the great prejudice and defilement [*turpitudinem*]' of the town. They were also in trouble for pasturing animals on the dunes immediately outside the walls and thereby depriving others of a valuable resource.¹⁸⁹ Although it posed only an indirect risk to public health, the overgrazing of common land by butchers fattening their stock for slaughter often went hand in hand with a propensity to deposit offal, dung and other noxious waste there as well. For this reason, the subletting of land to butchers who might use it to dispose of 'entrails and other filth causing foul smells' was prohibited in both York and Westminster. Furthermore, since animals sometimes escaped, causing accidents and even fatalities, in 1422 and again in the 1480s Westminster's butchers were ordered to pen their sheep, pigs and cattle safely at all times.¹⁹⁰

Some towns opted for the obligatory use of common scalding houses, where butchers could kill animals and prepare their carcasses out of sight, without polluting neighbouring highways and gutters (plate 11). In 1421 the rulers of Coventry proposed to construct one, but had to concede that butchers might continue using their own premises in the interim, on the condition that each of them kept 'his durre [doorway] clene fro bloode and other fylthis', promised not to raise pigs at home and refrained from tethering or slaughtering any beasts in the street. By 1447 all these disagreeable activities had been confined to two designated places and forbidden elsewhere in the borough.¹⁹¹ Alarmed by the 'abomination, filth and *viliditatem putredorum*' in front of 'Butcher Row', Salisbury's magistrates decreed in 1423 that the slaughtering of animals should henceforth be relegated to the back, and that no offal should be carried away or fat rendered into tallow by day 'on account of the stench'. Some twenty years later, the mayor himself built a new 'skaldyngghous' at his own cost, so that, as in Coventry, the butchers could be restricted to one spot.¹⁹² Similar rules obtained in Gloucester, largely

¹⁸⁸ W. Boys, *Collections for a History of Sandwich*, 2 vols (Canterbury, 1792), II:501; CCA, ZS/B/5b, Sheriffs' Book, 1504–1505, fol. 35r; KLBA, KL/C7/2, Hall Book, 1422–1429, p. 64; RBN, I.335; Markham, *Liber custumarum*, p. 35; BL, MS Cotton Julius B IV, fol. 26r; YMB, I.83; R. B. Dobson, ed., *York City Chamberlains' Account Rolls, 1396–1500*, Surtees Society 192 (Gateshead, 1980), pp. 145–6.

¹⁸⁹ NRO, Y/C4/93, rot. 4r; 171, rot. 18r.

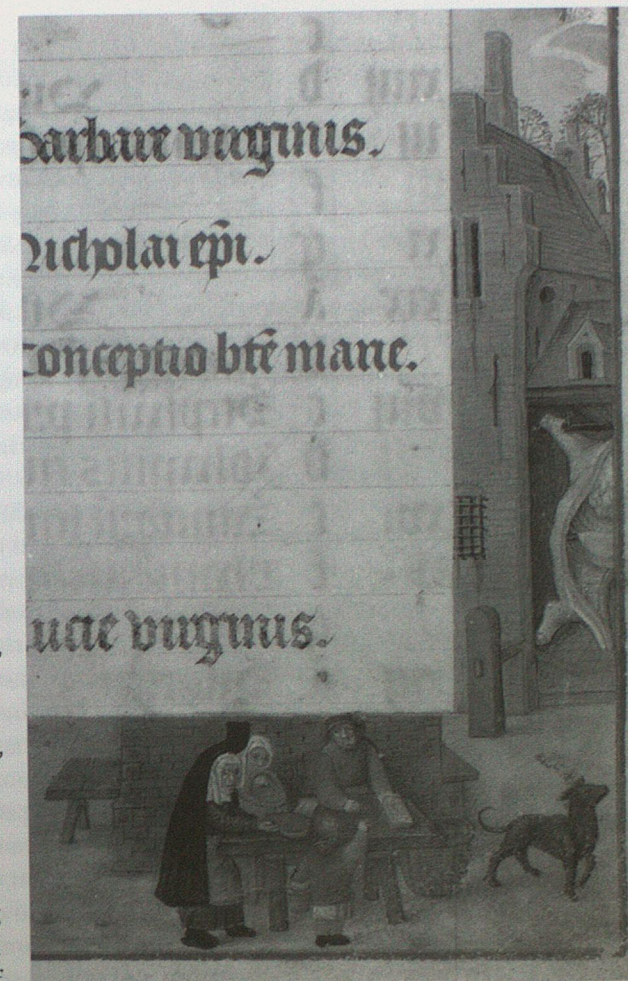
¹⁹⁰ Rosser, *Medieval Westminster*, p. 242; YMB, III.58.

¹⁹¹ *Coventry Leet Book*, I.32, 42–3, 58, 232.

¹⁹² Carr, *First General Entry Book*, nos 236, 398. The shambles in Hull was equipped with a well to facilitate cleaning after solid waste had been removed to the main rubbish dump outside the town (Evans, 'Infrastructure of Hull', p. 62), while the new slaughterhouse built in Reading in the 1420s had both a well and gutters (C. Slade, ed., *Reading Guild Accounts, 1357–1516*, part 1, Berkshire Record Society 6 (Reading, 2002), pp. lxxi–lxxii). This municipal 'scleyng house' was effectively rebuilt by 1459, leading to a rent strike on the part of the butchers. Five years later the mayor ordered all burgesses to cease buying meat until a satisfactory agreement could be reached: J. M. Guilding, ed., *Reading Records: Diary of the Corporation*, vol. 1 (London, 1892), p. 58.

to preserve the cleanliness of public thoroughfares. Although it was not until 1516 that the rearing of pigs near the official scalding house in Grass Lane became illegal, the authorities had by then instituted special measures for the compulsory disposal of butchers' waste by night in order to avoid the 'inordinate savour and stynche that the comen gorreour [raker] makith by daye when he carieth away inwardes of bestes, filthi vessels and other filthy thynges out of the Bocher Rewe'.¹⁹³ Arrangements of this kind were designed to reduce the transmission of contaminated air, and offered residents some level of protection against infection.

The safe removal of carcasses, especially in hot weather, taxed the ingenuity of urban authorities to the limit. It was easy to fine or even imprison offenders who endangered others by littering streets, gardens and yards with the 'annoyable' remains of slaughtered animals, but harder to offer a viable alternative.¹⁹⁴ Private arrangements were fraught with difficulties, as one Nottingham butcher discovered in 1378–9 when the carter with whom he had contracted for the disposal of entrails and other detritus took umbrage at the disrespect shown to his wife and



11 This street scene from an early sixteenth-century Flemish liturgical manuscript depicts a stall, a butcher's dog and, in the background, a freshly butchered carcass, hanging in full public view.

¹⁹³ HMC, *Twelfth Report*, appendix 9, pp. 433–4, 440–1. Nocturnal disposal of offal was compulsory in Sandwich by 1301 at the latest (BL, MS Cotton Julius B IV, fol. 75v), but was not apparently adopted in Westminster until 1505 (Rosser, *Medieval Westminster*, pp. 242–3).

¹⁹⁴ For complaints about negligent butchers, see, for example: D. Hutton, 'Women in Fourteenth-Century Shrewsbury', in L. Charles and L. Duffin, eds, *Women and Work in Pre-Industrial England* (London, 1985), p. 95; DRO, ECA, Chamber Act Book 1, 1508–1538, fol. 25r; NRO, Y/C4/191, rot. 16v; A. Raine, *Mediaeval York* (London, 1955), p. 83; Studer, *Oak Book of Southampton*, I.52–3, 131; Laughton, *Life in a Late Medieval City*, p. 85.

left a pile of stinking waste behind him.¹⁹⁵ In general, it seemed better to insist upon collective responsibility. Probably influenced by the system for street cleaning already adopted in London, York's magistrates ruled at this time that offal should always be transported in covered wagons, in order to prevent airborne pollution.¹⁹⁶ The rulers of Lynn openly acknowledged their debt when, in 1439, they instructed the resident butchers to equip themselves with 'covered barrows or carts according to the practice of London'. Notwithstanding the threatened fine of 20s. for non-compliance, they were obliged to repeat the demand seven years later (when plague was raging not far away in Lincoln), and to insist that intestines and other unpleasant matter should only be conveyed through the town after dark. At the turn of the fifteenth century they lit upon the more effective stratagem of forcing any butcher who left filth in the streets or withheld his contribution towards the cost of transport to slaughter his animals outside the walls, and thus to forfeit a valuable commercial advantage.¹⁹⁷

In order to render their waste marginally less offensive, butchers would also sink pits in which the remains and blood of animals could either be stored, pending removal, or safely buried. As in the case of urban cesspits, the cleansing process was profoundly disagreeable, with the result that some authorities deemed it necessary to regulate this activity, too. In Worcester a decree of 1466 established 'that no intraillez of eny manner bestes, nor no puttes [pits] of bloode, be clensed or caryed away on the day, but ouer nights in due tyme ... and that no blode putte be vnclensyd ouer [for more than] a day and a night, be it wynter or somer'.¹⁹⁸ Meanwhile in Coventry, the mounting problem of noxious refuse demanded the creation of a large communal pit, or series of pits, specifically for the deposit of carrion from butchery. Understandably reluctant to linger over his work, the carter responsible for this unpleasant task received stern orders in 1474 to cease tipping offal around the edges, and to cast it into the middle, out of the reach of scavenging pigs.¹⁹⁹ Many of these intimidating creatures belonged to the town's butchers, whose misdemeanours all too often extended to the ownership of potentially dangerous animals.

¹⁹⁵ Stevenson, *Records of the Borough of Nottingham*, III.181–2.

¹⁹⁶ YMB, I.lxix, 17–18. For Colchester, see below pp. 268–9.

¹⁹⁷ KLBA, KL/C7/3, Hall Book, 1431–1450, fols 103r, 271v; C7/5, Hall Book, 1497–1544, fol. 35v; Owen, *Making of King's Lynn*, p. 21. For the 1446–7 plague, see Appendix.

¹⁹⁸ Smith, Smith and Brentano, *English Gilds*, p. 385. In Stamford, ditches 'without the town' served for the dumping of all 'intrales of flesshe or fysche or bowells', which were to be removed promptly from the borough: Rogers, *William Browne's Town*, pp. 11–12.

¹⁹⁹ *Coventry Leet Book*, II.271–2, 389. The construction and daily use of large pits for the deposit of entrails was one of the many grievances voiced by the residents of Holborn in the late fourteenth century: Sabine, 'City Cleaning in Mediaeval London', pp. 41–2.

3.6 Vicious dogs and marauding pigs

The assumption that baiting a bull with dogs would improve the taste and digestibility of its flesh encouraged many authorities to fine any butchers who failed to do so.²⁰⁰ Hugely popular with spectators (who shared few, if any, of the modern reader's sensibilities about cruelty to animals), these spectacles were often staged in open thoroughfares, where security might well be minimal. One of the most dramatic of Thomas Becket's reputed miracles provides a vivid account of the pandemonium that ensued when an enraged beast ran amok among the London crowds. About to gore a child to death, the escaped bull – and the pack of yelping dogs that pursued it – froze immobile when the boy's mother invoked St Thomas's name and disaster was narrowly averted.²⁰¹ It was, no doubt, in the interests of public safety, as well as to guarantee the quality of the meat supply, that in 1423 the rulers of Coventry decided to construct a proper bull-ring.²⁰² However, such measures did not protect pedestrians from the general menace of butchers' dogs, which were needed to drive cattle as well as bait them, and also to satisfy the incessant public craving for dog fights, boar and bear baiting and other blood sports (plate 12). Sharing many of their owners' less amiable characteristics, these large and aggressive animals were frequently allowed to roam the streets, where they caused a serious nuisance. But any householder, shopkeeper or artisan might well acquire a fierce guard dog to scare away thieves, and they, too, were liable to run wild given the opportunity. Many others were strays that hunted in packs.

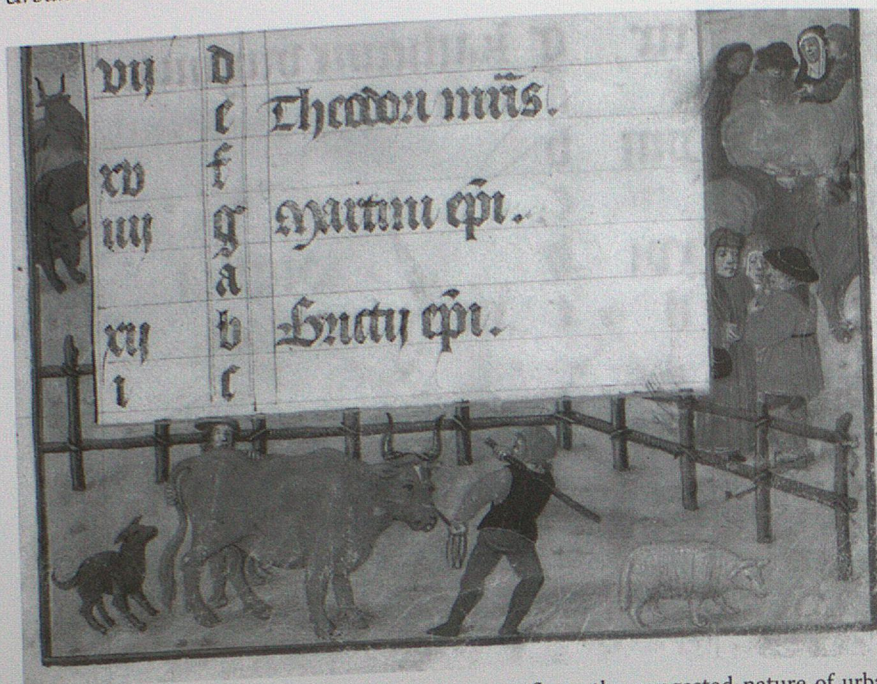
Since flocks of sheep were frequently herded through English towns on their way to market or the slaughterhouse, while others grazed on suburban smallholdings or even on grassy plots within the walls, we should not be surprised by the number of cases of sheep-worrying heard in urban courts.²⁰³ In both London and Durham

²⁰⁰ As, for example, in Basingstoke (Baigent and Millard, *History of the Town and Manor of Basingstoke*, pp. 307, 318, 321), Beverley (*BTD*, p. 129), Bristol (Veale, *Great Red Book of Bristol*, I.144), Chester (Laughton, *Life in a Late Medieval City*, p. 185), Colchester (*RPBC*, pp. 18–19), Faversham (Harrington and Hyde, *Early Town Books of Faversham*, p. 85), Ipswich (Bacon, *Annals of Ipswich*, p. 128), King's Lynn (KLBA, KL/C7/4, Hall Book, 1453–1457, p. 547), Leicester (*RBL*, II.289, 322), Southampton (Butler, *Book of Fines*, pp. 88, 99–100), Winchester (Keene, *Survey of Medieval Winchester*, I.257) and Yarmouth (NRO, Y/C18/1, fol. 21v). For the medical rationale behind these rulings, see section 5.2 below.

²⁰¹ R. C. Finucane, *The Rescue of the Innocents: Endangered Children in Medieval Miracles* (New York, 1997), p. 110.

²⁰² *Coventry Leet Book*, I.58, 83. Grimsby's bull-ring was in the market (Rigby, *Medieval Grimsby*, pp. 70, 171 n. 115), while Shrewsbury's lay safely outside the Stone Gate (Owen and Blakeway, *History of Shrewsbury*, I.271). By the sixteenth century both Southampton and Winchester had permanent rings in their respective High Streets: Butler, *Book of Fines*, pp. xliii, 120; Keene, *Survey of Medieval Winchester*, I.257.

²⁰³ Even after the Black Death, sheep were free to roam the streets of Beverley (*BTD*, p. 19), whereas residents of Winchelsea could be fined for allowing them to 'renne at large' (BL, MS Cotton Julius B IV, fol. 26r).



12 Another early sixteenth-century street scene reflects the congested nature of urban markets as cattle, a dog and a sheep jostled for space alongside people.

heavy damages were awarded against the owners of dogs that mauled sheep.²⁰⁴ In Durham, where nearby rabbit warrens offered further temptation, local courts insisted that all dogs should be tied up or kept indoors at night and adequately muzzled during the day. Negligence in this respect could incur a fine of up to 6s. 8d. and an order for the destruction of the animal in question, partly because of the threat of rabies.²⁰⁵ Regulations of this kind were common. Whereas the rulers of Northampton were prepared, in 1381, to exempt well-behaved dogs ('malum non facientem') from a rule demanding the compulsory use of leashes in public places, Coventry's magistrates simply banned 'grett houndes' and bitches from the city's streets altogether. Half a century later, in 1470, they repeated the order, along with another for the restraint of 'bochour dogges' at night.²⁰⁶ Measures were already in place in Bristol for the chaining of all large hounds after dark, while Beverley magistrates responded to complaints directed specifically at butchers by imposing a blanket fine of 40d. on the owners of any stray or vicious dogs.²⁰⁷ But, as the residents of Winchester discovered in the 1360s, it was one thing to issue proclamations and quite another to enforce them.²⁰⁸ In 1377 the mayor of London

²⁰⁴ CPMRL, 1364–1381, pp. 68–9; RBC, nos 242, 258.

²⁰⁵ RBC, nos 23, 292, 300, 453, 458, 483, 518, 521, 528, 538, 547, 580, 668, 683, 699, 706, 709, 712, 714.

²⁰⁶ RBN, I.248; *Coventry Leet Book*, I.27, 361.

²⁰⁷ LRBB, II.227; Veale, *Great Red Book of Bristol*, I.142; BTB, p. 29.

²⁰⁸ J. S. Furley, ed., *Town Life in the XIV Century as Seen in the Court Rolls of Winchester* (Winchester, 1946), pp. 136–7. In 1380 and 1405 respectively local

actually imprisoned a barber for repeatedly defying court orders, his previous record of intransigence towards the civic authorities confirming that belligerent humans are usually to blame for canine delinquency.²⁰⁹

The ubiquity of remedies for 'howndis bytinge' in late medieval leech books and surgical treatises confirms that the risk of personal injury was serious.²¹⁰ In an age without antibiotics, septicaemia could easily prove fatal, even following an apparently innocuous bite. And, although it was probably less common than some sources suggest, rabies remained endemic in England until the early twentieth century. Significantly in this context, medical authorities attributed the onset of madness to the dog's production of black choler, which (as in the case of leprosy) would rapidly become 'corrupt and i-rotid' through the consumption of rancid or contaminated meat. Hounds, like humans, were thus vulnerable to a poor diet, most notably during the oppressive 'dogs days' (*canicularis dies*) of summer, when their humours were most likely to overheat and their food to go bad.²¹¹

There is, however, surprisingly little evidence of the explicit association between dogs and the transmission of plague that led to the 'massacres' of the early modern period, so graphically described by Mark Jenner.²¹² One of the earliest signs that English magistrates had begun to blame strays for the spread of miasmatic infection apparently occurred in Exeter. According to the antiquary John Hooker (d. 1601), in 1433–4 the mayor ruled that:

forasmiche as great damages do growe within this citie, aswell in the night tymes as specially in the infectiouse tymes of sycknes, by keepinge of dogges within this citie, which doe not only in the night tymes barke & fight in the streetes to the noysaunce of the people in there beddes, as also do in the daye tyme rvnne from house to howse where the sycknes ys, that therefore no man shall hensforthe keepe any suche dogg or dogges ... vpon payne to pay xijd.²¹³

As originally transcribed by Hooker in his commonplace book, the directive stipulated that any vagrant animals were to be killed, but made no explicit

magistrates demanded that dogs should be restrained until a specific time of day, when they might be released: Keene, *Survey of Medieval Winchester*, I.257–8.

²⁰⁹ CPMRL, 1364–1381, pp. 252–3. See also Carlin, *Medieval Southwark*, p. 240.

²¹⁰ See, for example, BL, MS Harley 2390, fol. 148v; MS Sloane 5, fol. 25v (pencil foliation); MS Sloane 983 fols 24v, 72v; Wellcome Institute Library, Western MS 411, fols 57r–58r; Western MS 564, fols 82v–84r; Hunt, *Popular Medicine*, pp. 212, 283, 284, 304; Henri de Mondeville, *Chirurgie de Maitre Henri de Mondeville*, ed. E. Nicaise (Paris, 1893), pp. 439, 447–50; Lanfrank, *Science of Chirurgie*, pp. 59–62.

²¹¹ OPT, I.430–4; J. D. Blaisdell, 'Rabies in Shakespeare's England', *Historia medicinae veterinariae* 16 (1991), pp. 1–48, on p. 18. The author of one late fourteenth-century 'book of operacioun' observed that 'ofte times men ben bitten with wodde houndes ... replete of euyl humours': Glasgow University Library Special Collections, MS Hunter 95, fol. 148r, which also furnishes a remarkably accurate description of a rabid dog.

²¹² M. S. R. Jenner, 'The Great Dog Massacre', in W. G. Naphy and P. Roberts, eds, *Fear in Early Modern Society* (Manchester, 1997), pp. 44–61.

²¹³ Vowell, *Description of the Citie of Excester*, p. 898.

reference to 'sycknes', even though plague was then raging in London. Quite possibly Hooker embroidered the text in light of his experience of the culls ordered by Tudor magistrates during later epidemics.²¹⁴ Less uncertainty attaches to an offensive of October 1512, when the bailiffs and council of Edinburgh introduced a number of sanitary regulations 'for to eschew by Goddis grace this contagious seiknes of pestilence laitlie rissin', including a complete prohibition on the ownership of dogs, 'vnder payne of slawchter of thame'. As the disease spread, orders went out in the following January for the immediate extermination of 'all vile and suspect bestis, as doggis, swyn and cattis', without compensation, although securely chained hounds were to be spared.²¹⁵

As Jenner points out, such brutal exercises served more than a sanitary purpose, being of a piece with the strict controls aimed by Tudor magistrates at sturdy beggars and other undesirables whose behaviour threatened to undermine the stability of a well-ordered commonwealth.²¹⁶ In this respect at least, medieval civic authorities shared the same overriding commitment to a code of conduct that dictated exactly how animals as well as humans of all classes should behave. An ordinance of 1354, which reflects the unsettled state of Norwich during the years after the Black Death, describes the 'great injury and contentions' occasioned by untethered, masterless dogs running wild in the city, just like the feckless poor whose idle ways had recently been condemned by the king. However, while death awaited the stray cur or mongrel, elite greyhounds, spaniels and small hunting dogs could still roam freely.²¹⁷ In a similar concession to status, the rulers of London opted in 1387 to fine negligent owners, except for those of sufficient rank or wealth to possess *chiens gentilz*. The ordinance was repeated in 1475, although in this instance butchers' dogs who worked for a living, and thus ranked as honest, if truculent, labourers, joined 'gentil houndes' on the list of exemptions.²¹⁸ Attempts in early sixteenth-century Coventry to restrict the keeping of greyhounds to more prosperous householders were clearly aimed at rowdy apprentices and journeymen with a penchant for illicit sports, and had far less to do with issues of public health or safety.²¹⁹ In each of these cases we can clearly detect the anxiety

²¹⁴ DRO, ECA, Book 51, fol. 304v. The killing of dogs during epidemics was not adopted in Florence as a routine precautionary measure until the 1460s: Carmichael, *Plague and the Poor*, pp. 105, 159 n. 44.

²¹⁵ Marwick, *Records of the Burgh of Edinburgh*, pp. 137, 140; J. F. D. Shrewsbury, *A History of Bubonic Plague in the British Isles* (Cambridge, 1970), pp. 165–6.

²¹⁶ Jenner, 'Great Dog Massacre', pp. 53–6.

²¹⁷ RCN, II.205–7; CPR, 1350–1354, pp. 283–4. In Northampton 'gentle', or high status, dogs were also exempted from the rule about leashes, which was passed in the year of the Peasants' Revolt: see n. 206 above.

²¹⁸ MGL, III.178; CLB, H, p. 311; CLB, L, pp. 130–1; Barron, *London in the Later Middle Ages*, p. 255.

²¹⁹ *Coventry Leet Book*, III.630. An act of 1389 had originally imposed this ban: RP, III.273; SR, vol. 2, 13 Richard II, statute 1, cap. 13, p. 65. Basingstoke jurors complained in 1518 about the 'great trouble' caused by hunting dogs, especially those owned by people who were 'scant of power to keep themselves' – in other words, the disorderly poor: Baigent and Millard, *History of the Town and Manor of Basingstoke*, pp. 321–2.

about social breakdown that prompted increasingly draconian legislation against troublesome members of the civic body.

The same combination of social, sanitary and cultural factors prompted an even greater corpus of urban bye-laws and regulations concerned with the ubiquitous problem of wandering swine. As we have seen, some of these measures were specifically directed against butchers, yet they were not the only culprits. A significant proportion of ordinary householders kept at least one pig, often in such cramped conditions that it was tempting to let them root about freely in the gutters and rubbish heaps of neighbouring streets. Others escaped as they were being herded on their way to or from common land.²²⁰ A Colchester tax assessment of 1301 reveals that about 40 per cent of taxpaying households owned pigs (155 out of 389); in many cases a plump porker or two must have represented the family's principal investment.²²¹ But not all these swine were raised for domestic consumption. Some residents of early fifteenth-century Westminster regarded pig husbandry as a lucrative sideline; and, given their numbers, it is hardly surprising that marauding animals threatened the lives of local children, as well as posing an environmental hazard. In 1404, for example, one infant was rescued in the nick of time from the mouth of a hungry sow, being lucky to escape the fate of others who were less fortunate.²²² Perhaps, as happened in the case of the young John atte Brok, whose ear was bitten off in similar circumstances, it was necessary to secure a testimonial for use in adulthood, 'lest sinister suspicion' arise because his injury resembled the mutilation inflicted upon criminals in the pillory.²²³

Although we should not exaggerate the number of fatalities, enough evidence survives to confirm that pigs were a recognised peril of urban life.²²⁴ In 1322 a London coroner investigated the tragic case of Margaret de Irlaunde's one-month-old baby daughter who was attacked in her cradle by a stray sow and expired the following day.²²⁵ Seventy years later another small child died in Oxford, her head consumed 'even to the nose' as she lay unattended.²²⁶ Such gruesome accidents were, however, sufficiently rare to attract comment, and often occurred

²²⁰ For this reason the rulers of Coventry appointed a swine herd in 1434: *Coventry Leet Book*, I.170.

²²¹ M. Carlin, 'Fast Food and Urban Living Standards in Medieval England', in M. Carlin and J. T. Rosenthal, eds, *Food and Eating in Medieval Europe* (London, 1998), p. 44. An inventory of goods owned by a London shopkeeper in 1321 recorded possessions worth 6s. 11d., of which 'two small pigs' accounted for half: CCRCL, p. 47.

²²² Rosser, *Medieval Westminster*, pp. 140–1.

²²³ CPR, 1266–1272, p. 193. See also CPR, 1301–1307, p. 141.

²²⁴ For another alleged attack, see J. Gairdner, ed., *The Historical Collections of a Citizen of London*, CS n.s. 17 (London, 1876), p. 75. According to Chaucer's Knight in *The Canterbury Tales*, one of the gruesome images decorating the shrine of Mars depicted a sow devouring a child 'right in the cradel': *Riverside Chaucer*, p. 52.

²²⁵ CCRCL, pp. 56–7. In 1254 a one year old girl had met a similar fate: M. Weinbaum, ed., *The London Eyre of 1276*, LRS 12 (London, 1976), p. 14.

²²⁶ H. E. Salter, ed., *Records of Medieval Oxford: Coroners' Inquests* (Oxford, 1912), p. 46.

during epidemics and other times of crisis, when owners died or grew negligent. The potential risk to youngsters was but one of many issues addressed in 1354 by the magistrates of Norwich, to whom foraging pigs represented a far greater menace than stray dogs. The ensuing ordinance paints an alarming picture of savage herds roaming the streets:

whereby divers persons and children have thus been hurt by boars, children killed and eaten, and others [when] buried exhumed and others maimed, and many persons of the said city have received great injuries, as wrecking of houses, destruction of gardens ... upon which great complaint is often brought before the bailiffs.²²⁷

Henceforward, swine were to be securely penned at all times, save for a brief period on Saturdays while their sties were being cleaned. Not only did owners now risk losing any strays, which could be slaughtered on sight, but they also became legally liable for injuries or damage caused by unsupervised animals.²²⁸ These regulations were partly a pragmatic response to the deteriorating standards of hygiene occasioned by the upheavals of 1349–50. But they also reveal the same underlying fear of rootless beggars that prompted action against dogs, compounded, in this instance, by the uncomfortable connection between 'misgoverned' women and swine already explored in Chapter 2.²²⁹

Stray pigs could also transgress by scavenging on human remains. Even before the plague, urban graveyards were so crowded that decomposing bodies sometimes became exposed, causing alarm and abhorrence among the living. Along with predictable anxiety about the release of miasmatic vapours went very real revulsion at the sacrilege involved. In 1304 the priest and parishioners of St Benet Fink in London complained of the 'enormities in contempt of God' committed in their cemetery by wandering swine; similar concerns were still being voiced in Durham during the early sixteenth century.²³⁰

It did not, however, require either a major epidemic or an outbreak of moral rectitude for magistrates to instigate measures against such a serious nuisance and threat to communal health. As early as 1272, the owner of any 'hogge' taken at large in the streets of Portsmouth stood to pay 4d. for each offence up to the fourth, when the butcher's axe would fall.²³¹ Similar rules were adopted in London by the end of the decade, followed in 1292 by the election of four officials charged with collecting fines and culling strays. The post was certainly no sinecure, especially as some owners contravened a further ordinance of 1297 by allowing their pigsties to encroach on neighbouring tenements or overhang watercourses. A civic custom

²²⁷ RCN, II.205.

²²⁸ RCN, II.205–7. This regulation was repeated in 1437, although any pigs or ducks then found 'wandering in the streets ... to the nuisance of the neighbours' were to be driven from the city rather than killed (p. 88). Already in 1331 the rulers of Lynn had insisted that swine might only be released on Saturdays, to permit mucking-out: Isaacson and Ingleby, *Red Register of King's Lynn*, I.203.

²²⁹ In Southampton, fines for allowing pigs to wander and for accommodating vagabonds were recorded together: Butler, *Book of Fines*, pp. 116, 118, 120.

²³⁰ LAN, no. 63; RBC, nos 256, 309.

²³¹ Bateson, *Borough Customs*, p. 87.

permitting St Anthony's hospital to claim any vagrant pigs, which wore bells to denote their special status, undermined so much of this legislation that, in 1311, the master was ordered to take only those animals donated specifically to the house.²³² In contrast, St John's hospital, Sandwich, benefited directly from the appointment at this time of a common sergeant with orders to kill any hogs, poultry or cattle found roaming through the town or fouling the water supply, since some of the meat went to feed the patients.²³³ In London the offensive against vagrant pigs may have owed something to royal intervention, as was certainly the case in York. A complaint addressed by Edward I to the bailiffs of St Mary's abbey in 1298 focussed upon the 'corrupted and infected' air emanating from 'the pigsties situate in the king's highways and ... the swine feeding and frequently wandering about in the streets and lanes'.²³⁴ Not surprisingly, one of a catalogue of hygienic measures introduced before the royal court arrived in the city prohibited residents from letting their animals run loose within the walls.²³⁵

By the later fifteenth century, and often far earlier, most English towns had placed severe restrictions, if not outright embargoes, on 'bores, sowes or any other maner hoggs wandryng or wrotyng in the comen strets'.²³⁶ Whereas the magistrates of Beverley were prepared, in 1356, to allow sows with litters the freedom to roam,²³⁷ a blanket ban on the keeping of swine, even in sties or stalls, was introduced in Coventry in 1423, modified in 1444 under the threat of harsh penalties for any alleged nuisances, and then reintroduced in the 1490s.²³⁸ Did such restrictions actually succeed in containing the problems

²³² MGL, III.88; Riley, *Memorials of London*, pp. 20, 28, 35, 83; CLB, A, pp. 216–17, 220; CLB, C, p. 5; CLB, D, p. 251. The assize of nuisance dealt with complaints about pigsties that were built too near to party walls or water supplies: LAN, nos 263, 332, 382–3.

²³³ Boys, *History of Sandwich*, I.129; II.501, 503.

²³⁴ CCR, 1296–1302, p. 218.

²³⁵ YCO, p. 16. The ordinance *de porcibus euntibus* was repeated in 1377 and 1398 (YMB, I.lxix, 18, 164), and again in 1482 (Goldberg, 'Pigs and Prostitutes', p. 172). The city's butchers were among the worst offenders: York City Archives, Chamberlains' Account Book 2, 1520–1525, fols 13r–14r, 18r, 51r, 52r, 137v.

²³⁶ RPBC, pp. 98, 181–2. See, for example, prohibitions in Bristol (Veale, *Great Red Book of Bristol*, I.144; LRBB, II.31–2), Cambridge (Cooper, *Annals of Cambridge*, p. 258), Carlisle (Summerson, *Medieval Carlisle*, II.670), Dover (BL, MS Egerton 2091, fol. 91r), Gloucester (HMC, *Twelfth Report*, appendix 9, p. 434), Henley (Briers, *Henley Borough Records*, pp. 34, 57, 75, 124), Leicester (RBL, II.21–2, 103–4, 292), Northampton (RBN, I.247–8), Nottingham (Stevenson, *Records of the Borough of Nottingham*, I.356–8), Reading (Guilding, *Reading Records*, pp. 67, 68; Slade, *Reading Gild Accounts*, pp. 1–11), Salisbury (Carr, *First General Entry Book*, nos 203, 419A), Scarborough (I. H. Jeayes, ed., *Description of Documents Contained in the White Vellum Book of Scarborough* (Scarborough, 1914), p. 53), Southampton (Studer, *Oak Book of Southampton*, I.52–3), Winchelsea (BL, MS Cotton Julius B IV, fol. 26r), and Winchester (Keene, *Survey of Medieval Winchester*, I.153; Bird, *Black Book of Winchester*, p. 149).

²³⁷ BTD, p. 19.

²³⁸ During the plague year of 1421 residents had been forbidden both from keeping pigsties near streets and from letting their animals roam, but this ordinance

caused by urban livestock? It is interesting to note that in 1425 the rulers of Lynn threatened anyone who hindered the bellman in removing vagrant animals with imprisonment.²³⁹ This was quite possibly a response to resistance of the sort documented in Leicester during the 1350s, when a goldsmith and his son had been bound over in heavy securities for assaulting the official who had confiscated their errant pigs.²⁴⁰ There can, however, be little doubt of the vigour with which some borough courts pursued offenders, especially from the 1470s onwards. In Ipswich, for example, the number of annual presentments for permitting swine to roam at large increased dramatically from an average of fewer than three or four before the 1440s to twelve in 1468, twenty-three in the plague year of 1471 and twenty-five in 1482. By 1488 the total had reached no fewer than forty, heavier fines being imposed upon those residents who allowed their swine to forage along the quays and contaminate the river.²⁴¹ Had the borough authorities simply accepted the situation and decided to impose a tax upon anyone who wished to rear pigs, similar perhaps to that paid by the owners of some urban dung-heaps? Since many offenders were bound over in heavy securities to restrain their animals in future it seems unlikely that such a steep rise in numbers can simply be explained in fiscal terms. Indeed, the general offensive then being waged across England against other forms of pollution, both moral and physical, would suggest otherwise.

Even the most docile and sedentary pigs added appreciably to the quantities of dung and filthy straw deposited in urban thoroughfares, while also generating a pungent aroma that, in extreme cases, ranked as a serious health hazard. Thus, for example, during the sweating sickness of 1485 one Yarmouth man was charged with keeping his pigs in such squalid conditions that people passing by risked infection from the mephitic air.²⁴² London ward moots were also expected to report anyone whose swine or cattle offended their neighbours, which no doubt explains why, in 1365, William Baldwyn was bound over in the remarkable sum of £100 to remove his pigs from the City within seven days and fined 20s. for the nuisance they had already caused.²⁴³

Other animals could prove just as annoying and potentially dangerous. Setting aside such exotica as the lion for which the burgesses of Southampton had to buy a secure cage, collar and chain at considerable expense in 1438–9, a surprising number of creatures were placed under restraint in late medieval English towns.²⁴⁴

evidently proved insufficient: *Coventry Leet Book*, I.27, 58, 217; II.544; III.652.

²³⁹ KLBA, KL/C7/2, Hall Book, 1422–1429, p. 104. In 1427 and 1428 residents were ordered to keep pigs securely in their sties, on pain of a fine of 12d., or imprisonment (pp. 165, 178).

²⁴⁰ RBL, II.104. Pigs were banned from the streets in 1335–6, 1355 and 1467 (pp. 21–2, 103–4, 292).

²⁴¹ SROI, C/2/8/1/11, 13, 15, 17–22; C/2/10/1/5. Ordinances against vagrant swine were enacted in 1473, 1476 and 1482: Bacon, *Annals of Ipswich*, pp. 134, 140, 147.

²⁴² NRO, Y/C4/190, rot. 17r. It was at about this time that the leet courts were instructed to present 'alle thos persones that keppe anny sweyne or lett them goo a brood in the towne': Y/C18/1, fol. 17r.

²⁴³ MGL, III.134, 137; CPMRL, 1364–1381, p. 39.

²⁴⁴ Gidden, *Stewards' Books of Southampton*, I.90. In Coventry, for example, goats were banned from the streets in 1470: *Coventry Leet Book*, II.360–1.

Many householders kept a few geese, ducks or hens, while poultry sellers, who operated on a commercial basis, might well rear birds in significant quantities at home. Magistrates took understandable exception to the noise, mess and aggravation (as well as the 'gret rebuke, shame & slaunder') caused by flocks of poultry in busy thoroughfares, although penalties of the sort imposed in Bristol, Leicester and Norwich must have been hard to enforce.²⁴⁵ Ducks and geese, as well as pigs, were banned in 1380 from the streets of Winchester, while hens, which had been pecking open corn merchants' sacks and devouring the contents, were henceforth excluded from the marketplace.²⁴⁶ Having for too long endured the 'the evel rule and demenyng' of poultry sellers in the area near the Stocks market and other 'principal' thoroughfares, a group of concerned Londoners petitioned the mayor in 1444 about the risks posed by so many

swannes, gees, heronsewes [young herons] and other pultre, wherof the ordure and standyng of hem is of grete stenche and so evel savour that it causeth grete and parlous infectyng of the people and long hath done ... which pulthers myght purvey and have houses and places in oute weyes nygh London Wall and elleswere in this Citee, keypyng ther her said pultrye ... [so] that the ordure of hem myght be voided oute of her houses and forthwyth oute of the stretes twies in the week, and that in due tymes whan fewe people passe by.²⁴⁷

Nor was it easy to control the large number of horses that were ridden or driven into towns, where they not only fouled the streets and watercourses but were also likely to cause serious accidents. Adults as well as youngsters could easily be bitten, kicked or trampled underfoot by temperamental animals, especially at crowded watering places.²⁴⁸ Following what looks to have been a spate of nasty incidents, the rulers of York decreed in 1377 that horses should always be led by the reins when on their way to drink in the river because of 'the great danger to children going about in the city'.²⁴⁹ The practice of tethering

²⁴⁵ Veale, *Great Red Book of Bristol*, I.144; RBL, II.292–3; NRO, NCR, 16D/1, Assembly Proceedings, 1434–1491, fol. 5r; 16D/2, Assembly Proceedings, 1491–1553, fol. 202r; 16C/2, Assembly Minute Book, 1510–1550, fol. 237r–v.

²⁴⁶ Keene, *Survey of Medieval Winchester*, I.153.

²⁴⁷ CLB, K, p. 289. Already in 1366 the authorities had forbidden the plucking of birds in the streets, which were littered with feathers (CLB, G, p. 207). In 1422 a poulterer was presented for dumping goose, heron and horse dung (CPMRL, 1413–1437, p. 153).

²⁴⁸ See, for example, H. M. Chew and M. Weinbaum, eds, *London Eyre of 1244*, LRS 6 (London, 1970), no. 166; Riley, *Memorials of London*, pp. 4–5; R. R. Sharpe, ed., *Calendar of Letters from the Mayor and Corporation of the City of London, 1350–1370* (London, 1885), no. 265; Keene, *Survey of Medieval Winchester*, I.154; Hanawalt, *Growing Up in Medieval London*, pp. 62–3, 65. In 1503 a commission of aldermen and commoners was set up in Norwich to examine the state of the principal watering place on the Wensum, which had become 'filled with mud & myre': Kirkpatrick, *Streets and Lanes*, pp. 73–4.

²⁴⁹ YMB, I.18. A similar ruling of 1426 insisted upon the leading of horses in the streets of Nottingham: Salusbury-Jones, *Street Life in Medieval England*, p. 64.

horses in public places obstructed busy city centres, leading some authorities, such as those of Bristol and Stamford, to insist that all mounts should be stabled on arrival, 'for parell of children and noying the kynges strets'.²⁵⁰ Such was the congestion of traffic in Salisbury, that in 1416 traders coming to market with pack horses or carts were ordered to remove their animals beyond the walls immediately after unloading because of the nuisance they caused to passers-by and the damage likely to result. A decade later the livestock market was transferred to the urban periphery, thereby reducing levels of dirt and disturbance even further.²⁵¹

Long after death, livestock continued to pollute the urban environment. We need not take too seriously John Stow's claim that London's Houndsditch derived its name from the number of 'dead dogges' left to rot there, but the disposal of animal remains certainly posed a serious threat to water supplies.²⁵² In 1464–5 alone the chamberlains of Kingston-upon-Hull had to remove three dead horses from the canal bringing fresh water into the town, and it was far from unusual for owners to dump the bodies of domestic animals in nearby dikes or sewers.²⁵³ Shortly afterwards the mayor of Leicester deemed it necessary to reinforce his warning that all such carcasses should be safely conveyed beyond the gates on pain of indefinite imprisonment for each offence.²⁵⁴ So bad had the problem become in Winchester by the 1480s, that anyone who blocked the drains and gutters with 'donge, strawe, dede hogge, dogge or cate' stood to pay a 12*d.* fine for each offence.²⁵⁵ The disposal of dead animals, as well as the watering of live ones, was likewise forbidden in the Milburn, the main water source of the Durham borough of Crossgate.²⁵⁶ As a rule, however, neighbours were quick to report the most flagrant transgressors. At the beginning of the fourteenth century, following a series of complaints by irritated Londoners, Richard de Houndeslowe was ordered to cease killing and skinning horses and burying their carcasses near his premises in the City; and in 1390 a Norwich jury protested volubly about the abandonment

²⁵⁰ Veale, *Great Red Book of Bristol*, I.143; Rogers, *William Browne's Town*, pp. 27, 70. As an additional control on the number of animals at large, Bristol's butchers were forbidden from buying livestock within the walls: *LRBB*, II.230. 'Country' butchers who brought their horses into the shambles at Leicester faced imprisonment from 1467 onwards (*RBL*, II.292). In Lynn from at least 1533 a fine of 4*d.* per animal was imposed on anyone who let a horse or calf loose in the street (*KLBA*, KL/C7/5, Hall Book, 1497–1544, fol. 293r).

²⁵¹ Carr, *First General Entry Book*, nos 167, 236, 260. The arrival of large numbers of animals on market days posed a major sanitary problem. Having been awarded two new fairs, or 'free marts', by the crown in 1482, the rulers of Norwich issued proclamations specifying exactly where livestock could 'lie and walk' in the city at such times: *RCN*, II.102–3.

²⁵² Stow, *Survey of London*, I.128. For similar nuisances, see Carlin, *Medieval Southwark*, p. 240.

²⁵³ R. Horrox, ed., *Selected Rentals and Accounts of Medieval Hull, 1293–1528*, YASRS 141 (Leeds, 1983), p. 103.

²⁵⁴ *RBL*, II.290.

²⁵⁵ Bird, *Black Book of Winchester*, p. 121.

²⁵⁶ *RBC*, no. 413.

of a dead horse in a public thoroughfare 'to the abominable offence and poisoning of the air'.²⁵⁷

3.7 Smoke and noise

In the popular English version of the *The Liber celestis* by St Bridget of Sweden, the world with all its travails and temptations is compared to a 'pore house' contaminated by 'foule wallis, mekill sote, and smoke'.²⁵⁸ The force of this metaphor is apparent from the widespread skeletal evidence of maxillary sinusitis caused by air pollution in low status medieval urban populations, especially among children.²⁵⁹ Members of the elite, both lay and religious, lived in cleaner, better ventilated homes, but still found it difficult to escape the unpleasant consequences of industrial activity and inconsiderate neighbours. Affluent merchants in Mercers' Row, Chester, complained about the harmful effects of the smoke rising from the cellars beneath them, where poorer people (including single elderly women) lived.²⁶⁰ Not even monastic communities could avoid this problem, at least if they occupied marginal land on the edge of towns. We can more readily understand why a fourteenth-century Norwich Benedictine should copy verses about the incessant din of 'swart smoky smiths, smirched with smoke' into one of the priory's books if we bear in mind that the area around the cathedral precinct was colonised by blacksmiths, lime-burners and foundries. The constant hammering and acrid smoke of neighbouring workshops must have lent verisimilitude to his contemplation of the Last Judgement.²⁶¹ The burgesses of Beverley made a 'healthful' (*salubriter*) decision to prohibit the construction of brick kilns near the town, partly to protect the fruit in their earthly paradise, although they clearly recognised that atmospheric pollution would affect human beings as well as trees.²⁶² Similarly, the 'grave nuisance' occasioned by lime-burning prompted a complete ban upon such activities in Bridgwater by 1388, and the imposition of draconian fines on those who disobeyed.²⁶³

Whereas Classical authorities such as Galen had concentrated upon the

²⁵⁷ *CPMRL*, 1298–1307, pp. 161–2; p. 206 below; Hudson, *Leet Jurisdiction*, p. 75.

²⁵⁸ St Bridget of Sweden, *The Liber Celestis*, ed. R. Ellis, vol. 1: *Text*, EETS o.s. 291 (Oxford, 1987), pp. 387–8.

²⁵⁹ Lewis, *Urbanisation and Child Health*, p. 2.

²⁶⁰ *CCA*, ZS/B/5a, Sheriffs' Book, 1502–1503, fol. 7v; ZS/B/5d, Sheriffs' Book, 1508–1509, fol. 59v; ZS/B/5f, Sheriffs' Book, 1510–1511, fol. 109v.

²⁶¹ Rawcliffe, *Medicine for the Soul*, p. 39.

²⁶² *BTD*, p. 58.

²⁶³ T. B. Dilks, ed., *Bridgwater Borough Archives, 1377–1399*, Somerset Record Society 53 (Bridgwater, 1938), no. 439. During the early sixteenth century, the borough court at Lyme ordered the removal of dangerous 'lyme pyttes' under threat of a 20*s.* fine: Dorset Record Office, DC/LR B1/2 no. 16. This was not, however, a universal trend. In Norwich, lime-burning was still undertaken in relatively close proximity to the homes of wealthy residents: C. Rawcliffe, 'Health and Safety at Work in Late Medieval East Anglia', in C. Harper-Bill, ed., *Medieval East Anglia* (Woodbridge, 2005), p. 145.



13 Smiths working metal at a forge, as depicted in a fourteenth-century text of the *Tractatus astronomicus* attributed to Abu-Ma'shar

transformative effect of rotting matter upon the quality of the air, late medieval practitioners and educated laymen became increasingly conscious of the additional risks posed by man-made environmental hazards.²⁶⁴ Indeed, activities like smelting and metal working seemed doubly dangerous, since they not only created an unpleasant stench but often gave rise to a level of noise that was itself deemed injurious to health (plate 13). In his *De decem ingeniis curandorum morborum* of 1299, the celebrated Montpellier physician Bernard Gordon adapted traditional Galenic recommendations about the *regimen* to accord more closely with the contemporary urban *milieu* in which his students would have to practise. They were advised to ask if their patients had been 'disturbed by an adjoining shop occupied by a carpenter, hammerer, tanner of hides, melter of tallow, or by persons who work with sulphur and the like'. Loud drunks, barking dogs and anxiety about crime, the blight of life in towns throughout the ages, seemed just as likely to cause illness because of their capacity to destabilise the body's sensitive animal spirits.²⁶⁵ Not long afterwards, in 1311, the royal surgeon Henri de Mondeville undertook as part of his official duties to deliver a series of public lectures on anatomy and surgery in Paris. Whether the audience actually included craftsmen, as has been suggested, remains a moot point, but his graphic warning about the potentially fatal consequences for the sick of 'the noise of neighbouring workmen, such as smiths, carpenters and others, the bad air, the foul stench [and] the smoke of coal from the earth' clearly spread far beyond the university.²⁶⁶

²⁶⁴ L. García-Ballester, 'The Construction of a New Form of Learning and Practising Medicine in Medieval Latin Europe', *Science in Context* 8.1 (1995), pp. 75–102.

²⁶⁵ L. Demaitre, *Doctor Bernard Gordon: Professor and Practitioner* (Toronto, 1980), pp. 47, 157.

²⁶⁶ Henri de Mondeville, *Chirurgie*, pp. xxv, 179; García-Ballester, 'Construction of a New Form of Learning', pp. 90–1. De Mondeville, whose work was widely admired in England, urged that convalescents should be moved to the country.

Smoke posed such a threat because once it reached the inner recesses of the brain the attendant 'derknesse and stenche' could disrupt the vulnerable processes of thought and movement, while also damaging the eyes. Bartholomaeus Anglicus described how 'the scharpnesse therof ... greuyth yghen [eyes] and maketh hem droppe out teeres and greueth the sight notabelyche, and ... cometh in by his scharpnesse to the brayne and greueth the spirit of felynge'.²⁶⁷ He probably had in mind the unpleasant effects of sea coal (so called because it came by ship from Newcastle), which was burnt in London and other English cities during the later Middle Ages. Industrial consumers, such as lime-burners, braziers, smiths and bell-founders, welcomed it as a cheaper, if dirtier, alternative to wood or charcoal, especially during fuel shortages, although others were less enthusiastic.²⁶⁸ As early as 1257, Queen Eleanor allegedly left Nottingham for the purer air of Tutbury because the fumes from burning sea coal made life there insupportable.²⁶⁹ Since her mother had recently commissioned a vernacular regimen for her benefit from the physician Aldobrandino of Siena (d. 1287), we may assume that she was well versed in such matters.²⁷⁰

Awareness of the dangers of inhaling thick smoke was not confined to the elite.²⁷¹ At the end of the thirteenth century, just as Bernard Gordon began writing on this very subject, a group of London smiths set out to regulate their craft, unanimously agreeing 'that none should work at night on account of the unhealthiness of the sea coal [*propter putridinam carbonis marine*] and damage to their neighbours'.²⁷²

²⁶⁷ *OPT*, I.52. For a remedy specifically for 'yen that be hurte in the smoke', see BL, MS Sloane 122, fol. 59v.

²⁶⁸ W. H. TeBrake, 'Air Pollution and Fuel Crises in Pre-Industrial London, 1250–1650', *Technology and Culture* 16 (1975), pp. 337–59, on pp. 340–2; J. A. Galloway, D. Keene and M. Murphy, 'Fuelling the City: Production and Distribution of Firewood and Fuel in London's Region, 1290–1400', *EconHR*, 2nd series 49 (1996), pp. 447–72; J. Hatcher, *The History of the British Coal Industry*, vol. 1 (Oxford, 1993), pp. 22–6. The extent of domestic use is unknown, although coal was sold by the sack from at least 1360 in London, and was allocated to prisoners in Ludgate and Newgate gaols: Schofield, *London, 1100–1600*, p. 76.

²⁶⁹ H. R. Luard, ed., *Annales monastici*, 5 vols, RS 36 (London, 1866), III.203–4.

²⁷⁰ BL, MS Sloane 2435. This fine presentation copy, which was given to Eleanor by Beatrice of Savoy in 1256, is discussed by P. Murray Jones, *Medieval Medical Miniatures in Illuminated Manuscripts*, rev. edn (London, 1998), pp. 103–7. The text, which became extremely popular, contains advice on avoiding 'pestilence and the corruption of the air', and draws attention to the dangers of fumes and smoke: Aldobrandino of Siena, *Le Régime du corps de Maître Aldebrandin de Sienne*, ed. L. Landouzy and R. Pépin (Paris, 1911), pp. 59–61.

²⁷¹ See, for example, a short fifteenth-century vernacular regimen, allegedly based upon one 'that was sent to Dame Isabelle, qwene of Engelond, be prayer of the kyng of Fraunse hir brother', which warns against the effects of smoke: Wellcome Institute Library, Western MS 408, fol. 14r.

²⁷² *CEMCRL*, pp. 33–4; Barron, *London in the Later Middle Ages*, p. 264. According to Peter Brimblecombe, they understood that 'stable atmospheric conditions at night could lead to severe pollution': 'Early Urban Climate and Atmosphere', in Hall and Kenward, *Environmental Archaeology*, p. 19.

They may well have recalled a couple of royal commissions set up in 1285 and 1288 to investigate complaints about lime-burning with sea coal (as opposed to wood) in Southwark and the suburbs, whereby the air had become 'infected and corrupted to the peril of those frequenting and dwelling in those parts'.²⁷³ Demonstrating considerably less regard for the sensibilities – and respiratory organs – of others, the civic authorities had managed from a comparatively early date to banish unduly noisome or intrusive processes to the south bank of the Thames, though smoke could less easily be confined or excluded.²⁷⁴

The problem of atmospheric pollution had not yet reached the proportions so apparent during the mid-seventeenth century, when John Evelyn compared London to 'the face rather of *Mount Aetna*, the *Court of Vulcan*, *Stromboli*, or the *Suburbs of Hell*', but it did prove a major irritant in places where lime-burning (which released carbon dioxide) and other heavy industries were carried out.²⁷⁵ In 1307 Edward I forbade the use of sea coal by workmen anywhere in the City or adjacent suburbs, apparently as a result of further protests by 'prelates and magnates of the realm' about the 'intolerable stench' wafting into their residences from kilns in Southwark, Wapping and East Smithfield. The crown had its own vested interest in promulgating such measures: because of the perceived risk to Queen Margaret's health posed by 'the infection and corruption of the air' a temporary prohibition was imposed on lime-burning and similar activities, even with wood, while she stayed in the Tower at this time. Three years later a more effective *cordon sanitaire* was established through the compulsory removal of all neighbouring kilns.²⁷⁶

Ordinary Londoners were just as vocal, if sometimes less successful, in their campaign for cleaner air. In 1371, for example, residents of St Clement's Lane objected to local plumbers soldering lead on a nearby plot of land 'to the great damage and peril of death of all who shall smell the smoke from such melting – as may be proved by some of the trade and other good folks'. Their demand that the lease should be revoked 'for the saving of human life' was rejected by the mayor's court, although the plumbers, who mounted a strenuous defence, were obliged to raise the height of the chimney on their furnace in order to disperse the fumes more effectively. As in so many areas of urban life, it was clearly necessary to strike a compromise between communal health and commercial profit.²⁷⁷ The burning of sea coal also figured in a litany of complaints made a few years later

²⁷³ CPR, 1281–1292, pp. 207, 296.

²⁷⁴ Carlin, *Medieval Southwark*, pp. 44, 223; H. E. Malden, ed., *VCH Surrey*, vol. 2 (London, 1905), p. 249. On a visitation of St Thomas's hospital, Southwark, in 1387, Bishop Wykeham complained about workmen 'exercising mechanical arts in the precincts ... both night and day, making a clamour and noise to the great nuisance of the poor and infirm': New College, Oxford, MS 3691, fols 91v–92r.

²⁷⁵ Evelyn, *Fumifugium*, p. 6; P. Brimblecombe, *The Big Smoke: A History of Air Pollution in London since Medieval Times* (London, 1987), pp. 6–11.

²⁷⁶ CPR, 1301–1307, p. 549; CCR, 1302–1307, pp. 537, 539; CCR, 1307–1313, p. 330.

²⁷⁷ Riley, *Memorials of London*, pp. 355–6. See also the appeal made to the mayor's court two years later against a plasterer who generated 'obnoxious' fumes: CPMRL, 1364–1381, p. 166. The outcome is unrecorded.

about an armourers' workshop in Watling Street, where a combination of noxious smoke and the constant pounding of sledge hammers proved intolerable for the couple next door, disturbing their sleep, reducing the value of their property and even spoiling the wine and ale in their cellar. Against the claim that they had contravened a number of building regulations designed to avoid the risks of fire and air-borne pollution, the armourers cited an 'ancient custom', which allowed them 'to carry on their trade anywhere in the City, adapting their premises as [was] most convenient for their work'.²⁷⁸

As we shall see in the next chapter, industrial activity was, where possible, confined to the outlying areas of most English towns, but noise was a ubiquitous problem that affected the rich as well as the poor, to the detriment of both physical and mental health. Bracketed together among the six 'non-naturals' whose proper management was essential for survival, relaxation and repose assumed particular importance in the medieval *regimen* because of their role in facilitating the absorption of nutritive matter. By drawing heat away from the brain towards the stomach and liver, sleep acted as 'noryce of digestioun', promoting the conversion of food into natural spirit, especially after a heavy meal.²⁷⁹ It also facilitated the release of moist vapours, which hydrated the principal organs and allowed the over-active animal spirit a period of tranquillity. Loud and persistent noise of the sort described by Bernard Gordon and Henri de Mondeville (and, most eloquently, by the satirist Juvenal in his account of the cacophonous hell of Ancient Rome) was therefore harmful as well as irritating, and prompted an appropriate response.²⁸⁰

In order to protect the citizenry from constant vexation, the rulers of London imposed restrictions on certain craftsmen, such as horners, wiredrawers and blacksmiths, who were prohibited from 'knokkyng, flyynng or any other noyfulle werk whereby [their] neighbours might be noyed or diseased' at night.²⁸¹ But no sooner had one racket ceased than another began. In 1422, jurors from Bassishaw ward, who had clearly endured many sleepless nights, indicted some recent arrivals, 'new come from Coventry' and thus apparently unused to the more civilised ways of the capital. Their habit of holding open house for strangers until the small hours and of 'making violent and grievous noises to the nuisance of all dwelling around' earned them few friends. Nor were raucous provincials the only problem. Despite the prohibition on their use, heavy iron-shod carts trundling through the streets 'beyond the due and proper hour' left the same insomniacs 'grieved of their repose and quiet at night', while the quacking and crowing of urban poultry proved yet

²⁷⁸ LAN, no. 617.

²⁷⁹ John Lydgate, *Lydgate and Burgh's 'Secrees of Old Philisoffres'*, ed. R. Steele, EETS e.s. 66 (London, 1894), p. 40; R. Steele, ed., *Three Prose Versions of the 'Secreta Secretorum'*, EETS e.s. 74 (London, 1898), p. 71.

²⁸⁰ Juvenal, 'Satire Three', in *The Sixteen Satires*, trans. P. Green, rev. edn (Harmondsworth, 1974), notably lines 222–38.

²⁸¹ Riley, *Memorials of London*, p. 238; CLB, H, pp. 363–4; Fisher, *History of the Worshipful Company of Horners*, p. 19–20; Barron, *London in the Later Middle Ages*, p. 265.

another source of 'discomfort and nuisance'.²⁸² The nocturnal 'affrayes and debates' reputedly made by drunken clergy carousing in one of the better residential areas of Exeter during the late 1440s likewise occasioned an anguished protest from householders who were so 'foule accombred therof and y-lette of theire nyghte reste' that resort to violence seemed inevitable.²⁸³

Whether or not they had taken holy orders, those who spent too long in the tavern or alehouse posed a serious risk both to themselves and others. Few twelfth-century readers would have disagreed with William Fitz Stephen's assertion that 'the only plagues of London are the immoderate drinking of fools and the frequency of fires'.²⁸⁴ As medieval coroners' rolls so often attest, a fatal combination of alcohol, candles, straw mattresses and inflammable building materials meant that inebriation and conflagration were, quite literally, common bedfellows. Having returned to his lodgings 'very drunk' from a civic feast in 1275, John de Hancrete collapsed before dousing his light and was incinerated when his bed caught fire.²⁸⁵ Within the space of a few months in 1297–8, an Oxford coroner recorded the death of one woman and the serious injury of her husband in a similar incident, and the destruction of two houses by an intoxicated servant who perished in the blaze.²⁸⁶ Other factors were also to blame for this most unpredictable and devastating hazard of urban life, which gave rise to constant anxiety on the part of magistrates and residents alike. According to Sir Keith Thomas, the vulnerability of men and women who lived in such crowded conditions, and the lack of effective measures to combat fires once they had started, provided fruitful ground for belief in the supernatural. There can, indeed, be little doubt that the residents of medieval towns frequently invoked divine protection on this score.²⁸⁷ They were, however, far from supine in the face of adversity and could muster an impressive battery of safeguards besides prayers and charms to protect their property.

3.8 Fire prevention

Fire was an essential precondition of urbanisation. It was needed for cooking, heating and lighting, as well as in a plethora of crafts from brewing and baking to pottery-making and metalworking. All but the meanest of hovels maintained some kind of naked flame, if only a rush candle or brazier, the sparks from which could rapidly catch alight.²⁸⁸ The close proximity of dwellings, the juxtaposition

²⁸² CPMRL, 1413–1437, pp. 117–19, 154; Barron, *London in the Later Middle Ages*, pp. 264–5.

²⁸³ S. A. Moore, ed., *Letters and Papers of John Shillingford*, CS n.s. 2 (London, 1871), pp. 90–1. Under normal circumstances, anyone who created disturbances at night would be presented to the local courts. See, for example, Stevenson, *Records of the Borough of Nottingham*, III.94–7.

²⁸⁴ D. C. Douglas and G. W. Greenaway, eds, *EHD*, vol. 2: 1042–1189 (Oxford, 1981), p. 1027.

²⁸⁵ Riley, *Memorials of London*, p. 8.

²⁸⁶ Salter, *Records of Medieval Oxford*, pp. 5, 7.

²⁸⁷ Thomas, *Religion and the Decline of Magic*, pp. 17–20.

²⁸⁸ Friedrichs, *Early Modern City*, p. 276.

of industrial workshops and domestic housing and the widespread use of straw combined to increase the risk. Although smiths, lime-burners, potters and the practitioners of other potentially dangerous occupations gradually withdrew to the suburbs, inner cities still remained unsafe.²⁸⁹ The number of complaints made in London about stacks of firewood heaped against party walls and in other inappropriate places reveals how easy it must have been for flames to spread from one house to another.²⁹⁰ Fitz Stephen can hardly be charged with exaggeration, as there may have been as many as five 'major conflagrations' in London between c. 1050 and the end of the twelfth century, followed by another that devastated large areas of Southwark as well as the City in July 1212. The response to this particular disaster reveals that official action could, in fact, prove remarkably effective.²⁹¹ The stringent building regulations then introduced to eliminate such obvious dangers as thatched roofs, combustible chimney stacks and wooden houses, along with the restrictions placed upon the activities of bakers and brewers (who were forbidden from working at night and from using reeds, straw and stubble as fuel), ensured that the next four centuries passed without major incident.²⁹²

Provisions for the avoidance of fire hazards were subsequently incorporated into the London assize of buildings, with the result that infringements ranked alongside other nuisances, such as the noxious cesspits described above.²⁹³ It was, for instance, possible for householders to demand the removal of chimneys that stood too close to their property or seemed defective, while local juries were instructed every year just before summer to report any possible trouble spots 'perilous for mischief that might befall of fire'.²⁹⁴ Enforcement was, inevitably, far from perfect, but, once they had been identified, offenders would be bound over to implement the necessary repairs within a specific time, after which the authorities could levy a standard fine of 40s. in order to complete whatever work remained. Thus, for example, certain householders in Colman Street ward, who had been presented to the mayor in 1376 for ignoring the prohibition on thatch, were ordered to tile their roofs within forty days, or pay the sheriff to do so.²⁹⁵

²⁸⁹ D. J. Keene, 'Suburban Growth', in R. Holt and G. Rosser, eds, *The Medieval Town: A Reader in English Urban History, 1200–1540* (London, 1990), p. 116; D. Cromarty, *Everyday Life in Medieval Shrewsbury* (Shrewsbury, 1991), pp. 11, 57–8.

²⁹⁰ LAN, nos 16, 55, 60, 183, 199, 312. The fourteenth-century court rolls of Bridgwater furnish many presentments of this nature: Dilks, *Bridgwater Borough Archives*, *passim*.

²⁹¹ LAN, pp. ix–xi; Barron, *London in the Later Middle Ages*, pp. 247–8; D. M. Palliser, T. R. Slater and E. P. Dennison, 'The Topography of Towns, 600–1300', *CUHB* 1, p. 184.

²⁹² MGL, II.i.xxxii–xxxiii, 86–8; III.132–7. Earlier regulations had apparently been promulgated in 1189: Schofield, *Medieval London Houses*, pp. 32–3.

²⁹³ LAN, pp. ix–xi.

²⁹⁴ LAN, nos 77, 658; MGL, III.132–7; CPMRL, 1413–1437, pp. xxv, 118, 139.

²⁹⁵ CPMRL, 1364–1381, p. 237. See also Riley, *Memorials of London*, pp. 46–7; CLB, C, p. 105; CPMRL, 1413–1437, p. 125. The City's scavengers were also responsible for inspecting buildings and reporting fire hazards: CLB, D, p. 192.

Other towns and cities adopted similar measures. As Robert Ricart explained when copying the 'laudable customes' of London into his calendar of c. 1479, since Bristol had long followed the 'grete president of the noble Citee' its officials needed 'to know and vnderstonde' these 'auncient vsages'. His interest extended to building regulations designed to prevent the spread of fire, notably with regard to the mandatory use of approved roofing materials and the scale of fines imposed for infractions.²⁹⁶ In general, however, magistrates tended to act in the aftermath of major conflagrations, if only because it was then easier to rebuild housing stock from scratch on safer lines. Just as an outbreak of plague invariably prompted renewed interest in environmental health, the loss of lives, homes and possessions concentrated the minds of urban populations, making them more receptive to change. It was under such distressing circumstances that Reynold, Lord Grey, promulgated four new ordinances in 1364 for the prevention of future fires in his borough of Ruthin on the Welsh March. As in London, it appears that the highly combustible fuel used by brewers and bakers represented a serious hazard, and had now to be stored well away from built-up areas. Although no specific reference was made to the introduction of slate or tile, a significant shift away from thatch at this time also offered householders greater protection.²⁹⁷

In Chester, too, tilers replaced thatchers, who rapidly declined in number from the fourteenth century onwards. Faced, like the people of Ruthin, with the additional threat of arson attacks from the Welsh, Chester's merchants stored their more valuable goods in secure stone undercrofts, while curtailing the risk of domestic accidents through the construction of detached kitchens, kilns and bake houses, and by placing the hearths of public cook-shops outside in the open air.²⁹⁸ Notwithstanding the rudimentary arrangements for hearths and heating adopted in most Winchester houses until the sixteenth century, it looks as if the striking reduction in the number of serious fires from the 1250s onwards was also due to pre-emptive action. By the 1360s thatched roofs had given way to tile, and flint walls were being built to contain the risk of fire from industrial premises.²⁹⁹ Salisbury followed suit in 1431 with a ban on the use of straw for roofing; and in 1466 and 1493 respectively the rulers of Worcester and Coventry imposed heavy penalties of up to 100s. upon anyone who retained or constructed a chimney made of timber, rather than the compulsory brick or stone.³⁰⁰ We should, however,

²⁹⁶ Ricart, *Maire of Bristowe Is Kalendar*, pp. 93, 113. Even in a small town like Basingstoke, residents could be presented to the court for failing to repair their chimneys: Baigent and Millard, *History of the Town and Manor of Basingstoke*, p. 321.

²⁹⁷ R. I. Jack, 'The Fire Ordinances of Ruthin, 1364', *Transactions of the Denbighshire Historical Society* 28 (1979), pp. 5-17. Fired clay tiles were used in York from the thirteenth century onwards: Addyman, 'Archaeology of Public Health', p. 258.

²⁹⁸ A. Brown, ed., *The Rows of Chester*, English Heritage Archaeological Report, 16 (London, 1999), pp. 11, 72, 74. Leases stipulated that any rebuilding should involve slate or tile roofs: Laughton, *Life in a Late Medieval City*, p. 87.

²⁹⁹ Keene, *Survey of Medieval Winchester*, I.178; Furley, *Town Life*, pp. 136-7.

³⁰⁰ Carr, *First General Entry Book*, no. 275; *Coventry Leet Book*, II.549; Smith, Smith and Brentano, *English Gilds*, p. 386. Properties owned by the borough of Nottingham had solid stone chimneys from at least the 1480s, although thatch was

bear in mind that breaches of these regulations must have been common, while in smaller towns thatch remained popular well into the Elizabethan period if not later.³⁰¹

Whatever their size, most communities attempted to provide effective and accessible fire-fighting equipment, along with a ready supply of water to douse the flames. As we shall see in the next chapter, measures for the compulsory repair of wells, either from official revenues or at a parochial level, were in part intended for this purpose.³⁰² Individual householders were also expected to keep tubs of water by their doors, especially in hot weather. The Custumal of Sandwich, which was transcribed in the early fourteenth century, made such a ruling, as did the mayor of London during the 'intensely hot and dry' summers of the late 1370s and 1381.³⁰³ After the conflagration of 1364, the burgesses of Ruthin deemed it expedient to provide a large vat for the storage of water in each of the town's four main streets, charging the local water-carriers with the task of filling them every week.³⁰⁴ Throughout England these otherwise obscure figures played a major role in protecting their neighbourhoods. The 'bitters', or water-bearers, of Worcester appear to have constituted an embryonic fire brigade by the 1460s, when they had to 'be ready with hur horses and bittes [buckets] to brynge water vnto euery citezen when ... required by eny man or child when eny pabelle of fuyre ys withyn the cite'.³⁰⁵ In Coventry, the obligation to supply leather buckets fell upon senior office holders, who faced a fine of 6s. 8d. in 1493 should they fail to do so at their own expense. Arrangements had already been made (or perhaps reiterated) some twenty years earlier for the necessary 'ffyrehokes, rynges, ropes & ladders' to be kept in each ward, so that buildings could be pulled down quickly and roofs stripped in order to prevent fires from spreading.³⁰⁶ This, too, was a common practice, having been adopted in London during the thirteenth century, when local juries were first required to check that each ward possessed an adequate supply of chains, cords and hooks, that the beadle had 'a good horn and loudly sounding' to raise the alarm, and that the owners of 'great houses' could provide a ladder or two, as well as the essential buckets of water. Significantly, the quality of street paving also came under review in this context, since badly maintained

still then being used: Stevenson, *Records of the Borough of Nottingham*, III.257-8, 292-3.

³⁰¹ J. Schofield and G. Stell, 'The Built Environment, 1300-1540', *CUHB*, p. 391; Quiney, *Town Houses*, p. 106.

³⁰² See section 4.4 below.

³⁰³ Boys, *History of Sandwich*, II.504; *CLB*, H, pp. 28, 92, 128, 165. Hitherto in London, the keeping of water barrels had been recommended but was not obligatory: *MGL*, II.i.88.

³⁰⁴ Jack, 'Fire Ordinances of Ruthin', pp. 7-8, 16.

³⁰⁵ Smith, Smith and Brentano, *English Gilds*, p. 382.

³⁰⁶ *Coventry Leet Book*, II.414, 549. Similarly, in 1506 the rulers of Canterbury decreed that each ward should possess an iron hook and a ladder with thirty rungs 'for suerte and savegard of the cite': HMC, *Ninth Report*, part 1, appendix, p. 174. For the use of fire-hooks, see Jack, 'Fire Ordinances of Ruthin', pp. 6-7, 16-17.

roads could hamper accessibility.³⁰⁷ That regular, if not always productive, reports were made by concerned Londoners is apparent from presentments filed in both January and December 1422 about the continuing lack of crooks and iron chains for use in Bridge ward 'in case a fire should happen, which God forbid'.³⁰⁸ Rather than delegate the acquisition of such vital equipment, the rulers of Lynn made the necessary purchases themselves from the public purse.³⁰⁹ In Worcester, too, the chamberlains were personally responsible for ensuring that 'ther be v fuyre hokes, to drawe at euery thyng wher paryle of fuyre ys in eny parte of the cite'.³¹⁰

Negligent householders might well face serious reprisals. Residents charged with *affraria ignis* were regularly hauled before the courts in Chester, where the ravages of marcher warfare made juries particularly unsympathetic towards home-grown arsonists and accident-prone workmen.³¹¹ But vigilance was not confined to the borders. From 1419 onwards any Londoner whose fire was large enough to be seen from outside his or her dwelling could incur a substantial penalty of 40s., which had, appropriately, to be surrendered in a red purse.³¹² The rulers of Lynn not only fined individuals such as Frederick Beerbrewer, who caused two minor conflagrations in 1457, but also took action against those who failed to extinguish their fires at night.³¹³ Offenders in Norwich faced the prospect of a year's imprisonment or a 100s. fine, imposed by the Assembly in 1423, when eight officers of the watch were appointed in each of the city's four wards to see that the curfew was duly observed. Orders were also then issued for the provision of a ladder and two pairs of 'feerhoks' in every parish, although their reiteration some fourteen years later suggests that people had grown casual about the need for precautions.³¹⁴

Norwich was notoriously prone to fires, a fact apparent from the names of two of its many churches, one being known as St Mary 'the unbrent', or unburned, in memory of its miraculous escape from the fire that had ravaged part of the city just after the Conquest, and the other St Margaret *in Combusto*.³¹⁵ Dramatic conflagrations occurred there in the early sixteenth century: following an

³⁰⁷ MGL, II.i.xxxiii, 87–8; MGL, III.134.

³⁰⁸ The residents of Walbrook ward also needed a ladder, grappling hooks and ropes: CPMRL, 1413–1437, pp. 135, 139, 152, 158.

³⁰⁹ In 1390–1, for example, the corporation bought seven new ladders, ranging in height from 11 to 43 feet, for fighting fires: Isaacson and Ingleby, *Red Register of King's Lynn*, II.134v.

³¹⁰ Smith, Smith and Brentano, *English Guilds*, pp. 385–6.

³¹¹ Brown, *Rows of Chester*, p. 72. See also Jack, 'Fire Ordinances of Ruthin', p. 13.

³¹² Bateson, *Borough Customs*, pp. 81–2.

³¹³ KLBA, KL/C7/2, Hall Book, 1422–1429, p. 128; C7/4, Hall Book, 1453–1497, p. 85. Heavy fines were also imposed in Winchester upon those who caused fires: Keene, *Survey of Medieval Winchester*, I.178.

³¹⁴ RCN, I.279–80; II.87; NRO, NCR, 16D/1, Assembly Proceedings, 1434–1491, fol. 6r.

³¹⁵ Blomefield, *Topographical History of the County of Norfolk*, IV.439; B. Ayers, *Digging Deeper: Recent Archaeology in Norwich* (Norwich, 1987), p. 11.

unspecified but quite serious blaze in 1505, two fires in rapid succession during the spring and early summer of 1507 together destroyed at least 40 per cent of the entire housing stock.³¹⁶ The long-term consequences of this disaster were mixed. On the one hand, better dwellings with tiled roofs rather than 'thakke' could be constructed, stricter regulations for building introduced and drains and sewers repaired; on the other, the rental income that funded both private and public schemes for civic improvement fell sharply and derelict areas remained unoccupied for decades. A slump in the worsted trade, upon which the city's wealth depended, exacerbated matters, sparking resentment on the part of the poor towards richer neighbours who exploited the crisis to augment their own holdings.³¹⁷ Twenty-eight years after the 1507 fires a parliamentary act 'for the re-edifieng of voyde groundes in the Citie of Norwich' reported that whole tracts of 'desolate and vacant groundes, many of theym nighe and adjoyninge to the high stretes, replenished with moche unclennes and filthe' still blighted the urban landscape, threatening the health of residents and visitors alike.³¹⁸ There can be little doubt that members of the ruling elite used this legislation to gain possession of 'grounde decaied by the ffyer' on highly advantageous terms. Yet men such as Augustine Steward, who acquired two plots 'soore accombred ... by divers persons with muk & suche other vile mater', at least possessed the resources to clear away the debris and begin again.³¹⁹

Urban fires could reduce even the rich to penury, creating swathes of depopulation and placing an inordinate strain upon resources that might already be stretched to capacity. As in Norwich, reconstruction often took place slowly, with the result that some towns and cities were defaced by charred ruins, wasteland and building sites for long periods.³²⁰ Although national fund-raising campaigns of the kind documented in the aftermath of late sixteenth- and seventeenth-century fires were not apparently mounted in medieval England, help might be available from the crown in the form of financial concessions or a grant of

³¹⁶ A. Carter and J. P. Roberts, 'Excavations in Norwich, 1973', *NA* 36 (1973–77), pp. 39–71, on pp. 48, 52.

³¹⁷ RCN, II.107; NRO, NCR, 16D/2, Assembly Book, 1491–1553, fols 64v, 100r; Rawcliffe, 'Sickness and Health', p. 313; Ayers, *Norwich: Archaeology of a Fine City*, pp. 140–1. In 1530 the Corporation carried out an inspection of the city's housing, fining anyone who had thatched his or her property during the previous decade: NRO, NCR, 16A/2, Mayor's Book, 1510–1532, pp. 236–7.

³¹⁸ SR, vol. 3, 26 Henry VIII, cap. 8, pp. 504–5. The new occupants of 'grounde decaied by the ffyer' were required to enclose and develop their land: RCN, II.122. Similar measures were then adopted in Northampton, where a devastating fire in 1516 had accelerated economic and demographic decline: W. Page, ed., *VCH Northampton*, vol. 3 (London, 1930), pp. 30–1.

³¹⁹ RCN, II.122; NRO, NCR, 16D/2, Assembly Proceedings, 1491–1553, fol. 163r–v.

³²⁰ As Robert Tittler points out, because there was far less demand for accommodation while urban populations continued to stagnate or even decline, the replacement of lost housing stock only became a priority in the 1530s: 'For the "Re-Edification of Townes": The Rebuilding Statutes of Henry VIII', *Albion* 22 (1990), pp. 591–605, on pp. 595, 597.

building materials.³²¹ Following yet another arson attack by the Scots, for instance, the people of Carlisle obtained permission from Edward I in 1305 to remove stone from the royal forest of Inglewood in order to construct houses that would be less combustible. Their assurance that the ensuing repairs 'would be better than they had been in the past' confirms that devastation was not only a regular fact of life for the inhabitants of marcher towns, but that hasty rebuilding might well leave much to be desired.³²² Did some communities exaggerate their losses? Petitions to parliament for tax relief in the aftermath of fires inevitably painted a bleak picture, just like modern-day insurance claims. It is now impossible to tell if 'the greater part of the commonalty' of Tamworth was actually rendered homeless after a conflagration in 1345, although the apparent success of the appeal would suggest that serious damage had occurred.³²³ Similar requests for allowances and exemptions made by the people of Arundel in 1344 (after two serious fires in six years), of Cambridge (where a hundred burgages were reputedly destroyed in 1385), of Basingstoke in 1392, of Shrewsbury in 1394 and again shortly before 1407, of Hythe in 1401 (when an apocalyptic combination of fire and pestilence struck the town) and of Andover in 1435 underscore the vulnerability of urban populations to sudden and widespread disaster.³²⁴

Where possible, individual householders were expected to make good any fire damage as quickly as possible, especially as abandoned buildings could be unsafe for passers-by, attracting fly-tippers and generating miasmatic air.³²⁵ Civic pride also demanded that such eyesores should be removed at the first opportunity, like rotten teeth, although, as the Norwich example confirms, this was easier said than done. Londoners, at least, were legally bound to repair their business premises and dwellings within a reasonable period, while the authorities could insist that dangerous structures be demolished and rebuilt.³²⁶ Anyone deemed responsible for destroying adjacent property through negligence might well find himself in

³²¹ P. Roberts, 'Agencies Human and Divine: Fire in French Cities, 1520–1720', in Roberts and Naphy, *Fear in Early Modern Society*, p. 9; Friedrichs, *Early Modern City*, pp. 277–8.

³²² TNA, SC8/1/34; *RP*, I.166. Edward I also made grants of timber to those whose property had been destroyed: TNA, SC8/3/103, 99/4905, 100/4954; *CCR*, 1302–1307, pp. 256, 259, 302. It has been suggested that residents of the borders preferred to rebuild quickly in wood, since their dwellings would soon be destroyed again: Palliser, Slater and Dennison, 'Topography of Towns', pp. 182–3.

³²³ TNA, SC8/13/641; *RP*, II.189.

³²⁴ *RP*, II.185–6; *CCR*, 1343–1346, p. 283 (Arundel); F. W. Maitland and M. Bateson, eds, *The Charters of the Borough of Cambridge* (Cambridge, 1901), pp. 32–9; Baigent and Millard, *History of the Town and Manor of Basingstoke*, pp. 75–6; TNA, SC8/299/14935, 14942; *RP*, II.618–19; Owen and Blakeway, *History of Shrewsbury*, I.175, 204; SC8/250/12465; *CPR*, 1399–1401, p. 477 (Hythe); SC8/90/4477 (Andover).

³²⁵ Tittler, 'Re-Edification of Townes', p. 596. In thirteenth-century York, tenants could be required to rebuild after a fire: P. M. Tillott, ed., *VCH York: The City of York* (Oxford, 1961), p. 52. However, it was difficult to enforce this type of obligation and urban landlords, including hospitals, often suffered as a result: Keene, *Survey of Medieval Winchester*, II.806; Rawcliffe, *Medicine for the Soul*, p. 98.

³²⁶ *LAN*, no. 206.

court, as is apparent from a case of 1377, in which a chandler successfully sued his neighbour for compensation because an unsupervised fire had spread out of control into his tenement. It is interesting to note that most of the damage was caused by the removal of tiles and laths 'with chains and hooks' on the command of the constables in order to contain the blaze, which confirms that the fire-fighting measures described above were effectively put into practice.³²⁷

It seems hard to deny that at least some of the schemes and regulations considered in this chapter had a tangible impact upon the late medieval urban environment. However, not all scholars are persuaded that the residents of English towns and cities were capable of implementing even the most rudimentary health measures. Two arguments in particular have been advanced in support of this thesis. A system that depended so heavily upon voluntary co-operation is deemed to have been unworkable without more robust means of policing and enforcement, while the authorities themselves stand charged with a collective failure to invest the necessary time, money and effort for the creation of better public utilities. Some historians maintain that magistrates and householders alike 'preferred the unpleasantness to the trouble of having to continually carry off their waste', and chose to ignore the mounting heaps of dung and garbage that contaminated their streets.³²⁸ There can, indeed, be little doubt that the problem sometimes seemed intractable, and that, despite strenuous efforts, insanitary nuisances – from noisome latrines to dirty and broken pavements – could never be completely eliminated.

Yet, as the most cursory examination of urban records reveals, the presumption of inertia flies in the face of an overwhelming mass of archival and archaeological evidence. The threat of increasingly draconian fines for antisocial behaviour may reflect desperation, but can hardly be regarded as a sign of indifference. Indeed, in some respects, such as the introduction of refuse collections and communal rubbish tips, the control of vagrant animals, the more systematic removal of butchers' waste and the prevention of fires, many towns and cities could lay claim to modest success against formidable odds. Perhaps the final verdict should rest with G. T. Salusbury-Jones, who observed in 1939 that, whereas 'squalor and filth' might often reach alarming levels, the challenge was generally met by a desire for prompt and effective action rather than passive resignation. 'Judging by the number and vehemence of municipal laws for the cleaning of the streets, particularly in the fifteenth century', he concluded, 'more credit should be given to the townsfolk of the Middle Ages for their sensibility to the dangers and unpleasantness of foul ways than is generally accorded them.'³²⁹ Their concern extended to the provision of clean, unpolluted water, to which we now turn.

³²⁷ *CPMRL*, 1364–1381, pp. 235–6. One early sixteenth-century legal formulary records the wording of writs for use in such cases: TNA, C193/1, fol. 22r.

³²⁸ Classen, Howes and Synnot, *Aroma*, p. 57.

³²⁹ Salusbury-Jones, *Street Life in Medieval England*, p. 72.