

Samuel Pepys: A Case Study in the History of Hygiene.

The diaries of Samuel Pepys provide very detailed information on personal and domestic hygiene, allowing us to explore in greater detail their possible impact on mortality levels. In order to understand the environment in which Pepys lived, it is necessary to summarise the sanitary condition of the City of London and Westminster during the seventeenth century. Before the great fire of 1666 most houses were timber-framed, and the streets were composed of irregular-shaped cobbles including a central kennel for surface drainage. Although piped water had been laid on in some houses in the City of London and elsewhere, there was virtually no internal plumbing, and many houses were reliant on wells and pumps for their water supply. Some houses had cesspits built outside the house in gardens and yards, but most houses appeared to have had open vaults in basements in which all waste matter – kitchen waste, excreta, urine, rainwater – was deposited.

The waste vaults were usually connected to the “houses of office” (latrines) and kitchen sinks by internal waste ducts and pipes, often made of timber, and sometimes built at an angle to accommodate latrines on the upper floors. Most households at this time used chamber pots emptied into the vaults via the “houses of office” on different floors, although very often the main latrine appears to have been located next to the kitchen,¹ presumably to allow more convenient disposal of all waste material. In the absence of water closets, most excreta and urine were deposited in the vaults through gravity, and the conditions of some of the wooden ducts, particularly in hot weather must have been highly unhygienic. These internal areas of the house – with their deposits of kitchen waste and human manure – must have been ideal breeding grounds for rats, fleas, lice and other parasitical organisms,

¹ See J. Schofield, *The London Surveys of Ralph Tresswell*, 1987, pp. 22-24.

which as we will see later, afflicted Pepys, his domestic household and his social circle.

These vaults were usually emptied by night-soil men who would enter the house after nine o'clock in the evening, using the night-time to empty the contents of the vault. Sometimes the waste matter was pumped into the open street, as happened in the following example. In the 1670s, Lord Guildford bought a house in Chancery Lane in London:

There he found a 'small well in the cellar, into which all the drainage of the house was received', from closet and sink alike. When this was full a pump went to work to clear it into the open kennel (gutter) of the street. As may be imagined 'during the pumping the stench was intolerable', offending not only his lordship, but all the houses in the street . . . Nor was his the only house to create such a nuisance, for 'other houses there, which had any cellars, were obnoxious to the same inconveniences.' Guildford proposed that the inhabitants should join in making a drain along the street deep enough to discharge into the new sewer under Fleet Street, but they refused, 'alleging danger to their houses and other frivolous matters'.²

This practice of depositing manure and other waste products into the street had a long history in London, partly due to many smaller houses not having privies built into them. The statutes regulating the streets of London and still in operation in 1720, included the following:

No Man shall cast any Urine-Boles, or Ordure-Boles into the Streets by Day or Night, afore the Hour of nine in the Night; And also he shall not cast it out, but bring it down, and lay it in the Canel, under pain of three Shillings and four pence. And if he do cast it upon any Persons Head, the Person to have a lawful Recompence, if he have hurt thereby.³

The reader will note that it was only if the passer-by was damaged by the deposit of the urine and ordure boles on his head that he had any legal redress.

The above brief discussion of sanitary conditions in London during the seventeenth century is sufficient to provide the background for

² T.F. Reddaway, *The Rebuilding of London*, 1940, p. 287.

³ J. Stow, *A Survey of the Cities of London and Westminster*, (ed., J. Strype), 1720, Book 2, p. 307.

discussion of the detailed evidence provided by Pepys's diary. Pepys lived in Seething Lane in the City of London, near to the Tower of London and next to other officials at the Navy Office. His main water supply was from a pump located in a yard shared with his neighbours,⁴ and his waste was discharged into a vault located in his cellar, which he also shared with his neighbours. In the first year of the diary, the following event occurred:

This morning one came to me to advise with me where to make me a window into my cellar in lieu of one that Sir W. Batten has stopped up; and going down into my cellar to look, I put my foot into a great heap of turds, by which I find that Mr Turner's house of office is full and comes into my cellar, which doth trouble me; but I will have it helped.⁵

Pepys agreed that Turner's night-soil should be emptied out of Pepys's cellar, although this was done through Turner's own house and with the agreement that his "vault of turds" should either be enlarged or built as a separate structure.⁶ Pepys also had a problem with his other neighbours – Sir William Batten and his wife – about the "emptying of our houses of office", but after some discussion it was mutually agreed that it should be done through Pepys's "office".⁷ The reasons for these disputes probably lay in the unpleasantness of the process of emptying these vaults. Pepys described how his own cellar was emptied:

So from thence home, where my house of office was emptying, and I find they will do it with much more cleanness then I expected. I went up and down among them a good while; but ... I went to bed and left them [my servants] to look after the people. So to bed ... Up about 6 a-clock and find the people have just done; and Hannah not gone to bed yet, but was making clean of the yard and the kitchen ... going to Sir W. Batten (having no stomach to dine at home, it being yet hardly clean of last night's turds) ...⁸

⁴ R.C. Latham and W.M. Matthews, *The Diary of Samuel Pepys*, Vol. 5, 173, p. 249.

⁵ *Ibid*, Vol. 1, p. 269.

⁶ *Ibid*, Vol. 4, p. 220.

⁷ *Ibid*, p. 233.

⁸ *Ibid*, pp. 252, 253.

The willingness to tolerate such conditions appears to have been general. On one occasion Pepys found that “my wife and maid Ashwell had between them spilt the pot of piss and turd upon the floor and stool and God knows what, and were mightily merry washing of it clean. I took no notice but merrily.”⁹ On another occasion, Pepys encountered by accident Lady Sandwich in his house, and “I perceive by my dear Lady’s blushing that in my dining-room she was doing something upon the pott; which I also was ashamed of and so fell to some discourse...”¹⁰ But there were times when Pepys was irritated by the conditions in which he lived, although he made no attempt to change them:

... at night home and up to the leads [on the roof]; but were, contrary to expectation, driven down again with a stink, by Sir W. Pen’s emptying of a shitten pot in their house of office close by; which doth trouble me, for fear it do hereafter annoy me. So down to sing a little, and then to bed.¹¹

Pepys was often bothered by sanitary problems from adjoining houses, including flooding and damp; “In the morning, seeing a great deal of fowle water come into my parler under the partician between me and Mr Davis, I did step thither to him and tell him of it, and did seem very ready to have it stopped.”¹² Pepys’s basement was certainly subject to damp,¹³ but much of it probably due to the internal conditions in his own house. On one occasion he kept a pet eagle in his latrine, but was glad to get rid of it, “she fouling our house of office mightily.”¹⁴ He himself was not averse to using other areas of the house for similar purposes: he once “lacked a pot but there was none, and bitter cold, so was forced to rise and piss in the chimney.”¹⁵ This is reminiscent of

⁹ *Ibid*, p. 155.

¹⁰ *Ibid*, Vol. 5, p. 129.

¹¹ *Ibid*, Vol. 7, p. 113.

¹² *Ibid*, Vol. 1, pp. 304, 305.

¹³ *Ibid*, Vol. 7, p. 336.

¹⁴ *Ibid*, Vol. 5, p. 352.

¹⁵ *Ibid*, p. 357.

Boorde's earlier warning against the practice: "...beware of pissing in draughts, and permit no common pissing place to be about the house or mansion ... And beware of emptying of piss pots and pissing in chimneys."¹⁶

Subsequently when Pepys was staying in lodgings in Greenwich to avoid the plague, he resorted to the chimney in the following way:

And so I to bed, and in the night was mightily troubled with a looseness ... and feeling for the chamber pott, and there was none ... I was forced in this strange house to rise and shit in the Chimney twice; and so to bed and was very well again ...¹⁷

This is very similar to what happened to Charles II's court when they spent the summer of 1665 in Oxford to escape the plague; they were castigated by the diarist Anthony Wood, for "though they were neat and gay in their apparell, yet they were very nasty and beastly, leaving at their departure all their excrements in every corner, in chimneys, studies, colehouses and cellars."¹⁸ It is not surprising given these standards of personal hygiene, that the earth in many house floors, particularly that in cellars, was used as a source of saltpetre (potassium nitrate), which resulted from the deposit of excreta and urine either from animals or human beings.¹⁹ The deposit of excreta and urine on floors appeared to have been general in London, for in 1627, the government issued a proclamation stipulating that the earth remaining from demolished houses in London should be made available to the saltpetre men:

That whensoever any old house or building in London, or within three miles thereof, shall be pulled downe, and the earth and Rubbish is be caried away or remooved, That before any part thereof be stirred or removed, there be notice thereof given at the Kings storehouse for the

¹⁶ H. Edmund Poole, *The Wisdom of Andrew Boorde*, 1936, p. 22.

¹⁷ Latham and Matthews, *The Diary of Samuel Pepys*, Vol. 6, p. 244.

¹⁸ Quoted in Peter Razzell, *Essays in English Population History*, 1994, p. 205

¹⁹ For a general discussion of the use of earth floors as a source of saltpetre see *Ibid*, pp. 203-205.

making of Saltpeter in Southwarke, and that the Deputy or workmen of Saltpeter, doe, and may first take so much of the said Earth or Rubbish, as in their judgement and experience is fittest for Saltpeter for the Kings Service.²⁰

In order to maximise the availability of saltpetre (used in the manufacture of gunpowder), the government attempted to prevent the paving “with stone, or bricke, or Floore with board ... any Cellar or Vault ... or do lay the same with lime, sand, gravell, or other thing, whereby the growth and encrease of the Mine of Saltpeter may be hindered or impaired.”²¹ It is unclear whether Pepys’s cellars were paved or not, or indeed whether his kitchen which adjoined his back yard had an earth floor – most kitchens in the country had earth floors at this time – but certainly the conditions in his basement would have been highly conducive to the growth of saltpetre. The poor sanitary arrangements in Pepys’s house were also reflected in the low level of personal hygiene. There is no evidence that Pepys ever took a bath, although he did occasionally wash his hands and face in cold and warm water.²² He considered that his wife going to a public bathhouse was sufficiently unusual to warrant special comment:

... my wife being busy in going with her woman to a hot house to bath herself, after her long being within doors in the dirt, so that she now pretends to a resolution of being hereafter very clean – how long it will hold, I can guess ...²³

Pepys was forced to sleep by himself on the next night, “my wife after her bathing alone in another bed.”²⁴ Two nights later he was made to clean himself “with warm water; my wife will have me, because she doth herself.”²⁵ The problem was that there was no running water in the

²⁰ J.F. Larkin and P.L. Hughes, *Stuart Royal Proclamations*, 1973, p. 455.

²¹ *Ibid*, p. 455.

²² See the discussion of washing and bathing in the companion volume to Pepys’s diary, Latham and Matthews, *The Diary of Samuel Pepys*, Vol. 10.

²³ *Ibid*, Vol. 6, p. 40.

²⁴ *Ibid*, p. 41.

²⁵ *Ibid*, p. 44.

house, and hot water was only available in very limited supply, so that when Pepys washed his “legs and feet with warm water” he was forced to do it in the kitchen.²⁶ On most occasions when Pepys mentioned cleaning himself he referred to rubbing himself clean with a dry cloth.²⁷ He had a constant problem keeping his hair clean, and on one occasion “had Sarah to comb my head clean, which I find so foul with poudering and other troubles, that I am resolved to try how I can keep my head dry without powder.”²⁸ Pepys attempted to deal with this problem by having his hair cut very short and wearing a wig, but he found to his dismay that all the wigs he bought were infested with nits.²⁹ He himself was infested with head and body lice on more than one occasion, and summarised his problem as follows:

So to my wife’s chamber, and there supped and got her to cut my hair and look my shirt, for I have itched mightily these six or seven days; and when all came to all, she finds that I am louzy, having found in my head and body above 20 lice, little and great; which I wonder at, being more than I have had I believe almost these 20 years. I did think I might have got them from the little boy, but they presently look him, and found none – so how they came, I know not; but presently did shift myself, and so shall be rid of them, and cut my hayre close to my head.³⁰

Although concerned on this occasion about lice in his hair and on his body, Pepys was much more relaxed when he stayed at an inn in Salisbury: “Up finding our beds good but we lousy. Which made us very merry ...”³¹ He had a very similar reaction when he discovered fleas in his bed when he stayed at Portsmouth; on this occasion he shared a bed with his colleague and friend, Dr Timothy Clarke, physician to the King’s household:

²⁶ *Ibid*, Vol. 7, p. 206.

²⁷ *Ibid*, Vol. 3, p. 188.

²⁸ *Ibid*, p. 96.

²⁹ See for example *Ibid*, Vol. 5, p. 212.

³⁰ *Ibid*, Vol. 9, p. 424.

³¹ *Ibid*, p. 231.

The Doctor and I lay together at Wiards the Chyrurgeons in Portsmouth ... We lay very well and merrily. In the morning concluding him to be the eldest blood and house of the Clerkes, because all the Fleas came to him and not to me.³²

This anecdote illustrates one of the central features of personal hygiene in the seventeenth century: there was a strong intimacy and physicality to social life which was probably responsible for the spread of much infection and disease. Dr Clarke as a royal physician was responsible for bleeding and giving physic to members of the royal family and attended the Queen during childbirth,³³ and here we see a direct link between the poor personal hygiene of Pepys and his circle and the health of the royal family. Dr Clarke's medical instruments, in particular his lancet used in treatment for bleeding and other operations on members of the royal family, were almost certainly not properly sterilised and therefore a major source of infection. Also, Clarke attended the births of royal children, and his practices were probably very similar to those of contemporary midwives:

If the membrane bag of fluid in which the baby had developed had not been broken by the time the midwife arrived, she would put her hand up the mother's vagina and break the membrane with a specially sharpened fingernail, or a sharp-ended thimble ... In 1687 a midwife estimated that two-thirds of miscarriages, stillbirths and maternal deaths in childbed were due to colleagues.³⁴

Fleas were clearly present in Pepys's own household, although his attitude towards them appeared to be very matter of fact: "I thought myself to be mightily bit with fleas, and in the morning she [my wife] chid her maids for not looking the fleas a-days. But when I rise, I find that it is only the change of the weather from hot to cold ..." ³⁵ It is in these casual references that attitudes towards personal and domestic hygiene are so revealing for example, when Pepys returned home to

³² *Ibid*, Vol. 3, p. 70.

³³ See for example *Ibid*, Vol. 5, p. 197; *Ibid*, Vol. 7, p. 49.

³⁴ L. Picard, *Restoration London*, 1997, p. 94.

³⁵ *Ibid*, p. 260.

dine with his friends Batty and Mr How, he and his wife “fell out a little about the foulness of the linen of the table ...”³⁶

On a more intimate level, Pepys makes references to his sexual life revealing much about his own personal hygiene: “... I went up to her [Sarah] and played and talked with her and, God forgive me, did feel her; which I am much ashamed of, but I did no more, though I had so much a mind to it that I spent in my breeches. After I talked an hour or two with her, I went and gave Mr Hunt a short visit, he being at home alone.”³⁷

Pepys makes no mention of washing or changing of clothes after his many sexual encounters, and it is this physicality and lack of concern with smell which probably accounts for Pepys’s reaction to the following incident: “I went to Mr Crews and thence to the Theatre, where I saw again *The Lost Lady* ... And here, I sitting behind in a dark place, a lady spat backward upon me by a mistake, not seeing me. But after seeing her to be a very pretty lady, I was not troubled with it at all.”³⁸ Perhaps this tolerance to spitting has a special Pepysian flavour, but a more general tolerance might help explain the entry in the diary: “At night to supper and to bed – this night having first put up a spitting-sheet, which I find very convenient.”³⁹ Perhaps Pepys was only following here current practice, for as Andrew Boorde had advised: “When you be out of your bed, stretch forth your legs and arms, and your body, cough and spit, and then go to your stool to make your egestion ... And wash your hands and wrists, your face and eyes, and your teeth, with cold water.”⁴⁰

³⁶ Latham and Matthews, *The Diary of Samuel Pepys*, Vol. 9, p. 402.

³⁷ *Ibid*, Vol. 3, p. 191.

³⁸ *Ibid*, Vol. 2, pp. 24, 25.

³⁹ *Ibid*, Vol. 3, p. 262.

⁴⁰ Poole, *The Wisdom of Andrew Boorde*, p.33. The common practice of spitting may have been a factor in the spread of tuberculosis.

Hygiene within the house was reflected in the sanitary conditions of the surrounding streets; we have already seen how the waste and soil from the house was deposited onto the street, and animal manure was a constant hazard, not only from horses, but from pigs, goats, chickens, ducks and cattle.⁴¹ Pepys constantly complained about the dirt and filth of the roads of London, frequently making it impossible for him to walk from one area of the town to another.⁴²

Poor hygiene and inadequate conditions of storage also affected the quality of food and drink. Given the contamination of the soil with excreta and other waste products, and the reliance on wells and pumps, most supplies of water were probably polluted. The ladies accompanying the Portugese Queen complained “much for lack of good water to drink”,⁴³ and although the main staple drink at this time was beer and wine, water was drunk by Pepys and his contemporaries.⁴⁴ Milk was also drunk, but sometimes with uncomfortable consequences:

In our way [from Hackney] drinking a great deale of Milke ... I was in mighty pain all night long, of the Winde griping of my belly and making of me shit often, and vomit too ... this I impute to the milk that I drank, after so much beer. But the cold, to my washing my feet the night before.⁴⁵

This quote not only reveals an ignorance of the dangers of contaminated drink, but a wariness of washing and bathing which was probably quite

⁴¹ See Latham and Matthews, *The Diary of Samuel Pepys*, Vol. 3, p. 243. One of the regulations still in force in 1720 required that ‘No Man shall have any Kine, Goats, Hogs, Pigs, Hens, Cocks, Capons or Ducks in the open Street, under pain of Forfeiture of the same.’ J. Stow, *A Survey of the Cities of London and Westminster*, Book 2, 1603, p. 306.

⁴² See for example Latham and Matthews, *The Diary of Samuel Pepys*, Vol. 2, pp. 81; 188, 189; *Ibid*, Vol. 4, pp. 3, 12; *Ibid*, Vol. 8, pp. 344, 356, 444; *Ibid*, Vol. 9, pp. 9, 478.

⁴³ *Ibid*, Vol. 3, p. 92.

⁴⁴ For example, on one occasion, Pepys ‘drank on wine, but sent for some water, the beer not being good.’ *Ibid*, Vol. 4, p. 265.

⁴⁵ *Ibid*, Vol. 7, p. 207.

general at this time.⁴⁶ The diary also has a number of references to polluted food, which Pepys again appears to have been relatively tolerant of, as indicated in the following quote: "...took Commissioner Pett home with me for dinner, where my stomach was turned when my sturgeon came to table, upon which I saw very many little worms creeping, which I suppose was through the staleness of the pickle."⁴⁷ He was more ashamed of the meat that his father and mother regularly served the children of Lord Sandwich when they were staying with them: "though they buy good meate, yet can never have it before it stinks – which I am ashamed of."⁴⁸

Venison pasties appeared to have been particularly vulnerable to contamination: "a very good pasty of venison, better then we expected, the last stinking basely."⁴⁹ Some of the contamination of meat Pepys attributed to the weather: "... home to dinner, where a stinking leg of mutton – the weather being very wet and hot to keep meat in."⁵⁰ With the absence of proper storage facilities, and the very poor hygienic conditions inside the house, it is not surprising that food often became contaminated.

Pepys frequently describes the illnesses and poor health that he and his family, friends and colleagues frequently suffered from, although these are mainly descriptions of symptoms rather than accounts of the diseases involved. It is possible to recognise in the diary all the classical diseases known to exist at this time: plague, smallpox, typhus, tuberculosis, malaria, dysentery, gastro-enteritis, typhoid fever, measles, scurvy, scarlet fever, venereal disease, and a host of other more minor

⁴⁶ *Ibid*, p. 172 for another reference to Pepys blaming the washing of his feet for an attack of colic.

⁴⁷ *Ibid*, Vol. 3, p. 120.

⁴⁸ *Ibid*, Vol. 5, p. 193.

⁴⁹ *Ibid*, Vol. 8, p. 375.

⁵⁰ *Ibid*, Vol. 9, p. 252.

complaints. There are also a large number of deaths referred to in the diary, particularly of infants within the first few weeks of life.⁵¹ It is impossible to calculate an objective measure of mortality from the diary because the references are too piecemeal, but Pepys did list the births and deaths of his own family of origin. There were eleven children born to his father and mother, seven of whom died during childhood; of the four who survived childhood, two of Pepys's brothers died unmarried in their thirties, and his remaining sister married but died at the age of forty-two.⁵²

Pepys himself suffered from a stone in the kidney, and what he called colic; this was a chronic disorder and occurred constantly throughout the period of the diary. From the symptoms described – chronic pain, diarrhoea, flatulence and wind – this was probably a form of gastro-enteritis, a complaint which also afflicted Pepys's wife, Elizabeth. Pepys also described other illnesses, including fever; on one occasion he described his illness as follows: “having been this day or two mightily troubled with an itching all over my body, which I took to be a louse or two that might bite me – I find this afternoon all my body is inflamed and my face in a sad redness and swelling and pimped ...”⁵³ This could have been an attack of typhus, but there is no way of knowing from this distance in time what particular illnesses affected Pepys and his circle of family and friends.

The disease environment revealed by the diary, and the insects and parasites that flourished in that environment (rats, fleas, lice, flies and other micro-organisms), were probably responsible for a range of diseases – plague, typhus, typhoid fever, dysentery, and gastro-enteritis. In the sixteenth and early seventeenth century infant and child

⁵¹ For example, Pepys's friends Mrs Knepp and Mrs Pierce both lost infants within the first few weeks of life; see *Ibid*, Vol. 7, pp. 220, 236.

⁵² *Ibid*, Vol. 5, p. 361.

⁵³ *Ibid*, Vol. 4, p. 38.

mortality were relatively low in London, in spite of the very poor levels of personal, domestic and public hygiene. Death is the outcome of the interaction of a number of variables, including the virulence of pathogens as well as the hygienic state of the environment.⁵⁴ Diseases such as smallpox only became really fatal after the middle of the seventeenth century, and Pepys lived through a period of transition which resulted in the high infant and child mortality of the late seventeenth and early eighteenth century.

Pepys himself survived the hazards of this environment, dying at the age of seventy,⁵⁵ but most other members of his family died young, including his wife who died at the age of twenty-nine,⁵⁶ leaving Pepys who never remarried, to be survived only by two nephews, his sister's sons.

⁵⁴ This is illustrated by the current role of the MRSA staphylococcus in hospital deaths, the result of the interaction of a virulent bacterium with the poor hygienic condition of hospital environments.

⁵⁵ *Ibid*, Vol. 1, p. xl.

⁵⁶ She died from a fever during a journey to Holland. *Ibid*, p. xxxv.