



Plague

Smells

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The recurrence and spread of plague in Europe over four centuries, beginning with the Black Death in 1347, engendered distinctive olfactory associations. ‘Bad’ air or ‘miasma’, associated with filth and ‘corruption’ of the air and identifiable by its stench, was thought to directly cause plague. Scientific texts focussing on plague differentiate between ‘foul’ (causal) and ‘sweet’ (preventative) odours, which typically co-existed during periods of pestilence as the smell of sickness blended with the scent of prophylaxis. Foul odours, whether in public spaces or in the sick room, needed to be removed or countered with sweet (e.g. flowers, herbs, incense) or particularly pungent smells (e.g pitch, burned goat’s horn, gunpowder). Municipal and church authorities accordingly arranged to fumigate cities with woodsmoke and, from the sixteenth century, gunpowder. Householders were urged to keep domestic interiors clean and sweet, free of potential sources of stench and to air, fumigate and scent rooms and textiles with fresh plants and perfumes. Individuals were encouraged to take further preventative action using vinegar-soaked sponges and scented accessories to create a personal cloud of protective fragrance (Welch 2012, 21). Evidence for concern with plague-inducing stench and the use of perfumes to counter it largely comes from sixteenth-century Italian medical texts and their English translations. This reflects the authority of Italian medicine and public health practices and the impact of the Italian plague of 1575-78 (Cohn 2010; 22-33; Henderson 2019, 3-5; Wear 2000, 314). However, theory and practice can radically differ: even if the advice was followed to the letter, what individuals smelled and experienced in the presence of certain scents, is impossible to reconstruct.

SMELLS

Introduction	Corruption of the air, symptomatic of putrefaction and identifiable by stench, was directly associated with plague (Palmer 1993, 65; Henderson 2018, 69-85; Wear 2000, 316-319; Gentilcore 2012, 154). Contemporary sources frequently identify churchyards, valleys, caves, stagnant water and low-lying or wet places as locations susceptible to ‘exhalations’ from the earth and as sites of corrupt air (Mercuriale and Martin 2022, 46; Gentilcore 2012, 153; Von Ewich 1583, 85; Kemp 1665, 13; Mead 1720, 3). Even in times of relative peace, municipal and medical authorities thus placed much attention upon ensuring the cleanliness of towns and cities. During periods of plague concern about sanitation increased. The smell of standing puddles and dung heaps in streets used as communal latrines identified them as sites of infection (Lupton 1593, 1; Von Ewich 1583, 109; Anon. 1603, unnumbered). The commingling of odours in the marketplace –namely, the stench of farm animals (their sweat, breath and excrement) when brought to market, the potential for putrefaction of items sold there, combined with crowds of people– indicated that it was another prospective site of contagion (Von Ewich 1583: 169; Kellwaye 1593, 13). In Venice, provisions were made to prevent the sale of rotten meatand other foodstuffs that might adversely affect the health of the city due to their stench (Contarini, 1599: 118). The quality of the air was of primary concern, it could either carry the conditions for illness or revive a city. Consequently, it needed to be carefully managed (Ficino 2007, 167-168). Thus, the cleansing of urban environments targeting the removal of unpleasant smells was fundamental for the safeguarding of public health at all times, not only during outbreaks of plague.	Creator: Rose Byfleet
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Those infected with plague produced horrible fetor. The Italian physician Girolamo Mercuriale (1530 -1606) describes a key symptom of the plague, the carbuncle (or bubo), as ‘foul-smelling’ due to the putrefaction contained within it (Mercuriale and Martin 2022, 110). A seventeenth-century London physician describes the ‘vile and noisome’ breath of the patient and the ‘abominable savour’ of their sweat as key symptoms of infection – a sweat so ‘horribly stinking’ that it sometimes frightened the attending physician (Bradwell, 1636: 6, 43). The foul breath of the patient was not only revolting but potentially dangerous as, according to Galenic theory, it could transmit disease (Palmer 1993, 65). Smell could also indicate imminent death: if the pustules that appeared on the body suddenly developed ‘a vile stinking savourand spitteth stinking and bloody matter’, a symptom recognisable even to a non-expert practitioner, the patient was not long for the world (Kellwaye, 1593, 15).

PRACTICES

Fumigation was the primary method for plague prevention in urban centres. The use of scented or smoky woods, such as cypress, pine, juniper, oak and beech, to fumigate a city was a continuation of practices derived from Hippocratic recommendations (Cohn, 2010; Wear 2000, 320-321). Fire was believed to have purifying properties with the ability to clarify the air (Cavallo & Storey 2013, 94). Less-pleasant smells were also used: according to one sixteenth-century miscellany, ‘many stinking things do drive away the contagious and pestiferous ayre [such] as castoreum, galbanum, sagapenum, brimstone..the smoke of burned leather, and of hornes, and especially the smell of gunpowder’ (Lupton 1579, 6-7). Gunpowder, introduced as a form of prophylaxis in the sixteenth century, was considered particularly efficacious (Bradwell 1625, 12 -13; Wear 2000, 321-322). The Dutch physician Levinus Lemnius (1505-1568) was said to have fired guns in the morning and evening across the city of Tournai, thereby saving its inhabitants from the ravages of the plague. Contemporaries attributed his success to the ‘stinking smell’ of the smoke and the ‘great and violent noise of the guns’ (Lupton 1579, 7). Roughly two centuries later, gunpowder was still being used to cleanse the air; a notable instance was the fumigation of Captain Cook’s ship (Cook 1815, 367).

Lighting fires and burning sweet perfumes to cleanse the foul air of the home was deemed essential during any period of pestilence. In one of the most important fifteenth-century tracts on plague, the physician and philosopher Marsilio Ficino advises that a low fire should be lit each morning to eliminate corrupt vapours and thin the air (Ficino 1481, 65). Scented woods such as aloeswood (oudh) and rosewood; resinous scents such as frankincense, storax and benzoin; and dried herbs such as rosemary, bay, lavender, and marjoram appear as favoured fragrances for fumigation. Perfuming pans (in which a perfume could be steamed or burned) could be used in a room without a fireplace or to diffuse a scent more widely (Anon. 1603, unnumbered; Kephale 1665, 12).

The domestic environment was subject to its own regimen of health-preserving practices. The floor was to be swept frequently, sprinkled with rose water and vinegar, and strewn with sweet herbs that would release their scent as they were crushed underfoot. Lavender, rose, sage, rosemary, willow, mint, bay, rushes and oak are among the regularly recommended scents with some variation by season and geography. Should someone fall ill with the plague, deep cleaning of the home became an obligatory practice. Rose vinegar was a favoured cleansing agent and, in some cases, the reliming of walls was considered necessary. Vinegar functioned as a universal cleanser, neutraliser of odour, preservative and antidote based on the recommendation of the ninth-century Persian physician Rhazes (Abu Bakr al-Razi) (Kemp 1665, 80-81).

Textiles played a major role in the transmission of plague in the minds of contemporaries. Their ability to absorb smells meant they were considered vectors for contagion (Turner 2023, 49-50). According to one sixteenth-century writer, fibres could retain infection for at least three years (Von Ewich 1583, 90). Consequently, they needed to be regularly aired and perfumed. Washing, perfuming, and hanging in front of a fire or outdoors was necessary for their proper disinfection. Any material that could not be washed thoroughly (e.g. leather, wool, fur and velvet) was to be avoided. It was advised to change clothes regularly and to perfume garments well before wearing them. Fear around the ability of textiles to carry contagion is especially visible in relation to second-hand goods. A primary concern was that they may have been taken from plague victims (Lupton 1593, 1; Kephale 1665, 61; Mead 1720, 15-17). Warnings about the dangers of second-hand clothing were widespread and followed Girolamo Fracastoro’s theories in *De Contagione et Contagiosis Morbis (1546)*, one of the most important theoretical works on plague and disease of the sixteenth century (Cohn 2010; 23).

The main method for protecting oneself from contagion was to hold something scented to the nose. A sponge, handkerchief, or cloth soaked in rose vinegar was the go-to preservative, sometimes supplemented or exchanged for other odiferous herbs (Turner 1568, 5; Anon 1603, unnumbered; Kemp 1665, 45). Evidence for preventative practices relating to plague also emerge from the material culture of scent. Fragrances could be carried in multiple ways; scented vinegars were held in small bottles (Fig. 1) and solid perfumes could be enclosed in perforated boxes (Fig.2). Pomandersvaried from a simple ball of scented paste held in the hand to highly decorated objects (Figs.3 & 4) in which fragrance could be regularly replaced (Russelli 1562, 40-41; Bullein 1579, 61; Lodge 1603, unnumbered). Earrings, gloves, belts, girdles and necklaces could all function as portable perfume holders (Welch 2012). Individual ingredients could be carried in the mouth to similar effect: dried citron, angelica root or clove that had first been infused with rose water andvinegar were recommended as ‘a special preservative against the plague’ (Turner 1568, 5; Anon. 1603, unnumbered).

Certain scents remained in widespread and continuous use across the centuries. For most of the population, rose vinegar and fragrant herbs perfumed daily life during times of plague. Personal prophylaxis might smell additionally of musk, ambergris, and civet (though such scents were significantly more expensive). Herbs native to Europe and therefore widely available, appear with great regularity in medical recommendations: these include wormwood, valerian, gentian, rue, lavender, rose, rosemary, bay, and juniper. Spices such as clove, cinnamon, myrrh, and frankincense were more expensive but not rare. Animal scents were very costly and they appear less frequently in tracts relating to plague prevention. For those who could not afford vinegar or cinnamon, one English text recommended eating bread and butter, ‘for butter is not only a preservative against the plague but against all manner of poisons’ (Privy Council 1578, unnumbered).

By the time an individual had succumbed to infection, the available means of prophylaxis had evidently failed. Most treatments relied upon a continuation of prophylactic methods or surgical intervention. As soon as individuals felt sick, intense perspiration to purge the body of corruption was induced through the lighting of a fire (Gesner 1576, 71 -72; Kemp, 1665, 74 -78). The heat had the power to draw the corrupt vapours towards it, so those attending the patient were cautioned not to stand between patient and fire. Various compound botanical medicines, often based on vinegar and, ‘sweet perfumes and odours that refresh the spirits’, were prescribed (Kemp 1665, 74 -78). The most frequent recommendation was for the sick to smell a rose water and vinegar-soaked cloth (Kellwaye 1593, 35; Kemp 1665, 78). Alchemical preparations gradually gained favour in the sixteenth and seventeenth centuries. The only fragrant mineral was antimony, which according to one empiric, not only smelled like musk and ambergris but also cured the plague (Salmon 1673, 32). Alternatively, a substance derived from the process of making oil of tartar could be used as a plague preventative if applied to the nostrils (crucially, once its ‘stinking’ scent had been removed) (Duchesne 1591, 38).

FEELINGS AND NOSES

The image of the plague doctor’s beaked mask, stuffed with odiferous herbs, has been a widespread image in popular imagination (Fig.5). The invention of this outfit is often attributed to Louis XIII’s physician, Charles de Lorme (1584 -1678) in response to the 1619 outbreak of plague in Paris (Luconet 1985, 174). Although it is widely assumed to be the main method by which doctors were able to protect themselves from contagion, there is limited evidence for its existence prior to the seventeenth century. Two examples survive in German museum collections, although it has been demonstrated that the beaked plague mask was never in use in Germany and that these objects are probably later historical replicas (Ruisinger 2020). In Italy and France, references to the existence of such masks are scanty and cannot be taken as indicative of regular use. Familiarity with the figure of the plague doctor comes primarily from eighteenth- and nineteenth-century Italian *Commedia dell’Arte* and Venetian carnival masks. Physicians attending patients during periods of plague were reliant on the same methods of prophylaxis as any other person, primarily via the use of vinegar-soaked sponges.

Plague was not constant nor omnipresent, but fear of plague persisted even as major outbreaks in Europe became more infrequent. A notable example is Daniel Defoe’s novel, *A Journal of a Plague Year*, published in 1722, which reflects the fear that the outbreak of plague in Marseilles (1720 -1722) might spread to England (Henderson 2019, 4). Fear had a physiological effect on the early modern body: it could increase susceptibility to disease through disrupting the internal balance of the humours (Stolberg 2019, 115). Thus, a wide variety of actions were taken to address those fears including, in some Italian cities, banning the tolling of bells during funerals to avoid alerting the population to the number of deaths. The emotions provoked by the olfactory stimuli associated with pestilence are hardly articulated in contemporary texts aside from the disgust expressed at putrefaction and stench of plague victims. The plentiful precautions taken to ameliorate disagreeable odours point to shared anxiety around individual and collective wellbeing but do not correlate specific smells with specific emotions.

Awareness of the potential threat posed by the air and knowledge associated with plague prevention was transmitted over generations through the repetition of certain practices and use of specific scents. The last major outbreak of plague in England (London, 1665-6) occurred over fifty years prior to Defoe’s *Journal*. The practices he lists record an unbroken tradition of olfactory responses to the plague which can be traced back to antiquity:

People did enter into some measures for airing and sweetening their houses, and burnt perfumes, incense,benjamin, rosin, and sulphur in the rooms close shut up, and then let the air carry it all out with a blast of gun-powder; others caused large fires to be made all day and all night, for several days and nights (Defoe, 1722).

Concerns about the air as a carrier of illness continued well into the nineteenth century despite advances in epidemiological research. The outbreak of plague in China (1890), which subsequently spread through British colonies and parts of the Middle East, Europe and the Americas, was the first outbreak that could be definitively identified as *Yersinia pestis* (Echenberg 2007, 5-7). Yet responses to it remained relatively unchanged from those of previous centuries. Methods put in place to control it such as quarantine, disinfection, *cordons sanitaires* and isolation would have been familiar to inhabitants of fifteenth- and sixteenth-century Italy (Henderson 2019, 7; Echenberg 2007, 11). Many of the practices that originated as health precautions during times of plague developed into measures for advancing general health and wellbeing. For instance, vinegar became associated with cleanliness. A late nineteenth-century medical dictionary insisted on its use as a cleansing agent in the sick-room, ‘either sprinkled about, or burned’ because of its ‘agreeable and refreshing’ scent. However, it explicitly recognises that it offered no real protection against contagion and ‘its use should not be permitted to supercede more essential purifications’ (Thomson Spencer 1896, 631). The use of vinegar, whilst comforting, is no longer directly associated with plague. Its odour became associated with a sanitary environment.

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TAGS

Airing ● Aloeswood ● Ambergris ● Angelica ● Animal horn ● Animals ● Anxiety ● Apothecaries ● Bay ● Beech ● Benzoin ● Breath ● Brimstone ● Burning ● Castorom ● Churchyards ● cinnamon ● Citron ● Civet ● Clove ● Cypress ● Decomposition ● Deodorisation ● Disgust ● Doctors ● England ● excrement ● Fear ● Filtering ● France ● Frankincense ● Fumigation ● galbanum ● Gentian ● Germany ● Gunpowder ● Handkerchief ● Hens (Sage) ● Holding perfume ● Home/ domestic space ● Italy ● juniper ● kennels) ● Latrines ● lavender ● Leather ● Marjoram ● Marketplace ● Mint ● musk ● myrrh ● Nosegay ● Oak ● Oudh ● Outdoor spaces (streets ● Perfuming ● Perfuming box ● Perfuming pan ● Pine ● Plague doctor’s mask ● Pomander ● Putrefaction ● Rivers ● rose vinegar) ● Rosemary ● Roses (rose water ● rosewood ● Rotten meat ● Rue ● Sagapenum ● Sick room/ house ● Standing water ● Steaming ● storax ● Strewing ● sulphur ● Sweat ● Textiles ● Valerian ● Vinaigrette ● Vinaigrettes ● vinegar ● Vinegar-soaked sponge ● Washing ● Willow ● Woodsmoke ● Wormwood ● yards

