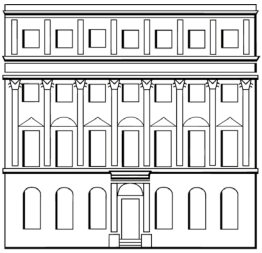

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State of the Art and Future Directions of Research
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THE LONDON BILLS OF MORTALITY*: STATE OF THE ART AND FUTURE DIRECTIONS OF RESEARCH*

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Since the outbreak of the coronavirus pandemic at the end of 2019, we have been surrounded by statistics of death. Countless news outlets report when, where, and how many people have died. While these statistics provide important pointers for the spread and development of the disease, they have also led to renewed discussions about the uses and abuses of statistics concerning the dead. They draw into sharp focus the fact that how the dead are recorded and counted is important for the functioning of human societies, as it informs large-scale medical and political decisions. What is often overlooked in these discussions is that there is a long history of recording the dead and using mortality statistics.[1] One of the most striking examples of premodern statistics of this sort is the London *Bills of Mortality*.

While this source is known to experts on early modern London and features in a range of scholarly works, the *Bills* have further potential. The term 'bills of mortality' refers to the statistics that recorded burials and causes of death from at least the early seventeenth century to the middle of the nineteenth. From 1611, the Company of Parish Clerks was responsible for collecting this information and printing the *Bills*. Some other English and Scottish towns had comparable publications, but the longevity of the production of the *Bills* and their importance are unique to London.

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[1] But there are some exceptions; see e.g. Anirban Banerjee, Manisha Chakrabarty, and Subhankar Mukherjee, 'Data as Guide to Policy: Bills of Mortality of 17th Century and COVID-19 of 21st Century', in Mousumi Dutta, Zakir Husain, and Anup Kumar Sinha (eds.), *The Impact of COVID-19 on India and the Global Order: A Multidisciplinary Approach* (Singapore, 2022), 81–98 for an explicit comparison between the two cases.

This article first sketches the general contours of the *Bills of Mortality*: their genesis, production, use, and decline. In this part I also draw attention to the actors involved in their production. The next part summarizes previous analyses, both early modern ones and those by modern historians. Then the limits of, and problems with, the *Bills of Mortality* take centre stage in order to illustrate that we cannot take them at face value. Finally, I outline two areas where further examination of the *Bills of Mortality* seems especially promising.

Early Modern London and the Bills of Mortality

Although it is difficult to estimate how many people lived in London in the early modern period, it is clear that it was one of the most significant cities in Europe and that its population increased steadily between 1600 and 1850.[2] In 1600 London housed around 20,000 people; fifty years later that figure had doubled. Although the number of Londoners declined during the 1665 plague epidemic, by 1700 estimates put the population at around 600,000. Over the following fifty years growth slowed, and in 1750, 650,000 people called London home. Around 1800 London broke the 1 million mark for the first time, and by 1850 it already had more than 2 million inhabitants.[3] With this population growth came constant discussions about London's spread. New boundaries were drawn, and the city was divided into different parts.

London had a complex administrative structure, including overlapping and contested jurisdictions.[4] It was part of the county of Middlesex, which was largely urbanized by the early modern period and dominated by the growing metropolis of London. At its core was the City

[2] For a recent in-depth study of a single part of London during this period, see Adam Crymble, 'The Decline and Fall of an Early Modern Slum: London's St Giles "Rookery", *c*.1550–1850', *Urban History*, 49/2 (2022), 310–34.

[3] Paul N. Balchin, *The Shaping of London: A Political and Economic Perspective 1066–1870* (London, 2020; 1st edn 2014); Louis Wirth, 'Urbanism as a Way of Life', *American Journal of Sociology*, 44/1 (1938), 1–24.

[4] There is a large body of general literature on London and its administration. See e.g. Paul Griffiths and Mark S. R. Jenner (eds.), *Londinopolis: Essays in the Cultural and Social History of Early Modern London* (Manchester, 2000); Karen Newman, *Cultural Capitals: Early Modern London and Paris* (Princeton, 2007).

of London plus the City of Westminster and, later, Southwark to the south.[5] Each of these entities had their own administrative bodies and they were frequently listed as separate units in early modern sources. A further division of what is today considered London was into liberties and wards—units of jurisdiction with mostly medieval origins. The City of London consisted of twenty-six wards, which were subdivided into 242 precincts.[6] Liberties and wards varied greatly in size and significance, and some had special privileges or responsibilities. For example, the liberty of Tower Division had unique military obligations. For the *Bills*, the most important division was into parishes, London's primary ecclesiastical and administrative units, which numbered more than 150.[7] The *Bills of Mortality* further divided parishes into those within, straddling, and adjoining the city walls. London's dead were buried in the churchyards of individual parishes, and parish clerks—lay men and women responsible for record-keeping—kept the lists of the dead. It was not until the middle of the nineteenth century that cemeteries were established on the outskirts of the city. Many of the migrants that came to London had confessions and religions that deviated from the teachings of the Church of England, resulting in adaptations to burial rituals and recording systems.[8]

The administration of such a complex metropolis was a constant challenge. Record-keeping was one of the main means by which urban administrators sought to regulate the living and the dead. However,

[5] On Westminster, see Patricia Croot, 'A Place in Town in Medieval and Early Modern Westminster: The Origins and History of the Palaces in the Strand', *London Journal*, 39/2 (2014), 85–101.

[6] See M. S. R. Jenner and P. Griffiths, 'Introduction', in eid. (eds.), *Londinopolis*, 1–23.

[7] On parishes, see Gary G. Gibbs, *Five Parishes in Late Medieval and Tudor London: Communities and Reforms* (London, 2019); Keith Wrightson, 'The Politics of the Parish in Early Modern England', in Paul Griffiths, Adam Fox, and Steve Hindle (eds.), *The Experience of Authority in Early Modern England* (London, 1996), 10–46.

[8] Catharine Arnold, *Necropolis: London and Its Dead* (London, 2006); Vanessa Harding, *The Dead and the Living in Paris and London, 1500–1670* (Cambridge, 2002); ead., 'Burial of the Plague Dead in Early Modern London', in J. A. I. Champion (ed.), *Epidemic Disease in London* (London, 1993), 53–64, available online at [https://eprints.bbk.ac.uk/id/eprint/17936/1/Epidemic-Disease-Harding.pdf], accessed 9 Feb. 2022.

the first initiatives for recording demographic data were undertaken by the church. In 1518 Henry VIII issued orders charging priests to record plague deaths.[9] In 1538 Thomas Cromwell extended these instructions by giving standing orders to keep parish registers, which recorded weddings, christenings, and burials.[10] London was one of the first towns to introduce death statistics.[11] Parish registers listed names, dates, sometimes cause of death, age, and where a person lived or was buried. For most of the sixteenth century, mortality statistics were not published and were only available to the municipal administration and the Crown. This changed in the seventeenth century when the *Bills* began to be printed.

The origins of the *Bills of Mortality* lie in plague prevention. While handwritten *Bills of Mortality* were given to the aldermen of the City of London in the early sixteenth century, plague statistics were printed and displayed publicly for the first time during the 1590s.[12] In these early *Bills*, other causes of death were not normally recorded. The precise date of the first printed *Bills of Mortality* is disputed because so few were preserved.[13] Some scholars argue that the *Bills* were issued

[9] Kristin Heitman, 'Authority, Autonomy and the First London Bills of Mortality', *Centaurus: An International Journal of the History of Science and its Cultural Aspects*, 62/2 (2020), 275–84.

[10] Ibid. On parish clerks, see Oswald Clark, 'The Ancient Office of Parish Clerk and the Parish Clerks Company of London', *Ecclesiastical Law Journal*, 8/38 (2006), 307–22. On parish registers, see R. A. P. Finlay, 'The Accuracy of the London Parish Registers, 1580–1653', *Population Studies*, 32/1 (1978), 95–112.

[11] Major Greenwood, 'Medical Statistics from Graunt to Farr', *Biometrika*, 32/3–4 (1942), 203–25.

[12] The precise date of the first hand-written *Bill* is disputed. See William Ogle, 'An Inquiry into the Trustworthiness of the Old Bills of Mortality', *Journal of the Royal Statistical Society*, 55/3 (1892), 437–60, at 438, 452–3 for a hand-written *Bill* dated to 1512 (but without a date in the original sources); William A. Brend, *Bills of Mortality* (London, 1908), 2 for a dating to 1532; Cornelius Walford, 'Early Bills of Mortality', *Transactions of the Royal Historical Society*, 7 (1878), 212–48, at 214 for a dating to 1562.

[13] See Heitman, 'Authority', 276; ead., 'Of Counts and Causes: The Emergence of the London Bills of Mortality', *The Collation*, 13 Mar. 2018, at [https://collation.folger.edu/2018/03/counts-causes-london-bills-mortality/], accessed 25 Jan. 2023, for the dating to 1592; Walford, 'Early Bills', 216 for a dating to 1594; and Stephen Greenberg, 'Plague, the Printing Press, and Public Health in Seventeenth-Century London', *Huntington Library Quarterly*, 67/4

in the 1590s; in any case, they were discontinued in 1595, when the plague in London abated, and reintroduced in 1603. In the words of Thomas Laqueur, the *Bills of Mortality* provided the 'first systematically collected' mortality statistics.[14]

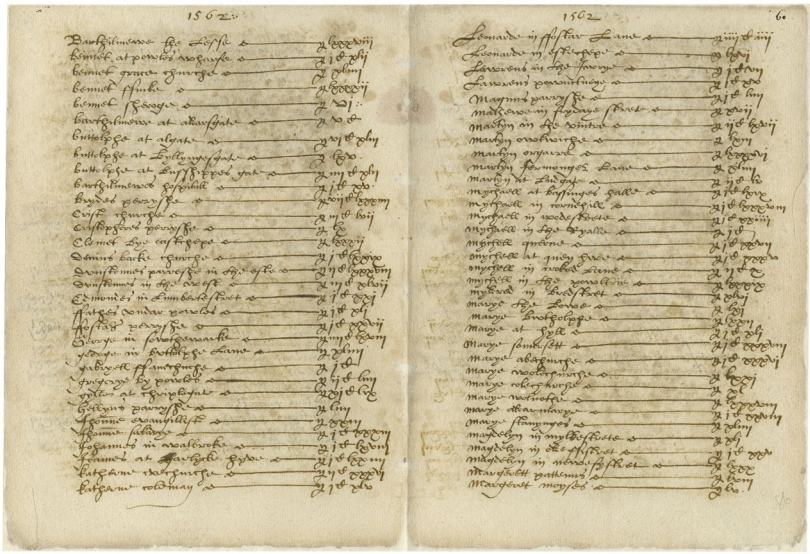


Fig. 1: City of London, handwritten summary of the *Bills of Mortality*, 1 Jan. 1563–1 Jan. 1564. Call #: X.d.264, fo. 59^{v}–60^{r}, 15188. Used by permission of the Folger Shakespeare Library.

The existence of multiple recording systems demonstrates the continued development of statistics of the dead and the trial and error process used to determine which system was best suited to the needs of early modern Londoners. The *Bills* provided more quantitative analysis than parish records, depersonalizing individual deaths into a general data set for London.[15] Parish records likely drew on the same sources of information and served as a basis for the *Bills*. However, they focused

(2004), 508–27, at 512–13 for the 1603 dating. Earlier scholarship has other dates still. See e.g. Ogle, 'An Inquiry', 439, who dates the first printed *Bill* to 1625.

[14] Thomas W. Laqueur, *The Work of the Dead: A Cultural History of Mortal Remains* (Princeton, 2015), 289.

[15] On the use of the term 'data' in premodern contexts, see Cristina Sasse, *Die Stadt lesen: Englische 'Directories' als Wissens- und Orientierungsmedien*,

on the payments which family members of the newborn or the deceased owed the parish, whereas other recording systems, such as the *Bills*, were more concerned with the spread and prevention of plague and other diseases. A 1609 snippet bill retains the earlier focus on the plague but does not include other causes of death, illustrating the presence of multiple recording systems. It is now held in the Folger Shakespeare Library. Filled in by hand and probably cut from a larger sheet, it indicates one of the first attempts to unify recording systems, although it does not yet contain the features typical of a *Bill of Mortality* (Fig. 2). The adaptability of these records indicates a nuanced understanding of needs specific to early modern communities.

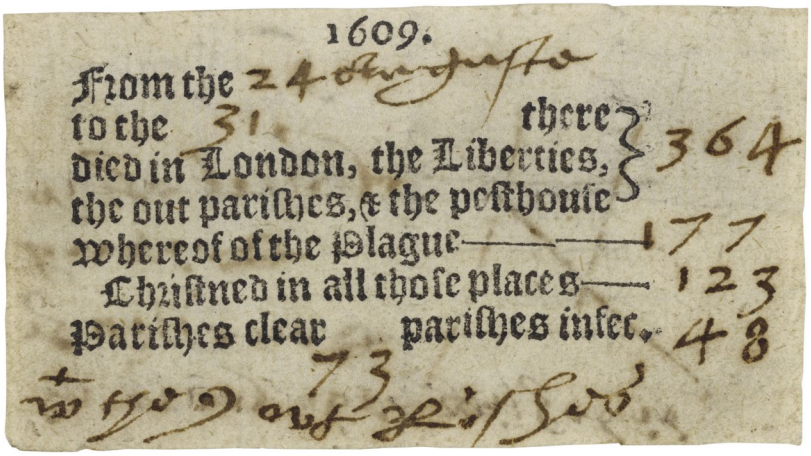


Fig. 2: Pre-printed plague bill with handwritten data inserted. Call #: STC 16743.8, recto, 3047. Used by permission of the Folger Shakespeare Library.

Sources from the seventeenth century give a clear indication of how data for the *Bills* was collected. Women called 'searchers', who had some experience around sickness and death, identified the cause of death after being called by a family member or alerted by the tolling of a bell. On Tuesdays, they dropped off the information in a box in the parish clerk's office; on Wednesdays, the data was compiled, and then the *Bills* were printed on Thursdays.[16] They were first sent to

1760–1830 (Berlin, 2021), especially the discussion of its use as a 'controlled anachronism' on p. 123.

[16] K. J. Rothman, 'Lessons from John Graunt', *Lancet*, 347/8993 (1996), 37–9.

the king or queen and the lord mayor and aldermen. The combined expertise of the parish clerks, searchers, and aldermen enabled the Crown and city administration to obtain a reasonably accurate picture of London's health, and this helped them to decide on quarantine rules and whether the court should move to Oxford during outbreaks of plague.[17] Elizabeth I's chief adviser William Cecil (1520–98) was one of the officials who asked to see the *Bills of Mortality*, suggesting that they were read at the highest levels of government before being made available for general sale from the early seventeenth century onwards.

In 1603 the format of the *Bills* was standardized. They now consisted of parish-by-parish death counts and burials, including the cause of death.[18] At first, *Bills* were produced and sold as one-sided handbills. From 1627, the Company of Parish Clerks had its own printing press and produced two-sided quarter sheets which included the cause of death on the verso.[19] In some cases, the London *Bills of Mortality* also featured illustrations or elaborate frontispieces.[20] In other instances, they might contain a preface or written explanation of the statistics themselves. Until the nineteenth century, when the first British census was successfully conducted, parish clerks sold weekly *Bills of Mortality* and a summary on the Thursday before Christmas. While the *Bills* were increasingly standardized over this period, they were sometimes also adapted, for instance, in annual summaries of the weekly *Bills*. Compilations of the *Bills of Mortality* and the use of extracts illustrate that systems of recording continued to develop. Further categories and details were added in the course of the seventeenth century, including headings for male and female, baptisms, and the price of salt and bread.

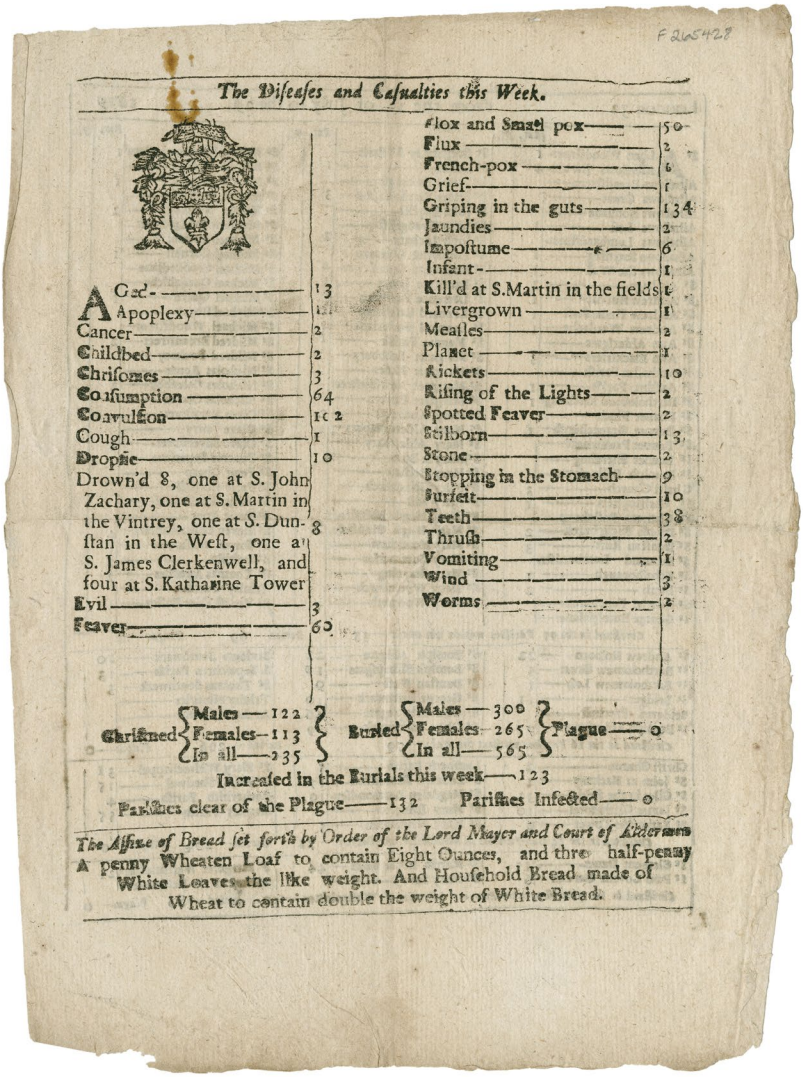
[17] E.g. Charles II and his court moved to Oxford during the 1665 plague in London. See 'The Second Parliament of Charles II: Sixth Session (Oxford)—Begins 9/10/1665', in *The History and Proceedings of the House of Commons*, vol. i, *1660–1680* (London, 1742), 85–92, available through *British History Online* at [http://www.british-history.ac.uk/commons-hist-proceedings/vol1/pp85-92], accessed 2 Jan. 2023.

[18] J. C. Robertson, 'Reckoning with London: Interpreting the *Bills of Mortality* before John Graunt', *Urban History*, 23/3 (1996), 325–50, at 330.

[19] Greenberg, 'Plague, the Printing Press, and Public Health', 525.

[20] Jacob Murel, 'Print, Authority, and the *Bills of Mortality* in Seventeenth-Century London', *Seventeenth Century*, 36/6 (2021), 935–59.

Figs. 3 and 4: Worshipful Company of Parish Clerks, typical two-sided, printed London *Bill of Mortality* (22–29 July 1679). Call #: 265428, recto and verso, 4179. Used by permission of the Folger Shakespeare Library.



F 265428

The Diſeaſes and Caſualties this Week.

Aged	13	Flox and Smal pox	50
Apoplexy	1	Flux	2
Cancer	2	French-pox	6
Childbed	2	Grief	1
Chriſomes	3	Griping in the guts	134
Conſumption	64	Jaundies	2
Convulſion	102	Impoſtume	6
Cough	1	Infant	1
Dropſie	10	Kill'd at S.Martin in the fields	1
Drown'd 8, one at S. John Zachary, one at S. Martin in the Vintrey, one at S. Dunſtan in the Weſt, one at S. James Clerkenwell, and four at S. Katharine Tower	8	Livergrown	1
		Meaſles	2
		Planet	1
		Rickets	10
		Riſing of the Lights	2
		Spotted Feaver	2
Evil	3	Stillborn	13
Feaver	60	Stone	2
		Stopping in the Stomach	9
		Surfeit	10
		Teeth	38
		Thruſh	2
		Vomiting	1
		Wind	3
		Worms	2

Chriſtned { Males — 122, Females — 113, In all — 235 }

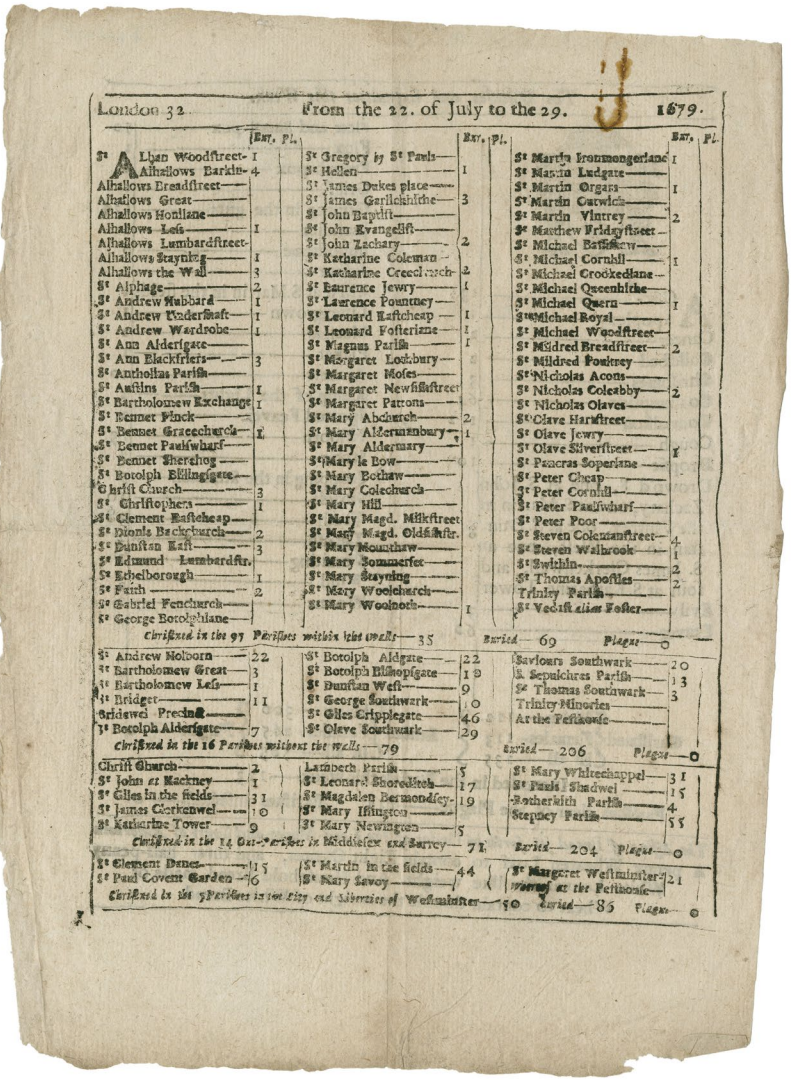
Buried { Males — 300, Females — 265, In all — 565 } Plague — 0

Increaſed in the Burials this week — 123

Pariſhes clear of the Plague — 132 Pariſhes Infected — 0

The Aſſize of Bread ſet forth by Order of the Lord Mayor and Court of Aldermen

A penny Wheaten Loaf to contain Eight Ounces, and three half-penny White Loaves the like weight. And Houſehold Bread made of Wheat to contain double the weight of White Bread.



London 32. From the 22. of July to the 29. 1679.

	Bur.	Pl.
St Alban Woodstreet	1	
Allhallows Barkin	4	
Allhallows Breadstreet		
Allhallows Great		
Allhallows Honilane		
Allhallows Leis	1	
Allhallows Lumbardstreet		
Allhallows Staynings	1	
Allhallows the Wall	3	
St Alphage	2	
St Andrew Hubbard	1	
St Andrew Undershaft	1	
St Andrew Wardrobe	1	
St Ann Aldersgate		
St Ann Blackfriers	3	
St Anthonias Parish		
St Austins Parish	1	
St Bartholomew Exchange	1	
St Bennet Pinck		
St Bennet Gracechurch	1	
St Bennet Paulswharf		
St Bennet Shershog		
St Botolph Billingsgate		
Christ Church	3	
St Christophers	1	
St Clement Eastcheap		
St Dionis Backchurch	2	
St Dunstan East	3	
St Edmund Lumbardstr.		
St Ethelborough	1	
St Faith	2	
St Gabriel Fenchurch		
St George Botolphlane		
St Gregory by St Pauls		
St Hellen	1	
St James Dukes place		
St James Garlickhithe	3	
St John Baptist		
St John Evangelist		
St John Zachary	2	
St Katharine Coleman		
St Katharine Creechurch	2	
St Laurence Jewry	1	
St Laurence Pountney		
St Leonard Eastcheap	1	
St Leonard Fosterlane	1	
St Magnus Parish	1	
St Margaret Lothbury		
St Margaret Moses		
St Margaret Newfishstreet		
St Margaret Patrons		
St Mary Abchurch	2	
St Mary Aldermanbury	1	
St Mary Aldermary		
St Mary le Bow		
St Mary Bothaw		
St Mary Colechurch		
St Mary Hill		
St Mary Magd. Milkstreet		
St Mary Magd. Oldfishstr.		
St Mary Mounthaw		
St Mary Sommerset		
St Mary Staynings		
St Mary Woolchurch		
St Mary Woolnoth	1	
St Martin Ironmongerlane	1	
St Martin Ludgate		
St Martin Organs	1	
St Martin Outwich		
St Martin Vintrey	2	
St Matthew Fridaystreet		
St Michael Bassishaw		
St Michael Cornhill	1	
St Michael Crookedlane		
St Michael Queenhithe		
St Michael Quern	1	
St Michael Royal		
St Michael Woodstreet		
St Mildred Breadstreet	2	
St Mildred Poultrey		
St Nicholas Acons		
St Nicholas Colesabby	2	
St Nicholas Olaves		
St Olave Hartstreet		
St Olave Jewry		
St Olave Silverstreet	1	
St Pancras Soperlane		
St Peter Cheap		
St Peter Cornhill		
St Peter Paulswharf		
St Peter Poor		
St Steven Colemanstreet	4	
St Steven Walbrook	1	
St Swithin	2	
St Thomas Apostles	2	
Trinity Parish		
Vedast alias Foster		

Christned in the 97 Parishes within the walls — 35 Buried — 69 Plague — 0

St Andrew Holborn	22	St Botolph Aldgate	22	Savlours Southwark	20
St Bartholomew Great	3	St Botolph Bishopsgate	19	St Sepulchres Parish	13
St Bartholomew Leis	1	St Dunstan West	9	St Thomas Southwark	3
St Bridget	11	St George Southwark	10	Trinity Minories	
Bridewel Precinct		St Giles Cripplegate	46	At the Pesthouse	
St Botolph Aldersgate	7	St Olave Southwark	29		

Christned in the 16 Parishes without the walls — 79 Buried — 206 Plague — 0

Christ Church	2	Lambeth Parish	5	St Mary Whitechappel	31
St John at Hackney	1	St Leonard Shoreditch	17	St Pauls Shadwel	15
St Giles in the fields	31	St Magdalen Bermondsey	19	Rotherhith Parish	4
St James Clerkenwel	10	St Mary Islington		Stepney Parish	55
St Katharine Tower	9	St Mary Newington	5		

Christned in the 14 Out-Parishes in Middlesex and Surrey — 71 Buried — 204 Plague — 0

St Clement Danes	15	St Martin in the fields	44	St Margaret Westminster	21
St Paul Covent Garden	16	St Mary Savoy		Dorney at the Pesthouse	

Christned in the 5 Parishes in the City and Liberties of Westminster — 50 Buried — 85 Plague — 0

The *Bills of Mortality* became a source of information about the spread of disease for the inhabitants of London. They were available to the public both for an annual subscription of four shillings and

for individual sale.[21] In the seventeenth century, John Graunt complained that his fellow Londoners only used the *Bills* to watch for short-term patterns in mortality, suggesting that most readers used them to inform specific decisions on a day-to-day basis.[22] The reports of accidental deaths provided a topic of conversation; during epidemics the weekly *Bill* communicated vital information on which to base decisions about personal safety and business strategies.

Three groups of people were especially important in the production of the *Bills of Mortality*. First came the aforementioned searchers, who were the initial point of call for the families and friends of the deceased.[23] Their original purpose was to record plague deaths. Two searchers were employed in every London parish, so that the parish did not have to spend large sums of money to gather information on the dead, as the searchers were only semi-professional. These women, normally widows, unemployed, or poor, performed the crucial function of determining the cause of death, including during plague epidemics. Their assessment could result in whole households being quarantined. They were recognizable because they carried red staffs and were normally known in their communities. The important work of Richelle Munkhoff has particularly developed the scholarship on searchers. She argues that these women were marginalized, yet had significant power over Londoners.[24]

Searchers played an important role in recording the dead well into the nineteenth century.[25] As part of the generation of knowledge

[21] Robertson, 'Reckoning with London', 332–3.

[22] John Graunt, *Natural and Political Observations Mentioned in a Following Index, and Made Upon the Bills of Mortality by John Graunt . . . with Reference to the Government, Religion, Trade, Growth, Ayre, Diseases, and the Several Changes of the Said City* (London, 1662); Robertson, 'Reckoning with London'.

[23] Thomas Rogers Forbes, 'The Searchers', *Bulletin of the New York Academy of Medicine*, 50/9 (1974), 1031–8.

[24] Richelle Munkhoff, 'Searchers of the Dead: Authority, Marginality, and the Interpretation of Plague in England, 1574–1665', *Gender and History*, 11/1 (1999), 1–29.

[25] Wanda S. Henry, 'Women Searchers of the Dead in Eighteenth- and Nineteenth-Century London', *Social History of Medicine*, 29/3 (2016), 445–66; Richelle Munkhoff, 'Poor Women and Parish Public Health in Sixteenth-Century London', *Renaissance Studies*, 28/4 (2014), 579–96; ead., 'Searchers

around dead bodies, these women, who had no formal medical training, were able to participate in the collection of information. The fact that they were not professionalized shows that recording the dead in the early modern period was a multifaceted process, one that involved semi-professional aspects.[26] The searchers had to swear an oath that they would report numbers and causes of death truthfully to the parish clerks. In the 1625 orders published by the Corporation of London, the searchers were instructed to

> by vertue of their oath, make true report to the Constable of that precinct . . . to the intent that true notice may bee given . . . to the Clarke of the Parish, and from him to the Clarke of the Parish Clarkes, that true certificate may be made.[27]

If they broke their oath, they were liable to corporal punishment.

Contemporaries also recognized the searchers as a distinctive group with their own agency in the city, as we know from an entry in Samuel Pepys's (1633–1703) diary. On 31 October 1665, he recorded:

> I to the office, where Sir W. Batten met me and did tell me that Captain Cocke's black was dead of the plague—which I had heard of before but took no notice. By and by Captain Cocke came to the office, and Sir W. Batten and I did send to him that he would either forbear the office, or forbear going to his own office. However, meeting yesterday the Searchers with their rods in their hands coming from his house, I did overhear them say that the fellow did not die of the plague[.][28]

of the Dead'; ead., 'Reckoning Death: Women Searchers and the Bills of Mortality in Early Modern London', in Jennifer C. Vaught (ed.), *Rhetorics of Bodily Disease and Health in Medieval and Early Modern England* (London, 2010), 119–34.

[26] Julian Litten, *The English Way of Death: The Common Funeral since 1450* (London, 2002).

[27] Quoted in Niall Boyce, 'Bills of Mortality: Tracking Disease in Early Modern London', *Lancet*, 395 (2020), 1186–7, at 1186.

[28] I use the online version of Pepys's diary, *The Diary of Samuel Pepys: Daily Entries from the 17th Century London Diary*, ed. Phil Gyford, at [https://www.pepysdiary.com/], accessed 2 Jan. 2023, entry of 31 Oct. 1665. The entries are searchable by date, which is how they are cited in the following.

This entry illustrates how the information provided by the searchers could fuel rumours, and the importance of these women's role during times of plague.

Indeed, the figure of the searcher was so well known to early modern English readers that one of the most famous iterations of this figure is fictional. In Act V, scene ii of Shakespeare's *Romeo and Juliet* (1592), a searcher delays a messenger on his way to find Romeo, resulting in the tragic turn in the finale of the play. In Italy, where *Romeo and Juliet* is set, there were no searchers; in other words, Shakespeare translated this London innovation to Italy. Shakespeare did not explain the reference, indicating that searchers were well known to London audiences, who would have watched the play in one of the city's theatres.

After collecting the information, the searchers handed it over to the parish clerks, a second group of people crucial in the production of the *Bills*. They were members of the Worshipful Company of Parish Clerks, one of the oldest guilds of the City of London. In 1555, London's lord mayor and aldermen granted the Worshipful Company of Parish Clerks compensation for weekly mortality statistics. As a result, searchers were employed for the first time. Parishes and their clerks thus played the central role in collecting data on deaths, as well as on christenings and weddings, from when records first began to be kept in London.[29] The clerks compiled lists for their individual parishes and then sent this information on to the Worshipful Company of Parish Clerks. In some cases, weekly statistics were collated with annual ones, possibly to allow the total number of deaths to be compared with those of other years or in other cities.

A third group—printers—played an important role in producing and disseminating the *Bills*. The change from single-sided handbills to the more comprehensive double-sided sheets was closely connected to the availability of printing in early modern London.[30] The printing industry was concentrated in cities, which explains why comparable developments can normally only be found in other European cities

[29] Clark, 'Ancient Office of Parish Clerk'; Robertson, 'Reckoning with London'.
[30] Joseph Monteyne, *The Printed Image in Early Modern London: Urban Space, Visual Representation, and Social Exchange* (London, 2007); Murel, 'Print, Authority, and the *Bills of Mortality*'.

with a functioning print industry.[31] In some publications, the printers proudly added their imprint: Printer to the Stationers' Company.[32] The *Bills of Mortality* were sold to the general public by the numerous pamphlet sellers in the city. From paying the searchers to selling the death statistics, money was an important factor in the production of the *Bills*, long before the supposed 'economization' of death in the nineteenth century.[33]

Recent research has shown how fruitful it is to focus on the actors behind the *Bills of Mortality*, namely, the searchers, parish clerks, printers, consumers, and the deceased themselves.[34] A way to further understand the importance of these groups and specific individuals is to consider their interactions with each other. Some older scholarship has emphasized complaints made by parish clerks about the work done by searchers, and these warrant further investigation as a way of understanding the dynamics between semi-professional health workers and representatives of the church. Investigating the interactions between different groups involved in the production of the *Bills* can also compensate for the lack of documents left behind by individual searchers. By focusing more explicitly on individual actors and their agency, it is possible to gain new insights into the reading and use of the *Bills of Mortality*.

Finding definitive numbers for their circulation is difficult, and they follow the same pattern as other early modern prints in this respect. The Hall of Parish Clerks used to house most of the *Bills*. Several fires, the last in 1940, destroyed large numbers, making an assessment based on survival rates even more difficult. Some of the

[31] On the role of print in the dissemination of information about plague, see S. J. Greenberg, 'The "Dreadful Visitation": Public Health and Public Awareness in Seventeenth-Century London', *Bulletin of the Medical Library Association*, 85/4 (1997), 391–401.

[32] John Bell, *London's Remembrancer: Or, a True Accompt of Every Particular Weeks Christnings and Mortality in All the Years of Pestilence Within the Cognizance of the Bills of Mortality, Being XVIII Years* (London, 1665).

[33] Matthias Bähr and Thomas Hajduk, 'Tod ist ihr Geschäft: Die Ökonomisierung der Beerdigungspraxis im viktorianischen London', *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 102/4 (2015), 421–36.

[34] Henry, 'Women Searchers of the Dead'; Munkhoff, 'Poor Women and Parish Public Health'; ead., 'Searchers of the Dead'; ead., 'Reckoning Death'.

Bills of Mortality are kept there; others are held by the British Library, the Folger Shakespeare Library, the Wellcome Collection, and various smaller archives. For many weeks, no *Bill* at all survives. However, there are indications both in those that have survived and in other sources that they had a wide readership, in London and beyond. Some of the copies we have are folded, suggesting they were tucked into books or pockets; others contain annotations, showing that the *Bills* were read; and others still were enclosed in correspondence.[35] J. C. Robertson has identified three letters citing the *Bills of Mortality* as a source of information: one from a Venetian merchant reporting on London, one to the East India Company, and one on the question of whether a family should leave London during an outbreak of plague. All of them date from the 1603–4 epidemic and illustrate that even the early *Bills* were used to inform decisions.[36] In Essex, Ralph Josselin transcribed extracts from the *Bills* in 1665–6, tracing the spread of the disease.[37] And the Anglican preacher William Allin similarly noted that the plague was spreading and explicitly referred to the *Bills of Mortality*. References in diaries and other ego-documents likewise point to the *Bills of Mortality* as a very popular genre. Besides Pepys's diary, there are further examples of their reception in a variety of other sources.[38]

After 1819, parishes provided fewer records and the *Bills of Mortality* gradually decreased in importance. By the 1850s, the *Bills* were rare and the last known one dates from 1858. Other systems for recording deaths were put in place instead. After the passing of the Births and Deaths Registration Act (1836), the registrar general's weekly returns took the place of the *Bills*. In 1855, the Metropolitan Board of Works became the body overseeing these activities. Unlike the *Bills of Mortality*, these new ways of counting the dead

[35] Heitman, 'Of Counts and Causes'; Spencer J. Weinreich, 'Sums Theological: Doing Theology with the London *Bills of Mortality*, 1603–1666', *Church History: Studies in Christianity and Culture*, 90/4 (2022), 799–823, at 803.

[36] Robertson, 'Reckoning with London', 325–7.

[37] Munkhoff, 'Searchers of the Dead', 20.

[38] The *Bills of Mortality* are mentioned explicitly in Pepys's *Diary* on 24 Mar. 1661/2, 24 Dec. 1662, 29 June 1665, 25 July 1665, 27 Sept. 1665, 9 Nov. 1665, and 20 Nov. 1666. See also Weinreich, 'Sums Theological', 802, who traces references to the *Bills* in sermons, homilies, tracts, poems, and pamphlets.

were based on death certificates rather than burials, making them more reliable.[39] The first census in 1801 also made the overview of London's population development contained in the *Bills of Mortality* redundant.

Approaching the Bills of Mortality

Health Statistics

One of the most common ways of analysing London's *Bills of Mortality* is for health statistics. Particularly when taken together with other sources, they can be a revealing indication of London's health, pointing to maladies ranging from smallpox to air pollution.[40] In the early modern period, authors already recognized this kind of analysis as particularly fruitful. For instance, the anonymous *Four Great Years of the Plague* collated mortality statistics for the years 1593, 1603, 1625, and 1636 with the aim of comparing death rates.[41] Gaps were left for readers to complete the statistics for coming years. Or, to name another example, John Bell's *London's Remembrancer* (1665) drew on the *Bills* to provide a 'just Accompt of every Weeks Christnings and Burials in all the Years of PESTILENCE'.[42]

But the most famous statistical analysis of the *Bills* dates from the later seventeenth century: John Graunt's (1620–74) *Natural and*

[39] On the decline of the *Bills*, see Paul Slack, 'Counting People in Early Modern England: Registers, Registrars, and Political Arithmetic', *English Historical Review*, 137/587 (2022), 1118–43.

[40] Olga Krylova and David J. D. Earn, 'Patterns of Smallpox Mortality in London, England, over Three Centuries', *PLOS Biology*, 18/12 (2020), 1–27; J. Landers, 'Mortality and Metropolis: the Case of London 1675–1825', *Population Studies*, 41/1 (1987), 59–76; Peter Brimblecombe, 'Interest in Air Pollution among Early Fellows of the Royal Society', *Notes and Records: The Royal Society Journal of the History of Science*, 32/2 (1978), 123–9, esp. 126–7.

[41] Anon., *The Four Great Years of the Plague, Viz. 1593, 1603, 1625, and 1636 Compared by the Weekly Bills of Mortality Printed Every Thursday in the Said Years, by Which its Increase and Decrease is Plainly Discerned in All Those Years* (London, 1665).

[42] Bell, *London's Remembrancer*, preface [no page numbers].

Political Observations Made Upon the Bills of Mortality.[43] Graunt is considered to be one of the first demographers and epidemiologists.[44] He was born in London and worked as a haberdasher, but also held political offices such as councilman and warden of the Drapers' Company. Graunt produced a table listing the probability of survival to different ages based on information gathered from the *Bills of Mortality*, seeking thus to explain London's high mortality rate.[45] *Natural and Political Observations* led to his election as a fellow of the Royal Society of London, a decision endorsed by King Charles II.[46] In this work, Graunt estimated the population size of London and England, their birth and death rates, and the spread of diseases.[47] It enjoyed some success, running to five editions, with the final version

[43] On the authorship of the *Natural and Political Observations Made upon the Bills of Mortality*, see Charles H. Hull, 'Graunt or Petty?', *Political Science Quarterly*, 11/1 (1896), 105–32; M. Greenwood, 'Graunt and Petty', *Journal of the Royal Statistical Society*, 91/1 (1928), 79–85. I follow the common interpretation of Graunt as the primary author.

[44] Henry Connor, 'John Graunt F.R.S. (1620–74): The Founding Father of Human Demography, Epidemiology and Vital Statistics', *Journal of Medical Biography: OnlineFirst*, 15 Feb. 2022, 1–13; Andrew C. A. Elliott, 'Danger of Death', in id., *What Are the Chances of That? How to Think About Uncertainty* (Oxford, 2021), 143–58; 'John Graunt on Causes of Death in the City of London', *Population and Development Review*, 35/2 (2009), 417–22; D. V. Glass, M. E. Ogborn, and I. Sutherland, 'John Graunt and His *Natural and Political Observations* [and Discussion]', *Proceedings of the Royal Society of London: Series B, Biological Sciences*, 159/974 (1963), 2–37.

[45] Chris Galley, 'A Model of Early Modern Urban Demography', *Economic History Review*, 48/3 (1995), 448–69, at 448–9. On Graunt's scientific method, see Philip Kreager, 'New Light on Graunt', *Population Studies*, 42/1 (1988), 129–40; Robert Kargon, 'John Graunt, Francis Bacon, and the Royal Society: The Reception of Statistics', *Journal of the History of Medicine and Allied Sciences*, 18/4 (1963), 337–48.

[46] Graunt, *Natural and Political Observations*; id., *Natural and Political Observations Made Upon the Bills of Mortality*, 5th edn (London, 1676).

[47] Margaret Pelling, 'Far Too Many Women? John Graunt, the Sex Ratio, and the Cultural Determination of Number in Seventeenth-Century England', *Historical Journal*, 59/3 (2016), 695–719; ead., 'John Graunt, the Hartlib Circle and Child Mortality in Mid-Seventeenth-Century London', *Continuity and Change*, 31/3 (2016), 335–59; Rothman, 'Lessons from John Graunt'; Paul Slack, 'William Petty, the Multiplication of Mankind, and Demographic Discourse in Seventeenth-Century England', *Historical Journal*, 61/2 (2018), 301–25.

printed after Graunt's death, in 1676. Some scholars see this work as 'the birth of epidemiology'.[48]

Although Graunt used the information provided in the *Bills*, he was critical of the searchers and their ability to determine the cause of death, arguing that they were not sufficiently qualified to identify many diseases. Regarding plague, he thought that the numbers were too high, a criticism partly based on Graunt's own political agenda as he was trying to counter rumours that the plague had started with the accession to the throne of Charles I.[49] Graunt's work initiated further discussions of the *Bills of Mortality*, their interpretation, and their uses.[50] Scholars of the history of medicine and epidemics found the *Bills* a particularly useful source in the later nineteenth and early twentieth centuries, including for discussions on what the causes of death mentioned in the *Bills* meant.[51] This broader interest is also displayed in more recent research, for instance, in a symposium held at the Folger Research Library in 2018, and in press coverage relating to the *Bills of Mortality*.[52]

[48] Alfredo Morabia, 'Epidemiology's 350th Anniversary: 1662–2012', *Epidemiology*, 24/2 (2013), 179–83, at 179.

[49] Robertson, 'Reckoning with London', 346.

[50] James Harvey, *Scelera Aquarum, or, A Supplement to Mr. Graunt on the Bills of Mortality: Shewing as Well the Causes, as Encrease, of the London, Parisian, and Amsterdam Scorbute with All Its Attendants. Demonstrating the Locality of the Said Causes and How They Result from Morbifick Salts Which Abound in the Strata of the Earth and Stagnate Waters Round Those Three Cities* (London, 1701); Ian Sutherland, 'John Graunt: A Tercentenary Tribute', *Journal of the Royal Statistical Society: Series A (General)*, 126/4 (1963), 537–56.

[51] E.g. Cornelius Walford, 'On the Number of Deaths from Accident, Negligence, Violence, and Misadventure in the United Kingdom and Some Other Countries', *Journal of the Statistical Society of London*, 44/3 (1881), 444–527, at 444–9; Edward A. Holyoke, 'On Meteorological Observations and Bills of Mortality', *Memoirs of the American Academy of Arts and Sciences*, 2/2 (1804), 58–61. See also the brief discussion of the cause of death 'burst' in F. William Cock, 'Bills of Mortality', *British Medical Journal*, 2/3433 (1926), 760.

[52] London Bills of Mortality (Symposium), at [https://folgerpedia.folger.edu/London_Bills_of_Mortality_(symposium)], accessed 25 Jan, 2023; Katy Stoddard, Chris Fenn, Apple Chan-Fardel, and Paul Torpey, 'Mapping London's Great Plague of 1665', *Guardian*, 12 Aug. 2015, at [https://www.theguardian.com/society/ng-interactive/2015/aug/12/london-great-plague-1665-bills-of-mortality], accessed 25 Jan. 2023.

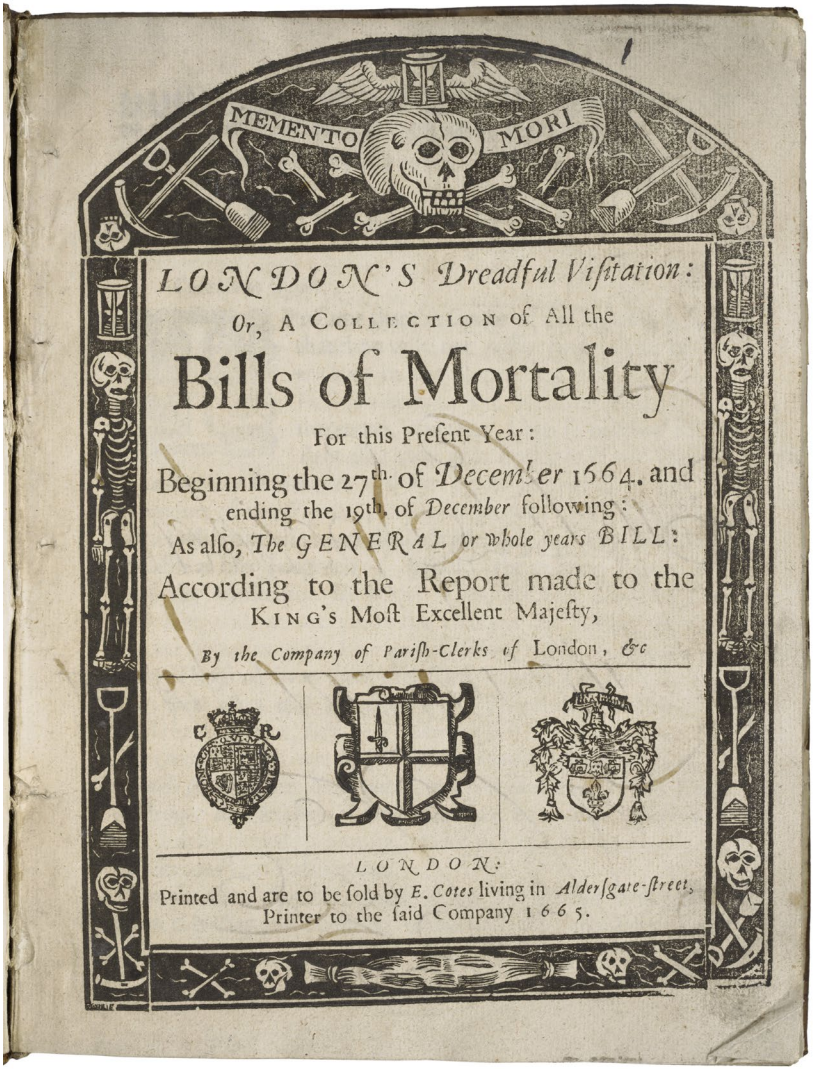


Fig. 5: Worshipful Company of Parish Clerks, *London's Dreadful Visitation* (London, 1665). Summary of the London Bills of Mortality during the 'plague year' 1664/65 (27 Dec. 1664–19 Dec. 1665). Call #: L2926.2, title page, 3222. Used by permission of the Folger Shakespeare Library.

The *Bills* have proven especially valuable for assessing the impact of outbreaks of epidemic diseases in London. Foremost among these is the plague epidemic of 1665–6 (see Fig. 5) which, over almost eighteen months, killed an estimated 100,000 people, amounting to almost a quarter of London's population.[53] Although approaches which take the *Bills* at face value have been rightly criticized, they nonetheless provide an indication of the scale of plague deaths in the metropolis. Certain other kinds of disease can also be analysed, as can their impact on specific population groups.[54] In some cases, modern scholars continue to use the illnesses mentioned in the *Bills* to trace the development of a specific sickness over a long period of time.[55] The project 'Death by Numbers' uses data from the *Bills* to quantitatively assess the impact of major diseases through computational analysis in order to trace long-term patterns of change.[56]

Population Growth and Urban Development

A second common focus of research on the *Bills* has been as a source for population statistics.[57] The *Bills* were used not only by the aldermen and the Crown to calculate London's size, but also in other early modern publications commenting on England's economy and society.[58] They were especially important because there was no logistical infrastructure for a census and some communities tried to avoid

[53] Greenberg, 'Plague, the Printing Press, and Public Health', 508–27.

[54] Gill Newton, 'Infant Mortality Variations, Feeding Practices and Social Status in London between 1550 and 1750', *Social History of Medicine*, 24/2 (2011), 260–80.

[55] Krylova and Earn, 'Patterns of Smallpox Mortality'.

[56] 'Death by Numbers: Quantitatively Analyzing the London Bills of Mortality', at [https://deathbynumbers.org/], accessed 20 Jan. 2023.

[57] John Landers, *Death and the Metropolis: Studies in the Demographic History of London, 1670–1830* (Cambridge, 1993).

[58] Peter Pett, *A Discourse of the Growth of England in Populousness and Trade Since the Reformation* (London, 1689); see also nineteenth-century interpretations, e.g. John Angus, 'Old and New Bills of Mortality; Movement of the Population; Deaths and Fatal Diseases in London During the Last Fourteen Years', *Journal of the Statistical Society of London*, 17/2 (1854), 117–42.

attempts to count them.[59] Much as they do for historians today, the *Bills of Mortality* provided early modern Londoners with one of the few indications of London's population size, making it possible to attempt to control it.[60] The fact that early modern scholars such as John Graunt showed an interest in these statistics resulted in the survival of parallel sources, partly compensating for losses during the Great Fire of 1666 and other disasters.[61]

Besides Graunt, other early modern scholars were also interested in using the *Bills* to estimate population size—foremost among them William Petty (1623–87).[62] A surveyor and economist, he used the *Bills* to estimate the size of London's population,[63] and his calculations suggested that London was bigger than Paris. He also drew comparisons with Dublin.[64] Moreover, he estimated the general population of England at more than seven million in 1686, providing an early attempt at a census.[65] The quantification of political debates, known as 'political arithmetic', has formed one focus of these discussions.[66] In a recent article, Paul Slack has shown that parish registers and *Bills of Mortality* formed the basis for early attempts to estimate England's

[59] On the British census, see Kerstin Brückweh, *Menschen zählen: Wissensproduktion durch britische Volkszählungen und Umfragen vom 19. Jahrhundert bis ins digitale Zeitalter* (Berlin, 2015), esp. 23–5.

[60] This has been linked to Foucauldian notions of biopolitics. See Ted McCormick, 'Political Arithmetic's 18th Century Histories: Quantification in Politics, Religion, and the Public Sphere', *History Compass*, 12/3 (2014), 239–51, at 242–4.

[61] Harvey Gideon, *The City Remembrancer: Being Historical Narratives of the Great Plague at London, 1665; Great Fire, 1666; and Great Storm, 1703 . . . Collected from Curious and Authentic Papers, Originally Compiled by the Late Learned Dr. Harvey . . .* , 2 vols. (London, 1769).

[62] On Petty, see Ted McCormick, *William Petty and the Ambitions of Political Arithmetic* (Oxford, 2009).

[63] Ibid.; Slack, 'William Petty'.

[64] Galley, 'A Model of Early Modern Urban Demography', 448.

[65] Brückweh, *Menschen zählen*, 60.

[66] The term was coined by William Petty around 1670. For an excellent recent overview and critique of political arithmetic, see McCormick, 'Political Arithmetic's 18th Century Histories'. See also id., 'Political Arithmetic and Sacred History: Population Thought in the English Enlightenment, 1660–1750', *Journal of British Studies*, 52/4 (2013), 829–57.

population size.[67] He argued that 'the machinery of registration had become a monopoly in the hands of an ecclesiastical establishment determined to preserve its practices and privileges', which prevented major changes for more than three hundred years.[68]

In addition to the general population trends made visible in the *Bills of Mortality*, their structure also permits other kinds of research on urban developments. As they are divided by individual parishes, it is possible to see how population patterns changed in specific parts of London and how parishes evolved over more than 300 years. This provides insights into the development and growth of the city more generally. The *Bills of Mortality* have also helped scholars to understand the demands of urban density during times of disease.[69] The more populous parishes suffered especially bad outbreaks of plague, as the squalor resulted in the presence of rodents that carried fleas. Alongside other sources, the *Bills of Mortality* can be used to understand more about early modern living standards and social developments within the city and individual parishes.[70] For example, Craig Spence has discussed the prevalence of violent and accidental deaths in early modern London, based on the *Bills* and other sources.[71]

Culture and Literature

More recently, scholars have moved away from a purely statistical use of the *Bills* to emphasize their narrative aspects and the rhetorical features of texts that interpret them.[72] These approaches place them more

[67] Slack, 'Counting People'. See also Peter Buck, 'Seventeenth-Century Political Arithmetic: Civil Strife and Vital Statistics', *Isis*, 68/1 (1977), 67–84; Robertson, 'Reckoning with London', 346–7.

[68] Slack, 'Counting People', 1143.

[69] Gibbs, *Five Parishes*.

[70] Neil Cummins, Morgan Kelly, and Cormac Ó Gráda, 'Living Standards and Plague in London, 1560–1665', *Economic History Review*, 69/1 (2016), 3–34; Gibbs, *Five Parishes*.

[71] Craig Spence, *Accidents and Violent Death in Early Modern London: 1650–1750* (Woodbridge, 2016).

[72] Erin Sullivan, 'Physical and Spiritual Illness: Narrative Appropriations of the Bills of Mortality', in Rebecca Totaro and Ernest B. Gilman (eds.), *Representing the Plague in Early Modern England* (New York, 2010), 76–94; Greenberg,

firmly in the realm of cultural and literary analysis that accompanied the integration of the *Bills* into other early modern English sources, including visual ones.[73] The reception of the *Bills* in other texts shows how important they were in a range of settings, for instance, letters, poems, and ego-documents.[74] Pepys used the *Bills of Mortality* as a source of information, as we know from his 1665 entries. On Thursday 7 September he wrote:

> Up by 5 of the clock, mighty full of fear of an ague, but was obliged to go, and so by water, wrapping myself up warm, to the Tower, and there sent for the Weekely Bill, and find 8,252 dead in all, and of them 6,878 of the plague; which is a most dreadfull number, and shows reason to fear that the plague hath got that hold that it will yet continue among us.

And on 12 October of the same year, he reported: 'Good newes this week that there are about 600 less dead of the plague than the last. So home to bed.'[75] Although he did not mention the *Bills* explicitly in this second entry, they are his most likely source of information.

This focus on the use and reception of the *Bills* has expanded scholars' understanding of them beyond their role as some of the earliest health statistics. For instance, Erin Sullivan has drawn attention to how the *Bills* were employed in narrative and clerical sources, reinforcing broader discourses on divine punishment and the urban community.[76] In this way, scholars have shown that the *Bills* were not only mined for information, but actually shaped how early modern Londoners behaved and thought about themselves and their city.

'Plague, the Printing Press, and Public Health'; Philip Kreager, 'Death and Method: The Rhetorical Space of Seventeenth Century Vital Measurement', in Eileen Magnello and Anne Hardy (eds.), *The Road to Medical Statistics* (Leiden, 2002), 1–35, esp. 2 on Graunt.

[73] Mark S. R. Jenner, 'Plague on a Page: *Lord Have Mercy Upon Us* in Early Modern London', *Seventeenth Century*, 27/3 (2012), 255–86.

[74] Robertson, 'Reckoning with London', 325–7. See also Kathleen Hines, 'Contagious Metaphors: Liturgies of Early Modern Plague', *The Comparatist*, 42 (2018), 318–30.

[75] *The Diary of Samuel Pepys*, at [https://www.pepysdiary.com/], accessed 24 Jan. 2023, entry for 12 Oct. 1665.

[76] Sullivan, 'Physical and Spiritual Illness'.

Other scholars have explored the *Bills* more explicitly in connection to England's complex confessional landscape. Spencer J. Weinreich traces the impact of the *Bills* in a range of literary genres, illustrating that Anglicans, Puritans, and Dissenters used them to justify their theology and show that God punished or favoured certain confessional groups.[77] Ted McCormick's work shows that the Puritans in particular used death statistics to further their theological causes.[78]

The *Bills* could calm or heighten fears of disease, and they influenced practical decisions about the introduction of quarantine measures and whether to flee from plague.[79] They countered rumours and provided more reliable information for aldermen as well as ordinary citizens.[80] Moreover, they enabled individuals to assess the ebb and flow of diseases in the city, including the city administrators who decided on quarantine rules and theatre closures. The weekly *Bills* shaped the short-term decisions of citizens, while for aldermen and the Crown they could provide pointers for long-term policies.[81] In the words of Erin Sullivan, the *Bills* 'helped Londoners mentally track, contain, and make sense of the threat they were facing, thus alleviating some of the psychological strain that inevitably arose in these times of crisis'.[82]

Challenges in Using the Bills

Reliability

Any analysis of the reliability of the *Bills of Mortality* has to take into consideration that they primarily recorded burials, and not deaths. This meant that any movement of the dead between parishes or burials in the countryside could obscure the real number of deaths in

[77] Weinreich, 'Sums Theological'.

[78] Ted McCormick, 'Statistics in the Hands of an Angry God? John Graunt's *Observations* in Cotton Mather's New England', *William and Mary Quarterly*, 72/4 (2015), 563–86; id., 'Political Arithmetic and Sacred History'.

[79] Kira L. S. Newman, 'Shutt Up: Bubonic Plague and Quarantine in Early Modern England', *Journal of Social History*, 45/3 (2012), 809–34, at 819.

[80] Robertson, 'Reckoning with London', 330.

[81] Ibid. 345.

[82] Sullivan, 'Physical and Spiritual Illness', 76.

a specific parish.[83] During plague years, there could be especially large discrepancies between the numbers recorded for individual parishes and the actual numbers of deaths. Moreover, comparisons between other sources and the *Bills* indicate that not all burials were recorded and that causes of death probably were not always identified correctly.[84] In the nineteenth century, as the *Bills* decreased in importance and less care was taken in compiling them, some of these problems became worse despite advances in record-keeping.[85]

While the searchers provided important information on causes of death, contemporaries recognized that due to their lack of training, they were not always well qualified to provide accurate statistics. John Graunt claimed that 'after the mist of a Cup of Ale, and the bribe of a Two-groat fee, in stead of one given them', searchers could be persuaded to declare a house plague-free, thus ending a quarantine.[86] And the seventeenth-century physician Nathaniel Hodges (1629–88) went even further, writing that plague nurses, likely referring to searchers, were 'wretches [who] out of greediness to plunder the dead, would strangle their patients and charge it to distemper in their throats'.[87] Complaints about the searchers continued until the nineteenth century.[88] The power they wielded—especially during times of plague—made others suspicious of them. Even if these criticisms were likely exaggerated, the searchers based their assessments on experience and a list of symptoms that left room for interpretation. In the words of Richelle Munkhoff: 'at

[83] Jeremy Boulton and Leonard Schwarz, 'Yet Another Inquiry into the Trustworthiness of Eighteenth-Century London's Bills of Mortality', *Local Population Studies*, 85 (2010), 28–45.

[84] Ogle, 'An Inquiry', 444–6; Boulton and Schwarz, 'Yet Another Inquiry'.

[85] Ogle, 'An Inquiry', 451.

[86] William Petty, *The Economic Writings of Sir William Petty: Together with the Observations on the Bills of Mortality More Probably by Captain John Graunt*, ed. Charles Henry Hull, 2 vols. (Cambridge, 1899), ii. 356.

[87] See Graunt, *Natural and Political Observations*; Nathaniel Hodges, *Loimologia: Or, an Historical Account of the Plague in London in 1655. With Precautionary Directions against the Like Contagion . . . To which is Added an Essay on the Different Causes of Pestilential Diseases, and How They Become Contagious. With Remarks on the Infection Now in France and the Most Probable Means to Prevent it Spreading Here. By John Quincy*, 2nd edn (London, 1720), 8.

[88] Ogle, 'An Inquiry', 442.

the heart of the supposedly objective bills of mortality lies the searcher's interpretative function, a function that calculates ambiguous signs—tokens, b[l]otches, carbuncles—into literal figures.'[89] Although the *Bills* therefore do not provide reliable health statistics in a modern sense, they nonetheless help us understand perceptions of medicine and the creation of medical knowledge over a long period.

Some scholars have stressed the biases and political agendas of others, apart from the searchers, involved in the production and interpretation of the *Bills of Mortality*.[90] In a recent article, Jacob Murel argues that both the records of the early Royal Historical Society and the parish clerks' compilation of the *Bills* indicate that the latter were used for political purposes, to question authority and health measures.[91] One could add here the incentive for printers and pamphlet sellers to earn money from the sale of the *Bills*. Such issues, while not unique to the *Bills of Mortality*, must be taken into account when using them as a historical source.

One particularly striking critique of the *Bills* can be found in Daniel Defoe's *Journal of the Plague Year*, written in 1722 about the 1665 plague epidemic. In an incisive article, Nicholas Seager argues that Defoe criticized the *Bills* as unreliable in this semi-fictional work, undermining their credibility and in the process questioning the use of such statistics in general and deconstructing claims to absolute truth.[92]

Exclusion from the Bills

The *Bills of Mortality* recorded burials—but only those in Anglican churchyards. Most of the interments in major cemeteries such as Bunhill Fields and New Bunhill Fields, where the burials of dissenting religious groups took place, were not recorded.[93] Much previous research has emphasized this exclusion from the *Bills* and the searchers'

[89] Munkhoff, 'Searchers of the Dead', 12.
[90] Robertson, 'Reckoning with London'.
[91] Murel, 'Print, Authority, and the *Bills of Mortality*'.
[92] Nicholas Seager, 'Lies, Damned Lies, and Statistics: Epistemology and Fiction in Defoe's *A Journal of the Plague Year*', *Modern Language Review*, 103/3 (2008), 639–53.
[93] On dissenting groups, see John Coffey (ed.), *The Oxford History of Protestant Dissenting Traditions*, vol. i: *The Post-Reformation Era, 1559–1689* (Oxford, 2020); Ariel Hessayon, 'Early Quakerism and Its Origins', ibid. 139–60; Richard T.

focus on the Anglican dead.[94] However, recent work has painted a more complex picture. Anna Cusack shows that searchers did record Quaker burials, which were then also entered in Quaker burial registers[95]—including records of the 1665 plague epidemic, which explicitly mention the work of the searchers. What, exactly, this means for Quakers in the *Bills of Mortality* is still not entirely clear. In some parishes, such as St Giles Cripplegate, Quakers were included in the regular parish registers as well as in Quaker registers, making it likely that they also featured among the anonymous dead in the *Bills of Mortality*.[96]

Doubts about the recording system behind the *Bills of Mortality* were already raised by early modern authors. On 31 August 1665, Samuel Pepys wrote:

> In the City died this week 7,496 and of them 6,102 of the plague. But it is feared that the true number of the dead, this week is near 10,000; partly from the poor that cannot be taken notice of, through the greatness of the number, and partly from the Quakers and others that will not have any bell ring for them.[97]

As the entry indicates, liturgical and logistical choices by some confessional groups complicated the recording of their deaths. Quakers did not usually ring bells when they died, and they used their own carts to transport dead bodies. So it is likely that searchers did not always go to their houses. Moreover, it is possible that some religious groups preferred to remain hidden in certain circumstances, making them unlikely to participate in any kind of centralized recording of

Vann and David Eversley, *Friends in Life and Death: The British and Irish Quakers in the Demographic Transition, 1650–1900* (Cambridge, 2002).

[94] Ogle, 'An Inquiry', 450; Boulton and Schwarz, 'Yet Another Inquiry'.

[95] Anna Cusack, 'The Marginal Dead of London, *c.*1600–1800' (Ph.D. thesis, Birkbeck, University of London, 2021), 25, 194. For the recording of Quakers in multiple registers, see 194–5.

[96] On Quaker records of their dead, see also John Landers, 'London's Mortality in the "Long Eighteenth Century": A Family Reconstitution Study', *Medical History*, 35/S11 (1991), 1–28.

[97] *The Diary of Samuel Pepys*, at [https://www.pepysdiary.com/], accessed 24 Jan. 2023, entry for 31 Aug. 1665.

their dead. Within the administrative structures, different religious or denominational groups could develop their own systems and adapt them to changing circumstances, and these were often independent of the *Bills of Mortality*. While at least some Quakers featured in the *Bills*, Pepys's entry indicates that a further factor was the exclusion of the poor, who did not receive a proper burial.

Other confessional groups, such as Methodists, and members of London's stranger churches, such as German Lutherans, French Huguenots, and Dutch Calvinists, may also not have been fully recorded in the *Bills*. Members of the stranger churches were normally only recorded in their own church books. If they were buried in a parish cemetery, they also featured in the *Bills*, but if they were buried elsewhere, the *Bills of Mortality* remain silent about these individuals.

In the diverse metropolis of London, the Anglican focus of the *Bills of Mortality* meant that non-Christian religious groups were not included. For example, Jewish burials were not recorded in the *Bills*.[98] There were numerous Jewish cemeteries on the outskirts of London reserved exclusively for Sephardi and Ashkenazi Jews. The first of these—known as the Velho—was established in 1657 at Mile End, a mile from London. Other Jewish cemeteries were created in the early modern period. They differed in size and positioning, but were all tolerated by the municipal authorities and administered independently by the Jewish community. As in other areas of Europe, London's Jews suffered reprisals and their situation was generally precarious. However, there were no significant expulsions or pogroms in London during the early modern period. In the case of the Jews, much research remains to be done. Like the situation with the Quakers, it seems that at least in some parishes, Jews featured in both Jewish and parish registers, meaning they were likely recorded in the *Bills of Mortality*. In the eighteenth century, fewer Jews and Quakers appear in the parish registers, indicating a greater division between the different groups, at least on the page.[99]

[98] Neville Laski, *The Laws and Charities of the Spanish and Portuguese Jews' Congregation of London* (London, 1952), p. xvii.

[99] On Jewish burials in London, see Cusack, 'The Marginal Dead of London', 246–310.

Geographical Division and Reach

Depending on how London was defined, the *Bills of Mortality* did not cover the whole city. Most of them include what was later considered the City of London and parishes in Middlesex. The maximum geographical extent covered by the *Bills* was reached in 1636, yet the city continued to grow. The *Bills of Mortality* were divided by parishes, so when a parish was split into two, this added a new category. These include, for example, the parish of St John, created in 1723 and previously a part of St James's, and the parishes of St Giles and St George, which were merged in 1774. These changes in the parish map of London add a further layer of complication to an analysis of the *Bills*. Another example which illustrates these complexities well is the parish of St Andrew Holborn above the Bars with St George the Martyr, which was formed in 1767 from the Middlesex portion of St Andrew Holborn and part of the parish of St George the Martyr.

The limited geographical reach was an indication of London's expansion rather than a shortcoming of the *Bills* as such. They pointed to the urban sprawl of the city and the difficulty of defining what belonged to London and what was outside it. Suburbs were also difficult to integrate.[100] The London liberties and areas immediately outside the city walls were reported in the *Bills*, illustrating the complex administrative patchwork that was early modern London.

A map that divided up London according to the weekly *Bills* in the early modern period illustrates that this was a long-standing concern.[101] The area marked in black (or green according to the legend) is the part of London that was covered by the *Bills of Mortality*. The map is divided into parishes, and the legend describes the districts inside and outside the ancient city walls. This visualization of the area covered by the *Bills* indicates their importance, but also illustrates the level of knowledge behind their compilation and, at the same time, the limitations of the genre.

[100] Robertson, 'Reckoning with London', 349.

[101] The map can be consulted on *Histpop: The Online Historical Population Reports Website*, at [http://www.histpop.org/resources/pngs/0011/00150/00001_24bit_50.png], accessed 20 Feb. 2022.

Possible Directions of Future Research

Comparative Approaches

In the seventeenth century, the *Bills of Mortality* were already being used as a basis for comparison. This was the case in a 1637 text by Humphrey Crouch in which he compared London's and Newcastle's health statistics, based on the *Bills*.[102] Modern historians could cast their net even wider. Understanding them as part of a Europe-wide attempt to create health statistics can open up new areas of research. The time span covered by the *Bills of Mortality* allows for (partial) comparisons with other urban systems for recording the dead during years when they overlap. This kind of comparative research is still in its infancy, and is often challenging when it involves London, which is considered a unique city in the early modern period. Yet comparisons between London and other settlements, even smaller or less significant ones, can place the metropolis into a broader context and enable scholars to see where London was unique and where it resembled other cities. An analysis of other *Bills of Mortality* would show how far London's *Bills* provided a template influencing the recording of the dead in England, Europe, and beyond.[103]

Other English cities recorded their dead in similar ways and in some cases made explicit reference to London. One example survives from an unnamed town, likely Manchester, for the period 30 June to 7 July 1625.[104] There were *Bills* in Cambridge, at least during the plague epi-

[102] Humphrey Crouch, *Londons Vacation, and the Countries Tearme: Or, a Lamentable Relation of Severall Remarkable Passages Which it Hath Pleased the Lord to Shew on Severall Persons Both in London, and the Country in This Present Visitation, 1636. With the Number of Those That Dyed at London and Newcastle, This Present Yeare. With New Additions. By H.C.* (London, 1637).

[103] There were *Bills of Mortality* in Barbados and North America. See John Clark, 'An Abstract of the Bills of Mortality in Bridge-Town in Barbados for the Years 1737–1744. Communicated by the Rev. Mr. John Clark', *Philosophical Transactions of the Royal Society of London*, 45/487 (1748), 345; Susan E. Klepp, 'The Demographic Characteristics of Philadelphia, 1788–1801: Zacharias Poulson's Bills of Mortality', *Pennsylvania History: A Journal of Mid-Atlantic Studies*, 53/3 (1986), 201–21.

[104] 'Table of Mortality [for Unnamed Town, Possibly Manchester, 30 June–7 July 1625]', in Historical Manuscripts Commission (ed.), *14th Report, Appendix,*

demic in the 1660s, and a very basic *Bill* tallied the deaths in Oxford between 18 and 24 October 1644.[105] Nineteen out of forty-one deaths in Oxford were caused by plague. One particularly striking but underexplored example comes from Norwich, where a set of *Bills of Mortality* from 1579 to 1646 survives that has received little scholarly attention.[106] Preliminary work only has been done on *Bills of Mortality* from Newcastle and Gateshead.[107] A comparison between these *Bills* and those in London could point to telling similarities across regions.[108] In the early seventeenth century, compilations already included statistics from both London and Norwich.[109] In some other English cities, less sophisticated systems of recording were put in place. In Bristol, printed plague tickets gave an idea of the spread of the disease.[110] These were usually given to town administrators and had spaces where the numbers of plague dead could be filled in. They also existed in London and show that multiple recording systems were in use.[111] Paul Slack has identified further *Bills of Mortality*, some of them only in manuscript form, in Chester and

Part IV (1894): The Manuscripts of Lord Kenyon (London, 1894), 31–2.

[105] *A Bill of All That Deceased with the Several Diseases they Died of from the 18 of October to the 25, 1644* (Oxford, 1644), Oxford Text Archive, at [http://hdl.handle.net/20.500.12024/A28145], accessed 26 Jan. 2023; O. J. Benedictow, 'Morbidity in Historical Plague Epidemics', *Population Studies*, 41/3 (1987), 401–31.

[106] Slack, 'Counting People', 1126. See also his *The Impact of Plague in Tudor and Stuart England* (London, 1985) for a discussion of these statistics regarding plague, esp. p. 133 on the Norwich *Bills*.

[107] Graham Butler, 'Yet Another Inquiry into the Trustworthiness of Eighteenth-Century Bills of Mortality: The Newcastle and Gateshead Bills, 1736–1840', *Local Population Studies*, 92/1 (2014), 58–72.

[108] See also the *Bills* from other provincial towns: Joseph McKean, 'Synopsis of Several Bills of Mortality', *Memoirs of the American Academy of Arts and Sciences*, 2/2 (1804), 62–6; id., 'Deductions from Select Bills of Mortality', *Memoirs of the American Academy of Arts and Sciences*, 2/2 (1804), 66–70.

[109] Henry Chettle, *A True Bill of the Whole Number That Hath Died in the Cittie of London, the Citty of Westminster, the Citty of Norwich, and Diuers Other Places, Since the Time This Last Sicknes of the Plague Began in Either of Them, to this Present Month of October the Sixt Day, 1603* . . . (London, 1603), Oxford Text Archive, at [http://hdl.handle.net/20.500.12024/A06259] accessed 26 Jan. 2023.

[110] Robertson, 'Reckoning with London', 345.

[111] Will Slauter, 'Write up Your Dead: The Bills of Mortality and the London Plague of 1665', *Media History*, 17/1 (2011), 1–15.

York, besides the cities already mentioned.[112] Moreover, the Wellcome Collection has *Bills* from Northampton from the second half of the eighteenth century and *Bills* from Carlisle dating to the 1780s.[113] The impact London had on provincial towns is confirmed by early modern descriptions, which emphasize the importance of the capital for the whole of England. For instance, the author of an article in the *Annual Observer* in 1776 commented that provincial capitals were 'universally inspired with the ambition of becoming little Londons'.[114] Bearing this in mind, it is not surprising that similar systems of recording gradually emerged in other English cities. Yet there are few scholarly comparisons between these records and their underlying assumptions in different places.

The London *Bills of Mortality* can also indicate broader European patterns of change. Unlike their modern counterparts, early modern writers recognized the potential of the *Bills of Mortality* for making comparisons. One author compared death statistics in London and Amsterdam, for instance.[115] Another example is James Harvey's assessment of London, Amsterdam, and Paris, and their respective outbreaks of scurvy in 1701.[116] In Dublin, similar sources show that recording the dead had also spread to Ireland, while the Glasgow *Bills of Mortality* indicate the same for Scotland.[117] In the former case, William Petty stresses in the title of his observations on the Dublin *Bills* that he is viewing the city in relation to the London *Bills of Mortality*, suggesting the

[112] Slack, *The Impact of Plague*, 239.

[113] See e.g. Alexander Phillips, *To the Right Worshipful John Gibson, Esq; Mayor . . . of Northampton; This Bill of Mortality is Presented by . . . Alexander Phillips* (Northampton, 1745); John Heysham, *Observations on the Bills of Mortality, in Carlisle* (Carlisle, 1780?–88).

[114] Quoted from Geoffrey Tyack, *The Making of Our Urban Landscape* (Oxford, 2022), 119.

[115] Robertson, 'Reckoning with London', 338.

[116] Harvey, *Scelera Aquarum*.

[117] William Petty, *Observations Upon the Dublin-Bills of Mortality, MDCLXXXI, and the State of That City by the Observator on the London Bills of Mortality* (London, 1683); on Glasgow, see also Walford, 'Early Bills', 234–45; Robert Cowan, 'Remarks Suggested by the Glasgow Bills of Mortality: On the Mortality of Children in Glasgow', *Glasgow Medical Journal*, 5/20 (1832), 353–62. On Dublin, see also Patrick Fagan, 'The Population of Dublin in the Eighteenth Century with Particular Reference to the Proportions of Protestants and Catholics', *Eighteenth-Century Ireland / Iris an Dá Chultúr*, 6 (1991), 121–56.

importance of the London version of the *Bills* for developments in other cities. A particularly promising example that has received little scholarly attention so far are the *Bills of Mortality* of Breslau (today Wrocław) in Silesia. These were not only discussed in England, but also led to considerations about potential improvements in London's *Bills*.[118] In Paris, the *État des baptêmes* only began in 1670—later than in London—but also recorded the burials of the dead.[119] Vanessa Harding has explored some of the possibilities of comparing the London and Paris *Bills*, showing that while in Paris around a quarter of burials were attributed to hospitals and institutions, in London it was less than 5 per cent.[120]

Differences are just as important as similarities for this analysis. In Barcelona, statistics were collected and collated in a similar fashion to the London *Bills*, but were not printed.[121] In Italian cities, plague rolls recorded the number of victims.[122] However, in some cases, names, trades, and social statuses were recorded. In London, these did not feature, suggesting a different kind of purpose.[123] These differences indicate that careful consideration is important for this comparative approach, as some of the documents in other cities more closely resemble plague rolls or parish registers than *Bills of Mortality*.[124]

An analysis of similar recording systems can also produce telling results if we consider those cities in early modern Europe which had no comparable records. As far as I am aware, nothing like the *Bills of Mortality* survives from the German-speaking lands, with the notable

[118] See e.g. Edmond Halley, 'Some Further Considerations on the Breslaw Bills of Mortality: By the Same Hand, etc.', *Philosophical Transactions*, 17 (1693), 654–6; James Dodson, 'A Letter from Mr. James Dodson to Mr. John Robertson, F.R.S. Concerning an Improvement of the Bills of Mortality', *Philosophical Transactions of the Royal Society of London*, 47 (1752), 333–40.

[119] Harding, *The Dead and the Living*. On other European cities, see also Walford, 'Early Bills', 245–7.

[120] Thomas Birch (ed.), *A Collection of the Yearly Bills of Mortality from 1657 to 1758 Inclusive* (London, 1759).

[121] Robert S. Smith, 'Barcelona "Bills of Mortality" and Population, 1457–1590', *Journal of Political Economy*, 44/1 (1936), 84–93.

[122] C. M. Cipolla, 'The "Bills of Mortality" of Florence', *Population Studies*, 32/3 (1978), 543–8.

[123] Heitman, 'Authority', 278.

[124] This point was already made in the earlier literature. See Walford, 'Early Bills', 235.

exception of Breslau, discussed above, while at least haphazard or rudimentary forms exist in major Italian cities, Paris, and Amsterdam. Partly this points to the fact that these kinds of recording systems were especially necessary in larger urban centres, so the fact that German-speaking Europe had no major metropolis in the seventeenth century might go some way towards explaining this lack. But as the early modern period progressed and German cities grew and became increasingly important, they still had no *Bills*. Further investigations will be needed to show why this was the case and why, by comparison, London's *Bills of Mortality* remained so influential well into the nineteenth century.

A focus on the actors behind the *Bills* can provide further avenues of comparison. For instance, while Munich's dead were only recorded in church books and not in *Bills of Mortality*, there were also women responsible for assessing dead bodies there, much like the searchers. These 'nuns of the soul' (*Seelnonnen*) provided invaluable services, and while they fulfilled similar functions to the searchers, their connection to the Catholic Church also marked them out as different. In other German-speaking cities, women fulfilled similar functions and a comparison with the English searchers may lead to telling results about the role of women in health services.[125]

London's Urbanity and the Bills

The implicit and explicit references to London in the *Bills of Mortality* can help historians understand what it meant to live in an early modern city more generally. The *Bills* and their reception show that urbanity can be defined not only by fixed factors such as population size, density, or the presence of buildings such as a market square, town hall, or city wall.[126] Instead, a more useful understanding of urbanity focuses on its dynamic and changing nature. What urbanity meant

[125] Anja Maria Hamann, 'Rohe Weiber und ehrbare Frauen: Totenfrauen im Spiegel der sächsischen Landtags-Verhandlungen (1836–1848)' (MA dissertation, Humboldt-Universität zu Berlin, 2019).

[126] Susanne Rau and Jörg Rüpke, 'Religion und Urbanität: Wechselseitige Formierungen als Forschungsproblem', *Historische Zeitschrift*, 310/3 (2020), 654–80; Jörg Rüpke, *Urban Religion: A Historical Approach to Urban Growth and*

depended on specific times and circumstances, and also individual historical actors connected to an urban way of life. This definition makes it possible to find urbanity beyond major metropolises and to explain why not all inhabitants of important cities saw their surroundings as 'urban'.

In addition to the better-known references to the *Bills* in letters and diaries, another type of source that awaits further investigation in this context is satirical texts, which were frequently anti-urban in nature. London was awash with satire, especially in the seventeenth and eighteenth centuries, and some of the texts referred explicitly to the *Bills of Mortality* as a source of information for their ridicule. In the anonymous pamphlet *Hell Upon Earth*, we find the following description of *Bills of Mortality*: 'those elegant Weekly Records composed to the Honour of Esculapius, and sung or said by the Company of Parish Clerks in and round this Metropolis'.[127] Or, to name another example, around 1780 Richard King looked at London through the lens of the *Bills of Mortality*, criticizing the city and its government.[128] In these writings, the *Bills* functioned as a source of anti-urbanism and could be juxtaposed with idealized descriptions of the countryside.

The popularity of the *Bills of Mortality* was also connected to other patterns of urbanity, which included the availability of printing presses or the ability to read and use basic statistics.[129] The latter was particularly common in London, where sellers used basic statistics for their businesses. The availability of data was probably also linked to the rising literacy rate in England, especially under Elizabeth I. Moreover, the complex administrative system behind the *Bills of Mortality* was important for the functioning of a metropolis, and was not needed in villages to the same extent.

Religious Change (Berlin, 2020); id. and Susanne Rau, *Religion and Urbanity Online* (Berlin, 2020), at [https://doi.org/10.1515/urbrel].

[127] *Hell Upon Earth: Or the Town in an Uproar. Occasion'd by the Late Horrible Scenes of Forgery, Perjury, Street-Robbery, Murder, Sodomy, and Other Shocking Impieties* (London, 1729), 11.

[128] Richard King, *The New London Spy: Or, a Twenty-Four Hours Ramble through the Bills of Mortality. Containing a True Picture of Modern High and Low Life* (London, *c.*1780).

[129] Weinreich, 'Sums Theological', 822–3.

Paying closer attention to the urbanity presented in the *Bills of Mortality* also provides an opportunity to consider more explicitly the spatial dimensions inherent in this type of source.[130] J. C. Robertson argues that the *Bills* were one of the key sources that shaped early modern Londoners' understanding of their city, showing that 'in the 1660s [Londoners] still wanted to think about their city in traditional terms, apart from the suburbs'.[131] As works on early modern printing have shown, London's print production changed how space was perceived and understood.[132] For a later period, scholars have used other sources to consider the construction of mental maps, most recently in English directories.[133] The *Bills* indicated areas that were particularly dangerous to enter during times of plague, changing how Londoners understood their city.[134] They also provide indications of what was considered a part of London, with some early modern sources using the geographical description 'within the weekly bills of mortality'.[135] In Robertson's words, 'in reading the weekly *Bills* Londoners and outsiders all became accustomed to visualizing the City as a matrix: an interdependent network of proportional relationships that in matters of health increasingly came to be confined within the bounds set by the weekly *Bills*'.[136] Real and imagined maps of the city expressed a certain understanding of urbanity that emerged in London during the early modern period. The use of the *Bills* to inform an understanding of urbanity itself also goes some way towards explaining their longevity and likely popularity.

[130] Susanne Rau and Gerhard Schwerhoff (eds.), *Topographien des Sakralen: Religion und Raumordnung in der Vormoderne* (Munich, 2008); Susanne Rau, *History, Space, and Place*, trans. Michael Thomas Taylor (London, 2019).

[131] Robertson, 'Reckoning with London', 350.

[132] See Monteyne, *The Printed Image in Early Modern London*.

[133] Sasse, *Die Stadt lesen*.

[134] Robertson, 'Reckoning with London', 340.

[135] E.g. Company of Innholders, *To the Honourable the Commons of Great-Britain in Parliament Assembled: The Case of the Several Inn-Keepers, Stable-Keepers, and other Consumers of Hay and Oats, within the Cities of London and Westminster, Borough of Southwark, and Other Places within the Weekly Bills of Mortality* (London, 1767).

[136] Robertson, 'Reckoning with London', 345.

Conclusion

London's *Bills of Mortality* have long been recognized as a crucial source for understanding the early modern metropolis. Their great potential has not eluded researchers and scholars, especially for gaining an understanding of London's population development and the dangers of living in the English capital, particularly during times of plague. Since then, further, non-statistical aspects of the *Bills* have been uncovered and analysed, including their reception in other sources.

However, the *Bills of Mortality* can still provide pointers for future research and help answer questions about early modern London. My proposals for future areas of research speak to a historiographical shift that goes beyond a focus on London as an exceptional case study and instead suggests integrating London more fully into broader questions on the functioning of early modern cities and their urbanity. One way of doing this is by comparing London with other early modern towns.

Indeed, the London *Bills of Mortality* can enrich debates on modernity itself. Statistics are arguably one of the features that define modernity. Alongside these came other processes, such as the commodification of death rates through the sale of information or increasing attempts to control populations through biopolitics.[137] However, this is only one side of the story. For all their flaws, the London *Bills of Mortality* provide remarkable clues to long-standing concerns about the health of a complex metropolis that predate our present. They show that the recording and consumption of these kinds of statistics is by no means uniquely modern, while the semi-professional searchers challenge notions of increasing professionalization in the early modern period, and the continued relevance of the church in recording the dead indicates no clear secularization.[138]

The *Bills* can be seen as a premodern way of dealing with death. The long-lasting system of collecting data about the dead illustrates

[137] Ibid. 328; McCormick, 'Political Arithmetic's 18th Century Histories', 242–4.
[138] Slack, 'Counting People'.

that early modern urban polities had their own way of functioning when it came to caring for and treating the dead. Although the *Bills* had issues, recognized by contemporaries and modern scholars, they show a remarkably wide-ranging and nuanced way of dealing with the dead. Early modern systems of recording, then, were not merely a flawed precursor to modern administrative practices, but must be understood in their own right.

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