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## LPSS Spring conference report, 2013

### Urban Mortality in Britain

The Spring conference 2013 was held at the Friends Meeting House, Euston Road, London, and was organised by Nigel Goose. The meeting attracted a total of 52 delegates.

#### Panel One: Mortality in London

Our first speaker was Peter Razzell who spoke on the history of mortality in London, 1538–1849. Peter used a wide range of evidence to consider infant, child and adult mortality at various points in London's history. He began by discussing some of the problems with data on London burials, including some burials missing from the bills of mortality and doubts about the reliability of burial registers. He has adjusted burial totals, using the 'same name technique' (previously discussed in several *LPS* articles) to compensate for missing child burials in records of the period, and demonstrated that infant and child mortality were both lower amongst wealth-holding families. His evidence showed that infant mortality was highest in the first half of the eighteenth century, with this possibly because of changes in the smallpox virus. Infant mortality fell later in the century but the greatest decline was in the early nineteenth century. Child mortality was highest in the late seventeenth century, fell and then rose in the later eighteenth century; this rise was also present in Bedfordshire parishes.

In London smallpox and its prevention was the crucial issue in the long-term decline in infant and child mortality. Peter has studied adult mortality by checking marriage licence allegations to find whether the fathers of those marrying under 21 were alive or dead. In the early eighteenth century 47–55 per cent of fathers were dead, and this figure declined to 31 per cent by the 1790s. Apprenticeship indentures show the same fall in the percentage of deceased fathers. He also used the figures for infant, child and adult mortality produced for 1838–44 to consider the figures for the richer, middling and poorer parts of London and found no major differences between the areas. The session concluded with the suggestion that the class 'gradient' in adult mortality did not really appear until the later nineteenth century.

Richard Smith spoke next on the subject 'London and the larger English towns as epidemiological drivers before 1850'. He began with John Graunt's seventeenth-century work on London mortality and examined contributions from many scholars about the relationship between towns and cities and mortality, asking whether or not cities were

dependent on immigrants for their population maintenance and increase. He argued that centres of dense population, with high levels of poverty, with a high proportion of migrants and dense trade links will lead to increased mortality, and a particular increase in infant and child mortality. But the individuals who survived would have many immunities and were likely to live longer than recent migrants from the countryside, so that children and recent migrants was most likely to die from infectious diseases; adults born in a city or town or nearby were likely to have immunity from those diseases which are spread from person to person.

Richard also spoke about the very high levels of infant mortality in early eighteenth century London and the dramatic fall in the eighteenth century, again relating this to developments in the prevention of smallpox. Recent work on mortality in the St Martin in the Fields workhouse has shown faster improvements in infant mortality during the eighteenth century than in England generally, and from the 1770s the proportion of London deaths which were from smallpox declined. But although there is now evidence that for London and its immediate hinterland smallpox was a childhood disease in the eighteenth century, there is much less knowledge about the situation elsewhere; Richard told us about work currently underway using records from Manchester, Leeds and Liverpool. Early results from Manchester are showing that a higher proportion of deaths were from smallpox but that nearly 95 per cent of these deaths were of children. In both London and Manchester a higher proportion of immigrant adult males died early than immigrant adult females, which may be because immigrant females were more likely to have come shorter distances than their male counterparts and thus have more immunity to the infectious diseases prevalent in the city. When cities are thought of in epidemiological terms, migration becomes an independent variable in relation to mortality from disease, and age and immunological status become the crucial factors.

Session one ended with a more tightly focused talk by Audrey Eccles on violent and suspicious deaths in Middlesex in the 1760s. Audrey has explored 100 cases of violent or suspicious deaths recorded by the Middlesex coroners, and related evidence. She has also considered the relationship between the verdicts of coroners' juries and those of the Old Bailey juries in the cases where suspects were later prosecuted for murder or manslaughter (74 per cent of the total). Like the Old Bailey evidence available online, the coroners' court cases provide detailed evidence about the circumstances surrounding deaths, and fascinating insights into living conditions and social relations at the time. When considering the similarities and contrasts between the verdicts of the coroners' inquest juries and the trial juries, Audrey pointed out that new evidence could have become available between the two events, but also that trial juries, whose verdict would mean life or death for the defendant, were often more cautious than the earlier coroner's juries. Audrey described the processes which the coroners followed in these cases, how coroner's inquests worked and how this differed from trial cases at the Old Bailey. There was no property qualification for jurors at a coroner's inquest and the coroner was the

only lawyer involved. Among the cases Audrey had studied, 13 per cent were infanticide, 13 per cent domestic violence, 6 per cent traffic accidents but many more were the result of assaults and quarrels, including duels and ‘battles’, the ‘working class equivalent of a duel’. Alcohol (and excessive amounts of it) was, unsurprisingly, a feature of many of these cases.

### **Panel Two: Mortality in the early modern English provinces**

After the LPSS AGM and lunch the conference reconvened to listen to Nigel Goose rehearsing one of his hobby-horses, providing some simple counts of vital events to explode the myth of inevitable natural decrease in early modern provincial towns. He began by emphasising that permeability, and hence immigration, was indeed a central feature of all substantial provincial towns. This is a central component of the ‘Sharlin thesis’, a thesis that suggests high urban mortality was the product of *temporary* migration to towns, producing a pool of vulnerable individuals who would enhance the death rate, while the *permanent* residents achieved natural increase. Evidence of the temporary nature of much urban in-migration is lacking, however, and the dichotomy between a permanent core and a transient immigrant population, Nigel argued, is a false one.

The ‘urban graveyard’ thesis, however, still dominates the historiography, with so many historians extrapolating from the experience of London to assume that all major towns experienced natural decrease and hence could not maintain their size let alone grow without immigration. Nigel produced parish register data from the towns of Cambridge, Colchester and Reading 1561–1640 to show that this was far from invariably the case, to which he added a list of 16 substantial provincial towns that tell much the same story. Outside of London, Norwich in the sixteenth century and Cambridge in the seventeenth it is in fact quite hard to find a substantial town that was an ‘urban graveyard’, let alone a ‘devourer of mankind’. He also produced data to show that background mortality was a more important component of urban mortality than periodic epidemics. Towns were not all the same, however, and topographical features might well explain why some were healthier than others. They also responded to national mortality trends, and there is far more evidence of natural decrease in English towns in the century after 1650 than in that which preceded it—somewhat ironically given that this period that has been described as one of ‘urban renaissance’.

Andrew Hinde spoke next on ‘Mortality in English market towns in the early modern period’—a version of the paper published with Dilece Connor in *LPS* 89. His paper examined some aspects of mortality in English market towns between the sixteenth and the nineteenth centuries. He asked whether larger towns were more vulnerable to epidemics and consequent mortality crises than smaller towns. To answer this question, he used parish register data collected for 98 towns by the Cambridge Group for the History of Population and Social Structure during the preparation of E.A. Wrigley and R.S.

Schofield's *The population history of England: a reconstruction* (London, 1981). Andy showed that using conventional methods of identifying mortality crises, crises appeared to be more frequent, and often more severe, in smaller market towns than in larger ones. This result turned out, however, to be an artefact of the use of a constant ratio between the number of burials observed in a given year and the number expected on the basis of a moving average of the annual burials from surrounding (or preceding) years. A more satisfactory approach would use a varying ratio based on the Poisson model of mortality. When this approach is employed, the result is reversed, and mortality crises are revealed to be more common in larger market towns. More generally, the volatility of mortality varied substantially from place to place. In some smaller towns—especially those 'off the beaten track' in quiet agricultural areas—crises were infrequent and of minor extent. In several larger towns, including those which were transport hubs, and towns in low-lying marshy areas of eastern England, mortality crises were a recurrent feature of the early modern period.

The third paper in this session, entitled 'Midwifery during long eighteenth century. An urban success story?', was given by Chris Galley. Based on collaborative research conducted with the late Bob Woods, Chris revealed how advances in midwifery techniques during the eighteenth century may explain some of the declines in maternal and stillbirth mortality during that period. Chris began by reviewing the demographic evidence and showed that maternal mortality halved between 1700 and 1850 whilst stillbirths declined by a smaller amount. He then argued that one way of explaining these patterns was by examining midwifery case notes which if used sensitively can reveal the wide range of techniques and innovations that midwives employed. The fruits of this research will eventually be published in a book, but here Chris showed how the work of midwives such as Sarah Stone and the Scottish man-midwife William Smellie helped improve outcomes for their patients. He argued that advances in midwifery practice, which involved specialisation, training courses, textbooks, scientific debate, dissection illustration, knowledge and practice transfer and the use of instruments such as the obstetric forceps generally had a beneficial influence on fetal and maternal mortality. Moreover since most specialist midwives were based in towns, any changes were most likely to be witnessed there. As a final illustration of his thesis, Chris discussed Edward Rigby's work on uterine haemorrhage. Bleeding often caused a mother's death and Rigby, a Norwich-based midwife, discovered that there were essentially two types of haemorrhage: one caused by the placenta becoming detached early (placental abruption) and the other by the placenta obstructing the cervix (placenta previa). Often in the former case the child can be delivered naturally whilst in the latter case intervention is needed if the mother is to survive. Early diagnosis is the key to a successful outcome and Rigby's case notes show that by examining the mother he was able to differentiate between the two conditions and provide appropriate care for his patients. Rigby's innovations saved lives.

### **Panel Three: Disease in the provinces**

The conference reconvened after an abundance of tea and cake. Graham Butler was scheduled to speak first in our third and final session on the subject of the urban poor and the Newcastle Infirmary, but unfortunately he was indisposed and unable to make the journey to London. This gave Mary South plenty of time to discuss 'Smallpox mortality in Southampton and adjacent parishes during the eighteenth century'. Mary South's study also incorporated three surviving inoculation books from the 1770s and 1780s, which record the inoculation campaigns accompanying an outbreak. Her paper took a refreshing angle on understanding mortality through an ecological context. Firstly, she provided a background account of the orthopoxvirus, a group of poxviruses associated with many animal species, of which smallpox is one representative. The audience learnt that the smallpox vaccination pioneered by Edward Jenner in 1796 did not contain cowpox, but an analogous virus known as vicinia, of which horses and rabbits were most likely carriers. Cowpox is, in fact, more common in cats than cows, since cats hunt mice and voles which carry cowpox as reservoir hosts. The viruses become excreted in the carrier's urine and, consequently, seep into the vegetation. As a result, the rural environment may act as a natural form of inoculation, since minor injuries and abrasions serve as entry points for viruses, and gradually build up immunity.

Mary then discussed eighteenth-century Southampton as a fashionable market town and seaport, with a high street, theatre and masquerade ball. It was renowned for its sea baths, which were considered a vital source for eye-cures. She then discussed a range of factors responsible for Southampton's high mortality rates. Overcrowding, migration and the importation of disease from coastal trading were factors, and they have been described as typical reasons for mortality in previous historical research. However, under-explored ecological reasons included the reported eruption of volcanic ash clouds from Iceland in 1783, and the destruction of cattle caused by the rinderpest virus which, in turn, caused famine. A study of Southampton's parish registers show that, from the 1750s, urban areas were more affected by population losses resulting from mortality than rural ones. The inoculation books, which record each inoculation by age and in particular parishes, confirm that towns were less likely to recover from smallpox two years after an outbreak. Conversely, the inoculation programmes in rural Ealing were very successful, with an 86 per cent recovery rate on average, compared with 24 per cent for one market town. In conclusion, Mary argued that we have become so distanced from the natural environment that ecological factors in the historiography of mortality are neglected.

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