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EDITORIAL

In this issue of *Local Population Studies* we are able offer both breadth of chronological coverage, ranging from the later medieval period to the 1880s, and an impressive geographical range, from the Isle of Skye, to county Durham, Yorkshire, Ipswich and Hertfordshire, as well as a survey of plague in later medieval England that has implications for every English locality. Also included is a report on the 3rd Annual Local Population Studies Conference, *Children and Childhood in Industrial England*, held last April, and the annual ‘Review of recent periodical literature’, which seems to grow in length each year.

Our first article examines the evidence provided by Yorkshire baptism registers on changing occupational structures between 1720 and 1829. The data was collected by the Mid-Wharfedale Local History Research Group, a Workers Educational Association class led by Moira Long and May Pickles, who, over two years, examined a total of 62 registers that had been printed or transcribed and were available from the Yorkshire Archaeological Society Library. Although there are some 1,000 parishes in the county, this is a substantial sample which is analysed over a period of more than a century, and provides clear testimony to the value of collaborative group work in local population studies, particularly when guided by experienced tutors. The early industrial character of the old West Riding emerges clearly from this data, with the most wholly industrial parishes marked by a high degree of specialisation, and in this area the number of baptisms appears to have been rising strongly. The mixed agricultural/industrial parishes give the impression of a more consumer-oriented society. York itself, the market towns, and even other non-urban parishes were able to support a variety of trades and services which extended well beyond the purely utilitarian, possibly indicating greater disposable income. One of the key developments of the eighteenth century was increasing differentiation between parishes, for the movement of population out of the purely rural areas and the growth in numbers of the more industrialised parishes created areas of markedly different character, some static, some more dynamic. But it is the early dynamism of the area that emerges most strongly, its industrial strength clearly evident before the application of steam power further transformed the largely small-scale enterprises of the eighteenth century, and already supported by a well-articulated commercial infrastructure.

The second article deals with a subject that has long been a topic of considerable controversy, and that is the nature of the Black Death in the later Middle Ages. The Black Death of 1348–1349, and the subsequent national, regional and local outbreaks of epidemic disease which followed, have conventionally been ascribed to bubonic plague assisted, according to some writers, by a supporting cast in the form of its pneumonic and septicaemic variants. But although it is frequently described by contemporaries as
‘plague’, certainly in the urban records of the sixteenth and seventeenth centuries, the late-medieval form of the disease spread with a rapidity totally uncharacteristic of its modern ancestors. It also survived into the cooler months of the year in some instances, while the contemporary record has left no trace of the rat mortality which is generally associated with both its spread and its transference to the human population. J.F.D. Shrewsbury raised a question mark over the identification of the disease in his A history of bubonic plague in the British Isles (Cambridge, 1971), but his tendency to over-statement, an excessive and unsupported emphasis upon typhus as an alternative, and a highly critical review by Christopher Morris, effectively blunted the power of his argument. In 1984 Graham Twigg, a zoologist, published The Black Death. A biological reappraisal, where some of the key arguments that are further explored here were first expressed. If there is any truth in the consensus view that between 30 and 45 per cent of the population died from the epidemic outbreak of 1348–1349, this exceeded that produced by any modern outbreaks of known plague—bubonic, pneumonic or septicaemic—by a considerable margin, and would have required that 75 per cent of the population came into contact with it, which is highly unlikely given the absence of the black rat in rural Britain. Both the speed of diffusion and the length of the epidemic suggest an organism transmitted by personal contact and with a long infective period, which effectively rules out the plague bacillus Yersinia Pestis. Graham Twigg is now by no means alone in his scepticism regarding the identity of the Black Death, and readers of Local Populations Studies may be familiar with similar arguments from Alan Dyer’s review of Scott and Duncan’s Biology of plagues: evidence from historical populations (LPS 68, 95–6), while a further recent discussion by S.K. Cohn appeared recently in ‘The Black Death: end of a paradigm’, American Historical Review, 107, 703–38, which is summarised in the ‘Review of recent periodical literature’ in the present issue.

Our third article returns us to statistical demographic analysis, to offer detailed insight into local variations in infant mortality in the 1880s through a comparison of two populations that were very different indeed: those of the Isle of Skye off the north-west coast of Scotland and the town of Ipswich in Suffolk. For both of these populations it was possible to link census data to records of births, marriages and deaths, which provided longitudinal information seldom available to historians of nineteenth-century Britain due to problems of access to civil registration data. For Skye privileged access was given to the civil registers of births, marriages and deaths, while for Ipswich detailed information was taken from a particularly informative vaccination register. From these data, linked to the censuses of 1871 and 1881, it was possible to construct ‘family building histories’. The results are related to ‘standard’ distributions of deaths across the first year of life, as defined by Chris Galley and Bob Woods in their article ‘On the distribution of deaths during the first year of life’, Population: an English Selection, 11 (1999), 35–60. The key discovery is that on Skye, while the survival chances of infants in general were relatively good, and older infants were impressively resilient, the levels of neo-natal mortality (those dying within one month) were abnormally high, not only higher than in Ipswich but standing above those reported for
the notoriously unhealthy towns of Blackburn, Leicester and Preston. The pattern of infant mortality on Skye is also discrepant from the ‘standard’ distribution suggested by Galley and Woods, and Garrett and Davies explore the possible reasons for this. The fact that infant deaths in the first hour of life were six times higher than in Ipswich could suggest infanticide, but there is no evidence to suggest that Skye diverged from the low levels found generally in Britain at this date, and a more likely explanation is that stillbirths were being registered as live births, and then subsequently as deaths. But the fact that deaths during the first day, week and month were also higher on Skye than in Ipswich suggests an additional cause, and it may be that the insanitary conditions prevailing in Skye cottages lead to high levels of infantile tetanus, possibly produced by the cutting of umbilical cords with soiled blades. The authors stress that these conclusions are tentative. For while these two longitudinal studies demonstrate that the use of Galley and Woods’ ‘benchmark’ distributions of infant deaths does indeed allow detection of populations where the registration of demographic events is ‘irregular’, a great deal of work remains before explanations of these variants can be categorically established.

Our ‘Research in progress’ piece provides a report on a pilot project, funded by the Leverhulme Trust, which attempted to discover the extent to which different local environments and economies influenced the way customary beliefs and activities manifested themselves. Building upon previous work by Owen Davies on Somerset (A people bewitched: witchcraft and magic in nineteenth-century Somerset, Bruton, 1999), and taking advantage of a computerised database of the 1851 census for the county as well as that for 1881 provided by the UK Data Archive, individuals identified in newspaper reports as engaging in a range of customary activities (including witchcraft and magic, cunning folk, medical cures, quackery and herbalism, fortune-telling, gypsy culture, wife selling, rough music and other forms of community action) were traced in the census returns. The main concern of this report is to demonstrate the high degree of success achieved through manual nominal record linkage between these sources. But early analysis also reveals interesting patterns and contrasts, with low levels of magical activity and belief compared to Somerset, but continuance of the customary shaming practice of ‘rough music’. Both the geographical concentration of incidents of rough music and the age profile of the perpetrators suggests that these were anything but the vestiges of a bygone era, that communal action retained its potency through to the 1880s (when it abruptly ceased), and that it retained a place in the culture of those (usually urban) places undergoing significant economic, social and administrative change.

Our ‘Research note’, contributed by Alan Wright, builds upon the article by Michael Saxby on ages at baptism published in LPS 70 (‘Ages at baptism in the parish of All Saints, Sudbury, 1809–1828: a new approach to their interpretation’, pp. 49–56). Analysis of birth-baptism intervals for the parish of Whickham, county Durham, 1798–1828, shows considerably longer average delays amongst Anglicans than nonconformists, though the former fell
considerably across the period, a feature that could not be explained in terms of either distinctive economic and social characteristics or changes across the period. It is concluded that responses by parents to the custom of baptism is influenced by a menu of possible socio-economic factors that can vary in relevance, time and importance, and it is simply not possible to provide definitive explanations for the specific birth-baptism intervals discovered for a particular parish.

Local Population Studies Annual Conference 17 April 2004

The theme for this year’s conference is ‘War and Demography’, and the intention is to focus upon the First and Second World Wars, and possibly also to some events and developments of the inter-war period and surrounding years. At the moment the line-up of speakers remains provisional, but we hope to be able to offer papers on the collection of nominal information by the British state (a highly topical issue), Scottish recruits during World War I, the Committee on Physical Deterioration and Edwardian social reform, the Great Trek and the 1939 Enumeration, education and evacuation in wartime Salisbury, a discussion of aspects of the Royal Commission on Population, and possibly also a survey of inter-war fertility. The title of the conference is therefore flexible rather than restrictive. If any reader has a short paper to offer that might be appropriate to this general theme please e-mail David Gatley at d.a.gatley@staffs.ac.uk or myself at n.goose@herts.ac.uk. The conference will again be held in the Law Faculty of the University of Hertfordshire in St Albans where we have been so well served in the last three years, and the fee remains at £25 inclusive of refreshments. To secure your place please write to Local Population Studies (conference), Faculty of Humanities and Education, University of Hertfordshire, College Lane, Hatfield, Herts. AL10 9AB, including your address and e-mail (if you have one) so that we can send further particulars to you.

LPS projects

There are currently four LPS publishing projects in train, the first of which is the essay collection on Women’s work in industrial England that has been underway now for some considerable time. I am pleased to be able to report, however, that the additional contributions that were commissioned are now coming in, and predict publication towards the middle of 2004. Eddy Higgs’ book, Life, death and statistics: the General Register Office, 1837–1952 is promised for the end of the year, and should therefore be published in spring. Although Graham Mooney has now left the LPS editorial board as he has taken up a position at John Hopkins University in the United States, he intends to continue to lead the production of an essay collection on sources for the study of population and health at the local level. Finally, following the success of last year’s annual conference, firm plans have taken shape for a collection of essays on Children and childhood in industrial England: regional and local perspectives. The LPS editorial board will be pleased to consider any new publishing proposal that promotes interest in, or present the results of, the
study of population history at the local and regional level. Prospective authors should write in the first instance to Nigel Goose at the LPS General Office.

Occupational change and economic growth in England before 1851

The following appeal is posted on behalf of Leigh Shaw-Taylor of the Cambridge Group:

‘The 1841 census provides the earliest adequate description we have of the male occupational structure of the English economy. The earlier censuses contain only limited occupational information, though the 1831 census is exceptional in providing some data down to the level of the individual parish. Before 1801, the date of the first census, we currently lack any large-scale systematic data. In consequence for the period often described as the industrial revolution we lack a satisfactory account of the evolution of the occupational structure of the economy. In particular we do not know what the economy looked like before the nineteenth century and therefore cannot accurately specify the nature of economic change over the early modern period.

E.A. Wrigley and I have recently been awarded an ESRC grant entitled Male Occupational Change and Economic Growth in England 1750–1851. The grant is held at the Cambridge Group for the History of Population and Social Structure in the Geography Department at Cambridge. The primary aim of the project is to fill the above mentioned gap and chart the evolution of the male occupational structure of the English economy between c.1750 and c.1850 at local, regional and national levels. This will be done using a combination of militia lists, parish registers and census material. The secondary aim is to investigate the potential of other sources of data which would allow the research to be extended back to the late medieval period and to extend the data sets to include female and child workers.

The Cambridge Group is best known for its long-running project on English population history. That project relied heavily on the work of local history volunteers who collected much of the original data from parish registers. Some years ago Tony Wrigley issued an appeal through LPS for volunteers to collect data for a national sample of occupations for the period 1813–1820. The subsequent generosity of LPS volunteers with their time generated a national sample derived from 300 post-Roses’ Act Anglican baptism registers. We plan to present the first fruits of that exercise at the Economic History Society meeting in April and hope that publication will follow soon afterwards.

For this project most of the data collection will be done by research assistants employed on the grant but there is still considerable scope for assistance from volunteers. This could take several forms. Many local historians will be aware of documents unknown to us but which nevertheless contain valuable occupational data. In such cases simply being told of the existence of such sources would be invaluable. Even better, of course, would be cases where local historians had already collected occupational data and were happy to
share it with us! Although the grant has been very well funded by the ESRC, its resources are inevitably limited. In consequence there are a variety of projects which could be done at local level which we will not have sufficient resources to effect but which would be eminently suitable for local volunteers who wished to collaborate. If you are interested in helping in any of these ways, or simply wish to know more about the project, we would be very pleased to hear from you. You can contact me either by e-mail (lmws2@cus.cam.ac.uk) or by post at the Department of Geography, Sir William Hardy Building, Downing Place, Cambridge CB2 3EN. Further information on the project can be found on the ESRC database at www.regard.ac.uk under Economic and Social History.

Editorial matters

While I would like to be able to report that the move of the LPS General Office to a new campus within the University of Hertfordshire has proceeded smoothly, unfortunately there are issues that remain unsettled at the time of writing. We say a sad farewell to Vanessa Chambers, our administrator for the past two-and-a-half years, but wish her well on her postgraduate course at the University of London. She has been the very model of efficiency and cheerful comradeship throughout her time with us, and will be badly missed. The question of her replacement remains to be resolved, as does electronic communication to the LPS e-mail address, so for the time being all correspondence should be addressed to Nigel Goose, and e-mails to n.goose@herts.ac.uk.

This edition of the journal was typeset by Ken Smith, to whom we are again most grateful.

Nigel Goose

October 2003.
Children and Childhood in Industrial England

The third Local Population Studies/Local Population Studies Society conference was held at the Law Faculty of the University of Hertfordshire in St Albans. More than fifty delegates attended.

Peter Kirby (Manchester University) began proceedings by asking the question, ‘How many children were “unemployed” in the eighteenth and nineteenth centuries?’ Kirby’s talk was essentially a reply to Hugh Cunningham’s article published in 1990 (‘The employment and unemployment of children in England, c. 1680–1851’, Past and Present, 126, 116–50) that suggested that large numbers of children remained unemployed in this period. Reviewing the work of neo-classical economic historians and the literature on standards of living and proto-industrialisation Kirby argued that children played a significant part in employment during this period and that Cunningham’s thesis was not born out by the three main sources he used—Social Commentary, Poor Law Commission Reports and the Census Occupations Abstracts for 1851. Kirby showed that examination of the first source can provide the opposite point of view and the questions asked by the Poor Law Commission were often ‘poorly framed’ which resulted in answers that were ‘ambiguous’. It is only with the 1851 census that national estimates of child employment can be provided and analysis suggests that occupations given to children under 15 were often under-reported as a direct consequence of the enumeration procedure—the reports deliberately missed out some specific seasonal employment, much farm work was simply omitted and girls’ work was frequently under-reported. Kirby argued that the debate over childhood unemployment had been unduly influenced by contemporary notions of ‘idleness’ and the difficulties concerning notions of exactly what constituted childhood employment in this period. A wider examination of these issues is about to appear in Kirby’s book, Child labour in Britain 1750–1870 (Palgrave, 2003).

The second session contained two papers and moved from the national picture to that in London. Both papers discussed a range of qualitative material that enabled the experiences of childhood in and around the capital to be examined. Mary Clare Martin (University of Greenwich) spoke first on, ‘Children in London’s rural hinterland, 1740–1870’. Her focus was on Wathamstow and Leyton, two ‘pretty retiring places from London’, and she introduced us to a range of dramatis personae, such as William Cotton who later became director and governor of the Bank of England, in order to illustrate the varied experiences of children living on London’s fringe. Examination of school records revealed that casual employment such as ‘picking stones with father’ was frequent. Most boys left school to become servants, weavers, farm workers or apprentices, all occupations typical of a rural environment. Girls were also often absent from school to ‘help mother at home’ and service and fieldwork occurred frequently as subsequent employment. We also learnt that most children had a positive picture of the value of education and
little corporal punishment was apparently used. Leisure activities were varied and shaped by the environment in which they lived. Compared with today most children in Walthamstow and Leyton enjoyed plenty of freedom even if some were not allowed to walk beyond certain local landmarks and all in all Martin suggested that to have been a child growing up in this type of environment was no bad thing.

Next, Anna Davin talked about, ‘Poor children in late-nineteenth-century London’. She explored a range of sources that included oral histories, the oldest interviewee being born in 1882, and autobiographical material such as Arthur Harding’s *East End Underworld* (Routledge, 1981) and Jerry White’s *Rothchild Buildings* (Pimlico, 2003). By examining this material Davin was able to provide a wider view of childhood experiences. Thus, she demonstrated how the whole family could be employed in the domestic manufacture of matchboxes, even very small children whose responsibilities were confined to looking after the baby. There were distinct gender differences in how work was perceived with absence from school being treated as truancy for boys, but being accepted for girls if they were required to help at home. Davin was also able to provide a different perspective to the issue of child labour—that of the child itself. Many children did not consider running errands as work and in many instances may have actually preferred helping their parents rather than going to school. Notions of what constituted work therefore need to be set against the child’s view that work was anything that interfered with ‘their liberty to do as they want’. Appropriate childhood behaviour was also influenced by prevailing and changing perceptions. Thus, in the 1850s ‘street children’ were considered ‘idle, dangerous and a poor prospect for future citizenship’ while in the early twentieth century, following the introduction of compulsory school education, children began to be observed en masse and their poor physical quality became an increasingly important issue for the state. During this period paid work for children gradually declined, but this did not mean that they stopped working and Davin ended her talk with a plea to restore the wide variety of children’s work back to visibility.

Moving down the geographical scale from the morning sessions, the afternoon contained three papers devoted to children in the provinces. First Andy Gritt (University of Central Lancashire) examined, ‘Parish paternalism and capital exploitation: apprenticeship in eighteenth-century Lancashire’. Gritt presented an analysis of 2,287 Lancashire apprenticeship indentures. This represents approximate half of all surviving indentures for this county and the rest will eventually be incorporated into his study. Three main sponsors of apprenticeship were identified: charities, overseers of the poor law and private individuals. Not surprisingly the majority of apprenticeships were given to boys, with over 65 per cent going into artisan trades or those connected with the textile industry. By contrast 93 per cent of female apprentices were sponsored by the poor law, usually to various types of service. Gritt’s main thesis was that the sponsoring body was crucial to the experience of apprenticeship and that this experience varied according to where one lived. Thus, far higher proportions of apprentices sponsored by charities and private individuals were literate compared with those sponsored under the poor law. Charities generally provided a good
education and attempted to place apprentices with independent literate artisans while the poor law overseers provided apprentices with little opportunity for long-term independence, the implication being that poor apprentices appear to have been off-loaded as quickly as possible often to masters who were themselves illiterate. Gritt then presented three case studies from the townships of Culceth, Preston and Chipping to show how the experience of apprenticeship varied throughout the county. Culceth was dominated by poor law apprentices, Chipping by charity sponsorship while in Preston there was a mix between poor law and corporation sponsorship. Gritt’s talk generated a large number of questions and a lively discussion.

Nigel Goose (University of Hertfordshire) spoke next on, ‘Child employment prospects in nineteenth-century Hertfordshire in perspective: varieties of childhood?’ He began by rehearsing the now accepted fact that, while our perceptions of child employment were formerly dominated by images of the Lancashire factories, these experiences were far from typical since most child labour took place at home. Moreover, there were parts of the country, such as the county of Hertfordshire, not traditionally associated with child employment that had far higher participation rates. Returning to the 1851 census Goose showed that despite the concerns expressed above by Kirby about under-registration in this source, in Hertfordshire the ‘culture of childhood employment’ that existed in this part of the country is faithfully recorded by the census. In registration districts such as Berkhamstead and St Albans 50 per cent of children aged 10–14 were recorded as being employed together with large numbers of children aged 5–9. At the same time it was interesting to note that Hertfordshire was also at the bottom of the literacy tables. The county of Hertfordshire as a whole recorded three times the national child employment rate, although there was enormous variation across the county with some parishes recording very low levels and others remarkably high ones. Most of these children were employed in the straw plaiting and hat trades and following the increased importation of cheaper Chinese and Japanese plait, which coincided with new legislation restricting child labour and requiring school attendance, these industries declined as did childhood employment. Geographical and temporal variation in childhood employment extended far beyond the microcosm represented by Hertfordshire, and thus industrial England might be characterised more than any period in English history before or since as exhibiting ‘varieties of childhood’.

In the same session David Gatley (University of Staffordshire) posed the question, ‘Child employment: was it really such a bad thing? Warrington in the nineteenth century’. Traditional views of child labour stress that it is exploitative, dangerous, unhealthy and will result in the learning of immoral behaviour. Instead childhood should be spent in a protective environment with sufficient time being given over towards learning. While Gatley accepted that working children were exploited with long hours and low pay and in extreme instances they were nothing short of ‘a species of slavery’, an alternative case could be put forward. Childhood employment enabled children to maximise their lifetime earnings and in many instances it enabled families to escape poverty. For girls domestic service was good training for motherhood and in an age when general levels of education were poor
many learnt more whilst in employment. Gatley found little evidence for children learning immoral behaviour at work and in some cases employment enabled the child to escape from an abusive domestic environment.

Finally Eilidh Garrett (University of Portsmouth) returned to the national picture by examining, 'Death in childhood: mortality in the regions of England and Wales 1860–1910'. In her paper Garrett considered mortality amongst children under the age of 15 across the half century from 1861 to 1910. She indicated that while much attention has been paid to infant mortality, it was among older children that really spectacular gains in survival were experienced over these decades. Rather than use relatively small units, Garrett divided England and Wales into regions on the basis of the male occupational profiles of each county in 1861. On top of this was added an element to indicate where women's non-domestic employment was high. Three counties in the 'Eastern Agricultural' region; Hertfordshire, Buckinghamshire and Bedfordshire had already been demonstrated by Nigel Goose to have had very high levels of both women's and children's employment at mid century, higher even than the notorious textile districts. The straw plaiting industry sustaining this workforce went, however, into terminal decline over the ensuing decades. Garrett demonstrated that this decline was mirrored by child mortality experience in this region. Almost all other regions also saw declines, but none at the dramatic rate of that in the agricultural districts of the South Midlands and East Anglia. Garrett sought to highlight the importance of the rates of decline over and above their magnitude. She explained that the final aim of her research was to understand the changes taking place in the composition of the national population, in terms of both its spatial distribution and social complexion. She hoped to explore the role of suburbanisation, as opposed to urbanisation, in the late nineteenth century mortality decline.

Local Population Studies and the Local Population Studies Society would like to thank the University of Hertfordshire for providing us with excellent accommodation for the day together with lunch and refreshments well up to the standard of previous conferences. Sponsorship by The Centre for Regional and Local History, University of Hertfordshire is gratefully acknowledged. The Board would also like to thank Nigel Goose for organising the conference, Peter Franklin for organising the bookstand and Vanessa Chambers for ensuring that the day proceeded smoothly.

The next Local Populations Studies and Local Population Studies Society conference will be held on Saturday 17 April 2004, again at the University of Hertfordshire’s Law Faculty in St Albans, on the theme of ‘War and demography’.

Chris Galley
Barnsley College
A STUDY OF OCCUPATIONS IN YORKSHIRE PARISH Registers IN THE EIGHTEENTH AND EARLY NINETEENTH CENTURIES

Moira H. Long

Moira Long graduated in History at Somerville College, Oxford, and obtained a B. Litt. for a thesis on the parish of Mapledurham, Oxfordshire. After moving to Yorkshire she taught WEA classes in local and landscape history and was joint tutor of the Mid-Wharfedale Local History Research Group, one of whose projects was the basis of this article.

Introduction

The distribution of occupations in eighteenth and early nineteenth century Britain is a topic of continuing interest and is particularly relevant to the debate about the pace and scope of early industrialisation. Studies of this period identify changes in occupational structure, particularly in the reduction in the proportion of the population working on the land, as one of the key factors which made possible the development of an industrial economy. As Wrigley points out, ‘If six men in ten can devote their energies to secondary or tertiary production and yet be adequately fed, a very different economy will emerge from that which is possible if only two or three men can be spared from the land without running the risk of mass starvation’. 1

This transition could only come about because substantial increases in agricultural productivity had been achieved, albeit slowly, during the seventeenth and eighteenth centuries. 2 Population growth in the eighteenth century raised fears of food crises. These concerns were most acute in the 1790s, but increases in the production of manufactured goods made it possible to export these in order to pay for corn imports to supplement home production in years of poor harvest. 3 These national trends are well known but there is little information available at the local and regional level to illustrate the realities of occupational change for individual communities.

This study aims to provide a body of new information which shows how Yorkshire parishes were affected by the ongoing changes. The data are derived from baptism registers between 1720 and 1829 from parishes in all regions of Yorkshire, both agricultural and industrial, and illustrate how, at a local level, one effect of these changes was to bring about increasing differentiation between communities. Each parish had its own particular characteristics, some remaining traditionally agricultural, some having a specialised industrial group for a period of time and some becoming overwhelmingly industrial.
Movement out of parishes which were predominantly agricultural into those which gave opportunities for additional employment had occurred over a long period. Pickles has shown this for Yorkshire from the mid-seventeenth century onwards. For example, some 2,900 people left Wharfedale between 1670 and 1743. The baptism registers studied reinforced this conclusion. Parishes which depended entirely upon agricultural occupations appeared, in general, to have low or stable population levels, whereas those with many industrial occupations were more populous and showed rapidly rising numbers of baptisms. Many of these parishes showed characteristics which could be described as 'proto-industrial' in that they had rural domestic industries whose product was sold to markets outside their region. This was particularly seen in the textile districts, such as Airedale and Calderdale and in the parish of Saddleworth. Saddleworth lies on the border between Yorkshire and Lancashire and covers a large and unproductive moorland area with very scattered settlement; here baptisms were high and almost all the fathers in the register were engaged in domestic textile manufacture.

Sources

The Mid-Wharfedale Local History Research Group, a Workers Educational Association class, collected occupational information from parish registers: individual contributions are acknowledged at the end of this article. Since this project was conducted in class, it was necessary to concentrate on those Yorkshire parishes whose registers were printed or transcribed and available from the Yorkshire Archaeological Society library. Not all of these gave sufficient occupational information but 62 out of the almost 1,000 parishes in Yorkshire were studied.

The criteria used in assessing a register as a meaningful source were that occupational information should be given for at least one decade and that at least 80 per cent of the entries should give the father’s occupation. In practice many registers were found where five or six decades of occupations were recorded. Baptism registers were used rather than marriage or burial registers since they cover a longer span of life and are more likely to reflect the composition of the adult male labour force. Seven of the parishes used were city parishes in York; the other 55 were scattered across the three Ridings, the greatest concentration being in the West Riding with very good coverage of Airedale and Wharfedale, areas of particular local interest.

Using the baptism registers meant that the occupational data collected related only to the fathers of the infants being baptised and these were counted each time a child was born. Thus there is no information about the work of women, whether in domestic industry or on farms, or about children’s work. Women and children were a vital part of the labour force and the distortion which is produced by their absence must be kept in mind. Nor can the percentages derived from the baptismal registers be compared directly with the early census figures since these were based upon the whole working population rather than one age group, and also recorded family rather than individual
employment in the first three censuses. Baptism registers contain very few living-in servants since their terms of employment made it difficult for them to marry and set up a home. To see what effect this had, a comparison was made of some of the baptism registers with a surviving Craven Muster Roll and it was found that the differences were not as great as might have been anticipated.

Types of occupation

It was decided to classify the recorded occupations into three broad categories, agricultural workers, non-agricultural workers and labourers. The first group, those known to be occupied in agriculture, consisted of occupiers of land, that is fathers who were described as husbandmen, farmers or yeomen and also shepherds, hinds, graziers, cattle-drovers and day-labourers. The non-agricultural category included every father who was given a craft, industrial, service or professional description. In many cases, of course, the village craftsman would also have been engaged to some extent in agriculture. For example, the case was found of a man who was recorded as a tailor in one instance and a husbandman in another. In a few registers the clerk recorded dual occupations but in most parishes dual occupations must have gone unrecorded. It seems likely, however, that it was the predominant occupation which was listed. It has often been pointed out that the poverty of the upland farms in areas such as Calderdale drove the husbandmen to find a supplementary occupation but there is no doubt that in a rural parish such as Saddleworth, on the Lancashire-Yorkshire border, where 97 per cent of the occupations in 1770–79 were non-agricultural, men regarded themselves primarily as clothiers rather than farmers.

An interesting example of changing occupational descriptions can be seen at Conistone in Upper Wharfedale. In this parish the freeholders had bought the manorial rights and controlled lead mining on the moors. The relative proportions of agricultural and non-agricultural occupations, the latter mostly miners, varied from decade to decade; when mining activity was high, as in the 1740s and 1780s, few fathers called themselves farmers or husbandmen, but as mining declined the numbers of farmers and husbandmen grew. It would seem that the Conistone freeholders described themselves in terms of their principal economic activity at that time and the change in the character of the parish reflected the conditions in the market for lead.

Although most occupational descriptions were clear it was difficult to classify those described as labourers. Very few parishes recorded day-labourers and where this was the case they were included in the agricultural category. One parish clerk, at Carleton-in-Craven between 1716 and 1731, appeared to be trying to make a distinction between different sorts of labourers because he introduced a new classification, ‘agricol.’, alongside yeomen, husbandmen, and labourers. This, however, was an isolated instance and it was normally not possible to divide the labourers between the agricultural and industrial categories. Of course the economic context of the parish gave clues to the character of the labourers’ work but there were wide variations between
parishes. For example it was noticeable that the proportions of labourers to landholders varied across the different farming regions of Yorkshire. At Myton-on-Swale, in an arable area, the proportion of labourers to landholders was very high, with 62 labourers to 8 landholders from 1810 to 1819, while in the Dales parish of Arncliffe, a sheep farming area, from 1740–49 no labourers at all were recorded. In general, however, both the mainly agricultural and the mixed agricultural/industrial parishes contained substantial numbers of labourers, though it was noticeable that many of the most industrialised parishes had relatively few labourers.

This classification enabled an assessment to be made of the economy of a given parish in one decade and also to see whether or not there were significant changes in the following decades. The changes at Conistone, in the Wharfe Valley, have already been mentioned but the situation in many parishes was less volatile and showed a more stable economy or more gradual change.

Types of parish

The parishes studied showed very wide variations in character. They ranged from small parishes with as few as 40 to 50 births in a decade to large parishes with 1,200 to 1,500 births in a decade. The percentages of those engaged in different categories of occupation varied similarly and it was decided to group the individual parishes into three categories in order to make more meaningful comparisons. The three categories of occupation are presented for each parish in Tables 1, 2 and 3 as percentages of the whole for each available decade; the total number of births for the decade is also given. Thus small parishes can be distinguished from large ones and their growth, or lack of growth, can be assessed.

The first category, listed in Table 1, contained parishes which were essentially agricultural; they were also usually small in terms of numbers of births per decade. These parishes normally had a proportion of non-agricultural occupations mainly in the traditional crafts which could be seen as supporting the agricultural sector.

The second category, listed in Table 2, consisted of parishes which appeared to have a mixed economy. Here, alongside traditional crafts, we found service and professional occupations as well as specifically industrial ones. Agriculture and labouring were still important but, as well as a greater variety of non-agricultural occupations, there was usually some specialised occupation which raised the percentage of non-agricultural occupations but did not dominate the whole. An example of this type of parish is Aberford, north-east of Leeds, where there was a specialist group of pin-makers in the 1740s and 1750s.

The third category, listed in Table 3, consisted of parishes which were essentially industrial; the industrial base was mainly textile, or textile related, but there were examples of mining, quarrying and metal working. These parishes were also the most populous with rapidly rising numbers of births per decade.
Table 1: Occupational categories in Yorkshire agricultural parishes, 1720-1829 (percentages)

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<tr>
<th>No.</th>
<th>Parish</th>
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<td>Non</td>
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Note: The numbers represent the percentage distribution of agricultural (Ag), labor (Lab), and non-agricultural (Non-ag) occupations in each parish.
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Key to occupations:  Ag = agricultural, Lab = labourer, Non-ag = non-agricultural, No. = total number of father's occupations in the sample.
Table 2: Occupational categories in Yorkshire mixed agricultural/industrial parishes, 1720-1829 (percentages)

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<th>No.</th>
<th>Parish</th>
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<th>1730-39</th>
<th>1740-49</th>
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Note: All percentages are calculated based on the population of each parish as indicated.
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Key to table:
- Ag = agricultural occupations,
- Lab = labourer,
- Non-ag = non-agricultural occupations,
- No. = total number of father's occupations in the sample.

Note: * These figures were recorded for two decades (1780-99) and have been divided by two.
Table 3: Occupational categories in Yorkshire industrial parishes 1720-1829 (percentages)

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**Note:** * = 1730 –1736
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Key to table:  
Ag = agricultural occupations,  
Lab = labourer,  
Non-ag = non-agricultural occupations,  
No. = total number of father's occupations in the sample.
Some parishes fell easily into a category but there were, naturally, parishes which lay on the borderline between one group and the next which were difficult to assign. The occupational mix also varied from one decade to another, so account was taken of the range within which the percentage of non-agricultural occupations moved. The percentage of non-agricultural occupations was considered to be the most significant parameter and the parishes were grouped on this basis. Thus, the agricultural parishes (Table 1 and Figure 1) showed a range of non-agricultural occupations over the whole period from 0 per cent to 46 per cent. The comparable percentages for the mixed agricultural/industrial/service parishes (Table 2 and Figure 2) were from 25 per cent to 68 per cent with the exception of three market towns, Stokesley, Otley and Skipton which reached more than 70 per cent of non-agricultural occupations. The figures for these parishes illustrate the difficulties encountered in classifying the parishes.

The percentages of non-agricultural occupations in the industrial category (Table 3 and Figure 3) ranged between 56 per cent and 97 per cent, and in many cases their industrial character was already established at the beginning of the eighteenth century. Although there is some overlap between categories, it was felt that this grouping helped in understanding the different occupational structures and how they developed over the period studied. It also highlighted the fundamental difference in character between the parishes in the agricultural and mixed economies and those which had fully entered the industrial phase.

The industrial parishes were mainly in the West Riding, for example Addingham and Hartshead. In these parishes one occupation predominated and, although they were still in a sense rural rather than urban, the proportions of landholders and labourers were low. Many of these industrial villages were well established in the first half of the eighteenth century and appeared, by the increasing numbers of baptisms, to be parishes whose populations were growing rapidly. At Baildon, near Bradford, baptisms rose from 199 between 1730 and 1739 to 505 between 1780 and 1789. The population of the neighbouring parish of Bingley, similarly engaged in textiles, had already increased by 53 per cent between 1670 and 1743.9

Unfortunately, no occupational information was available for parishes in what were to become the great industrial cities of Yorkshire, apart from Sheffield between 1717 and 1736. The only complete decade recorded was 1720 to 1729. In this period there were 3,405 baptisms, and 3,027 fathers were in non-agricultural occupations, overwhelmingly engaged in making sharp-edged tools. The edge-tool trade in Sheffield was organised on a small workshop basis, and although there was regulation of the trade by the Cutler’s Company this cannot have been too restrictive since the number of registered masters grew from 498 in 1624 to 2,054 in 1682.10 Sheffield must have been attracting migrants from other areas. The Leeds registers, although printed, contain no occupational information. This probably reflects the great expansion of the city and the pressure on the system of parish registration.
The York registers (Table 4), on the other hand, provided occupational information for over 100 years; and shorter periods of coverage were available for the market towns of Skipton and Otley. Thus the information available in print covered a very wide range of parishes and, in varying degrees, afforded a picture of male employments across Yorkshire in the eighteenth and early nineteenth centuries. This information, despite its limitations, is particularly valuable since it covers the period before census-derived statistics were available, and shows what men were doing in crafts and industry in the period before the change to a large-scale, energy-based factory economy.

Agricultural parishes

It is generally accepted that the proportion of the adult male labour force engaged in agriculture had decreased steadily from a level of 70 to 80 per cent in 1600 to about 40 per cent by 1800. It must be remembered, however, that although the
Table 4: Occupational categories in York, 1720-1819 (percentages)

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Key to table:  
Ag = agricultural occupations,  
Lab = labourer,  
Non-ag = non-agricultural occupations,  
No. = total number of father’s occupations in the sample.
Clearly, such a reduction in the proportion of the labour force needed in agriculture implies a rise in productivity, since the population was rising rapidly in the latter part of the eighteenth century and the country was not dependent on large scale imports of food from abroad. Many parts of Yorkshire, however, were dependent for grain on imports from other areas. Leeds, for example, imported food and raw materials in exchange for the manufactured goods of the area.

The parishes included in Table 1 are distributed across all three of the old Ridings of Yorkshire and their agricultural practices varied widely. As many as eight regional farming groups were identified in a study of late seventeenth-century Yorkshire probate inventories by Long. These inventories showed that the farms of the Wolds region were the largest and
most valuable, while those of the Dales and the West Riding industrial region were the least valuable, and it is very likely that these conclusions remained valid throughout the eighteenth century. One feature pointed out by Long, which has considerable relevance to occupational patterns, is that ‘every group except the Wolds had a larger percentage of its valuation in cattle than in any other item’. Corn was of almost equal importance to cattle in the Vale of York and sheep accounted for a significant part of the valuation in the Dales and North Yorkshire Moors. The author concluded that ‘it is probably not too much to say that cattle formed the backbone of the farming of the times’. Changing circumstances in the second half of the seventeenth century rendered the production of meat and dairy produce more profitable in the north. Changing circumstances in the second half of the seventeenth century rendered the production of meat and dairy produce more profitable in the north.15 The trade in butter was of considerable importance in York and this will be discussed later.

It is generally believed that increasing use of new fodder crops was an important factor in agricultural improvement, but little specific evidence
relating to Yorkshire has been found. The probate inventory study discussed above found no mention of the new crops such as rape, and a detailed study of Wharfedale probate inventories by Pickles found only one instance in the eighteenth century. Emphasis on livestock production meant dependence on the market and, if the new crops were not as widely used in Yorkshire as in some other areas, some means of improving the productivity of pastures must have been employed. The practice of convertible husbandry increased fertility and in some parts of Yorkshire, the Dales for example, the process of enclosing land at the edge of the moorland, thus improving it for cattle, had been going on for many years. Other methods could also be employed such as manuring, drainage and liming; certainly limeburners are mentioned in the registers and the remains of limekilns can be seen in the landscape. Piecemeal enclosure of open field lands took place in many parishes to such an extent that parliamentary enclosure, when it took place, related only to moorland and waste. This sort of agricultural reorganisation meant that landlords could issue leases for years and try to improve the profitability of their estates. Such changes had considerable effect on the capability of the land to maintain cattle but are very difficult to quantify. However, the resilience of the pastoral economy and its relative prosperity in the eighteenth and early nineteenth centuries must surely have contributed to the growth of commercial activity which we can see in the small towns and villages across Yorkshire. The agricultural depression of 1730–50 although bad for farmers and landlords meant that, for a period, corn prices were low and more money was available for the purchase of other types of goods. Twenty-seven parishes in this study remained predominantly agricultural through the late eighteenth and early nineteenth centuries.

Their common characteristic was the relatively low level of non-agricultural occupations; thus one can be fairly confident that the fathers described as labourers were mainly occupied in agriculture. The ratio of landholders to labourers varied across the regions being higher, for example, in parishes in the Vale of York where corn growing was important and lower in the Dales area where pastoral farming prevailed. However, in many parishes the tendency was for the proportion of labourers to rise relative to the landholders. This can be seen to varying degrees at Huggate, on the Wolds, at Bishopthorpe, near York, at Collingham in Wharfedale and at Askham Bryan in the Vale of York. This last register clearly reflected the enclosure of open field and commons in 1811–13. In 1800–09 there were 29 farmers and 28 labourers recorded: in 1810–19 there were 17 farmers and 51 labourers. In this case the link between the parliamentary enclosure and the change in occupational structure is clear, but there are other parishes, for example Brandesburton in the East Riding and Hemsworth in the West Riding, where the proportion of landholders relative to labourers steadily declined throughout the eighteenth century but parliamentary enclosure did not take place until the nineteenth century.

Between 1760 and 1769 in Brandesburton, 48 per cent of the recorded occupations were farmers and husbandmen and 35 per cent labourers; by
1810–19 the situation was reversed with 11 per cent landholders and 54 per cent labourers. Parliamentary enclosure of open field, pasture and commons did not take place until 1844–7 but a considerable change in occupational structure had already occurred. The percentage of non-agricultural occupations rose from 17 per cent in the earlier decade to 34 per cent in 1810–19 without any indication of industry. In 1760–69 the principal occupations were blacksmith, shoemaker, tailor and weaver but by the 1810s the range had expanded to include butcher, carpenter, carrier, soldier, innkeeper, glazier, draper and ostler. Brandesburton is in Holderness, an area which is now considered to be very good farming land and whose farms were second in average valuation to those of the Wolds area in the late seventeenth-century probate inventories already cited. The range of occupations which developed suggest that the parish was acting as a small market centre in spite of being close to the town of Beverley.

The baptism register of Huggate has a very good record of occupations from 1720 to 1809 (Table 1). The parliamentary enclosure of a two-field system took place between 1767 and 1773. The farming was not purely arable since the named agricultural occupations included shepherds and hinds as well as a warrener and a poulterer. The percentage of non-agricultural occupations remained fairly constant from 1730 onwards and, in fact, this parish had one of the lowest percentages of non-agricultural occupations in this study. The non-agricultural occupations were mainly the most basic trades and crafts needed by a farming community. These percentages can be compared with those derived from the 1831, 1841 and 1851 census returns which show between 17 and 18 per cent engaged in ‘the ten major retail and handicraft employments’. The percentages of those in non-agricultural occupations in this study were normally higher than these derived from the census returns because all trades and crafts as well as the vicar, schoolmaster and other professions were included. Almost all the registers studied had some textile workers, usually weavers, even when they lay outside the recognised textile areas and these are not included in the ‘ten trades’. The numbers of baptisms recorded in the mainly agricultural parishes tended to be low and to show little increase. Most agricultural parishes appeared to be relatively static, losing any increase to other areas. Pickles has shown that between 1672 and 1743 many parishes in the agricultural parts of Yorkshire lost population.

It might have been expected that the growth of the great cities of Yorkshire would have acted as a stimulus to agriculture and market gardening in their neighbourhood. By 1800 Leeds and Sheffield were the sixth and seventh ranked cities in England and would have generated an increased demand for food. An increase in agricultural activity in the West Riding between 1831 and 1851 has been noted in the census returns, but the only register found to show an increase in agricultural occupations was that of Eston in the North Riding and even here it is possible that this was due to a change in nomenclature. Until 1780 the register lists farmers and yeomen but after that date begins to list husbandmen in addition and fewer labourers. However, the percentage of non-agricultural occupations, which are the usual mixture of weavers, tailors,
shoemakers, masons, carpenters, butchers and blacksmiths, does not increase over the period. Since Eston is on the Tees, it may be that the rising numbers of husbandmen were producing food for the growing population of Teeside.

**Mixed agricultural/industrial parishes**

The borderline between the essentially agricultural parish and the mixed agricultural/industrial parish is difficult to define and the percentages of non-agricultural occupations varied widely. In practice, however, it was found that when a parish had a proportion of 40 to 45 per cent or more of non-agricultural occupations there was either a group of men following some specialised industrial occupation or the parish was acting as a market centre. Thirteen parishes have been included in this category in Table 2. Some of these parishes had lower percentages of non-agricultural occupations in some decades but if there was evidence of industrial activity they were included in this category.

Examples of parishes with specialised industrial groups were Aberford, north-east of Leeds and Crofton, near Wakefield. At Aberford there were both pin-makers and colliers and at Crofton colliers and clothiers. In each case the industries had a relatively limited life; at Aberford the number of pin-makers declined after 1759 and at Crofton the number of colliers was much reduced after 1789. The term ‘collier’ was used earlier for charcoal burners but had been used for some time in the West Riding for coal miners. ‘Miner’ usually meant a lead miner, 22 and was found in the registers of Linton, Conistone and Rylstone. At Crofton there was also a banksman who was in charge of the above-ground operations at the pit.

Another parish with colliers was Barwick in Elmet. Barwick is one of a group of four adjacent parishes, Barwick, Aberford, Garforth and Saxton, for which we have varying spans of occupational data and which demonstrate very clearly the striking differences which could exist between neighbouring parishes. Although located in the old West Riding, they had very little textile activity but had good agricultural potential, being on the magnesian limestone ridge, and were well placed on a main route, the Great North Road. Saxton was at this period an essentially agricultural parish and has remained so to the present day. Aberford, already mentioned for its early pinmaking industry, and Barwick were mixed agricultural/industrial parishes but Garforth falls into the third category of industrial parish since here the percentage of non-agricultural occupations rose as high as 71 per cent in the last decades of the eighteenth century. The industry at Garforth was again coal mining, but whereas at Barwick the numbers of colliers dropped between 1800 and 1809 they remained high at Garforth and in this decade the register unusually listed both colliers and miners. There had been coal mining at Garforth between 1730 and 1749 but the highest number of colliers was found at the turn of the century.

Both Aberford and Barwick were also market centres with a wide variety of retail trades and crafts including basketmaker, breechesmaker, heelmaker,
swansdownmaker and linen draper in Aberford and waggoner, huckster, pipemaker, potmaker, skinner, bucklemaker, dishturner, excise officer, schoolmaster and dancing master in Barwick as well as a jockey and a huntsman. Garforth showed no such variety of occupations though there was a schoolmaster and an engineer.

Some parishes moved from agricultural to mixed agricultural/industrial in the course of the eighteenth century. Examples of this were Carleton-in-Craven, where increasing numbers of weavers were found. Similarly at Ilkley, in Wharfedale, the number of textile workers increased and in 1780–89 the percentage of non-agricultural occupations rose to 64 per cent. A mill was built in 1786 but Ilkley later developed more as a spa town than an industrial village. Pickles has shown that there was migration out of Wharfedale in the first half of the eighteenth century but that after about 1740 capital became available for industrial development and the movement out of the valley was halted. By the end of the century two parishes which lie immediately west of Ilkley, Addingham and Silsden, developed into industrial parishes and are included in that section.

There were very few parishes without some textile workers; in the southern part of the West Riding the description ‘clothier’ was used for those producing woollen cloths, while in Airedale and Wharfedale weavers and woolcombers were found indicating the production of worsted cloth. Linen was also produced in some parishes; linen-weavers, flax dressers and hecklers appear in a few registers. Occupations specific to the cotton textile industry begin to appear in the registers towards the end of the eighteenth century, especially in those parts of the West Riding which had easy communication with Lancashire. Cotton was never a domestic industry in the West Riding and the presence of cotton weavers or spinners implies that there was a mill within walking distance. Many of these mills were small and were situated in otherwise rural areas as, for example, at Beamsley, in the parish of Bolton Abbey. Here a cotton mill provided industrial employment for a time but did not raise the percentage of non-agricultural occupations high enough to warrant removing the parish from the agricultural category. It is clear, from the agreement concerning the building of the mill in Ilkley in 1786, that these mills could be used for woollen or cotton production according to the conditions of trade.

While many of these mixed agricultural/industrial parishes were clearly growing quickly and becoming more industrial, there were a few whose occupational structure changed very little in the course of the eighteenth century. For example, at Rylstone, in Craven, where occupations were recorded from 1720 to 1820, the percentage of non-agricultural occupations was almost always between 40 and 50 per cent. There were both colliers and miners in this parish, since Rylstone was on the border between coal and lead mining areas, in addition to textile workers though none of these groups became dominant. The percentage of agricultural occupations also remained fairly constant and the parish is today essentially agricultural.

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It can be seen that the range of industrial occupations was limited to textiles, coal, lead and iron working but it may be that the label of ‘mixed agricultural/industrial parish’ is misleading since there were several parishes whose non-agricultural sector was substantial but made up mainly of a variety of service occupations. In some cases, where the village was one of a cluster around a larger town, ‘semi-urban’ might be more appropriate as a label but this implies a settlement pattern which would not fit all the parishes.

Brandesburton, in Holderness, has already been mentioned as an agricultural parish which had a wider range of service occupations than most. Similarly Hemsworth, in the West Riding (Table 2) showed a great variety of occupations which raised the non-agricultural sector to 49 per cent between 1770 and 1779. Occupations recorded in addition to the usual crafts and trades were surgeon, attorney, dishturner, fellmonger, threadmaker, apothecary, chandler, schoolmaster, skinner and collarmaker. In spite of being only about six miles from Pontefract, Hemsworth appeared to be functioning as a small market centre and this illustrates the perhaps surprising range of occupations which were found outside the well known market towns. This was a parish whose population is recorded as having increased between 1672 and 1743.25

There were four old market towns among the parishes recorded: Easingwold in the East Riding, Stokesley on Teesside in the North Riding and Skipton and Otley in the West Riding. Stokesley has been included in Table 2 even though the percentage of non-agricultural occupations was very high, from 68 to 70 per cent, in all three decades for which we have figures. It had a very wide range of service occupations but apparently no specialised industrial group. The figures for Easingwold run from 1740 to 1829 and range between 43 per cent and 68 per cent in non-agricultural occupations, also without any industrial group. At both Otley and Skipton, however, there were industrial occupations as well as the range of service trades normal to a market town. Both towns had some textile industry; in addition, at Otley there were many occupations connected with leather processing and at Skipton ropes and paper were produced. Both these parishes, however, are very large and contain a number of purely rural townships around the market centre and for this reason were placed in the mixed group.

**Industrial parishes**

The third category of parish was in many ways the most striking. These were the industrial parishes or villages where one occupation was dominant. These were not an entirely new phenomenon; similar villages are found in the medieval period but they became much more common in the eighteenth century. Fourteen parishes out of the 62 recorded came into this category. In some places the occupational information was only available for a short period and in others the industry in question, for example lead mining at Linton in Wharfedale, was subject to pronounced fluctuations so that they were only ‘industrial’ at certain periods. In other places, however, we found a long run of good occupational figures which showed a remarkably consistent
picture throughout the eighteenth century, as at Saddleworth, Hartshead and Baildon. Table 3 shows that the industrial character of these parishes, each of which was involved in a different aspect of textile production, was already established in the early part of the eighteenth century and was maintained throughout.

At Saddleworth the predominant occupation was clothier; in the decade 1750–59 there were 1,045 clothiers out of 1,250 non-agricultural occupations. In the agricultural category men described themselves as yeomen or husbandmen but it is clear from contemporary descriptions and the wills of the small clothiers of the West Riding that clothiers normally had some land and that ‘the word “yeoman” was often only an alias for “clothier” ’. If this is taken into account, it would seem that Saddleworth was almost entirely given over to textile production although in appearance it remained a rural area of scattered settlements. This dependence on textiles is shown by the distress suffered in the parish in 1799 and 1800 because of the lack of foreign markets for their cloths. This situation came to the notice of William Wilberforce and prompted him to send a consignment of 50,000 herrings from Hull to Saddleworth to feed the poor.

Some specialised textile occupations also appear in the register, for example, clothdresser, fustian weaver, fuller, scribbler, cropper, shearmen, jersey combler, stapler and linen webster. Towards the end of the century a few new occupations appear such as ragman and card buyer along with occupational indicators of cotton production namely cotton spinner, cotton twiner, cotton manufacturer and engineer, engine labourer and engine scribbler who may well have worked in a cotton mill. However, the numbers of clothiers who apparently worked on a domestic scale remained high with 1,234 clothiers recorded out of 1,449 non-agricultural occupations between 1780 and 1789. Among the parishes studied, Saddleworth was one of the largest, both in extent and population. However, it had one of the lowest percentages of labourers who only appear in any number in 1780–89 when no husbandmen are recorded. Those men in the non-agricultural category who were not engaged in textiles were mainly masons, carpenters, tailors, shoemakers and blacksmiths. There were also more carriers than were found elsewhere but the range of non-agricultural occupations was quite limited and showed none of the diversity which we found in many less populous parishes.

At Hartshead (Table 3) again there were many clothiers but here they were equalled in numbers by wiredrawers and cardmakers. Hartshead is in the southern part of the West Riding in the area which produced traditional woolen cloths and carding the wool was an essential part of the process of manufacture. Between 1780 and 1789 the register records 159 clothiers and 174 wiredrawers and cardmakers. Although cards were doubtless made in other places also, this is the only instance of this industry in the registers studied and Hartshead may have supplied cards to a considerable area. Coal and iron were available in or close to Hartshead and colliers, banksmen, forgemen and an iron roller maker appear in the register. The numbers of those involved in cardmaking grew steadily during the eighteenth century from 59 entries in the
1740s to 78 in the 1750s, 113 in the 1770s and 174 in the 1780s. There were many more labourers here than at Saddleworth but, as at Saddleworth, the other non-agricultural occupations were mainly of a utilitarian nature. Some carriers and boatmen were also recorded as Hartshead is on the Calder.

Another aspect of textile manufacture was seen at Horbury, near Wakefield. The recording of occupations in the register was sporadic but the percentages of non-agricultural occupations in these short periods was very high, reaching 83 per cent between 1800 and 1809. Between 1720 and 1729 the main occupation recorded was clothier but by the close of the century, although there were still some clothiers, these were now outnumbered by weavers and spinners. Spinning was traditionally done by women and children at home and this was the only parish where we found a substantial number of fathers (116 in 1800–1809) as spinners. Machine spinning in factories became widespread at the end of the eighteenth century, and this new development at Horbury must have been due to the introduction of machine spinning there. This parish illustrates the change from domestic industry to factory-based industry accompanied by development of an urban proletariat.

The Baildon register (Table 3) shows a parish which could almost be described as urban. It is immediately north of Bradford, one of a number of industrialised villages which cluster around the town, and its occupational structure was dominated by textiles although there was some coal mining, evidence of which can still be seen in remains of bell-pits on Baildon Moor. The highest percentage of non-agricultural occupations, 86 per cent, was found between 1771 and 1780 when 63 per cent of all occupations were in textiles. Heaton’s classic study of Yorkshire textiles places Baildon just inside the woollen district, but the register shows large numbers of weavers and woolcombers indicating that worsted cloth was also being produced. There was one woollen mill in Baildon in existence before 1790 but the bulk of the cloth was being produced domestically using the whole family unit. The parish was heavily dependent on textile manufacture.

The large increase in the number of baptisms in Baildon has already been mentioned; two other parishes which were also growing rapidly were Addingham and Silsden. Baptisms at Addingham rose from 232 between 1770 and 1779 to 765 between 1820 and 1829; in the adjacent parish of Silsden the comparable figures are 291 and 690. Both parishes fall into the worsted district; the first worsted mill was built at Addingham in 1787 and there is also a building believed locally to have been a ‘Piece Hall’ in the main street. The industrial character of these parishes is shown in their high percentages of non-industrial occupations which rose to 79 per cent in Addingham and 71 per cent in Silsden between 1820 and 1829. Addingham was the more dependent on textiles with 52 per cent of total occupations in textiles. The textile sector at Silsden was smaller but the parish also had some coal mining and a considerable number of nailmakers. This industry flourished particularly in the period 1770 to 1816 which saw the construction of the Leeds-Liverpool canal which would have both transported and used the product.
Improvements in transport were reflected only slightly in the registers. Where a parish lay on a canal or navigable river there was usually a small group of boatmen. The extensive network of turnpike roads which developed in the mid-eighteenth century probably resulted in increased numbers of carriers but these are only noticeable in a few registers.

The York Registers

The York city parishes (Table 4), judged solely by their percentage of non-agricultural occupations, would fall into the industrial category but, the York occupations were almost entirely service occupations, reflecting the importance of the city as the provincial capital. The range and variety of crafts practised in York at this period place the city in a different category to any other place in Yorkshire. The percentage of non-agricultural occupations was frequently well over 90 per cent. York’s position as an ecclesiastical centre with both the Minster and a very large number of parish churches, together with a considerable military presence in the town, extended the range of occupations well beyond those of the Yorkshire market towns. There were many fathers designated ‘gentleman’ or ‘esquire’ and many of the great variety of tradesmen were clearly catering for luxury markets. These include wine merchants, tea merchants, artists, sculptors, booksellers, musicians, furriers, jewellers, staymakers, hairdressers and drapers. Naturally there were also many representatives of the more usual trades and crafts. In addition there was a considerable number of fathers described as ‘translator’, a description not found in any other registers. A translator is one who transforms (or repairs) footwear (for example, clogs) but the term is rarely used.

Because York lay on the Ouse, which carried a great deal of trade, there were also many maritime occupations listed ranging from waterman, shipwright and chandler to ship’s captain. The waterborne trade out of York was mainly of agricultural produce and changes in agricultural markets had an effect on occupations in the town. Dairying was an important aspect of farming which has left no direct evidence in the baptism registers of the countryside since it employed women as milkmaids and dairymaids. In the middle of the eighteenth century, however, York was the main collecting point for wholesale butter which was then shipped down the Ouse from York to Hull and thence to London. This trade accounted for over 40 per cent of the revenue of ships operating between York and Hull and its decline in the 1770s and 1780s due to competition from Irish butter is reflected in the drop in the number of mariners found in the register of the parish of St Mary, Castlegate where their numbers declined from 64 in 1750–1759 to 28 in 1780–1789. In the 1790s, however, the number began to rise again, so it would seem that some other trade had developed to replace the traffic in butter.

Conclusions

All but one of the parishes described here as industrial lie in the old West Riding and they were mainly involved in textile manufacture. The earliest
occupations recorded for several of these parishes date from the first quarter 
of the eighteenth century and their occupational structure was already 
‘industrial’ in the sense that most of the fathers in the baptism registers were 
in non-agricultural occupations. These parishes lie in that part of Yorkshire 
where it has been shown that the population was increasing between 1672 and 
1743. A large number of the mixed agricultural/industrial parishes are also in 
this area and the picture of trade and industry which can be built up from the 
baptism registers fits very well with the pattern of population growth shown 
by Pickles.

The industrial character of many parishes is reflected in the occupational 
structure revealed by the baptism registers. Saddleworth is, perhaps, the 
clearer example of this with almost the whole population depending upon 
domestic textile production. Another parish which depended almost entirely 
on a single product was Hartshead with the manufacture of combs. These 
were parishes where the number of baptisms was rising strongly probably due 
to immigration from more agricultural areas but it would seem that the 
rewards were meagre. All the parishes which can be characterised as 
industrial had relatively few other craftsmen and tradesmen and these were 
mainly in the food or building industries. In Baildon, for example, there was a 
steady increase in the numbers of masons and carpenters through the 
eighteenth century.

In contrast to this, many of the mixed agricultural/industrial parishes give the 
impression of a more consumer-oriented society. This is most evident in York 
itself but several other parishes, even some which were not strictly market 
towns, were able to support a wide variety of trades and services which 
extended well beyond the purely utilitarian. They appear to have been 
communities where people had more disposable income and greater choice in 
how to spend it. They would also have provided goods and services for other 
parishes in their neighbourhood which did not offer the same opportunities.

One effect of the developments of the eighteenth century was increasing 
differentiation between parishes. In place of a more uniform background of 
agricultural activity, the movement of population out of the purely rural areas 
and the growth in numbers of the more industrialised parishes created areas 
of markedly different characters, some static and some more dynamic. This 
development shows clearly in the Wharfe valley above Otley where four of the 
recorded parishes remained agricultural, three were mixed agricultural/ 
industrial and three became industrial.

These conclusions match very closely the observations made by Daniel Defoe 
in the 1720s in his A Tour through the Whole Island of Great Britain. He 
commented on the huge growth in textile manufacturing, especially around 
Halifax and Leeds. He also noted the relationship between the manufacturing 
areas and the countryside. He pointed to the importance of the cattle trade and 
the great demand for beef from the manufacturing areas and described how a 
clothier would buy two or three large bullocks in the autumn ‘which they kill 
and salt and hang up in the smoke to dry. This way of curing their beef keeps
it all the winter...’. Their beef, butter, cheese, mutton and corn all came from the surrounding areas and so ‘this one trading, manufacturing part of the country supports all the countries round it, and the numbers of people settle here as bees about a hive.’

On leaving Leeds and travelling up the Wharfe valley he was immediately struck by the contrast: ‘In a word, the country look’d as if all the people were transplanted to Leeds and Halifax, and that here was only a few just left at home to cultivate the land, manage the plough and raise corn for the rest.’ 31

Almost all of the industry with which we have been concerned was small scale and domestic. There is evidence of a few mills, for example in Horbury for spinning and in Addingham for worsted manufacture, but they were all water-powered which limited their location and size. Coal was actively mined, but was not used to provide motive power at this time. In the mid-nineteenth century the change to steam power was to transform industry and remove many of the constraints which had limited growth. However, the present study of occupations in eighteenth century Yorkshire shows what a wide range of activities, both industrial and commercial, already existed and had been established for some time in the Yorkshire countryside prior to the arrival of steam power. Many changes had already occurred: population movement had been going on for several generations; farms were producing food for the manufacturing areas even though numbers of men had left the land; new skills had been developed; transport and commercial networks had already been built up. It was on the basis of this already quite complex and developed local economy that the later, greater changes took place.

Acknowledgements

This study was undertaken over a period of two years by members of the Mid-Wharfedale Local History Research Group, a Workers Educational Association class in Ilkley, West Yorks (see LPS, 38, 68 and LPS, 39, 72). We received much practical help and encouragement from Professor E.A. Wrigley when we were setting up the project and are most grateful for this. M.F. Pickles and M.H. Long were joint tutors of the class and the members who participated in this study were M. & G. Barker, J. Bosworth, W. Childs, K. Edwards, J. Evans, M. Hall, P. Hartnoll, P. Hudson, M. Johnson, B. Maltby, K. Mason, S. Miller, D. Riley, E. Sheldon, D. Shillitoe, E. Smith, H. Steele-Smith. Their contributions, both during the class and afterwards, are most gratefully acknowledged.

NOTES

1. E.A. Wrigley, Continuity, chance and change (Cambridge, 1988), 35.
(1992), 35–38.
8. A transcript of this register was made by T. and K. Mason of Addingham.
11. Wrigley, Continuity, chance and change, 12.
17. Yorkshire Archaeological Society, Leeds, MD 59/11/14a, 14b and 16 which refer to the taking in of the Ox Close and the New Close from Ilkley Moor in 1590/91.
19. E.A. Wrigley, Men on the land and men in the countryside, in Bonfield, Smith and Wrightson, eds., The world we have gained, (Oxford 1986), 319.
27. A.J. Howcroft, History of the chapelry and church of Saddleworth (1915), 120.
28. Heaton, Yorkshire woollen and worsted industries, 435.
29. Heaton, Yorkshire woollen and worsted industries, 287.
THE BLACK DEATH: A PROBLEM OF POPULATION-WIDE INFECTION

Graham Twigg

Graham Twigg is a zoologist whose research field is the biology of rodents, with particular reference to their role as pests and carriers of disease.

Introduction

The Black Death of 1347–1350, a pandemic generally believed to be bubonic plague, spread rapidly and resulted in a death rate across Europe that far exceeded that produced in the region by any known disease organism in a single episode, yet nineteenth and twentieth century bubonic plague in more favourable environments failed to raise death rates above those of locally endemic organisms.

This anomaly, though already known has received little attention; neither Ziegler nor Gottfried, writing in 1969 and 1983 respectively, questioned the bubonic plague assumption. Shrewsbury’s detailed history of bubonic plague in the British Isles in 1971 did little to explore the problems of plague in a cold temperate climate. Indeed, so fixed was he upon the rat-flea plague model that he discarded some material which could not be fitted to it. His arguments were further weakened by his views of rodent ecology. Morris was critical of Shrewsbury, especially his refusal to give greater weight to the part played by pneumonic plague, preferring typhus instead, but neither author gave adequate attention to the factors that limit the diffusion of that form of plague.

It was clear that a comparison of the medieval and modern pandemics was needed, which was undertaken by the present writer and published in 1984. The radical conclusion of this examination, that the former outbreak could not have been due to plague, has stimulated research, a recent publication agreeing with this conclusion and also presenting evidence for an infection mechanism quite different from that of bubonic plague. Research based on Italian records, and fresh analyses of the Bishops Registers and other English material, has also cast doubt on the plague thesis. A major difficulty in accepting bubonic plague in northern Europe lies in its inability to contact a high proportion of a sparsely distributed population in a cold climate. It is that matter which this paper seeks to address.

Pre-modern (1300–1670) European mortality crises

Medieval populations were accustomed to periods of severe mortality resulting from the twin scourges of epidemic disease and famine. Thus it is
reasonable to enquire whether the high level of mortality in the Black Death was unique or still within the bounds of the variation experienced by such populations.

(a) The Black Death in England

i) Evidence from manorial sources

In the absence of direct data on population numbers and the sort of information that was to be provided later by parish registers, estimates of the number dying in the Black Death have to be sought from other sources. Manorial records can theoretically provide data on deaths from the payment of heriots, the tributes paid to a lord on the death of a tenant. However, at the height of the epidemic the keeping of records suffered and to enable accurate estimates to be made there needed to be a list of landholdings made just before the disease arrived. Such calculations as have been made indicate high death rates: two-thirds of the tenantry of some manors in Hampshire, Wiltshire and Witney and Cuxham in Oxfordshire died. On three Cambridgeshire manors, two Essex manors and two east-Cornish manors between 50 and 60 per cent died. On the Berkshire manor of Brightwell one-third died.

Information on death rates at the manorial level is to be found in the head-tax lists of the manors owned by Glastonbury Abbey. The 1348 list records the subsequent deaths of a high proportion of those named, from 36 per cent in the manor of Ham to 76 per cent in Badbury.

ii) Evidence from ecclesiastical sources

Data on the replacement of priests in the episcopal registers has been used to calculate their mortality. There were 17 dioceses, four of which, Carlisle, Durham, London and Chichester provided no statistics. Those of York and Lincoln were studied by Thompson and the remaining 11 formed the body of research by Lunn, summarised by Shrewsbury. Although there was considerable variation the archdeaonry of Cornwall may be cited, with a maximum possible mortality in eight deaneries varying between 41 and 62 per cent. In the diocese of Lichfield the deanery of High Peak in Derbyshire had 50 per cent mortality and that of adjacent Castleton 56 per cent. There are many difficulties with this material: priests were instituted to benefices for reasons other than the death of the previous incumbent and the varying time intervals between the death of one priest and the institution of his successor, together with pluralities and absenteeism, present problems. One method of correction has been to assume a period of a month between death and replacement but this crude technique has recently been challenged and refined. Even when we are satisfied with the basic data it cannot be assumed that this reflected the mortality of the general population.

(iii) Mortality estimates

In three years, 1347–1350, the population of Britain was reduced by an amount that has been variously estimated at between 20 and 50 per cent although
Shrewsbury argued that outside East Anglia and the larger towns probably fewer than 5 per cent died of the disease.16 Hatcher reviewed the various estimates and was of the opinion that a national death rate of below 25 per cent and above 55 per cent was most unlikely and considered that 30–45 per cent was the best estimate of the deathrate in 1348–1349.17 Whilst local episodes in later centuries may have equalled this figure, it was a population fall of this magnitude over such a large area that made the Black Death unique.

(b) The Great Famine

Between the year 1296 and the Black Death there was only one other comparable period of high mortality, the years 1316–1320. Heavy rain ruined the harvests in 1315 and 1316 and a severe winter followed in 1317–1318. In some parts the harvest of 1318 was also ruined by rain.

During the resultant Great Famine heriot payments on some Winchester manors in 1316–1317 indicate a death rate that was nearly three times the norm.18 Other records suggest that in several villages of the same manors and on some Essex manors there may have been a population reduction of 10–15 per cent in the years 1316–1318. An increase in mortality was indicated on the East Anglian manor of Coltishall where in the years 1315–1322 there was an increase in the proportion of non-filial heirs from a normal 12–20 per cent to 33 per cent. East Anglia, however, was the most densely settled rural area in England yet it suffered only modestly in demographic terms in the Great Famine for there was no dramatic rise in the number of heriots in the region.

(c) Fourteenth century Italy

Data from Italy at this time provide some information on mortality in years other than the Black Death. It is not easy to compare it with the English material for it is not known whether children were included. In England the mortality rates were for ‘adult’ males (that is, aged 12 or more). In Siena, burials in 1340 were about half the 1348 level, at 500, but much higher than the normal figure of 50–60. In 1348 about 1,100 died. In 1363 the burial level was about 800 and thereafter there were peaks at about ten year intervals until the mid-1420s. In Florence the Black Death peak was unremarkable at 200 whereas burials in 1340 had been near 700 and the 1400 figure was almost double that. The normal annual number was about 70. Between 1330 and 1400 there were, as in Siena, peaks of burials approximately every ten years.19 This places the Black Death in a different light in this region whereby it is seen not as a unique event but as one period of high mortality, and not necessarily the most severe one, in a series. It is, of course, possible that in extreme situations not all deaths were recorded as burials.

(d) Plague in early modern England

After the Black Death there was never again a disease outbreak that covered such a large area so quickly. There were many periods of what was termed ‘plague’ but these were confined to smaller areas or to individual communities. Nevertheless, some of these were severe although the many
references to plague deaths in the literature do not always present them as a proportion of the total population, making comparison difficult.

In Penrith a major plague in 1597–1598 eliminated some 40 per cent of the population. In ‘London’s Dreaded Visitation’ of 1665 between 15 and 20 per cent of the population is estimated to have died, although this may in fact be a lower proportion than was experienced in London in the outbreaks of 1563, 1603 and possibly also 1625. Some provincial towns occasionally experienced even higher levels of mortality: in York in 1604 about 30 per cent of the population was lost, and in Colchester in 1665–1666 the mortality rate rose to 50 per cent, rendering this probably the most devastating outbreak experienced by any large English town in the early modern period. In the Derbyshire hill village of Eyam where earlier estimates, based on an unreliable figure for the total population, had suggested a mortality of 76 per cent, a more recent study has suggested that no more than half the original population was lost, a figure later refined to between 33 and 38 cent who died during an epidemic in 1665 and, mainly, 1666.

The plague disease

(a) Bubonic plague

Plague is caused by the bacterium *Yersinia Pestis*. It produces an acute disease in rats and man, fatal in both in a high proportion of cases, and is transmitted to man by the rat flea. In man the bacteria become localised in lymph nodes in the neck, armpit and groin forming large swellings, the buboes, from which the disease gets its name. Before antibiotics were available between 60 and 90 per cent of such cases died, usually within three to five days. An important aspect of any epidemic disease is its ability to infect further victims and so ensure its survival. People ill with bubonic plague pose no threat to others since in this form of plague, even in fatal cases, there are few bacteria in the blood and the human flea would not be effective in inter-human transmission because there would be too few bacteria to form colonies in the gut of the flea.

(b) Septicaemic plague

This form of plague is relatively rare. It occurs when the bacteria, instead of entering the lymph nodes, spread throughout the blood system to form an overwhelming septicaemia, death usually occurring within 24 hours. Bacteria are only present in the blood for a very short time. During this period the human flea can take in bacteria and transfer them to a new host without the need of rats. However, the human flea is not a good transmitter and the fact that bacteria are only available for a short time militates against this route as an effective means of infecting many victims.

(c) Pneumonic plague

When plague bacteria enter lung tissue the third form, pneumonic plague, results. This form of the disease is very dangerous, with a 100 per cent fatality rate. It may occur in a small number of cases during a bubonic epidemic and is
then termed secondary pneumonic plague, as distinct from primary pneumonic plague, which is usually acquired by aerosol infection from wild rodents during skinning when fur trapping.

This is the only form of plague with a theoretical capacity for the infection of many people by person-to-person transmission and there is an assumption that in a temperate climate the bubonic and pneumonic forms would alternate with the seasons, bubonic in summer and pneumonic in winter. An example of this is the statement that from January to March, 1349 there was ‘a strain of pulmonary plague’ but in late spring and summer ‘pure bubonic plague came into its own’.24

Shrewsbury was criticised by Morris for ignoring the evidence for what was termed the high percentage of pneumonic cases in the Great Pestilence of 1348–1350, who suggested that Shrewsbury’s myopia concerning pneumonic plague arose from the latter’s statement that ‘pneumonic plague cannot occur in the absence of the bubonic form and it cannot persist as an independent form of plague’, pointing to the Manchurian epidemics as evidence that this was not the case.25 However, the leader of the team that had struggled with those epidemics, Dr Wu Lien-Teh, in his account of the outbreaks said, ‘pneumonic plague epidemics arise as a secondary manifestation of bubonic plague’, the important point being that there must be a rodent population to produce the bubonic epidemic from which pneumonic cases can develop.26

It is important to note that pneumonic plague is not a common outcome of infection by *Y. Pestis*, usually making up less than 3 per cent of cases, and that it is not highly communicable, contrary to what is often thought. The latter point is especially noteworthy for *Y. Pestis* is poorly adapted to transmission by respiratory aerosols, probably because there are loss-of-function mutations in two genes that limit its ability to cross lung epithelium. Furthermore, although bacteria can be spread in the ejected sputum, most patients are dead within 48 hours (1.8 days in Manchuria in 1910–1911) and that already short potentially infective period is reduced still further by the fact that the patient is not coughing out bacteria for the first 24 hours and for the remainder of the illness is prostrate.

Clusters of pneumonic cases start with an outbreak of bubonic plague and the pneumonic form is almost never transmitted more than two or three steps from the initial pneumonic case. As various studies have shown in Manchuria, Mongolia and India, the pattern of pneumonic plague is one of small, scattered, highly localised self-limiting outbreaks. Whether a pneumonic epidemic ends quickly or not depends on the close proximity of infective cases to the as yet uninfected and a rapid dissemination of cases during the few hours that they are infective.

Only two really successful outbreaks have been known: these were in Manchuria and in both cases these two requisites were met. Infected fur trappers, leaving an area which was the first focus of infection, distributed the disease on the railways and at inns where they rested overnight in crowded
conditions. Between September 1910 and April 1911 plague covered 1,700 miles and 60,000 died. In 1920–1921 better control restricted the second outbreak to 9,300 deaths.

In the medieval context, the distribution of the rat and flea vectors must be central to how bubonic plague could have made contact with numerous people, across a region that was almost entirely agricultural and whose population was mainly dispersed in villages and hamlets.

Rats and plague

All forms of plague depend upon a rodent plague reservoir for the initiation of an epidemic and the rodent species that has been responsible for the majority of human plague deaths since 1894 has been *Rattus Rattus*, variously termed the Black, Ship or House rat and the only rat species in north-west Europe in the fourteenth century. This rat probably spread from India, its region of origin, to Egypt and thence in grain shipments from the Mediterranean."

Black rat remains were found in a late Roman well in York, and there is evidence of an established population in London by the third to fourth century A.D. Unlike the Brown rat, a cold-adapted animal from northern Asia, the Black rat is unable to withstand the cold and is almost entirely restricted to the shelter of buildings, especially those that are heated. Even in warm climates it still prefers to live in buildings, hence its alternative names of House rat and Roof rat, rarely leaving shelter and crossing open ground. This localisation runs counter to the idea that medieval rats moved freely across the towns and countryside, their fleas infecting people wherever they went.

It is generally assumed that rats were numerous and widespread but far from the Black rat being continuously distributed across all parts of the British Isles it is now becoming clear that it was probably absent from the countryside and there are various lines of evidence in support of this view. Firstly, avian predators such as owls eat small mammals up to and including those of rat size. Because they cannot digest the fur and bones these are regurgitated in the form of pellets from which the skeletal remains can be used to identify their diet. The Barn owl hunts over open country, farmland and around farm buildings and if the Black rat had been widespread in the fourteenth century its remains should appear in owl pellets from archaeological sites. There does not appear to be any evidence of these, however, and if there was no extensive rural rat population then there would be no widespread rat epizootics linking settlements. In any case, if the rat had been present in rural areas its temperature and habitat preference needs would still have confined it to buildings and there would have been no epizootics in the areas between buildings and outside villages.

Further evidence comes from vernacular architecture in the form of dovecotes. During the first half of the eighteenth century the Brown rat,
Rattus Norvegicus, arrived in British ports and quickly spread inland. By 1748 it had penetrated far up a tributary of the Thames to the Chilterns and very soon the owners of dovecotes were forced to re-design those structures in order to keep out the newcomer, which climbed inside and ate both doves and eggs. This problem was a new one, not because the Black rat could not have behaved likewise which, being a better climber, it could, but because it was not a farm pest, as agricultural journals of the time make clear. Another pointer towards the absence of rats in rural areas is that whilst some manorial accounts record the loss of grain during the winter period, these losses were never attributed to rats. If they had been present they would doubtless have been blamed, particularly if pilfering was rife. Up to the arrival of the Brown rat corn ricks were built on the ground, again because the Ship rat was absent on farms. With the advent of the Brown rat these had to be placed on mushroom-shaped stone structures called staddles and the spread of the rat can be plotted by the dates on these stones.

A final, but important, point concerning rats is that nowhere in English accounts is there any mention of the rat epizootic at any time between 1348 and the late seventeenth century, when plague is said to have died out in the British Isles. This is a telling point for medieval writers looked anxiously for anything that would indicate a future epidemic: if there had been rat epizootics it is most unlikely that they would have been missed or escaped comment and their presence was well known as a plague precursor in the East.

In modern times Black rat populations in the British Isles have been confined to ports and some inland towns that were connected to ports by canals, whereby rats in cargo could be transported inland to warehouses. With the cessation of the canal cargo trade in the last 40 years these inland rat populations have died out, as also have those in the ports, largely due to the transport of goods in containers. All the evidence points to the fact that this rat was never secure in the British Isles but was at the limit of its biological range with populations always dependent for their survival upon regular ‘topping up’ by fresh supplies of rats in cargo. Today the Black rat, whose total population number in the British Isles is estimated at only 1,300 animals, is facing extinction. Only a few small groups exist on some western islands in the Gulf Stream where it is warmer and there is a lack of ground predators.

The rat flea, Xenopsylla Cheopis, is probably even more limited by temperature because egg hatching and the subsequent passage into an adult flea, a process lasting three weeks, can only take place at a temperature that is between 21C and 29C. In order to sustain an epidemic there must be a succession of flea generations and so the warm weather must last for some months: short periods above 21C are of no use for this purpose and, if alternating with cool spells, could be detrimental to development.

Temperatures over Europe in the fourteenth century were at a low point and the autumn of 1348 was very wet: it is said that from 24 June until Christmas it rained either by day or by night almost without exception. Such conditions would have been unfavourable to bubonic plague.
Modern outbreaks of plague

The high mortality caused by the Black Death across Europe indicates a high contact rate by the organism concerned whereas bubonic plague at the beginning of the twentieth century showed a generally low degree of contact, especially in India, where conditions for plague were optimal. Nowhere in the records of modern plague is there any evidence of mortality as high as in 1348–1350: Belgaum, south of Bombay, in the years 1897 to 1909 inclusive, can be regarded as typical.36 In 1897, 1.7 per cent of the population died and in 1898, 7.2 per cent. After this the annual mortality due to plague as a percentage of the total population was 5.8, 4.2, 2.8, 4.0, 3.0, 2.3, 2.3, 0.019, 0.44 and 1.12.

Although plague reached most parts of the northern hemisphere in the late nineteenth and early twentieth centuries it was only successful in colonising those parts of North America where the combined factors of a continental climate and a wide variety of colonial-dwelling rodent species provided suitable conditions.37 The fact that plague failed to become established in the British Isles was not due to lack of opportunity for on 54 ships coming to England there were 82 known cases, of which 17 proved fatal.38 Despite these introductions at several places and evidence of plague in port rats throughout the next 20 years, only about 60 people died of the disease in the British Isles.

For various reasons it is unlikely that the low number of plague deaths owed anything to rat control measures. Furthermore, despite multiple introductions of plague the disease failed to become established in field rodent populations in either the British Isles or western Europe, in marked contrast to those parts of the world where the disease became permanent in a variety of rodent species widely distributed across the continents.

Did Yersinia plague cause the Black Death?

Simply considering the climate and its effect upon the distribution of rat and flea together with its restriction on flea breeding, the distribution of the human population and the overall mortality would be enough to produce the answer that Yersinia could not have caused the Black Death. To these may be added the rapid diffusion rate which was even more at odds with modern plague. Experience of the disease since 1894 has been that it pursued a faltering progress because of its dependence upon the rat epizootic, which was as discontinuous as the rat populations were, even in urban conditions, because of the availability of food and shelter. In India, the rat epizootic could take six weeks to cover 100 metres in urban conditions: in Europe the Black Death progressed at between one and a half and five miles each day.

The very short transmission time of the pneumonic form is an important argument against the suggestion that primary pneumonic plague was responsible for diffusion across Europe during the Black Death. Even allowing for the intermingling at markets the very close contact necessary for the
transmission of this form of plague was probably lacking. Furthermore, as we have seen, the rodent distribution to provide the initial bubonic epidemic leading to the pneumonic form was absent over rural areas of Britain.

However, in Iceland, where the population was even more thinly distributed than in Britain, with a high proportion of isolated farms and fewer small settlements, there were two severe epidemics, in 1402–1404 and 1494–1495, which by popular tradition have been identified as the same disease that caused the Black Death. These, according to Steffensen, were due to primary pneumonic plague, the victims experiencing severe chest pains and being ill for only a day or two before death. He explained the spread and retention of plague in Iceland by assuming that people acquired the infection from clothing, a means of transmission that for pneumonic plague is virtually impossible because of the inability of the organisms to survive outside the body. Karlsson has shown fairly conclusively that there were no rats in Iceland before the seventeenth century and concludes, ‘the case of Iceland seems to prove that in the Middle Ages an epidemic could rage through a large and sparsely populated country, persist for about nineteen months, and be extremely lethal, without the help of rats or any kind of rodent fleas’. Despite this he is wedded to the pneumonic plague hypothesis and proposes as a solution to the problem the *deus ex machina* of mutation of the plague bacillus, leaving the matter there without further discussion.

**What caused the Black Death?**

If both bubonic and pneumonic plague lacked the capacity to contact so many millions of people in such a short space of time across Europe then an alternative hypothesis must suggest an organism that could be easily transmitted person to person during short contact periods as people went about their everyday business, produce a long infective period before the onset of illness so that as many people as possible could be infected, be less temperature-dependent than bubonic plague, less reliant upon other species as carriers and have clinical features that match at least some of those described by contemporary sources.

Recent work, examining the time-sequence of cases during the early phase of supposed bubonic plague epidemics in Penrith in 1597–1598, Eyam in 1665–1666 as well as a variety of other English outbreaks, some of them in London during the great plague years of 1603, 1625 and 1665, has provided such an alternative. In both Eyam and Penrith the epidemics began with the arrival of a stranger to a specific house in the community. This newcomer became sick and died and from the timing of the next cases in those families and others an incubation period of approximately 37 days is indicated. This would not only rule out bubonic plague but provide a mechanism whereby an infected and infective person could move considerable distances, infecting those whom he contacted at fairs, markets and other public gatherings as well as within dwellings. This period of infectivity accords well with practice first adopted in the fourteenth century: the quarantine period in 1377 in the
Venetian colony of Ragusa was at first 30 days and later extended to 40 days, a period that was adhered to across Europe for 300 years. It is unlikely that this measure would have arisen in response to bubonic plague for the Italian medical authorities were among the foremost in Europe at the time and it is clear that they were referring to a different disease and to one that was infectious person to person.

Scott and Duncan have analysed many of the major epidemics in Britain and conclude that all exhibited the dynamics of an infectious disease with a long incubation period that contained latent and infectious periods of around 10–12 and 25–27 days, respectively. They concluded that the same agent was probably responsible for all the plagues in England between 1348 and 1666 and that it was a haemorrhagic virus, perhaps of the same type as the modern Ebola virus. They called this 'haemorrhagic plague'.

The haemorrhagic plague hypothesis, whilst denying the major role of bubonic plague in the Black Death, can nevertheless accommodate that disease within Europe although on a marginal basis. Bubonic plague was undoubtedly present in central and eastern Asia and sporadically extended along the Mediterranean coastline where the climate was warm enough to support extensive Black rat populations and a prolonged period for flea breeding. A French team has recovered the DNA of Yersinia Pestis from the teeth of nine skeletons from thirteenth to eighteenth century graves in the south of France, but their conclusion that this proves that the whole of the Black Death was bubonic plague is too sweeping. So far, all attempts to recover plague DNA from Black Death and early modern plague sites in London, Copenhagen and at two sites in France have been unsuccessful.

There is little doubt that an organism of some considerable virulence was involved but we should not ignore the fact that wider mechanisms are suggested during the fourteenth century. Europe was passing through a difficult period: the climatic change linked with a rapid cooling at high latitudes after 1300 and the growth of sea ice near Iceland was probably the main factor in the harvest failure of 1315 and the famine of 1316–1318. This probably began the slow population decline and by 1347 there were many settlements with uncultivated land and reduced populations. Between 1347 and 1350 settlements high in the Alps and in northern latitudes were deserted and it is unlikely that any of these had ever been inhabited by the Black rat. It is not impossible that the worsening climatic conditions favoured the presence of opportunistic organisms, both those that killed only people and others which were equally dangerous to domestic animals as well.

In addition to these various possibilities Jordan has suggested that the very high mortality of the Black Death in northern Europe might be in part a reflection of the fact that many people, in their 30s and 40s during the pandemic, had been young children in the years 1315–1322 and that the starvation they had experienced had rendered them more susceptible than those who were adults during the famine or who had been born after it. Conversely, he argues, those regions such as Flanders that had suffered
epidemics between 1315 and 1322 in which large numbers of children died, might have far lower relative rates of mortality during the Black Death.

Conclusion

In the absence of direct mortality data indirect sources suggest that in some parts of the British Isles mortality during the Black Death was probably higher than in the Great Famine, the only other early fourteenth century period of population stress for which data are available. The consensus is that between 30 and 45 per cent of the population died. If this was so the mortality greatly exceeded that produced by any modern outbreaks of known plague, whether bubonic, pneumonic or septicaemic and in order to achieve this effect plague would need to have made contact with 75 per cent of the population. The absence of the Black rat over rural Britain makes this unlikely.

The characteristics of diffusion speed and epidemic length in the Black Death suggest an organism that was not only transmitted by personal contact but had a long infective period thereby enabling infected persons to pass the disease to many others. Plague caused by *Yersinia Pestis* is inappropriate to such a model.

Acknowledgements

I am grateful to many people for their helpful comments during the preparation of this paper, in particular P. Armitage, C.J. Duncan, P. Hordern, J. Rackham, J.D. Twigg and M. Vasold. My special thanks are due to Martin Ecclestone for his patient editing of the text.

NOTES

Journal, LXXI, (1914); A.H. Thompson, ‘Registers of John Gynewell, bishop of Lincoln, for the years 1347–1350’, Archaeological Journal, LXVIII; J. Lunn, ‘The Black Death in the Bishop’s Registers’, (unpublished Ph.D. thesis, University of Cambridge, 1937). It has not been possible to read this thesis because a copy was never deposited in the University Library; note by Board of Research Studies, 13 December, 1950. The author was recorded as deceased by his college in 1976. Shrewsbury must have seen the thesis since he refers to it extensively; Shrewsbury, History of bubonic plague, 57–125.

15. J.W. Wood (personal communication).
16. Shrewsbury, History of bubonic plague, 36, 123.
29. In advance of the human epidemic a proportion of the rat population dies of plague, the infected rat fleas from the dead rats then moving to living rats and people. This heavy rat mortality, usually conspicuous, is the first warning of impending plague: it is known as the epizootic.
38. R. Bruce Low, Reports and papers on bubonic plague. An account of the progress and diffusion of plague throughout the world, 1898–1901, and of the measures employed in different countries for repression of this disease (H.M.S.O., 1902).
41. Scott and Duncan, Biology of plagues, 1–420.
BIRTH SPACING AND INFANT MORTALITY ON THE ISLE OF SKYE, SCOTLAND, IN THE 1880s: A COMPARISON WITH THE TOWN OF IPSWICH, ENGLAND

Eilidh Garrett and Ros Davies

In 1999 a paper by Chris Galley and Robert Woods appeared in the French journal *Population.* Entitled ‘On the distribution of deaths during the first year of life’ the paper concludes that ‘there are some clear patterns and regularities in the relationship between neo-natal, post-neonatal and infant mortality to the extent that the percentages of deaths under one and under three months do vary in a regular and predictable fashion with the infant mortality rates...’. Galley and Woods use the age at death patterns for England and Wales over the nineteenth and twentieth centuries to propose that, in a population with an infant mortality rate (hereafter IMR) of 200 deaths per 1,000 births approximately 30 per cent (60 deaths for every 1,000 births) will take place in the first month of life. Approximately 50 per cent of all infant deaths (100 per 1,000 births) in such populations would take place before the infants were three months old. When environmental conditions improved, older infants benefited most as the risk of death from ‘exogenous’ causes diminished. Fewer deaths amongst those aged 3–12 months meant that the percentage of deaths amongst infants in the first weeks of life rose. Thus in populations with a IMR of 100 roughly 35 per cent of deaths would occur within a month of birth, and 55 per cent within three months. By the time the IMR had fallen to 50 deaths per 1,000 births these figures would have risen to about 55 and 70 per cent respectively. Galley and Woods went on to suggest that these percentages could be used as a benchmark against which other demographic data might be set in order to detect irregularities in registration. If a population under study reported a much smaller percentage of its infant deaths as occurring in the first three months of life than the benchmark, then this could be taken to indicate the serious under-recording of the deaths of young children. If the percentage reported was much higher than the ‘standard’, then it was likely that either stillbirths were being reported as live births, or that childbirth was particularly risky for some reason. If a community practised infanticide this too would push the percentage of very early death upwards from the norm. The reasons underlying such elevated percentages should not only be of interest to scholars of mortality. If stillborn
children were being reported as though they had been born alive, then this could have implications for the calculation of fertility rates.

For their study of England and Wales Galley and Woods relied on the Registrar Generals’ statistics, as access to the material contained in the civil registers of births, marriages and deaths does not readily permit the construction of large numbers of complete family histories for selected localities. This has greatly hampered attempts to pinpoint where inconsistencies in the way the data were reported or collected may have been affecting demographic rates calculated at the local or regional level. The study of infant mortality is especially affected, because such work requires the accurate registration of both births and deaths in order to produce robust, comparative measures. When comparing mortality rates over time or across space questions concerning comparability have tended to rest on whether the geographic, or administrative, units for which the data were published had altered over time, or whether the nosology used to report cause of death had been redefined, or was understood differently, from one location to another. The impact of variations in the practice of local registrars, or of differing interpretations among the populace of the rules regulating the registration of vital events, or indeed of subtle variations in the wording of the laws themselves, have not gone unrecognised, but are all very hard to gauge for the late nineteenth century without recourse to individual level statistics.

This paper is based on two studies which have managed to circumvent the problems of access to civil registration data for late-nineteenth century Britain. The two communities under scrutiny were not initially chosen to form the basis of a comparison but as longitudinal data, seldom available to historians of nineteenth century Britain, could be constructed for both, the opportunity was taken to conduct a comparative study of their infant mortality in order to tease out some of the issues touched upon in Galley and Woods’ paper.

The focus of the first study is the Isle of Skye. This relatively large island lies off Scotland’s North West coast, and in the late nineteenth century the great majority of its population lived an almost peasant-like existence, relying on crofting and fishing for their livelihood and renting their land and homes from the estates of the local landowners or ‘lairds’. Settlements were predominantly small and widely dispersed across the island. By the 1880s Skye’s population, having been depleted for several decades by out-migration, amounted to just under 16,400 persons. Access to the civil registers of births, marriages and deaths between 1881 and 1891 was granted by the General Register Office for Scotland and details of the events recorded have been linked to the local census enumerators’ books (hereafter CEBs) for both the 1881 and 1891 censuses, allowing decade-long, partial family-building histories of couples living on the island to be constructed.

The second study relies upon information contained in the 1870s vaccination registers for Ipswich, Suffolk, England. The 1881 census enumerated approximately 51,200 residents of the town. As well as iron founding, clothing and a military encampment, the local economy also included port activities
based on the River Orwell, on which the town stands. The vaccination registers were established in 1872, following the Vaccination Act of 1867 which required all infants in England and Wales to be vaccinated against smallpox by the age of three months. The birth registers were effectively extracts from the local civil birth registers, supplied to the vaccination officer by the local registrar. It was the duty of the vaccination officer to notify the parents of each child that vaccination should take place. Note then had to be made that vaccination had been carried out, or that the child had died before being vaccinated, or that the officer had been unsuccessful in carrying out the vaccination, stating the reasons for this.7 Ipswich was unusual because, the ‘vaccination death register’ was a transcription of all deaths, both juvenile and adult, reported to have occurred in the town. Elsewhere it was more usual for such registers just to note the deaths of those infants who had died before vaccination, or to list only the deaths of infants dying before their first birthday. Observations in the current paper are based on work linking the births and the deaths of children under the age of five appearing in the Ipswich registers to the 1881 CEBs. The children’s births were also linked to marriages recorded during the 1870s in the town’s Anglican parish registers, about one-third of the total number of marriages taking place in the town at that time.8

The paper thus compares two contrasting communities. Skye, where the population lived almost exclusively in rural surroundings in widely dispersed settlements with Gaelic as their mother tongue, had little in common with the urban centre of Ipswich. However, by comparing the demographic experience of two such places from the seldom available, longitudinal perspective it was hoped that new insights might be gleaned into demographic behaviour. Following Galley and Woods’ article it was of interest to see if reporting of Scottish data differed in any way from a community in England, and if the latter would differ significantly from the standard profile of the distribution of deaths in the first year of life. If such differences were discerned what wider implications were there for the understanding of British nineteenth century demography?

Conventionally the IMR is calculated by dividing the number of infant deaths occurring in a particular period by the number of births occurring in the same period: the deaths are not necessarily those of children observed being born. The longitudinal family building histories obtained by record linkage require a different sort of analysis. In order to ensure robust comparison of rates, analysis has to be precise about the amount of time for which each child remains ‘in observation’, and at risk of death, within the communities being studied. Care has to be taken that all children used in calculation of the rates either remained in their community for the first year of their life, or if the child died before reaching its first birthday, that members of its family were still resident in the community a year after its birth.9 Children who were born but whose families could not be traced a year later had to be omitted because if all births were included in the mortality rate calculations, and families in population A were more mobile than in population B, the death rate in A would be underestimated as the infant deaths taking place outside the study community could not be
accurately counted. In contrast, if a child’s death, and not some other event, was taken as an indicator of ‘continued residence’ then the mortality rate would contain too many deaths relative to the number of births. This is because those children who were resident in the community for a similar length of time as the dead child, but lived to move away, will not be included in either the count of births or that of deaths. The ‘selection’ effect of including some births only because they subsequently died inflates the mortality rates calculated. It would appear that families in urban Ipswich were more likely to migrate than those in Skye, and as a result a lower proportion of the children registered in Ipswich could be included in the analyses.

Only legitimate children were included in the calculations because illegitimate children were much more susceptible to the biases outlined above. The family building histories of unmarried women tended to be unconventional and their situation appears to have encouraged mobility, making single mothers and their offspring more difficult to trace. As a result, the period that illegitimate children were ‘in observation’ is very often far from certain. On Skye 229 of the birth certificates, 5.8 per cent of the total number considered, registered only the name of the mother, which has been taken to signify children born out of wedlock. Under the same assumption 4.9 per cent of Ipswich children were illegitimate.

With the linked, longitudinal data for Skye and Ipswich it is possible to follow individual children over their first year of life. Between 1 April 1881 and 31 March 1890, 3,967 births took place on Skye where the child could be followed over the first year of its life. Within this period 410 of the children died before their first birthday, giving an infant mortality rate of 103 per 1,000 births. In Ipswich, vaccination birth registers running from 6 April 1872 to 5 April 1880 were consulted; 12,670 births could be traced across their first year of life. Of these infants 1,787 were registered as dying before reaching their first birthday—an IMR of 139 per 1,000 births.

While both figures are pretty respectable for the late nineteenth century, when IMRs of over 200 were not uncommon, Skye’s IMR was almost half again as lethal as England’s most salubrious rural districts where only 70 infant deaths were occurring per 1,000 births in the 1880s. In addition, when the mortality figures were broken down by age, it emerged that while mortality in the first month of life was 37 deaths per 1,000 births in Ipswich, on Skye it was over 60 deaths, a far higher rate than expected for a population with an IMR of around 100, according to Galley and Woods’ model.

What might account for Skye’s relatively poor performance? Was fertility particularly high amongst the married couples of Skye, leading to short average birth intervals and high numbers of weak or sickly infants who were at particular risk of dying? Mothers having births in quick succession might be slow to recover their health, making them more prone to miscarriage, stillbirth or to producing sick or weakly infants who die within a short time of birth, contributing to the ‘endogenous’ mortality rate. Weak infants surviving the trauma of birth and the first few weeks of life might well be at greater risk of death from ‘exogenous’, environmentally related, causes,
particularly if the infant becomes too weak to suckle or the mother has little milk and the child has to be artificially fed. This risk may be compounded if a further rapid pregnancy follows and the mother wears the older infant in order to suckle its younger sibling. The cycle of cause and effect is, however, complex, given that it may be because the mother weaned her first child relatively early that she quickly fell pregnant again. Alternatively, did the environment of Skye hold particular hazards for very young children? Were local practices associated with childbirth more dangerous than those seen elsewhere? Or were Skye people recording, as Galley and Woods suggested, stillbirths as live births and elevating the mortality rate amongst newborn infants in comparison to populations who did not record the advent of a stillborn child? Comparison between Ipswich and Skye allows us to examine each of these possibilities in turn.

Previous studies of nineteenth century Britain suggest fertility might be expected to be higher, and infant mortality lower, on rural Skye than in urban Ipswich.\textsuperscript{16} Earlier work on the Skye data indicated that, although overall fertility levels were relatively low, as a result of both sexes experiencing late average ages at marriage and high proportions remaining unmarried, marital fertility levels were very high, almost on a par with those found among the famously fertile Irish.\textsuperscript{17} Using the common point of the 1881 CEBs to estimate child-woman ratios, fertility levels in Ipswich and Skye can be compared. For each locality the number of co-resident married couples where the wife is aged between 20 and 54 was noted, along with the number of children aged less than five returned as ‘son’ or ‘daughter’ of the couple, grouped by the mother’s age. Only children surviving to be enumerated can be observed in the census returns, so allowance has to be made for those children ‘lost’ to observation via mortality. The number of children was therefore inflated to reflect the mortality experience of children under the age of five as observed in the register entries from each community.\textsuperscript{18} The ratio of children per married woman was then calculated for each five-year maternal age group.\textsuperscript{19}

Figure 1 shows that Skye women in their 30s and early 40s had, in the five years prior to the 1881 census, borne more children than their counterparts in Ipswich.

If it is assumed that levels of infertility and sub-fecundity were probably similar in the two populations, Figure 1 could be interpreted as indicating that birth intervals on Skye were, on average, considerably shorter than in Ipswich.\textsuperscript{20} Brides marrying for the first time on Skye in the 1880s did so, on average, when aged around 26.5 years, a full three years older than spinsters marrying in the Anglican churches of Ipswich. It would also appear that Ipswich brides were more likely to be pregnant on marriage than those on Skye. It is difficult to gauge the exact magnitude of this difference, as many couples observed marrying in both locations would make their home and rear their family elsewhere, rendering their fertility histories difficult to follow. However, of the 170 couples on Skye observed to have had a child within one year of their marriage, 26 per cent had had a baby within seven months of
their wedding day, suggesting prenuptial pregnancy, compared to 40 per cent in Ipswich

Given their higher rate of prenuptial pregnancy and earlier age at marriage, women in Ipswich would have spent a considerably longer portion of their twenties 'at risk of childbearing within marriage' than their peers on Skye. Thus, in order for Skye women in their 20s to have child women ratios as close to those of Ipswich as shown in Figure 1, it would seem that women on Skye must have been bearing children more rapidly, leaving shorter gaps between births. The rapid tempo of child-bearing, continuing into women's 30s and early 40s, would serve to push the child-woman ratios amongst Skye women in these age groups well above those of similar women in Ipswich, before the increasing proportions of women affected by the menopause curtailed fertility in both populations.

Having data for only one decade in each locality—the 1870s for Ipswich and the 1880s for Skye—meant that it was not possible to trace full child-bearing histories for each couple. Only a small proportion of the couples in the censuses closing the observation period could be linked to a marriage in the preceding years. Where marriage data was not available, the parity of births could not be ascertained. In an attempt to circumvent this problem, all families who were observed to have had a particular number of children by the relevant census were identified. For obvious reasons, couples observed to bear large numbers of children within a given period appear to have had shorter birth intervals. A woman who has a child on the day after a period of observation began will have one more child recorded than a woman who has a child the day before the start date, *ceteris paribus*. In order to minimise the effect of this 'censoring', the gap in days between the first observed birth and the second was calculated, as was the

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**Figure 1** The child-woman ratio (adjusted for mortality) for married women, co-resident with their husbands on census night, 1881: Skye and Ipswich.

Source: 1881 census enumerators' books.
length of the gap between the second and third births, but only for those couples who could be traced in the census closing the period of observation. In both Skye and Ipswich the average length of the gaps between the first and second and second and third observed births was virtually the same, so the two sets of birth intervals were added together and the average calculated. The average gap between these observed births was 25.3 months in Ipswich and 25.5 months in Skye. Thus where they could be measured birth intervals on Skye were, in fact, fractionally longer than they were in Ipswich.

Figure 2 shows the child-woman ratio among ‘fecund’ married women in the 1881 census, that is those women who had at least one child of their own registered with them and their husband on census night. When the figures are adjusted to allow for those children who had died before the census, the level in Ipswich appears a little higher. By applying the same mortality inflation factors to create Figure 2 as was used to create Figure 1 the difference between the ‘fecund fertility’ levels shown in Figure 2 may be exaggerated, as it is likely that rates of infant and child mortality would have been higher among those women with no children living with them on census night. It may therefore be concluded that there is very little difference between the two communities: married women who were bearing children were bearing them at approximately the same rate in both Ipswich and Skye. The registers concur on this point: of the 1,538 families traced in Skye to the 1891 census who had registered at least one birth in the previous 10 years, 66 per cent had had a second by 1891, 45 per cent a third and 23 per cent a fourth. For the 3,824 families traced in Ipswich to the 1881 census where at least one child was born during the 1870s, 70 per cent had had a second birth, 43 per cent had had a third and 21 per cent had had a fourth.
Figure 3, however, shows the percentage of co-resident married couples in the 1881 census who had no children of their own aged less than five registered with them. Married women in Ipswich in their 30s and early 40s were much less likely to have a child of their own aged under five in the home than were their peers on Skye. Without additional information it is difficult to estimate how many of these apparently childless women had in fact borne children, but seen them die before they could be recorded in the census. Unfortunately, without information from the 1871 census, couples who did not bear children during the 1870s are ‘invisible’ to the longitudinal analyses. While Ipswich’s higher mortality no doubt plays a part in creating the disparities observed in Figure 3, it would appear that the assumption of similar rates of infertility and sub-fecundity, made when interpreting Figure 1, may well have been in error. The longitudinal data and the census data, when viewed in tandem, suggest that the women of Skye were highly fertile not because they were having children more quickly, but because more women were having children. A proportion of married women in each community could not contribute to the birth interval analysis because they failed to give birth to sufficient children within the study period to allow them to contribute to the calculations; this proportion seems to have been much larger in Ipswich.

Table 1 indicates that for the children of fecund married couples, both on Skye and in Ipswich, the risk of infant mortality did significantly lessen as birth interval lengthened. Among singleton children born less than a year after their siblings in Ipswich the risk of infant death was greater than one in four. Children born 12 to 23 months after their elder siblings had only half this risk
Table 1 The mortality of legitimate children closing birth intervals of specified length: Skye 1880s, Ipswich 1870s.

<table>
<thead>
<tr>
<th>Length of birth interval</th>
<th>Length of birth interval (days)</th>
<th>No. of children</th>
<th>IMRa</th>
<th>IMRa at &lt; 31 days</th>
<th>C as % of B</th>
<th>No. of children</th>
<th>IMRa</th>
<th>IMRa at &lt; 31 days</th>
<th>C as % of B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twins</td>
<td>0</td>
<td>168</td>
<td>428</td>
<td>202</td>
<td>47</td>
<td>92</td>
<td>272</td>
<td>174</td>
<td>64</td>
</tr>
<tr>
<td>9 months–1 year</td>
<td>270–365</td>
<td>119</td>
<td>260</td>
<td>109</td>
<td>42</td>
<td>31</td>
<td>161</td>
<td>97</td>
<td>60</td>
</tr>
<tr>
<td>1 year–2 years</td>
<td>366–730</td>
<td>2,889</td>
<td>129</td>
<td>29</td>
<td>22</td>
<td>949</td>
<td>84</td>
<td>51</td>
<td>61</td>
</tr>
<tr>
<td>2 years–3 years</td>
<td>731–1,095</td>
<td>1,762</td>
<td>106</td>
<td>18</td>
<td>17</td>
<td>823</td>
<td>61</td>
<td>33</td>
<td>54</td>
</tr>
<tr>
<td>3 years–4 years</td>
<td>1,096–1,460</td>
<td>333</td>
<td>93</td>
<td>24</td>
<td>26</td>
<td>160</td>
<td>82</td>
<td>51</td>
<td>62</td>
</tr>
<tr>
<td>up to 4 years</td>
<td>0–1,460</td>
<td>5,271</td>
<td>130</td>
<td>32</td>
<td>25</td>
<td>2,055</td>
<td>84</td>
<td>50</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: Skye: record linkage of 1881 and 1891 censuses and 1880s civil registers, Ipswich: vaccination registers and 1881 census.

Notes: Only families remaining in view in succeeding census included.

On Skye the pattern was broadly similar, although the risk of death was much lower at all lengths of birth interval. The small number of singleton children born less than a year after their previous sibling were much more likely to survive than were their peers in Ipswich, having an IMR of ‘only 161’ per 1,000 births. This, however, was almost twice the 84 per 1,000 births mortality rate of children born 12–23 months after their elder sibling. Among children born after a two-three year gap mortality was only 61 per 1,000 births, and among those born at the end of a three–four year gap 82 per 1,000 births. Why the rate among the latter group was higher is unclear, although it is probable that in a proportion of such cases the long gap between births hid a pregnancy which had terminated in a miscarriage or stillbirth, and thus went unrecorded in the registers, distorting the apparent interval since last pregnancy. Generally, however, there is a decreasing risk of infant death with increased period since previous birth in both communities. Table 1 again suggests that, where birth intervals could be measured, they were on average a little shorter in Ipswich than on Skye: 57 per cent of the single births shown in Ipswich took
place less than 730 days after the previous birth, whereas on Skye only 48 per cent of the single births shown did so. The fractionally longer birth intervals on Skye may have afforded the children additional protection against mortality, but their chances of survival were much higher than those of children in Ipswich anyway.

Table 1 raises some interesting questions. The lower mortality on Skye might suggest that breast-feeding was more widespread and of longer duration on the island than in Ipswich, providing more effective protection against pathogens present in the local environment. However, it is likely that sparsely populated Skye would provide infants with a much less lethal environment than that to be encountered in a bustling, crowded town and therefore the protection offered by breast-milk may not have been of great importance. If breast-feeding was practised to a greater extent, however, lower levels of fertility might be expected, as birth intervals would be lengthened, ceteris paribus. As we have seen above, however, amongst fecund women birth intervals do not appear to have been very different in the two communities suggesting that breast-feeding practices were probably similar, at least amongst this group of women.

If a mother has births in quick succession, her physical reserves may be drained as she has little time to recover between pregnancies. Such ‘maternal depletion’ may lead to a less viable neonate—a baby born very underweight, malformed or otherwise in poor health—or to a more difficult birth with an elevated risk of mortality for both mother and child. In either case the infant’s chance of surviving the first few days is much reduced. Among women with short birth intervals, therefore, the rates of infant mortality within the first month of life might be expected to be higher in relation to mortality in the following 11 months than would be true among women with longer birth intervals. In the two study populations, the number of singleton births observed to occur less than a year after that of an older sibling is relatively small. Table 1 indicates, however, that their risk of mortality in the first 30 days of life is over 100 per 1,000 births both in Ipswich and on Skye, much higher than the equivalent risk run by children born after longer intervals. Among singleton births preceded by a birth interval of less than a year in Ipswich, 40 per cent of total infant mortality occurred in the first month of life, a percentage not far short of that seen among twins. Amongst births closing longer birth intervals, deaths in the first month of life contributed 26 per cent or less of all infant mortality. Here, perhaps, is evidence that in this community very short birth intervals did produce infants who were more likely to succumb to very early deaths.

The Skye figures suggest a different story. Amongst twins and children born after a birth interval of less than a year, 60 per cent of all infant mortality occurs in the month after birth, a substantially higher percentage than in Ipswich. Of course, in a community where environmental hazards were fewer and older infants therefore ran a reduced risk of contracting a fatal illness, first month deaths might be expected to form a higher proportion of all deaths in the first year of life. However, Table 1 indicates that, although overall IMRs
### Table 2  Mortality in the first year of life: a comparison between Ipswich, Skye London and Rural Counties in England and Wales for selected dates.

<table>
<thead>
<tr>
<th></th>
<th>Ipswich</th>
<th>Skye</th>
<th>London(^a)</th>
<th>Blackburn, Preston(^b)</th>
<th>Dorset, Herts. &amp; Wilts.(^b)</th>
<th>Rural Counties(^b)</th>
<th>Norway(^c)</th>
<th>28 towns in England and Wales(^d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of births</td>
<td>12,671</td>
<td>3,973</td>
<td>130,478</td>
<td>107,622</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of deaths by age at death</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 hour</td>
<td>14</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 day</td>
<td>87</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 week</td>
<td>272</td>
<td>128</td>
<td>3,138</td>
<td>2,788</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 month</td>
<td>473</td>
<td>243</td>
<td>5,438</td>
<td>4,461</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>1,759</td>
<td>408</td>
<td>18,307</td>
<td>12,470</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative deaths per 1,000 births occurring at given ages:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 hour</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 day</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 1 week</td>
<td>21</td>
<td>32</td>
<td>24</td>
<td>26</td>
<td>26</td>
<td>22</td>
<td>17</td>
<td>17–31</td>
</tr>
<tr>
<td>&lt; 1 month</td>
<td>37</td>
<td>61</td>
<td>42</td>
<td>49</td>
<td>42</td>
<td>35</td>
<td>35</td>
<td>31–48</td>
</tr>
<tr>
<td>Deaths per 1,000 births occurring at given ages:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 month &lt; 1 year</td>
<td>101*</td>
<td>41*</td>
<td>99</td>
<td>169</td>
<td>74</td>
<td>62</td>
<td>51–117</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>139</td>
<td>103</td>
<td>140</td>
<td>218</td>
<td>116</td>
<td>97</td>
<td>81–162</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**


d) Figures shown are the maxima and minima given in R. Millward and F. Bell ‘Infant mortality in Victorian Britain: the mother as medium’ Economic History Review LIV, 4 (2001), Table 3, 708. They were originally drawn from A. Newsholme ‘Second report on infant and child mortality’ Appendix II, Tables 1 and 3, B.P.P. 1913 XXXII, Annual report of the Local Government Board, 1912-13, Supplement.

e) Note that the rates for Ipswich and Skye are rather higher than the rates reported in Table 1 where families had to remain in view until the succeeding census.
were lower on Skye for all lengths of birth interval, mortality rates for the first month of life were not far short of those seen in Ipswich amongst children following very short birth intervals and, indeed, for children born after an interval of more than one year, the rates of first month mortality were almost twice as high on Skye as they were in Ipswich. In addition the percentage of infant deaths taking place within a month of birth saw little diminution with increasing birth interval. Skye appears to have been a very dangerous place for newborn infants, and the risks were not diminished by increasing the interval between births, which suggests that the hazards were due to the surroundings into which a baby emerged, rather than to its own health or that of its mother.

Table 2 compares mortality rates in the first year of life in Ipswich and on Skye with those in other late-nineteenth and early-twentieth century populations. As both the civil and the vaccination registers provide information on age at death it is possible to break this down for the populations of Skye and Ipswich to show rates for the first hour and the first day of life. Beyond this we can compare death rates within the first week, and first month and the next eleven months with rates for the populations shown. The table confirms that, although survival chances were relatively good amongst Skye infants, and indeed older infants on Skye were impressively healthy, mortality in the first month of life was abnormally high, exceeding even that of newborns in the notoriously unhealthy towns of Blackburn, Leicester and Preston. With an IMR of approximately 100, yet neo-natal mortality rate of 60 deaths per 1000 births, Skye therefore appears to fit Galley and Woods’ description of a population where there were ‘imperfections or hidden irregularities’ in the registration of births or infant deaths.

Were stillbirths being recorded as live births on Skye? It must be remembered that the systems for civil registration established in England in 1837 and Scotland in 1855 were set up under two separate legal systems. It is thought that in England and Wales from 1837 there was some under-registration of births and deaths until after the 1874 Births and Deaths Registration Act. This Act made the notification of death the responsibility of the nearest relative of the deceased, rather than of the registrar, and the latter was also no longer responsible for the registration of births, this having passed to the parents of the child. The Act further required that the death certificate be accompanied by a statement of the cause of death signed by the doctor attending the final illness. In Scotland, despite a few initial hiccups there were ‘good grounds for believing the returns from civil registration...to be very accurate’. Although civil registration started later, legal compulsion on parents to register a birth was introduced from the start, as was the requirement for the cause of death to be certified by a doctor. It is to be noted, however, that the Scottish legislation, probably in recognition of the far flung settlement patterns, allowed, in the absence of a doctor, for the cause of death to be certified by a ‘relative of the deceased’.
In Scotland death registration in the 1880s was still covered by the provisions of the Registration of Births, Deaths and Marriages (Scotland) Act 1854. A child was held to be stillborn, although the heart might beat a little, where no respiration occurred, the lungs failing to inflate. The recording of stillbirths did not begin in Scotland until 1939, but an ‘order of burial’ had to be issued by the registrar before a stillbirth could be buried, just as a death certificate was required before a live-born child could be buried. Thus the birth of a child, whether live or stillborn, would be brought to the attention of the registrar. In an era and an area where medical attendance at a birth was by no means the norm, and indeed there was provision for ‘no medical attendant’ to be entered on the death certificate, parents reporting the birth and subsequent death of their child to the registrar may well have chosen to state that their child had taken one or two breaths before it died. Or, indeed, the registrars on Skye may have believed that lay persons were unable to distinguish between a stillbirth and a very early death, and chosen to assume the birth was a live one.30 In either of these cases both a birth and death certificate would have been issued. Perhaps in other registration districts the opposite assumption was made and certificates of burial were issued and stillborn children interred without contributing to the Registrar General for Scotland’s annual statistics.31 In England, until the compulsory registration of stillbirths began in 1927, the burials of stillbirths could proceed with either ‘a doctor’s certificate, a coroner’s order…, or with the declaration of a ‘qualified informant’.32 This last provision meant that a note from the mother or father of a child could be sufficient for an undertaker, or even a gravedigger, to inter the dead infant with no official record being kept of either its birth or death. Mooney provides evidence that differences in the price of burials for live and stillborn children may well have induced poor parents to treat liveborn children as stillborn.

There is some evidence for the close connection between death and the registration of birth in vaccination registers studied for other localities. Under the Vaccination Acts notification of the need to have a child vaccinated was handed out to the person notifying the registrar of the child’s birth. Thus by subtracting the date of birth from the ‘date of notification’, where this is provided in the registers, it is possible to gauge when parents got round to registering the birth of their child.33 In Higham Ferrars, Northamptonshire in the mid-1880s, data indicate that some 93 per cent of births had been registered, and notification of vaccination given, by the end of the eighth week of life.34 The vast majority of births (57 per cent) were registered during the infant’s sixth or seventh week of life. One hundred and thirty five births (13 per cent) were, however, registered before the child was 28 days old. Of these, 24 infants (18 per cent) had died before their birth was registered; but of the 16 children whose existence was registered within a week of birth, 11 (69 per cent) had died before registration. An infant death in the first few days of life in Higham Ferrars appears to have led to the child’s birth being registered earlier than it would have been under happier circumstances.

If births on Skye were ‘over-registered’, this should show up in high levels of infant mortality in the first hours of life. Conversely if early deaths, and the
Table 3  Deaths from specific causes in the first month of life per 1,000 births: Skye 1880s, Ipswich 1870s.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Mortality rate per 1,000 births</th>
<th>Medical Certification</th>
<th>Cause</th>
<th>Mortality rate per 1,000 births</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SKYE</td>
<td>IPSWICH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>24</td>
<td>0</td>
<td>Debility</td>
<td>12</td>
</tr>
<tr>
<td>Pleurisy</td>
<td>6</td>
<td>0</td>
<td>Prematurity</td>
<td>7</td>
</tr>
<tr>
<td>Prematurity</td>
<td>5</td>
<td>38</td>
<td>Convulsions</td>
<td>2</td>
</tr>
<tr>
<td>Weakness</td>
<td>2</td>
<td>0</td>
<td>Diarrhoea</td>
<td>1</td>
</tr>
<tr>
<td>Debility</td>
<td>2</td>
<td>43</td>
<td>Asthenia</td>
<td>1</td>
</tr>
<tr>
<td>Croup</td>
<td>1</td>
<td>0</td>
<td>Atrophy</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>5</td>
<td>Other</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>10</td>
<td>Total</td>
<td>27</td>
</tr>
</tbody>
</table>

Notes: Legitimate children from families seen in succeeding census only. Also rates of medical certification of cause of death on Skye.

Source: Ipswich: vaccination registers, Skye: civil death registers.

associated births, went ‘under-registered’ in Ipswich, mortality rates in the first day of life would appear relatively low. Table 2 shows that Skye-born infants were six times more likely to die in their first hour of life than those born in Ipswich, strongly suggesting that stillbirths were being registered as live ones. However, the rates of death among Skye infants were also over 50 per cent higher than among newborns in Ipswich in the first day, week and month of life. Mortality within the first week on Skye was also higher than that experienced by any of the other populations shown in Table 2. The cumulative figures in Table 2 can be broken down to show that, for every 1,000 children born, in Ipswich one died in the hour after birth while on Skye it was 6, yet in the following 23 hours 6 further children died in both communities. Fourteen more newborns had died by the end of the first week in Ipswich, but on Skye 40 had succumbed. In the next 3 weeks, per 1,000 born, a further 18 would die in Ipswich, a further 29 on Skye. If the reporting of stillbirths as live births followed immediately by death was occurring, this would account for Skye’s elevated death rate within an hour of birth, but would not explain the higher risks run by older neonates. Was a local practice on Skye proving lethal solely to newborn infants? Did, for example, birth attendants seal the umbilical scar with earth as is reported to have induced high rates of fatal infant tetanus on the island of St Kilda, which, after all, had close links with Skye?35

In both the civil death registers for Skye and the vaccination death registers for Ipswich the cause of death is given. Tables 3 and 4 consider causes of death among those legitimate children where the families can be identified in the 1881 census of Ipswich and the 1891 census of Skye. The mortality rates shown
Table 4  Deaths from specific causes amongst ages 1 month - 1 year: Skye 1880s, Ipswich 1870s.

<table>
<thead>
<tr>
<th>Cause</th>
<th>Mortality rate per 1,000 births</th>
<th>Medical Certification</th>
<th>Cause</th>
<th>Mortality rate per 1,000 births</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SKYE</td>
<td>IPSWICH</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% cert.</td>
<td>% not cert.</td>
<td>% cert.</td>
<td>% not cert.</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td>0</td>
<td>100</td>
<td>Diarrhoea</td>
</tr>
<tr>
<td>Whooping cough</td>
<td>5</td>
<td>28</td>
<td>72</td>
<td>Convulsions</td>
</tr>
<tr>
<td>Bronchitis</td>
<td>5</td>
<td>56</td>
<td>44</td>
<td>Bronchitis</td>
</tr>
<tr>
<td>Pleurisy</td>
<td>4</td>
<td>0</td>
<td>100</td>
<td>Marasmus</td>
</tr>
<tr>
<td>Measles</td>
<td>2</td>
<td>20</td>
<td>80</td>
<td>Deblity</td>
</tr>
<tr>
<td>Teething</td>
<td>2</td>
<td>20</td>
<td>80</td>
<td>Whooping cough</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td></td>
<td></td>
<td>Pneumonia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>25</td>
<td>75</td>
<td>Total</td>
</tr>
</tbody>
</table>

Notes: Legitimate children from families seen in succeeding census only. Also rates of medical certification of cause of death on Skye.

Source: Ipswich: vaccination registers, Skye: civil death vaccination registers.

are rather lower than those reported in Table 2, however the general pattern—of higher mortality in the first month of life on Skye, but higher mortality in the following 11 months in Ipswich—is repeated. Table 3 indicates that of the 47 children per 1,000 born on Skye in the 1880s dying in the first month of life, six were reported to have died from ‘pleurisy’, five from ‘prematurity’, two from ‘weakness’ and two from ‘debility’. In every 1,000 births, ‘croup’ would kill one child before it was a month old and assorted ‘other causes’ would carry off a further six. In by far the majority of cases, however, accounting for 24 deaths for every 1,000 births, the cause of death of very young infants was ‘unknown’.

As noted above, the Scottish registration system allowed close relatives to report the cause of a death being registered without this necessarily being certified by a medical practitioner. A space was provided on death certificates to record whether the death had been ‘medically certified’ or not. Sometimes the certificate noted that the deceased had had ‘no medical attendant’ during their last illness, hence partially explaining why doctors might feel ill-qualified to pronounce on the cause of death. The population of Skye’s remote hamlets could not always expect to have a doctor present either during an illness, particularly a short-lived one, or at a birth. Thus only 10 per cent of infants dying on Skye before they were a month old had their cause of death medically certified, and as Table 4 indicates the figure rose to only 25 per cent among those dying in the next 11 months. For a considerable proportion of these older infants the cause of death was also reported as ‘unknown’. The
causes of death which were reported included ‘whooping cough’ and ‘measles’, ‘pleurisy’ and ‘bronchitis’, as well as ‘teething’ (a medically certified cause in some cases) and a mix of ‘other causes’.

In all only 19 per cent of children on Skye dying before their first birthday had their cause of death medically certified. The degree of certification does not, however, seem to have been related to the medical provision available. In the 1881 census there were six doctors returned as resident on the island, and there was another visiting from Glasgow. In addition three midwives were listed, along with a fourth who was visiting from the neighbouring island of Raasay. Of the six local doctors four were resident in the northern parish of Duirinish, yet only 4 per cent of infant deaths in that parish were medically certified. In the southern parish of Sleat there were no doctors recorded in the 1881 census and yet 56 per cent of infant deaths occurring in the parish in the ensuing decade had their causes medically certified. The census figures can, of course, give little information on the social and spatial restrictions on access to medical care. Perhaps the doctors in Duirinish were primarily there to attend the needs of the local laird and his household; perhaps a doctor would cross from the nearby mainland to attend patients in Sleat.

The vaccination death register data for Ipswich did not include a note of whether a doctor had certified the cause of death. However, the 1874 the Births and Deaths Registration Act in England and Wales required medical certification of cause of death, and the fact that there were no ‘unknown’ causes of death listed for Ipswich in Tables 3 and 4 certainly suggests the presence of professionals who did not wish to be seen ‘not to know’ what had carried off an infant. The very high rates, at least compared to those of Skye, of ‘debility’ in Ipswich may indicate that this was a catch-all category used when the cause of death was uncertain. The reasons for higher death rates between the start of the second month and the end of the first year of life in Ipswich become clear in Table 4. ‘Diarrhoea’ carried off 15 children in this age group for every 1,000 born, yet does not appear among the major killers of older infants on Skye. ‘Wasting’ diseases such as ‘marasmus’ and ‘debility’ killed 16 older infants out of every 1,000 born in Ipswich, yet apparently Skye infants did not succumb to such conditions after the first month of life. Convulsions did not kill Skye infants, yet 12 older Ipswich infants in every 1,000 born died after a convulsive fit. Pneumonia and bronchitis between them carried off 15 Ipswich infants, yet ‘bronchitis’ and ‘pleurisy’ together accounted for only 9 later infant deaths per 1,000 births on Skye.

As the cause of death information was not particularly helpful in resolving the reason for Skye’s high level of neonatal mortality, Figure 4 was constructed, to show the distribution of deaths over the first 28 days of life on Skye and in Ipswich. While the peak in Skye’s mortality in the first 24 hours is clear on the graph, the shapes of the two curves are thereafter rather different. In Ipswich the second 24-hour period appears to have been almost as lethal as the first. Possibly this was simply a function of the imprecision which might occur when age at death is being described as ‘first day’ rather than precisely in minutes or hours. If this is true then perhaps Ipswich’s rates of deaths within
the first 24 hours of life did not fall as far short of those on Skye as previously suggested. Days 2 and 3 seem to have been equally lethal in both communities, but from day 5 until day 12 infants on Skye were subject to levels of mortality that were several times higher than those prevalent in Ipswich, even if we ignore the peaks which occur on days which are multiples of seven, these being caused by those reported to be ‘x weeks’ old having to be counted with those who were (x x 7) days old.

It is possible that infants on Skye were subject to infanticide but, as Sauer has shown, numbers of proven cases of infanticide in nineteenth-century Britain were very low compared to the numbers of births occurring, and there seems little reason to think Skye exceptional in this regard. Where infanticide is an issue it is very often associated with excess deaths of one or other sex, but as the sex of 22 of the 53 Skye children dying on their first day of life could not be determined, no name being registered, this proposition could not be tested.

The timing of death among Skye’s newborns strongly suggests that ‘neo-natal’ or ‘infantile’ tetanus may have been the culprit. This disease, still a major scourge at the end of the twentieth century in many developing countries, usually occurs 3–12 days after birth. The infantile form results from a birth in insanitary conditions, particularly if the umbilical cord is cut with an unclean blade. Blades contaminated by soil from a farmyard setting would be a particular hazard. Infants in the crofting communities, where many houses were still wholly or partially earth floored at the end of the nineteenth century, and animals were sometimes housed alongside the human residents, may have been particularly at risk. The island of St Kilda, lying beyond the

Figure 4  The IMRs by age in days for the first four weeks of life: Skye 1880s and Ipswich 1870s.

![Figure 4](image_url)

Source: Skye: civil registers, Ipswich: vaccination registers.
Western Isles of Scotland, was notorious for the incidence of tetanus amongst it infants, the disease being the main reason why only half of the island’s infants reached their first birthday. It was ‘not until the last decade of the nineteenth century that the cause of the disease was recognised and prophylactic measures introduced’ to the island. Unfortunately ‘tetanus’ is not mentioned at all in the Skye death registers, although it appears twice in those of Ipswich, in one instance carrying off a 3-day old infant and in the other a 12-day old. We therefore cannot be totally certain that this disease was responsible for striking down Skye infants in their first month of life at a greater rate than those elsewhere, although it must be a strong contender. It is likely that in the very small population on St Kilda all births would have been subject to the same practices, for example treating the umbilical scar with earth mixed with fulmar oil, but on Skye the population was well dispersed and therefore variations in risk might be expected. It is therefore of interest that, although numbers are quite small and therefore only suggestive, mortality in the first four weeks of life accounted for more than 70 deaths per 1,000 births in Duirnish and Kilmuir, the two parishes furthest from the mainland, yet Sleat, nearest the mainland, lost only 35 of its infants in their first month. Local practices, differentially affected by the spread of knowledge, do therefore appear to have played an important role in accounting for variations in survival chances.

To return to Galley and Woods’ observations on the distribution of deaths within the first year of life: the population of Skye in the 1880s undoubtedly reported a rate of infant mortality within four weeks of birth far in excess of that expected. It has been demonstrated that there is a strong probability that, although the reporting of some stillbirths as live births was contributing to the elevated rates, a more significant factor was deaths in the first to third weeks of life which resulted from infections contacted during childbirth.

Women on Skye who lost infants did so disproportionately in the first few weeks of life when compared to Ipswich and other nineteenth-century populations. This would result, ceteris paribus, in a more rapid restoration of ovulation and a shorter subsequent birth interval than would have occurred if the infant had survived a few more months. This may partly explain the high rate of ‘fecundity’ observed amongst the married women of Skye. Above we examined the effects of the length of birth interval on the ‘closing’ child; future research will examine the impact of the ‘opening’ child’s demise on the length of the subsequent interval.

The two longitudinal studies considered here have demonstrated that while Galley and Woods’ use of ‘benchmark’ distributions of infant deaths does pick out populations where the registration of demographic events is ‘irregular’, many questions and a great deal of work remain, as the authors themselves admit, before the circumstances underlying the ‘irregularities’ can be fully assessed and understood. It is unlikely that such questions will be answered, certainly for the British Isles, until access can be gained to a greater variety of sources showing the inter-relationship between demographic events and their entry into, or omission from, official records.
Acknowledgements

The work reported here has received support from the ESRC, who funded the work of the Cambridge Group for the History of Population and Social Structure, and awarded a grant (Award number R000238429, held by Peter Razzell (Director), Garrett and Davies) to allow the project The sociological study of fertility and mortality in Ipswich 1872–1881 to be undertaken. A grant was also received from the British Academy. Special permission was granted by the General Register Office, Edinburgh for access to the civil registers of births, marriages and deaths on Skye. A machine-readable copy of the 1881 census of Ipswich was obtained from the AHDS Subject Centre for History, University of Essex. All this support is gratefully acknowledged; as are the help, advice and comments of Peter Razzell, Chris Galley, Tricia James, Hilary Greer, Christine Spence, Elspeth Graham and the members of the Local Population Studies Editorial Board who commented on an earlier draft.

NOTES

3. These and the following figures are taken from Galley and Woods, 'Distribution of deaths', Figure 8, 50.
6. Crofting was a small-scale, family-based form of agriculture. The nature of livelihoods derived from such an economy is evident from the definition of a ‘crofting parish’ set by the Napier Commission in the late 1880s. Such a parish contained ‘holdings consisting of arable land, held with a right of free pasture in common … the annual rent of which did not exceed £35’. See I.M. M. MacPhail, The crofters’ war (Stornoway, 1989), 174.
7. Reasons could include, among others, the family moving out of the area for which the vaccination officer was responsible or the parents conscientiously objecting to vaccination. The vaccination registers are described in greater detail in M. Drake and P. Razzell, ‘The decline of infant mortality in England and Wales, 1871-1948: a medical conundrum’, unpublished interim report (1997) Open University.
8. It is hoped in future work to expand coverage of marriage records in Ipswich to include other denominations. For further details of the linkage procedure and the findings of the study see P. Razzell, E. Garrett, and R. Davies, ‘Research Grant 200023842; end of grant report’, lodged with the Economic and Social Research Council and available online at www.regard.ac.uk. N. Williams in ‘Death in its season: class, environment and the mortality of infants in nineteenth century Sheffield’, Social History of Medicine, 5 (1992), 71-94 used similar methodology, but she only had information on deaths available so could not address issues requiring knowledge of precise dates of birth.
9. Presence of the families was determined either by the presence of family members in the succeeding census, or by the birth of a younger sibling. It should be noted that by including the latter criterion families with more than one child and/or closely spaced births are more likely to be included in the calculations, which may serve to inflate mortality rates to some degree.
10. See Razzell et al., ‘End of grant report’.
11. 31 March 1890 was taken as the cut off point, with ‘cohort’ analysis in mind, to allow observation of the first full year of the children’s life before the census of 1891.
12. 5 April 1880 was taken as the cut off point, again with the ‘cohort’ analysis in mind, as it allowed
observation of the first full year of the children’s life before the census of 1881.

13. Woods and Shelton, Atlas, Map 7a, 49. Similar rates could also be found in earlier decades; Woods and Shelton, Atlas, Fig. 15, 56. The figure of 103 is, however, very close to the 97 per 1,000 births returned for the three rural counties of Dorset, Hertfordshire and Wiltshire: see Table 2 below.


18. Due to the constraints of the 1881 census data rates of infant mortality had to be assumed to be same for all age groups of mothers in this calculation. This is, of course, unlikely to have been the case.

19. Child-woman ratios are a less sophisticated measure than true Age-Specific Marital Fertility Rates (ASMFRs) which adjust the rates to allow for mother’s age at childbirth, rather than her age at census, but the ratios amply describe the difference between Skye and Ipswich. Although it is assumed when calculating ASMFRs that women cease childbearing aged 50, the age group 50-54 is included here because women having surviving children in their late 40s will have still have children under age 5 living with them when they themselves are in their early 50s. For a discussion of the methods used to calculate such measures see W.H. Grabill and L.J. Cho, ‘Method for the measurement of current fertility from population data on young children’, Demography, 2 (1965), 50-73 or D. Mills and K. Schürer, eds, Local communities in the Victorian census enumerators’ books (Oxford, 1996), 78-9. To be truly accurate adjustments should also be made for those children alive but not resident with their parents on census night. This has not been done here as the proportion of such children is thought to have been very low. It should also be noted that in a few cases where a father has re-married shortly after his wife has died leaving a young baby, the census information may cause the child to be erroneously counted as that of the second wife. For further discussion of these issues see Garrett et al., Changing family size, 234-41.

20. It is usually assumed that ‘voluntary childlessness’ was absent in historical populations of Europe and that sterility has a ‘similar (age) profile in most populations’: see R. Pressat and C. Wilson eds., ‘Sterility’ in The dictionary of demography (Oxford, 1980). However, also see M. Anderson, ‘Highly restricted fertility: very small families in the British fertility decline’, Population Studies, 52 (1998), 177-99.

21. Mortality inflation factors cannot be applied when the number of children observed is ‘0’. Work is underway to collect census and other data which will allow ‘apparently childless’ couples to be distinguished from the ‘definitely childless’, thus allowing the relative contributions of infertility and infant mortality to Ipswich’s lower child-woman ratio’s to be assessed.

22. M. Anderson, ‘Fertility decline in Scotland, England and Wales, and Ireland: comparisons from the 1911 census of fertility’, Population Studies, 52 (1998), 1-20 and Anderson ‘Highly restricted fertility’, indicate that such families were by no means unusual. Whether family limitation was being practised in Ipswich in the 1870s is the subject of future research. It must also be borne in mind that the ‘census snapshot’ may well show up more women unencumbered with children in an urban setting where in-migration rates are higher. In rural communities experiencing out-migration women raising families are more likely to remain, those without children having greater freedom to move away.

23. Given the data available, it would be possible to consider the impact on children opening the birth interval, but it was felt that interpretation would be too complex to consider here.
24. Neither would it be appropriate to consider the twin birth as one birth event and calculate the interval from the previous birth, given the high intrinsic mortality risk of being a twin.
25. V. Fildes, 'Infant feeding practices and infant mortality in England', *Continuity and Change*, 13 (1998) 251-80 discusses differences in breast-feeding practices in various populations at the turn of the century. No evidence has yet been uncovered concerning the length or duration of breast-feeding on Skye.
26. Where birth and deaths have been linked it is possible to calculate age at death, but only in days. Where a child has died within a day of birth its registered age at death has to be used.
29. M. Flinn et al., *Scottish population history*, 89.
30. The fact that the informant’s description of the state of the child was in many cases being translated from Gaelic into English by the Registrar may have clouded the details still further.
31. The help of Yvonne Ravizza of the General Register Office, Scotland, who supplied details of the registration requirements for stillbirths in Scotland current in the 1880s, is gratefully acknowledged.
33. Under the initial Registration Act of 1837 births had to be registered within six weeks; failure to do so would result in substantial fine. When the law changed in 1874 to compel parents to register the births of their children, a fine was introduced for ‘non-compliance within 21 days’. Woods, *Victorian England and Wales*, 34. It would appear from James’ data that this latter deadline was not adhered to.
34. The data for Higham Ferrars were collected by Tricia James and provided on CD-Rom by members of *The decline of Infant Mortality in England and Wales 1871-1948: a medical conundrum* project based at the Open University, Milton Keynes, under the directorship of Michael Drake and Peter Razzell. A similar phenomenon was also found by the current authors in the vaccination registers of Sheffield, held at Sheffield City Archives.
35. Flinn et al., *Scottish population history*, 521, In.19.
36. The figures in Table 2 include both legitimate and illegitimate children, increasing the infant mortality rate. It is also possible, however, that the linkage process is to some degree selective as it will be easier to confirm a link to the census where there are more children surviving. Families with fewer surviving children may also be more mobile and leave observation before the next census.
37. All these causes are suggestive of premature or underweight babies. The diagnosis of ‘pleurisy’ may arise from the lung problems very often suffered by premature infants thanks to Tricia James for this observation.
38. The census enumerators’ books in Scotland report on the number of individuals ‘habitually resident’ in a community who were absent on census night, very often noting the reason for this absence. They also note the number of individuals who are visiting, and would not normally be counted among the resident population.
39. The 1874 Births and Deaths Registration Act also transferred the obligation to register births ‘from the Registrar to the parents, or occupier of the house or persons having charge of the child’; Nissel, *People count*, 26.
41. Details of the disease, its symptoms, causes and treatment can be found at: www.ecureme.com/emyhealth/Pediatrics/tetanus.asp. Rates in contemporary developing nations may be found in a report by UNICEF at: www.unicef.org/pon00/immun8.htm. In the developed nations a vaccine for tetanus has been available since the 1920s. When given to pregnant women this offers protection to infants for their initial weeks of life. See C.M. Smucker, G.B. Simmons, S.

MAGIC, CUSTOM AND LOCAL CULTURE IN HERTFORDSHIRE 1823–1914: AN EXERCISE IN NOMINAL RECORD LINKAGE

Nigel Goose and Owen Davies

The exploration of popular mentalities in England beyond the early modern period is a neglected field. In particular, little extensive work has been done to examine how magical beliefs affected social relationships in local contexts, and to what extent the function and relevance of magic and witchcraft was related to community structure, local economies and cultures. Work completed to date, with rare exceptions, tends to focus very heavily upon formal religious adherence. Much more work is needed to further our understanding of the way people thought about the supernatural and customary rights, and how such beliefs and actions shaped their lives and their relationships. To achieve this, we must consider the extent to which different local environments and economies influenced the way such beliefs and activities manifested themselves.

The influence of local topography and environment on social behaviour, community structure, magical beliefs and customary activity has attracted some interest from early modern historians. David Underdown, for example, has tentatively explored the relationship between environment and regional customary behaviour, and Andy Wood’s recent study of the Peak Country 1520–1770 has similarly attempted to root popular beliefs in local contexts. Underdown’s approach has been rightly criticised for its simplistic division of areas into arable/pasture or sheep-corn/wood-pasture cultures, and Sharpe’s recent, detailed study of Colyton shows that even an apparently typical wood-pasture economy does not necessarily conform to a simple set of stereotypes.

But the environmental approach to local cultures has the potential to provide considerable insight, as long as it shows awareness of the great diversity of both local environments and cultures. It is therefore necessary considerably to expand conventional typologies to include, among others, predominantly arable regions or localities, communities in different coastal areas, areas of cottage industry, fenland environments, upland areas, mining villages, dairying economies and urban satellite areas. The recent article by Andrew BLAIEKIE in LPS 69 provides an example of what can be achieved through such an approach.

The research in progress reported upon here forms part of a
larger study that, funding permitting, will examine popular cultural beliefs across a range of local and regional economic, social and environmental contexts. This pilot study, conducted with the support of The Leverhulme Trust, focuses upon the county of Hertfordshire.

Hertfordshire is one of the smaller English counties and in the nineteenth century was as ‘typical’ an arable county as one will find, yet it contained surprising diversity within its narrow boundaries, in the form of a flourishing network of small towns, a growing range of consumer and service trades, the early development of a well articulated economic infrastructure, besides well defined areas of cottage/small factory industry stimulated by the expansion of London. It also participated fully in the articulation of the retail and service sectors that must now be placed at the centre, not the periphery, of early industrial growth. Farming practice and productivity varied, with the lighter soils of the south of the county responding more rapidly to London demand. The south and west was notable for its thriving cottage and small factory industry in the form of the straw plait and hat trades. Additional industrial development took the form of silk production and paper-making, again towards the south, malt-making centred upon Ware, and the related development of substantial brewing concerns in a number of Hertfordshire towns, while the north of the county remained largely agrarian. But Hertfordshire was not chosen merely for its inherent interest: it was also a county with an agrarian economy that contrasted with pastoral Somerset already studied by Davies, and one that offered immense practical advantages too in the form of an extant computer database of the entire 1851 census for the county compiled by the University’s Centre for Regional and Local History, and for which the survival of newspaper evidence was also very good.

The methodology upon which this study was based is a straightforward one. Various forms of popular cultural activity were firstly identified, including witchcraft and magic, cunning folk, medical cures, quackery and herbalism, fortune-telling, gypsy culture, wife selling, rough music and other forms of community action, unorthodox belief, impiety and general customary activity. For evidence of relevant beliefs and practices under these headings, a systematic survey was made of the Buckinghamshire, Bedfordshire & Hertfordshire Chronicle (1822–1829), Herts, Huntingdon, Bedford and Isle of Ely Mercury (1828–1833), County Press for Herts, Beds & Bucks (1831–1844), and Hertfordshire Mercury (1844–1914). Extensive searches of the Herts and Essex Observer (1862–) and Herts Guardian (1852–1902) were also conducted to ensure a broad coverage of countywide news reporting. Limited searches of other local papers were also conducted to assess the extent of localised coverage of petty sessions and news. All relevant cases found in the principal newspapers were followed up in local papers where possible. To assess patterns of reporting, and the potential for editorial bias influenced by local sensibilities concerning the publication of ‘backward’ or ‘credulous’ beliefs and activities, record was made of all reports concerning instances of witchcraft and magic from outside the county.
Once all relevant cases had been categorised and recorded in Microsoft Access and Excel, producing a database of 218 individuals across the years 1823–1914, the task of linking identified individuals to the nineteenth-century census returns was begun. Nominal record linkage is, of course, by no means a new idea, and can now boast a heritage that stretches back to the classic statements and procedures suggested by Wrigley, Anderson and Macfarlane, while continuing to provoke discussion among historians and demographers through to the present day. Recent studies by Barry Reay, Steve King and Pat Hudson, Pam Sharpe and Pat Howe have confirmed the potential of the procedure, despite the frustrations that difficulties in matching individuals and small linkable samples can provoke, and in the face of the scepticism that has been expressed in some quarters, especially in relation to urban contexts where populations tend to be particularly fluid. Given the relatively small sample of individuals to be traced in the present study, it was decided to attempt record linkage by manual rather than automated methods, a decision encouraged by the views expressed recently by Tilley and French, who have argued from their experience of record linkage in the Kingston Local History Project that a flexible approach, centred upon the human researcher rather than relying on computerised multiple pass algorithms, is the most effective. Matching was attempted using the two censuses for the county which have been fully computerised to date: that for 1851, held by the Centre for Regional and Local History at the University of Hertfordshire, and that for 1881, available from the Church of Jesus Christ of the Latter Day Saints or, in enriched form, from the UK Data Archive at the University of Essex.

A simple, standard procedure for endorsing a match was adopted, requiring a basic number of matching predicates within a specified chronological limit, although the possibility of additional information providing an overriding consideration was kept in mind too. Those predicates, usually provided in newspaper reportage, were surname, forename and place of residence, used in conjunction with an acceptable chronological age for the participant at the time of the incident as indicated by the census. Given the possibilities of mobility and identical names, no match was considered if the gap between incident and census was over 30 years, while a gap of over 15 years was deemed to render a match ‘weak’, and these cases—relatively small in number—were effectively discounted. The application of these standard procedures reduced the number of matchable names from 218 to 190: 13 were ruled out on the grounds of the date of the incident, 8 through confusion caused by lack of forename and 7 because the place was unidentified or extra-county.

The cross-matching took six working days, using relatively simple spreadsheet sorting and filtering mechanisms. From the censuses of 1851 and 1881, 97 firm cross-matches were made from the sample of 190 names: a further 17 cases presented two or more equally plausible choices, 11 provided matches classified as ‘weak’, and 65 could not be matched at all, a fact that testifies to the degree of at least short range migratory movement within the life-cycle, confirmed recently for substantial areas within mid-nineteenth-
century Hertfordshire. Hence we were able to make firm linkages for 45 per cent of our total sample, and for 51 per cent of those that fell within an appropriate chronological range and for whom the necessary basic predicates were known. Although we have no control group to inform such a judgement, we were very satisfied with this level of success, which certainly produced a sample worthy of analysis and further examination.

For the purposes of the present report, the degree of success achieved in the process of record linkage between newspaper reports and two nineteenth-century censuses for Hertfordshire across this period is one of the main substantive conclusions we wish to present. In terms of results of historical substance, one of the key findings to date of this research is the relative absence of cases involving witchcraft, which were very few indeed compared with previous work on the county of Somerset. A total of 35 individuals featured in the newspaper reportage were linked with alternative medicine, magic or fortune-telling. Only four cases were identified that indicated fear of witchcraft, one of which concerned Maria Briggs, rumoured to be a witch in 1881, who, as the census indicated, conformed to a commonly proposed stereotype: a widow, aged 60 years, living alone in Windmill Street, Cheshunt.

This number was dwarfed, however, by those engaged in ‘rough music’, which dominated the database with 27 instances involving 137 individuals. The first point of interest about these incidents is their geographical spread, the vast majority occurring towards the south and, in particular, the south-west of the county. This was the region that was most heavily influenced by proximity to London, where transport was best developed, where the straw plait and hat trade flourished and where urbanisation (in the form of small towns) was most marked. Furthermore, many of the incidents, both major and minor, took place in towns: for instance St Albans 1832, 1834 and 1846, Hitchin 1843, Hemel Hempstead in 1855 and 1884, Watford in 1856 and 1868, Berkhamsted in 1869 and Hertford in 1878—all identified as specifically urban in published census reports. Other large villages or market towns involved included Wheathampstead, Baldock, Hatfield and Harpenden. In other words, these incidents took place in the most ‘modern’, in just about every sense of the word, regions of the county, and were relatively rare in the less developed areas towards the north and north-west.

Detail was extracted from the 1851 and 1881 censuses on a total of 71 of the 137 individuals involved in incidents of rough music. Both perpetrators and objects of rough music were overwhelmingly male: 52 of 61 perpetrators and 9 of 10 objects. The age of victims ranged from 19 to 61, with just four of the ten in their teens or twenties, whereas the perpetrators were very predominantly young: 38 per cent (23) were in their teens and another 38 per cent (23) in their twenties, which compares with proportions of 21 per cent and 16 per cent respectively in these age groups for the county as a whole. The occupations and therefore status of the 10 victims ranged across the social scale, and included a navvy and two agricultural labourers at one end of the spectrum and a clergyman of the Church of England at the other. The perpetrators also
exhibited a variety of occupations, but with a clear bias towards more humble social groups. Of 53 whose occupations were identified, 10 were labourers and 20 were agricultural labourers, four more were involved at the lower end of the licensed trade and six worked in straw plait and hats. Only two were employers of men: a master butcher employing one man and two boys, and a wheeler/farmer, with just 10 acres but employing three men.

Further analysis of this data is proceeding, and individual cases have yet to be examined more closely. It does appear, however, that both the geographical concentration of these incidents and the age profile of the perpetrators would suggest that they were anything but the vestiges of bygone practice, that communal action retained its potency through to the 1880s (when it abruptly ceased), and that it retained a place in the culture of those places undergoing significant economic, social and administrative change. Indeed, it is tempting to suggest that those very changes may themselves have produced the normative differences and conflicts that rough music reflects. The possibility that adolescent behaviour contributed to these incidents also deserves further consideration.

This pilot study of popular culture in Hertfordshire in the nineteenth and early twentieth centuries, employing the information on popular cultural activity that can be gleaned from contemporary newspaper reportage and the economic, social, geographical and demographic information contained in nineteenth-century census returns, has shown quite clearly that nominal record linkage between these sources is viable and that manual linkage is effective and relatively economical in terms of research time. It has also made a small beginning towards revealing the relationships that existed between popular cultural forms and features of local and regional economy and society, in the case of rough music in Hertfordshire a relationship that might not have been wholly expected. Further analysis of the Hertfordshire evidence will be published in due course, and in the longer term we hope to be able to extend our study to incorporate a wider range and greater diversity of local societies and cultures.


8. Tilley and French, ‘Record linkage’.


13. In Watford in 1856 Peter Smith found that the incident of rough music occurred in a slum area called Ballard Buildings which, although some of the inhabitants were tradesmen, included a disproportionately number of agricultural labourers, as well as many temporary residents. The former might suggest that rural cultural practices had been transferred to an urban setting; the latter made it very difficult to trace individuals in the census: Smith, ‘Squalor and rough justice’, 24–5.
BIRTH-BAPTISM INTERVALS IN WHICKHAM PARISH, CO. DURHAM  
c. 1770–1820

Alan Wright  

Alan Wright qualified in Electrical Engineering in 1962 and spent 39 years in industrial engineering research. He was awarded an MA degree by University of Newcastle upon Tyne for a demographic, social and economic study of Whickham Parish in 1986.

Introduction  

The orthodox Anglican Church practice of baptism from the sixteenth Century required the parents to bring the child to church, on a day of public worship, where the ceremony would be conducted by an ordained clergyman. An upper limit of 14 days after birth was stipulated for this ceremony from about 1650 onwards. The urgency implicit in this rule related to the theological concern of the church for the fate of the soul of the child if he/she died before baptism. While the ecclesiastical practice appeared to place strict limits on the birth-baptism interval there is no evidence that any penalty was imposed on parents presenting after 14 days. This kind of ‘misdemeanour’ did not require an appearance before the church courts, as did adultery, for example.

Satisfactory explanations of the ‘early’ or ‘late’ baptism practices detected in a range of parishes, have eluded most, if not all, researchers and, generally, broad socio-economic factors are offered as possible causes for the secular changes in the statistics.¹

Investigation of birth-baptism intervals  

A major difficulty with all studies is that the registers rarely give the date of birth or, when they do, it is only for short periods of about 20 years: the baptism registers of Whickham Parish for the period 1780–1850 are typical of many parish registers from this period.² From 1750–1797 the birth date is not recorded at all, while from 1798–1819 the date is rarely omitted: after 1820 there are an increasing number of entries without birth dates. So the period 1798–1828 offered a ‘window of opportunity’ for a study of the birth/baptism interval. The numbers of children involved ranged from 110 to 190 per year and the data were
initially segregated into male and female, to check for possible differential treatment between the sexes.

There was also in the parish a dissenting congregation that followed the English Presbyterian tradition. This congregation kept a baptism register from 1733, even before a chapel was built in 1750. The Presbyterian practice differed from the Anglican one in that baptism often took place in the parents’ home. The ordained minister served an area that extended into several adjacent Anglican parishes: Ryton, Lamesley, Tanfield and across the Tyne to Newburn. His pastoral visits took him around this district and baptism took place on the day he visited: Sunday baptism was quite rare but by the end of the 18th century it did become more popular. The earliest entries in the baptism register do not give a birth date but by the mid-1770s this becomes a regular entry, a situation that continues until 1817. Because of the smaller numbers involved the data was grouped to give five-year aggregates of some 70–90 baptisms until 1800 and 30–40 thereafter. Finally it was considered worthwhile to examine, briefly, the attitude of the clergy and senior laymen in the Parish as demonstrated by the age at baptism of their own children.

**Results**

In respect of the Anglican records the general trend, shown in Figure 1, was for the interval between birth and baptism to decrease for both males and females. At the beginning of the period 50 per cent of both sexes were baptised within 80 days after birth: by 1826 the interval had fallen to between 30–40 days. There was little difference between the results for males and females indicating that both were treated the same. The longest recorded interval was 5,839 days which occurred when John and Margaret Ismay brought their son Ellison to the font on Boxing Day 1825 when he was 16.5 years of age. The results for the nonconformist congregation show a dramatically different pattern as, over a longer period, the birth-baptism interval remained fairly constant, at approximately 25 days.

**Discussion**

Over a period of 33 years there have been numerous published studies of the birth-baptism interval that were conducted in parishes ranging from the large urban to the small rural. Explanations for the secular changes in the interval usually infer socio-economic factors as the cause. In the latest article published in *LPS* 70, Michael Saxby argues that parents tended to baptise their children early ‘during hard times’, which could include those occasions when high wheat prices and unemployment prevailed. I think it is just as plausible to argue that parents would have their infants baptised early in good times: contented parents with a healthy child may wish to celebrate the fact as soon as possible. That many parents delayed baptism for weeks and months suggests that they had little concern for the theology of the baptism ritual but were happy to conform in their own time.
The trouble is, of course, that we have no ‘witting testimony’ (as Prof. Michael Drake might say) by the parents, as to why they brought their children to the font on any particular date. For example, James and Ann Oxnett lived at Whickham Thorns Farm, a small mixed arable farm on the floor of the Tyne Valley where James was a husbandman. The farm was less than a mile from Whickham Parish Church. The marriage was to last for 48 years and in the period 1810–1828 the couple had nine children, including one set of twins. They left no explanation of what factor(s) determined their choice of baptism date but their record was as follows:

- Maria (b. 1810) – 264 days
- William (b. 1811) – 129 days
- James (b. 1813) – 221 days
- Robert (b. 1816) – 21 days
- John (b. 1818) – 23 days
- Michael/Hallowell (b. 1820) – one day
- Thomas (b. 1824) – 617 days
- George (b. 1828) – 32 days.

Maria was an example of a pre-nuptial pregnancy: so was the late baptism an attempt to hide the ‘short’ pregnancy of 4.9 months or was it because the parents, having recently been married, were financially stretched at the time? With the next two children there was nothing to hide but the baptisms were still late, then suddenly the pattern changed as the following two children were baptised after only 21 and 23 days respectively. Was the change a result of improved finances or better weather or the reverse? The twins, Michael and Hallowell, came next and it is understandable that they were baptised immediately but both survived to 69 years and 75 years respectively. But with the last two children the ‘early-late’ baptism conundrum appears once again; Thomas was baptised after a lengthy delay of 617 days and George after a very much shorter 32 days. After waiting 616 days it may simply have been a matter of James saying to Ann, ‘Let’s get young Thomas done tomorrow’.

Whickham Parish is an early example of an industrialised community, and by the turn of the nineteenth century (population 3,659 in the 1801 Census) some 65 per cent of the occupations could be classified as ‘trades/manufacturing’. Over the period 1800–1830 some 30 per cent of baptisms recorded the occupation of the father as ‘keelman’ (involved in coal transport on the River Tyne), while in another 20 per cent the occupation was ‘smith’ (involved with Crowley’s steel works in Swalwell). It has been suggested that the process of industrialisation in a parish resulted in alienation of the inhabitants from the established church. If the bonds of disaffected parishioners are simply weakened they may form a group of ‘late-baptisers’; while if the bonds are broken altogether they may move out of the established church into nonconformity. The effect of the latter group would be to leave a core of loyal parishioners and should create a parish of ‘early-baptisers’. While the Anglican data for Whickham do show significant reductions in the birth-baptism interval in the period 1810–1820, there is no evidence of any mass defections either to the Presbyterians or to the fledgling Methodist sympathisers in the area. While the Presbyterian registers do not record the father’s occupation it is unlikely that their community differed to any great extent from the general parish population, although it has to be admitted that the Presbyterian catchment area extended into neighbouring parishes, albeit with similar social structures. The socio-economic environments must therefore have been nominally identical for both Anglican and Presbyterian parents, and yet the birth-baptism intervals show differing trends in the same period. The pastoral activity of the Presbyterian minister in paying regular visits to his church members may have been an important factor in reducing the birth-baptism interval.

Could the changes in the Anglican data be the result of other socio-economic conditions? The end of the Napoleonic Wars in 1815 has been linked to an increase in general unemployment but the actual change in the Whickham birth-baptism interval began several years before 1815, so the date does not appear to be significant. The industrial base for the parish’s economy has been referred to above and both sectors were generally in decline during the period 1800–30. Coal chutes had been devised to deliver coal direct into the holds of the ships from staithes, built out from the river banks, thus reducing the need for keels operating below the Tyne bridge. (The presence of the old low-level bridge at Newcastle prevented ship movements upstream of the town.) Keels operating from Swalwell and Dunston, above the bridge, in Whickham Parish were therefore partially insulated from the unemployment caused by this development. Meanwhile the Peace of 1815 seems to have been the occasion for a reduction in Admiralty contracts for anchors, chains and nails and the Crowley (strictly Crowley, Millington and Company) factory in nearby Winlaton closed. Production was then concentrated in Swalwell, Winlaton Mill and Teams. By 1816 the depressed nature of the iron trade resulted in the unemployed being given work on the roads, while others took their skills to Sheffield and Rotherham. Apart from this anecdotal evidence there is no actual measure of unemployment in Whickham parish.
There are a number of other tests that can be made using the Parish registers to examine the possibility that living conditions deteriorated in this period and so, indirectly, influenced birth-baptism intervals. The results of two are summarised below:

• Infant deaths. The period 1801–20 was split into four consecutive groups of five years—1801 to 1805, and so forth. The aggregate numbers of infant deaths (children less than one-year-old) in each period was determined as: 1801 to 1805 (100 deaths), 1806 to 1810 (85 deaths), 1811 to 1815 (52 deaths) and 1816–1820 (72 deaths). The annual burial rates per 1,000 baptisms for the years 1815 to 1818 were 68, 125, 123 and 69, so the rate nearly doubles between 1815 and 1816, while the reverse occurs in 1818.

• Statistical Test. Using the ‘F-distribution’ the birth-baptism intervals (only intervals of 84 days and less were considered) for the children of keelmen in two years—1805 and 1815—were compared. For the 23 baptisms in each group, the mean intervals were 55.4 and 39.8 days, with associated standard deviations of 19.3 and 17.3 days, respectively. The value of ‘F’ calculated was 1.24 which is less than the critical value of 2.03 at the 5 per cent level.

Although it might be tempting to ascribe the change in burial rates for 1816–1817 to an increased level of unemployment in the parish, this would be rather premature, particularly since Wrigley and Schofield found, in a countrywide study, that general mortality changes were not closely linked to economic factors. I suggest the causal link between unemployment and birth-baptism intervals is also rather weak and is not detectable from the present data. The statistical test, in fact, showed that no significance can be attached to the differences in the mean values of the two selected populations.

Same-day baptisms

Michael Saxby draws attention to the practice of parents having infants baptised on the day of birth and attributes this to a) high food costs leading to poor nutrition or b) evidently a sick child. He also limits his observations to only ‘same-day baptisms’ when it would seem reasonable to include those infants up to 28 days old as being equivalent to ‘same-day baptisers’. Another point is that because a ‘same-day baptism’ is not followed by a subsequent entry in a burial register does not rule out ill-health as being the trigger for the baptism; the child simply got better and survived. It seems highly unlikely that parents would be able to make, at the birth, any rational judgement of the future nutrition conditions which might apply to their newly-born infant. The most likely factor relates to circumstances surrounding the birth itself, possibly a difficult labour, which placed both mother and infant at risk and the Whickham registers record a number of examples where the mother and infant die within a few weeks of birth. In 1802 Ann Armstrong aged three days died on December 6th as did her mother aged 40 years, while Matthew French died on February 4th, 1805 aged 15 days while his mother, aged 41 years, pre-deceased him by four days. A difficulty with these entries is that
neither appear in the baptism register so we must assume that some form of lay baptism, by the midwife perhaps, took place on the day of birth because of the perilous condition of the infants.

Response of establishment figures

Finally, what about the attitude of the clergy and senior laymen in the established church as demonstrated by the birth/baptism interval recorded for their own children. Surely this small group would be expected to 'toe-the-line' as regards the baptism rule and be less affected by economic factors. In 1818 the Rector of Whickham, Rev. Edward Grey, took 40 days before he baptised his child: while Rev. R. Hopper Williamson of Farnacres, waited 28 days for his child to be baptised. John Carr, of Dunston Hill, a substantial church benefactor and landowner, had several of his children baptised at Whickham with birth/baptism intervals ranging from one day to five years. Harriet Cheney (nee Carr), a sister of John Carr, also living at Dunston Hill, had children baptised with intervals of 50 days to greater than 300 days. Several church wardens, or their direct descendants (such as daughters) had children baptised aged three to four months old. Similarly examining the Nonconformist registers, both ministers who had oversight during this period, baptised their own children from 15 days to 126 days after birth. These observations suggest the clergy and senior laymen—'pillars of local society'—could not have held any strict doctrinal position to the 14-day period stipulated by the Anglican Church. If this group were indifferent to the rules one can hardly expect the average keelman or smith to be anymore concerned.

Conclusions

The aggregate response by parents to the custom of baptism is influenced by a menu of possible socio-economic factors that can vary in relevance, time and importance. In the absence of quantitative measures relating cause and effect it is not possible to be definitive in giving explanations for the specific birth-baptism intervals determined for a parish. Perhaps it is only in cases where baptism occurs within a few weeks of birth, to be followed very quickly by the death of the infant, can there be reasonable certainty about the reason for the prompt baptism.

The results for the Parish of Whickham illustrate the diverse response of parents by showing the significant difference between the data derived from the Anglican registers and that derived from Nonconformist registers. To the author’s knowledge this is the first occasion that Nonconformist registers have been used for the study of birth-baptism intervals.

NOTES


2. Durham County Record Office, EP/WHM.


11. The F-Test is designed to test the hypothesis that the variances calculated from the two samples are estimates of the same population variance; the null hypothesis. The ratio of the variances is termed 'F' and its sampling distribution depends on the degrees of freedom of both samples. Tables of the F- distribution are included in most statistics textbooks.


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REVIEW OF RECENT PERIODICAL LITERATURE

Nigel Goose and Andrew Hinde

All articles reviewed were published in 2002 unless otherwise stated.


So-called ‘kin servants’ are persons described in the ‘rank, profession or occupation’ column of the census enumerators’ books (CEBs) as servants, but who were related to the head of the household in which they worked. Although most ‘kin-servants’ did the kinds of work that other servants did, they were not employees in the conventional sense. The largest class of ‘kin servants’ were ‘kin housekeepers’, who typically worked in households headed by single or widowed men. Edward Higgs, *Domestic servants and households in Rochdale 1851–71* (New York, 1986) (see also his paper in *Local Population Studies* (LPS), 28 (1982), 58–66) suggested that when compiling the census reports for mid-nineteenth century censuses, the clerks in the census office simply summed up the entries in the ‘rank, profession or occupation’ column, thus including most ‘kin-servants’ in the totals of servants. Adair’s analysis of the Tenbury CEBs for 1851 and 1861 shows clearly that this happened in 1861, but not in 1851, when all ‘kin housekeepers’ were excluded from the census report. The conclusion is that treatment of ‘kin servants’ by the clerks in the census office was inconsistent over time and space, and great care needs to be exercised by researchers when using the figures in the census reports. Readers interested in the topic of ‘kin servants’ might also like to consult the paper by Hancock reviewed in *LPS* 65, 69–70, and Michael Anderson’s paper in *LPS* 60 (1998), 58–64.


This article contributes to the debate on the fortunes of late-medieval towns by focusing on two small Suffolk communities on the threshold of urban status. Both were firmly embedded in a conservative manorial world and neither were self-governed, but they included a range of economic activities that marked them out from mere villages nearby. Using court and account rolls, tax returns, probate evidence and architectural remains, Amor attempts to map out their demographic and economic experience between the early fourteenth and early sixteenth centuries. It is estimated that the population of both fell considerably across this period, Woolpit probably more than Ixworth.
Both were also hit by the decline of commercial farming as agricultural prices plummeted in the fifteenth century, the Abbott of Woolpit taking to wholesale demesne leasing while the Prior of Ixworth kept most of the demesne under direct management. Peasant farming remained largely subsistence. Ixworth saw the emergence of a building industry, while Woolpit benefited from the growth of clothmaking. Tax returns suggest that in each town some inhabitants achieved modest prosperity, though in relative terms Woolpit did far better than did Ixworth. The conclusions offered are sensibly tentative, for precise measurement of economic well-being in this period is notoriously difficult.


This short article seeks recognition for the role played by Philip Boobbyer, Nottingham’s third medical officer, appointed in 1889, to set alongside the better known contribution of the city’s first medical officer Seaton. Boobbyer used empirical evidence to demonstrate the close relationship between the use of the pail-closet and the prevalence of typhoid, though their removal was a process that was to take fully 25 years. An autocratic man, regarded as very much ‘old school’, Boobbyer is praised for his profound knowledge and uncanny medical instincts, as well as his sincere concern for the good of the community. After 40 years in service, the number of employees in his department had grown from 30–40 to 120, and expenditure had risen from £28,000 to nearly £121,000, although it is not clear what his personal role in these developments was.


This is a collection of three reviews of the recent book on Migration and mobility in Britain by Colin Pooley and Jean Turnbull, in which the results of their study of several thousand residential histories provided by family historians are written up (for a summary of some of these results, see Pooley and Turnbull’s paper in LPS 57 (1996), 50–71). The reviewers are A.B. Kasakoff, J. Kok and R.M. Schwartz, and their reviews are preceded by a short introduction by L. Lucassen and followed by a reply from Pooley.

Lucassen sets the scene by pointing out that Pooley and Turnbull’s book has had an international impact, placing ‘the study of human mobility in Britain’ (p. 102). A key theme of the book is that the change wrought by migration in English society was rather gradual. As Schwartz puts it in his review: ‘[a]fter reading the book the idea that mobility has been a stable feature of British life since the mid-eighteenth century becomes clear and generally compelling’ (p. 122). In general terms, this is probably true, yet Kasakoff wonders whether the starkness of this
conclusion is in part a product of the sample which Pooley and Turnbull selected: ‘their work is largely a description of the lines which made it into the professional classes’ (p. 110). If the migration patterns of people who left no descendants could have been studied, perhaps a different picture would have emerged? Kok also suggests that the sample of residential histories which Pooley and Turnbull have assembled is biased towards the middle classes and upwardly mobile, and that different patterns might have emerged had it been possible to study the mobility of the proletariat in more detail. In his reply, Pooley accepts that Turnbull and he might have underplayed the macro-level impact of economic and social change on migration; and acknowledges that the sample is biased in various respects. Nevertheless, it remains true that the residential history approach to migration has provided many important new insights into the mobility of previous generations of inhabitants of Britain.


This paper outlines some of the more significant elements of the distinctive demography of certain fishing villages around Scotland’s north-east coast. Scotland has been portrayed as a land of low nuptiality and high fertility, yet in these fishing communities, high fertility was combined with a low average age at marriage and high proportions marrying. The family-centred fishing trade also produced highly endogamous kinship links.


In this study of four Scottish rural communities, three in the north-east and one in the south-west, Blaikie examines the ways in which families and households encountered episodes of poverty, and how they coped (or, in some cases, did not) with it. He finds a complex picture of what he terms ‘variant dependency’, in which the chance of becoming dependent on external support changed over the life course, and was also influenced by the past history of the particular family in question. Individuals faced with dependency might call upon kin if these were available, or might have recourse to the Poor Law. Indeed, they might call on both at the same time. Models which posit a simple relationship between family structure and the nature of support for the poor (such as the ‘nuclear hardship’ hypothesis, in which a nuclear family system is associated with collective provision for the poor, and an extended-family system with kin-based provision) are inadequate to capture the complexity of the strategies adopted by families who had, at various stages in their life, to seek outside help.


This article examines bastardy in the six parishes of Alstonefield, Grindon, Butterton, Sheen, Wetton and Warslow and Elkstones, all in the Manifold Valley of the north Staffordshire moorlands. Bastardy ratios are calculated for
the period 1750–1809. For the six parishes together, they rise at an accelerating pace across this period, from 3.5 per cent in the 1750s to 9.7 per cent by the 1800s. For the individual parishes the overall figure for the period 1750–1809 ranges from 4.3 per cent to 8.4 per cent, emphasising the possibility of parochial variation even within a circumscribed locality. Part of the explanation for the rising trend, it is suggested, might be the youthful age structure consequent upon population growth and in-migration, while—at least for the latter part of the period—the declining employment prospects from the 1790s in the large copper mine at Ecton owned by the Duke of Devonshire may have discouraged marriage. As the rise is part of a national trend, however, it is accepted that there may well have been other non-local factors at work, and the only constant the author is able to identify is population growth.

A number of families in these parishes, as Laslett found in his wider study, produced illegitimate children across several generations. Some of the cases of bastardy may have been the result of customary unions, although the evidence for this is not incontrovertible. Similarly difficult to ascertain are attitudes towards illegitimacy: although the few pieces of correspondence that survive do seem to suggest a high degree of tolerance, in some families at least. It is unclear, however, whether this represents a tolerance within local society based upon shared cultural mores, or whether it was simply a recognition and acceptance of fact.


Vaccination against smallpox was made compulsory during the second half of the nineteenth century, the enforcement being heralded by the Vaccination Act of 1871. However, there was widespread opposition, on the basis that vaccination involved the introduction of animal disease into healthy human systems, and because it violated the liberty of the individual. A second Vaccination Act of 1898 allowed for ‘conscientious objection’: exemption certificates were granted to persons who could satisfy magistrates that they had sincere and well-founded reasons for opposing vaccination.

The first of these two papers deals with opposition to vaccination in Weston-super-Mare. In the Banwell district, which incorporated Weston, only 8 of 230 infants went unvaccinated in the first six months of 1882, but by the equivalent period in 1892 the number had risen to 124 out of 224. Attempts by the local authorities to distrain goods in lieu of fines imposed sparked a mass demonstration of 2,000–3,000 people. The Vaccination Act of 1898 led to the issuing by the local bench issued of well over 1,000 certificates to conscientious objectors in Weston and its surrounding parishes by the end of the year. At the end of the century, therefore, substantial numbers remained unvaccinated in the area. Weston escaped any outbreak of the disease, unlike Leicester, where
resistance to vaccination had gone hand in hand with continuing smallpox epidemics in the later nineteenth century, which had become increasingly rare elsewhere by this time. Readers interested in this paper might also like to consult the paper by Baxby reviewed in LPS 65 (2000), 65.

The second paper examines the issue of ‘conscientious objection’ in more detail. Durbach shows how the 1898 Act led to innumerable difficulties as some magistrates refused to be satisfied on any grounds, and others adopted the positivist position that, since a person’s conscience was unobservable and unmeasureable, the very idea of ‘satisfaction’ was untenable. In 1907, therefore, the law was changed to allow a ‘parent’ to make a statutory declaration, thus removing the need to ‘satisfy’ the magistrate. This led to a new debate about whether ‘parent’ included ‘mother’. It was argued that, since fathers alone were the legal guardians of their children, surely only they could make such a declaration? The argument was eventually resolved by local courts making their own decisions, which led to great geographical variations in vaccination rates (Keighley in the West Riding of Yorkshire had very high rates of exemption and vaccination rates as low as 2 per cent of births). The inconsistent interpretation of the 1907 act reduced national vaccination rates, such that during the first four years of its implementation, only 56 per cent of children born were vaccinated.


Combining census data with oral history evidence, this paper is a study of the experiences of the small Polish community in Leicester since their arrival during and after the Second World War. Burrell shows how shared memories of their wartime experiences helped the community retain a strong national identity reinforced by Roman Catholicism and the establishment of Polish institutions. Eventually, in the last decades of the twentieth century, these institutions declined as the community became more integrated with the native inhabitants of the city. The article is an excellent example of the use of oral history evidence in a local demographic study.


In this paper Burt uses hitherto unexploited archives to look at the social and occupational composition of the membership of four Cornish Masonic lodges during the second half of the nineteenth century. The lodges concerned were all in mining areas near Camborne. His results reveal that members of these lodges were drawn from all sections of society except the very well-off, and that skilled and semi-skilled manual workers could and did rise to high office within them. There is intriguing evidence that membership of a lodge was sought by miners and others intending to emigrate to the United States and Mexico, as being a Freemason aided integration into destination communities. These substantive results are interesting, but this paper may ultimately prove most useful to local historians through its introduction to the ‘archives of the
This fascinating article, continuing a debate that by now has a considerable pedigree, offers two main arguments. The first, dealt with at greater length and clearly the most crucial of the two, is that the Black Death of the fourteenth and fifteenth centuries was not the same disease as the rat-based bubonic plague that appeared in Hong Kong in 1894 (the ‘third pandemic’) whose agent was *yersinia pestis*. The two diseases, Cohn argues, were ‘radically different in their signs, symptoms, and epidemiologies’ (p. 703). The Black Death spread too fast to be consistent with the rat-flea-human vector found in modern plague, and must have been an airborne disease, with a more effective transmission than can be produced even by pneumonic plague. Nor is there any evidence of widespread rat deaths, while the physical signs of the disease as described by contemporaries are less consistent with modern plague and more varied than is often appreciated. Furthermore, the clear peaks of the disease in European cities (the evidence is mainly Italian) occurred in June and July (two of the driest months in Mediterranean climates) in poor conditions for flea survival and propagation. Nor did the Black Death commonly strike in successive years as does modern plague, while its trajectory and age-specificity over the medium term (higher proportions of children being affected over time) also differed, suggesting (again unlike modern plague) that it was possible to acquire a degree of immunity.

Very rarely, Cohn argues, is the issue of what exactly the Black Death was (given that it is most unlikely to have been modern plague) considered by historians or epidemiologists, and nor is it pursued at any length here. Among the rare alternative suggestions, however, is Wu Lien Teh’s speculation that it may have been influenza, and the only other alternative suggestions to be noted are those offered by G. Twigg, *The Black Death: a biological reappraisal* (London, 1984) (see also his paper in this issue of *LPS*), and S. Scott and C. J. Duncan, *Biology of plagues: evidence from historical populations* (Cambridge, 2001) (see the review of Scott and Duncan’s book by C. Dyer in *LPS* 68 (2002), 95–6).

The second argument, subordinate for the demographer though not perhaps for the social and cultural historian, is that the Black Death was not as psychologically devastating as some authorities (perhaps epitomised by J. Huizinga’s characterisation of *The waning of the Middle Ages* (London, 1976)) have claimed. After the initial outbreak, subsequent eruptions of the disease failed to set off the wild and unsanctioned displays of emotion we associate with the flagellants. Early supernatural explanations soon gave way to concerns with political, social and hygienic conditions, and increasingly the medical profession was looked to for cures. Europeans thus adapted quickly to the new pathogen, which helps us to understand Renaissance confidence amidst mass mortality.

In 1914 Chester possessed a Royal Infirmary (founded 1759), a Workhouse Infirmary and an Isolation Hospital. Both the Royal Infirmary and the Isolation Hospital offered beds to the War Office, while the Workhouse Infirmary was taken over completely to become Chester War Hospital. In addition voluntary hospitals were established in many large private houses: by 1918 nine in Chester and its immediate area, and 85 across the county of Cheshire as a whole contained 4,533 beds. By 1919, 74,412 patients had been treated in them, many of whom had arrived in one of the 160 ambulance trains that pulled into Chester during the war years. This enormous voluntary effort reflects the courage and care of the women who staffed them, the varied experiences of a sample of whom are described here.


Documentary and topographical evidence used in conjunction reveal that villages were formed in parts of the Cotswolds between the tenth and twelfth centuries, before which time people lived in small settlements (‘non-villages’), while in other parts of the region these small settlements persisted, particularly in the western woodlands. Many features encouraged the persistence of ‘non-villages’, including assarts, mill houses, farmsteads and establishments from which pasture farming was managed. Furthermore, when arable farming became less profitable after c.1320, some villages shrank or became redundant, The formation of villages and hamlets was organised by manorial lords but participated in by peasants, and in the later Middle Ages it was largely through the initiative of migrants that villages lost populations and new scattered settlements grew in the industrial valleys.


This article attempts to interpret the social place and meaning of ‘bundling’ in early modern England (the practice whereby a betrothed couple would, with guardians’ approval, spend a night together, usually clothed but possibly engaging in non-penetrative sex) by focusing upon the biblical story of Ruth and Boaz, notably their encounter on the threshing-room floor, an event that appears to possess all of the features of bundling as an element of ritual courtship. The use made of this story in the sermons of Edward Topsell of East Hoathly, Sussex, in the 1590s, and Richard Bernard of Batcombe, Somersetshire, in the later 1620s, is examined and analysed. Both appear to give tacit support to bundling as represented by this story as long as it remained innocent and controlled, taking place between betrothed couples, but both also reveal concern with the sinful behaviour of unpromised couples, revealing the tension that surrounded marriage promises and contracts.
The two preachers differ slightly in their interpretation and use of the story. Topsell appears to be less concerned with the shaping of a specific code of behaviour than Bernard, which may be explained by the fact that his audience was generally of a lower social class, as well as by the fact that he was active approximately three decades earlier, and in a harsher economic climate. But in Bernard’s treatment of the scene, it is suggested, he was ‘in the process of defining for himself and his audiences/readers a godly sexual code’ (p. 695), and hence the notion of a perfect godly match could co-exist peacefully alongside harsh Puritan ethics.

A. Fletcher, ‘“englandpast.net”: a framework for the social history of England’, Historical Research, 75, 296–315.

Andrew Fletcher recently retired as director and general editor of the Victoria County History. In this paper, he reviews research and writing on the social history of England since the time of Eileen Power, L.F. Salzman and G.M. Trevelyan. The review is wide-ranging and includes a discussion of the work of several historians who are well known to readers of LPS, including Joan Thirsk, Keith Wrightson and Margaret Spufford. The last part of the paper sets out an agenda for the future of English social history as part of the Victoria County History. Quite what the relevance of the pseudo-url in the title is, this reviewer (AH) could not work out.


Anthropometric indicators, such as height, weight and body-mass are now recognised as important evidence of the social and economic conditions in which people live. This paper summarises the changes in geographical and social variations in height and weight in Britain over the last three centuries. Floud shows that, whereas in the early nineteenth century Scottish and Irish men were taller than those from urban areas in England, by 1980 Scottish and Welsh men were the shortest of any Britons, and those from rural southern England the tallest. He relates these changes to nineteenth-century urbanisation and industrialisation and twentieth-century de-industrialisation, which transformed the economic geography of the country.


This short piece provides a brief summary of a pilot evaluation of the 1881 census transcription conducted by family history societies and organised by the Church of Jesus Christ of the Latter-Day Saints. Anecdotal evidence in the genealogical press has suggested numerous errors of transcription or data input, but their extent has not before been evaluated. Taking a carefully selected sample of 26 enumeration districts for Hertfordshire, the quality of the transcription for the county is tested. In general it comes out very well indeed, with serious errors affecting a mere 244 out of 15,654 records (1.6 per cent), but with considerable variation between parishes. Information on age
and occupation was most seriously flawed, apart from that on disability, which was found to be completely unreliable. For the local historian, assuming these results can be extrapolated to other counties, this is good news, for even at its worst the level of error is unlikely seriously to jeopardise analysis at the parish level. For the genealogist, dependent on accurate nominal information for specified individuals, the variability of the standard of transcription (and particularly of ages) is more worrying. A full report on this evaluation will be appearing in History and Computing.


This paper challenges the notion that the Victorian period marked the apogee of the patriarchal family headed by a married man. Using census enumerators’ book data from a middle-class Glasgow suburb for the censuses from 1851–1891, Gordon and Nair show that the proportion of households headed by females rose from 23 per cent in 1851 to 40 per cent in 1891. In the earlier part of the period most of these female heads were widows, whereas by the 1880s unmarried female heads were more common. Moreover, many of these female-headed households contained other females who were clearly not dependent on male relatives.


Since the publication of Ann Kussmaul’s Servants in husbandry in early modern England (Cambridge, 1981) the high level of farm service in the north and west of England in the mid-nineteenth century has been viewed as a manifestation of a relict social structure. Once, farm servants were numerous throughout England and Wales but by 1851 they had largely disappeared from the south and east, forced into day labour by the capitalisation of agriculture and the increasing social distance between farmers and their employees. Only in the pastoral districts of the west and (especially) the north of England did the institution of living-in service survive, kept alive by farmers’ need for a reliable year-round supply of labour in the face of competition from manufacturing industry. In this paper, Gritt dismantles most (though not all) of this argument. In Lancashire, farm servants were rare in the seventeenth and early-eighteenth centuries. They only became more common in the late-eighteenth century as agriculture developed. Indeed, it was ‘at the precise moment that agriculture was becoming increasingly capitalist, commercial and market-oriented’ (p. 50) that farm service was introduced on a wide scale. Farm service was not a ‘survival’ from an earlier era, but was introduced because commercial farmers in the north had such difficulty in maintaining a regular supply of labour as the pull of the towns became stronger. Thus in Lancashire, the consequence of the intensification of agriculture was a growth in the institution of farm service, in complete contrast to the situation in southern and eastern England, where labour was relatively abundant.

This article reports a statistical analysis of mortality in the North Dublin Union workhouse between 1844 and 1851. The main aim of the study is to assess how well the workhouse management coped with the shock of the Great Famine. The authors carry out a careful ‘event history’ or ‘survival’ analysis and conclude that, overall, the ‘Poor Law Union and its employees performed creditably in these most trying circumstances’ (p. 505). The strongest evidence supporting this conclusion comes from the finding that overall mortality levels in Dublin city, and the condition of the inmates on arrival, were two of the strongest predictors of mortality in the workhouse. Neither of these factors were under the control of the workhouse management.


Hart notes that historians have largely neglected the presence of black people in Scotland and Ireland, and this paper offers a corrective to the latter. Unfortunately there are no official figures available, but casual references in newspapers allow an estimate of a little over 1,000 for Ireland as a whole, a number that is deemed ‘significant’ (p. 20), and one that compares with the number to be found in the much larger population in France. They were spread across the whole of Ireland, but with a particular concentration in Dublin. The great majority were domestic servants, and a ‘significant number’ were slaves. Attitudes towards sexual relationships between blacks and whites were quite relaxed: a few white men had black wives, and a larger number of black men had white wives. Racialism appears to have been rare, at least from the evidence of newspapers, which only very rarely provide evidence of overt racial prejudice. On the contrary, newspaper reports reveal that an active interest was shown in Africans who displayed outstanding abilities, hence disproving the racial stereotyping canvassed by the West Indies’ lobby.


This essay is the product of extensive examination of the surviving surgeons’ journals for Gloucester gaol (1808–19), and Northleach and Littledean houses of correction (1801–41 and 1806–49 respectively) – a total of nearly 10,000 entries. Higgins describes the prisoners and their various ailments in fascinating detail, finding that gastro-intestinal problems made up the largest single group of complaints. Most conditions were, however, relatively minor ones, and at times of infectious disease gaol could be the safest place to be, as when typhus hit Gloucestershire in 1815 but missed the prison. Both contemporary statisticians and historians have concluded that prison may have slightly increased the chances of early death, but only for certain groups, while mortality rates in some areas outside (such as parts of industrial Lancashire) could be considerably higher.
It is also argued that it is unrealistic to apply a picture of a harsh ‘Foucaultian’
control system to these institutions. The attention given to ailing prisoners,
while not always perfect, was ‘of a caring and compassionate nature’ (p. 225),
and the methods used to control unruly prisoners simply reflected
contemporary standards. In general, the quality of medical care was at least as
good, and in some instances probably better, than the majority of inmates
could have hoped for outside.

P. Hillis, ‘Church and society in Aberdeen and Glasgow, c.1800–c.2000’, Journal

Hillis charts the decline in church membership and attendance in the cities of
Aberdeen and Glasgow since the beginning of the nineteenth century. He
shows that for most of the period before the 1960s, absolute numbers of church
members were actually increasing, though as a percentage of the populations
of the two cities, adherence to a church was falling. Therefore it does not seem
that industrialisation was associated with secularisation. The latter was more a
feature of the last four decades of the twentieth century. Another historical
generalisation that Hillis is able to challenge is that the membership of
churches was more ‘middle class’ than the general population. This does not
seem to have been true, certainly in the nineteenth century, when the
occupational structure of church members reflected that of the cities as a
whole. The fact that most working people did not go to church is entirely
consistent with the fact that most churchgoers were working class.

D. Hitch, ‘Cambridgeshire emigrants to Australia, 1842–74: a family and

The Cambridgeshire village of Fowlmere, between Cambridge and Royston,
provided almost 150 emigrants to Australia between 1842 and 1874. In this
paper, Hitch argues that the emigrants were impelled to move by a
combination of low wages, the harshness of the application of the New Poor
Law and the restriction of common rights following enclosure. However, these
‘push’ factors tell only part of the story, for the attractions of Australia as
relayed by letters from previous emigrants led to traditions of emigration
Growing up in certain families and a kind of ‘snowball’ effect which
augmented the number of emigrants from the locality. The study of
emigration, Hitch concludes, needs to ‘take seriously the family and
community dimensions of the process’ (p. 96). Readers interested in this paper
might also like to look at the study of emigration from the nearby village of
Melbourn by P. Hudson and D. Mills reviewed in LPS 65 (2000), 70.

D.G. Jackson, ‘Kent workhouse populations in 1881: a study based on the

Following two recent articles on workhouse populations in Hampshire (LPS 61
(1998), 38–53) and Hertfordshire (LPS 62 (1999), 52–69), this paper uses the
census enumerators’ books for eight workhouses in Kent in 1881 to provide a
comparison with these earlier studies. Jackson discovers striking similarities,
in that the Kent workhouse populations were composed mainly of the young
and old, and the sex ratio was skewed towards men. In some workhouses, variations in the population reflected seasonal fluctuations in the availability of work. Migration patterns show the now familiar longer-distance movement of the poor, either alone or with their families.


In the Westcountry Studies Library in Exeter there is a broadsheet from the 1860s detailing the ‘Execution of Mrs Winsor at Exeter, for the barbarous murder of Mary Jane Harris’s child’, and Jackson uses this as a springboard for consideration of the sources which survive, in both local and national records, for a social history of infanticide. It is argued that the Winsor broadsheet is by no means unusual in its form or content, and particularly in its moralising tone, which was increasingly typical of an affordable, popular style of reporting by the mid-nineteenth century which catered for growing public fascination with women as the perpetrators rather than the victims of crime. Such sources have both weaknesses and strengths. Among the former, they are prone to factual error, and hence need to be checked against other sources (a well-known feature of all newspaper reports, which can often differ from one newspaper to another). But the various fictional qualities of these accounts, it is argued, convey information too, giving insight into the anxieties and aspirations of a society trying to define the roles and responsibilities of mothers, to determine the legitimate boundaries of state intervention in people’s private lives, to reassess the value of a child’s life and to clarify those standards of behaviour acceptable to a modern civilised society.


Focusing upon Europe 1200–1750, the authors propose a model to describe European population change, based upon existing estimates of population size (no reference given later than 1981) and assuming that the whole period, ‘in keeping with the current consensus’, was essentially Malthusian, and thus populations could not grow beyond an upper bound imposed by resource, technology and capital constraints. The second assumption is that the current state of technology is proportional to the number of people who ever lived, the third that in a larger population technological advance will be quicker, as there will be ‘more people lucky or smart enough to come up with new ideas’. Finally, when times are bad people eat less, and if they are very bad they die as inventories are exhausted, and population is constrained or falls. All of this is expressed in four algebraic formulae. A simulation is conducted based upon a number of chosen constants and initial conditions, and it produces estimates reasonably close to those of McEvedy and Jones, Atlas of world population history (Harmondsworth, 1978). It is found that there is no need to build in the exogenous shock of the Black Death and hence, it is argued, this gives renewed weight to the notion that European population had reached a Malthusian ceiling by 1300. It occurred to this reviewer (NG) that there was a certain circularity of argument here, while some of the assumptions built into
the equations are also rather questionable, and the result is highly dependent upon the chosen initial conditions and contraints.


This paper traces the process by which incest ceased to be regarded purely as a matter for the Church and became a crime. Prior to 1907, the legal definition of the term ‘incest’ extended to cover sexual relations not only between a brother and a sister, or a father and a daughter, but also between a man and his dead wife’s sister (on the grounds that the man and his deceased wife were ‘one flesh’ and therefore his wife’s sister was his sister also). The fact that a man was not allowed to marry the sister of his dead wife was widely resented, not least by widowers left with young children to bring up, for whom a marriage with the dead woman’s sister might be very convenient. In 1907, however the Deceased Wife’s Sister Act removed this prohibition, and in 1908 incest (which was now redefined more narrowly) was made a crime. The paper also considers the debate about cousin marriage, much of which centred on the likelihood of genetic disorders being inherited by the offspring of such marriages.


The ‘flu’ epidemic of 1918–19—the ‘Spanish influenza’—was both deadly and world wide and, Sharp suggests in her paper, too infrequently acknowledged. These two papers are, therefore, especially welcome.

Langford’s contribution is an important paper which tries to explain the differential impact of the 1918–19 influenza pandemic by age. Using vital registration data, he shows that the epidemic increased mortality more among young adults than among other age groups. Among females, the greatest excess mortality in relative terms was at ages 20–34 years, though there were also a large number of excess deaths among young children. There is less direct information about males, but evidence from elsewhere in the world (for example the United States) suggests that the age pattern is similar. Langford concludes that ‘young adults seemed to suffer much worse mortality than older adults and, most surprising of all … considerably worse mortality than the elderly’ (pp. 16–17). He explains this by suggesting that the elderly might have residual immunity arising from their having survived the pandemic of 1847–1848.

Sharp’s paper uses Medical Officer of Health (MOH) reports and contemporary newspapers to chart its progress, and the responses it evoked, in the town of Colchester in Essex. It started in July 1918 and continued into April of the next year, but its severity was not really publicly acknowledged in
the town until March of 1919 (when influenza was made a notifiable disease),
by when it was estimated that 4,000 had died across Essex as a whole.
Unfortunately, no death toll is provided for Colchester itself, for Sharp finds
that the MOHs in town and county give figures markedly at variance with
each other, but the Colchester MOH reported 14 deaths in July 1918, 41 in
October and as many as 154 in November when the outbreak was at its peak.

B.R. Lee, ‘A company of women and men: men’s recollections of childbirth in

Our knowledge of the process of childbirth in medieval England is hampered
by the fact that only women were normally allowed into birthing chambers,
whereas written records tend to reflect the lives and opinions only of men.
However, as Lee shows in this paper, there is a class of written records that
can be used to shed light on the subject. These are the proof-of-age inquests,
which were ‘legal proceedings conducted to ascertain if a feudal heir … was of
age and could therefore take control of his or her estate’ (p. 93). In order to
‘prove’ the age of a child, quite detailed records of the circumstances of the
child’s birth would be furnished. Lee uses these to show that, although men
could not enter the birthing chamber (except in cases of dire emergency), they
were involved in births, sometimes waiting nervously with friends and family
in adjoining rooms for news, and often running errands and organising care
(for example wet nursing) for the new born child.

to 1516*, *Local Historian*, 32, 250–6.

This is a report on a project based at the Centre for Metropolitan History in the
Institute of Historical Research, University of London. The aim was to provide
a catalogue of markets and fairs in medieval England and Wales and to give
systematic information about them, including the date of their establishment
and for how long they operated. The *Gazetteer* is arranged by county, and
alphabetically by place within counties. Each entry includes standard
information: place-name, Ordnance Survey grid reference, borough status,
possession of a mint, and value in the 1334 subsidy, supplemented in some
cases by a brief description of the place’s commercial, administrative or
ecclesiastical significance. Following the standard information is evidence for
the existence of a market and/or fair before 1516, including as much evidence
as possible concerning their establishment and operation. The *Gazetteer*, is now
available on-line at [http://www.history.ac.uk/cmh/gaz/gazweb2.html](http://www.history.ac.uk/cmh/gaz/gazweb2.html),
where full details of the sources and methodology can be found, and will also
be published in book form. Although it is a pity the study could not be
extended to also include taxable wealth in the 1523–1527 Exchequer Lay
Subsidies, this will prove an invaluable resource for medieval demographers
and economic historians.

In this article, Levine-Clark uses patient records for working-class women who were admitted to University College Hospital in London in the 1830s and 1840s to examine what the women in question felt was causing their ill health. Far from citing biological or physiological factors associated with reproduction, most patients ‘attributed their illnesses to social and environmental causes with which they came into contact on an everyday basis’ (p. 193). The commonly held notion that women’s health was fragile because of their reproductive function finds little support.


This article looks at the gradual replacement of quarantine at British ports by an ‘English System’ of isolating individual cases of infectious disease and monitoring the whereabouts of contacts of infected persons. The holding in quarantine of entire ships and their complements of passengers was unpopular because it confined the healthy with the sick, and (more importantly for many) interfered with free trade. The ‘English System’ was introduced in the 1870s throughout the country as an alternative, but did not displace old-fashioned quarantine immediately, because most other European countries continued to operate quarantine for plague, yellow fever and cholera, and British ports feared being labelled ‘infected’ if they did not follow suit.


This paper reports an analysis of the ‘Tables of Death’ in the 1851 Irish census to provide an overview of the causes of death which most contributed to the excess mortality of the Great Irish Famine. The authors discuss the limitations of the source material, and adopt various strategies to overcome the most serious of these and obtain a range of estimates of the impact of different causes of death. They conclude that mortality in Ireland in the late 1840s was so high for two reasons. First, Irish society was vulnerable to external shocks because of its poverty and dependence on the potato. Second, ‘the absence of a clear understanding of the nature of disease’ (p. 360) meant that all of Irish society (even the better-off part) was likely to feel the effect of such shocks through the increased incidence of infectious diseases.

The mortality advantage which females had over males was evident in England at the beginning of the Victorian period, and widened during the century. Yet a closer examination shows that sex differentials in mortality varied by age, and between urban and rural areas. In this analysis of London, Mooney argues that explanations of sex differentials in mortality should be sought in a consideration of individual causes of death. In London, for example, the female advantage ‘was largely determined by lower mortality from a range of ailments in infancy, in addition to respiratory tuberculosis and violent deaths in adulthood’ (p. 43). These more than outweighed their higher mortality than males from other infectious diseases in childhood, and, of course, maternal mortality. The paper contains a wealth of detailed analysis of mortality by age, sex and cause, and the implication that general accounts of the female mortality advantage are likely to be oversimplifications is surely sound.


Recent research on the history of infant mortality in late-Victorian Britain has suggested that, although it began to decline in the 1870s, the decline was arrested in the 1880s and (especially the 1890s) by a rise infant deaths from diarrhoeal diseases in urban areas. The causes of this rise have, however, not really been identified (although reference has been made to a succession of hot summers in the 1890s). The hot summers may have played some part, but if Morgan is right, the underlying reason was an explosion in the number of horses in urban areas occasioned by the expansion of the geographical boundaries of towns and the consequent need for transportation. Horse manure is an ideal breeding-ground for houseflies, and their proliferation led to the more rapid and effective transmission of diarrhoea-inducing bacteria. Morgan’s empirical evidence for this comes from a detailed study of Preston, a town notorious for high rates of infant mortality. Using records of building plans, he documents the rise of the town’s horse population after the 1870s. The impact of this was exacerbated in Preston by the prevailing design of housing, in which domestic middens were sited exceptionally close to the living-quarters, and by the failure of the local authority to empty the middens frequently enough. Morgan’s account of the increase in infant death rates before 1900, and his explanation of why Preston’s rates were so high, are persuasive. However, it is not clear from his research why the rising trend should have been so abruptly halted in 1900 in Preston as well as most other urban areas in Britain.


A common complaint of academic researchers is that local archives (and, indeed, some national archives) are administered in a way that seems to make it as inconvenient as possible for them to do their research, whereas the needs of family historians and certain other classes of researcher are catered for quite well. Mortimer cites the example of an historian seeking a specific piece of information in a run of minute books covering a hundred years. In many record offices, this would involve requesting each of the hundred volumes individually, often two or three at a time (because searchers are only allowed a limited number of ‘pieces’ at once). Even though the time taken to consult each volume might be just a few minutes, the process of looking through all 100 would take ‘several days, if not a week’ (p. 61). The problem, Mortimer argues, is that record offices treat all their ‘customers’ identically. A system that works for what he terms ‘recreational users’ does not work for ‘research officers’.

Readers of *LPS* might regard the way Mortimer makes this distinction as unfortunate, for it would seem to classify many of those who contribute scholarly articles to *LPS* as ‘recreational users’. Indeed this rather crude way of classifying people is challenged by Gee in her reply. The best approach, she suggests, is to be flexible to individual requests. Consider, for example, the cost of photocopying. This can be extremely high, since it is often charged on a strict ‘per sheet’ basis, which makes the copying of a large number of pages very expensive. It would seem a good idea to offer ‘bulk discounts’, but these should be offered to all users who are photocopying in ‘bulk’ not just to particular classes of user.

Despite this criticism, Mortimer’s general point—that a ‘one size fits all’ policy is inefficient—is surely valid. The issue is essentially the same as that discussed in the editorials to *LPS* 64 (2000), 5–6 and *LPS* 65 (2000), 6–7 in relation to the dissemination of the 1901 census returns. Both Mortimer’s article and Gee’s reply include a number of interesting and sensible suggestions for record offices to consider, which could improve the service they offer to academic researchers.


The institutions described in this article housed large number of paupers in London, providing ‘several thousand’ places altogether, their expansion during this period being fostered by the existence of small parishes in the capital which lacked workhouses altogether, and by the burgeoning poor relief bill in London before and after the Napoleonic Wars. They were similar in size to the large pauper madhouses, and similarly situated on the city
fringes. Like the asylums they were also private institutions, often chaotic and disreputable though of very mixed quality, and they tended to house those paupers who were incapable of work though insanity, imbecility or fecklessness, or who were simply difficult to manage in ordinary parish workhouses and were hence removed by local officials. As an important part of London’s social welfare provision, they played a crucial role in the social management of the capital’s ‘unpopular poor’ under the Old Poor Law.


According to Robinson, ‘[t]he presently-received notion that the fertility transition in Great Britain took place with no policy intervention by government appears to be wrong’ (p. 167). The direct policy interventions were the Poor Law Amendment Act of 1834, subsidised emigration and the transportation of felons to Australia. Even more important was the fostering of a changed climate of opinion among the elite in favour of reduced population growth and small families which followed the publication of T.R. Malthus’s Essay on the principle of population. Robinson claims that this new ‘ideation’ eventually trickled down the social hierarchy leading, two or three generations later, to the widespread adoption of fertility control within marriage. Even before then, it had produced an increase in abortions and infanticide. In addition to claiming that an anti-natalist policy existed, therefore, the paper seems to be arguing for a simple innovation-diffusion model of fertility transition in England. However, this reviewer (AH) found it unconvincing on both counts for several reasons. First, Robinson is only able to sustain the idea of early Victorian England having a population policy by broadening the definition of the word ‘policy’ to include ‘[s]ocietal guide-lines, with rewards and sanctions … which [amount] to an “implicit policy”’ (p. 154). Of course, if the definition of ‘policy’ is widened enough, eventually every population will be found to have one. Second, he ignores recent empirical research on the decline of fertility in England that rejects such a model (for example E. Garrett, A. Reid, K. Schürer and S. Szreter, Changing family size in England and Wales: place, class and demography, 1891–1911 (Cambridge, 2001) reviewed in LPS 68, 83–5). Third, he interprets the New Poor Law as being brought in mainly to discourage the poor from breeding: ‘the previous pro-natalist policy was abandoned and the social safety-net of the Poor Laws dismantled’ (p. 160). Quite apart from the fact that the New Poor Law did not ‘dismantle’ the social safety net even in theory (and certainly not in practice), this interpretation of its genesis requires more justification than Robinson is able to provide.


This is a highly readable portrait of the experiences of ten women who emigrated from Ireland to Britain during the 1930s, as recorded in interviews. The women interpreted their migration as ‘a journey of improvement’, and
also stressed the tension between their desire for autonomy and their traditional familial bonds.


In this important paper, Snell provides convincing evidence that during the eighteenth and early nineteenth centuries the proportion of English rural marriages which was endogamous (that is, in which both partners resided in the parish where they were married) rose from under 60 per cent to over 70 per cent. Snell’s evidence comes from a sample of 69 parishes in eight counties (Derbyshire, Dorset, Lancashire, Leicestershire, Norfolk, Northumberland, Oxfordshire and Sussex). The rise in endogamy was accompanied by a precipitous fall in the proportion of ‘foreign’ marriages (that is, where both partners came from outside the parish) following Hardwicke’s Marriage Act of 1753. The obvious explanation for the rise in marital endogamy is that parishes were getting larger as the population grew, but Snell shows that this can account only for a small part of the observed trend. He suggests that the main reason was rising rural poverty (which itself was a consequence of population growth). In his words, ‘rural endogamy peaked in the most adverse period of rural living standards: from about 1770–1840. This occurred in all regions, but it was most extreme in the rural south. In all likelihood, those threatening living conditions intensified parochial resistance against outsiders among single labouring men seeking brides’ (p. 288). In an Appendix, the paper draws out some implications of the rise in marital endogamy for the measurement of trends in demographic variables, notably the age at marriage (the fall in the mean age at marriage in eighteenth and early nineteenth-century England may actually have been even greater than that suggested in family reconstitution studies).


This paper shows that open and close parishes differed in the way they operated the poor laws and the laws of settlement. Using a variety of published sources of data (including the *Rural Queries* of 1832 and well-known 1847 and 1850 Parliamentary Reports on settlement and the removal of the poor), Song classifies the parishes of Oxfordshire according to whether they were open or close. He then shows that ‘open parishes shouldered a substantially higher burden of poor relief in terms of money rates and spend’ (pp. 223–4). Close parishes, however, had more generous relief policies. Subsidiary issues tackled relate to possible bias in the *Rural Queries* (it turns out that open parishes are indeed over-represented and close parishes under-represented) and in the Parliamentary Returns of 1847 and 1850 (which, contrary to the views of some historians, were probably not ‘biased by the political discourse of the time’ (p. 224)).

Those who have tried to analyse late-nineteenth century parish registers for parts of England and Wales where nonconformity was common will be well aware of the fact that in such areas the burial registers are much more complete as records of deaths than are the baptism registers as records of births. Anglican parish churchyards belonged to all those living in a parish, and formed frequently the only burial ground available. Yet the Anglican Church refused to allow anyone to be buried in churchyards unless the service followed the Anglican order. This article traces the history of nonconformist resistance to Anglican obstinacy on this issue in Wales from the 1860s to the 1890s. It looks at the events leading up to Osborne Morgan’s Burial Act of 1880 which ‘secured the right of burial in the parish churchyard without the service of the Anglican Church’ (p. 345). It also examines the ways in which individual Anglican priests, especially those sympathetic to the Tractarian movement, tried to circumvent the Act in order to retain control over burial services.


During the nineteenth century, the Wyndhams, earls of Egremont, ran the town of Petworth in Sussex and its surrounding villages as a ‘little kingdom’, in which they built up a ‘tradition of munificence to society’ (p. 114). This article describes how this tradition led them to resist the imposition of the New Poor Law in 1834, and to promote emigration to Canada and Australia. It is an excellent example of just how important local conditions and local individuals could be in mediating the impact of poverty on ordinary people.


In this short paper Thornton notes that techniques used by demographers of the modern period, notably family reconstitution and nominal record linkage, are rarely employed by their medieval counterparts. Here he considers the possibility of applying nominal record linkage to early medieval Ireland (c. 500–1100) when it comprised a series of independent ‘overkingdoms’. The key extant primary sources are annals and genealogies, supplemented by inscriptions, sagas and tales. Qualitative assessment to determine the validity of the information they contain, we are told, must precede quantitative assessment of the categories of information they supply upon which attempted linkages and reconstitutions might be based. These categories essentially comprise anthroponymic, chronological and locative information, the first category being more problematic than for modern historians as the Irish did not use surnames until the eleventh century. A points-scoring system is advocated for each of four categories—forename, patronymic, date and kingdom—two for a definite hit, nought for a miss, and one for a ‘maybe’. A total of four or less disallows a match, five or six indicates a possible match, seven constitutes a ‘preferable’ (explained as ‘preferable to five or six’), and
eight a probable. While this is an interesting discussion of the nature of the early Irish sources, there does not appear to be any significant methodological insight here.


The existence of the 1881 census enumerators’ books (CEBs) of England and Wales in machine-readable form has enhanced the opportunity for comparative analysis, and for the analysis of migration in particular. These two papers are good examples of what can now be achieved without prodigious effort at the local level using the 1881 census data.

In his paper Thorpe compares the demographic, social and occupational structure of the Buckinghamshire towns of Aylesbury and High Wycombe. The most interesting results relate to migration. High Wycombe recruited local people to its furniture industry employing local managers and workers, but Aylesbury drew migrants from much farther afield.

One particular type of analysis which is rendered possible by the new electronic version of the 1881 CEBs is the examination of the residential characteristics in 1881 of all persons born in a particular locality. Williams’s paper describes a small study of a sample of persons born in the Wiltshire town of Marlborough, and compares those who were still living in the town in 1881 with those who had moved away. About a quarter of the ‘movers’ had not left the county of Wiltshire. Of those who had, the largest group had gone to London, but another significant group was living in Berkshire. Generally, those who had remained in Wiltshire had occupational and other characteristics more like those of the ‘stayers’ than those who had gone further afield.


For a number of years now, Tilley and his colleagues have been working on the Kingston Local History Project, based at the Centre for Local History Studies at Kingston University. Their initial aim has been to build a computer database of the population of Victorian Kingston-on-Thames using a variety of written and pictorial resources. The census enumerators’ books, parish registers, cemetery records and trade directories have so far been added to the database with the promise of more sources to follow. This paper describes the database and illustrates some of its potential uses. Noteworthy features of the project include the active collaboration of local amateur historians, and the desire to make the database accessible to and usable by those with standard domestic computing hardware and software.

This paper examines the geography of women’s and children’s employment in rural England using the returns from a questionnaire sent out to rural parishes in 1832, which were published in the 1834 Poor Law Report. The paper discusses the strengths and weaknesses of the source material. Verdon then uses it to examine the extent to which women and children were employed in various agricultural tasks (such as haymaking, weeding and harvest), and the contribution made by women’s and children’s earnings to the overall income of rural working families. The results tend not to support any of the conventional generalisations (for example that women and children provided a larger proportion of household income in ‘low wage’ southern counties than they did in the ‘high wage’ northern counties). Instead a complex geography is described, in which the employment of women and children tended to depend upon local factors, such as the availability of by-employments like gloving in Somerset and Dorset, and straw hat making in Bedfordshire.


This article looks at the residential patterns of widows and widowers in England between 1891 and 1921, using cross-sectional data from the census enumerators’ books (CEBs) (the Cambridge Group were, exceptionally, allowed access to ‘anonymised’ CEBs from the 1911 and 1921 censuses for several clusters of enumeration districts). The residential patterns of widows and widowers were rather similar. More than half were living with one of their children, and only 12 per cent of widowers and 15 per cent of widows lived alone. Residential patterns changed only slowly over the 30 years between 1891 and 1921, and varied little with the social and economic environment.


Watt uses ships’ logs, surgeons’ journals, government reports and the annual *Statistical Reports on the Health of the Navy* to assess morbidity and mortality among those seamen whose job it was to seek out illegal slave ships following abolition in 1833. He finds consistently high sickness rates in all theatres of action, though much more variable mortality of between 19 and 70 per 1,000. It was West Africa that exhibited the highest mortality levels, largely caused by various forms of tropical fever (intermittent, remittent and yellow fever), supplemented by diarrhoea and dysentery, sepsis, injuries and ulcers. He argues that naval surgeons played a significant role in elucidating the aetiology and epidemiology of tropical diseases, and in developing treatments, often anticipating later discoveries and providing medical care far in advance of their civilian contemporaries—but they paid a heavy price in
terms of their own very high mortality rates. The paper also includes a discussion of the use of quinine to treat, and eventually to prevent, malaria.


This study uses the census enumerators’ books and other sources (for example personal papers) to examine the development of Roundhay from a rural village to a middle-class suburb. The initial expansion of the village comprised middle-class families employing servants, many of whom lived out. Later, when transport links to the city of Leeds were improved and rendered suitable for commuting, people lower down the social scale moved in. Nevertheless, despite the question mark in the title of the paper, between 1851 and 1891 Roundhay remained a community of middle-class families. For just as not every resident of an ‘agricultural community’ actually tilled the soil, not every dweller in a place needed to live a middle-class lifestyle for the place to be described as a ‘middle-class community’.


This piece exploits the on-line Earls Colne archive, which includes thousands of transcribed or translated documents, is equipped with a search engine, and for which the tedious task of nominal linkage has already been done—and done very well in Williams’ opinion (http://www-earlscolne.socanth.cam.ac.uk). This is used to construct ‘pauper biographies’. Despite the fact that poor relief accounts for the parish do not survive, the combined use of probate, court, parish, estate and private records—it is claimed—enable the ‘alarming increase’ in poverty (particularly after 1590) to be identified, as well as the extensive experience of acute poverty in the community, which was not confined to the elderly or impotent, but widespread among residents of long standing.

The key database employed is a compilation of 92 individuals described in the records as poor or impoverished at some point between 1560 and 1640. Williams suggests these would represent perhaps 400 people if their families are taken into account, but given that 41 of them were either aged or widows, and only 14 clearly had dependants, this would appear to be far too high a figure. Furthermore, as fully 64 of these cases relate to the 1620s and 1630s, it is rather difficult to determine how the ‘rising tide’ of poverty has been established. With just seven instances from the 1590s, the identification of this date as the start of the alarming increase is puzzling. The fact that charitable bequests in wills increase in the 1570s and 1580s, only to decline in the 1590s before picking up again in the 1610s (not, as claimed, after 1600) hardly provides clear evidence either, particularly as the number of wills giving bequests to the poor averaged just three per decade. Not only is the number too small to establish clear trends, but other factors besides simple acknowledgement of poverty (Puritanism, perhaps?) need to be considered.
This article demonstrates both the possibilities and the limitations of attempts to employ nominal linkage in studies of pre-industrial communities in general, and of the poor in those communities in particular. It is interesting, however, to discover support for the view that leniency and negotiation characterised the treatment of transgressors in the numerous cases of the 1620s and 1630s, a recognition of the hard times that depression in the cloth trade was causing, as well as an attempt to contain a potentially disorderly body of poor inhabitants.


In this paper, Winter explores the notion that ‘demography created the British Empire, and … demography … laid it to rest’ (p. 143). His principal claim is that the British Empire was created by emigration from Britain to places outside Europe. This migration led to the emergence of ‘distinctive cultural forms’ which ‘braided the empire together’ (p. 144). After World War Two, however, the net emigration of Britons was replaced by a net immigration from (especially) the West Indies and the Indian sub-continent, which effectively brought the period of empire to an end. Some of the ‘cultural forms’, however, persist, most notably those which relate to the shared experiences of the countries of the empire in the two World Wars.


In this paper Woollard uses an enhanced version of Michael Anderson’s 2 per cent sample of the census enumerators’ books (CEBs) for the 1851 census and a 5 per cent sample of the 1881 CEBs to compare employment patterns among older men. He finds that participation rates rose slightly over the intervening period, but that there were variations between different occupations (for example declining craft industries exhibited an ageing workforce). As he puts it: ‘increased specialization within the workforce and technological change … marginalized older workers’ (p. 461). Despite this, however, the overall fall in the participation rate among older men was a twentieth-century, not a nineteenth-century, phenomenon.