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Editors' note: Recent Publications and Local Research in Progress have been omitted in favour of an enlarged Notes and Queries section. Both will appear as usual in LPS 22.
EDITORIAL

Colin Barham

Eleven years ago Colin Barham, Christopher Charlton, Roger Schofield and David Avery met in Cambridge and decided to establish this magazine. It was seen as an essential aid to those local historians who were becoming more and more involved in population research as part of their studies into the history of their own areas. In so far as the editorial board (which these four constituted) was seen as embracing a variety of interests and expertise, Colin Barham was thought of as representing enlightened amateur historians, and more especially those working in the educational field. With a wide experience of teaching, colleges of education and librarianship, he was to make an important and on-going contribution to the magazine.

He found many contributors of articles, reviewed books (until the flood of demographic material made this too great a burden) and above all tried to reduce some of the more technically written items to a form of English which was clear and understandable. There have been many occasions at meetings of the editorial board when articles were under consideration and Colin made a humorous comment which summarised incisively the problems which the article presented (e.g. "You can tell this man is a professor — he has taken thirty-six pages to demonstrate what he said he could not prove in his opening paragraph". Whereupon he would construct a tactful letter to the contributor suggesting how the submitted article could be reduced to three or four interesting and readable pages.)

During the years since he helped establish this magazine he has always applied his energies unflaggingly to his work, to the task of co-editing and to meeting local historians who wanted advice on their research. He has now decided that pressure of other work forces him to retire from the editorial board. The other members of the board know what a loss this will be to the magazine and to their meetings; but we hope that our readers do not detect his absence when they come to read our pages. Certainly the editors intend to continue to apply the yardsticks of clarity, comprehensibility and usefulness on which he insisted.

Parochial Fees — the report of a Commission appointed by the General Synod

The report of the Commission appointed by the General Synod to review Parochial Fees, Parochial Fees (GS 385), long-awaited, has now been published. It considers parochial fees of all kinds, so that most of its 124 pages are devoted to subjects quite outside our area of interest and we shall restrict our comments to what it has to say about fees for access to parish registers and other records in parochial custody or in one of the non local authority diocesan record offices. Here it is a curious
mixture of sweetness and blight. First it comes close enough to presenting an argument in favour of free access to registers for it to be clear that the committee was aware of the issues involved; then, with perhaps the faintest hint of regret, proclaims the 'user must pay!'

The report recommends not only the retention of fees for searches in baptism and burial registers but the re-introduction of fees for searches in marriage registers after 1837, a right which the Church lost in 1968. In future fees would be charged on a time basis rather than on the number of years searched, with the income going to the parochial church council instead of the incumbent as at present. The only hint of a deviation of any substance from the strictly commercial line is contained in the recommendation that diocesan guidelines should be produced to advise parochial church councils 'to charge search fees at concessionary rates to bona fide students and scholars carrying out academic research for a motive other than personal monetary gain'. The report was squeezed out of its place on the agenda of the recent meeting by other glamorous and more controversial matters and will be considered by Synod in February. The risk we face immediately is that members of Synod, confronted by so large a document, may be tempted to approve the report or even begin to accept its conclusions as the basis for new legislation, without further delay. Who could blame them for not plunging into the report itself further than they need? Yet it is only from the inside that the fundamental contradictions contained in the sections dealing with parish register access become apparent. With this in mind, within days of receiving copies of the report, the Records Users Group prepared a statement which was circulated to all Synod members. This pointed out the inconsistencies and the difficulties which the report leaves unresolved and warned against reaching decisions until certain matters have been clarified.

Although the time table has changed and the report will not now be discussed until February, we hope the Records Users Group's statement will not be overlooked and will be considered by every Synod member who intends to participate in this debate.

The report appears reasonable in tone and approach and we imagine it will be presented to Synod as a model of diligent enquiry and equitable compromise. In fact it is neither. Its argument is muddled and incomplete and wherever it is closely scrutinised, crumbles away into a hotch-potch of facts and opinions, half-seen questions and half-answered problems. The authors of the report would claim to have examined and stated within its pages both the case for charging fees for access to registers and the case against. Free access is presented correctly as being in line with the traditional views of large numbers of incumbents. (An appendix to the report suggests from a small survey that in four out of five cases the whole or part of the fees due are waived at present as paragraph 92 states.) 'The Church has always shown great sympathy towards the needs of scholarship in this context and many times fees have been waived or reduced in the interests of academic research.' The authors also claim to subscribe to the principle of free access to original national records and 'feel that the Church (is) rightly under an obligation to make its quasi-national records available' but with the
qualification that this position can only be achieved when the nation can afford it and must be approached gradually step by step. In paragraph 77 the opinion is expressed that 'the existence of a modest charge tends to eliminate irresponsible, casual or wasteful use of any public service or utility'. Thus, the argument would seem to be the Church would like to maintain the present position in which access is more often than not entirely or practically without cost and eventually to reach a state in which access is completely free, but that for the moment, to deter the irresponsible user, some sort of fee must be maintained. This approach is taken a stage further in the report's conclusions that diocesan guidelines should recommend a concessionary rate for bona fide students and scholars.

But there is another thread which runs through the report. Even the most trusting reader must wonder whether a recommendation to diocesan authorities in favour of a waiver for bona fide scholars and users carries sufficient authority to secure such a concession, and if it is secured, what it is likely to be worth. The question becomes more pressing when it is realised that even the concessionary rate is to be set at a level 'to cover the cost of supervision' (paragraph 101) and that parochial church council deciding to waive fees should report 'the amount of fees waived to the Diocesan Board of Finance at the same time as they submit their annual accounts' which can, if it wishes, take account of these sums as if they were part of the gross fee income of the parish. As the Records Users Group document points out, what incumbent or parochial church council will want to waive fees in these circumstances? In any case the proposal is meaningless without some attempt at definitions. Who are the bona fide scholars or students? What is monetary gain. Is this also to be left to individual dioceses to work out? Are identity cards or passports to be issued? Will a person who has joined a local history or genealogical society (or even LPS!) be deemed to have the required status? Or will it be employees of seats of learning only. On these points the report is silent and we doubt whether its authors are clear in their own minds how this system could possibly work. We presume the report had in mind the professional genealogical enquiry agent for whom searching records may be a full-time occupation but if he is their target have they stopped to consider who pays his bills including the search fees which he must surely pass on? Generally it will be a member of the public, in many cases a person who is unable to make the journey to another part of the country to do the research himself. In such circumstances why should he be penalised? These are difficult issues and may well be insuperable, certainly they have not been tackled in this report.

The report is also uncommunicative about the level of fees to be charged, of course, it was not the commissions business to recommend a new table of fees but we had expected a clear indication of what they had in mind. As it is the reader is left to judge for himself. In paragraph 94 the Registrar General's practice of charging a fee of £8 for searches of up to six hours in the indexes maintained in the district registries is referred to with obvious approval. Paragraph 107 is even more pointed in its suggestion that the commission has in mind a level of fees which is far from trivial 'as regards search fees and certificate fees . . . it must be
borne in mind that rates have not increased since 1972 and that probably owing to the triviality of the sums now charged many of these fees are being waived . . . The commission does not consider that the overall potential income from this source would be negligible if realistic fees were charged on an hourly basis! If to these 'realistic' fees for searching baptism and burial registers are added fees on an identical scale for consulting other parish records (Paragraph 127) and marriage registers after 1837 (Paragraph 126) the picture which emerges offers users no comfort. In fact the proposed of concession to scholars, doubtless well meant but as we have indicated quite unworkable, is the only sign that the commission listened at all to those who argued for free access or for a moderate policy.

Our views on the question for fees for searching parish registers are unchanged. We believe the public should have free access to public records and with the Parochial Registers and Records Measure coming into force in January all those registers which have been deposited in local authority diocesan record offices will be freely available. Now this legislation has been secured there is no room for argument. A parish which finds the task of supervising researchers irksome and expensive can deposit its registers in the DRO and free itself of a tiresome chore. If for whatever reason it chooses to meet the conditions specified by the Measure and so is allowed to keep its registers this self indulgence should not give it the right to penalise users by charging fees. Assuming free access to registers in parochial custody the one anomaly which would remain despite the Measure is the Canterbury Cathedral Library which we understand will be the only non local authority diocesan record office which will continue to charge fees after January 1st.

This is not the only case in which the Commission seems to have misunderstood the implications of the Parochial Registers and Records Measure. When it was drafted the Measure was thought to have set parishes a considerable hurdle in the physical requirements they would be obliged to meet if they were to retain their registers and records. Now the cost of providing the necessary equipment has been worked out more carefully and it has been found that the amount is unlikely to exceed £70 (Paragraph 92). It is clear that if these are set at anything that approaches the £8 per six hours referred to above it will not take a parish which has a regular flow of visitors long to recoup its outlay and begin to make a steady income. In this situation parishes which have deposited their registers will seek to have them returned so that they too may enjoy this new source of revenue. If this practice became widespread the intentions of the Parochial Registers and Records Measure would be undermined.

We hope that a large number of Synod Members will read the report before February and remembering that any legislation formulated in Synod based on it must be acceptable to a wider public and to Parliament, will have the courage to recall the sub-committee of the Fees Commission responsible for the section of the report which considers search fees and invite them to try again!
Parish Register and Records Advisory Committees

We should like to hear from anyone who can give us information about the way in which individual dioceses are responding to the requirements of the Parochial Registers and Records Measure which comes into force on January 1st. We know that in some cases advisory committees have been established and already have begun to work out a timetable for the inspection of parish holdings of registers and records within the five years the Measure allows for this to be done. We should be particularly interested to know of any cases in which these committees include representatives of the potential users of these records such as members of local history societies, family history societies or of professional local historians.

David Avery
Christopher Charlton
Terence Gwynne
Roger Schofield
Richard Wall

November, 1978
NEWS FROM THE CAMBRIDGE GROUP FOR THE HISTORY OF
POPULATION AND SOCIAL STRUCTURE

'Backward Projection'

When local historians write to us about their researches they often end
their account with the question 'How do these results compare with the
rest of the country at this time?' Lacking national figures we usually
quote figures from the fifteen or so reconstitutions in our files, hoping
that they are representative of the 10,000 odd ancient parishes! Vast
resources would be required to cover even one percent of these parishes
by family reconstitution, so we must look to alternative methods in the
search for representative results.

Fortunately, LPS readers and other local historians have contributed
some 400 aggregative parish analyses. We have corrected the tabulations
for gaps in registration, balanced the sample of parishes to mirror the
country as a whole and estimated the number of events escaping regis-
tration to give 300 years of national births, deaths and marriages running
from 1541 up to the beginning of national vital registration in 1837. The
series constitute a rich source of information about the movements in
vital events over a very long period of time with which results from
individual parishes can be compared. But the series do not directly
reveal the age-structure and size of the population which produced them
and this limits the amount of information which they can be made to
yield.

To shed light on these hidden elements of demographic history, we have
found it valuable to reverse the logic of the standard method of popula-
tion projection by working backwards in time from a known census
population and regarding births and deaths as inputs to the population
model and estimates of population size and fertility and mortality levels
as outputs. Hence the awkward name of 'backward-projection' we have
attached to the computer model we have developed over the past two
years. Our aim has been to produce 'censuses' every five years from
1871 to 1541 (the 1871 to 1801 overlap with the census being used as a
check) so as to provide a basis for a wide range of subsidiary investiga-
tions.

The method will be published more fully elsewhere, but briefly it requires
that any five-year total of deaths is allocated across a population divided
into five-year age-groups by choosing the appropriate level of mortality
in a set of standard life-tables. For example, the 1871 census for England
records about 21.5 million people with 2.5 million aged 5 to 9 years.
Over the period 1866 to 1871 there were 2.3 million deaths and a life-
table chosen to accommodate this total indicates that 0.3 million would
die while 'moving' between age-groups 0-4 and 5-9. Adding 0.3 to 2.5
gives an estimate of those aged 0-4 in 1866, but ignores the effects of
net-migration.

Applying this procedure across all ages produces a new 'census' five
years earlier, with the youngest age-group disappearing as births. The
oldest group in 1866, aged 90-94 years, is manufactured by correcting
the total aged 90 - 94 in the 1871 census for the difference between the size of the former and latter's birth cohorts in 1772 - 6 and 1777 - 81 respectively. Similarly, allowance is made for the differences in the mortality histories of these two cohorts by 'back-projecting' current mortality for ninety years, using the deaths series as an indicator of mortality change. No allowance is made for differences in cohort migration at this stage.

We now have an age-distribution for 1866 whose total is equal to the 1871 census minus the births and plus the deaths occurring over the five-year interval. To allow for net-migration, the size of each age-group is inflated by working back to age nought using the relevant period of mortality estimates projected as described above. The difference between this total and the true birth total of the cohort is ascribed to lifetime migration and a standard age-schedule of migration is used to allocate an appropriate proportion to the current period. The cycle of adding the deaths, subtracting the births, 'back-projecting' the mortality and adding the net out-migration is repeated for each five-year period back to 1541 and results in a series of five-year 'censuses', together with estimates of mortality level and migration.

Starting the process afresh in 1871 allows the estimates of mortality and of cohort migration made during the first pass through the data to be incorporated into the calculations of the size of the 90 - 94 year-old age-group and of period migration. In this way the model 'learns' by the mistakes it made on the previous pass when, for example, it might have under-estimated the level of out-migration and so found itself forced to allocate more deaths to a cohort in order to bring it back to the right total number of births.

Testing a complex computer model is difficult, but it can be shown that it does reproduce the recorded age-distributions and past populations of Sweden, Norway and Finland (which are known independently back to the mid-eighteenth century) from data on births and deaths alone.

The 'censuses' for England between 1541 and 1871 will be published within the next two years by the Cambridge Group along with various demographic measures such as crude birth, death and marriage rates, gross and net reproduction rates and expectation of life at birth. We hope that these figures will provide a useful yardstick to which the local historian can relate the events in a particular parish. Current efforts are concerned with the exciting possibility that 'backward-projection' may also work well for small areas, perhaps even single parishes. The estimation of migration becomes critical in small systems so the model is being tested on the city of Stockholm, which has a long run of data and massive in-migration.
A LOST SEVENTEENTH CENTURY DEMOGRAPHIC CRISIS? THE EVIDENCE OF TWO COUNTIES

Derek Turner

Derek Turner has written extensively on population in the pre-industrial period. He was formerly Head of the History Department of Christ's Hospital, Horsham, Sussex.

Historical demographers are generally agreed that the population of England, after a period of growth in the Tudor era, rose comparatively slowly in the seventeenth century, from between four and four and a half millions in 1603 to five and a quarter or five and a half millions at the end of the century. Little, however, has been written about the behaviour of the population during the course of the seventeenth century. With the possible exception of the period 1680-1710, during which Chambers believed the population began to rise sharply,¹ the general presumption seems to be that the rate of growth was relatively stable throughout the century apart from temporary and localised set-backs resulting from attacks of plague or other epidemics. This slow, stable pattern of growth is generally confirmed by the analysis of seventeenth century parish registers, except for the years of the Civil War and Commonwealth when the poor quality of registration clouds the picture in many registers. It is, however, precisely in this period that there may well have been a sharp fall in English population of the order of twenty per cent in a generation.

One might well wonder why a decline of such magnitude has not been previously noticed. The reason, I suspect, is that in making population estimates, historians have generally used for comparison the 1603 Communicant Returns and the Hearth Tax and Compton Census of the 1660s and 1670s, and have tended to ignore the Protestation returns of 1642. It is true that the Protestation returns cover only a fraction of England, but for some counties, including West Sussex and Nottinghamshire, the returns are extensive. Early in 1642 Parliament ordered that every male in the country over eighteen should take an oath of loyalty to the Church of England; the purpose being to pinpoint the Roman Catholics, who might be expected to be the king's most fervent supporters in case of war.

In each county, the parish officers assembled before the Lord Lieutenant and took the oath; a few days later they themselves administered the oath to the men of their parish, recording the names of all those who
took the oath and those who did not take it. These lists were to be collected up by counties and returned to parliament. The vast majority of the surviving returns are to be found in the House of Lords Record Office. Whilst there is little external evidence against which to check the accuracy and completeness of the lists of names, the internal evidence suggests that a great deal of trouble was taken to make the lists complete. Quite often, the absence of normal parish residents is noted and reasons given for their non-appearance. In the months before the outbreak of the Civil War, it seems that all except openly avowed Roman Catholics were anxious to ensure that they were not omitted from a list of loyal supporters of the Church of England. Therefore there is no reason to suppose that the Protestant Returns are not generally reliable as an index of population.²

It was in the course of preparing a lecture on the population of Sussex between 1580 and 1801 that I was first confronted by an apparently sharp drop in the county population between 1642 and 1676 as indicated by the Protestant Returns and the Compton Census respectively. On that occasion I based my findings on a sample of Sussex parishes. Fearing that by mischance I might have selected an unrepresentative sample, I decided to rework my calculations using all those parishes for which returns survive, and the results set out below are based on all those parishes in West Sussex (before the recent boundary changes) for which valid comparison was possible. As research proceeded it became clear that some of the Compton Census returns, especially in the Storrington deanery, appear to give the total population of the parish instead of the number of communicants. This is known to have happened elsewhere.³ In order better to identify these ‘rogue’ returns, recourse was had to the 1724 return of communicant and non-conformist families. These returns are considered generally reliable and survive for most of the county.⁴

Any attempt, to compare two different population estimates before 1801 is bedevilled by the problem of choosing the right multiplier. Variations in the fertility and age structure of the population in different places and at different times mean that any multiplier is liable to give inaccurate results when applied to one particular parish. One can, however, reasonably expect that when applied to a wider area, local fluctuations will even themselves out. Basing my calculations on a table of model population appropriate for the conditions of early seventeenth century England,⁵ I have assumed that the male population of England over eighteen in 1642 made up 32.5 per cent of the total. Consequently, in the calculations summarised below, I have used a multiplier of 3.08 to convert the Protestant Return figures into total population. Similarly, for the Compton Census, I have assumed that communicants, those over sixteen, made up 70 per cent of the total population so that a multiplier of 1.43 is necessary. In choosing these multipliers I have in effect assumed that the age structure of the population remained the same between 1642 and 1676. If, as I suggest below, the fall in population was partly the result of declining fertility, the proportion of under sixteens in 1676 would have been lower than 30 percent of the population. (The same would of course be true if the decline in numbers were attributable to heavier child and infant mortality.) The totals shown for 1676, therefore, may well be too
high and the proportional decrease in the population too low. In other words, the assumption of a stable population structure between the two dates is hostile to the hypothesis of a falling population so that any decline indicated by the figures is likely to be a real one.

West Sussex divides naturally into four long and narrow strips running east-west. The Weald dominates the most northerly strip; wooded hilly countryside punctuated by market towns: Horsham, Pulborough, Petworth and Midhurst. South of the Weald proper, there is a strip of lower lying, more open country, broader to the east and bordered on the south by the South Downs. At the foot of the Downs on the North side, another string of rather smaller market towns: Henfield, Steyning and Storrington are interspersed with small parishes. Downland makes up the third strip. In the east, the Downs come so close to the sea that most of the downland parishes extend to the coast. To the west, however, the Downs broaden out so that there are a number of small, predominantly downland parishes and only one town, Arundel, which lies on the southern slopes. The most southerly strip consists of flat coastal land, narrower in the east but broadening out to the extensive flatlands which stretch from Chichester to Selsey Bill. Today the coast contains a string of resorts; in the seventeenth century, there were only two towns, Shoreham in the east and Chichester, the county capital, in the west.

Figure 1: Regions of West Sussex.
For the purpose of analysis I have divided each of these horizontal strips into three vertical sections corresponding to the ancient rapes — the Sussex equivalent of hundreds — and have added on the extreme west a vertical strip of large rural parishes on the Hampshire border. Retrospectively, I am not certain whether this last grouping of parishes is justified, yet on a parish boundary map they stand in sharp contrast to the jigsaw of small parishes immediately to the east of them. The area covered by each of the fourteen regions used in the analysis is shown in Figure 1.

Table 1. Analysis of Source Material by regions.

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<th>No. of possibly faulty returns</th>
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</tbody>
</table>

Table 1 shows the amount and the quality of the surviving source material. It can be seen that there were 154 parishes in West Sussex, of which 125 have recorded populations for both 1642 and 1676. ¹ i have excluded from my calculations those parishes where the figures show an apparent increase in 1676 of more than 50 per cent, followed by a correspondingly large reduction in 1724, or vice versa. In a number of parishes where the apparent changes are feasible but unlikely, comparison with parish register baptismal totals and with early nineteenth century decennial census figures has been made in an attempt to determine whether the returns can be regarded as reliable. Nevertheless, it has proved impossible to establish with any degree of certainty for a number of parishes that the significant increase in apparent population between 1642 and 1676 is due to the fact that the Compton Census records total population. In these cases the possibly ‘rogue’ returns have been included in the analysis as though they referred to communicants only, except in those regions in which they appear in large numbers. In this case the whole region has been excluded. Overall, therefore, just under two-thirds of the parishes of West Sussex have been included in the analysis. Amongst those parishes for which comparable figures for 1642 and 1676 are not available, there are only two of importance: Lower Beeding, a very large parish on the East Sussex border east of Horsham, and Arundel, a hot-bed of Roman Catholicism, for which it is hardly surprising that no Protestation Return exists.
those parishes which have had to be omitted because of serious doubts about the reliability of the returns, by far the most important is Horsham, whose returns pose special problems as indicated in the end-notes.7

Table 2. Comparable Population totals and percentage changes 1642, 1676, 1724.

<table>
<thead>
<tr>
<th>Region</th>
<th>Totals 1642</th>
<th>Percentage change 1642-1676</th>
<th>Totals 1676</th>
<th>Percentage change 1676-1724</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Coastlands</td>
<td>1628</td>
<td>−26</td>
<td>1200</td>
<td>−3</td>
</tr>
<tr>
<td>Mid Coastlands</td>
<td>2554</td>
<td>−25</td>
<td>1925</td>
<td>+10</td>
</tr>
<tr>
<td>West Coastlands</td>
<td>2369</td>
<td>−22</td>
<td>1838</td>
<td>+22</td>
</tr>
<tr>
<td>Chichester flats</td>
<td>3345</td>
<td>−22</td>
<td>2624</td>
<td>+17</td>
</tr>
<tr>
<td>Mid Downland</td>
<td>527</td>
<td>−26</td>
<td>391</td>
<td>+36</td>
</tr>
<tr>
<td>West Downland</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>East Downsfoot</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Mid Downsfoot</td>
<td>1801</td>
<td>−19</td>
<td>1459</td>
<td>+11</td>
</tr>
<tr>
<td>West Downsfoot</td>
<td>1586</td>
<td>−24</td>
<td>1205</td>
<td>−11</td>
</tr>
<tr>
<td>Hants. border</td>
<td>1444</td>
<td>−15</td>
<td>1233</td>
<td>+7</td>
</tr>
<tr>
<td>East Low Weald</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>East High Weald</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Mid High Weald</td>
<td>6798</td>
<td>−7</td>
<td>6263</td>
<td>+11</td>
</tr>
<tr>
<td>West High Weald</td>
<td>2611</td>
<td>−33</td>
<td>1748</td>
<td>+30</td>
</tr>
</tbody>
</table>

Totals 1642/1676 24663 —19 19886
Totals 1676/1724 16403 +10 18063

Table 2 indicates the population trends between 1642 and 1724. Despite the problems and uncertainties of the evidence, and allowing that there is some regional variation, the evidence points firmly to a significant decline in population between 1642 and 1676 of the order of 20 percent followed by a period of slow growth between 1676 and 1724. If this mid-century decline were repeated consistently across England, then we would be witnessing a demographic set-back of a kind unknown in England since the fourteenth century. To discover whether this decline were anything more than a local phenomenon, I decided to apply the same analysis to Nottinghamshire, for which the appropriate returns survive and which could hardly have been suffering from the same local conditions which might have made West Sussex untypical of the country as a whole. For the analysis I used three of its ancient hundreds in the north, south and west of the county. The results are set out in Table 3. That the final percentage decline should be so close to the figure obtained for Sussex should not be made too much of. The sample taken was not a random one and, as can be seen from Table 3, the pattern of change varies in different areas. In parts of Broxtow Hundred in the west of the county, there is a clear indication of population increase. Nevertheless, taking the area as a whole — just under half the county — the drop in the population is unmistakable and of the same order as in Sussex. It does therefore seem that the population decline of the mid seventeenth century is both a real and a national phenomenon; which is not of course to claim that every county in England experienced such a decline.

For Nottinghamshire it is possible to compare the Protestation Returns with earlier as well as later figures, namely the Communicant Returns
of 1603, which survive for about two-thirds of the whole county. Using the same multiplier for 1603 as for 1676, the analysis indicates a very slight increase of 5 per cent overall in the same three hundreds, again with variations between them. Interestingly, the Communicant Returns for Nottinghamshire contain, uniquely as far as I am aware, information about the number of under-age non-communicants for forty-four parishes. Sixteen of these lie in the areas chosen for analysis and the figures indicate that communicants formed 67.5 per cent of the total population (66.6 per cent in all forty-four parishes). This is slightly less than the proportion, assumed from the model population, and if used for the calculations, gives an increase in population between 1603 and 1642 of a mere one percent. Neither five nor one percent is implausible and in both cases the mid-century fall more than wipes out any growth during the first four decades. If there is nothing in the 1603 figures which proves the accuracy of the 1642 returns, there is equally nothing to suggest that they are unreliable for Nottinghamshire. The hypothesis of the mid-century demographic crisis is not disproved. It remains therefore to attempt some explanation of why it occurred.

Table 3. Comparable totals and percentage changes in parts of Notts. 1603, 1642, 1676.

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage change 1603/42</th>
<th>Totals 1642</th>
<th>Percentage change</th>
<th>Totals 1676</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassetlaw Hundred</td>
<td>+9</td>
<td>13388</td>
<td>-25</td>
<td>10084</td>
</tr>
<tr>
<td>Bingham Hundred</td>
<td>+12</td>
<td>5784</td>
<td>-24</td>
<td>4376</td>
</tr>
<tr>
<td>Broxtow Hundred</td>
<td>-2</td>
<td>7881</td>
<td>-2</td>
<td>7716</td>
</tr>
<tr>
<td>Totals</td>
<td>+5</td>
<td>27053</td>
<td>-18</td>
<td>22176</td>
</tr>
</tbody>
</table>

It is natural to think first in terms of some spectacular rise in mortality arising from an epidemic. Certainly there were outbreaks of plague during the period, notably the 'Great Plague' of London in 1665. Outside London, however, the plague made relatively little impact. East Sussex experienced no crisis mortality in that year, nor indeed in any other year during the mid-century period. Dr. Schofield's national survey also found no more than the usual number of 'crisis mortality' years amongst his sample parishes.

Another possible explanation is that there was a general rise in the death rate during the period. There is some indication that, nationally, mortality rates had started to climb from the beginning of the seventeenth century but there is no evidence of a sharp rise after 1640. It is also possible that the birth rate fell significantly. The physical factors that control fertility are at present the subject of research, but there seems little likelihood that changes occurring in, for instance, food supply during this time were sufficient to bring about a significant drop in fertility. The psychological factors controlling levels of fertility are still largely uninvestigated, but it has been suggested that family limitation, conscious or unconscious, occurs in certain social situations, particularly situations of stress or uncertainty. The failure of late medieval population to rise has been attributed to a birth rate kept low for psychological reasons. It is possible that the political, religious and social insecurity
of the Civil War and Commonwealth period depressed fertility, either through 'psychic despair' or, more straightforwardly, because marriages were delayed. Nevertheless, it is improbable that either the fertility or the mortality rate alone can account for the decline. To bring about a 20 per cent fall in around thirty years would require the birth rate to fall about eight per thousand below the death rate during the period, an actual fall of twelve to fifteen per thousand if the death rate remained static. Such a dramatic fall in birth rate seems hardly likely over an extended period. It would be more plausible if the birth rate fell to something like parity with a slowly increasing death rate. One other explanation needs to be considered. The rest of the decline, in the two predominantly rural areas of Sussex and Nottinghamshire, can be attributed to 'the flight to the towns'. Dr. Wrigley has pointed out the importance of London as a magnet for the surplus rural population. It seems as though the power of the capital remained strong enough to attract the rural population even when there was no surplus. There is evidence both in Nottinghamshire and Sussex that urban growth continued at a time when the rural areas were being depleted and from all accounts London's growth continued during the seventeenth century unchecked except temporarily by plague epidemics.

The model here adduced to explain the mid-century decline: fertility reduced by uncertainty, rising mortality and continued migration to the towns, depends more on speculation than hard evidence but it does not contain any elements which are inherently unlikely or contrary to such scraps of evidence as we do possess. The fact of the decline has not been established beyond reasonable doubt and further research into the Protestation Returns, Compton Census and Hearth Tax may cast doubt on, or disprove, the existence of the decline as a national phenomenon. The evidence of parish registers, aggregated on a nationwide scale, may prove to be the vital evidence. In a sample of about eighty East Sussex parishes, the mean number of baptisms, taking decadal averages, fell by 25 per cent between 1642 and 1676. This fact is capable of a number of interpretations but all would tend to favour the hypothesis of a falling birth rate and/or declining total population. At this stage, all that can reasonably be claimed is that there is a prima facie case for believing that a mid-seventeenth century demographic crisis existed and that plausible reasons can be put forward to explain it. It is hoped that readers of LPS will regard it as a case that merits further investigations in their own areas.

Acknowledgements
I am grateful to Dr. R. S. Schofield who made a number of helpful suggestions to an earlier draft, particularly in connection with the problem of multipliers. Dr. C. E. Brent kindly allowed me to make use of his aggregative analyses of East Sussex parishes.

NOTES
2. For a good discussion of Protestation Returns, including examples of parish officers giving reasons for non-protestation, see R. Carraway Rice, 'West Sussex Protestation Returns', Sussex Record Society, vol. V. 1905.

4. The correct title for these returns is 'Bishop Bower's Visitations'. They are to be found in the Diocesan Record Office (West Sussex County Record Office) at Chichester. For a discussion of their value as a historical source, see N. Caplan, 'Visitations of the Diocese of Chichester in 1724', Sussex Notes and Queries, Vol. XV, 1962, pp. 289-295.

5. A. J. Coale and Paul Demeny, Regional Model Life-Tables and Stable Populations, 1966, Model North, level seven, female. (Stationary population, expectation of life thirty-five years.)

6. I have counted the nine parishes of the city of Chichester as one, and have also counted singly those pairs of parishes which sent in combined returns for both dates.

7. The problem with Horsham is that the Protestation Return records only 498 names, giving a population of around 1,500, compared with estimated totals of 4,290 in 1676 and 8,455 in 1724. If these figures are to be taken at their face value, then the apparent growth of population at Horsham would go a long way towards compensating for the seeming decline in most of the other parishes. The evidence of the parish register is inconclusive. Baptisms exceed burials by about 20 per cent. which is fairly typical of the pattern for rural Sussex at this time and does not indicate massive immigration. Assuming that the Protestation Return figures are correct, the number of baptisms recorded at this period indicates a birth rate of 44 per thousand. This is certainly high but not impossible. A more typical birth rate of 35 per thousand would give a population in 1642 of around 2,000, which would still produce an apparent doubling of the town's population in a generation. On balance it seems probable that the figures quoted of 3,000 communicants in 1676 and 1,780 families in 1724 are inaccurate guesses.

8. A. C. Wood transcribed and edited these returns in Transactions of the Thoroton Society, Vol. 46, 1942, pp. 3-14. According to Wood, the returns are to be found in a bundle of presentment bills in the custody of the archdeaconry of Nottingham. I have used Wood's transcriptions.

9. Wood points out that the number of communicants recorded for the whole county fell from 29,323 in 1603 to 26,416 in 1676 — a decrease of 9.9 per cent.


SOCIAL STATUS AND LITERACY IN NORTH EAST ENGLAND
1560 - 1630

David Cressy

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The most convincing evidence for the extent of illiteracy in Tudor and Stuart England comes from the deposition books of the ecclesiastical courts. The church courts had a wide jurisdiction, embracing moral and probate matters as well as affairs more directly connected with religion. One who defamed a neighbour or otherwise offended the community might answer before the bishop or his commissary, while contested wills, disputed tithes, arguments about churchyard maintenance or church attendance were commonly resolved in the episcopal or archidiaconal courts.¹

In addition to the principals in the case there came a steady stream of witnesses, drawn from all ranks in society, to testify what they saw, what they heard, or what they knew. It is the appearance of the witnesses which provides our greatest clue about pre-industrial literacy. The court usually recorded the name, occupation or status, place of residence and age of each witness or deponent, and required him to sign his testimony or make a mark if he could not sign his name. However unsatisfactory an indicator of literacy or illiteracy this may be the distinction between marking and signing does at least provide a measure which is, in Roger Schofield’s words, ‘universal, standard and direct.’²

Examination of the surviving depositions from four ecclesiastical jurisdictions reveal something of the pattern of illiteracy in England from the age of Elizabeth to the end of the Stuart era. Evidence from the Diocese of Norwich (Norfolk and Suffolk), Diocese of London (Essex), and Diocese of Exeter (Devon and Cornwall) presents a consistent picture of socially stratified illiteracy with irregular improvements across the period. In East Anglia, for example, illiteracy was rare among the gentry (2 per cent), moderately distributed among yeomen and tradespeople (35 and 85 per cent), and widespread among husbandmen and labourers (79 and 85 per cent). Yeomen and tradesmen tended to improve, while husbandmen and labourers stagnated. A similar pattern is found in south west England.³
Depositions from the Diocese of Durham (Durham and Northumberland), however, are more difficult to interpret. As might be expected, the north east was generally more illiterate than southern England, but it is the odd experience of the group described as yeomen which especially distinguishes the Durham region. Table 1 shows the illiteracy of the major social groups, derived from the Durham consistory court depositions of 1561-1626.

Table 1. Illiteracy in the Diocese of Durham.

<table>
<thead>
<tr>
<th></th>
<th>Gentlemen</th>
<th>Tradesmen</th>
<th>Yeomen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Mark</td>
<td>%</td>
</tr>
<tr>
<td>1560s</td>
<td>22</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td>1570s</td>
<td>44</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>1580s</td>
<td>12</td>
<td>5</td>
<td>42</td>
</tr>
<tr>
<td>1590s</td>
<td>28</td>
<td>10</td>
<td>36</td>
</tr>
<tr>
<td>1600s</td>
<td>63</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>1610s</td>
<td>40</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>1620s</td>
<td>47</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>256</td>
<td>53</td>
<td>21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Husbandmen</th>
<th>Labourers</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Mark</td>
<td>%</td>
</tr>
<tr>
<td>1560s</td>
<td>86</td>
<td>81</td>
<td>34</td>
</tr>
<tr>
<td>1570s</td>
<td>134</td>
<td>122</td>
<td>91</td>
</tr>
<tr>
<td>1580s</td>
<td>42</td>
<td>38</td>
<td>90</td>
</tr>
<tr>
<td>1590s</td>
<td>55</td>
<td>50</td>
<td>91</td>
</tr>
<tr>
<td>1600s</td>
<td>52</td>
<td>45</td>
<td>87</td>
</tr>
<tr>
<td>1610s</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>1620s</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>379</td>
<td>345</td>
<td>91</td>
</tr>
</tbody>
</table>

Yeomen in southern England were those properous independent farmers, said by some to be pressing on the heels of the gentry. In East Anglia yeomen improved from 55 per cent illiterate in the 1580s to 32 per cent in the 1630s and 24 per cent in the 1660s. In the south west the much skimpier evidence suggests improvement from 47 per cent illiterate in the 1570s to just 20 per cent in the 1660s. But the evidence from the north east of England presents a contradictory picture. Durham yeomen at first appeared to improve, like their contemporaries in other parts of England, from 63 per cent unable to sign in the 1560s to 54 per cent in the 1570s and 52 per cent in the 1580s. Then the literacy of yeomen collapsed, to 71 per cent in the 1590s, deteriorating further to 79 per cent by the 1620s. Unfortunately the Durham depositions for the rest of the seventeenth century are missing and we are unable to trace the fortunes of the yeomen or any other class after 1630. It is extraordinary that a class so favoured in the south should appear so benighted in the north.

The switchback behaviour of the Durham yeomen is so unexpected and so ill-fitting with what we believe to be the characteristic yeoman experience that it is worth considering at length. Could the turbulence lie
more in the sources than in the society? Or was there something exceptional about the social structure and progress of literacy in north east England?

Perhaps the nature of the causes tried before the consistory court changed after the 1580s so as to attract a particularly illiterate type of yeoman deponent. Were there, perhaps, more tithe cases or disputes requiring venerable witnesses for the resolution? One can imagine a procession of ageing yeomen too old to have benefitted from the Elizabethan expansion of schooling or lapsing from literacy as senility overcame them. The evidence for this is doubtful. There seem to have been no changes in the business of the court which might account for the crash of yeoman illiteracy. It can be shown, however, that the late Elizabethan and Jacobean yeoman deponents were somewhat older than those of the early decades. Table 2 shows the age distribution of yeoman deponents for 1560-89 and 1590-1609. While 44 per cent of the yeomen in the earlier period were aged 50 or more, and 19 per cent aged over 60, the proportion that old in the later period had grown to 53 per cent and 30 per cent. While interesting in their own right these age statistics do not help to explain the sudden and sustained deterioration of yeoman literacy.

A more likely explanation may be found in the way the word yeoman was used in the Durham region. The figures in Table 1 may in fact point to a change in labels, a local shift in the terminology of status, rather than an alteration in literacy or social structure. It is striking that the numbers of yeomen increased as they became more illiterate. Table 3 shows the size and composition of the deponent population, omitting clergy and women. The proportion of depositions attributable to yeomen rose from 14 per cent in the 1560s to 47 per cent in the 1590s, climbing to 69 per cent in the 1610s. At the same time the husbandmen, who originally outnumbered yeomen, dwindled to become almost invisible while labourers and men described by a trade or craft also experienced shrinkage.

Table 2. Ages of Yeomen deponents.

<table>
<thead>
<tr>
<th>Age</th>
<th>1560-1589</th>
<th>1580-1609</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>20-29</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>30-39</td>
<td>28</td>
<td>19</td>
</tr>
<tr>
<td>40-49</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td>50-59</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>60-69</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>70-79</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>80+</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

All 149 544

One might argue from this data that there was an explosion of the yeoman population in the north east, or that the consistory court became unusually disposed to prefer yeomen as witnesses. Such arguments beg the evidence without helping to explain the slump in the literacy of yeomen. Rather, the evidence suggests that the term "yeoman" came to
Table 3. Composition of deponent population (clergy and women omitted)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Gentry %</th>
<th>Trades %</th>
<th>Yeomen %</th>
<th>Husbandmen %</th>
<th>Labourers %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1560s</td>
<td>255</td>
<td>9</td>
<td>36</td>
<td>14</td>
<td>34</td>
<td>8</td>
</tr>
<tr>
<td>1570s</td>
<td>478</td>
<td>8</td>
<td>32</td>
<td>17</td>
<td>28</td>
<td>14</td>
</tr>
<tr>
<td>1580s</td>
<td>155</td>
<td>8</td>
<td>34</td>
<td>21</td>
<td>27</td>
<td>10</td>
</tr>
<tr>
<td>1590s</td>
<td>349</td>
<td>8</td>
<td>23</td>
<td>47</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>1600s</td>
<td>679</td>
<td>9</td>
<td>19</td>
<td>58</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>1610s</td>
<td>563</td>
<td>7</td>
<td>21</td>
<td>69</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1620s</td>
<td>381</td>
<td>12</td>
<td>27</td>
<td>60</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>2860</td>
<td>25</td>
<td>46</td>
<td>13</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

be used more carelessly, or more generously, embracing men who would not be regarded as yeomen in other parts of England and who might not have stood the scrutiny of the Durham court earlier in Elizabeth's reign. It seems that a growing proportion of the rural population claimed to be yeomen and the court was content so to describe them. Husbandmen in great numbers, and some tradesmen and labourers too, were entered as yeomen, thereby boosting the illiteracy of the yeoman category.

It is possible that 'yeoman' came to mean something very different in the Durham region from its conventional southern usage. There is some evidence to suggest that it was used there, and perhaps elsewhere, as a vague term of respect and not as a strict label belonging to the independent agriculturalist. Among the deponents of the 1570s, for example, we find Miles Baith of Ebchester, 'yeoman alias blacksmith', William Stoyr of Newcastle, 'yeoman alias porter of the water,' and even Chris Lawson of Walsingham, 'yeoman, alias schoolmaster'. Altogether nineteen of the eighty-three yeomen appearing in the 1570s had additional occupational descriptions, ranging from fisherman to shipping clerk. Some have occupations which seem incompatible with yeoman status, conventionally considered. Thomas Wawton, 'yeoman alias husbandman' features a common confusion of agrarian status, but what is one to make of James Wally, 'yeoman alias labourer', or Mathew Skorfeld of Barmeston, 'yeoman alias servingman being hired to Mr. Robert Andsty'? Mathew was thirty years old and illiterate. Composite descriptions like this are rare after 1580 when the number referred to simply as yeomen starts to rise. Is it possible that the later clerks did not always bother to record the true occupations of working men, entering them indiscriminately as yeomen? Until more research is done into the social and occupational structure of north east England, with particular attention to the terminology of status, the pattern will remain mysterious.

The other social groups appearing in the Durham depositions present fewer problems. The husbandmen, before their virtual disappearance from the records, were as illiterate as husbandmen in East Anglia and the south west. Durham tradesmen were not much worse than their southern counterparts, and managed to improve their literacy levels over the period. Labourers and women were benighted everywhere with those of the north east no more illiterate than the rest.
The Durham gentry, however, stand apart. Amazingly illiterate by gentle standards when first encountered, they slowly shed their inability to write. In southern dioceses no more than 2 or 3 per cent of the gentle deponents were unable to sign their names but in the Diocese of Durham in the 1560s the illiterate proportion was as high as 41 per cent. The Elizabethan and Jacobean periods saw steady improvement but it was not before the accession of Charles I that the gentry of the north east matched the literate gentry of the south.

The remarkable illiteracy of the gentry supports the common view that the pre-industrial north was backward and culturally impoverished. Elizabethan northerners have been called 'mere ignorant of religion and altogether untaught', and the condition may have extended to the gentry. Although there is no doubt that the governing class, the magnates and great gentlemen were fully literate and in touch with England’s cultural mainstream, the parochial gentry, including most of those who made depositions, were barely part of Laslett’s 'one class', the political nation. Indeed, their high illiteracy must for a time, have excluded them. Mervyn James finds 'the smaller parish gentry' in Tudor Durham 'emerging from the ranks of the rich farmers, yeomen, and merchant shopkeepers. This small gentry had its importance as the most volatile and mobile element in the society, some of its members building up great fortunes, others soon lapsing from their gentry status.' Some of these people appearing as witnesses might not have been recorded as gentlemen at all if the strictest standards were applied. Unless, of course, the word gentlemen, like the word yeoman, was used more loosely in north east England.

NOTES

1. Depositions are discussed in David Cressy, "Occupations, immigration and literacy in east London, 1580-1640," LPS No. 5, 1970, pp. 53-60. A selection of depositions from the courts of Durham was published by the Surtees Society, 21, 1845.


4. Department of Palaeography and Diplomatic, University of Durham, Depositions D.R. V, 1-12. Mervyn James, Family, lineage, and civil society. A study of society, politics and mentality in the Durham region, 1500-1640, 1974, pp. 105-6, has some confusing notes on literacy. Some of his figures are wrong, although taking percentages to two places of decimals lends them a spurious precision.

5. The difference between 44% and 53% aged over 50 is not statistically significant; the difference between 19% and 30% is statistically significant. Contrast these figures with a finding from Sussex depositions: 'there are few persons under thirty years of age, and almost an undue proportion of the over sixties.' Julian Cornwall, 'Evidence of population mobility in the seventeenth century.' Bulletin of the Institute of Historical Research, 40, 1967, p. 144.


8. James, op.cit., p.31.
THE HISTORICAL STUDY OF CLIMATE:
A REPORT ON THE WORK OF THE CLIMATE RESEARCH UNIT AT THE
UNIVERSITY OF EAST ANGLIA

M. J. Ingram

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In the past few years many parts of the world have experienced relatively unusual weather patterns, entailing in certain areas serious economic and social consequences. The need to explain them and assess their significance has resulted in a marked quickening of interest in climatological research.¹ Many lines of inquiry are being pursued, but certainly a very important aspect of current work is the investigation of climatic history. For environmental scientists, the eventual fruit of this palaeoclimatological research will be a firmer knowledge of the range of variation to which the climate has been subject and an increased understanding of the processes of change; but the results should also be of considerable interest to historians. A much more detailed knowledge of both long and short-term climatic variations will help towards an understanding of harvest fluctuations and of the problems of arable farming generally; of the vicissitudes of animal husbandry; of dislocations of the many industrial activities which until relatively modern times were highly sensitive to weather; of transport and communication difficulties; and of the incidence of disease.² In fine, the study of climate in past time will aid and enrich the study of economic and social history and of historical demography; and the purpose of this note, in reporting briefly on research in progress at the Climatic Research Unit at the University of East Anglia, is to arouse the interest and request the assistance of readers of Local Population Studies.

Attempts to study the weather which our ancestors experienced are by no means new, but in recent years research techniques have rapidly become more sophisticated. Where records of accurate instrumental observations exist, the problem of reconstructing the history of climate is relatively straightforward; but since such records, even in the most favoured areas extend back no further than the second half of the seventeenth century and cannot be said to have a really satisfactory beginning until after 1700,³ their testimony has to be supplemented with a variety of other forms of data.
Of these supplementary sources of information, many do not rely on written evidence at all, for certain natural phenomena embody a ‘record’ of biological, chemical, or physical processes which provide indirect or ‘proxy’ data on the weather of the past. By analysing the remains of pollen deposited on lake beds and in peat bogs, for example, it is possible to determine which types of plants and trees flourished in successive periods, and hence draw valuable conclusions, albeit in broad terms, about the course of climatic change in the remote pre-historic past. Again, the thickness of the growth-rings in the trunks of certain trees in some measure reflects the state of the weather; and an analysis of tree-ring patterns in carefully selected timber, whether recently felled or long dead, can provide the basis for extended series of data on climatic fluctuations. By the use of these and similar sources of information, it is to some extent possible to reconstruct the climate record for areas of the world and periods of time for which conventional historical data are entirely lacking.¹

Written sources, however, undoubtedly extend the scope of information available and offer means of checking the chronological accuracy of series based entirely on the natural record. In the first place, their testimony can furnish further series of ‘proxy’ data: records of the date at which grapes were harvested in certain areas of Europe in successive years, for example, provide indirect evidence of temperature fluctuations.² In addition, however, historical sources of many types make explicit reference to the state of the weather or to such directly related phenomena as the freezing of lakes and rivers. It is in the exploitation of this kind of data that a team of climatologists and historians at the University of East Anglia, assembled under the guidance of Professor H. H. Lamb and directed by Dr. T. M. L. Wigley, is making its greatest contribution to climatological research.

To be sure, many previous researchers have used materials of this type and indeed, there exist a number of substantial compilations of historical weather data derived from such sources.³ Unfortunately, many of these works are in various ways defective.⁴ They are, in general, marked by an uncritical approach to the sources, and accordingly include much spurious or inaccurately dated material; and they are often based on a relatively narrow range of documents. The team at East Anglia, by contrast, is committed to a rigorous system of source criticism, and the use of as wide a range of materials as is possible within a reasonable time-limit.

What, in fact, are the sources available and how are they to be used? By way of illustration, these points may be answered with reference to England, though the unit’s interests naturally range more widely. For the mediaeval period, the extensive corpus of chronicles and annals provides a rich vein of material, though its working requires care. Only sources which provide a contemporary or near-contemporary account of the events they purport to describe are admissible, and even these must be further tested for the possible presence of various forms of bias. Again, a rigorous handling of problems of chronology, which inevitably spring from the fact that a variety of different calendars and methods of reckoning the year were in use, is naturally of fundamental importance. The application of
these rules involves the discarding of much information which at first sight appears relevant; but there remains, nevertheless, a considerable body of valuable data. Chronicles, however, are not the only source of evidence on mediaeval weather. Titow has shown that manorial account rolls can yield a surprising amount of relevant information, and new material of this type is being exploited by a member of the unit.

It is unfortunate that manorial accounts yield little information for the period after 1450. Chronicles and annals, likewise, cease to be such an important source after that date, though certain London chronicles and analogous compilations for provincial towns do contain valuable data for the sixteenth and even the seventeenth centuries, as do certain printed histories, such as the works of John Stow. On the other hand, a multitude of other materials becomes available. Diaries furnish a mass of information; few, it is true, can match the importance of the record kept by the meticulous Ralph Josselin in the middle years of the seventeenth century, but a great many include, in varying proportions, some relevant material. Valuable data are embedded in the various series of state papers. Contemporary correspondence, especially newsletters like those written by John Chamberlain in the early seventeenth century, provide another major source; while information can also be found in the writings of astrologers like Simon Forman. Certain parish registers, such as that belonging to the parish of Beeston-next-Mileham in Norfolk, contain useful observations; while further examples of documents similar to the draft register of Rolleston in Nottinghamshire for the period 1588-1615, which the incumbent used to record (among other things) valuable descriptions of the weather, may yet come to light.

The information which may be derived from such sources appears, at first sight, extremely heterogeneous, but may be classified under a small number of headings. **Meteorological descriptors** are simply qualitative descriptions of the weather: 'extremity of cold', 'perpetual weeping weather', and so on. Sometimes, valuable indications of wind direction are included. The most useful kind of description (in the absence of regular and accurate daily observations) are those which relate to some extended period of time, such as weeks or months; but even notices of isolated weather events can in some circumstances be significant. **Hydrometeorological descriptors** include remarks on the state of the ground, lakes and rivers: typical examples are 'extreme foul ways and great floods', 'the ways as dusty as they be usually at midsummer', 'above Westminster the Thames is quite frozen over'. **Oceanographic descriptors** are notices about the state of the sea, including observations of storm floods, sea ice and icebergs. In practice, the recording of climatic events is often associated with references to other phenomena, and these form an important class of ancillary data. The most common types of supplementary information are references to the state of the harvest, the commodity prices, or to other agricultural matters, and comments on the incidence of disease; but many other human activities more or less dependent on the weather are sometimes touched on.

Clearly, such materials involve many problems of interpretation. A large proportion of observations, for example, are relative, determined with
reference to the observer’s subjective idea of what constitutes the norm. It is plain that notions of normality were often very imprecise, and such phrases as ‘the greatest . . . that hath been known in the memory of any man living’ occur so often as to suggest that memories were exceedingly short. The precise duration of any set of phenomena was often left unclear: dates were frequently ‘rounded off’ by reference to important saints’ days, while it is often no easy task to decide exactly what time-span a particular writer had in mind when he used words like ‘summer’ and ‘winter’. Nevertheless, when substantial quantities of data are available and when the materials are handled with a sensitive appreciation of their limitations, a coherent record can be constructed. If carefully evaluated data drawn from a wide geographical area are plotted on maps, it is possible to sketch in, with reasonable accuracy,¹⁵ the main outlines of atmospheric circulation patterns in particular years.¹⁶ When many such maps have been produced, there will emerge a remarkably detailed history of the weather. This, indeed, is the aim of one of the unit’s major current projects, funded since 1974 by the Rockefeller Foundation and now well advanced. The final result will be the production of a continuous time-series of seasonal weather maps for the North Atlantic-European portions of the northern hemisphere from the year 1000 to the late nineteenth century.¹⁷

By way of conclusion, two years of English weather will be illustrated in some detail, in order to indicate the kinds of data at present available in the unit’s files and to explain in what ways assistance would be welcomed. The two years are from December 1572 to November 1573, and the corresponding period from 1610 to 1611. It is clear that the winter of 1572-3 and the succeeding spring were exceptionally cold: Stow made the point for England generally and local commentators were in accord.¹⁸ Thus a chronicler of Shrewsbury recorded that:

‘the winter and spring time was very long, cold, hard and dry, so that it was very far in the month of May before any leaf or blossom appeared upon any tree . . .’¹⁹

while an observer in Liverpool noted long winter snows and a ‘very great drought for want of rain from mid-Lent [i.e. the end of February] till Whitsunday [10 May].²⁰

Similarly, Bishop Parkhurst of Norwich wrote from Ludham in Norfolk on 20 January 1573,

‘Frost and snow have continued these eight weeks, with barely a break the whole time. But at last they have disappeared’;

and on 30 June:

‘Here we had perpetual winter from the beginning of November until Whitsun, for only the coldest winds those from the east and the north, blew throughout this time; indeed the warm ones, the west and the south, never or rarely.’³¹

By the end of June, however, the weather appears to have been more normal, and Parkhurst expressed a hope that in spite of the late spring the crops would do reasonably well.³² But again the climate proved fickle: the harvest season, which in Norfolk did not begin before late August (Old Style Calendar) was ‘very wet and rainy; there was hardly a fine day during the whole harvest’.³³ and the yield was bad.³⁴ According to the
Shrewsbury chronicler, October was also very wet, and rye could not be sown; but November was mild and fair, as was to be much of the succeeding winter. The winter of 1610-11 was mainly mild and wet. The Venetian ambassador in London described it as a period of 'great damp'. The parish register of Beeston-next-Mileham recorded a season characterized by 'a great fall of rain and water' from mid-October 1610 to mid-February 1611, and there were reports of flooding. This predominantly wet period was followed by a long period of drought in the spring. The west-country diarist Walter Yonge, for example, described 'such a dry spring this year as never was before seen or heard of', while the register of Beeston-next-Mileham added the information that the dry period was characterized by east and north winds. But the drought did not continue throughout the summer. Dr Richard Napier, writing at Great Linford, Bucks, recorded a number of falls of rain, some of them heavy, in June, July and August; while there were several reports that the dry period had been 'relieved' by rain at the end of May or the beginning of June. By late September, in any event, a cold, wet, windy autumn had set in, and there was snow and frost around Michaelmas and, to judge from Napier's diary, a further spell of frost in mid-November.

These summaries do not exhaust the English weather data for these two years at present in the unit's files, but they certainly contain the main items of information. There is clearly a need for more local accounts of the weather of these and other years to cover the possibility of regional variations, and readers of Local Population Studies are invited to supply them. The bulk of our data comes from published sources, but there must be considerable quantities of valuable material hidden away in manuscript collections throughout the country. We should be very grateful indeed if readers would communicate any relevant data which they may come across, for any period before the late nineteenth century, or alert us of the existence of important material. All contributions will, of course, be properly acknowledged when the work is written up for publication.

Anyone who has data which he is willing to share, or would like further details about the work of the unit, should contact Dr M. J. Ingram, Climatic Research Unit, School of Environmental Sciences, The University of East Anglia, Norwich NR4 7TJ.

NOTES
3. For example, the longest homogeneous temperature series is the 'central England' record established by Manley; it extends back to 1659, but the pre-1720 data are presented as less reliable than the rest: G. Manley, 'Central England temperatures: monthly means 1659-1973', Quarterly Journal Royal Meteorological Society, 100, 1974, pp. 389-405.
4. The various scientific techniques available for the reconstruction of climate are reviewed in H. H. Lamb, *Climate: Past, Present, and Future*, vol. 2, pp. 52-243.


7. Certain compilations, especially the most recent, maintain a very high standard of comprehensiveness and accuracy: e.g., M.K.E. Gottschalk, *Stornvloeden en Rivieroverstromingen in Nederland*, 2 vols. 1971-5.


10. The *Calendar of State Papers Venetian* is especially useful.


13. The register remains with the incumbent of the parish.


15. It is not possible to discuss here the methods used for reconstructing circulation patterns from the available data, and the ways in which the validity and reliability of these methods may be tested; the solution of the various theoretical and technical problems is naturally an important aspect of the unit's work.

16. Atmospheric circulation maps basically show the distribution of high and low pressure areas, from which wind patterns, etc., may be deduced.

17. Other projects are also in progress: for example, an attempt to establish the existence, and investigate the nature, of periods of general warming and cooling of the earth in the last three thousand years.


22. Ibid. p. 75.

23. Ibid. p. 84.


BIOLOGICAL INTER-RELATIONSHIPS BETWEEN PARISHES IN EAST KENT:
AN ANALYSIS OF MARRIAGE DUTY ACT RETURNS FOR 1705

David Souden and Gabriel Lasker

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The problems of analyzing and describing patterns of local mobility and of gene flows within populations have long been the concern of local historians and of geneticists. Here we are attempting to apply a method of analysis developed in recent years by geneticists for measuring 'blood' relationships, within a historical context. This technique, examining the surnames of inhabitants of a locality, provides a useful, if gross, measure of 'contact', and by extension of past migratory experience, within that area. The measure is intended to demonstrate the degree to which human communities were biologically related, the extent to which they shared common ancestry.

A number of recent studies have used surnames as markers of ancestry. In an earlier issue of LPS, Rex Watson studied the numbers of different surnames shared by parishes in South Cambridgeshire over the period 1538-1840, in which he traced the long-term persistence of names within those parishes, and analyzed names common to the parishes. V. Weiss has estimated similar relationships (relative to those within the communities examined) between cities and towns in the German-speaking areas of Europe. In recent publications, Gabriel Lasker has developed a quantitative technique for estimating relationships through surnames, the technique which we employ here, where we compare surnames between pairs of census listings for a set of parishes.

Underlying this approach are two basic assumptions, which will by no means hold true in all cases but may be used for our present purposes. The method assumes that a specific surname implies descent from a common ancestor, however remote. Of course, we cannot claim that everyone called, say, Smith, or even Butcher, is descended from a single smith or butcher within the remote past. Given the long-established nature of surnames by the period and within the locality with which we are concerned, however, we may not be departing too radically from a 'real' degree of relationship as expressed by having a surname in
common. The technique also assumes that the male lines of descent, through which surnames have almost exclusively been transmitted, are representative of all lines. If one sex migrates more often than the other, and especially if the pattern of migration differs, as is likely because of economic, demographic, or cultural mechanisms, this may further distort our results. Nevertheless, despite its imperfections, this technique appears to represent a compact and relatively quick means of assessing the degree and configuration of migratory and biological contacts within a locality.  

The existence of nominative listings for 1705, covering thirty-seven parishes in East Kent, makes possible a survey of inter-relationships within this reasonably extensive area at the beginning of the eighteenth century. Surnames as such had been in increasingly wide use since early medieval times, and by 1705 inheritance of paternal surnames had been essentially universal within southern England for some two centuries. Patterns of mobility over the long run within this region would have produced such a pattern of contact through biological inter-relationship as is to be observed in this study.  

Compiled under the Marriage Duty Act of 1694, which instituted a tax on registrations of baptisms, marriages, burials, and upon bachelors over the age of twenty-five, these surviving household censuses for the Wingham division of Kent, made in late 1705, list persons of both sexes and of all ages. Since married women were registered by their husbands' surnames, and single women would constitute a biased sample, all females are excluded from consideration. Furthermore, since data on children are often incomplete, and adults form the genetically significant breeding population, we have extracted from each listing an inclusive list of adult males. The number of adult males per listing varies from 2 to 315. Of the thirty-seven listings, twenty-seven had twenty or more such males, and most of our analysis is based upon the comparisons that may be made between the surname sets in these lists. Figure 1 shows the location of these places in eastern Kent for which listings survive, and other settlements and topographical features of the area.  

The measurement for relationship which we employ is a 'coefficient of relationship by isonymy' (which will be subsequently denoted by \( R_i \), isonymy meaning 'having the same surname'. It is calculated by comparing surnames between pairs of listings, matching every listing against every other, and its values are gained from matching surnames which are the same ('isonymic pairs'), and relating the number of such identical pairs to the total number of possible pairs in the sample. \( R_i \) would equal 0 if no males in the first listing had the same surname as any male in the second, and would equal 1 if all males in both places had one and the same surname. Figure 2 demonstrates how this matching of surnames is achieved, between two hypothetical parishes 'A' and 'B'. The surnames shown in fact appear frequently in these listings. Forty-two lines connect the six males in 'A' with the seven in 'B': two of these, the dark lines, connect men with the same surname. 2/42 of the possible links therefore have the same name, and \( R_i = 0.04782 \). Since this is an unwieldy expression, we will subsequently present these
coefficients multiplied by 10^6, i.e. as a rate per 100,000. In this case, Ri would be expressed as 4762; if Ri had been 0.00018, it would be expressed as 18.

Figure 1: East Kent: parishes with Marriage Duty Act returns analyzed, and other settlements unrepresented.

Key to Figure 1

Ad  Adisham  Rp  Ripple  
As  Ash-next-Sandwich  Rv  River  
Ba  Barfreston  SL  St. Lawrence in Thanet  
Be  Betteshanger (enumerated with Ham)  SN  St. Nicholas at Wade  
Bu  Buckland  Si  Sibertswold (or Shepherdswell)  
Ch  Chillenden (enumerated with Knowltone)  Sd  Stadmarsh  
De  Denton  Sn  Stonar  
EB  Easeholeborough (now Easole Street)  Su  Sutton  
Es  Eastry  T  Tilmanstone  
El  Elmstone  Wa  Waldeshare  
TE  (Temple) Ewell  Wc  Westcliffe  
Go  Goodnestone  WL  West Langdon  
Gu  Guston  Wh  Whitfield  
Ha  Ham  Ww  Womenswold  
Ho  (West) Hougham  Wb  Woodnesborough  
I  Ickham  Wt  Wootton  
K  Knowltone  Wr  Worth  
L  Littlebourne  
LM  Little Mongeham  
M  Monkton  C  Canterbury  
N  Nonington  D  Dover  
P  Preston  S  Sandwich  

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Figure 2: Matching surnames between two hypothetical settlements.

In practice the example value of Ri is high, and in studies undertaken to date only very closely related localities achieve a value for relatedness at such a high level. The numbers involved in the example are small, so that the problems of pure randomness producing these results is particularly acute. By restricting our attention most closely to listings with twenty or more adult males, we hope that this problem may be in part overcome. Testing every listing against every other listing produces 351 values of Ri for the twenty-seven parishes concentrated upon.

Spelling was by no means standardized in the eighteenth century, so that two names were considered as being the same if they would have been pronounced in the same way. Thus, for example, Austin, Austen, and Austing were taken as being the same name, as were Elger and Elgar; Hogben and Hodgbin; Hamon and Hammond; Knight, Night, and Nite; Lawrence, Laurence, Laurence, Larence and Larance. The data were analyzed on a reasonably strict, and on a more liberal, view as to what constituted identity of surname. In the latter category we included such names as Deane, Denne and Dane; Corling and Garling; Neame and Nearne; Burvell and Bornell. This category may include names which were once the same, but which had changed over time. The localized clustering of some of these pairs might support this: the names Neam(e) and Nearne are only found in the northern part of the area studied, with Nearne in places on the south and east fringes of that portion, Neame in the centre. The results of this second, more 'liberal' analysis were very similar to those derived from the first; they are not reported here in detail.

Among these 351 calculations of the coefficient of relationship between pairs of these parishes with twenty or more adult males, values of Ri range from 0 to 1400. The mean value of Ri is 184; this represents in effect one person in a list of thirty having the same surname as two persons in a list of thirty-five. Calculating a correlation coefficient between
values of $R_i$ and distance (measured as the crow flies) between parishes produces a value of $-0.29$, with a standard error of $0.3$. The negative value of the correlation demonstrates the expected decay of association over distance; however, the very large standard error shows there to be considerable variance about this value, and that there is no relationship between association as measured by $R_i$, and distance.

![Figure 3: Plot of relationships between $R_i$ and distance. (Shared values marked by larger points).](image)

Figure 3 plots this relationship between $R_i$ and distance. There are a number of striking features which emerge from this. There appears to be little or no association with distance within a range of ten to eighteen kilometres. Only at the upper and lower extremes of the range of values for $R_i$ do clear associations (both negative and positive) with distance occur — that high values of $R_i$ only occur between parishes within ten
kilometres of each other, and that over eighteen kilometres parishes are only weakly associated. Further evidence of this attenuation of the distribution, with some extremely high values of $R_i$ between neighbouring parishes, is provided by a further 315 calculations, for those pairs of parishes where one or both lists contained less than twenty adult males (and which are neither graphed in Figure 3 nor reported here in detail). Five estimates of $R_i$ exceed 1200, ranging up to as high as 2800, and all five are for places within five kilometres of each other.

By testing our method on further data within the set, we may validate the levels of $R_i$ we obtain. Two small tests are possible, on those parishes with less than twenty men named, and on those names which are similar but not considered as being equivalent. The four lists with between fourteen and eighteen adult males yield an additional 114 values of $R_i$, amongst themselves and with larger parishes: these values have a mean of 258, not greatly different from the mean of the main 351 values, 184. Theoretically, the mean value of $R_i$ should be independent of sample size; however, as one would expect, given the heightened possibility of randomness producing these results, the additional values show far greater variability. Again, there is a negative correlation between these values of $R_i$ and distance, $-0.26$. After expanding the list of equivalent surnames by including those from the more liberal definition of identity, the mean values of $R_i$ are slightly higher, that for the primary 351 calculations rising from 184 to 208, and that for the additional 114 values from 258 to 294.

Figure 4: Relationships between parishes with the eight highest values of $R_i$. 

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Figure 5: Relationships between parishes with the sixteen highest values of Ri.

Figure 6: Relationships between parishes with the thirty-two highest values of Ri.
As Figure 3 shows, great variation occurs within the set of values of Ri. Part of this variation may be explained by reference to the situation on the ground. Figures 4, 5, and 6 map high relationships between the parishes studied. Figure 4 shows those pairs of parishes with the eight highest values of Ri linking them, Figure 5 those with the sixteen highest values, and Figure 6 those with the thirty-two highest values of Ri. A number of observations may immediately be made: the overwhelming trend of relationship appears to be north-south in axis, with the southern parishes of Temple Ewell and, particularly, River having a large number of often wide-ranging contacts. The highest value of Ri within these 351 calculations, .1400, is between the parishes of River and Whitfield, two kilometres apart. This method of analysis does not determine the direction of relationship; however, the fact that River and Ewell are a short way upstream from Dover, and firmly within Dover’s hinterland, would seem to suggest that at least part of the movement observable was towards the attraction of Dover. Perhaps even more clear is the isolation of the parishes within the Isle of Thanet. Extensive areas around the River Stour were marshland, so that movement between the Isle and the ‘mainland’ cannot generally have been easy. The closest link across the Stour is between Monkton and Adisham, where Ri = 312. The mean value of Ri for the three Thanet parishes represented by surviving Marriage Duty Act returns, Monkton, St. Lawrence, and St. Nicholas at Wade, were 136, 122, and 124 respectively; this compares with the mean value of Ri for River of 344.

There would appear to have been relatively few physical barriers to movement in this area apart from the Stour and the marshes. Apart from the southern portion, the land is relatively flat. The general pattern of roads, however, tends to lie north-south, in part determined by the main routes between Dover and Canterbury, and between Dover and Sandwich.

The techniques demonstrated here have been applied to other populations, both historical and contemporary, with often interesting results. English geneticists, for example, have long been studying the population, past and present, of the Otmoor region of Oxfordshire and Buckinghamshire. Analysis of the historical marriage registers and of contemporary electoral registers has produced a pattern of relationship as measured by Ri broadly similar to that described here. Values of Ri for the marriage data were nearly 100 per cent higher for marriage partners within the same parish than between two parishes, and values of Ri measured between the eight Otmoor parishes were higher than for these parishes with others outside the immediate Otmoor region. Ri can be shown to be positively correlated with marital migration as shown by the place of residence information for spouses within the marriage registers; Ri is negatively correlated with distance.

Extremely high values of Ri have been reported for a somewhat isolated valley in the Italian Alps. Kaplan et al. found the highest values between clusters of houses (frazioni) lying very close to each other, somewhat lower values between more distant frazioni of the same community, and still lower values between different communities, particularly where they were not adjacent.
This paper has set out to demonstrate the way in which a reasonably simple technique, using materials quite widely available, may produce a plausible pattern of 'contact,' and by extension, of past migration, within a local area. However imperfect, the method appears to be a robust one and, where it can be validated by comparison with other measures, a reasonably reliable one. Even within a single country, however, the actual values computed for Ri may not be directly comparable. Much depends on both the size of the pool of surnames within the particular locality, and the age of the surnaming conventions operating within an area.\textsuperscript{14}

Given these constraints, this technique would appear to be one capable of extension to other localities, and of further helping us describe and explain the local 'migration fields' within which so much of the physical mobility of the past took place.\textsuperscript{15}

\section*{NOTES}


3. Many of the assumptions underpinning studies of surnames and their transmission may appear cavalier. However, if the data are regarded with sufficient caution, and emphasis is correctly placed upon the broad rather than the very detailed results, we hope to show that this is a viable technique which may be of wide application for measuring general levels of contact within a locality.

4. Kent Archives Office, Q/CTz2. under 6 & 7 William and Mary, c.6, and 8 & 9 William III, c.20.


6. The position of servants within the lists is not always entirely clear. Some lists (particularly in the group of lists with fewer than twenty adult males) do not name servants, whilst some other lists appear to name servants although their status is not indicated explicitly. These occasional omissions would lead us to mis-estimate coefficients in a few cases, but would not appear to be of great seriousness unless servants were especially numerous and had a different spatial pattern of migration from others.

7. Technically, since only half an individual's genes are transmitted from each parent, the value as used by geneticists would be half this: they make the division of Ri by two so that values will correspond with values for relationships calculated from genetic traits traced through pedigrees. However, this is a complication which we may disregard for present purposes, since the relationships between the actual values remain unchanged.


10. Ash-next-Sandwich covered 28.5 square kilometres, for example, of which half was still marshland in 1800.


13. Kaplan et al., 'Communality of surnames...'. For a further, Peruvian, study, see Lasker, 'A coefficient...'; and Lasker, 'Increments through migration...'.

14. So that, for example, the study by E. F. Buckatzsch, 'The constancy of local populations and migration in England before 1800'. *Population studies*, V. 1951-2, pp.62-69, may be criticized for not taking into account the widely differing sizes and origins of the surname sets in Suffolk and Westmorland respectively when comparing the disappearance and turnover of surnames.

15. We wish to thank the National Science Foundation, grant number BNS76-10027, for financial support, and the SSRC Cambridge Group for the History of Population and Social Structure, Oxford University Department of Biological Anthropology, and Oxford University Computing Laboratory for advice and facilities. The complete matrices of values for RI between specified parishes will be placed on file in the library of the SSRC Cambridge Group.

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NOTES AND QUERIES

CHARTULARY BOOKS: A SOURCE FOR MIGRATION IN SCOTLAND,
1740 - 1850

Douglas G. Lockhart

This note is intended to show that chartulary books used to record the title deeds to land purchased for building houses can provide a source for studies of migration in Scotland in the period before census enumerators’ books become available.\(^1\) Planned estate-villages founded by landowners between 1740 and 1850 have been chosen for a pilot study of sources since this form of settlement was initially peopled as a result of migration.

When a household head bought a plot of ground a contract known as a feu-charter was completed giving particulars of the purchaser’s address and occupation. Subsequently, for reasons of administrative convenience and preservation, many manuscript feu-charters were copied into large leather bound volumes known as chartulary books. These books were always retained for updating, when changes of occupants required the insertion of new charters, and in order to provide evidence to settle disputes over property rights. Chartularies were located either at estate or solicitors’ offices.

A number of weaknesses in the data derived from chartularies should, however, be noted:

i) between 40 and 45 per cent of villages were founded on estates whose owners granted only leases to householders. Short leases for periods of less than ninety-nine years were rarely copied into chartularies;

ii) no data for female or family migration flows can be obtained since only household heads were required to sign legal documents;

iii) books rarely offer a complete coverage of every building plot which was sold. Much depended on the zeal of the compiler, though in practice very few chartularies contain less than 50 per cent of possible charters. In some instances, alternative sources such as manuscript charters and lists of inhabitants of villages among estate management papers can be used to fill gaps;

iv) the uneven time period for which information is available raises difficulties when comparing data for several villages;

v) the evidence only indicates purchase of plots and where possible it is necessary to check the names of purchasers against rentals to ensure that migration actually took place; and

vi) locating some books is difficult and may involve checking past and present valuation rolls to discover the name and present address of the estate owner, and correspondence to gain access to records. Some collections of papers of historical interest in estate offices and solicitors’ premises have been surveyed by the National Register of Archives (Scotland) and descriptive lists are available at the Scottish Record Office, H.M. General Register House, Edinburgh, and in Scottish university libraries.
Despite these difficulties, chartularies for twenty-five villages in north-east Scotland were examined and the name of each household head, his occupation, and his place of origin were extracted. Since many of these places of origin were just farmsteads detailed maps such as the Ordnance Survey 1:63,360 seventh series or the 1:50,000 first series must be used. It is not always possible to locate every place on present day maps and recourse to the nineteenth century 1:10,560 first edition is occasionally necessary. Distances between place of origin and destination can then be measured. It was noted that distances varied according to type of occupation and the area and period in which villages were founded. Table 1 makes use of a classification devised by Storrie, to indicate the relationship between employment and distance of migration in four villages representative of the period and area in which they were founded.

Table 1. Mean migration distance (miles) and type of employment.

<table>
<thead>
<tr>
<th></th>
<th>Archiestown Morayshire (1761-6)</th>
<th>North Morayshire fishing villages (1805-30)</th>
<th>Friockheim, Angus (1807-55)</th>
<th>Burrelton, Perthshire (1812-15)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>1.5</td>
<td>8.3</td>
<td>4.4</td>
<td>4.0</td>
</tr>
<tr>
<td>Maritime</td>
<td>—</td>
<td>19.8</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Crafts (textiles)</td>
<td>21.0</td>
<td>—</td>
<td>6.6</td>
<td>3.8</td>
</tr>
<tr>
<td>(other)</td>
<td>11.9</td>
<td>6.2</td>
<td>7.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Manufacturers</td>
<td>30.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Shops/inns</td>
<td>3.5</td>
<td>7.5</td>
<td>8.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Transport</td>
<td>2.0</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Professional</td>
<td>—</td>
<td>2.5</td>
<td>1.5</td>
<td>—</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>—</td>
<td>14.5</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Not stated</td>
<td>—</td>
<td>7.0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Maximum distance</td>
<td>34.0</td>
<td>35.0</td>
<td>23.0</td>
<td>38.0</td>
</tr>
<tr>
<td>Mean distance</td>
<td>13.4</td>
<td>8.9</td>
<td>6.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Number of migrants</td>
<td>32</td>
<td>65</td>
<td>42</td>
<td>49</td>
</tr>
</tbody>
</table>

Note: North Morayshire fishing villages are Burghead, Cummingstown and Hopeman.

Sources: Grant of Monymusk Papers NRA(Scot.) 099, uniform box G bundle 7, miscellaneous feu-minutes; Burghead Chartulary (William Young), Grigor and Young, Solicitors, Elgin; NLS Gordon Cumming Papers Deposit 175. box 1, miscellaneous feu-minutes; Hopeman Estate Book No. 1, Wink and Mackenzie, Solicitors, Elgin; Friockheim Chartulary (John Andson), Cuthbert, Donaldson & Co., Solicitors, Alloa; Perth Estate Chartulary No. 2, Drummond Castle Estate Office, Muthill.

A two-fold division can be made according to distance over which migration took place. Short distance migrants (less than 20 miles) consisted largely of tradesmen, agricultural labourers and fishermen and account for between 90 and 95 per cent of household heads. The remainder, chiefly merchants and manufacturers who previously had been absent in the local area, travelled distances greater than 20 miles. The spacing of existing settlement and the date of founding of each planned village also influenced its distance values. Villages in Moray-
shire have much longer mean migration distances than those in Angus and Perthshire largely owing to differences in the organisation of the local linen industry. In the north, villages were widely spaced and often situated in remote districts; in addition to functioning as market centres they developed independent manufacturing enterprises. Villages in Angus and east Perthshire on the other hand were closely linked to existing urban centres and their foundation reflected an overspill of coarse weaving work from manufacturers in towns such as Dundee and Forfar. Migration distances in the latter area were extremely short and many migrants had originated from a farm or cottage on the estate.

This brief discussion has identified regional differences in migration patterns which result from the different functional characteristics of planned villages in the study area. Possibilities for further research lie in two main directions, firstly extending the study to cover estate villages in other regions and secondly, examining chartularies for migration patterns in other settlement forms. Chartulary books have been compiled in almost every place where land was sold for building and feu-charterers were granted to purchasers. Therefore themes such as migration to market towns and suburban growth would be viable topics for research.

NOTES

1 Census enumerators' books provide information on county of birth (1841) and parish and county of birth from 1851. These are kept at New Register House, Edinburgh.

2 The most comprehensive collection of Ordnance Survey maps of Scotland is located in the Map Room, the National Library of Scotland (Annexe), Causewayside, Edinburgh.


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ATTITUDES TO PREGNANCY FROM A WOMAN’S SPIRITUAL DIARY, 1687-8

Patricia Crawford

Sarah Henry, the eldest daughter of a prominent non-conformist minister, began a diary in August 1686 when she was twenty-two years old, in the hope that she might be ‘furthered [in] a godly life.’ Seven months later she married a widower, John Savage, who had one child. The diary’s purpose remained spiritual, but Sarah’s prayers centred around her desire for a child.

Although the connection between ovulation and menstruation was not understood in the later seventeenth century, one of the first signs of pregnancy which was observed was the suppression of menstruation. Printed medical advice books stated that women menstruated every twenty-eight days, and although in practice physicians recognised that women’s menstrual cycles were irregular, they treated the absence of menstruation seriously, either as a sign of pregnancy or of some disorder, such as green sickness or mother-fits. If a woman were cohabiting with a man, then the absence of menstruation was first viewed as a sign of possible pregnancy: ‘she supposes herself with child... she hath not had her course’ observed Simon Forman of Frances Howard in 1597.3 ‘My wife, after the absence of her terms for seven weeks, gave me hopes of her being with child’ wrote Samuel Pepys.1

Sarah Savage does not mention menstruation explicitly, nor did she write directly of her desire for a child. But she wrote of her desire to be ‘a fruitful vine,’ if the Lord saw good, and the diary shows a pattern of hopes and disappointments about this ‘particular matter’ on which she addressed herself to the Lord.

On Saturday, 22 May 1687, two months after her marriage, Sarah prayed that she might be a fruitful vine, if the Lord saw good. By Saturday, 3 July, she had hopes that the Lord would fulfil her desire about a partic[ular] thing and ten days later (13 July) she was still in hopes of satisfaction of ‘a lawful desire.’ One might infer that she menstruated soon after 13 July, for it was not till August 31 that she again had ‘hopes yt God will hear my Prayers in a partic[ular] matter yt I dayly recommend to him however his will bee done.’ Eleven days later she wrote that over the past week she had reconciled herself to having no children. On Tuesday, 25 October and Tuesday, 6 December, Sarah again recorded her disappointment and her resignation to the will of God. In January, 1688, Sarah was again struggling with her hopes that God had answered her desires ‘in a particular th[ing] which I am waiting on him for still expecting disappoint-ment.’ As time passed her hopes and with them her fears grew. By Sunday, 22 January, she was still in suspense, but on this occasion she had conceived, although she miscarried on 1 March, at which date she thought herselfe about quarter gone’ (that is about ten weeks pregnant).
By 14 June Sarah was once more in hopes of pregnancy. On 16 July she thought she was near the time she had miscarried on the previous occasion, and on 31 July she recorded she was afraid of miscarrying. Her brother-in-law, Dr. Tylston, visited her the next day: he 'Prescribed some things to take, let mee blood.' According to medical theory menstruation was necessary either to relieve a plethora or to purify a woman's body. As a woman was deprived of this healthful evacuation during pregnancy, blood-letting around the time of expected menstruation may have been considered desirable.

Unfortunately this volume of Sarah's diary stops on 1 December 1688, but a printed extract from a manuscript now lost states that on 18 December 1688 her baby died: 'Now I could not keep my passion in bounds. Strength of natural affection works, yet my judgement is quiet.' Presumably the child was born sometime between 1 and 18 December, about seven weeks premature. After these initial disappointments, Sarah finally bore nine children of whom four survived her. She died at over seventy-eight years of age.

How did Sarah calculate the time of her conception? As The English Midwife Enlarged pointed out, a woman 'though well regulated, cannot exactly know by the suppression of menstruation 'the certain time of her being with Child.'

, if she conceive immediately after she hath had them ['her courses'] which happens oftest, and that during the month she copulates with her Husband, at the end of which time her Courses not coming down, she may very well reckon herself with Child, yet for all this cannot know by this sign which Night she conceived on, and so for 3 weeks or a Month, more or less, she may be mistaken in the time.4

Sarah can have had little basis for a more precise calculation of the date of conception when she thought herself 'about quarter gone.'

If the cessation of hopes of pregnancy are set out in tabular form, it appears that at intervals of six to eight weeks, Sarah was reconciling herself to having no children. If God should see good, she wrote in October 1687, 'to delay or totally deny ye mercy of children to me still by his grace I will wait on him, and love him not one jot the less, tho' I sometimes can scarce quiet my spirit as I would.' It is possible she may have had a miscarriage after seven weeks, but it is also possible that the intervals may represent: the pattern of her menstrual cycle, which was irregular, at six to eight weeks. She may have commented on her failure to conceive every other cycle, but her hopes do not usually surface for four or five weeks, and then obsess her for two or three weeks, until hope ceases. This would suggest that she expected to menstruate every four or five weeks. Perhaps an earlier pattern of menstrual cycles had been disturbed by her marriage.

Sarah Savage's diary thus reveals a deep longing for a child, a fear of barrenness. It is possible that other women's diaries may reveal something of their physiological as well as their spiritual states.
Table 1

<table>
<thead>
<tr>
<th>Cessation of hopes of pregnancy</th>
<th>Interval</th>
<th>Other details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1687:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturday 22 May</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thursday 14 July</td>
<td>7 weeks 5 days</td>
<td>March: marries</td>
</tr>
<tr>
<td>Wednesday 7 September</td>
<td>7 weeks 6 days</td>
<td></td>
</tr>
<tr>
<td>Tuesday 25 October</td>
<td>6 weeks 6 days</td>
<td></td>
</tr>
<tr>
<td>Tuesday 6 December</td>
<td>6 weeks</td>
<td></td>
</tr>
<tr>
<td>1688:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday 23 April</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Miscarriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>March 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 July — near time of last miscarriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31 July — fears miscarriage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 August let blood</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Child born between</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 December and 18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>December. Child died 18 December.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(7-8 weeks premature).</td>
</tr>
</tbody>
</table>

NOTES

1. Sarah Savage’s diary, Chester City Record Office, DB8, unfoliated; see also J. B. Williams, Memoirs of The Life and Character of Mrs. Sarah Savage, 1818.
5. Williams, Memoirs of Sarah Savage, pp. 70-1.
6. The English Midwife Enlarged, 1682, p. 24. Part of this work is based upon James Woveridge, Speculum Matrices: or the expert Midwives handmaid., 1671.
A LIST OF THESSES FOR LOCAL POPULATION STUDIES

compiled by David Souden

A great deal of work in the field covered by LPS is contained within theses written for higher degrees. This list of such theses has been taken principally from the annual lists of Historical Research for University Degrees in the UK: theses completed, and the consolidated list, P. M. Jacobs (comp.), History theses 1901-70, both published by the University of London Institute of Historical Research, and from the SSRC/BSA Sociology theses register, 1st edition 1976.

This list cannot claim to be exhaustive: for the most part, the title has been taken as a guide to the theses' contents. It is intended to cover historical population studies in the British Isles: allied subjects such as literacy and social structure are not generally included, and are to be found listed in the above-named publications. Notice of appropriate theses not listed would be welcomed, c/o SSRC Cambridge Group, for future lists.

Unpublished theses are generally deposited in the library of the appropriate university, and may be consulted there, or are often available through inter-library loan schemes.

'A. T. Allen
Population changes in Worcestershire (south of the Birmingham conurbation) and Gloucestershire, 1851-1951
Wales M.Sc., 1961

M. Anderson
Family structure in nineteenth century Lancashire
Cambridge Ph.D., 1969

H. C. Andrews
The economic significance of the present population distribution in Gloucestershire and its relationship to economic developments during the past 150 years in the county
London M.Sc., 1956

W. A. Armstrong
The social structure of York, 1841-51
Birmingham Ph.D., 1967

D. G. Bayliss
An analysis of the changes in the distribution of population in West Yorkshire since 1801
Leeds Ph.D., 1975

R. Blackledge
Population and settlement growth in the south Yorkshire coalfield
Birmingham M.A., 1951

I. Bowes
Cleveland and Teesside: a geographical study of population and occupational changes since 1800
London M.A., 1948
R. D. Bramwell  Nineteenth-century changes in the distribution of population in the south Staffordshire coalfield
Birmingham M.A., 1935

C. Brent  Demographic and economic change in east Sussex in the seventeenth century
Sussex D.Phil., 1974

R. S. G. Brocklebank  An inquiry into the changing distribution of population in the Chilterns since 1821
London Ph.D., 1937

R. L. Brown  Clandestine marriages in London, especially within the Fleet prison, and their effect on Hardwicke's Act 1753
London M.A., 1973

M. F. Bunce  An examination of some factors influencing population changes in rural communities in an area of the north-east Midlands of England, 1861-1911, with special reference to the impact of agricultural depression
Sheffield Ph.D., 1970

R. C. Bunker  Some aspects of the population growth and structure in the Warwickshire coalfield since 1800
Birmingham M.A., 1952

T. Burke  Aspects of the population geography of Co. Cork
Birmingham Ph.D., 1967

B. M. S. Campbell  Field systems in eastern Norfolk during the middle ages: a study with particular reference to the demographic and agrarian changes of the fourteenth century
Cambridge Ph.D., 1975

L. Caroe  Urban change in East Anglia in the nineteenth century
Cambridge Ph.D., 1966

W. A. Carrothers  Emigration from the British Isles, 1815-1921
Edinburgh Ph.D., 1921

C. W. Chalklin  A Kentish wealden parish (Tonbridge) 1550-1750
Oxford B.Litt., 1960

T. J. Chandler  Population changes and industrial growth in Leicestershire since the late eighteenth century
London M.Sc., 1955

J. Clark  The debate over the family and the position of women in England 1800-1850
Hull M.A., 1973

K. M. Cocker  Parish officers and the local community, c. 1600-1660, with special reference to the county of Staffordshire
Manchester M.A., 1976
K. H. Connell  The population of Ireland from 1750 to 1846, and the social and economic factors associated with its increase
London Ph.D., 1948

P. J. Corfield  The social and economic history of Norwich, 1650-1850, a study in urban growth
London Ph.D., 1976

S. H. Cousens  The regional variation in the fall of population in Ireland following the great Irish famine
Cambridge Ph.D., 1958

F. C. Couzens  The growth of the borough and the distribution and density of population in the Chesterfield region since the Industrial Revolution
London Ph.D., 1941

G. O. Cowley  Sussex market towns, 1550-1750
London M.A., 1965

M. J. Croft  The geographical variation of rural population change in eastern Nottinghamshire, 1811-1911, with particular reference to the correlative effect on this variation of changes in agriculture, rural industry and transport
Leeds M.A., 1961

V. C. Davies  Some geographical aspects of the depopulation of rural Wales since 1841
London Ph.D., 1955

R. J. Dennis  Community and interaction in a Victorian city: Huddersfield, 1850-1880
Cambridge Ph.D., 1975

A. M. Dingle  The rôle of the householder in early Stuart London, c. 1603-1630
London M.Phil., 1975

A. D. Dyer  The city of Worcester in the sixteenth century
Birmingham Ph.D., 1966

M. E. M. El Rayah  The internal migration of labour in Ireland, 1841-1911
Belfast M.A., 1961

R. A. P. Finlay  The population of London, 1580-1650
Cambridge Ph.D., 1977

A. J. Froshaug  Poor law administration in selected London parishes between 1750 and 1850
Nottingham M.A., 1969

D. Gittins  The decline of family size and differential fertility in the 1930s
Essex Ph.D., 1974
D. K. Gosling  The parish registers of the churches of SS Philip and Jacob and of St. Thomas in Bristol to 1812 Bristol M.A., 1934

R. Gurney  Population change and population structure 1801-61 in the Peak district of Derbyshire Liverpool Ph.D., 1970

E. M. Hampson  Pauperism and vagrancy in Cambridgeshire to 1834 Cambridge Ph.D., 1931

J. B. Harley  Population and land utilisation in the Warwickshire hundreds of Stoneleigh and Kineton (1086-1300): a study in historical geography Birmingham Ph.D., 1960

F. G. Hannell  The geographical significance of population changes in Carmarthenshire since 1802 Bristol Ph.D., 1952

J. Heads  The internal migration of population in England and Wales 1851-1911 Cambridge M.Sc., 1956

F. Hewitt  Population and urban growth in east Bristol, 1800-1914 Bristol Ph.D., 1966

D. G. Hey  The parish of Ecclesfield in an era of change, 1672-1851 Leicester M.A., 1967

D. G. Hey  Myddle (Shropshire) in the sixteenth and seventeenth centuries Leicester Ph.D., 1971

D. Hillier  Patterns of migration in N.E. Scotland, 1861-1961 Aberdeen Ph.D., 1975

T. E. Hilton  The distribution of population in England and Wales in 1851 Manchester M.A., 1938

T. H. Hollingsworth  The demography of the British peerage: an analysis of the levels and trends of marriage, fertility and mortality of the peerage, dukes to barons inclusive, from the beginning of the seventeenth to the beginning of the twentieth centuries London Ph.D., 1963

D. J. M. Hooson  Some aspects of the growth and distribution of population in Hertfordshire since 1801 London Ph.D., 1955

C. A. H. Howell  The economic and social condition of the peasantry in S.E. Leicestershire 1300-1700 Oxford D.Phil., 1974

49
M. H. M. Hulton  
Aspects of the population structure of later medieval Coventry  
Birmingham M.A., 1971

M. Humphries  
The behaviour of the population of Poulton-le-Fylde in the sixteenth and first half of the seventeenth century, with some reference to economic and social conditions  
Liverpool M.A., 1970

J. Huzel  
Poverty and rural distress in late eighteenth and early nineteenth century Kent  
Kent Ph.D., 1975

M. J. Ingram  
Ecclesiastical justice in Wiltshire 1600-1640, with special reference to cases concerning sex and marriage  
Oxford D.Phil., 1976

J. A. Jackson  
The Irish in London — a study of migration and settlement in the past hundred years  
London M.A., 1958

J. E. C. Jenkins  
Population in central Wales: changes in number and distribution, 1801-1931  
London M.A., 1939

R. J. Johnston  
Aspects of the social geography of Nidderdale, Wensleydale and the northern part of the vale of York  
Manchester M.A., 1964

M. Jones  
Changes in industry, population and settlement on the exposed coalfield of south Yorkshire, 1840-1908  
Nottingham M.A., 1967

M. A. Jones  
The rôle of the United Kingdom in the transatlantic emigrant trade, 1815-75  
Oxford D.Phil., 1956

P. N. Jones  
Aspects of the population and settlement geography of the South Wales coalfield, 1850-1926  
Birmingham Ph.D., 1965

R. E. Jones  
Parish registers and population history: north Shropshire, 1538-1837  
London Ph.D., 1973

S. H. Kim  
The effects of migration from the countryside to the towns on the social lives, conditions and habits of English workers during the Industrial Revolution, as revealed by specified autobiographical evidence  
Manchester M.A., 1965

R. Lawton  
Population migration into and from Staffordshire and Warwickshire, 1841-1901  
Liverpool M.A., 1950
D. C. Levine  The demographic implications of rural industrialization: a family reconstitution study of two Leicestershire villages, 1600-1851
Cambridge Ph.D., 1975

G. I. Lewis  An investigation of changes in population density and distribution, together with changes in agricultural practice in Pembrokeshire during the period 1831-1931
Birmingham M.A., 1937

R. D. Lobban  The migration of Highlanders into lowland Scotland c. 1750-1890, with particular reference to Greenock
Edinburgh Ph.D., 1970

G. R. Lucas  Berkshire: some studies based on the census returns
Reading M.A., 1954

W. R. Luke  Changes in the distribution of the population since 1800
London M.A., 1939

L. Martindale  Demography and land use in the late seventeenth and eighteenth centuries in Middlesex
London Ph.D., 1968

D. R. Mills  Population and settlement in Kesteven, c. 1775-1885
Nottingham M.A., 1957

D. R. Mills  Land ownership and rural population with special reference to Leicestershire in the mid nineteenth century
Leicester Ph.D., 1963

C. D. Morley  The population of Northamptonshire, 1801-1951
Birmingham M.A., 1957

D. F. Macdonald  Population movements in Scotland, 1770-1850
Oxford D.Phil., 1933

K. G. T. McDonnell  The economic and social structure of the parishes of Bromley, Hackney, Stepney and Whitechapel from the thirteenth to the sixteenth century
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A. D. J. Macfarlane  The regulation of marital and sexual relationships in seventeenth century England, with special reference to the county of Essex
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T. W. McGuinness  Changes of population in west Cornwall with the rise and decline of mining
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M. G. Page  A study of emigration from Great Britain, 1802-60  London Ph.D., 1931

J. H. C. Patten  The urban structure of East Anglia in the sixteenth and seventeenth centuries  Cambridge Ph.D., 1972

R. D. Penn  Class and marriage in Rochdale, 1856-1964  Cambridge Ph.D., 1973

J. Porter  The reclamation and settlement of Bowland with special reference to the period 1500-1650  London Ph.D., 1974

M. J. Power  The urban development of east London, 1550 to 1700  London Ph.D., 1971


R. M. Pritchard  Intra-urban migration in Leicester, 1860-1965  Cambridge Ph.D., 1973

W. T. R. Pryce  The social and economic structure of north-east Wales, 1750-1891  Lancaster Poly., CNAA Ph.D., 1971

J. D. Purdy  Hearth-tax returns for Yorkshire  Leeds M.Phil., 1975

Z. Razi  The peasants of Halesowen, 1270-1400: a demographic, social and economic study  Birmingham Ph.D., 1976

P. E. Razzell  The rôle of smallpox inoculation in the growth of population in eighteenth century Britain  Oxford D.Phil., 1969

A. Redford  The migration of the wage-earning classes in England in the early part of the nineteenth century  Manchester Ph.D., 1922

B. K. Roberts  Settlement, land use and population in the western portion of the Forest of Arden, Warwickshire, between 1086 and 1350: a study in historical geography
Birmingham Ph.D., 1965

S. A. Royle  Urban development and social structure of Leicestershire towns from the nineteenth century
Leicester Ph.D., 1976

P. Rushton  Approaches to the sociological study of the organization of family structure in the UK, 1800 to present: a critical analysis
Manchester M.A.. (Econ.), 1974

G. M. Sarson  The geographical reasons for the growth of the population of south Staffordshire, east Warwickshire and Leicestershire from 1801 to 1931
London Ph.D., 1937

P. A. Slack  Some aspects of epidemics in England, 1485-1640
Oxford D.Phil., 1972

A. E. Smailes  Population in the dales of north east England
London M.A., 1933

R. J. Smith  The social structure of Nottingham and adjacent districts in the mid nineteenth century
Nottingham Ph.D., 1968

R. M. Smith  English peasant life-cycles and socio-economic networks: a quantitative social geographical case study
Cambridge Ph.D., 1975

R. Speake  A study in demography based on the ancient Lancashire parish of Warton
Lancaster M.Litt., 1968

H. M. Spufford  Rural Cambridgeshire, 1520-1680
Leicester M.A., 1962

H. M. Spufford  People, land and literacy in sixteenth and seventeenth century Cambridgeshire
Leicester Ph.D., 1970

G. Starmer  Leicester's rural-urban fringe: a study of industry and settlement
Nottingham M.A., 1959

R. F. Suggett  Some aspects of village life in eighteenth century Glamorgan
Oxford B.Litt., 1976

I. C. Taylor  A social geography of the working-class area of Liverpool, 1780-1864
Liverpool Ph.D., 1976

53
P. Taylor A study of planned urban and rural industrial settlements and communities in the United Kingdom during the nineteenth century Durham Ph.D., 1961

E. G. Thomas The treatment of poverty in Berkshire, Essex and Oxfordshire, 1723-1824 London Ph.D., 1971

J. Z. Titow Land and population on the bishop of Winchester's estates, 1209-1350 Cambridge Ph.D., 1962


N. Tranter Demographic change in Bedfordshire from 1670 to 1800 Nottingham Ph.D., 1966

S. W. E. Vince The rural population of England and Wales, 1801-1951 London Ph.D., 1955

R. Wall A history of the development of Walthamstow, 1851-1901 London M.Phil., 1969

K. Walton The distribution and structure of the population of north-east Scotland, 1696-1931 Aberdeen Ph.D., 1951


F. West The social and economic history of the East Fen village of Wrangle, 1603-1837 Leicester Ph.D., 1966

M. I. Williams A sociological and statistical study of the population of the vale of Glamorgan during the first half of the nineteenth century Wales M.A., 1939

M. E. Witherick Stages in the growth of urban settlement in central Cornwall Birmingham Ph.D., 1963


J. Woodhurst Working class adolescence in nineteenth century England Essex Ph.D., 1974
MORE GENEALOGICAL LIBRARIES IN GREAT BRITAIN

Paul F. Smart

Paul F. Smart is the Supervisor of the British section of the Library of the Genealogical Society in Salt Lake City.

With the ever increasing demands for information on local and family history, the Genealogical Society of Utah has established 'branches' in England and Wales.

The Genealogical Society of Utah was founded 13 November 1894 in Salt Lake City, Utah. It was a small beginning as the collection at that time consisted of about 100 printed volumes, mostly English genealogies and pedigrees. By the turn of the century the library consisted of 388 volumes. Now, eighty years after its founding the library's collection consists of nearly 161,000 printed volumes and over 1,110,000 rolls of microfilm.

The British Collection in the library includes materials not only from the British Isles but also the countries of Australia, New Zealand and South Africa. This collection consists of over 24,000 printed and manuscript volumes representing family and local histories, biographies, guides to archives and libraries, historical, archaeological and family periodicals, as well as other printed source materials. The microfilm acquisitions began in 1938 and now amount to nearly 91,000 rolls of microfilm representing church records, censuses, civil records, probates and other items for each of these countries.

The Society has also gathered microfilms of original records from such areas as Central and South America, Scandinavia, Continental Europe, Africa and Islands of the Pacific and other oceans. The entire microfilm collection is the largest of genealogical materials in the world.

Some 700 employees work within the library system doing computer work, cataloguing, filming, investigating records for filming, processing film and providing reference service.

An average of 3,200 patrons visit the library each day. The reference librarians service these patrons who are trying to trace their genealogies. The staff does not actually trace the patron's genealogy, but advice is given as to which records would help.

These services are also for people outside the Salt Lake City area. Nearly 300 branch genealogical libraries have been established throughout the world. In the last two years five have been established in England and Wales. These branch libraries welcome both non-members and members of the Church of Jesus Christ of Latter-day Saints.
The operation of these libraries is under the direction of the local Church authorities. They are normally open for a minimum of twenty hours a week. Exact hours may vary from one library to another. There are no admission charges — however, there is a small handling fee to off-set postage charges for each microfilm ordered.

For specific information on the operation, hours, etc. of any of these libraries, contact the BRANCH GENEALOGICAL LIBRARIAN and use the following list of mailing addresses and locations:

<table>
<thead>
<tr>
<th>Mailing Address</th>
<th>Location and Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huddersfield Stake</td>
<td>Huddersfield Stake Centre</td>
</tr>
<tr>
<td>Branch Genealogical Library</td>
<td>12 Halifax Road</td>
</tr>
<tr>
<td>P.O. Box B112</td>
<td>Birchencilffe</td>
</tr>
<tr>
<td>Huddersfield, Yorkshire</td>
<td>Huddersfield</td>
</tr>
<tr>
<td>HD3 3BY</td>
<td>No phone</td>
</tr>
<tr>
<td>Leicester England</td>
<td>Loughborough Ward</td>
</tr>
<tr>
<td>Branch Genealogical Library</td>
<td>Alan Moss Road</td>
</tr>
<tr>
<td>133 Station Street</td>
<td>Loughborough, Leics.</td>
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<td>Loughborough, Leics.</td>
<td>Loughborough 214991</td>
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<td>LE11 0BG</td>
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<tr>
<td>London England</td>
<td>Hyde Park Chapel</td>
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<tr>
<td>Branch Genealogical Library</td>
<td>64 Exhibition Road</td>
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<tr>
<td>64/68 Exhibition Road</td>
<td>London SW7</td>
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<tr>
<td>London,</td>
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<tr>
<td>Sunderland England</td>
<td>Sunderland Stake Centre</td>
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<tr>
<td>Branch Genealogical Library</td>
<td>Alexandra Road</td>
</tr>
<tr>
<td>94 Marsden Road</td>
<td>Sunderland, Tyne &amp; Wear</td>
</tr>
<tr>
<td>So. Shields, Tyne &amp; Wear</td>
<td>No phone</td>
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<tr>
<td>NE38 7QL</td>
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<tr>
<td>Merthyr Tydfil Wales Stake</td>
<td>Merthyr Tydfil Stake Centre</td>
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<td>Nantygwenith Street</td>
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<tr>
<td>(Merthyr) Ltd.</td>
<td>Georgetown</td>
</tr>
<tr>
<td>Weighbridge Yard</td>
<td>Merthyr Tydfil, Wales</td>
</tr>
<tr>
<td>Georgetown, Wales</td>
<td>Merthyr Tydfil 2455</td>
</tr>
</tbody>
</table>

A visitor to one of these libraries will find some of the following collections and services available:

1. **MICROFILM CARD CATALOGUE (MCC)** — Each branch library has a copy of the Genealogical Society's card catalogue. This enables one to know what records are available in Salt Lake City.
One drawback is the lack of frequency with which this catalogue is filmed. There has not been a filming since 1974 which means it is nearly four years behind. It also means that it will often be necessary to write to Salt Lake City to find out if your record of interest is actually available. It is planned to computerize this catalogue in the near future which should help alleviate this problem.

2. COMPUTER FILE INDEX (CFI) — This is a listing of over 37 million names from all countries and periods of time. Nearly 25 million of these names are for the British Isles. It is available at all branch libraries and is updated periodically. Those desiring more information, including what sources are indexed should refer to The Genealogical Department’s Computer File Index, Series F4, a publication available at all branch libraries or by writing to Deseret Enterprises Ltd., 18 Hammond Avenue, Whitehall Industrial Estate, Stockport SK4 1PQ.

Great care has been taken in the preparation of this index. However, the possibility of error still exists.

3. BASIC COLLECTION OF BOOKS — It is recommended, though not required, that the British branch libraries obtain certain basic reference tools and guides for research. Items such as Crockford’s Clerical Directory, instructional books and gazetteers and atlases, are often in these libraries.

4. RECORDS LOANED — All those records filmed by the Genealogical Society can be loaned to the branch libraries except those restricted by the archive or custodian of the original record. Printed and manuscript materials are not loaned unless they can be put on microfilm without violation of copyright.

Note that most of these libraries do not have large quantities of microfilm on hand. In most cases one visit to the library is necessary to order the records and then a return visit, a few weeks later when the microfilms arrive.

Researchers will find it necessary to look at other library and archival collections too because:

1. The Genealogical Society usually only films one major source (all christenings, marriages and burials for the British Isles) and a backup source (probates for the British Isles).

2. After placing a loan request it takes several weeks before a microfilm is received at the branch. Often it is faster to visit a record office or library.

3. The Genealogical Society hopes to build a ‘complete’ collection of vital records but some English counties are poorly represented. These include the former counties of Dorset, Somerset, Wiltshire, Cambridge, Hereford, Hampshire, Kent, Norfolk, Huntingdon, Northampton, Rutland, Cheshire, Oxford and Surrey.
4. The staff at these local offices will be able to provide valuable assistance when it comes to using the records that might not be available in one of the Genealogical Society Branch Libraries.

The advantages of using the local record offices will never be replaced by these branch libraries. However, for those researchers who may not wish to travel the country in order to obtain records and who do not mind placing a request for them and waiting until they arrive, it is feasible to gain access to the 1841-1871 censuses, parish registers and/or bishop's transcripts, and even wills and their calendars for a given locality or even several localities.
CORRESPONDENCE

Letters intended for publication in **LPS** should be sent to Richard Wall, 27 Trumpington Street, Cambridge CB2 1QA.

**Editor’s Note**

**LPS** readers are reminded that the editorial board is always prepared to offer advice on subjects within the scope of **LPS**. Sometimes queries which have been raised are discussed in print in this section of the journal but there are many others which are not published, so if you think we can help do not hesitate to contact us.

**LPS ten years on**

Dear Sirs,

**LPS 20** has just arrived. As an early participant in the activities of the group I appreciate very much indeed the editorial and the notes on page 12. It is just as well to use the tenth anniversary for a little stock-taking. I do not think it is generally realised by some of the readers of **LPS** the time-scale of activity which was set in motion ten or so years ago and that all that has been accomplished so far is the construction of a very carefully considered foundation on which other work can be built. The publication of the reconstruction of English population history is the kind of thing I have in mind since this seems to me to be the very natural outcome of early research and will I trust serve as an essential reference document for further local population studies of all kinds. I would stress the words ‘all kinds’, however, since the study of population history embraces all human activities of historical interest. My own approach has been an endeavour to gather together all the material available for ‘a little manageable piece’ as a contribution to the total picture.

In consequence of what I say above, I must say I do not share the views implied in the letter by Jane Doe on page 56. Are we not all interested in all the aspects of her studies which she mentions? If getting the material published is the problem, and only by breaking it up can this be achieved, I am sympathetic — but otherwise I would have thought she ought to be encouraged to write a book for us all.

Yours sincerely,

W. Newman Brown.

‘Kaimfoot’, Mid Calder, Livingston, West Lothian.

**Names**

Dear Editor,

Since issue No. 18 in which an appeal was published from Mr. Gosling of The Names Society, I have spent perhaps a total of ten hours over many months going through printed parish registers on the shelves of my Local History Library.
This has been exceptionally rewarding and not just for Mr. Gosling's purpose but to me also. An hour will do wonders; a piece of scrap paper, females on one side and males on the other, a note of source and year, and off we go making little 'gates' indicating frequency of appearance. I have formed the habit of doing this over perhaps a five year period in sixteenth and seventeenth century registers in the north-west, this being an area about which information is rather thin.

One records the multiplicity of Johns and Marys and then discovers poor little ANONIMUS, the son or daughter of James Crossley, 5.11.1619. This is obviously one of nature's little imperfections and has caused much interest to my friend Dr. Roger Wood of the Botany Department, Manchester University, he being a geneticist.

May I ask any parish register searcher who has found anything similar to this particular entry to get in touch with me? Foundlings, of course, are not the same thing. It is the indeterminate sex which is so interesting because such children often do not live long and in past centuries may not have been christened or even registered.

What work I have done has helped Mr. Gosling and has revealed names thought to have vanished; others have appeared not previously recorded. An hour's work can do a lot and is enjoyable. I urge you to help.

Yours faithfully,
Mary Turner.

67 Manor Road, Levenshulme, Manchester 19.

Fines for burials in linen

Dear LPS,

Recently I was asked to provide information as to where in the blitzed church of St Anne's Soho the second Lord Camelford was buried in 1804, since there is a possibility of his remains being removed for reburial at the place which he requested when dying. (In fact by checking the burial books and churchwardens' accounts I was able to ascertain that his remains are in a vault under the present Dean Street car-park and fairly certainly under the site of the attendant's hut!) In the churchwardens’ accounts I found this entry:

‘Fine for burying Lord Camelford in linen, £2 10s. 0d.’

This was one of two such fines paid at St Anne's in 1804.

I realise that under the act for burial in woollens, passed in the reign of Charles the second and repealed, I believe, in the early nineteenth century a burial in linen would incur some sort of additional monetary payment; but I was under the impression that the act had been long ignored by the time of Lord Camelford’s burial.

60
Can anyone supply information about the act for burial in woollens, and in particular whether the act was applied universally up to the date of repeal (or whether St Anne's Soho was an exception), whether the fine for burial in linen was fixed by statute and who was entitled to receive the money?

Yours sincerely,
Bryan Burrough.

5 Wardour House, 104 Wardour Street, London W.1.

Measuring migration

Dear Sir,

I read with interest the article by J. M. Martin in the Spring 1978 issue of LPS concerning, amongst other topics, migration to Stratford-upon-Avon. I should like to draw attention to a simple mathematical consideration with might help in drawing conclusions from data on distances travelled to a centre by migrants, as given in this and similar investigations.

Suppose for a centre C we obtain the distances travelled to the centre by migrants, and classify these by 0-5 miles, 5-10 miles, 10-15 miles, 15-20 miles, etc. The 'catchment area' for 0-5 miles is $\pi \times 5^2$ sq. miles, being the area of the smallest circle. The catchment area for 5-10 miles is $\pi \times 10^2$ sq. miles minus $\pi \times 5^2$ sq. miles, being the area of the ring between the smallest circle and the second smallest. Similarly for the succeeding rings outwards from C. For the smallest circle and then the rings in turn we thus obtain areas of $25\pi$, $75\pi$, $125\pi$, $175\pi$ sq. miles, etc. Thus the ratios of the areas as we move outwards are $1:3:5:7$, etc.

So if for a moment we assume that, for instance, the density of immigrants from the second ring is the same as for the central small circle, then we shall expect three times as many, roughly, from 5-10 miles as from 0-5 miles. So, if in fact the number of immigrants from 5-10 miles is less than three times that from 0-5 miles, we may suggest a greater density of immigration from 0-5 miles, and vice-versa if the number from 5-10 miles is greater than three times that from 0-5 miles.

Similar comments apply, with different factors, to other regions. Your readers may like to view the data of the Stratford article in this light. Generally I would suggest that this 'area effect' should always be borne in mind in migration studies.

Yours sincerely,
Rex Watson.

29 Woodland Road, Sawston, Cambs.
A course on the historical geography of population in England

Dear Sirs,

Further to your item on Historical Demography in United Kingdom First Degree Courses (LPS 20, 1978, p.49), your readers might be interested to learn of the course 'Historical Geography of Population in England' which is offered to third year students reading for the B.A. (Honours) Degree in Geography at the North Staffordshire Polytechnic (Stafford).

Yours faithfully,

Peter W. Bush (Dr)
Principal Lecturer in Geography.

Department of Geography and Sociology, North Staffordshire Polytechnic, Beaconside, Stafford ST1 OAD.

Two pre-1841 censuses

Dear Sirs,

Mrs. Freda Wilkin-Jones, archivist at the County Record Office, Nottingham, has drawn my attention to a census of 1821 relating to Old and New Radford, near Nottingham, in two separate notebooks (references PR 14751 and 14752) and a list of householders and number of children in each household circa 1813 in a book of accounts (reference PR 15746). With the later censuses becoming available, perhaps this information will be of little use to Local Population Studies, but on the principle of 'don't throw anything away', I am passing these references to you in the hope that the information will be of interest to someone amongst your readers.

Yours sincerely,

J. D. Young (Mrs.).

8 Pateley Road, Mapperley, Nottingham NG3 5QF.
MISCELLANY

Memorial tablet in Hatherleigh Parish Church, Devon

Contributed by Karla Oosterveen

‘In Memory of William, son of William Wyvill of this parish who was buried Ocr the 10th 1693 and also of John, son of John Fortescue of this town, Gent, by Joan, daughter of the said William Wyvill who was buried Novr 20, 1707. Likewise in the memory of Jane, daughter of the said John Fortescue and of his wife who was buried August 12, 1711.’

The Memorial Tablet is of interest because it commemorates jointly the children of a gentleman and a commoner, one of whom must have been a bastard. It would appear too that only two of Mr. John’s twelve children, seven of whom died in childhood were thus commemorated. No further memorial tablets or monuments to any members of this prominent Devon family were discovered in the Church, though there may have been monuments or gravestones in the churchyard.

In the Hatherleigh baptism and burials registers all the children are entered as son or daughter of Mr. John Fortescue; the wife’s name is never given, neither is Joan Wyvill named as the mother of John, son of Mr. John Fortescue, baptised 18-11-1707, buried 20-11-1707. No Fortescue marriage is entered in the register, but there is a burial entry (30-11-1758) of Joan, wife of Mr. John Fortescue. Was her maiden name Joan Wyvill and if so, when did Mr. John make an honest woman of her — after the birth of the first child?

Extract from the parish registers of Hatherleigh, Devon

<table>
<thead>
<tr>
<th></th>
<th>baptised</th>
<th>buried</th>
</tr>
</thead>
<tbody>
<tr>
<td>John, son of Mr. John Fortescue</td>
<td>18-11-1707</td>
<td>20-11-1707</td>
</tr>
<tr>
<td>Mary, d.</td>
<td>27-2-1709</td>
<td></td>
</tr>
<tr>
<td>Jane, d.</td>
<td>21-2-1711</td>
<td>12-8-1711</td>
</tr>
<tr>
<td>Joanna, d. of John Fortescue, gent</td>
<td>12-5-1712</td>
<td>6-4-1713</td>
</tr>
<tr>
<td>William, s.</td>
<td>19-5-1714</td>
<td></td>
</tr>
<tr>
<td>John, s.</td>
<td>3-1-1716</td>
<td>14-1-1762</td>
</tr>
<tr>
<td>Joanna d.</td>
<td>8-2-1717</td>
<td></td>
</tr>
<tr>
<td>Faithful, s.</td>
<td>12-3-1718</td>
<td></td>
</tr>
<tr>
<td>Henry, s.</td>
<td>15-4-1719</td>
<td>12-8-1722</td>
</tr>
<tr>
<td>Jane, d.</td>
<td>31-3-1721</td>
<td>23-7-1722</td>
</tr>
<tr>
<td>Henry, s., Mr. John</td>
<td>5-4-1723</td>
<td>30-5-1724</td>
</tr>
<tr>
<td>Joseph, s.</td>
<td></td>
<td>29-5-1732</td>
</tr>
</tbody>
</table>

† This may have been the father.

I am indebted to Dr William Reader for a transcript of the memorial tablet and to Beatrice Shearer for searching out the register entries in a transcript of the Hatherleigh parish registers lodged at the Society of Genealogists.
Two entries from the marriage register of Taxal, Cheshire

Contributed by Mary Turner

Hannah Wright and Anne Gaskill,
Parish of Prestbury, 4th September 1707

Ane Norton and Alice Pickford,
Parish of Prestbury, 3rd June 1708.

Normally of course, in this as in other registers the man’s name comes first but there does not seem to be any room for manoeuvre at all here — those four names are feminine. And why go to Taxal? Was the incumbent there more lenient? There does not appear to be any attempt to cover up.

More Vaguely Demographic:

Solution

The winners of the ‘More Vaguely Demographic’ crossword competition were M. Cross of Headington and Miss A. D. Harris of Solihull.

Only two correct solutions were received.

So.
Farewell
Then.

E. J. Cohort (17)
I specialise in

BRITISH LOCAL HISTORY
and TOPOGRAPHY

All parts of England, Scotland and Wales

Catalogues issued frequently. Collections and single items purchased

A. J. Coombes — Bookseller

25 Tynedale Road,
Strood Green,
Betchworth,
Surrey, RH3 7JD.

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EDITED BY JANET BLACKMAN AND
KEITH NIELD,
Department of Economic and
Social History,
University of Hull

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Frequency: January, May and October

METHUEN. 11 New Fetter Lane, London EC4P 4EE
A group of cottagers at their door shelling peas