Local
Population
Studies

No. 6
Spring 1971
LOCAL POPULATION STUDIES

No. 6 Spring 1971

Published twice yearly in association with
Nottingham University Department of Adult
Education
ED\ntORIAL BOARD

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The Annual Subscription to Local Population Studies is 50p. for U.K. and 2 dollars for North American readers. For other subscribers an additional postage charge has to be made.

Subscriptions should be sent to the Subscription Secretary:-

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Cheques should be made payable to Local Population Studies Magazine.

Individual copies and back numbers available from:-

The Subscription Secretary 37p each.

Details of advertising rates are obtainable from the:-

Advertising and Business Manager,
Tawney House,
Matlock,
Derbyshire, DE4 3BT
England
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EDITORIAL

Part of a conversation at the Public Record Office between two members of the Editorial Board and Dr. N.J. Williams, Deputy Keeper of Public Records and Mr. E.K. Timings, Principal Assistant Keeper and Head of Search Department.

Dr. Williams

In May the twelfth annual report of the Keeper of Public Records was published, surveying the whole work of the office during the year 1970. You will see from it that it was the busiest year the office has ever had, with the attendance by the public increasing by just over 14% on the previous year and the documents produced for the people that came into the research rooms by 17%. Let me give the figure for that - 287,000 documents were produced for members of the public and if you turn to one of the appendices which breaks down the different type and class of records, you will see that census returns for 1841, 1851 and 1861 totalled 35,000 out of the 287,000 total productions for all classes. 1841 and 1851 returns were 19,000 of productions and the 1861 returns 16,000 productions.

Editors

How does this compare with past years?

Dr. Williams

The figures show some change - the 1861 returns were slightly less in demand than in the previous two years, whereas those for 1841 and 1851 were well up; generally the level of interest has been maintained, we know this of course from other sources. One search room, the census room in our Portugal Street Office (in the Land Registry building off Lincolns Inn Fields, WC2) is almost exclusively concerned with the production of census returns. They also produce non-parochial registers, but these are a very small group and the public interest in them is far less than in the census returns, and there you have just over 50 seats in the census room out of a total seat number in Chancery Lane and Portugal Street of 330, so you could say about one eighth of the interest of the public in the public records is directed towards census returns.
Mr. Timings

Another point, as anyone will know who has worked in the census room, is that production there is remarkably quick. It is a matter of waiting a few minutes for things, so the turnover of people, because they get their records quickly, is noticeably higher, and a lot of the genealogists, family historians, etc. come for a few days only and never return, they are replaced by someone else interested in the same sort of things. This is very noticeable compared with our other clientele. We try and find out as much as we can about our readers and this is certainly a pattern.

Dr. Williams

You might be interested in a special study that has been of this, partly in connection with the planning of our new building in Kew which we hope to open there in 1976. This is a long way off. But we did a study of readers during last summer. It was done by Market and Opinion Research International. They had lengthy questionnaires which people were asked to complete. After a pilot scheme for a very limited time, they went ahead with the main one. Trying to find out about people’s interests, habits of work, methods of travel, etc. You might be interested in their analyses of the census room users during the limited period that they had the survey going. It was a self-completion questionnaire - we do not know exactly how many just did not bother to fill it in, but of 217 census room users, they found that 42% came in one day or less; 30% between a day and a week, 6% only for up to a month and 2% between 1 and 3 months, 6% between 3 months and 1 year and 13% over 1 year. I expect the 13% were all professional researchers. So visits they concluded were of shorter duration than in the other search rooms, nearly 3/4 for a week or less compared with the total of 41%, and a similar number 13% during that period were making a first visit on the day they filled in the form, it was the first time they had been to the P.R.O. at all and you get much the same sort of breakdown over their hours of work. Most census users expect to work between 3 and 5 hours.

Editors

People coming to use the census documents, do you expect them to come straight to Portugal Street or do they need to come here first to get tickets?
Mr. Timings  No, they don't have to come here, they are given a temporary chit in Portugal Street.

Editors  And if they write to you, would they write there as well?

Mr. Timings  No, all correspondence is handled in our central registry here.

Dr. Williams  I think it would be helpful if you described the arrangements for Saturday openings.

Mr. Timings  When the census records were in Chancery Lane, we opened the search rooms on Saturday morning and so the census was available. When they were moved to Portugal Street we did not have the staff available to open the search rooms here and a search room in Portugal Street, and we felt it was fairer to a larger number of people to keep the room open here where the great variety of documents could be produced which could satisfy the Saturday morning public. We expected to get a large number of complaints from the people who had seen census records - and they had seen quite a lot of census records, in the search room on Saturdays.

Dr. Williams  Yes, there used to be at least half. But strangely enough there was remarkably little complaint from the public. We always hoped that we would be able to open a search room in Portugal Street and from June of this year we started an experimental period of opening just the census room and just for census records and non-parochial records, but so far the response has been modest.

Editors  How will your intention to microfilm all the census material affect researchers?

Dr. Williams  The ultimate plan is that census records will be produced only in the form of microfilm; many of the census records themselves, especially the 1861 census, were in a very bad physical condition when they came to use and of course they take up a lot of room. So the intention is that ultimately they will all be produced
in the form of microfilm. The 1871 census will be microfilmed. At the moment the '51 has not been done, but the '41 has. The '41 census is also in a pretty bad state - faded and so forth and so sometimes the image on the microfilm is not always good and we will in that case produce the documents. Another problem is that the '61 census is not on 35mm but on 16mm, which is not very satisfactory, but this is going to be re-filmed on 35mm but that will take some time.

Mr. Timings

If you go into the census room you will find there are 50 microfilm readers ready for wiring up ready to meet public demand in January '72. Our aim is obviously to preserve the records and these, as production shows, are extensively used and some are quite fragile and you have got to take these sensible precautions; so that it will be the film people expect and not the original.

Dr. Williams

Talking about microfilm, I think it important to draw attention to maybe an obvious thing, that over the years from all quarters of the country there has been a considerable demand for microfilm by institutions, universities, public libraries, local record offices and so on, getting in films of returns for the areas in which they are particularly interested and already we have had a great many orders from institutions for the 1871 census. These will be despatched in January and this will to some extent relieve pressure on the search room.

Editors

Nevertheless you must be expecting quite a rush. Have you prepared for all those people who don't quite know what they're looking for - presumably there will be guides similar to those for the other enumerators' returns?

Dr. Williams

We all hope that the people who come will find the means of reference helpful. There will be handout leaflets, so that people will know about the particular census records, drawing attention for instance to the street indexes for the greater cities so that people can get on to the material they want as quickly as possible. It is not always easy; the enumerators' districts are sometimes hard to distinguish, but we do have people in charge of the census room who spend a lot of time thinking about this and we do have a great variety of indexes built up over the years and the present officer in charge has produced a very useful guide to the census records which is actually in
the census room. We have done pretty well everything we can at the moment, but there are always problems arising.

Mr. Timings We will continue to do for a statutory fee searches for individuals where there is some likelihood of information coming up. Obviously if someone says I believe my great-grandparents lived in Sheffield, no idea of any parish or street, etc. this is just not on. This is something they can follow up themselves or employ a professional record searcher to do so. We are getting an enormous number of letters of that sort. We do undertake for a fee - it used to be £3, since January 1 this year it went up to £5 - to do a search when there seems some likelihood of satisfactory information and the reply would include a print from the return. I think last year the total number of paid searches was about 300.

The remainder of this conversation will be printed in L.P.S. 7.

Additions to the Editorial Board

Since L.P.S. began nearly three years ago the demands on the time and energy of the editorial board have increased steadily. We have therefore decided to increase our size, first of all by appointing someone to carry the main burden of correspondence and general administration which now engulfs us. We have asked Richard Wall, a research member of the Cambridge Group, who has personally worked extensively on the local history of Walthamstow in Essex, to join us in this capacity, and in future all correspondence or contributions to L.P.S. should be addressed to him at 20 Silver Street, Cambridge. This should provide a welcome and well-earned relief for Colin Barham, who will now be able to devote more time to his own particular interests in the educational uses of local population studies in schools and colleges. We feel that this area is an important one, and we hope that it will soon be possible for us to extend our interest in it still further by inviting someone else with experience in this field to join us and work with Colin Barham.
Meet the Editors

On Sunday April 16th we shall be holding our next editorial meeting in Kent at Colin Barham's home, Sutton Cottage, East Sutton, near Maidstone. Our meetings usually last all day but we thought it would be an interesting experiment to confine our business to the morning and spend the afternoon discussing L.P.S. with any readers who are able to come. The meeting will be quite informal. It will start at about 3 p.m. If you want to know how to get to Sutton Cottage please contact Colin Barham.

David Avery
Colin Barham
Christopher Charlton
Roger Schofield
Richard Wall
NEWS FROM THE CAMBRIDGE GROUP
FOR THE HISTORY OF POPULATION AND SOCIAL STRUCTURE

There is to be a television programme about the activities of the Cambridge Group to be shown on BBC2 in the series mainly devoted to archaeology, but also occasionally to historical subjects, directed by the well-known producer Mr. Paul Johnstone. It is not yet known when the broadcast itself will take place, though it will probably be in the spring or early summer of 1972, nor is the title decided. But photography is to take place in November of 1971, and the provisional plan of the programme, which will last for about three quarters of an hour, is that it shall proceed from the field inwards. That is to say it will start with those who work locally on demographic and social structural records, particularly the parish registers, display those documents, and record some conversation with some of the people engaged on them. The scene will then change to 20 Silver Street, and to the operations which we perform here on the materials which are sent to us from localities. We will discuss these operations, and try and make clear what the intellectual and academic objects of the work are. We shall talk about family reconstitution, aggregative analysis and the general course of English population changes, and also about such subjects as starvation, illegitimacy, and family structure. We shall mention the importance of the material to the study of present society and its problems in many parts of the world as well as its relationship to us and our English past. It is hoped that in the last part of the programme the scene will change to some foreign countries, perhaps France, Jugoslavia, Japan and the United States of America. There the viewer will have an opportunity of seeing what work of this kind is being pursued in other countries, and he should be put in a position to judge how our own local population studies relate to a wider context.

This programme serves to underline a part of the work of the Cambridge Group which is not perhaps often mentioned, namely the use of local population material in the Group's University teaching. Dr. Wrigley lectures in the Faculty of Geography and in the newly established programme set up for the social and political sciences in the university on demography, making use of demographic results from such villages as Colyton, Easingwold, Hartland, Banbury and elsewhere. Dr. Schofield and Mr. Laslett run a class based on the documents themselves, for undergraduates and research students interested in
social and demographic history. The attenders of this class are beginning to come from many parts of the university and include mathematicians and statisticians. Perhaps the most important part of our University work, however, consists in the work of the work of the research students who are associated with us:

1. **Richard Smith** is working with Dr. Schofield on Manorial court rolls to discover as much as possible about the demography and the familial and social structure of the thirteenth to the fifteenth centuries. He has made some interesting discoveries, not only of a demographic kind, but also relating to the social and economic relationships in the medieval village.

2. **David Cressey** is also working with Dr. Schofield, but on literacy and education in the 17th century. He is using the ecclesiastical records of the dioceses of London and Norwich to determine the number of schoolmasters as well as the number of schools, and has submitted the evidence about the numbers and types of persons who attended Universities in Stuart times to rigorous scrutiny. David Cressey's work very much extends our knowledge of these crucially important questions at the time, and when he publishes his research it will revise accepted opinions to a considerable degree. He has already, in a short note published in *Past and Present*, made it clear that the influx of the gentry into the Universities in Elizabethan and Early Stuart times may have been exaggerated by historians simply because they mistranslated the Latin word *ingenuus* as 'gentleman' when in fact it means 'yeoman'. David Cressey now teaches at a Californian college though he spends some time every year in Cambridge working with us, and we hope that the results of his work will be published in further articles in the next year or two.

3. **Michael Prentice** is a statistician who is developing improved methods of detecting statistical differences in situations where imperfections in the material rule out the use of conventional methods. For the technically minded, this lies in the field of likelihood ratio tests of cumulative distribution functions.

4. **Keith Wrightson** is working on the 1650s, and his object is to try to estimate the effect of the victory of puritanism in the Civil War on the habits and outlook of English country folk. He has chosen two counties on which to research, one of them Lancashire and the other Hertfordshire. He is interested not simply in the effect of prosecutions of various kinds, which the victorious puritans instituted
in the courts, but also in such things as illegitimacy, which is known
to have been at a nadir in the 1650s, and in fertility and mortality.
His difficulty is that English registration during this time is at its
worst.

5. Miss Elizabeth Wolniakowski is working with the Group for one
year only and her subject is the village of Puddletown in Dorset.
Miss Wolniakowski is from Cornell University in America. Puddletown
has a unique set of census and census-type recordings, the earliest
being that of 1724. There is another listing in 1769 and she has the
umerators' lists for 1841, 1851, 1871 and 1881. Miss Wolniakowski
is undertaking a general structural analysis of this Dorsetshire village
over this long period, the longest for which social structure of any
village can as yet be examined, and we expect to learn a very great
deal from her results. A preliminary, but very important one, is
that the 19th century was not a period when household structure grew
less complex with fewer extended families, but rather the reverse;
in Puddletown households were less complicated in their structure in
the 1720s than they were in the 1870s.

6. David Levine comes from the University of British Columbia and
is working with Dr. Wrigley on the relationship between demographic
and economic factors at the local level in the seventeenth and
eighteenth centuries. He has taken two contrasting Leicestershire
parishes; Bottesford in the Vale of Belvoir, an agricultural village
dominated by the Earl of Rutland, and Shepshed in Charnwood Forest,
a fast growing village with a large proportion of the population engaged
in frame-work knitting. He is doing a family reconstitution of the
registers, and linking in local economic sources to study the interplay
of the demographic and economic fortunes of each family unit.

7. Mrs. Vivien Elliott from the University of Sydney in Australia is
working on marriage, particularly in the later 17th century. She is
anxious to discover how marriage was undertaken and what sort of
ceremonies were usual, and above all what sort of considerations
informed the minds of those deciding to marry. She is working with
marriage licences and other sources and has undertaken some family
reconstitution in a particularly well documented Warwickshire parish
where marriages are particularly fully described. One of her objects
is to discover whether the rise in the age of marriage in the late
17th century, at Colyton, was a pattern in other areas of the country.
8. The last research student we shall mention here is Emmanuel Todd, a Frenchman of English descent, who is the first European research student to come and work with the Cambridge Group. Monsieur will arrive in September 1971 and his object, as might be expected, is to make a comparative examination between English and French demographic rates and household structure. He will probably investigate how far household structure was uniform in France under the Ancien Régime, before 1789 and how far there was a marked contrast between Southern France and Northern France, and where the English household system would fit in to such a comparison.

Other research students and historical demographers both in Cambridge and from other universities often visit us to ask advice and to consult the large files of information on local population history which our many collaborators have so generously sent to us during the past few years. This is a very practical way in which local studies contribute to the general development of the study of population in the past.

Finally we would like to let readers know that we are now in a position to provide xerox copies of any research material which we hold at 20 Silver Street. The cost will be 2p per sheet. If more than 5 copies are required of any one item, the cost of each copy after the 5th reduces to 1p.

Peter Laslett
R.S. Schofield
E.A. Wrigley
SMALLPOX INOCULATION
AN EIGHTEENTH CENTURY MATHEMATICAL CONTROVERSY

Translated, with a critical commentary,

by

Leslie Bradley

Published by the Department of Adult Education
of the University of Nottingham

The controversy amongst historians and demographers over the causes of the rapid increase in the population of England in the second half of the nineteenth century is still unresolved. The extent of the contribution made by improvements in medicine is still vigorously discussed, and this includes the effect of inoculation in reducing deaths from smallpox.

One of the earliest attempts - perhaps the very earliest - to treat smallpox inoculation mathematically was a Memoir read by Daniel Bernoulli to the Académie Royale des Sciences de Paris in 1760, a Memoir which sparked off a controversy with his fellow academician, d'Alembert. There are references to Bernoulli's Memoir in a number of English works on epidemiology and on population, but none of these gives any impression of its scope and importance. Leslie Bradley here makes available, for the first time, a translation of the Memoir and of d'Alembert's reply. It will be of interest to historians, demographers, epidemiologists and medical statisticians, for, in addition to being a pioneer work in the application of mathematical techniques to the propagation of an infectious disease, Bernoulli's Memoir gives an insight into the contemporary impressions of the degree of smallpox infectivity and mortality and their effect on population. Mr. Bradley adds an explanatory and critical commentary.

Publication date, 1st January, 1972.                     Price £0.75

Available from:-

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of Nottingham, 14-22 Shakespeare Street, Nottingham.

OR

Tawney House, Matlock, Derbyshire, DE4 3BT
Part 3. Burial Seasonalit

In the first two articles of this series (L.P.S. Nos. 4 and 5), I suggested a method for investigating the seasonality of baptisms, marriages and burials in specific parishes or groups of parishes, using a series of decadal graphs. The difficulties and the necessary precautions were discussed and the method was applied to a discussion of the seasonality of baptisms and of marriages in six Derbyshire and six Nottinghamshire parishes. This concluding article deals with burial seasonality.

The 'political arithmeticians' from Graunt (1) onwards, attempting to investigate the structure, the size and the changes of the population in the immediate past and to forecast future changes had, of course, to concern themselves with the available statistics of births and marriages as well as of deaths. Nevertheless, it would appear that, in the 17th and 18th centuries, mortality statistics received the greater share of attention. They were used for two main purposes. In the first place, in addition to a natural curiosity about the normal span of human life, there was a strong practical interest arising out of the growing practice of life assurance and the rapid development of annuities, from the sale of which some governments derived a considerable income. Both of these demanded the construction of reliable Life Tables, that is, of Tables showing how many out of a group of, say, 10,000 persons born at the same time could be expected, on the average, to have survived at the end of each completed year of life (2). For this, annual mortality statistics were required, but no consideration of seasonality was involved. In the second place, doctors and others concerned with the public health were increasingly using detailed observation and elementary statistical methods to investigate the incidence, both in terms of geography and of the seasons, of the fatal diseases. A good example is Thomas Short, a Sheffield physician, who, in his New Observations on the Bills of Mortality (1750), used burial statistics taken from a considerable number of parish registers and from the London Bills of Mortality (3) to discuss the relation between the incidence of disease and the geographical and climatic
FIGURE 1

MATLOCK BURIALS

1641-50

1671-80

1701-10

J F M A M J J A S O N D
Figure 1 (ctd.)

1731-40
259

1761-70
330

1791-1800
472

-17-
characteristics of the parishes, the varying pattern of mortality with age and the seasonal incidence of disease - as well as the moral failures to which he ascribed much of the high rate of disease and death. Some of the issues are still matters of controversy. The recent article by Professor J.D. Chambers in L.P.S. No. 3 ('Some Aspects of E.A. Wrigley's Population and History) revives the argument over the relative importance of 'crises of subsistence' and epidemic disease in limiting population growth. Can a discussion of the seasonality of mortality throw any light on this controversy?

In his consideration of the seasonal incidence of disease, Short had to rely entirely on the London Bills of Mortality for his statistics, since his information from parish registers gave him only annual totals of burials. Unfortunately, the London Bills are hardly likely to be typical for the country; the age of distribution of the population, the living conditions and a number of other factors were exceptional. What might he have found if he had been able to study monthly burial totals from the parish registers?

An observed pattern of burials

Looking at the twelve parishes which I have studied, the decadal graphs for the parishes taken separately suggest a marked seasonal pattern throughout the period (1600-1840), with a peak of burials in the early spring and a trough in summer and early autumn (Fig. 1) though, as would be expected, the precise shape of the graph varies from parish to parish and from decade to decade. If we combine the figures for the six Derbyshire parishes and also for the six Nottinghamshire parishes over 50-year periods (to reduce short-term and local effects), the seasonal pattern is very clear, as is shown in Fig. 2. The pattern remains fairly constant throughout the period, except that the spring peak tends to persist into April, and even into May, towards the end of the period. Although there is some tendency for the graphs to flatten towards the end of the period, this is far less marked than it was in the case of marriages and baptisms. In the combined Nottinghamshire parishes, the range (the difference between the highest and the lowest monthly percentages for a given period) certainly decreases, though not to the same extent as was found (L.P.S. No. 5) in the combined baptism graphs. In the combined Derbyshire parishes, the range for 1801-40 is actually greater than for any earlier period (Table 1). Burials were still subject to marked seasonal influences right up to the end of the period.
FIGURE 2

BURIALS
1601-50

Combined Derbys. parishes
Combined Notts. parishes

1651-1700

1701-50

% Die %

J F M A M J J A S O N D

-19-
<table>
<thead>
<tr>
<th>Year Range</th>
<th>1601-1650</th>
<th>1651-1700</th>
<th>1701-1750</th>
<th>1751-1800</th>
<th>1801-1840</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nottinghamshire parishes</td>
<td>4.3%</td>
<td>5.0%</td>
<td>4.4%</td>
<td>3.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Derbyshire parishes</td>
<td>3.7%</td>
<td>3.4%</td>
<td>4.1%</td>
<td>3.7%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

It is interesting to find that Thomas Short (op. cit.), using the London Bills of Mortality for 1728-42, with a total of 405,951 burials, found a similar seasonal pattern, but with January as the peak month and with a smaller range of 2.4% (Fig. 3).

As would be expected, this general long-term pattern is very considerably modified in every parish. There is, in fact, no single month of the year which is not, in some decade, for some parish, the peak month for burials, and no month which is not, at some time, the trough. In BRADBOURNE, BURTON JOYCE and CROPWELL BISHOP the decadal totals of burials in the early decades are small and the element of chance will account for some of the deviations. In BRAILSFORD and OXTON (with decadal totals ranging, in both cases, between 60 and 160), the deviations are frequent and often marked (Fig. 4). In the remaining seven parishes the deviations, though they can be striking, are much less frequent.

The deviations from the general long-term pattern are of two kinds.
(a) Many of them consist merely of a shift of the peak or trough by a month or two either way, retaining the general shape of the graph, but displacing it slightly. In any parish, the peak month or the trough month will vary from decade to decade (Fig. 1), but it is noticeable that OXTON tends to an earlier peak and GEDLING to an earlier trough than other parishes.
(b) Other deviations are of a quite different kind, the graph showing a large percentage of burials in a month which normally has few (Fig. 1, Sept. 1701-10). A striking example is found in OXTON 1641-50, when August contributed 22.0% of the decadal burials, though this month normally contributed less than the average of 8.3% (Fig. 5).
Interpretation

In considering how these facts may be interpreted, we are spared one of the difficulties which attended the discussion of baptism seasonality. Burial normally follows very soon after death, so that the burial distribution is virtually a death distribution. This is unaffected by some of the factors, such as custom and church law, which we have previously had to consider, so that when we ask such questions as why the normal long-term pattern shows a spring peak, or why there was that exceptional August peak in OXTON 1641-50, we are, in effect, asking questions about the causes of death. Remembering that the parish registers rarely give the cause of death, we ask whether our enquiries can help us to identify the operative causes, not, of course, for individuals, but in the gross.

The major causes of death will affect the burial distribution in two ways. There will be the normal seasonal diseases, such as the respiratory diseases in winter, operating with fair regularity year after year, though exceptional circumstances, such as an unusually severe winter or an exceptionally cold autumn, will affect their precise timing. These will be responsible for the long-term general pattern. In addition, there may be exceptional mortalities caused by epidemic outbreaks (4) such as epidemics of plague or smallpox. These epidemics are far less predictable, if indeed they can be predicted at all, and they will cause the short-term peaks which radically modify the general pattern.

Certain diseases are well known to have a seasonal incidence. Taylor and Knowelden (Principles of Epidemiology, London, 1964) list scarlet fever, diphtheria and dysentery as having their highest incidence in the cold months. They add, "Most infectious diseases have their own characteristic seasonal variations in incidence but, apart from the well known winter incidence of bronchitis, few non-infectious diseases show clear-cut seasonal changes. .... Most of the deaths from measles, whooping cough and influenza result not from the primary infection, but from secondary pneumonia. As the incidence of pneumonia is greater in the winter months, the mortality of these diseases will also be high at this season." Shrewsbury (A History of Bubonic Plague in the British Isles, C.U.P., 1970) suggests a winter peak for smallpox, but he may be referring to endemic smallpox, which is unlikely to be present in parishes as small as those which we are now considering. Deaths listed in the Bills of Mortality as due to age are likely to have been heavier in
winter than in summer. On the other hand, some fevers and also gastro-intestinal diseases (a major cause of mortality amongst infants in unhygienic conditions) have their greatest incidence in the hotter months.

Professor Knowelden suggests that 'crises of subsistence' might be expected to have their greatest effect at the end of winter and in the spring and early summer and says (5): "This is certainly the period in which vitamin C deficiency has been greatest and scurvy has appeared. It could be that the infection was secondary to semi-starvation and that the seasonal pattern was not one of the infectious disease itself."

The fact that so many of the seasonal causes of death have a winter peak is a reasonable explanation of the general long-term pattern which we have found - an explanation which has long been accepted. Unfortunately, more detailed analysis, the identification of specific causes in any particular parish, hardly seems possible without much more information than the parish registers afford. The number of possible causes with similar seasonal characteristics, the way in which they are inter-related (so that, for example, pneumonia may be a secondary infection following any of several primary infections) and the effects of abnormalities in the weather make the problem of identification too complex.

The one analysis which might have been possible - the distinction between the diseases of childhood and those of later life - is frustrated because parish registers do not give the age at death. Our graphs give the seasonal distribution of all deaths, irrespective of age; but the major causes of death are not the same for all age-groups. The London Bills of Mortality did, from 1728, give the ages at death, and Thomas Short quotes statistics from them in age-groups. In Table 2, adapted from Short, the figure 1 indicates, for each age-group, the month of greatest mortality, and 12 the month of least mortality. It will be seen that it is not until after the age of five that the winter peak becomes established. This London pattern cannot, of course, be taken as representative of the whole country. Smallpox, for example, would be endemic, probably seasonal and largely a disease of children in London, whilst in our smaller communities it would be epidemic, less likely to be seasonal and affecting a greater proportion of adults. But whatever the size of the parish, age differences in mortality could be considerable and ignorance of them seems to me to make further analysis impossible.
TABLE 2
Mortality rank-order of months for different age-groups - London 1728-42.
(from Thomas Short's discussion of the London Bills of Mortality, 1750).

Note: The column headed 'A' shows the percentage of the total burials contributed by each age-group.

<table>
<thead>
<tr>
<th>A</th>
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<td>Under 1 year</td>
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<td>6</td>
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<td>12</td>
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<td>5</td>
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<td>31-40 years</td>
<td>9.2</td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>11</td>
<td>10</td>
<td>12</td>
<td>9</td>
<td>6</td>
<td>4</td>
</tr>
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<td>41-50 years</td>
<td>9.3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>8</td>
<td>10</td>
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<td>11</td>
<td>9</td>
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<tr>
<td>51-60 years</td>
<td>8.2</td>
<td>2</td>
<td>4</td>
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<td>6</td>
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<td>71-80 years</td>
<td>4.5</td>
<td>2</td>
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<td>4</td>
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<td>8</td>
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<td>12</td>
<td>11</td>
<td>9</td>
<td>7</td>
<td>5</td>
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<td>81-90 years</td>
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<td>3</td>
<td>7</td>
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<td>91-100 years</td>
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<td>6</td>
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<td>8</td>
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</tbody>
</table>
I have suggested that the exceptional short-term peaks which are contrary to the long-term pattern may be due to epidemic outbreaks of disease. The decadal burial totals, however, are not adequate for their investigation, since epidemics are isolated events, and we have to return to the year-by-year monthly distributions on the Cambridge Group aggregation forms (L.P.S. No. 4, pages 23). Here we can pick out the months of exceptionally high mortality, and since epidemics are normally severe outbreaks of a single disease, we might expect to have some hope of identifying the specific cause. GEDLING, for example, had 192 burials in the decade 1611-20. Of these, 42 occurred in 1616; and of these 42, 8 (19%) occurred in August, 5 (11.9%) in September and 7 (16.7%) in October. This suggests an epidemic - but of what? Shrewsbury (op.cit) says; "When a parish register shows an excessive number of burials in a year and a monthly analysis shows that more than 50% of these is contributed by any three successive months of the plague season, June to October inclusive, the record is suggestive of an outbreak of plague. When more than 66% of the total annual burials occur in the three months July to September inclusive, this almost certainly indicates plague." (6). The GEDLING 1616 figures are, then "suggestive of plague". But there are other possibilities. In a village where there had been no serious epidemic for several years previous, the number of persons who had acquired immunity from smallpox (by an attack from which they had recovered) could be quite low, and these figures do not appear to be inconsistent with an outbreak of smallpox. Consideration of the annual figures of baptisms and burials suggests that the population of GEDLING at this period would be between 500 and 600. Of these, as many as 70 could be under the age of five, and the figures are not inconsistent with an outbreak of a gastro-intestinal infection amongst young children. Plague, on the other hand, according to Hirst (7), mainly occurs in persons aged between 10 and 35 years, and the very young and the very old are little affected. Again, it hardly seems possible to ascribe the incidence of this unusually high mortality to any specific disease with any degree of certainty. The very high August peak in OXTON 1641-50, already mentioned, was entirely due to the year 1646 when, out of an annual total of 35 burials, 1 took place in July, 19 (54%) in August, 9 (26%) in September and 3 (8.6%) in October. This is, perhaps, more characteristic of plague, but the ascription still cannot be certain.

Dr. Schofield approaches the examination of years of exceptional mortality in a similar way in his interesting article in the last issue of Local Population Studies (No. 5, page 10). He defines years of
<table>
<thead>
<tr>
<th>Derbyshire parishes</th>
<th>Ashover</th>
<th>Bradbourne</th>
<th>Brailsford</th>
<th>Brassington</th>
<th>Matlock</th>
<th>Wirksworth</th>
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<tr>
<td>1667</td>
<td></td>
<td></td>
<td>1668</td>
<td>1669</td>
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<td>1729**</td>
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<tr>
<td>1743</td>
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<td>1747*</td>
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<td>1763*</td>
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<td></td>
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<td>1786*</td>
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<td>1799*</td>
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<td>6</td>
<td>0</td>
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<th>Arnold</th>
<th>Burton</th>
<th>Cropwell</th>
<th>Edwinstowe</th>
<th>Gedling</th>
<th>Oxton</th>
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<tbody>
<tr>
<td>Joyce</td>
<td></td>
<td>Bishop</td>
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<td>1555*</td>
<td>1566*</td>
<td>1588</td>
<td>1592</td>
<td>1592*</td>
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<td>1600*</td>
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<td>1610</td>
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<td>1616*</td>
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<td>1627</td>
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<td>1629</td>
<td>1627*</td>
<td>1623**</td>
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<td>1634*</td>
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<td></td>
<td></td>
<td>1819*</td>
<td></td>
<td>1825*</td>
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</tbody>
</table>

| 5   | 13  | 11  | 1   | 5   | 7   |

-27-
"crisis mortality" as those in which the number of deaths is more than twice the average for the period. For my twelve parishes, these years are listed in Table 3, in which the average used is that for the decade in which the crisis year lies. (This is not entirely satisfactory. If the comparison is made with the nine-year moving average for the year concerned, the number of 'crises' is reduced to those marked by an asterisk.) No sixteenth century figures are available for the Derbyshire parishes, but even so the differences between parishes are very marked and may well be worthy of examination by their local historians. Of the total of 51 'crises', only the two marked + coincide with the epidemic years mentioned by Dr. Schofield.

In recent years, a great deal of work has been done on the periodicity of epidemics. Measles, for example, in a community over a certain size, recurs at intervals of approximately two years, the precise interval being connected with the size of the community. (8) It seemed to be worth while investigating whether significant periodicities in annual mortality could be established and, if so, whether they could throw light on the operative causes. No positive results have so far been obtained, for three main reasons. In the first place, the statistical methods for establishing periodicities with any certainty are only valid if the annual mortality figures are quite high. Only three of the parishes in this enquiry showed any signs of a significant periodicity. Secondly, most of the current work in this field appears to have been done on measles, and I have been unable to find similar work on the periodicity of other diseases. Finally, the factors involved in the periodicity of an epidemic are many and their interrelations are complex, so that it is only in large communities that this kind of periodicity would establish itself.

I can offer one small contribution to the controversy over 'crises of subsistence'. T.S. Ashton (An Economic History of England: the Eighteenth Century - 1955) mentions 1708-10, 1725-9 and 1739-42 as periods when "large numbers died of cold or of fevers engendered by this" and "many others died of hunger or of ailments resulting from shortage of food." The figures for these periods were examined for all the Derbyshire parishes. Although, in all these parishes, the periods were marked by one or more years of mortality higher than usual, the monthly distribution of burials in these years did not differ markedly from the normal pattern. More detailed enquiry has not yet been possible, but I think it likely that useful information could be obtained by (a) trying to establish whether 'crises of subsistence' did, in fact, show a characteristic monthly distribution and (b) examining
the burial distribution for a considerable number of parishes in which such crises are reputed to have happened.

Conclusion.

My attempts to use burial seasonality to identify possible causes of death have been unsuccessful and have produced only confirmation of general statements about groups of diseases - statements which were already well known! But the attempt to arrive at more positive conclusions revealed a number of pitfalls into which one can incautiously fall, and I have thought that it might be useful to share the experience. Other researchers, who have access to registers which give more than the usual amount of information about burials, may well find a study of burial seasonality rewarding. In the larger towns, the seasonal pattern of burials in years of high mortality (6) may well give more positive identifications of the cause than is possible in the parishes with which I have been dealing. And even if the cause of an epidemic cannot be determined, the dating of epidemics by examination of the monthly burial figures may be of importance in relation to the history of the parish.

I would stress again that these articles have been an attempt firstly to demonstrate the possibility that a study of seasonality might be used to throw light on the demography and the history of a parish or group of parishes and secondly to expose the difficulties and the necessary precautions relevant to any study of this nature. Limitations of space make it quite impossible to apply the method in detail to even a single one of the parishes for which I have statistics, even had the detailed investigations been completed.

I am deeply grateful to the individuals and the Population Studies Groups who have allowed me to use the results of their studies, and to a number of experts in various fields (and in particular to Mr. Christopher Charlton) for helpful criticism and suggestions.

NOTES


2. A number of Life Tables had been constructed in the 17th century, but the mathematician and astronomer, Edmund Halley, is credited with the first enunciation of satisfactory principles for their construction (Phil. Trans. Roy. Soc., Vol. 17, 1692–3). His own Life Tables, though they were faulty, completely adequate statistics not being then available, remained the best available for at least fifty years.

3. Bills of Mortality were kept regularly in London from 1605. They were weekly summaries of the numbers of baptisms and burials, with the causes of death. From 1728 the age at death was also recorded. Other large towns followed suit at various times, though the amount of detail given was not always the same. There is considerable variation in the accuracy of the figures and they take no account of migration.

4. A disease is epidemic when it occurs in isolated severe outbreaks, separated by periods in which it is absent or almost so. It is endemic when it is continually present to a substantial extent, though its severity will vary. The same disease may be endemic in certain circumstances and epidemic in others. Smallpox, for example, tended to be endemic in the larger towns but epidemic in small towns and villages. A person who recovered from an attack of smallpox acquired virtual immunity from further attacks. In a large town there would be a continuous supply of new susceptible persons by birth and migration into the town, whilst in a small community the disease could run its course until all the inhabitants were either dead or immune, and could not recur until there were both new susceptible persons and a new source of infection from outside.

5. In a private communication.

6. See, for example, the histogram on page 463 and the Table on page 476 of A History of Bubonic Plague in the British Isles (Shrewsbury, Cambridge 1970) showing weekly numbers of plague deaths in London, 1665.


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PARISH REGISTERS AND THE PROBLEM OF MOBILITY

Bessie Maltby

Mrs. Maltby is a housewife and was amongst the first of the early C.A.M.P.O.P. volunteers. She has already contributed to L.P.S. (see note)

A study of the marriage horizons of a group of parishes in a Yorkshire dale has led to some general thoughts on the use of Parish Registers in consideration of the problem of the mobility of ordinary people during the 16th, 17th and 18th centuries.

From a complete family reconstitution one could estimate with some degree of accuracy, at least as far as the population of child-bearing age was concerned, the influx and exodus of families and individuals. The large number of "untraceable" burials may reflect the immigration of couples with "ready-grown" families, baptized elsewhere.

A rough estimate of the number of new names and the disappearance of old ones is a guide too to the changing population of a community. This may not however be immigration or emigration, but simply the dying out of a family. This latter might be confirmed by family reconstitution. Local history explains many rises and falls in the population, for example, the introduction of new industries, new transport facilities, etc.

There remains, as a possible source of information concerning mobility, the study of marriage horizons, which, if investigated on a sufficiently wide scale, might reveal different trends at different periods in different areas. It has, I believe, been sufficiently well established that the people of the English countryside were surprisingly mobile, though marriage horizon study indicates that the great majority found their partners — almost inevitably — from within easy walking distance, but even here there are signs of differing practices in different parts of the country.

As before 1754 (and in some cases after too!) the method of recording marriages in the register differed from parish to parish, it would be important to standardize the method of analysis if it were hoped to obtain comparable results from a large-scale investigation.
Before 1754 many registers appear consistently to give the parish of origin of a marriage partner, if it is not the parish itself. Some give the name of the settlement within the parish, if there is more than one well-defined settlement - though this usually only occurs for the "home" parish. After 1754, too, when the information is more detailed, sometimes the parish only and sometimes the settlement within the parish is stated. These factors must be taken into consideration when a system of measurement is devised.

The following suggestions are made for standardizing the analysis:

(1) Numbers should be calculated from the date when the origin of marriage partners is regularly given, but the number of marriages recorded prior to this date should be stated. Where there is a suspected faulty patch in the register (i.e. no parishes given) this period should not be reckoned in the final calculations.

<table>
<thead>
<tr>
<th>Example</th>
<th>Parish A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total marriages</td>
<td>780</td>
</tr>
<tr>
<td>No parishes given before marriage number 269 (in 1710)</td>
<td>-269</td>
</tr>
<tr>
<td>No parishes given between marriage nos. 500 and 650 (1730-60)</td>
<td>-150</td>
</tr>
<tr>
<td>Number of marriages used in calculations</td>
<td>361</td>
</tr>
</tbody>
</table>

It might perhaps be better to calculate from the beginning of a year, rather than from the actual first marriage to a "foreigner", although in a large parish it is sometimes possible to see where the recording changes practice in the middle of a year.

(2) For many other calculations which might be made from the analysis, e.g. the number of "strangers" married (that is, both partners from outside the parish), or the periods when these and one-partner foreigner marriages take place, or possible differing customs of different occupations, the records should give

(a) The number of the marriage
(b) male or female from "outside"
(c) parish (and settlement if given)
(d) date
(e) occupation (if given)
In this way an account of all "foreigners" is obtained, and it remains to measure the distance it is estimated they travelled. For this purpose 1" O.S. maps are usually adequate, though local knowledge is sometimes helpful for unusual spellings.

(a) Adjoining parish. Whereas for some particular parish it may be of significance and interest that X% took their partners from "adjoining parish", this cannot be of general use, as a large parish may have many adjoining parishes and another be almost encircled by a larger one.

(b) If the measurement is to be given in miles, it still remains to be decided between which points the measurement should be made. In a countryside with a long tradition of nucleated villages this is perhaps not a grave problem - concentric circles of 5, 10 and 15 miles will give fairly accurate results. But in a large parish of scattered farm settlements the distance from the (possibly) central parish church to a farmhouse on the boundary may in itself be more than 10 miles. Given two similar adjoining parishes, the margin for error could be up to 20 miles, i.e. if the partners came from farmhouses which were neighbours but across the parish border, or from farmhouses on the farthest distant borders of the two parishes (in which unlikely case they might be 40 miles distant!). However, even in large parishes with scattered farmhouses, the densest settlements near the Parish church presumably account for the majority of marriages (and the distances over-calculated and under-calculated may, we hope, cancel each other out) - which would mean that the method most likely to produce reliable results would be to measure from parish church to parish church. If however there is a sizeable secondary settlement in the outside parish from which the partner is stated to come and which is appreciably nearer the parish being analysed, it is wise to note this. A considerable number of such marriages might throw out the calculation, e.g. Ripon and Burnsell, as shown in the tables given later. If settlements are regularly given, their use in the analysis would give a more accurate result, but it is important to state if and when they have been used.

Finally, to help interpret the results for marriage horizon analysis, it is useful to give some information on the geographical location, the pattern of settlement, and the occupational structure of the parish. Particular attention should be paid to the existence of roads, which might facilitate migration, and to the presence of hills and rivers, which are often alleged to act as barriers.
The following study of a group of West Riding Parishes illustrates some of the points made above. The parishes lie along the river Wharfe, as shown in the attached sketch map. The gap between Weston and Ilkley is filled by the chapelry of Denton (part of the large parish of Otley) whose registers are not printed and do not begin until 1754. The churches themselves are all within a few hundred yards of the river, with the exception of the church at Rylstone (a chapelry of Burnsall parish) which geographically belongs rather to Skipton, in the Aire valley. Weston and Conisstone churches lie on the left bank of the river; Ilkley, Addingham, Bolton Abbey, Burnsall and Linton lie on the right bank.

As the valley is nowhere very wide, none of the parishes has a large area of flat land beside the river, so that each quickly becomes gently sloping and then more steeply rises to moorland or fell country. The lower parishes are in the millstone-grit area, whereas around Burnsall we move into the limestone belt, which includes Linton and Conisstone, so that the high country in the two regions is different in appearance – the upper dale fells being grass-covered, except for large outcrops of limestone, and the lower covered with heather or bracken.

The pattern of settlement is similar throughout – a few "major" and "minor" settlements along the valley and scattered farmhouses on the higher land. (Rylstone, though not on the river, also comprises three major settlements and other isolated farms.)

Starting with Weston, the farthest down the valley, and the nearest to a large market borough (Otley), it consisted at the time of the analysis of two major settlements. Weston itself and Askwith a mile or so further up the valley, with a small group of farmhouses at Scales (on the hillside) and isolated farmhouses on the Blubberhouse and Askwith moors.

Ilkley's major settlement lies around the church, with others which were probably of approaching size in the earlier periods, at Wheatley, Langbar-cum-Nessfield and Middleton (the latter two about a mile up the northern hillslopes.)

Addingham, as can be seen from the map, was a smaller more compact parish, with one settlement of the same name and a number of farmhouses strung along the moor edge.
Parishes analysed:
Burnsall (with Rylstone and Coniscliffe)
Linton
Bolton Abbey (part of Skipton, present boundary indicated)
Addingham
Ilkley
Weston
Bolton Abbey, a chapelry of Skipton Parish, served a group of houses round the Priory and many scattered farmhouses, a small settlement on the left bank hillside, Beamsley, and Halton East on the right bank slopes, neither more than a couple of miles away.

Burnsall is much the largest parish in extent and with a population in the 17th and 18th centuries similar to Ilkley's (and possibly rather less than Linton). It is a curious shape, almost enclosing the smaller parish of Linton. The upper arm is served by the chapel of Conisstone, which includes another small hamlet, Kilnsey, just across the river, and the part of the Parish which extends beyond the watershed on the western side of the Wharfe - and whose streams drain into the Aire - is served by Rylstone chapel. There are two other settlements within a mile or so of Rylstone, - Hetton and Craboe - with Threaoland another half-mile towards Burnsall. Burnsall village itself is situated on the riverside and there are a succession of small hamlets all along the river to the boundary of Skipton Parish - Hartlington (with Hartlington Raikes on the hill going over to Nidderdale), Appletreewick and Drebley, and one small settlement, the "hidden village" in a fold in the hills, Thorpe-sub-Montem, less than two miles from Burnsall itself.

The parish of Linton, which appears to have had the largest population of all from the middle of the 17th till at least the early 19th century, is made up of four major settlements - Linton, Grassington, Threshfield and Hebden - its Parish church standing by the river some ½ to 1 mile from all four.

During the period under consideration the main occupation of the dales-people of the parishes lower down the valley was, as might be expected, husbandry. In the 18th century however the greater part of the inhabitants of the parish of Linton were engaged in mining - chiefly lead - and in some of the other parishes there was a good deal of woollen and linen weaving. The ups and downs of these industries can be traced to a certain extent through the occupations given in the Parish registers.

There were many roads which linked these parishes with those "outside", all "old" by the 17th century. There were parts of Roman roads, salt roads, a Forest road, roads used by the monks of Fountains, Sawley, Byland and Coverham Abbeys, who owned many granges and farms in the district, and a famous "Drove" road down which the cattle from Scotland were driven to the Fairs in Malham and thence to Ripon and Masham along the earlier market roads. Many of
these roads are now only green tracks over the hills, though some have been incorporated in the modern metalled highways. The most important markets in the district were probably those at Kirby Malzeard, Masham and Ripon to the East and Skipton and Settle to the West.

A sketch map showing the principal roads in relation to the parishes under review and the principal settlements within the parishes is attached.

The following tables summarise the marriage horizons of the parishes. Information on the residence of marriage partners is not given for exactly the same period in each of the parishes, as is clear from the table below.

<table>
<thead>
<tr>
<th>Place</th>
<th>Marriage Horizons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnsall</td>
<td>1654-1662 and 1703-1812</td>
</tr>
<tr>
<td>Rylstone</td>
<td>1725-1754 &quot; 1802-1812</td>
</tr>
<tr>
<td>Conistone</td>
<td>1659, 1688-1753 &quot; 1797-1812</td>
</tr>
<tr>
<td>Ilkley</td>
<td>1611-1638 &quot; 1673-1812</td>
</tr>
<tr>
<td>Linton</td>
<td>1654-1656, 1667-1684 &quot; 1689-1777</td>
</tr>
<tr>
<td>Bolton Abbey</td>
<td>1710-1733 &quot; 1754-1812</td>
</tr>
<tr>
<td>Addingham</td>
<td>1754-1812</td>
</tr>
<tr>
<td>Weston</td>
<td>1678-1739 &quot; 1756-1812</td>
</tr>
</tbody>
</table>

However, in any one parish the practices regarding choice of marriage partners do not appear to vary in any recognisable pattern over the 100 to 150 years usually available for analysis, so although the marriage horizon figures for the different parishes refer to slightly different periods, they would still appear to be broadly comparable.

The following table gives the number of marriages in each of the parishes in which both partners came from the parish, only one partner came from the parish, or neither partner came from the parish.
### TABLE II

<table>
<thead>
<tr>
<th>Parish</th>
<th>Total Marriages</th>
<th>Where Parish known</th>
<th>Both partners of this Parish</th>
<th>One partner from other Parish (2)</th>
<th>Both partners from other Parish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnsall</td>
<td>1,578</td>
<td>971</td>
<td>607</td>
<td>357 (37%)</td>
<td>7</td>
</tr>
<tr>
<td>Rylstone Chap.</td>
<td>102</td>
<td>102</td>
<td>73</td>
<td>24 (23.5)</td>
<td>4</td>
</tr>
<tr>
<td>Conisstone Chap.</td>
<td>207</td>
<td>64</td>
<td>48</td>
<td>13 (20)</td>
<td>3</td>
</tr>
<tr>
<td>Ilkley</td>
<td>950</td>
<td>807</td>
<td>542</td>
<td>239 (29.5)</td>
<td>25</td>
</tr>
<tr>
<td>Linton</td>
<td>1,638</td>
<td>775</td>
<td>556</td>
<td>192 (24.7)</td>
<td>27</td>
</tr>
<tr>
<td>Bolton Abbey</td>
<td>599</td>
<td>444</td>
<td>293</td>
<td>149 (33.7)</td>
<td>2</td>
</tr>
<tr>
<td>Addingham</td>
<td>1,053</td>
<td>415</td>
<td>297</td>
<td>118 (28.4)</td>
<td>0</td>
</tr>
<tr>
<td>Weston</td>
<td>412</td>
<td>330</td>
<td>207</td>
<td>119 (36.5)</td>
<td>4</td>
</tr>
</tbody>
</table>

The percentage of marriages in which one partner came from outside the parish ranges from 20% in Conisstone Chapel to 37% in Burnsall, a range which includes the figure of 33% found for the North Riding parish of Easingwold. Burnsall also has an unusually high proportion of marriage partners from over 15 miles away, as is clear from Table III.
### TABLE III

<table>
<thead>
<tr>
<th>Parish</th>
<th>10 miles &amp; under</th>
<th>11-15 miles</th>
<th>Over 15 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnsall</td>
<td>244 (25.3%)</td>
<td>40 (4.1%)</td>
<td>70 (7.3%)</td>
</tr>
<tr>
<td>Rylstone Chap.</td>
<td>13 (12.8%)</td>
<td>2 (2.0%)</td>
<td>8 (7.8%)</td>
</tr>
<tr>
<td>Conistone Chap.</td>
<td>11 (17.2%)</td>
<td>0</td>
<td>1 (1.6%)</td>
</tr>
<tr>
<td>Ilkley</td>
<td>177 (22.0%)</td>
<td>28 (3.6%)</td>
<td>34 (4.3%)</td>
</tr>
<tr>
<td>Linton</td>
<td>138 (17.8%)</td>
<td>20 (2.7%)</td>
<td>33 (4.4%)</td>
</tr>
<tr>
<td>Bolton Abbey</td>
<td>119 (26.9%)</td>
<td>13 (2.9%)</td>
<td>17 (3.8%)</td>
</tr>
<tr>
<td>Addingham</td>
<td>88 (21.2%)</td>
<td>8 (1.9%)</td>
<td>21 (5.1%)</td>
</tr>
<tr>
<td>Weston</td>
<td>99 (30.0%)</td>
<td>13 (4.0%)</td>
<td>6 (1.8%)</td>
</tr>
</tbody>
</table>

As mentioned earlier the high proportion in Burnsall of marriage partners from over 15 miles away may be due to the large numbers (32) from the parish of Ripon: Ripon itself is more than 15 miles distant from Burnsall, but it is a big parish with a reasonably large settlement at Pateley Bridge (with a chapel), within 10 miles of Burnsall. Out of this total 6 of the marriage partners are stated to be from Pateley Bridge – all before 1737: thereafter only the "Parish of Ripon" is given. Even if we guessed that as many as half of the 26 "Ripon" partners came from the part of the parish within 10 miles of Burnsall, the percentage of partners from more than 10 miles away would still remain high, as is shown by the following table:-

<table>
<thead>
<tr>
<th></th>
<th>10 miles and under</th>
<th>15 miles and under</th>
<th>Over 15 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnsall</td>
<td>257 (26.7%)</td>
<td>40 (4.1%)</td>
<td>57 (5.9%)</td>
</tr>
</tbody>
</table>

Table IV summarises the relative position of the parishes with regard to the percentage of marriage partners coming from more than 10 miles away. This shows the diversity of the northern group – Burnsall and Rylstone chapel having around 10% from more than 10 miles away, but Conistone chapel only around 2%. The remainder of the parishes in the group have more or less the same percentage of marriages from more than 10 miles away (5.8 to 7.9%).

---
**TABLE IV**

<table>
<thead>
<tr>
<th>Parish</th>
<th>Within Parish &amp; within 10 miles</th>
<th>Over 10 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnsall</td>
<td>88.5%</td>
<td>11.4%</td>
</tr>
<tr>
<td>Rylstone Chap.</td>
<td>90.2%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Conistone Chap.</td>
<td>98.4%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Ilkley</td>
<td>92%</td>
<td>7.9%</td>
</tr>
<tr>
<td>Linton</td>
<td>92.8%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Bolton Abbey</td>
<td>93.2%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Addingham</td>
<td>92.8%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Weston</td>
<td>93.9%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Apart from the differences in detail noted above, the marriage horizons of the parishes in the group are broadly similar and not unlike marriage horizons found elsewhere. It is however interesting that whereas in some parts of the country a small hill appears a great obstacle to the intermingling of people from parishes on either side of it, in the Yorkshire dales the marriage partners are as likely to be found from "over the top" as from up and down the valley (apart from the adjoining village), probably owing to the highly developed system of medieval market roads which followed the shortest routes over the fells.

**NOTES**


2. The slight discrepancy between the totals in the fourth column in Table II and the additions of the columns in Table III is explained by the few names of parishes which cannot be traced. They are included in the "One partner from another Parish" additions but cannot be analysed in greater detail.
PUBLICATIONS OF THE UNIVERSITY OF NOTTINGHAM

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T.W. Burrow et al.  
SHOP STEWARDS AND INDUSTRIAL RELATIONS  
1968. £0.30

K. Coates and R. Silburn  
1968. £0.30  
ADULT EDUCATION AND SOCIAL RESEARCH: A case-paper. 1968. £0.10  
POVERTY, DEPRIVATION AND MORALE IN A NOTTINGHAM COMMUNITY; St. Ann's.  
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GROUP RESEARCH METHODS IN LOCAL HISTORY

J.A. Johnston

Dr. Johnston is Vice-principal of Bishop Grosseteste College of Education, Lincoln and was formerly Head of the History Department of the Worcester College of Education.

The academic value of aggregation and family reconstitution studies, pioneered in France and introduced to this country by the Cambridge Research Group for the History of Population and Social Structure, is now widely accepted. The methodology of these two approaches is in some ways as remarkable as their results. The methods employed could in fact have wider applications to the whole field of English local history than merely to analyse parish registers. The purpose of this article is to suggest a method by which a group of students can effectively record the relevant detail from documents available to the local historian. The method can be applied to such sources as Marriage Bonds and Allegations, Poor Law Settlement Certificates, Removal Orders and Examinations, Apprenticeship Indentures, Churchwardens' Presentments, Wills and Probate Inventories.

Family reconstitution techniques involve what is in effect the production of questionnaires. These questionnaires put certain specific questions to one class of documents. At the rudimentary level of data accumulation they simply ask for the recording, for a specific male or female, of the dates of baptism, marriage or burial, together with any other information involved in the register entry. At the second level a more sophisticated questionnaire, the Family Reconstitution Form (FRF), defines groups of such specific individuals in terms of the conjugal family. The data on these forms are so assembled that information can readily be extracted to provide the basis for a variety of demographic and social analyses, ranging from age at first marriage to intergeneretic intervals. One most important advantage of such well designed forms is that any student or group of students who have been well briefed or have read the manual of instruction (1) can subject a register of their own choice to the questionnaire. Assuming that this work is scrupulously performed, the results may have a greater objectivity and a far higher comparative value against similar studies than individually designed and executed research. The approach is peculiarly adapted to group research.
because of the direction of its aims and the ways in which it effectively organises the assembly of large quantities of data for analysis. These advantages far outweigh the problems that arise in any group effort from the variation in the interest, ability and precision of group members.

An extension of these methods to problems other than demographic and to documents other than parish registers is possible at several levels. The first stage is the same as for any type of historical research - formulation of the problem that is to be studied and investigation of the sources that will provide valid evidence. If the problem is to be investigated by a group using forms, then questions have to be defined that will elicit the relevant data from the document, and the group has to be instructed on the purpose and the peculiarities of the document to be studied. The form on which the group records its findings has to be as unambiguous in its wording and design as possible and so constructed that results can be easily extracted.

One of the simplest examples of this sort of approach would be the study of male and female age at marriage in the eighteenth century, using marriage bonds and allegations. These documents give, in the chinks between the bureaucratic formulae affirming that there is no ecclesiastical impediment to the granting of a marriage license, the age of the potential bride and groom. They also give marital status - bachelor, spinster, widower, widow - so that it is an easy matter to widen the scope of the research and ask that each researcher record marital status as well as age. The 'questionnaire' necessary to produce and record this information can be simple in the extreme. A sheet of A4 duplicating paper with headings on the top for the fundamental divisions of bride and groom, each half sub-divided to provide both sexes with a subdivision for age and status will suffice. If horizontal lines are drawn so that twenty five marriages are recorded on each form, addition at the end is simplified; and there is room at the foot of the page for compartments for the totals of ages, teenage marriages and numbers of differing relationships that went to form marriages, for example spinster/bachelor and spinster/widower. There are necessary qualifications to be made about marriage evidence derived from these sources. They record only the intention to marry, and the expense of the license meant that few of the poor could afford to marry in this way. But all historical documentary evidence has flaws, not excluding parish registers. Comparing the declared age of individuals who wished to marry by license with their actual age as revealed by family reconstitution is one check on the reliability of the evidence. Another check is to
plot the distribution of the ages declared in the allegations to see if they cluster unnaturally at decennial and quinquennial figures. Certainly, in the diocese of Worcester in the period 1690-1760, evidence of marriage age from the allegations seems good. There has in the past been some reluctance to accept evidence based on marriage licenses as valid, in the belief that many such marriages were unplanned and rushed because of pregnancy. This does not seem to have been common enough a reason to cause serious inaccuracy. Social ostentation and social emulation may have been more common motives for licensed marriages than the shot gun. There are usually, in any diocese, hundreds of these allegations and bonds for each calendar year. With a questionnaire, a group of researchers can each accumulate hundreds of examples in an afternoon's work. From a Worcestershire parish that had a population of 1,172 in 1801 reconstitution methods for the period 1663-1801 required a considerable number of afternoons to produce evidence of some 200 marriage ages.

Even a questionnaire as simple in design as the one described above has very positive merits. It defines and directs research as well as partly organising the presentation of data. Moreover it gives confidence to the worker, especially one untrained in research, and this confidence leads to rapid and effective work. The bonds and allegations, in fact, contain other valuable information, much of it worth analysis. They give the parish of potential bride and groom, usually the occupation of the latter, and the bonds, with their two signatures of the groom and his guarantor, give evidence for literacy(2). As the documents are each single sheets all these kinds of information are easily discernible. It becomes a nice point of questionnaire planning whether to include the recording of some or all of this information on the same sheet. A multiplicity of tasks makes it more difficult to achieve an efficient working rhythm. In some areas, and for some research groups, rapidly acquired data on these topics might well seem to be more interesting and significant than marriage age or status at marriage.

Marriage bonds and allegations have the enormous advantages of quantity and of a stereotyped layout which make their exploitation by this method easy. They do however have the disadvantage of being available only in a Record Office. This makes their use by part time research groups, which can normally only work in the evenings, almost impossible. The guide lines established by a form do however make it easier to do the documentary work for the benefit of a group project which can then be analysed in individual time. In the
field of Poor Law, settlement certificates, examinations, removal orders and apprenticeship indentures can still be found in the custody of a local vicar, sometimes in large quantities. All of them are susceptible to form-based analysis. The first can be recorded on a form in terms of date, male occupation, motives given for the move, size of families involved, printer of certificate, direction and distance of move (3). Removal orders provide answers to similar questions. A well designed questionnaire to a series of Poor Law examinations produces masses of evidence on mobility, wage rates, promotion patterns and duration of service. However, form-based research is most effectively employed on large numbers of documents, and this means that a Record Office is the most natural and satisfactory source of material. A group working on local documents can however more effectively obtain the comparative evidence that will enrich and define their parochial research if their work on local material has been recorded in a way that permits easy comparison with material from the nearest Record Office or further afield.

In a well stocked Record Office, whole classes of documents can be analysed by applying the directed question on a well planned form as a basis for group research. Churchwardens' presentments, probate inventories, wills, consistory court material and the whole range of poor law records are in bulk so daunting that mass attack seems to provide the best way of establishing satisfactory foundations of evidence for making generalisations. The possibilities are, literally, endless. Probate inventories provide material on social structure and wealth, agricultural practice, the diffusion of luxuries and technology. An analysis of large numbers of wills provides evidence of excellent quality for all the problems of kinship. The poor law records, if they are to be studied by group research based on forms, pose fascinating problems of question definition and questionnaire construction, but, given this direction, the results could be of considerable value.

Every research worker at any level must evolve his own methods for recording and correlating the evidence he thinks valuable. Generally only his interpretations become public in pamphlet, article or book. His cards, his notes and his methods which are revealed by them gather dust in a cupboard. Although family reconstitution studies have demonstrated the importance and intellectual rewards of sophisticated methodology, method receives too little public attention in most other fields of historical work. Between the two extremes of unpublicised private enterprise and massive national projects
there is scope and need for much experiment in methods of research. The scope for such experiment amongst English local records is enormous. Directing work amongst these records by means of a group working to common aims, summarised in the form they use to record their findings, is pleasurable. It is satisfying to define aims, design a form and analyse a mass of results. There is satisfaction for the recorders too, especially if all are associated at the planning stage, but even the routine of form filling has a confidence and purpose about it. This is a confidence that the worker who is unused to documents can find hard to acquire when, without direction, he tries to cope with and extract what is significant from diverse kinds of local records. The form filling will not become boring provided the basic problem, the document and the quantity of material necessary for interpretation are matched to the stamina, physical and intellectual, of the group involved. The greatest advantages of directed group research are, firstly, that the problems considered will almost always have a relevance outside a particular locality; by definition such studies must be problem-based and non-parochial in their outlook. Secondly, the results stand a good chance of being of more than parochial interest - they will be, at least in part, quantifiable and therefore of comparative value to workers elsewhere. It is probably too hopeful, and certainly too early, to envisage courses and classes in form construction for historians, especially local historians. It is altogether too imaginative to imagine a national form-promulgating body, if only because the tradition of independence in England is too strong. But wherever there are groups interested in the history of a locality or history in general - evening classes, College of Education groups, History Societies -- with an adequate supply of documents, a duplicating machine and paper, they might find that a questionnaire to past documents is more valuable and interesting than some we fill in today about present day society.

NOTES


MISCELLANY
Contributed by Colin Barham

Extracts from "The Register for Buryings in East Barming" (Kent)

DIVINE RETRIBUTION

6. Crouch, John, son of Thomas and Jane August 19th of a putrid fever.
7. Crouch, Elizabeth, daughter of Thomas and Jane, sister of the above, both of whom died of a putrid fever August 23.
9. Crouch, May, daughter of Thomas and Jane August 28th of a putrid fever and sister of the two preceding children.
11. Crouch, Thomas, son of Thomas and Jane, September 4 of a putrid fever, brother of the three preceding children and by their deaths the only child of his very sorrowing parents, who by this dreadful disorder have lost all their family. Their mother was also seized with the complaint and with difficulty was saved from its malignant violence. Such a visitation seldom has happened in any family. The catastrophe has been greatly deplored. May it be influential in its effects, by awakening the dreadfully abandoned that too much abound, and who literally live without God in the world, never mentioning his sacred name but to call in question his veracity, deride his power, or to insult his Majesty by profanements, oaths, and blasphemy.

SHOCKING CIRCUMSTANCES

1. Clements, Thomas, son of Richard and Isabella, January 12th. This Boy was taken ill whilst keeping in West Farleigh Parish, and was inhumanly denied a draught of cold water by the wife of one Pearson. The Bailiff finding him ill sent him home, the poor innocent fell at the commencement of his own Parish where several persons saw but had the barbarity neither to assist him nor even to inform his mother of his situation. Miss Eliz. Amhurst with that goodness that ever distinguishes her, attended to him and finding his condition went, and told his case to the mother, who took him home about 5 o'clock in the evening, and he died in the night. It is melancholy to record so much hardness of heart amongst persons who would think themselves disgraced if not called Christians. Though this child was born in wedlock, he was known to have been incestuous; his uncle was his father. Shocking circumstances! (1797)
CUT TO THE QUICK

1. Sampson William aged 17 years and 9 months, from Leeds (Kent), son of John and Ann, March 12. by permission from the coroner. This youth caught his death in a singular manner. He was apprentice to a shoemaker. Living about half a mile from his father's house, he went with an intention of calling upon his parents but stopped at a small distance to cut two walking sticks in small wood; having cut the sticks he was proceeding to his father's but by some means not exactly known he cut himself in a dreadful manner in his left thigh, unable to proceed leaning against a gate he had just got over, he called for assistance, a person came out of a house which stood near, but thinking him a person intoxicated he went to a neighbour that they might go together. They found him much exhausted with bleeding, but had no idea of danger ensuing from the wound, they therefore went to call his father. All this time the unhappy youth lay weltering in his blood, for he had fallen from weakness. The father thinking it right to see his son before he went for a surgeon going to him, said "William have you been drinking" to which he replied "No, father, I have not been drinking any where to day" and then instantly expired. It appears that he had put the knife with which he worked at his trade without any sheath in his pocket, which by falling, or getting over the gate struck into his thigh close to the bone and cut through arteries, sinews, and the whole of the flesh. None had supposed him in any danger until he had ceased to breath. The thigh where the wound was had been broken, but the bone was so well set that he had no lameness. The deceased bore a very good character for sobriety and propriety of conduct in other respects. The catastrophe was the more sensibly felt by his parents because they had lost a son at the same age by an injury he had received in cricketing. I feel greatly hurt to add that this youth was wicked, that he had been committing a trespass, if not a theft, nor was it the first offence. (1800)

LONGEVITY

2. Marshal, John aged 88 buried February 10th. This was the oldest person in the Parish: He was born in the reign of Q. Ann and lived also in those of K. Geo. i, Geo. ii and Geo. iii. He was a native of Scotland and on that account the people called him by the name of Scotch, and he was better known by that than his real surname. He was bred a shoemaker, but latterly from his eyes being bad worked as a labourer. As an honest, religious, quiet man he was universally respected. He was one of the very few of the poor who not only came regularly to church on Sundays but stayed to receive the Holy Sacrament of the Lord's Supper. Latterly he was quite deaf, and so
weak as to be scarce able to walk about. He had much indulged himself in his younger days in immoderate drinking, or probably he had lived longer, and in the evening of his days been stronger, for he was naturally athletic and robustly designed for longevity. He had no fault but this of drinking, and at no time did he lose his quiet, peaceable temper. (1795)

PUBLICAN AND SINNER

8. Bridgeland, William, aged 80 years. Yeoman, October 10. He was originally a servant to the Rev. James Mashborne, Rector of this Parish: He kept a Public House in Barming East Farleigh, but latterly he resided upon a small freehold estate which he had purchased in this Parish: as he had been a Publican so he was also a sinner. Few have been so wicked; he was blasphemous, lewd, drunken, dishonest, a cruel husband, and a severe parent. I never saw him at church more than once or twice; to his other bad qualities he was one of the rudest and most incivil of men; thus abusing a good understanding - but it pleased God in his mercy to give him a long and most severe visitation, the Bible then was his only solace and he seemed sincerely penitent for his abandoned life. May it have sealed his peace. (1795)

IMPRUDENCE

2. Wickens, George son of John and Mary, an infant, a twin, March 26.
3. Wickens, Mary, daughter of John and Mary, the other twin, April 19.
4. Wickens, Mary wife of John and Mother of the above children May 4. This woman was the daughter of a reputable farmer; and married to Wickens tho' he then and still has another wife: she was highly imprudent but a modest woman: it is with very great grief that I relate it that there is very great reason to suppose she died for want of suitable food and other things necessary to her situation, as having lately lain in, and of a double burden; could I have supposed that the matter had been as I fear it was, it should certainly been rectified; it has given me great and sincere uneasiness; tho' she had received some supply from me. (1796)
CORRESPONDENCE

Access to Records: L.P.S. 3 and 5

Dear Sir,

It is unusual for me to break the anonymity of the public servant but the correspondence columns of your Autumn 1970 issue contain such remarkable statements that an answer from a professional archivist seems called for.

A single basic assumption can be seen to underlie the letters of Sir Anthony Wagner and Mr. Stanes and, indeed, I suspect is shared by other genealogists and demographers. This is that records are created and preserved for historical reasons. In fact there is no necessary connection between records or archives and history. They are preserved for practical, legal and administrative purposes and their historical value is a by-product of the passage of time and the indulgence of their creators in making provision for their permanent preservation and public access. Let us be quite clear that, with certain clearly defined statutory exceptions, no person has a right of access to the records held by either a local or national archive repository.

With respect to Sir Anthony his thesis seems to be that the sins of the fathers should be committed by the children! Had any of the Government officials who were so complaisant been discovered today they would have undoubtedly have suffered instant dismissal and severe penalties would be likely to result in a Local Authority in similar circumstances. The archivist must remember his responsibility to the creator or depositor of his archives. This is the answer to Mr. Stanes alleged 'difficulties' made by Record Offices. No document can be removed from a repository without stringent precautions, one of which is that it may only pass out of custody if it is being returned to the original depositor. Once in his hands, of course, he is (usually) a free agent. The archivist is not.

I certainly agree that the provision of capital investment and of staff (particularly non-professional) is generally inadequate, but your correspondents are after all the people who are actually providing the money. Are they prepared to press the Government and Local Authorities to spend more on records and to pay the necessary extra rates and taxes? Yours faithfully, S.C. Newton
County Archivist, County of East Sussex Record Office, Pelham House, Lewes, Sussex

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Dear Sir,

As both an archivist of a diocesan record office and as an adult tutor with experience of classes in demographic work, I would like to comment on Mr. Stanes' letter in LPS 5.

Mr. Stanes is quite correct in pointing out the difficulties of conducting evening classes where it is desired to work on parish registers which have been deposited in the local record office. This is a difficult problem and one to which there is no easy solution, but the alternative is by no means always plain sailing. There can be just as many problems where the records are still in the parish. Some tutors have had experience of outright refusal by incumbents of access for this purpose, or of consent subject only to certain rigid rules. Mr. Stanes has obviously been lucky.

Looking at the whole subject of deposit from a broader viewpoint, I do not doubt that, as a worker in the local history field, Mr. Stanes uses the resources of his local record office for other projects, and accepts unquestioningly the fact that records have been gathered into one place from a thousand and one different owners and custodians (and many rescued from destruction) for the convenience of himself and fellow-users. In other words, deposit of documents by everyone else is to be encouraged, so long as it does not include the records he happens to want at that time! Secondly, although I am not doubting in the least the value of adult classes, may I remind him that there are many other persons besides adult tutors who require to use parish registers. He may not consider genealogy as worthwhile a pursuit as demography, but in terms of volume of demand, genealogists have a far greater right to comment on the question of deposit of registers, and they are invariably in favour of the records being transferred to record offices. And, indeed has Mr. Stanes considered the case of, for example, the professional demographer from Cambridge or another University who wishes to take a sample survey from six adjacent parish registers in a distant county? With registers in the local Record Office, he could complete the task in a day's trip to the Office, making the trip virtually any day he chose, and consulting the registers in comparative comfort. What would be the result if he had to make six separate arrangements with six separate incumbents and then travel around all the parishes?

Finally, I would ask Mr. Stanes one further question. If the records he wanted to use in a local church were found to be
damp and decaying, would he encourage deposit in the record office in order to arrest the decay, or would he continue to use them for his class and then let them rot away for future generations to worry about?

Yours faithfully,

Adrian Henstock,
County Archivist,
Nottinghamshire Record Office,
High Pavement, Nottingham

Dear Sir,

I have read with interest the recent correspondence in your publication regarding access to census schedules, and to the fact that these are open in Scotland to 1891. Since access to that year is applauded, the implication is that the Scottish example should be followed. Instead of the authorities moving in that direction the opposite is true, and Scotland is being brought into line with England. No further schedules will be opened until the year 2001, when access will be given to the 1901 returns. The reasons for the restrictions are given by Mr. Archibald L. Rennie, present Registrar General for Scotland, in a recent contribution to The Scottish Genealogist, vol. xviii, No. 2 June, 1971.

Yours faithfully,

Donald Whyte,
J.P., F.S.A.Scot.,
Genealogist and Record Agent,
4 Carmel Road,
Kirkliston,
West Lothian,
Scotland
Dear Sir,

On page 26 of the article on baptism seasonality, the question is raised as to whether there was any canonical law regarding dates for the administration of baptism. I hope that these few remarks may be of interest, even if they do not help to solve the problem!

The first Christian converts were mainly adult. The season of Lent had its origin in a period of instruction and preparation prior to their Baptism on Easter Eve. Before the eighth century it is thought that nearly all Baptisms took place then. Later, Whitsun was added as a second suitable occasion.

The First English Prayer Book (1549) had this introduction to the service for the Administration of Public Baptism:

"It appeareth by ancient writers that the Sacrament of Baptism in the old time was not commonly ministered but at two times in the year – at Easter and Whitsuntide, at which times it was openly ministered in the presence of all the congregation. Which custom (now being grown out of use) although it cannot be well restored again, yet it is thought to follow the same as near as conveniently may be ... Wherefore it is most convenient that Baptism be not administered but upon Sundays and other Holy Days when the most number of people come together..."

The Second English Prayer Book (1552) contained the same rubric. When the present Prayer Book was issued in 1662, the old custom was largely forgotten and it was not repeated. Yet some parishes no doubt followed the old ways. In fact it can be found in some places today – when a Solemn Baptism takes place at Easter.

When one considers that the Easter Day can fall on any day from March 22 – April 25, and Whitsunday (dependent upon it) from May 20 - June 13, this old custom may well have played havoc with attempts to interpret the Seasonality of Baptism in some places at various times.


Yours faithfully,

James W. Branson,
15 Upper St. Michaels Road, Aldershot, Hants.
Has L.P.S. become too technical?

Dear Sirs,

I, a reader from your first issue, am sorry but not surprised that the finances of L.P.S. are precarious. 550 is not a large subscription list and I feel that one difficulty in the way of increasing it might well be that you have not really decided yet just who you are trying to interest. Are your readers amateur or professional historians?

Speaking as an amateur I must say that I find Mr. Bradley's article in No. 5 most discouraging, and it seems to me altogether too academic and to be raising difficulties for difficulty's sake. I say this with some hesitancy since I know the care with which Mr. Bradley works, and the patience he displays in dealing with less experienced people.

Mr. Bradley says, "We need to keep clear the distinction between birth and baptism". Do we? Why? In order to discover what? And indeed can we, if the date of birth is very seldom given?

I imagine that our group is very much like others up and down the country and we use baptism entries for several purposes, as follows:

1. for counting the number of children born in the Parish over the years 1560-1840.
2. for help in assessing the size of families
3. for help in assessing the age of the mother at the birth of her children.
4. for help in assessing the age of people at marriage and/or death.

You will notice that I have used the word "assessing" rather than 'calculating' since one of the first things one must accept when embarking on demographic studies is that, unless one is exceptionally lucky in the amount of information available, many of one's figures and conclusions must be tentative.

For my first use of baptism entries there is really no problem because anyone baptised was certainly born, and whether they are 6 days, 6 weeks or 6 months doesn't matter, unless there is real danger that both birth and baptism are recorded in such a way that
the entries are thought to refer to two separate people. This would have to happen very often to have any appreciable effect on numbers. Of course one cannot be certain that at least the first child of a marriage was not born in another parish, but in the years before 1851 one could really only discover that by accident.

For the 2nd use the age at baptism matters a little more, because delay in baptising the first child might lead to one not recognising the second child as his sibling. For example, John Cooper, baptised 4.8.1654, might be younger brother to Ann Cooper baptised 5.3.1654, but only if Ann was several months old at baptism. How can one know?

In the 3rd use we get really into the realms of uncertainty. To illustrate: Mary Gill, baptised 4.7.1714 married John Dabell 2.6.1733 and her first child was baptised 9.4.1735. Was Mary Gill married just before she was 19? If she was baptised at the age of 1 month or older, then she was just over 19 when married. If baptised at the age of less than 1 month then she was just under 19 when married. Can we be sure? Does it matter? We can't be sure. Unless the birth/baptism interval is so great as to be completely misleading then I don't think the uncertainty need worry us.

Can we safely assume that Mary was married nearly 2 years before the birth of her first child? We really don't know. We might try to hazard a guess by looking at her year of marriage to see if we can discover any circumstances which might make it difficult or unwise for her to have a child earlier. Was it a year of bad harvest? of some natural disaster? of war?. Do we know her husband's occupation and did it require long absence from home? Was there a long clerical interregnum just before the baptism of her child? To some of these questions we may be able to find no answer. To try to answer others we might make a cautious guess. If this is all we know is it not reasonable to say "We can't be sure, but it looks as though Mary Gill, born in 1714 married at the age of 19 and had her first child nearly 2 years later, shortly before she was 21?".

Of course we may have one more piece of information about Mary Gill which would be useful. Supposing the Register says "Mary Dabell (whom we know to have been Mary Gill before marriage) buried 10.11.1790 age 76? This sort of entry is quite common.

This brings in our 4th use of baptism entries. A simple calculation shows that, if 76 is reasonably accurate, then Mary Gill

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was indeed born in 1714. Of course we may doubt the accuracy of the age '76' as well, but if we are going to doubt everything then we might as well give up. If the age given at burial obviously does not tie up with the baptism date, e.g. 68 or 79, then, seeing how inaccurate ages were even by the time of Census returns, I would still assume the year of baptism to be the year of birth and would regard the given age at burial as likely to be inaccurate.

And that brings me to why I find Mr. Bradley's article discouraging. A glance at the following tables will show what I mean.

**Burton Joyce, Notts.**

<table>
<thead>
<tr>
<th>Years</th>
<th>Total no. of baptisms</th>
<th>Recorded births</th>
</tr>
</thead>
<tbody>
<tr>
<td>1601-1650</td>
<td>233</td>
<td>2</td>
</tr>
<tr>
<td>1651-1700</td>
<td>309</td>
<td>14</td>
</tr>
<tr>
<td>1701-1750</td>
<td>448</td>
<td>31</td>
</tr>
<tr>
<td>1751-1800</td>
<td>704</td>
<td>17</td>
</tr>
<tr>
<td>1801-1830</td>
<td>659</td>
<td>3</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>2,353</strong></td>
<td><strong>67</strong></td>
</tr>
</tbody>
</table>

Is it not discouraging to think that in only 67 cases out of a total of 2,420 one can safely make an estimate of age? In fact, in these 67 cases it would not be an estimate at all, but a fairly certain fact.

Let us look at these 67 cases to see if they are so grouped as to be worth using as any kind of indication of pattern.

**Birth/Baptism intervals**

<table>
<thead>
<tr>
<th>in days</th>
<th>0-7</th>
<th>8-14</th>
<th>15-21</th>
<th>22-28</th>
<th>29-35</th>
<th>36-42</th>
<th>43-49</th>
<th>50-56</th>
<th>57-63</th>
<th>71-77</th>
</tr>
</thead>
<tbody>
<tr>
<td>1601-50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1651-1700</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1701-50</td>
<td></td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1751-1800</td>
<td>8</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1801-30</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>age 14 years</td>
</tr>
</tbody>
</table>

There seem to be three interesting points to notice about this table.

1. In these 67 cases where birth is noted as well as baptism, spread as they are through the years, the intervals between birth and baptism must surely be exceptional to make them worthy of note.
2. The instances referred to all took place in the years 1701, 1702 or 1703 and constitute 90% of all baptisms for those years.

3. Except during these early years of the 18th century very often there is only one child in a family whose birth is given as well as baptism, or whose age at baptism is recorded.

What then is the interval to which these intervals are the exception? It seems quite impossible to say. And these instances seem too few and too scattered to indicate any accepted practice, so, with respect, it would seem to me that, from the point of view of an amateur like me Mr. Bradley's search is fruitless and I could better and more profitably spend my time examining ways in which I can use those figures which are available to the greatest purpose.

Which brings me back to where I came in. To whom is Mr. Bradley's undoubtedly learned article directed?

Yours truly,

Margaret Massey,
14 St. Helen's Grove,
Burton Joyce, Nottingham

A reply from Leslie Bradley

The question of the readership at which L.P.S. is aimed is, of course, a matter for the editors. I am on Mrs. Massey's side. I have taken it that L.P.S. was intended to be a link between people interested in population studies, both professional and amateur, and I would be sorry to see it direct itself solely to the professional. There is room for both - but I suspect that the editors will point out that amateurs have been backward in submitting articles, and that they may well ask Mrs. Massey to suggest what kind of article she would like to see in L.P.S., not in general terms like "not too technical", but in more specific detail.

I am sorry that Mrs. Massey finds my article discouraging - but surely she has misunderstood the position. I, an amateur like Mrs. Massey, was asked to write on Seasonality, and in that context the birth-baptism interval is important. There is no question of "raising difficulties for difficulty's sake." If assertions are made about birth seasonality without knowledge of the birth-baptism interval they are, quite bluntly, invalid. In many other aspects of population
studies, including those which Mrs. Massey indicates, the birth-baptism interval is of no consequence at all. There is, however, the general point, of which this is just one instance, that whether one is amateur or professional, whether the aspect with which one is dealing is simple or complex, it is important not to state conclusions without stating clearly the assumptions on which they are based.

(The editors hope other readers will express their views on this subject).

1542 Muster Rolls

Dear Sir,

Pages 586/587 of the printed Papers of King Henry VIII, for 1542, give the figures for the Muster of that year for various Oxfordshire Hundreds. I am particularly interested in the Hampton Hundred which covered this village of Standlake.

I should be most grateful if you could give me any guidance regarding the relation between the figures shown in the Muster, (20 for Standlake) and the current population - unfortunately the date is prior to Parish Registers.

The only clue I have so far unearthed is in an article on "English Population in the early 16th Century", in Ec.H.R. 2nd Ser, Vol.XXIII (1970) which suggests that
a) the proportion of female to male was 93.4 to 100
b) 40% of the population was under 16.

I did not notice a percentage for over-60s, but if one assumed this to be in the order of 20%, one could arrive at a hazardous guess - again with the assumption that the Muster figure represented 100% of the 16-60 yr. population (male)? Or did it?

I would be grateful for any suggestions - I do not know of any contemporary census which might serve as a comparison.

Yours faithfully,
F.R.L. Goadby,
Gaunt Mill, Standlake,
Nr. Witney, Oxon
Roger Schofield comments:

As Brigadier Goadby has correctly observed, there are always two questions to be answered when using lists or accounts of certain groups to estimate the total population. The first is whether the lists or accounts are themselves accurate, and the second is what proportion of the total population these particular groups comprise. Unfortunately these questions are also usually difficult ones. For the accuracy of the muster returns I have consulted Dr. J.J. Goring, who has worked extensively on military history during the reign of Henry VIII, and he tells me that he does not really know whether the muster returns are 100% accurate, although he suspects they are fairly good and certainly better than the muster lists of Elizabeth's reign. If they are 100% perfect, then, as Brigadier Goadby points out, we should have a list of all males between the ages of 16 and 60. The next question to be answered therefore is what proportion of the total population is comprised by males of these ages.

Unfortunately, in the absence of any censuses in the early 16th century we have no knowledge of either the age or the sex-structure of the population at this date. The figures which Brigadier Goadby cites from an article in the Economic History Review were applied there to a slightly earlier muster return of 1532, but they come from Gregory King, who calculated them by slightly revising the age-structure he found in Lichfield, Staffordshire in 1696. The age-structure of the population varies according to the rates of fertility and mortality current during the previous generation, and is particularly sensitive to changes in fertility. There is therefore no guarantee that Gregory King's figures are appropriate for 1542 and indeed the contrasts between fertility and mortality in the late 17th and mid 16th centuries, which are becoming apparent from family reconstitution studies suggest that this late seventeenth century age-structure may not in fact be appropriate at all.

When detailed knowledge fails it is often helpful to find limiting cases between which the truth will probably lie. If we are prepared, for the sake of argument, to make the rather unrealistic assumptions that mortality is constant and that fertility is either constant or is changing in a regular way, then we can use stable population theory to calculate the age-structure of the population. (1) Let us consider two cases, in which fertility and mortality are about as extreme as we are ever likely to find in practice.
1) High fertility with a birth rate of about 50 per thousand and low mortality with expectation of life at birth of about 50 years.

2) Low fertility with a birth rate of about 28 per thousand and high mortality with expectation of life at birth of about 30 years.

Using the Princeton model life tables which conveniently tabulate the demographic consequences of a large number of different combinations of fertility and mortality rates (2), we find the following age structure:

<table>
<thead>
<tr>
<th>Percentage of Population</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>under 16</td>
<td>51%</td>
<td>30%</td>
</tr>
<tr>
<td>over 60</td>
<td>3%</td>
<td>10%</td>
</tr>
<tr>
<td>16 - 60</td>
<td>54%</td>
<td>40%</td>
</tr>
<tr>
<td>Total</td>
<td>45%</td>
<td>60%</td>
</tr>
<tr>
<td>Total</td>
<td>99%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The percentage of the population excluded from the muster returns because it is under 16 years of age will therefore probably be somewhere between 30% and 51% and indeed the figure of 40%, which Brigadier Goadby cites, lies almost exactly halfway between these two extremes. We would, however, expect that the percentage of the population excluded from the musters because it is over age 60 will be between 3% and 10% which is somewhat lower than the 20% hazarded by Brigadier Goadby. In summary, therefore, we would expect the proportion of the population excluded from the muster returns on age grounds will be between 40% and 55%. But of the 16-60 years age-group only the men were mustered, so women must also be excluded. Unfortunately we have no means of discovering the sex structure of the population in the early 16th century, but we shall not be far wrong if we take the number of men and women as approximately equal. Since Table 1 shows that the 16-60 years age-group comprises between 45% and 60% of the population, men aged between 16 and 60 must comprise between 22\%\% and 30% of the
| TABLE 2 |
|---------------------------------|---------------------------------|
| **PERCENTAGE OF POPULATION UNDER 16 YEARS** | **PERCENTAGE OF POPULATION OVER 60 YEARS** |
| **FERTILITY** | **FERTILITY** |
| \( \frac{\text{High B.R.}}{\text{Low B.R.}} = 50/28 \) | \( \frac{\text{High B.R.}}{\text{Low B.R.}} = 50/28 \) |
| (1) | (3) |
| (2) | (4) |
| **Expectation of Life at Birth** | **Expectation of Life at Birth** |
| High (1) \( (o^0_o = 50) \) | High (3) \( (o^0_o = 50) \) |
| 51% | 3% |
| Low (2) \( (o^0_o = 30) \) | Low (4) \( (o^0_o = 30) \) |
| 43% | 5% |
| 33% | 10% |
Thus the total population will be somewhere between 3.1/3 and 4 1/2 times the number of males aged 16–60 listed in the muster returns. Since the muster return lists 20 names for Standlake, the total population was probably between 67 and 90 people. In making this estimate we are of course assuming that the muster returns are accurate, and if we suspect that they are not, then we must raise our estimates of the total population accordingly.

These estimates are also based on the assumption that the population was stable in the technical sense described above. If there were changes in fertility or mortality in the years preceding 1542 then this assumption is unjustified, but it is unlikely that the age-structure would lie outside the range indicated here. Another, more serious, possibility is that there may have been age-specific migration, say of young married couples, into the village which may have given it an unusual age structure. These are possibilities which must always be born in mind when using model life tables in practical situations; but the life-tables are worth studying in their own right for the light which they throw on the interaction between fertility and mortality.

In particular it is instructive to consider the relative impact of changes in fertility and mortality on the proportion of very old and of very young in the population. Table 2 shows how different combinations of high and low fertility with high and low expectations of life at birth affect the proportions of the population under 16 and over 60 years of age.

The effect of high fertility is clearly to make the population younger. Regardless of expectation of life at birth, if we compare the high and low fertility columns we find that high fertility means a higher percentage of the population is under 16 years and a lower percentage is over 60 years. The difference is greater however when expectation of life at birth is high than when it is low, and the absolute difference is greater for the under 16s than it is for the over 60s. This is because mortality is more severe amongst the younger age groups, and when mortality slackens to produce a higher expectation of life at birth, it is usually the younger age groups that benefit most. Since, as we have seen, high fertility means a large percentage of the population under 16 years, and it is this group which experiences particularly heavy mortality rates, it is not surprising that the effect of a change in mortality should be greater in conditions of high fertility than in conditions of low fertility and that it should affect the younger age groups most of all.

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Notice, however, that if we begin with high fertility and a high expectation of life at birth (column 1, row 1), a fall in fertility from a birth rate of 50 per thousand to a birth rate of 28 per thousand reduces the percentage of the population under 16 much more (51% to 33%) than does a fall in the expectation of life at birth from 50 years to 30 years (51% to 43%). Notice too that the effect of a fall in the percentage of the population under 16, whatever the cause, is usually to increase the percentage over 60. Thus in conditions of high fertility, an increase in mortality, through its action on the younger age groups, has the paradoxical result of actually increasing the percentage of very old people in the population (compare rows 1 and 2 of columns 1 and 3).

The age-structure of a population is important, not only because it influences the population's subsequent demographic experience, but also, because it entails social and economic consequences. For example, an increase in the percentage of young people in the population may both reduce individual opportunities for marriage and also increase the demand for agricultural products relative to the demand for non-agricultural products. Thus knowledge of the ways in which changes in fertility and mortality are likely to interact to produce changes in the age-structure can be useful when we consider the probable historical consequences of changes in birth rates which we have discovered either from aggregative analysis or from family reconstitution.

NOTES

(1) The idea of a 'stable population' is well described in T. Hollingsworth, Historical Demography, pp. 339-44

(2) A.J. Coale and P. Demeny, Regional model life tables and stable population (Princeton, 1964). I have used the "North" set of tables rather than the more usual "West" tables because I believe their mortality experience is more like that of pre-industrial England.
Some Recent Publications

Books

Laslett, Peter

Malthus, Thomas Robert

Sauvy, Alfred

Steel, D.J. (compiler)
National Index of Parish Registers. Volume 1. Sources of Births, Marriages and Deaths before 1837 (1) Parish registers, marriage licenses, monumental inscriptions, newspapers, clandestine marriages, divorce, medieval sources, other record general bibliography. Society of Genealogists, 1968, £2-62oxed{\frac{1}{2}}.

A general guide to the location, content and value of both minor and major sources of pre 1837 births, marriages and deaths. Includes an article by E.A. Wrigley on "Parish Registers and the Historian", while E. Gillett and Mary McGuinness each contribute an article on medieval sources. The records of the nonconformists and of the General Registry at the Herald's College together with those appertaining to Wales and Scotland are, however, reserved for a second volume. In the remaining volumes it is intended to detail for every parish in England and Wales the present location and the period covered by original registers commencing before 1837 (both Anglican and nonconformist), Bishop's Transcripts and any modern copies. The parishes are to be arranged by county, each preceded by a general introduction.
which supplements the information included under
the individual parishes. One of the volumes,
covering the counties of Gloucester, Hereford,
Oxford, Shropshire, Warwick and Worcester, has
already appeared.

Turner, Derek

Historical Demography in Schools. Historical
Association, 1971. This pamphlet is No. 30
in the series of Teaching of History Pamphlets.

The author shows how historical demography "links
history to other school subjects such as geography
and economics, and provides a lead-in to social
science topics." He suggests suitable projects
for pupils of school age, sources of information
and guides to research, and hints on preparing,
supervising and writing up a project, with some
pilot schemes.

The pamphlet should be a most useful encouragement
to teachers of history who are prepared to involve
themselves and their pupils in the many new types
of history and humanities courses that are
developing out of current educational thinking.

Articles

Annales de Demographie Historique (1970)

This issue is devoted to the study of migration.
There are a number of case studies for various
regions in Europe from the sixteenth to the
nineteenth century, including R.S. Schofield,
'Age-specific Mobility in an Eighteenth Century
English Parish'. L. Henry and T.H. Hollingsworth
each contribute a general article on the study
of migration.

Blanchard, I.

'Population Change, enclosure and the early
Tudor economy'. Economic History Review
(December, 1970).

Uses local economic evidence for example wage
rates, prices, rents, entry fines and vacant
holdings to suggest, that over much of south and
midland England, late medieval population did not
rise until the 1520s.


Considers the varying incidence of four forms of violent deaths, homicide, suicide, drowning and land-travel accidents.


A useful summary of the main demographic trends from 1750 in a country with good population statistics.


Shows, with some assumptions about under registration and migration, that plague mortality declined with age (from about 50% for very young children to 10% at age 60 and above) and that the male plague mortality was higher than the female plague mortality (the sex ratio of plague deaths being about three times as high as in normal years.)


Discusses the effects on Laslett's earlier results of the different household units used in the twentieth century censuses.

In the absence of clinical records, relies on conventional medical textbooks to suggest that the ages of menarche and menopause may not have differed markedly from those of the twentieth century.

Tucker, G.S.L.  'Irish Fertility Ratios before the Famine'. Economic History Review (August, 1970.)

Shows that the earlier attempts to measure pre-famine Irish fertility are misleading because of errors in the age distribution of the 1841 census and tentatively puts forward alternative estimates.


Establishes that deliberate family limitation was practised by a sample of American quakers by the end of the Eighteenth Century.
LOCAL RESEARCH IN PROGRESS

The following lists (continued from our last issue) contain information about work on local population history that is known to the Cambridge Group for the History of Population and Social Structure. We publish it here in the hope that it will be of interest to subscribers. We should be grateful to receive information of any other research in progress.

* Denotes analysis completed.

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<th>COUNTY</th>
<th>PARISH</th>
<th>NAME</th>
<th>ADDRESSES</th>
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<tbody>
<tr>
<td>LONDON</td>
<td>Aggregative</td>
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**Listings**

All Hallow,  
Staining 1695*

Bridewell  
Precinct 1695*

St. Bartholomew  
the Great, 1695*

St. Andrew  
Wardrobe 1695*

St. Bennetts 1695*  
St. Ethelburga 1695*  
St. Laurence Pountney 1695*  
St. Mary Aldermary 1733–34*  
St. Mary le Bow 1695*  
St. Mary Woolchurch 1695*  
St. Mildred Poultry 1695*

-70-
<table>
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<th>Literacy</th>
<th>Miss B.</th>
<th>20 Graham Terrace, London, S.W.1.</th>
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<tr>
<td>St. Antholin and St. John the Baptist*</td>
<td>Barnardiston</td>
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<td>St. Botolph by Billingsgate*</td>
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<td>New Brentford</td>
<td>J. R. Martyn</td>
<td>Hetherington House, Dunyard Halls, The University, Exeter</td>
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<td>Northolt*</td>
<td>C. H. Keene</td>
<td>21 Islip Gardens, Northolt, Middx.</td>
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<td>St. Leonards Shoreditch</td>
<td>S. Tongue</td>
<td>The Central Library, Shoreditch, London, N.1</td>
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<tr>
<td>Tottenham</td>
<td>D. Avery</td>
<td>4B Hanover House, St. Johns Wood High St., London, N.W.8</td>
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<td>Edmonton Hundred Historical Society c/o Mr. J. Lewis</td>
<td>14 Lancaster Road, London, N.18</td>
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<td>Hampstead*</td>
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<td>Northolt*</td>
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Tottenham
Edmonton Hundred
Historical Society
c/o Mr. D. Avery
4B Hanover House,
St. Johns Wood High St.,
London, N.W.8

Twickenham*
R. Wall

Whitechapel
St. Mary
Mrs. J. Fox

Listings

Ealing 1599*

Harefield 1699*

Reconstitution

St. Leonard
S. C. Tongue
Shoreditch Central
Shoreditch Library, Pitfield St.
London, N.1.

NORFOLK

Aggregative

Banham*
Miss O. W. Riches
Wyncroft, The Close,
Roydon, Diss, Norfolk

Dereham*
Miss J. Grove
Beehurst Flat,
Commercial Rd.,
Dereham, Norfolk

Diss*
Mrs. N. Morton
39 Crofts Lane,
Diss, Norfolk

Docking*
T. R. Harris
Wyke House, Mill
Lane, Docking,
King's Lynn, Norfolk

East Bawdeswell*
J. Rathborn
Church Farmhouse,
Bawdeswell, Dereham,
Norfolk

Fakenham*
Mrs. S. W. Bell
24 Kingston Square,
Norwich, NOR 88E

Kenninghall*
G. Carrick
30 Intwood Rd.,
Crinkeford,
Norwich NOR 58D

North Elmham*
Dr. Lydia McMurdo
Sherrington, The Street,
Old Costessy, Norwich
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<td>Merton College, Oxford</td>
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<td>A.H. Noble</td>
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<td>Mr. &amp; Mrs. Reid</td>
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<td>Crostwight*</td>
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Saxthorpe*  K. Oosterveen & R. Wall
South Lopham*  G. A. Coulson
Sloley*  Mrs. B. Cornford
E. Dereham*  Miss J. E. Grove, Beechurst Flat, Commercial Rd., Dereham, Norfolk

W. Bradenham  K. Oosterveen & R. Wall

Listings

Baconsthorpe 1768*
Great Bircham 1811*
Bodham 1768*
Carleton Rose 1777*
Norwich, St. Peter Mancroft 1697*
Thorpe next Norwich 1801*
Wymondham 1747*

Reconstitution

NORTHAMPTONSHIRE

Aggregative

Aynhoe*  Miss M. J. Kennedy, Peach Tree Cottage, 5 Golden Yard, London N.W. 3.

Literacy

Blatherwyke*  B. C. Morgan, Uppingham School, Rutland
Brafield-on-the-Green*  K. Oosterveen & R. Wall
Brington*  K. Oosterveen & R. Wall

-75-
Denton* K. Oosterveen
& R. Wall

Holdenby* K. Oosterveen
& R. Wall

Little Addington* K. Oosterveen
& R. Wall

Mears Ashby* K. Oosterveen
& R. Wall

Stow Nine Churches* K. Oosterveen
& R. Wall

Listings

Aynho 1740
Coghnoe 1612, 1615, 1616, 1617, 1618, 1620,
1621, 1623, 1624, 1628, 1790*

Osenden 1697*

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