

KEY TO CODING SHEET

3 CARDS PER ENTRY. - 12 PER INDIVIDUAL.

CARD 1.

- 3 SCHEDULE NUMBER
- 1-18 PARISH (CODING FRAME-REQUIRED)
- 9-35 TOWNLAND (CODING FRAME)
- 7-41 HOUSE NUMBER (IF ANY) (CODING FRAME)
- 42 INHABITED/UNINHABITED
- 3-52 FORENAME
- 3-65 SURNAME
- 9 RELATIONSHIP TO HEAD OF HOUSEHOLD (CODING FRAME)
- 2-71 AREA NUMBER OF PEOPLE LIVING IN HOUSE
- 2-73 NUMBER OF PEOPLE IN NUCLEAR FAMILY (DEFINED AS HEAD/SPOUSE/CHILDREN OF HEAD) (CODING FRAME)
- 4 SEX
- 5-77 AGE IN YEARS
- 8-79 AGE IN MONTHS (INFANTS)

CARD 2.

- 3 SCHEDULE NUMBER:
- 4 MARRIED | UNMARRIED | WIDOWED
- 8 DATE OF 1ST MARRIAGE
- 12 " " 2ND "
- 16 " " 3RD "
- 36 OCCUPATION. (CODING FRAME)
- 7-41 5 LETTER CODE FOR CLASSIFYING OCCUPATION (CODING FRAME)
- 2-61 TOWN AND/OR COUNTY OF BIRTH (CODING FRAME)
- 2 LITERACY CODE (CODING FRAME)
- 3 INFIRMITY CODE (CODING FRAME)

CARD 3

- 3 SCHEDULE NUMBER.
- 4 CODE FOR ABSENT FAMILY MEMBER (CODING FRAME)
- 20 PLACE WHERE NOW RESIDENT (CODING FRAME)
- 21 CODE FOR FAMILY MEMBER DYING BETWEEN 1841 & 1851 (CODING FRAME)
- 2-39 CAUSE OF DEATH (CODING FRAME)
- 10-45 SEASON OF YEAR IN WHICH DEATH OCCURRED (CODING FRAME)
- 6-49 YEAR OF DEATH.



please type throughout

Please indicate whether there has been any change in investigator, research staff or institution since the grant was awarded

1 investigator(s) ~~Prof/Dr/Mr/Mrs/Miss~~ initials surname
V MORGAN

2 department
EDUCATION

3 institution
NEW UNIVERSITY OF ULSTER

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Education Centre,
New University of Ulster,
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Coleraine 4141
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5 title of project
Analysis of the 1851 Irish Census Enumeration Returns for Educational and Historical Research.

6 aims and methods of research (up to 300 words)

The first aim of the research has been to transcribe and code the surviving enumerators returns from the Irish Census of 1851. These exist on microfilm in the PRONI for considerable areas of North and Mid County Antrim. After coding the investigators have attempted to analyse the data from the returns, using the ICL Find - 2 computer programme, in order to gain evidence about the demographic and social structure of parts of County Antrim during the mid C19. This has included studies of household and family size and composition, age of marriage, number and spacing of children and infant and child mortality. The occupation structure of the population has also been investigated and it has been possible to correlate several social and demographic variables. It has also been possible to analyse data relating to the scale, direction and composition of migration and some evidence concerning demographic changes during the decades before 1851 has also been collected. The investigators have attempted to develop ways in which some of the data can be used in the teaching of economic and social history at school level and have introduced some of their ideas to teachers groups.

7 period covered by report
1 1978 - 30 October 1979

8 total grant awarded over period
£2,200

9 research staff (name, status and period of appointment)

Dr. Valerine Morgan May 1 1978 - 30 November 1979
Lecturer Education Centre N.U.U.

Mr. William Macafee May 1 1978 - 30 November 1979
Lecturer Education Centre N.U.U.

Students employed on an hourly basis coding data from microfilms
May 1 1978 - December 1 1978.

Computer punch operators punching cards from coding sheets
September 1978 - March 1979.

10 publications

Please list all publications which have arisen from the project or are in preparation, with details of author, editor, publisher and date of publication. If there are no such publications, please enter NIL. (If you need extra space please continue on paper the same size as this.)

Publications in preparation. We are preparing publications along the following lines. Although the precise breakdown may be modified during the process of writing.

- 1) The population of N.E. as reflected in the Enumerators Returns of 1851 (a general summary of the results of the analysis).
- 2) Age at Marriage in N.E. Ulster during the First Half of the Nineteenth Century. A Demographic and Social Study.
- 3) Population Structure, Mobility and Mortality in N.E. Ulster during the Mid Nineteenth Century.
- 4) Social and regional variations in demographic behaviour in N.E. Ulster during the Mid-Nineteenth Century.
- 5) The use of demographic and social data from the 1851 Enumerators returns in the teaching of C19 Irish social and Economic history.

We hope to forward papers covering these areas to journals during 1980 and we hope that they will be accepted for publication in 1980/81

11 Final Report

Before completing this section, please consider carefully the notes on page 1. Additional pages should be on paper the same size as this, within margins the same size as those on this form, heading each page 'Final Report (cont'd)', numbering the pages in sequence and clipping them to the back of this form. If you wish to submit any other additional material not already sent in to the Council, two copies should be sent in with this report.

a) Background

This study arose directly out of our previous research interests and our preceptions of areas in Irish social history where further work was likely to be useful. We had both been working on aspects of Irish social and economic history for several years and had developed a particular interest in population and social structure. (Dr. Morgan had been studying demographic data relating to the C17 and C18, and attempting to use techniques of aggregative and reconstitution analysis ^{on} ~~of~~ Irish parish registers, whilst Mr. Macafee had been working on colonization, settlement and land tenure in South Derry during the seventeenth and eighteenth centuries.)

We were aware of the need to gather further empirical data about many aspects of Irish pre-famine history and from our experience believed that detailed regional studies offered the best prospect of increasing knowledge of population changes and their social implications. Our work involved a good deal of study of sources in the Public Record Office of Northern Ireland and during the autumn of 1977 we became interested in the set of microfilm copies, in the PRONI, of the surviving enumerators returns for the 1851 Census of Ireland. These are almost the only C19 Irish enumerators returns which have survived and are, as such, a unique source. Other workers have looked at the returns, but have suggested that since they refer to only a small group of parishes in County Antrim they contain too little information to be of great value.

On examining the microfilms we began to believe that they had greater potential than had previously been thought. The data covered a range of parishes in County Antrim, (including an area near Ballymena noted for linen manufacture, regions on the shores of Lough Neagh, sections of the Glens of Antrim and the towns of Glenarm and Larne,) it seemed to contain a great deal of detail, including some information on mortality and migration not found on English enumeration forms and it was for the most part clear and legible.

During late 1977 we carried out a pilot study on data relating to the parish of Craigs (outside Ballymena) this led us to several conclusions:-

- 1) The data in the returns seemed to give detailed information about population structure not previously available from

other source

- 2) The returns probably included data on between 20000 and 30000 individuals and far from being too small a source to be worth working on, posed problems because of its volume.
 - 3) The pilot study suggested that systematic coding and mechanized handling would be necessary if the material was to be analysed in detail. (We had some experience of computer handling of historical data as a result of previous work on C19 street directories).
 - 4) Even with the help of computer analyses, approximately 900 hours of work would be involved in coding the data alone and as this time input was too much for us to undertake in addition to our normal teaching and administration an application for a research grant to assist us in paying for coding and punching would be needed.
- b) The original objectives of the project

Our objectives centred around the analysis of the 1851 Enumerators Returns and their use to shed light on population and social structure in North Antrim in the period immediately before and after the famine. Specifically we hoped:-

- 1) To be able to devise techniques for coding the data on each individual.
- 2) To be able to use computer based techniques to sort the data and cut down on time consuming tabulation and collation.
- 3) To be able to use the information in the Returns to get a clearer and more detailed picture of the pattern of population and social structure in North Antrim in the mid C19.

This, we hoped, would include:-

- i - Analysis of the age structure of the population which might throw light on growth rates and possibly migration.
- ii - Study of marriage patterns including, age of marriage, proportion of men and women in different age groups married, differences in marriage patterns between different occupational groups.
- iii - Study of family and household size, including numbers of children, incidence of dependant relatives living in households, numbers of living-in servants and labourers

iv - Analysis of occupation patterns.

v - Examination of mortality, age and cause of death as reported in the section on the returns asking of details of people dying in the house between 1841 and 1851.

vi - Examination of the extent and destination of migration as reflected by the data in the section on household members living away from home.

4) As lecturers in Education we were also particularly interested in trying to devise ways in which the material in the Returns could be used in the teaching of economic and social history at school level.

c) The Methods and Techniques Used

Our first priority was to code the microfilms and have punched cards prepared for computer use. During our pilot study we had considered several ways of coding the data. The major constraints on our system ~~were~~ that it must be compatible with the needs of the ICL Find - 2 programme which we hoped to use to sort the data (this programme had been chosen after discussion with people working on the NDPCAL project and advisers in the University Computer Centre) and that punch operators would have to transfer data from our coding sheets to 80 column computer cards. We devised a system which we believed met these requirements and also ensured that all the data on the original returns was preserved. During the pilot study we did, however run into some practical problems, first of all we experimented with transferring the microfilm data on to commercial general purpose coding sheets, but these proved difficult to use as 'boxes' had to be counted out for each entry. From this we moved to a duplicated sheet ruled out specifically to our requirements, this worked well for us, as coders, but proved too small and indistinct for the punch operators to read from. Finally for the main project, after receiving a grant, we designed a larger sheet, had it professionally laid out and commercially printed. The costs involved in this proved well justified as our coders found it easy to use and the punch operators felt it was clear and legible.

With a coding system finalized we moved on to employ coders, our major expenditure. These coders were paid on an essentially "piece-work" basis. (We had worked out, from our own pilot coding, a reasonable rate of work per hour). The coders were either students

or former students and we allowed them to work fairly flexible hours as using a microfilm reader and deciphering variable hand-writing on a regular all-day basis proved too tiring. During this phase we found that cross checking was even more important than anticipated. Forms filled in by the coders were examined by Mr. Macafee and a series of checks for internal consistency, legibility and accuracy were devised. The coders varied considerably in the level of accuracy achieved and eventually we channelled most of the work to two particularly accurate workers.

The data on the forms was then transferred to 80-column computer cards. This task took rather longer to complete than anticipated as the punch operators found it fairly demanding. Having found cross-checking very important at the coding stage we decided to introduce checks on the punched cards. As each box of 2000 cards was completed we had it printed out on a line-printer and checked the text against the coding forms. This again revealed a considerable error rate which justified the considerable time spent by the investigators. One further transformation was needed before analysis could begin, the almost 90000 cards were transferred to a single magnetic tape. Again the data was printed out on blocks for checking and finally the data was in a form which could be analysed by the Find - 2 programme.

The first stage of the analysis of the data consisted of writing a set of instructions for the computer defining the format and extent of the data and then framing sets of questions based on our original objectives. The main body of the instructions only had to be written once but each set of questions involved writing a small sub-programme. The advisers in the University Computer Centre gave us a great deal of help and advice and we soon found punching sets of cards and preparing a "job" straightforward. To date over 400 enquiries have been written. In each case the FIND programme sorts through the full tape of over 29000 individual people to find those who fulfil the specified criteria and prints out as much or as little information about those individuals as we have asked for.

The print-outs from the computer then had to be studied, analysed and interpreted. As many means, standard deviations, percentages and other simple calculations were needed, often with data sets numbering several thousands, we used a Commodore FEP microcomputer at this stage. The time spent on writing simple programmes to carry out these repetitive tasks is found to be fully justified.

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In order to meet our educational objectives the methods we have adopted are rather less precise. We have introduced our material to groups of teachers taking part in in-service courses through the Teachers Centres in Coleraine and Ballymera and we have also used the Returns with students in initial-teacher training and students on post-experience Higher Diploma and Masters Degree courses. In these ways we hope that knowledge about the potential of the material is being disseminated, but we recognize that this will probably be a slow process.

d) Evaluation of Methods

We feel that the evaluation of the methodology must centre on the application of computer analysis to this set of historical data. There is a considerable amount of literature and discussion about the merits and difficulties of using mechanized handling of historical material, we can only contribute to this debate in terms of our limited experience with this specific project. On this basis we feel the following points are worth mentioning:-

- 1) The use of the computer was a crucial factor in making this exercise possible, but it did not make the project quick or easy. With over 29000 individuals to check through for each variable hand sorting would have been so time consuming that we would have been able to investigate only a very limited range of variables. In fact on one occasion when there had been a programme failure we tried to do a hand sort, to locate men aged 42 or 43, but this proved so cumbersome that we finally decided to wait until the programme fault could be put right before proceeding.
- ii) On the other hand we felt that with a much smaller set of returns, say the 2,500 individuals examined in the pilot study, hand sorting would have been perfectly feasible and in fact more economical of time and energy.
- iii) At the other extreme we would be worried about trying to handle a much larger data set, even with the computer. The 29000 individuals generated almost 90,000 cards and over 800000 separate pieces of information. Handling this volume of material was at times very exacting and if there had been much more we think we would have had to split it up in some way and work on one sector at a time, or we would have had to adopt sampling methods.
- iv) The time spent on deciding on a format for coding and design of coding sheets etc. proved very important. We became frustrated by delays at this point but false starts during the pilot study

90,000
Cards

convinced us we must be very careful. In fact the only serious problem during the computer runs arose from a mistake at the format design stage. (We had a series of failures in our attempts to print out lists of people of different ages eg an enquiry to find all women aged 21. This thwarted attempts to solve the problem for several weeks until we eventually found it was the result of specifying the format of the age space on the original coding sheets incorrectly. The problem was then over come by re-writing part of the instruction programme which directs the computer in its search for data.)

v) Whilst our time and cost estimates for coding and punching proved realistic we did seriously under estimate the time needed for checking at each stage. Extensive checks were needed after initial coding on the sheets, after card punching and after transfer to tape. As we did this ourselves it caused only delay, if it had been part of the work we were paying for from the grant we would have had considerable budget problems. We estimate that over 200 hours were spent on checking, amending and re-checking.

* vi) The actual computing skills needed to get out information were limited but the FIND - 2 programme like many FORTRAN based systems is very exacting in its format requirements. This meant that we had to become very familiar with the input and enquiry system and handle the whole procedure personally. Computer Centre staff were able to help us on many occasions but we had to learn a great deal about the system ourselves. Again the time involved was considerably greater than we expected and we would not have been able to cost it realistically before we began

v) The print outs of data required a good deal of analysis and at this stage access to the Education Centre's Commodore PET micro-computer was a very great time saver. Its use eliminated hours of simple but repetitive and tedious calculation.

e) Findings

It would be very difficult to describe and discuss all the findings from the project in detail in this report. As the papers mentioned in section 10 of the report are prepared for publication copies will be forwarded to the Council and these will contain more detailed discussion and analysis of the findings

Here we would like to present some general conclusions and also give more details about selected examples of our analyses

1) Age Structure of the Population

The age structure of the population of this part of North Antrim in 1851 shows a broad based, steeply tapering pyramid. The population was predominantly young with approximately 15% under 5, 32% under 10, and 43% under 20. The number over 70 was very small and that over 80 negligible. It is clear that people did not always report their age completely accurately, bunching at the 10's is clear from 30 onwards and is particularly pronounced at 40, 50 and 60. This has obvious implications for several aspects of the subsequent analysis for instance when age at marriage is being calculated, but it seems that the rounding was both up and down. So that whilst 40 is heavily inflated both 39 and 41 are equally depleted and the effect does not appear to extend to 38 and 42. If this is the case it could be argued that the errors arising from bunching are largely self-compensating.

There appears to be little regional variation in the age structure, each parish produces a pyramid of approximately similar form. There are, however, two interesting features both of the overall age structure and the parish by parish analysis:-

- 1) The number in the age group 0-4 is almost always smaller than that in the 5-9 group, and sometimes smaller than the number of those aged 10-14. This suggests that the population may have begun to decline during the years immediately preceding the census. Those aged 0-4 in 1851 were born between 1847 and 1851, the years of the Famine and its aftermath. North Antrim was not one of the areas most severely affected by the failure of the potato crop, but this evidence of demographic change suggests that the area was affected, either through decreased birth rate, increased death rate or migration.
- 11) The sex balance in the age groups 20-40 shows a considerable surplus of women. The most likely explanation for this is differential migration.

2) Marriage Patterns

The percentage of each age group married widowed and single in 1851 suggests a population in which a considerable number of people were never married. The proportion of unmarried women is higher than that of men as would be expected given the previous comment about the surplus of women. This data conflicts with suggestions

that the marriage rate in pre-famine Ireland was very high, although, of course, it may be that this part of NE Ulster had a pattern quite unlike that of, say the West coast.

From the recorded age in 1851 and the stated year of marriage, age at marriage can be calculated for a very large number of individuals, (although problems of accuracy, such as those arising from people rounding their age or older people forgetting exactly when they were married, must be borne in mind).

When the marriage ages were calculated there were a few which were clearly impossible (eg. - 7) and these were eliminated. A distinction was also drawn between those marrying between the ages of 15 and 44 and those marrying at age 45 or over, this was done on the grounds that marriages between 15 and 44 were potentially fertile whilst those where one partner (especially if it were the woman) was 45 or over were likely to produce few children. Also in purely statistical terms it was felt that automatic inclusion of the few cases of marriages with one or both partners well over 45 could have a disproportionate effect on the mean.

The general findings can be summarized as follows:-

 MEN - First Marriages.

Decade of Marriage	1) Those marrying aged 15-44	Sample Size	Mean Age	S.Deviation	Mode	Median
	2) All marriages					
pre 1802	15-44	87	24.02	5.25	21	23
	all	87	24.02	5.25	21	23
1802-11	15-44	194	25.99	5.98	30	25
	all	195	26.10	6.19	30	25
1812-21	15-44	468	26.17	5.99	26	25
	all	473	26.44	6.42	26	26
1822-31	15-44	757	26.14	5.96	24	25
	all	773	26.67	6.86	24	25
1832-41	15-44	886	26.12	6.17	24	25
	all	918	27.04	7.84	24	25
1842-51	15-44	972	25.94	5.84	21	24
	all	1007	26.84	7.62	21	25

This evidence suggests that the average age of marriage for men was falling slightly during the first half of the nineteenth century. It might be argued that, especially amongst the older age groups who probably married during the early decades, there may have been a tendency to under-estimate their age. The data from the age structure analysis suggests rounding off of ages, but there is no clear evidence that under-estimating was more common than over-estimating. Further on purely statistical grounds an increase in average age in the later decades might have been expected, since those who married late in say the period 1802-11 would probably be dead by 1851 and so there would be differential recording of these who married young. This factor may well be affecting the pre 1802 material but in subsequent decades its effect seems to be overlain by a slight fall in the average age of marriage and a considerable decrease in the modal age. The parallel material relating to women is rather less clear. (P. 70)

There is some evidence of a slight decrease in the average age at first marriage between 1812 and 1841 but the change is very small and indeed the modal age increases between 1822 and 1841.

Analysis by parishes revealed very little regional variation in either the proportion married or the average age of marriage. There was, however, clear evidence of differences in average age of marriage between various occupation groups. Farmers married later than any other groups and their wives were older than those of any other group. Although the age difference between husband and wife was greatest amongst farmers and their wives. Labourers and their wives occupied an intermediate position whilst male and female linen workers had the lowest average ages of marriage. This clearly suggests a social stratification in marriage patterns and the existence of late marriage amongst many members of the land holding groups well before the famine.

World - First Marriages

Decade of Marriage	1) Those marrying aged 15-44	Sample Size	Mean Age	S.Deviation	Median	Mode
	2) All marriages					
pre 1802	15-44	148	22.91	5.03	22	20
	all	148	22.91	5.03	22	20
1802-11	15-44	276	23.86	5.75	23	20
	all	278	24.03	6.04	23	20
1812-21	15-44	556	24.22	5.91	23	19
	all	561	24.36	6.21	23	19
1822-31	15-44	840	24.34	5.91	23	19
	all	847	24.46	6.36	23	19
1832-41	15-44	988	23.69	5.98	22	21
	all	1000	23.97	6.49	22	21
1842-51	15-44	1079	23.87	5.64	23	21
	all	1093	24.22	6.44	23	21

3) Family and Household Size

The material relating to family and household composition and size reveals wide variations. Although the nuclear family of 2 generations, parents and children, predominates there were numerous examples of variations, especially three generation families and families where several unmarried adults had remained in the family home. Individuals living alone and 2 person families were very uncommon, and the average family size was between 5 and 6. There were a large number of non-family members living in households. This was true not only amongst the farmers, who might be expected to have hired workers living on the farm, but also amongst linen workers and even labourers. These non-family members formed a cross section of the population in terms of age, sex and marital status and appear to have been employed either as labourers, household servants or assistants in domestic linen production. The size of this latter group was something of a surprise, many farmers appear to have had a subsidiary interest in linen and employed one or two people to help members of their own family in linen production. In some families where the head of the household is stated to be a weaver spinner or flax dresser family labour was frequently supplemented by non-relatives who were resident in the household.

4) Occupation Structure

The heavy dependence on agriculture and linen cloth production, already noted, dominated the occupation structure. Farmers, labourers and people involved in the various processes of linen manufacture constituted the vast majority of the employed population. Almost all the farmers were male but amongst the labourers there were a considerable number of women, indicating that women undertook outdoor farm work on a significant scale. The large groups employed in the linen industry included the wives, sons and daughters of farmers as well as families where linen work appears to employ the whole family. Children from as young as 8 years old are recorded as winders, presumably preparing bobbins and shuttles ^{for} ~~of~~ the weavers and ~~flax~~-spinning was a common occupation in the 11 to 14 age group. The close inter-mixture of farming and linen working makes it difficult to be sure which was the main source of income in many areas and indeed families may have switched between interests on a seasonal or cyclic basis.

Linen and farming were both important throughout the area covered by the returns but there is some regional differentiation with linen most strongly represented in the parishes of Craigs, Aghalee and Aghagallan and farming apparently more important in Dunaghy.

5) Mortality

The data on mortality is in the form of information on name, age at death, cause of death, year of death and season of death for anyone who died in the house between 1841 and 1851. This form of evidence clearly presents some problems about accuracy and completeness but it does allow a few tentative conclusions to be drawn:-

- a) Consumption was the most common reported cause of death. It affected people of all ages but particularly those in the 15-30 age group. This must obviously be related to the pastoral base of the farming economy, the poor housing standards and the damp climate.
- b) Infant and child mortality were high with a series of diseases listed as forms of convulsions, and water on the brain prevalent. Some of this evidence points to a considerable incidence of ~~spina cordis~~ and ~~brachycephalis~~ in this area ~~as is particularly~~

interesting since North Antrim town has one of the highest rates for these congenital malformations in the world. There is also evidence of high rates of mortality from the common childhood epidemic infections, whooping cough, and measles, and from household accidents such as falling and scalding.

- c) Evidence about changes in death rates during the 1840's might be regarded with caution as memories may have faded and those dying in 1850 might be remembered whilst deaths in the early 1840's might be forgotten. There is a slightly higher apparent rate of mortality in the late 1849's which may be linked to the famine years, but at present we regard this evidence as very tentative.

6) Migration

Only a section of the migration occurring in the area is reflected in the data from the returns. Members of the household living away from home and who left during the period 1841-1851 are recorded. This means that in cases where whole families have moved away there is no record and the migration which is open to investigation is mainly movement of young unmarried people in the 15-30 age range. There is very little evidence of married men leaving their families and working away from home.

The majority of the young men and women stated to be living and working away from home are reported to be in other parts of County Antrim and engaged in farm work or linen manufacture. Unfortunately their place of residence is given no more precisely than County Antrim, so that although we have evidence of very considerable local movement of population we cannot chart its direction.

Amongst those going further a field the most frequently quoted destination is America. Few are reported to be in England, Scotland or other parts of Ireland. The migrants to America include many young people stated to be aged between 13 and 17, but whether they went independently, with older relatives or attached to family groups from the same area is not clear.

This has been a very brief summary of our findings. The papers which we are preparing will contain detailed analysis and discussion of the data and will be for the most part available to the public.

investigate further inter-relationships between the data from the Returns and other contemporary material and we hope that evidence from these investigations will also be included in our publications.

7) Disseminate

We hope to publish our findings as suggested in Section 10 of this report (page 3). We also hope to present papers at conferences eg. Conference of the Social and Economic History of Ireland Society 1980, and to give seminars to teachers groups interested in Irish Social and Economic History, Local history and local studies eg. at Coleraine Regional Teachers Centre, Ballymena Teachers Centre and The Institute of Continuing Education Magee College, Londonderry.

8) Future Action

As a result of our experience with this project we would like to develop our research in two ways:-

- 1) We would like to link our findings from the Enumerators Returns with evidence from sources such as the Griffith's Valuation of 1859. We believe that we could trace quite a number of the individuals on whom we have demographic data in sources such as valuations. This would, for instance, give us more information about farm sizes and land values which could be correlated with demographic variables.
- 11) We would also like to apply the techniques we have used on the 1851 returns to some of the 1911 Enumerators Returns. These returns cover most of Ireland and have been released for study because of the scarcity of earlier demographic material. We have obtained copies of the returns for the town of Coleraine and hope to be able to analyse them using the methods discussed in this report.