

The 1961 Census of Population

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Following the tradition of half a century* this paper gives to the Society an account of the plans for the Census of Population, 1961.

I am not going to deal with the history of the population censuses in this country, which has been treated in earlier papers, though I do present tables which list the topics about which questions were asked at successive inquiries. Neither do I consider it necessary for me to stress the importance of the Census, beyond saying that it is the primary source of basic national population data for administration and for all economic and social planning. It is also the base or reference point for current statistics and the frame for many other inquiries, sampling surveys and studies.

The value of Census data is much enhanced when the inquiries are made at regular intervals, trends can be assessed, the past appraised, the present described accurately and the future estimated. The maximum interval recommended by the United Nations is ten years and in this country until 1911 the Census was traditionally taken in the years ending in "1". After the break in 1921, the census years were 1926, 1936 and 1946. Since the census of any country is of greater value nationally, regionally and internationally when it can be compared with censuses of other countries taken at approximately the same time and since the United Nations recommendation is that countries should undertake a population census in years ending in "0" or as near these years as feasible, it was proposed that a full scale Census should be taken in 1951. In the event this proposal was only partially accepted and the Census of Population in that year covered only the classification of the population by (i) area, (ii) sex, (iii) marital condition, (iv) age, (v) occupation, (vi) industry and (vii) employment status. In 1956 a simple count of heads was made which grouped the population only by (i) area and (ii) sex. The result is that for all characteristics, except mere numbers, our population data are now at least ten years old and

*Thompson, Sir William J. "The Development of the Irish Census and its National Importance." *Journal of the Statistical and Social Inquiry Society of Ireland*, 1910-11, pp. 474-488.

Thompson, Sir William J. "The first Census of the Irish Free State and its importance to the Country." *Ibid.*, 1925-26, pp. 239-248.

Lyon, Stanley. "The forthcoming Census of Population." *Ibid.*, 1935-6, pp. 69-82A.

Lyon, Stanley. "The Census of Population, 1946." *Ibid.*, 1945-6, pp. 579-593.

for many important categories our information is fifteen years out of date. This lends added interest and importance to the 1961 enumeration.

It is proposed to take a Census of Population in this country related to midnight on Sunday, 9 April, 1961 and the traditional method of enumeration, based on a Household Schedule, to be completed by the head of each household, is to be employed. A separate line of the schedule relates to each person alive in that household at the appointed time and to each person who arrives and is received into that household on the morning of 10 April, 1961, not having been enumerated elsewhere. The Central Statistics Office is responsible for the organisation of the enumeration and the compilation and publication of the results. The inquiry, naturally, is a statutory one, since completion of the census schedule for each individual is essential and will be made pursuant to a Ministerial Order under the Statistics Act, 1926.

An examination of the specimen Household Schedule for the 1961 Census of Population, which accompanies this paper, will show that it is a relatively complex document. In effect it consists of two parts, in one part are recorded particulars for each individual in the household and in the other part the characteristics of the household or dwelling are entered. There are fourteen questions to be answered about individuals and eight about the household or dwelling and for some of these latter there are separate parts. Not all the fourteen questions for individuals are to be answered in all cases. The following eight questions are common to all individuals :

- (i) Name and surname.
- (ii) Relationship to head of household.
- (iii) Sex.
- (iv) Date of birth.
- (v) Marriage.
- (vi) Place of birth (including period of residence for an immigrant.)
- (vii) Religion.
- (viii) Ability to speak the Irish language (aged 3 years and over).

Four questions are to be answered only for persons aged 14 years and over, viz. :

- (i) Personal occupation.
- (ii) Employment status.
- (iii) Employer and Employer's business.
- (iv) Subsidiary occupation.

Two questions relate only to married women :

- (i) Month and year of present marriage.
- (ii) Number of children born alive to present marriage.

To those who are familiar with recent Censuses of Population this list will be fairly familiar. A glance at the first section of Table 1 will show that we have not been adventurous in respect of

new questions for individuals and that those being asked are very similar to those included in the 1926, 1936 and 1946 inquiries. We are not going to classify (as in 1926-46) children under 14 years of age by reference to orphanhood, we are not collecting data on the number of dependent children under 16 years on each married man, widower and widow (as was done in 1926 and 1946), and we are not looking (as in 1936 and 1946) for the number of weeks of unemployment in the last twelve months due to different causes.

The answering of the question on unemployment was unsatisfactory both in 1936 and 1946. In the former year the material obtained was analysed and results published, despite the fact that only about three-quarters of male employees and two-thirds of female employees answered the question. On account of the poor response the results were presented only in percentage form. In 1946 the response was so unsatisfactory that it was not possible to produce worth-while data at all. The results of the replies to this question in 1936 and 1946 illustrate one of the difficulties encountered in designing census questionnaires. The completion of the Household Schedule is the responsibility of the head of each household and the questions it contains must be such as can be universally understood. They must be simple and require objective, unambiguous answers which depend as little as possible on memory. To ask people how many weeks unemployment they experienced in the previous year may in many circumstances require a considerable effort of memory and, in any case, even if we can assume that people's memories function perfectly, the question itself is not clear-cut. What, for instance, is the position of a man who, owing to short-time, worked only part of each week for a period? What reply should be given by a person who for some reason was out of a job for two months and went home to work in the interval on his father's farm? What reply should be given by a person who has intermittent employment on the roads and in addition owns a small farm on which he works when not otherwise employed? Desirable as it may be to collect information on the question of "unemployment experience" experience has shown that it is not a topic on which it is possible to frame a question from which useful data can be collected at a population census based on the Household Schedule.

There is on this occasion a new individual question on the Household Schedule which we have headed "Subsidiary Occupation" which is in a sense experimental. The terms of the question are as follows :

" If principal occupation is in agriculture state subsidiary occupation if any. If principal occupation is not that of a farmer and if the person is the rated occupier of agricultural land write 'Landholder' and state the area of this land in statute acres, and the total rateable valuation of the holding".

The Instructions on this question are as follows :—

" If a person whose principal occupation, as returned in Column M, is that of farmer, relative assisting farmer, farm labourer or other agricultural worker, had another job inside or

outside the State on which he spent a substantial part of his working time (one month or more) during the past year, this second job should be stated in Column P, for example 'Builder's Labourer,' 'Road worker,' 'Labourer on other farm,' 'Labourer in Sugar Company,' 'Labourer in Bord na Móna,' 'Forestry worker,' 'Fisherman,' 'Shopkeeper-groceries,' 'Postman, part-time.

Where the principal occupation, as stated in Column M, is not that of farmer, and the person is the rated occupier of agricultural land, then 'Landholder' should be entered in this column, stating the area of the holding in statute acres and the rateable valuation (land and buildings)."

One of the problems of the Census of Population relates to the fact that persons are classified according to their "Principal Occupation" that is the occupation at which their living is mainly earned. Now, particularly in rural areas, people often work at a variety of jobs during the year. A man may assist his father on their home farm for part of the year, he may work for the County Council on road-work or for Bord na Móna or for Comhlucht Siúicere Éireann at one of their sugar factories or he may travel to England for seasonal work. On the other hand, a man with a large farm whose principal occupation is that of "Farmer" may also have other activities, he may, for instance, have a retail shop or public house, etc. The first part of the question on Subsidiary Occupation is designed to obtain some data on the extent of this diversity of occupation among the agricultural community.

On the other hand, the number of agricultural holdings in the country is, quite naturally, considerably in excess of the number of those who return themselves as "Farmers" at the Census of Population. Many holdings are owned by persons whose income is mainly derived from other sources and who quite properly return themselves at the Census of Population as shopkeepers, solicitors, auctioneers, etc. The second part of the question is designed to get information on this point and to discover the classes of landholders whose main livelihood is derived from other sources. We are not completely happy that we have arrived at the ideal form of question to elicit the two types of information involved. We are, however, in no doubt as to the desirability of getting information of the type sought in any inquiry which seeks to describe the economic and social structure of the economy.

I might perhaps advert to one individual question on the Census Schedule which has serious shortcomings from a technical point of view. I refer to the question on "Ability to speak Irish". Personal judgment enters very largely into replies to any questions designed to elicit information on the number of people able to speak the Irish language and it is quite clear from the Census data that different standards of proficiency were in fact applied to the individuals who completed the forms at different censuses. It is also very likely that standards are different in different parts of the country. Other information asked for in the Census Schedules (age, religion, etc.) does not depend to the same extent

on subjective judgments and is therefore more reliable. It is extremely difficult, in fact I would go so far as to say that it is impossible, to devise a method simple enough for Census purposes which will provide an invariable method for classifying people into those who "can speak Irish" and those who cannot. It is in fact extremely doubtful if the statistics regarding knowledge of Irish obtained from Censuses of Population are, in our present circumstances, of any value whatsoever.

In connection with the 1956 partial Census of Population an inquiry into knowledge and use of the Irish language was made in the Gaeltacht Areas. Subsequently, as a check, the population of 60 townlands covering 531 households and 2,178 persons aged 3 years and over was investigated by Department of Education Inspectors. In the 1956 case information was collected on both use and knowledge of the Irish language, in contrast to the previous inquiries at which only a question on ability to speak Irish was included. A further difference was that in 1956 the data were obtained by the Enumerators on the basis of a precise set of instructions and of questions to be asked, while at the earlier censuses the information was filled in by the head of the household on the Household Schedule. One might, therefore, expect differences between the 1956 results and those for earlier years. These expected differences manifested themselves clearly. What was most disturbing, however, was that very different levels both of use of the language in the households and of the number of persons able to speak Irish were recorded by the Garda Enumerators and by the Department of Education Inspectors when working on the same set of instructions for the same townlands.

The Gardaí recorded over 30 per cent. more households speaking Irish than did the Inspectors in the townlands in question, which were situated in the parts of the counties of Cork, Kerry, Waterford, Galway, Mayo and Donegal where the language is in fairly wide use. The number of persons, aged 3 years and over, classed as able to speak Irish by the Census Enumerators was 20 per cent. higher than the level returned by the Inspectors. The individual townlands had all been enumerated by different Gardaí and the discrepancies between the two sets of data were both very different in different townlands and most disturbing in magnitude in many individual instances. In fact in 4 out of the 60 townlands the number of persons returned as able to speak Irish at the Census enumeration was reduced by over 50 per cent. of the total population aged 3 years and over in the Inspectors' returns. The Central Statistics Office for these reasons has not published the results of the 1956 investigation. If differences of this magnitude were found in two inquiries carried out on the basis of a single detailed set of instructions, what reliability will the data have when they are collected in the ordinary way with the minimum of instructions on Household Schedules filled in by over 600,000 different individuals? It is quite certain that the standard by which "ability to speak Irish" is judged has and will vary from Census to Census, depends very largely on the current attitude to

the language, is quite different in different parts of the country and may even be different in relation to persons of different ages in the same household.

Consideration was given to the inclusion of questions on a number of other characteristics of individuals in the 1961 Census of Population. It was, for instance, thought that it might be of advantage to endeavour to obtain the *de jure* as distinct from the *de facto* population of the various areas, that is to say that data should be collected on the home address of persons who were absent from their normal residence at the time of the Census. In view, however, of the difficulty of adequately defining "normal residence" and of ensuring that it was properly understood by those who will have to complete the Household Schedule it was thought better not to include such an inquiry. Furthermore, at the time of the year when the Census is taken, holiday, etc., movements are at a minimum and it is believed that, despite the trouble which such an inquiry would cause, the results would be of much value particularly as any persons "temporarily absent" in Britain would not be included.

Inevitably the possibility of getting income data on the Census Schedule was canvassed but was ruled out for many reasons. While the most that would be possible would be to get such information in fairly broad income-groups, nevertheless, it is believed that, despite the inclusion of a question on this subject in other countries, there would be very strong resistance to such a question here. People would resent it as an unwarrantable intrusion into their own private business and would, if they knew their income at all, either understate their total income for fear of tax repercussions or, less likely, overstate it because of personal pride. Furthermore I do not believe that more than a small percentage of farmers know the size of their incomes, despite the recent spread of account-keeping among the agricultural community and I believe that the same is true of many small shopkeepers. There are, too, in many urban households a number of income recipients and it is probably the case that the person filling up the Household Schedule is not fully aware of the income of some members of the household. It would be most desirable to have data on income-groups classified by various social characteristics for the purpose of such projects as public health schemes, etc., but it was felt that the reasons given above ruled out any attempt to meet this need.

Another set of topics which was considered for inclusion were those relating to the educational status of all individuals in the population. A variety of possible types of question might be asked such as the age at which full-time schooling ceased or the types of school attended and the highest level of examination passed or the possession of professional or technical qualifications, etc. It was felt that with the many types of part-time education available in recent years, even at university level, the age at which full-time schooling ceased might not be a good index of educational level. Furthermore the difficulty of ascertaining professional or technical qualifications and the assessment of the relative value of various grades of those which exist, for instance, in the accountancy pro-

fession, is a very difficult matter and did not appear to offer a useful approach to the problem. It was eventually decided that an inquiry on this subject would tend to overload an already large form.

It may be of some interest to consider the set of questions now required to be answered in respect of individuals with those which appeared on the Household Schedule in the Censuses of Population since 1841 as set out in Table 1. In preparing a synoptic table of this type it has been necessary to ignore certain variations in the formulation of questions at successive censuses. For instance in 1851-71 data on the knowledge of Irish was obtained as part of the query on Literacy while in 1881 and subsequent years a separate column was provided for this topic. It will be seen that, leaving out of consideration the partial Censuses of 1951 and 1956, the questions :

- (i) Name.
- (ii) Relationship to head of household.
- (iii) Sex.
- (iv) Age.
- (v) Conjugal condition.
- (vi) Place of birth.
- (vii) Occupation.

have been asked at all full Censuses of Population since 1841. An enquiry on Ability to speak Irish has appeared on each occasion since 1851 and one on Religion since 1861. A number of questions which were asked at earlier Censuses have now disappeared. We no longer include a query on Literacy which was on the Schedule from 1841 to 1911 nor one on Incapacity (Deaf, Dumb, Blind, etc.) which appeared in varying form from 1851 to 1911. Age at marriage was asked for in respect of all persons to whom the question applied in 1841-1871 while on recent occasions it was asked only of married women as part of an inquiry into Fertility of Marriage. In recent periods the most important development was undoubtedly the clarification of the concepts which formed the basis of the classification in relation to occupation and industry and the inclusion of questions designed to elicit data on personal occupation (i.e., the type of work performed by an individual), on industry (i.e., the type of business carried on in the concern or establishment in which the person works) and on employment status (employer, employee, relative assisting, etc.). These have been a normal feature of the Censuses since 1926. The methods of classification based on these questions are now quite different from those in use at earlier censuses in that, though Occupation has appeared as a query since 1841, the data derived from it in the Censuses since 1926 have a character quite different from that which they had earlier. While it is true that, by using returns which I shall mention in a moment, it was possible to produce material on Fertility of Marriage in 1841 the first real inquiry into this subject was in 1911. The necessary information on this topic was collected in 1926 and 1946 and will again be sought from

the 1961 Census. The results were not, however, compiled in 1926.

It will thus be seen that apart from the improvements in relation to occupation, industry, etc., and the investigation into fertility of marriage there has been comparatively little expansion over the past 120 years in the scope of the questions regarding individuals included in the Household Schedules at the Census of Population. There has in fact been a very considerable reduction in the amount of information sought from households since in earlier years they had to complete not one but on occasion up to four separate schedules or sections of a single schedule. Apart from the normal Household Schedule relating to persons resident in the household on Census night there were in addition forms to be completed relating to

- (a) Member of the family absent from home (1841-71).
- (b) Members of the family who have died since the previous census (1841-71).
- (c) Members of the family who were sick at the time of the census (1851-1911).

On each of these schedules the particulars had to be entered for each individual concerned in respect of :

- (i) Name.
- (ii) Relationship to head of household.
- (iii) Sex.
- (iv) Age.
- (v) Occupation.

In addition the questionnaire relating to members of the family absent from home required particulars of

- (i) Religion (1861-71 only)
- (ii) Place of residence at the time of the Census.

The form relating to those who died in the previous decade also asked for :

- (i) Cause of death.
- (ii) Time of death.

The schedule relating to persons sick in the household added to the questions common to all three questionnaires the following :

- (i) Whether or not able to work.
- (ii) Disease.
- (iii) Period afflicted.

It will thus be seen that the individual particulars now asked for from households impose a much smaller burden on the respondents than was usual at the earlier Censuses. It is scarcely necessary for me to point out that though the information on deaths was very fully treated in the early Census Reports it has been much more accurately collected by the Registration procedure introduced in 1864. To rely on information about disease or sickness obtained from a Household Schedule cannot yield information

of much value. The return of "members of the family" who were absent on Census night must undoubtedly have led to a good deal of duplication, particularly as the sense in which the word "family" was to be taken was not well defined as was recognised in the instructions, "The absent members, if in Ireland, will of course be counted for the *general enumeration* in the house where they may happen to sleep on that night." (In fact the only use of the data recorded on this part of the schedule which I can trace is that they were used in conjunction with the ordinary household schedule and the record of deaths to compile the number of live children born to married women whose duration of marriage was under 10 years at the 1841 Census.)

An examination of Table 1 shows that for recent years a number of questions relating not to individuals but to households or dwellings have begun to appear on the Household Schedule. The only former occasion when this happened was in 1841 when three questions regarding workers on farms and their wages were included. The main reason for this change of practice is that with the use of punched-card machinery it became feasible to associate household data with information derived from the individual records on the schedule and to produce various cross-classifications. Formerly this type of household information, if asked for at all, was obtained on what is traditionally known as the B Form—Household and Building Return—and was separately compiled without reference to the other material. Naturally since the compilation was all done by clerical methods the number of cross-classifications that could be attempted was limited, though on looking back on old census volumes one is struck by the number of such classifications which were most laboriously compiled. The decline of the amount of data on the House and Building Return consequent on this change of practice is clear from Table 2. In fact, nowadays, this Return subserves only three purposes. In the first place it is a control document which, since every building in an area has to be entered on it, helps to ensure complete enumeration. In the second place one can use it to compile data on "houses" as distinct from "dwellings" or "housing units", making it possible, for instance, to obtain statistics of houses occupied by only one household or by more than one household, as well as of those which are uninhabited, etc. The third use of this document is to produce directly clerical summaries of the population of each area which form the basis of the Preliminary Report of the Census which is issued only a very short period after Census date.

In 1961 there will be recorded on the Household Schedule the size of the family and the number of rooms occupied which form the basis of the assessment of the housing condition of the population making it possible to compile data on overcrowding, etc., by any desired standard. In addition information will be available on

- (a) Nature of occupancy of the housing unit (owned, rented, etc.)

- (b) Rent for rented dwellings.
- (c) Year in which the house was built.

The first two of these topics were included in 1946 and the second, in particular, is urgently needed to assess both the actual and imputed rents in the national accounts. The third question has been asked in order to get some idea of the age of the housing stock in the country. The six classes into which an attempt is made to segregate age being:

- (a) Houses over 100 years old.
- (b) Other houses built in the 19th century.
- (c) Houses built in this country before the end of World War I.
- (d) Houses built between the wars.
- (e) Houses built between 1939 and 1945.
- (f) Houses built in 1946 or later.

It is realised that, for instance, the number which will fall into category (e) will be small but it is desired to enumerate those houses built since the last housing census in 1946.

As regards the housing amenities available, a question is asked regarding the cold water supply which attempts to segregate the dwellings which have access to a public supply from others and further to distinguish (a) the publicly supplied dwellings according as to whether an indoor supply is available or not (b) other dwellings according as to whether piped water is available or not. In addition questions are asked as to whether the cold water supply is shared, as to whether a fixed bath is available and as to whether a hot water tap is installed. The type of sanitary facilities available to the household is also to be returned as well as information as to whether this is shared with other households or not and as to whether there is an indoor lavatory on the premises. Finally in this field, the presence or absence of electricity supply is to be stated, not to discover the number of electricity consumers but to make possible the examination of the relationship of this amenity to the other characteristics of the household.

We have continued the inclusion of the question on the acreage and valuation of all agricultural land owned by normal residents in the household, primarily as a means of allocating the household and the individuals in it to socio-economic groups. On this occasion also we hope to make use of the column "Relationship to head of household" in order to analyse the structure of households in relation to family composition. In a paper read to the Society in 1954* a sample of about 1 per cent. of households from the 1946 Census was examined from this point of view. A

*Geary, R.C. "The Family in Irish Census of Population Statistics." *Journal of the Statistical and Social Inquiry Society of Ireland*, 1954-5, pp. 1-30.

number of very interesting results emerged from the analysis in this paper many of which were corrective of some widely held fallacies about household composition. In addition the paper included an investigation into what was called "Economic Strength" of the household (i.e. number of gainfully occupied in household divided by total size of household). While it is not proposed to use this criterion in the analysis of the 1961 Census results and while a classification of household by type somewhat different to that used in the paper is proposed, it is hoped to produce information relating to the family structure of households from the census records. In addition, of course, the type of accommodation which the household has e.g. Household occupying whole house, Flat or rooms, Boarding house, etc., will be recorded as heretofore.

Nowadays the Household Schedule is the only basic document which has to be filled up generally by the respondents. In earlier Censuses, apart from the forms for absent, deceased and sick members of the households mentioned already, a large variety of Forms for special types of returns were used. The list of these in use from 1851 to 1911 is shown in Table 3. The use of separate forms was, of course, in many cases simply a means of segregating certain groups of the population for clerical summarisation. In other cases they represent the collection of data on topics such as inquests, school attendance, etc., which do not now form part of the Census.

From 1841 to 1946 the enumeration work was carried out by the police force. In 1951 and 1956 the Dublin Metropolitan Garda Area was enumerated by postmen and the rest of the country by the Gardaí. This will also be the case in 1961 and owing to the reduction of Garda strength, it will be necessary to supplement the police enumerators in parts of the country by temporary civilian enumerators. In 1951 a number of meetings of officials of the Census Office with the enumerators were held for the purpose of ensuring completeness, accuracy and uniformity of the returns. In connection with the present inquiry the number of these meetings is being very largely increased and up to six officers will be engaged on this work for about six weeks. In fact at least one meeting will be held in every one of the Garda Districts throughout the country. The Central Statistics Office is not content with the rate at which the basic data have been collected at recent censuses and will use every endeavour to speed up the collection on this occasion.

At Censuses of Population since 1926, with the exception of the partial Census of 1956, the compilation and analysis of the results have been carried out by means of punched card machinery. In 1961 a battery of IBM machines, including a 101 Electronic Machine, is being employed. The period of time required to complete the publication of the census results is determined, once the basic elements of the questionnaire and tables are settled, primarily by :

- (a) The size of the coding staff.
- (b) The number of punchers and verifiers available.

- (c) The amount of equipment used for sorting, etc.
- (d) The time taken to print the reports.

In fact operations covered by (a) and (b) have to proceed concurrently. The procedure by which information on the Schedules is translated into numbers, on the basis of predetermined code lists, has to start once the folios of schedules have been received and checked. When an adequate supply of coded material is available, the punching and verification of the machine cards can commence and the organisation has to be such that coding is completed shortly before the final cards are punched. Thus the time-schedule for the first two operations is conditioned primarily by the number of punching and verifying machines available and the speed of the operators. Obviously it is desirable to process the census material as quickly as possible but the punch operators have to be recruited and trained. About six weeks are needed to train the punch operators to an acceptable standard. A longer period has to elapse before they have acquired a speed of operating which can be considered economical. The cost of this overhead, including the non-effective training period and the period of sub-normal speed, becomes very appreciable if a large number of operators are engaged so that the actual punching can be carried out in a short time. Some compromise of the length of the period scheduled for the completion of punching is therefore inevitable. This causes a certain delay in producing the results but it is proposed to compile the data for population classified by sex and administrative sub-divisions of the country at an early stage of the operations and it is expected that Volume 1 of the Census Reports should be issued early in 1962.

One must refer in this context to the very considerable delays which have been occasioned by reproduction difficulties in the publication of recent census reports. As an example of this one may cite the General Report of the 1946 and 1951 Censuses of Population for which the interval between the time of the despatch of the varityped material for reproduction and printing and the receipt of the completed volume was over three years. To a large extent this delay is outside the control of the Census Office though it may be affected by the choice of the method of reproduction (e.g. by traditional printing or by vari-typing and rotaprinting).

The speediest results would undoubtedly be attained if it were possible to have under the control of the Census Office suitable equipment for the reproduction of the volumes but whether this will be possible is not at present clear.

Perhaps before concluding I should advert to some of the modern methods of census compilation and analysis which depend on electronic equipment. There are two stages at which these methods may be used. In the first place they may operate to reduce or avoid the clerical coding required and to eliminate the necessity of reproduction of the data on punched cards by transferring it directly to magnetic tape. In the United States and in Canada two different methods of directly reproducing the basic data on magnetic tape are being or will be used in relation to the current

censuses. These may be looked on as developments of the mark-sensing devices by which marks on the basic cards are translated into punched holes. They require either that the information be collected by enumerators on pre-coded schedules or that the Household Schedule is transformed into an even more complicated document than at present by pre-coding the information and requiring the informants to mark the appropriate codes. Alternatively the actual coding from a schedule of the traditional type may be done on a special document which can be processed by electronic devices. In any event these reading devices have only recently been developed and may therefore be regarded as prototypes which are on trial.

It is, of course, possible alternatively to proceed on traditional lines to the point at which the basic data are punched on cards and then to use a card to tape convertor to get the magnetic tape for subsequent computer processing. While the electronic reading devices were not even considered for the 1961 Census some consideration was given to the possibility of carrying out of the machine processing by the production of magnetic tape. This was, however, ruled out for a number of reasons. In the first place the capital cost of a computer of the type which would be required to process Census data is far too high to warrant the installation of special equipment for this purpose alone. Were there such a computer available in the country on which the relatively small amount of time needed for Census work could readily be fitted in, then the method might be practicable. It may be pointed out that even in Britain the Census data are being processed on a computer used for other purposes. It is of course conceivable that time might be hired on a similar computer abroad to process the Irish Census data. There are several reasons why this is not practicable. In the first case the computer work would have to be "programmed" well in advance. This requires a number of specially trained staff to be employed on the programming for a considerable period. Such staff is in very short supply and has to be highly remunerated. The programming is independent of the size of the population and the overhead cost of doing this work would be just the same for our Census as for the British one. In fact it would probably amount to something of the same order of magnitude of the present total machine costs. Secondly, there is the necessity to "edit" the taped material by reference to the basic documents. This poses an extremely difficult problem and one which would be complicated by the fact that the processing was being carried out at such a distance from the initial records. Thirdly, there is the legal problem. The Census is collected under the Statistics Act, 1926, by which all information about individuals is strictly confidential. I feel quite sure that the lawyers would consider the transmission of individual records on magnetic tape to a computer outside the control of the Central Statistics Office as a breach of the Act. For these reasons we have chosen to continue the processing of the Census data by punched cards.

The publication of the 1961 Census data will again be by subject volumes and will largely follow the pattern of Reports inaugurated

in 1926. Certain changes will, of course, follow on the alterations in the material collected. The publication in subject volumes has the big advantage that it integrates all the material on a single topic or on related topics within the compass of one report but it does inevitably mean that the statistics on some aspects of the census material are delayed in publication. This drawback may be fairly serious when there are substantial intercensal changes in population to be analysed and developed. While it is not possible to produce reliable intercensal estimates of net emigration, all the indications are that it has been considerable since the last Census in 1956. If these conclusions on the basis of the available indications are correct, then one must anticipate that the 1961 Census will show a fairly substantial decline in population since 1956. One would wish to analyse any such change as speedily as possible and, for instance, the Census Volumes which give data on Ages and Conjugal Conditions, on Occupations and Industries, etc., must be produced as quickly as they can be to provide the material for this analysis. These factors are being borne in mind in planning the compilation of the results.

TABLE 1A.—INDIVIDUAL PARTICULARS COLLECTED ON HOUSEHOLD SCHEDULES AT EACH CENSUS 1841-1961.

Characteristics	1841	1851	1861	1871	1881	1891	1901	1911	1926	1936	1946	1951	1956	1961
Name and surname	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Home address of visitors	—	—	—	—	—	—	—	—	—	—	—	x	x	—
Relationship to head of household ...	x	x	x	x	x	x	x	x	x	x	x	x	—	x
Sex	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Age (a) Years, Months	x	x	x	x	x	x	x	x	x	x	—	—	—	—
(b) Date of birth	—	—	—	—	—	—	—	—	—	—	x	x	x	x
Conjugal condition	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Orphanhood (for children)	—	—	—	—	—	—	—	—	x	x	x	—	—	—
Place of birth	x	xx	x	x	x	x	x	x	x	x	x	—	—	x
Period of residence for immigrants ...	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Religion	—	—	x	x	x	x	x	x	x	x	x	—	—	x
Literacy	x	x	x	x	x	x	x	x	—	—	—	—	—	—
Irish Language	—	x	x	x	x	x	x	x	x	x	x	—	—	x
Incapacity (deaf, dumb, blind, lunatic, etc.)	—	x	x	x	x	x	x	x	—	—	—	—	—	—
Occupation (Separate heading 1946 for young persons not yet at work)	x	x	x	x	x	x	x	x	x	x	x	x	—	x
Industry	—	—	—	—	—	—	—	—	x	x	x	x	—	x
Employment Status	—	—	—	—	—	—	—	—	x	x	x	x	—	x
Subsidiary occupation	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Period of unemployment previous year	—	—	—	—	—	—	—	—	—	x	x	—	—	—
Date of Marriage (or duration of marriage) (for all persons 1841- 1871, for married women only 1911-)	x	x	x	x	—	—	—	x	x	—	x	—	—	x
Number of children born alive to married women from present marriage	—	—	—	—	—	—	—	x	x	—	x	—	—	x
Children of present marriage still living	—	—	—	—	—	—	—	x	—	—	—	—	—	—
Number of dependents (Married men, widowers and widows)	—	—	—	—	—	—	—	—	x	—	x	—	—	—

TABLE 1B.—PARTICULARS OF HOUSEHOLD DWELLINGS COLLECTED ON HOUSEHOLD SCHEDULES AT EACH CENSUS 1841-1961.

Characteristics	1841	1851	1861	1871	1881	1891	1901	1911	1926	1936	1946	1951	1956	1961
Number in Household (Males, females, persons)	—	—	—	—	—	—	—	—	x	x	x	x	x	x
Number of rooms	—	—	—	—	—	—	—	—	x	x	x	—	—	x
Area and Valuation of Agricultural Land owned by normal resident in household	—	—	—	—	—	—	—	—	x	x	x	x	—	x
Nature of occupancy of dwelling	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Water supply	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Hot water	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Fixed bath	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Sanitary facilities	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Year in which house built	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Electricity Supply	—	—	—	—	—	—	—	—	—	—	—	—	—	x
Type of household, valuation, etc.	—	—	—	—	—	—	—	—	—	—	x	—	—	x
Number of workers on farm (Male, Female)	x	—	—	—	—	—	—	—	—	—	—	—	—	—
Man day work on farm per annum (Males, females)	x	—	—	—	—	—	—	—	—	—	—	—	—	—
Wages on farm per day (Males, females)	x	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 2.—PARTICULARS COLLECTED ON HOUSE AND BUILDING RETURN AT EACH CENSUS, 1841-1961

Characteristics	1841	1851	1861	1871	1881	1891	1901	1911	1926	1936	1946	1951	1956	1961
Identification of premises	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Description of building	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Built or building	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Inhabited or uninhabited	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Households in house	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Persons in household—Total	—	—	—	—	—	—	x	x	x	x	x	x	x	x
—By Sex	—	—	—	—	—	—	—	—	x	x	x	x	x	x
Persons sick in household	—	x	x	x	x	x	x	x	—	—	—	—	—	—
Rooms in house	x	x	x	x	x	x	x	x	—	—	—	—	—	—
Rooms occupied by each family	—	—	—	—	—	—	x	x	x	x	x	—	—	—
Walls	x	x	x	x	x	x	x	x	—	—	—	—	—	—
Roofing	x	x	x	x	x	x	x	x	—	—	—	—	—	—
Stories	x	x	x	x	—	—	—	—	—	—	—	—	—	—
Windows—Outside	—	x	x	x	—	—	—	—	—	—	—	—	—	—
—In front	x	x	x	x	x	x	x	x	—	—	—	—	—	—
Out offices and farm buildings (Total —details on separate return)	—	—	—	—	x	x	x	x	—	—	—	—	—	—
Farm acreages (distinguishing Arable, Pasture, Waste)	x	—	—	—	—	—	—	—	—	—	—	—	—	—
Livestock Numbers (distinguishing Horses, Cattle, Sheep, Goats, Pigs, Poultry)	x	—	—	—	—	—	—	—	—	—	—	—	—	—

TABLE 3.—COVERAGE OF SEPARATE FORMS USED AT CENSUS OF POPULATION, 1851-1911

	1851	1861	1871	1881	1891	1901	1911
Ship Return (incl. No. Crew and Passengers) ...	x	x	x	x	x	x	x
Paupers in Workhouses	x	x	x	} x	x	x	x
Paupers sick in workhouses	x	x	x				
Paupers who died in Workhouses (since previous census)	x	x	x	—	—	—	—
Persons in Hospitals	x	x	x	x	x	x	x
Persons who died in Hospitals (since previous Census)	x	x	x	—	—	—	—
Teachers and Students in Residential Schools and Colleges	x	x	x	x	x	x	x
Persons who died in Schools etc. (since previous Census)	—	—	x	—	—	—	—
Persons in Barracks	x	x	x	x	x	x	x
Lunatics and idiots not in institutions	x	x	x	x	x	x	x
Lunatics in asylums	x	x	x	x	x	x	x
Deaths in Asylums (since previous Census)	x	x	x	—	—	—	—
Persons in Prisons etc.	x	x	x	x	x	x	x
Deaths in Prisons (since previous Census)	—	—	x	—	—	—	—
Emigrants	x	—	—	—	—	—	—
Inquests	x	x	x	—	—	—	—
Scholars attending Schools	x	x	x	x	x	x	x
Scholars attending Colleges	—	—	—	x	x	x	x
Children on rolls at schools	—	x	x	x	x	x	x
Persons on rolls of Universities and Colleges	—	—	—	x	x	x	x
Return of out offices and farm steadings (distinguishing types)	—	—	—	x	x	x	x
Return of Landholders, acreages, valuations, families, persons, houses and farm buildings	—	—	—	x	x	x	x

DISCUSSION

Dr. R. C. Geary : Dr. McCarthy modestly implies that his paper is a routine job, one of a series. It is very much more than this. In fact it is full of interest. I am glad that at the outset he stressed the *economic* importance of the Census. Apart from its essential usefulness as a sampling frame for all kinds of inquiries, the Census, as the only complete survey, enables statisticians to tidy up data from other inquiries such as the Censuses of Production and Distribution, which one way or another are of necessity incomplete. The Census remains what it has always been—a major activity of government.

It is very agreeable for ex-Directors like Mr. Lyon and myself to speak to this Paper, divested of a sense of responsibility for the Census. It is not unknown in other places for ex-Ministers to adopt an admonishing tone towards their successors in office about alleged faults and inadequacies obtaining during their terms and which persist. This reflection may occur to Dr. McCarthy as we speak. With regard to Dr. Deeny's well-justified praise for the 1851 Census, my personal opinion is that the 1841 inquiry is to be regarded as the great path-breaking Irish census. Perusal of its report never fails to amaze professionals of these days. It is a sobering thought that without the benefit of compiling machinery of any kind the date of publication on the fly-leaf of this great volume is 1843, only two years after the date of the Census.

I think Dr. McCarthy was wise to drop the question about duration of unemployment. This kind of information can be more reliably obtained from Social Security sources. In fact, the results of such inquiries have been published in the official publication "The Trend of Employment and Unemployment". The question on "Subsidiary Occupation" is also to be welcomed. But why has it not been made to extend to the whole population so that (1) primary and (2) secondary occupation would be stated by each gainfully occupied person? A wealth of information is already available on the social organisation of Irish farms. From the 1951 Census we have a tolerably complete picture of the social organisation of farms classified by valuation and region showing, for instance, the occupations of persons living on agricultural holdings of £5-£10 valuation together with numbers of children and others not gainfully occupied. I recall being struck by the fact that in the province of Connaught some 40 per cent. of the non-agricultural gainfully occupied lived on agricultural holdings. As regards the question as it stands, perhaps more specificity with regard to period might have been desirable, e.g., by asking for number of weeks during past 12 months in secondary occupation.

Dr. McCarthy need not answer the next question, which is: if, as is obviously the case, he has no confidence in the reliability of the replies to the question on the Irish language—and I share his scepticism—why did he include the question on the schedule?

I am glad to note Dr. McCarthy's firm adherence to the *de facto* (as distinct from the *de jure*) concept of the population.

I am well aware of the difficulties of including any question about income on the Census form and that throughout the world there is a considerable difference of opinion as to the reliability of statistics of income distribution derived from the Census of Population. Nonetheless, I think that we should try to obtain these figures at the Irish Census having regard to the great importance of these statistics and Irish statistical weakness in this field. The inquiry need only be a random sampling one (to be answered on only 5 per cent. or even 1 per cent. of the schedules) and could be confined to the non-agricultural population, using fairly broad income groups, with a view to obtaining not merely individual but also the household distribution of income. As I remarked at the previous meeting, the object of all economic effort is to improve the condition of those in the lower income brackets and we cannot begin to tackle this problem until we know something about its magnitude, geographical distribution, etc.

It is a pity that no question was included about educational status of the population. Perfection would not be obtainable but would it not have been an easy matter to ask for "University degree or professional qualification (initial letters) (see instruction x)", instead of the Irish language question? Perhaps Apprenticeship could be included in the same question with a view to deriving precise information on that most difficult aspect, manual skill. It is my conviction that in the occupation distribution we shall never be able satisfactorily to sort out descriptions like "accountant", "engineer", etc unless and until we know about the professional qualifications.

It is notoriously difficult to obtain statistics on sickness and infirmity from the population census. Still, in the morbidity context, could we not ask a question as to whether persons were sick on the day before the census day?

The question about age of houses is to be welcomed for the light it will throw on depreciation of house property. Comparison of the statistics on housing amenities available from the 1961 census with the results of the corresponding inquiries in 1946 should be most revealing. I still consider that the concept of "economic strength" of a household is an important one and I would like to ask Dr. McCarthy what he proposes to substitute for it on this occasion.

The increase in the amount of pre-enumeration training is also to be warmly welcomed. On the question of the accuracy of the Census raised by a previous speaker, many partial checks are instituted in the CSO: for instance, a comparison of the population under 15 with the number of births in the 15 years prior to the census revealed a short-fall in the census of the year of only 1 per cent. and I recall that a comparison between the ages of individuals in rural areas between 1911—1926 census showed an average increase in regard to age on the 15 years of something like 14.5 years (with no significant difference for males and females), which is reassuring.

As a final question, may I ask Dr. McCarthy to what use he

proposes to put the IBM 101 electronic machine? I join with the other speakers in wishing Dr. McCarthy every success with the 1961 Census.

Mr. Patrick F. G. Cannon, in supporting the vote of thanks, suggested that it might give a clearer picture of our educational statistics if the age-limit applied in Instruction 9 on the Census Form were lowered from 14 years or over to 12 years or over. This adjustment seemed particularly necessary in view of the increasing tendency of pupils to move from primary to secondary schools at 12+. In the case of pupils in attendance at vocational schools, it might be of considerable help if information were sought as to whether a student was in full-time attendance or in part-time attendance.

The President (*Mr. W. A. Honohan*) said that the Society was fulfilling an important duty in providing an opportunity for a discussion on the main statistical exercise in the State. The Census is not only the primary sources (the new material) of population data for various purposes as mentioned by Dr. McCarthy in his opening paragraph but it provides answers to a great many of the questions in the fields of economics and sociology which occur from day to day. The members of the Society were performing a useful service in making suggestions for improving the efficiency and accuracy of the Census and the suitability of the questions asked, but he suggested that this might be more effective if it were done before the final arrangements had been made for the current Census.

The President expressed the hope that, now that we had apparently fallen in with the general international practice of having a fully comprehensive census every ten years (in years ending with a "1"), we would not drop the practice of having at least a partial census every five years (in years ending with "6"). We had grown accustomed to this service which was really essential in this country for the determination of the level of emigration and of the movement of population within the country.