GENERAL REGISTER OFFICE

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ENGLAND AND WALES

GENERAL REPORT

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LONDON: HER MAJESTY'S STATIONERY OFFICE
1958

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CHAPTER I.

ADMINISTRATIVE REPORT

Introduction

The Fifteenth Census of the population of England and Wales was taken as at midnight on Sunday the 8th April, 1951. Censuses were taken on the same date by the appropriate authorities in Scotland, Northern Ireland, the Isle of Man and the Channel Islands and in the Irish Republic. For the last occasion of simultaneous counts (or even counts in the same year) in all these areas it is necessary to go back forty years, to the Censuses of 1911.

The present Report is the concluding volume in the series dealing with the Fifteenth Census in England and Wales. This chapter contains, as is customary, an account of the taking of the census and of the subsequent work of analysis. Chapter II deals with the quality of the census data. Succeeding chapters comment in detail upon the attributes of the population as revealed by the census, upon the tabulations by birthplace and nationality, by educational characteristics, by occupation, industry and industrial status; other chapters summarise the main conclusions of the commentaries on other subjects already published in separate reports.

This Report does not review the history of census taking in England and Wales. The General Reports of the Censuses of 1901 and 1911 contain a full historical account of the various Census Acts, and of the scope of the decennial censuses since the first in 1801. This field is also covered, and extended to the censuses of 1921 and 1931, in a special publication of the Interdepartmental Committee on Social and Economic Research, " *Guides to Official Sources No. 2, Census Reports of Great Britain 1801-1931* " (H.M. Stationery Office, 1951).

All that need be said here is that, in spite of the increasing body of statistical data available from other sources, a periodical census of the whole population still remains a unique and indispensable instrument for gaining knowledge about the nation and its attributes. It is being more intensively used in countries with a long census tradition and is becoming recognized as an essential tool of government in countries where previously censuses have been little used if at all, such recognition being hastened by the value set on censuses by the various organs of the United Nations, in particular by the Economic and Social Council and the Population and Statistical Commissions. The census statistics provide an essential base-line for many statistical series, and take account of all individuals in the population at a given point in time. Other more specialised investigations can then be related to the framework so obtained.

Scope and Timing of the Census

The previous census had been taken in 1931 and there was thus, for the first time since the series began in 1801, an interval of twenty years instead of the customary ten. The exceptional interval, the limited scope of the 1931 Census and the changes in legislation and social conditions all had their influence on the range and content of the 1951 Census. It was thus inevitable that its scope should be as wide as was reasonably practicable.

The 1931 Census had been restricted for reasons of economy and because it was then intended to take a census in 1936 and thereafter quinquennially. For reasons of economy too the project for a census in 1936 had been dropped and so the questions left out of the 1931 Census could not be put. The war had prevented a census in 1941. The 'quinquennial year' 1946 was too soon after the war because the population had not had enough time to settle down again, the census organization both central and local was in no shape to undertake the task even if user Departments could have formulated clearly what they wanted, and even in favourable conditions a census requires at least two full years' preparation in advance. Fortunately, although much of the information needed had not been obtained since 1931, some of it not since 1921, some not since 1911, and some never before, the estimation of numbers alone by sex and age for local areas was less difficult because of additional information derived from the National Register, both on a current basis as regards net movement in and out of areas and also as a valuable statistical by-product of the original registration of civilians on the 29th September, 1939. A balance of practical considerations led to the conclusion that, despite some intermittent pressure for an earlier date, the first post-war census should be either in 1950 or in 1951 (the next normal year in the decennial series) and in the event the latter year was chosen.

In view of the 20 year interval since the last census and the urgent need for up to date information, it was decided that tables based on a one per cent sample of the records should be produced and published well in advance of the main tables.

The Questions

The 1951 Census was no exception to the rule that more suggestions for census enquiries are received than can possibly be fitted into any practical programme even if they pass the test of reasonable need and are limited, as a census enquiry should be, to simple facts within the knowledge of the individual and not affecting emotions unduly or seeking opinions. Many consultations, both oral and written, were held with numerous Government Departments and account was also taken of the relevant recommendations in the Report of the Royal Commission on Population and of suggestions from other sources. The programme of enquiries as it eventually emerged was the largest ever attempted in this country at one time, although it contained little that was wholly new.

Questions as to sex, age, marital condition, relationship to head of household, birthplace, nationality, number of rooms occupied by household, occupation, industry and, in Wales and Monmouth, the enquiry on the Welsh language, were included much as before.

The question on usual residence was in the same form as in 1931, when it was first put. The answers were used to establish, for each borough and county district, the number of persons who were enumerated there but had a usual residence elsewhere in England and Wales and also the number of persons who were enumerated elsewhere in England and Wales but had a usual residence in the borough or district. This information enabled the enumerated population to be adjusted so as to provide a base for the annual estimates of local populations, which relate to the resident population.

A question on place of work was included which had previously been asked in 1921. This enabled the tables showing the working populations classified according to industry to be constructed on the basis of the area in which they worked, which is in this context a more useful and realistic basis than the area of enumeration. It also provided, as in 1921, some evidence of the volume of the daily journey to work between one local government area and another.

While the questions on occupation and industry were retained without much alteration, it was decided, having regard to existing trends in employment, to elicit more specific information in certain cases. Thus persons who were working "Part-time" were asked to say so specifically, as also were persons working as apprentices or articled pupils, or chiefly occupied in giving unpaid help to the head of a family business.

Two short questions on education were included. The first, whether at present receiving full-time or part-time education at an educational establishment, repeated a question of 1921. The second, asking those who had completed their full-time education to state the age at which it ceased, was quite new and because it was desired to link the information with that on occupation was addressed only to those persons returned as gainfully occupied. The object was to get a broad indication of the level and type of education received but this question was often misunderstood.

The question on the number of rooms occupied by the householder was on the same lines as before, and arrangements were made as before for a record to be made, during the enumeration, of the households occupying structurally separate dwellings, that is, houses or flats or other quarters built or adapted for separate occupation and forming a private and structurally separate unit.

Additional and quite new questions enquired whether each household had exclusive use of, or shared with another household, or lacked entirely, piped water supply within the house, cooking stove or range, kitchen sink, watercloset, fixed bath. The answers to these questions have been used to supply further useful information on housing conditions.

The remaining questions in the 1951 Census related to duration of marriage and number of children. Questions of this nature had been asked in 1911, but not subsequently. In 1921 it was more important to obtain information about dependants, and to include both types of question would have created confusion. In 1931 the scope of the census was restricted and also the view was taken that the means of studying fertility should be extended by suitable amendments of the law relating to registration of births and deaths. New material was required to bring up to date the study begun in 1911 and to complete the picture obtained from the additional facts obtained at

birth and death registrations under the Population (Statistics) Act, 1938. It was considered that sufficient information about the experience of women over 50 was available from the 10 per cent sample Family Census, conducted on behalf of the Royal Commission on Population in 1946. The questions asked in the 1951 Census related only to married women under the age of 50. They were asked to give the date of their marriage and, if married more than once, the date of their first marriage also. They were also asked to state the total number of children born alive to them in marriage. A subsidiary question was whether a child had been born during the twelve months preceding census day; the object was to enable a special study to be made of the births in this period before census day in relation to the other census information which is fuller and more easily handled than that obtained at birth registration. Some fears were expressed both in Parliament and elsewhere that these questions might be resented. Careful and repeated explanations of their purpose and limitations were given through the Press and in other ways and in the result they were generally accepted as reasonable, just as there has been general acceptance of the more intimate questions asked on registration of births under the Act of 1938. Such questions have in fact become a regular feature of the census questionnaire in almost every country in the world.

Arrangements were made to obtain from the National Register information as to the extent and direction of changes of residence within the country over a period, thus obviating the need to include a question on this in the Census. (This subject has now been dealt with by the General Register Office in two publications, Studies on Medical and Population Subjects, No. 5, "*Internal Migration, Some Aspects of Population Movement within England and Wales* " and No. 11, "*Internal Migration, A Study of the Frequency of Movement of Migrants*".)

The 1951 Census schedule as finally approved contained 24 questions*, as against a total of 15 in 1921, and 13 in 1931. But some of these applied only to the household taken as a whole, and of the others many did not apply to most members of the household. On average, not more than 12 or so questions needed to be answered for one individual adult.

Legal Authority for the Census

The Census Act, 1920, which is a permanent Act applicable to censuses generally, provides for an Order in Council to direct that a census be taken in Great Britain and for the making of regulations to enable the Order in Council to be carried into effect.

(a) Order in Council

In accordance with the statutory procedure a draft Order in Council, prescribing the date of the census, the persons by whom and with respect to whom the returns were to be made, and the substance of the questions to be asked, was laid before Parliament on the 15th June, 1950. A resolution was tabled by the Government as requisite in both Houses to confirm the inclusion of the question on age of completion of full-time education at an educational establishment and the question asking married women who had been married more than once to give the date of their first marriage. The draft Order was debated at some length in the House of Commons on the 11th July, 1950, and in the House of Lords on the 17th July, 1950, and was in each case approved without a division. The Census Order, 1950†, was duly made by His Majesty in Council on the 28th July, 1950.

(b) Regulations

The detailed machinery for the taking of the Census and the precise forms of return to be used in all cases were prescribed in the Census Regulations, 1950‡, which were signed by the Minister of Health on the 15th December, 1950, and laid before Parliament on the following day.

Preparatory work in General Register Office before Census Day

The main preparations were begun early in 1949. One formidable task was begun in the spring of 1948, namely, the full revision of the List and Classification of Occupations so as to take account of the changes introduced in twenty years of industrial development. Further reference to this and to the Industrial Classification is made in Chapter VIII on p. 124. Other important aspects of preparation are dealt with below.

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*The Census Schedule used in England is reproduced in Appendix F; the Schedule used in Wales contained an additional question on the Welsh language.

†The Census Order, 1950 (S.I. 1950, No. 1269) is reproduced in Appendix D.

‡S.I. 1950, No. 2028.

(a) Preparation of the Plan of Division

One of the first tasks was the division of the area of each census officer (usually the registrar of births and deaths) into suitable enumeration districts. It was decided that in view of the changes in the last twenty years, especially the changes due to the war, and the lack of information in the General Register Office, due mainly to the loss of the 1931 Census records by fire in 1941, the initial work should be done locally by the census officer under the general guidance and control of the General Register Office. The Department supplied as much assistance as was feasible, and provided each census officer with an Ordnance Survey map of his area, generally of six inch scale but of twenty five inch scale for dense urban areas, showing in distinctive colours the boundaries of civil and ecclesiastical parishes, boroughs and urban districts and their wards and, where necessary, the boundaries also of rural districts, parliamentary constituencies, petty sessional divisions and county court districts. Upon this map the census officer was required to indicate in pencil the boundaries and numbers of the enumeration districts proposed. The draft plans were then checked carefully by the Department on completion to see that they adopted practical boundaries, that the enumeration districts were clearly and completely described, and that they observed the various local boundaries of areas for which census figures of population would be required. The general instructions directed that enumeration districts should be designed to be of a size which one enumerator could conveniently handle, that is, the enumerator was intended to be able to collect and check the schedules in his district in one day; the districts must also fit in with the local boundaries relevant to the census statistics. A rough guide was that no enumerator should be expected to deal with more than 400 households in urban areas; no fixed limit was set in rural areas, so much depending on the pattern of settlement and the distances involved. Thus in sparsely populated areas, where the amount of travelling involved was heavy, enumeration districts would be very much smaller in terms of number of households. The actual size of the enumeration districts is discussed below on p.63. The local census officer had to identify and list any large institutions or similar establishments—generally those expected to contain 100 or more persons each—for which special enumeration arrangements were required. These were called special enumeration districts and were dealt with by the census officer, who himself made arrangements for their enumeration on special institution schedules (see p.11). When the Plans of Division had been approved, they were returned to the census officer, who was then able to copy the description of each enumeration district into an enumeration book as an indication to the enumerator of the area for which he was responsible.

Experience of the 1951 arrangements leads to the conclusion that to make possible a strict adherence to the census timetable, and to allow for the great difficulty of making contact with many households in present social and industrial conditions, the larger enumeration districts will in future have to be curtailed in size and the total number of enumeration districts will need to be somewhat larger than the increase in population alone would require.

(b) Enumeration of Special Classes

(*i*) *Armed Forces at home*. Conferences took place with the Service Departments to discuss the special problems involved in securing a complete enumeration of all persons in defence establishments or on board naval vessels. Arrangements were embodied in a Fleet Order, Army Council or Air Council Instruction whereby all persons in defence establishments (whether serving personnel, civilian employees or dependants) were covered, the responsibility falling to the officer commanding each separate unit. Special arrangements were made for the enumeration of the United States forces and their dependants by their own officers; the returns were forwarded to the General Register Office.

Subject to these arrangements the enumeration of Army and Air Force establishments and Naval shore stations was carried out by the normal machinery. Smaller units were included in ordinary enumeration districts and the enumerators made the arrangements in the course of their normal rounds. In the case of larger stations included among the Special Enumeration Districts (see below), the census officer made arrangements direct with the officers commanding. Special arrangements were made to cover, for example, buildings used for married quarters outside the boundaries of the establishment; but, subject to the decision of the officer commanding, the persons resident in such quarters were normally treated as private households.

The Admiralty undertook the enumeration of all naval ships, the schedules being forwarded direct to the General Register Office. The census officer had no duties in this connection, but the relevant figures were added in the General Register Office to the population totals for the Preliminary Report.

A special type of schedule was used for members of the Forces; it omitted (as being almost or entirely irrelevant) the questions on relationship to the head of the household (or collective establishment), fertility, full or part-time education, workplace and usual residence. Civilian depen-

dants and others within Forces establishments were enumerated on forms on which the full range of questions was asked.

(*ii*) *Civilian shipping*. Shipping population was in the main enumerated by Officers of H.M. Customs and Excise in accordance with General Orders issued by that Department amplified by instructions from the Registrar General.

The local Collectors of H.M. Customs and Excise were supplied directly with "S" schedules (i.e. the schedule as used for collective establishments with a few modifications to adapt it particularly for use on ships) and were responsible for their delivery and subsequent collection and despatch to the General Register Office.

The Collectors were instructed to enumerate "All vessels then in port which were berthed, moored or moving from one berth or mooring to another within the port limits at Census midnight" and up to 1st May "any vessel arriving in the port which has not hitherto been enumerated and which was at Census midnight:

(a) in a British or Irish Port or anchorage (including those in the Irish Republic);
(b) voyaging between such ports or anchorages; or
(c) on a fishing voyage without touching at a foreign port (for this purpose "foreign" does not include the Irish Republic)."

Vessels enumerated under paragraph (a) were due to be assigned to the port in which they had been at census midnight and for this purpose reciprocal arrangements were made with the other Census Authorities in the British Isles for the exchange of the schedules collected.

The procedure followed in 1951 was very similar to that of 1931, but the coastwise shipping covered in the enumeration included, in 1951, those on voyages involving ports in Ireland and the Channel Islands and the Isle of Man because of the simultaneous enumeration in all areas. After consultation with the Ministry of Transport it was decided to extend the period during which returns might be received from fishing vessels to one month after census day, as compared with the fortnight allowed in 1931, to allow for the increased duration of fishing voyages made by modern vessels. Special care was taken to see that there were no gaps in the enumeration. Census officers in port areas were supplied with details of the areas within which Customs Officers would be responsible for the enumeration, and directed to confer with the Collectors in order to ensure that their respective areas of responsibility were clearly defined and understood.

(*iii*) *Other special classes at home*. Arrangements were made with Trinity House and other lighthouse and lightship authorities for their co-operation in the enumeration of the population of the various lighthouses and vessels under their control.

The enumeration of homeless persons was undertaken by the Police under instructions from the Home Office, Chief Constables being supplied with schedules through that Department. On completion the schedules were collected from the Police Stations by the local enumerators.

Forestry Commission Rangers were supplied with schedules and they assisted by enumerating encampments of gypsies and others in the New Forest and Forest of Dean. The completed schedules were sent to the Census Officers.

Special arrangements were made with the Ministry of Supply for the enumeration of persons living in establishments to which for security reasons the enumerator could not be allowed access. These establishments were enumerated by officials of the Ministry of Supply and the schedules forwarded direct to the General Register Office.

The Railway Executive agreed to issue schedules to all persons on the Holyhead Boat Train and the completed schedules were collected by Officers of H.M. Customs and Excise at Holyhead. This was the only outward bound Boat Train running at the census midnight.

British Road Services co-operated by enumerating in their depots all night drivers who had not been enumerated elsewhere.

(*iv*) *Forces and other classes abroad.* All United Kingdom based members of the Army, Navy and Air Force together with certain civilians, i.e. United Kingdom based civilian staffs and their families, families of servicemen, and welfare and kindred workers at stations or in ships abroad, were enumerated by the local officers commanding. A restricted questionnaire similar to that used for "Home" forces was used for both forces and attached civilians. The totals of all these persons are given in the Appendix C of the *General Tables* without any distinction of station.

The Foreign Office undertook the enumeration overseas of the British Element of the Control Commission for Germany and the United Kingdom based personnel of the Foreign Office Administration of African Territories (Eritrea, Cyrenaica and Tripolitania). Statistics of these also are given in *General Tables*, Appendix C.

The Foreign Office also arranged for local Consular Officials to make returns of the numbers of citizens of the United Kingdom and Colonies resident in consular districts abroad and included as such on their registers. The statistical returns distinguished those born in the United Kingdom (including for this purpose any born in that part of Ireland now forming the Irish Republic) from those born elsewhere; the latter would in many cases be persons of colonial origin with comparatively remote connections with the United Kingdom. The figures relating to 1951 were given in Appendix Table C6 in the *General Tables*, but as the Consular returns are made quinquennially the figures are repeated in Appendix A of this Report together with those for 1956.

Supplementary arrangements were also made with the Registrar General of Shipping and Seamen to obtain information about the crews employed under British Articles of Agreement serving in sea-going merchant vessels registered in the United Kingdom. Some classes of seamen were excluded, as having little connection with the United Kingdom, and of course no information could be obtained about British seamen serving in vessels registered abroad. This information distinguished whether the seamen had previously been included in one of the censuses in the United Kingdom. The figures are given in Appendix C of the *General Tables*.

(c) Liaison with other Census Authorities

Fullest consultation was maintained with other census authorities in the United Kingdom in order to secure the maximum degree of uniformity in the census results throughout the area. The Census Act, 1920, applies to Great Britain, and the Census Order, 1950, directing the 1951 Census to be held, also applied to Great Britain. There was necessarily very close contact indeed with the Registrar-General for Scotland, who had a similar responsibility for the census in Scotland, in all the formative stages of the census planning. As a result the main schedule was in all essentials the same in England and Wales and in Scotland, with the addition to the Scottish schedule of a question on the speaking of the Gaelic language in similar terms to that on the speaking of the Welsh language in the schedules used in Wales (including Monmouthshire). Close contact was also maintained with the census authorities in Northern Ireland, the Isle of Man and the Channel Islands, and while local conditions did necessitate some divergence, in the way of either omissions or additions to the schedules used in those areas, there was no divergence in the essential particulars collected. The classifications used for the occupation and industry analyses were the same throughout all the areas. Arrangements for dealing with special classes of population, such as the Armed Forces, seamen or merchant shipping or fishing vessels, were uniform. Consultation was also maintained with the census authorities in the Irish Republic to ensure completeness of enumeration of persons travelling to or from that area.

Local Organisation

(a) Registrars

As at every previous Census since 1841, the local arrangements for the enumeration were based on the area covered by the local registrar of births and deaths (the registration sub-district). In the main the registrars acted as census officers, but some were displaced or excused from acting at various stages because of disability, the burden of their regular duties or personal reasons. In the 1,225 areas, 101 substitutes had been appointed by the conclusion of the local operations; of these, 57 (including 5 ex-registrars) were found from other persons associated with the registration service. There were no specific duties imposed on superintendent registrars but they were invited, and in most cases agreed, to act as honorary Census Advisory Officers and rendered much assistance to the registrars by way of informal help and advice in such matters as liaison with other authorities, dealing with some of the queries from the public, which were extremely heavy in the few weeks about census day, and in many cases co-ordinating local activities on a voluntary basis.

The duties undertaken by the census officers fall into various phases. There was the division of their area into suitable enumeration districts as described above, with the help of maps and various information and instructions supplied by the Department and other material (e.g. as to war damage and new development) furnished by the local authorities, to whose generous help in this and other matters the central and local organisations were much indebted. Next came the selection and appointment of the enumerators, dealt with in the next section, then various duties both before and after census day, in conjunction with the enumerators, which are mentioned later in this chapter. Finally there was the accounting side. All the enumerators were paid in April the basic fee for their services by the census officers (the balance being payable in June or July after the checking of returns, claims for mileage, etc.). All these duties were undertaken by the registrars in addition to their normal work and spread over some twelve months, beginning with the first stage in the summer of 1950. For this they received, in addition to their ordinary remuneration, payment proportionate to the amount of census work involved (for details see p. 29 below).

(b) Enumerators

The quality of the census results can be no higher than the quality of the answers supplied by the public allows, and the completeness and sufficiency of the enumeration depend a great deal upon the efforts and personal qualities of the individual enumerators. They should therefore be persons capable of understanding and working on instructions which are necessarily rather complex, as they attempt to provide an answer for every likely set of circumstances but in some cases can only give a general indication of what is required rather than a precise directive. They must also be persons of discretion and tact so as to win the full co-operation and confidence of the public. They must be reasonably fit physically, for they have to visit each household in their district at least twice. In country areas they may have to walk many miles, often over difficult ground, and in towns there may be much arduous stair-climbing in blocks of flats. Moreover, since the census operations must conform to a strict timetable, these duties have to be performed whatever the prevailing weather. In addition to these activities, the enumerators must complete an Enumeration Book which contains a detailed record of the district giving the provisional count and other essential facts exactly as they were at census day. Neat and legible handwriting is therefore an additional important qualification. There is thus far more in the enumerators' duties than the distribution and collection of the census schedules.

It is obviously necessary to appoint the enumerators some weeks before census day. They need time to master their instructions and to reconnoitre and plan the enumeration of their district. They must be able to be relied upon for duty when the time comes, for the census must be taken simultaneously everywhere and it must not be left to chance whether enumerators are then available. Since the census is a rare event, there is no question of a standing corps to be called on when needed, and the enumerators must be chosen from persons who come forward voluntarily to undertake the job. The payment cannot be large, for the work does not require more than a limited number of hours, spread over some two or three weeks. Details of the basis of remuneration in 1951 are given on p. 29.

All these considerations must be kept fully in mind when arrangements are made to recruit enumerators. The Department is always subjected to much pressure on behalf of various deserving classes of the population, such as the disabled, the retired or those who are out of work. It would clearly be quite wrong to recruit such persons solely or even primarily because they are deserving of sympathy. The dominant consideration must be to recruit persons who are fully capable of performing the task and can be relied upon to be available to do it when the time comes.

The Department's instructions to census officers asked that, in selecting applicants for the post of enumerator, special consideration should be given to unemployed persons of the right type provided they could be relied upon to act when required. Arrangements had been made with the Ministry of Labour and National Service for managers of local Employment Exchanges and Appointments Officers to be provided with a statement of the qualifications and duties involved, in order that they could prepare lists of suitable persons registered with them for employment. Census officers were advised to consult Exchange managers, and in many areas they received valuable assistance in the examination of applications and the selection of enumerators. Of course, general conditions as regards employment differed greatly from those at the time of the Census of 1931, and at the present time there is more public concern with finding suitable work for retired people. No age bar was imposed in the selection of applicants, but, as the work required physical fitness, census officers were required to satisfy themselves that any applicants over 60 years of age were fully competent in that respect. This condition was made because no undue risk of last-minute breakdown could be accepted. It is not easy to find and instruct a suitable enumerator at short notice.

At the time when instructions as to recruitment were issued to census officers, letters were sent to all local authorities asking them to give favourable consideration to requests from any members of their staff who wished to serve as enumerators. The Treasury wrote to all Government Departments calling their attention to the need for enumerators. The Ministry of Education wrote to local education authorities asking for teachers to be released to serve where possible. Grateful acknowledgement is made of the valuable co-operation received from these various authorities, very few of whom refused to give their help in this way.

As a result of these arrangements, and a greater degree of publicity than had been anticipated when they were made, an almost embarrassing number of volunteers came forward (many with a very slight knowledge of what the duties were likely to involve) especially in the urban areas. Census officers did their best to pick the most suitable among the first comers, but they could not undertake to interview many hundreds of people for a job of such short duration. They were able to make up their list very quickly with suitable people, but it must have frequently been the case

that equally suitable people were not appointed. This was inevitable in the circumstances and is no reflection on those rejected. There were, after all, only a very limited number of posts to be filled in any one area.

As on other occasions, it remained a matter of anxiety and difficulty to find enumerators for the remoter country areas where the population is small and the total remuneration accordingly lower, and in the country villages it was generally necessary to engage a local resident. Not only would strangers not be able to find their way to every household, but in any case very few indeed could be found to undertake the work in an unfamiliar country area away from home. Thus in these areas the necessities of the case militated against observance of the principle that wherever possible enumerators should not be allocated to districts where they are known to the inhabitants generally.

There were 49,318 enumerators appointed in England and Wales; of these about 20 per cent were women of whom about a third were housewives. As on most previous occasions, except in 1931, local government officers provided the largest number, about 32 per cent. These officers are particularly suitable from their knowledge of local areas as well as their familiarity with administration. Civil Servants on this occasion provided some 23 per cent, a considerable increase; this is probably due to the dispersal of sections of head offices and the increase in the number of regional and local offices, which make their services available over a much wider field than previously. Teachers provided 7 per cent. Some 7 per cent were drawn from the retired and 2 per cent from the unemployed. Of the total number, less than 1 per cent were under 20 (mostly students and local government officers), and about 10 per cent were over 60. One enumerator aged 81 had served previously at the Censusesof 1891, 1901, 1911, 1921, 1931 and in the National Registration of 1939.

Basis of the Enumeration

The basis for by far the greater part of the enumeration was, as before, the private household, which may be defined broadly as one or more persons occupying a house or a separate part of a house, flat, apartment, etc. Thus a boarder or visitor was counted as part of the household, but a lodger who did not board with the household was regarded as constituting a separate household for census purposes. The duty of completing the schedule devolved upon the head of the household. Hotel managers, boarding house proprietors, the chief resident officers or other persons for the time being in charge of a hospital, nursing home, sanatorium, educational establishment; governors of prisons, masters of ships or other vessels were responsible for the enumeration of the persons in their care. In the case of persons in defence establishments including naval ships (whether serving personnel, civilian employees or dependants) the responsibility fell to the officer commanding each separate unit. Special arrangements were made for travellers and others not in a settled place of residence on census night.

Separate returns

The responsibility for establishing the population present at census time rests on the householder, hotel manager, etc., responsible for filling up the schedule. This has been so for many censuses, but in recognition of the fact that it can create embarrassment to some individuals to give details of themselves to those under whose roof they live as a member of the household, limited provision was made in the 1921 and 1931 Censuses for allowing people to ask to make a separate confidential return which would not be seen by the head of the household with whom they lived. On this latest occasion the procedure was both broadened and simplified with the intention of enabling anyone, with a few exceptions, to make a separate return if he or she judged this to be really necessary. Strict control was retained over the procedure so as to ensure that any such return was in due course linked up for statistical use only with the return for the household to which the person belonged. The separate return was handed direct to the enumerator, or left for him in a sealed envelope if so desired. The efficiency of the census enumeration depends on the enumerator carrying out his various duties of collection, scrutiny of schedules and accounting for every habitation as near to census day as possible. Any marked departure from this would lead to a serious falling off in quality and an added risk of duplication or omission. The public therefore have to trust the enumerator. This was generally accepted by the public, but there were some who pressed to be allowed to hand their separate returns to the registrar or send them by post to the Registrar General. While it is not claimed that the present procedure of obtaining returns is incapable of improvement, it is difficult to see how such requests could be met without fundamental and far-reaching changes in the system and without a very considerable addition to the cost of the census.

It may be noted that a large proportion of the enquiries before census day about separate returns came from heads of households sharing dwellings who were in fact properly entitled to their own separate returns. The special confidential procedure was not needed. It is perhaps not surprising that in the event there were just under 19,000 confidential returns, an insignificant number compared with the 13 million private households enumerated.

Relations with the Public

The quality of the census depends not merely upon legal and administrative machinery but upon the willing and understanding co-operation of the public. The delivery of a schedule to a person is only the beginning. The individual citizen needs to understand what the census is, how it affects him and what part he has to play. He (or she) has to be convinced that it is a national operation which every well organised country finds essential at fixed intervals and that it provides basic information which in one way or another benefits all and injures none. What is needed is willing help. The legal sanctions remain unobtrusively in general reserve and are but rarely invoked. There is therefore a real necessity for suitable publicity about the census and its aims.

Every effort was made to give the Press what information was available as the various operations took shape. A number of conferences was held, one of which, in February, 1951, was devoted mainly to those aspects of the census of particular interest to women. Feature-writers for magazines, etc., were encouraged and supplied with much material and in addition a great deal of information was supplied to newspapers and agencies. There was a sustained flow of news and articles in the weekly and other periodicals and in the daily newspapers, both national and local. The value of this helpful discussion in the Press cannot be exaggerated. Many wrong ideas were dispelled and much useful advice was given. There is no doubt that the Press brought home to the public what the census stood for, aroused interest and co-operation and at the same time removed much suspicion founded on wrong conceptions.

The British Broadcasting Corporation also helped greatly to ensure that the public were informed and receptive. After full discussion with the Department a programme was worked out which finally amounted to twenty sound features, adding up to 3½ hours on the air, with several television features in addition. Items appeared in the Home, Light and Third Programmes and included a "Focus" feature, a talk to the schools and other talks in "Woman's Hour," "Can I Help You," "Topic For To-Night," etc., coverage in news bulletins, and a final talk of 4½ minutes in "Radio Newsreel" on census night.

A booklet on the census, illustrated from drawings by Cruikshank and others, was produced by the Central Office of Information in association with the General Register Office. It was entitled "April 8, 1951: The Census Explained" and was published by H.M. Stationery Office at the price of 6d. The booklet was intended to give a serious, but not ponderous, exposition of the census to interested members of the public but it was also very useful as a summing up of the official attitude to many aspects of the census, an answer to enquiries and a source of information for the Press. It undoubtedly had a widespread and beneficial effect.

Cinema audiences were not neglected. The Central Office of Information produced a cartoon film which conveyed a brief message on the census and this was circulated with the newsreels. The newsreel companies were given special facilities for making census features which were exhibited throughout the country at the appropriate time.

Particular concern was paid to the personal problems which the census raised for many individuals who were worried about the kind of information they would have to give or what answer they should give in certain circumstances. Many people wrote to the General Register Office and a great many communicated with newspapers and periodicals which maintained a personal advisory service. Much information was supplied by the Department to these services and to such advisory bodies as the National Council of Social Service and the Citizens' Advice Bureaux, and the Department and the public were greatly indebted to them for disposing of many queries and dispelling many anxieties.

Finally, acknowledgments are due to the assistance received from employers. In the 1921 and 1931 Censuses they had been approached, and many had agreed, to exhibit in their industrial premises posters which gave the particulars of the firm's name and the business carried on by them, in order that their employees should find it easier to give correct answers to the questions on industry. It was decided to repeat this request. A poster was designed and produced by the Central Office of Information and distributed by them to firms with a covering letter (reply prepaid) which the firms were asked to return with details of the particulars that would be entered on the poster. This information helped in the process of allocating each firm's business to the appropriate group

in the Industrial Classification. The poster was simple but striking; it contained a space for the firm to insert its name, the business carried on and the address of the establishment in which the poster was to be exhibited, and a reminder to the individual employee to make arrangements for his or her census form to be available for collection on the 9th April. With very few exceptions firms were very ready to assist, and the Department derived much help both from the exhibition of the poster and from the information supplied by the firms as to the nature of their activities.

The Enumeration

The enumeration went smoothly and with very few exceptions the public were most co-operative. The enumerators found the weather one of the main obstacles. It rained for most of the week before census day, and on the Monday after (when the bulk of the forms were required to be collected) it rained steadily all day in nearly all districts. In consequence the enumerators were naturally reluctant to examine forms at the door, and some deficiencies in the quality and completeness of answers may have resulted; it is much more difficult to get deficiencies put right a few days after the schedules have been collected. In spite of the friendly assistance given by so many of the public, many enumerators found it extremely difficult to make contact with a residual few of the households in their district. There may have been only a dozen or so difficulties of this kind in most districts though possibly many more in some parts of the larger urban areas. Because of the number of calls which had to be made, particularly to collect the forms, the work of the enumerators was more onerous in some areas than had been anticipated. It seems likely that this difficulty was greater than at previous censuses, possibly because nowadays people tend for one reason or another to leave their homes unoccupied for longer periods. One factor clearly is the extent to which married women go out to work, but many evening visits also needed to be repeated.

On the other hand, members of the public themselves were often most anxious to obtain a form where, as sometimes happened through some accident or misunderstanding, the enumerator had failed to give one out at the proper time. All such cases were investigated and steps at once taken to remedy any breakdowns of this nature. In most of these cases the reason was that there had been no one at home when the enumerator called.

The early stages of the enumeration produced one unexpected difficulty. The question about the number of rooms occupied by the household has been included at every census since 1891, and no earlier criticism had been made about its inclusion on this occasion. But when the enumerators were distributing the forms (the stage of the operations at which they were instructed to obtain this information) they found in some areas a widespread and quite unfounded suspicion that the question had some connection with possible billeting. As soon as this was reported, every use was made of the assistance of the Press, who had themselves picked this up as an item of news, to repeat the assurances already given that the whole of the census information was strictly confidential, that nothing other than statistical information would be disclosed in any quarter, and then only in relation to groups. These timely assurances reinforcing those of the enumerators appear to have met with general success.

There were very few refusals to complete the census forms. Every effort was made to persuade the persons concerned to take part in a national operation with no possible detriment to the individual. But a few serious cases of sustained refusal remained, which left no alternative to prosecution. 57 prosecutions were initiated, all of them resulting in conviction.

Work in the Field

(a) Census Officer's duties before census

The Census Officer's first duty was the preparation of the Plan of Division in accordance with the instructions. As described above, the Plans were received by the Officers during May and June, 1950, and they were called upon to complete them within three months. It was necessary for each census officer to estimate as nearly as he could the distribution of households among the dwellings in his area. For this he would have to rely on his own local knowledge, information he could acquire by visiting the various localities and consulting local government sources such as the Register of Electors. Advice was given as to the sources which might prove useful but no instruction as to which was to be preferred; each officer was left to judge in the circumstances of his own sub-district which course to take. During the planning period the Department's Inspectors of Registration visited as many officers as possible to give advice and assistance, and were also available to respond to urgent requests. Where the work was not completed in the time stipulated,

they paid further visits to ascertain the reasons for failure and make an effort to expedite its performance.

At the end of 1950, census officers were asked to nominate the persons they proposed as enumerators for the Enumeration Districts in the Plan (see p. 4).

In February, 1951, census officers received from the General Register Office the approved Plan, approval of the enumerators' appointments and the blank Enumeration Books, together with other necessary supplies. They had then to prepare each of the Enumeration Books by inserting in it the description of the Enumeration District and its reference number and the name of the Enumerator appointed to act in it.

Enumerators had to be instructed as to their duties and supplied with necessary stores. The Census Officer was especially responsible for ensuring that each enumerator had a thorough and accurate knowledge of the boundaries and the contents of his Enumeration District, and for this purpose he had to afford to his enumerators the opportunity of studying the Ordnance Survey map of his sub-district.

In the case of Special Enumeration Districts he was himself the nominal enumerator and had to make arrangements with the head of the 'household' (hotel manager, medical superintendent, Commanding Officer, prison governor, etc.) for delivery to him of the necessary schedules, advice on how to arrange completion and other matters.

(b) Distribution and collection of schedules

Before commencing his duties the Enumerator was required to make himself fully conversant with his instructions, which were printed in the Enumeration Book, and also with the instructions to members of the public printed on the various types of Schedule which he might have occasion to deliver. He had also to make himself conversant with the boundaries and contents of his District and to plan the route by which he would cover it. In many cases he already had sufficient local knowledge for this purpose, but in others it was necessary for him to make a special visit to the area. In general, enumerators were not assigned to the enumeration district in which they resided since it was felt that some persons might object to giving information about themselves to a person with whom they were personally acquainted, despite the guarantees of confidentiality.

The Enumerator was instructed that he must not begin delivering schedules before Saturday, 31st March, but that every effort should be made to complete the delivery not later than the following Thursday, 5th April. When delivering he was required to carry his Enumeration Book and compile in the Enumeration Record which it contained a list of every building, in the order in which he reached it on his prearranged route, with the sole exception of buildings in course of erection, entering its address. At each address he had to ascertain whether any residential premises were contained within the premises thus described. If all or part of the premises were residential he was required to decide whether these residential premises were structurally sub-divided and also ascertain by enquiry for each undivided dwelling or structurally sub-divided part whether it was occupied by one household or by more than one, and also whether the whole or any part was vacant. (Definitions of these terms are given in the *Housing Report* in which the tabulations based on them are displayed.)

For each separate occupier, he had to enter in his list the name of that occupier and ascertain the number of living rooms occupied by that person's household (except in institutions, etc.). He had also to discover or estimate the number of rooms in each vacant dwelling or portion of a dwelling. He issued an appropriate Schedule to each household, entering on it the name of the occupier and the address to which it related and also the number of rooms as ascertained. He complied with any requests for separate confidential schedules which were then made to him (see section (e) below). He was instructed to announce the approximate time at which he would be calling to collect the schedule and ask that it might then be available for him; he could suggest that it might be left with a neighbour if there would be no member of the household available at that time. The issue of each Schedule was recorded in the Enumeration Record.

The main instructions on collection were: "On Monday, 9th April, you must collect as many as possible of the Schedules which you have delivered. Any which you do not collect that day must be collected on the following day. You must call at every address at which you have left Schedules, and collect them. As each schedule is collected insert a tick in ..... the Enumeration Record".

If a household had moved away since his previous visit, the enumerator was instructed to note his Enumeration Record accordingly. If a new household had moved in, he could accept from them either the Schedule which had been issued to them by the Enumerator acting in the area from

which they had moved (in which case the reference particulars and the number of rooms required alteration) or the one he had issued to the household (if any) occupying the rooms on his previous visit. If the newly arrived household had no Schedule, he had to supply one. They might either complete it at once or he could call back for it.

If he discovered a household at this stage which he had previously missed, or if any household had lost the Schedule delivered to them, he had to supply another. While collecting, he had particularly to watch for any tents or caravans which might not have been there during his previous round. If his district included any inland navigable waters, he was required to enumerate any persons who had spent the Sunday night on vessels therein.

On collecting a schedule the enumerator was advised to examine it briefly before leaving the premises, to satisfy himself that there were no obvious errors or omissions, and to ask whatever questions he found necessary to complete or correct it. If full information could not be obtained about any person, he was instructed to obtain as much as possible and enter 'not known' against the remaining particulars; for example, if a person had camped within his area on census night but moved on before he reached that point in his rounds, he might only be able to ascertain his sex and approximate age from the occupier of the land. If information believed to be available was refused, he was instructed to report the matter at once to his census officer; such cases were not common.

When his collection was completed, the enumerator had to report this fact to the census officer on a special postcard supplied for the purpose. If he could not do this by the evening of the second day (Tuesday), he was required to report the reasons personally or by telephone.

(c) Enumerator's duties after collection

The enumerator was first required to copy on to the appropriate household's schedule any confidential returns or other separate returns for members of households which he might have gathered. He next numbered all the household schedules consecutively, in such an order that all those falling in particular area sub-divisions came together, and also generally in the order in which they had been delivered.

He was required to examine each schedule for any obvious error, and in particular to:

(i) Verify (so far as was possible by reference to the Christian name and the relationship stated) that the sex was correctly stated in column D in each entry.

(ii) Count the numbers of males and females on each schedule and enter the totals in the spaces provided at the foot, also the sum of these. Ensure that the sum agreed with the total number of persons entered on the schedule. Take care not to include any entries which had been crossed out.

(iii) Examine the remainder of the schedule, with special regard to the points dealt with in his instructions. If any of the information was incomplete, apparently incorrect or otherwise unacceptable, take steps to obtain fuller or more accurate information from the person responsible for making the return.

(iv) If any schedule was very dirty, torn or illegible, or if for any other reason he considered that it should be re-written, carefully copy its contents on to a blank schedule of the same type, and substitute the copy among the other schedules.

He had to transfer the figures in the summary at the foot of the schedule to the enumeration record, total each page of that record and carry the totals forward to an 'Abstract of Record' at the end of the book, thus ascertaining the total of population, rooms, etc., in his district. After this, he made a copy of one schedule in each hundred on the Sample Extract forms (see also p. 15), adding certain information from the enumeration record. The enumeration book could then be forwarded to the census officer.

The enumerator had finally to prepare postcards for each address of usual residence or workplace which was outside the local authority area in which his enumeration district was situated. For this purpose he had been instructed by the census officer as to its boundaries. On each card an address had to be written on one side (and the employer's name also on workplace cards) and a reference number of up to 11 digits on the other. (Details of this work are given in section (f) below.)

The schedules, postcards and other documents were then handed to the census officer. At that time the enumerator was required to make a statutory declaration that he had sufficiently performed the duties and obligations imposed upon him. If subsequently it was found that there were deficiencies in his returns, he could still be called upon to complete them.

(d) Census Officer's duties during and after enumeration

During the period of the enumeration the census officer was mainly called upon to hold himself in readiness to deal with any emergency or unusual situation which might arise. On Wednesday the 4th April, he was required to report to the General Register Office on a postcard specially provided that all was in order (or give details of what was wrong).

He was required to take immediate action to replace any enumerator who for any reason was unable to carry out or complete his duties. In an emergency he was authorised to appoint a new enumerator without prior reference to the Registrar General. He was called upon to visit any person who had refused to give the required information to the enumerator and endeavour to obtain it, pointing out the statutory penalties provided. If the refusal was persisted in, he had to report the matter to the Registrar General. This proved to be necessary in only a very small number of cases; a few of these culminated in prosecutions (see also p. 10).

The census officer received the reports of completion of collection made by his enumerators and enquired into any which he did not receive at the proper time. He collected the Schedules which he had left with the officers in charge of Special Enumeration Districts and checked their completeness. He then made a postcard report, not later than the 11th April, to the General Register Office stating that enumeration was complete within his area—or gave information as to what was incomplete.

For Special Enumeration Districts the census officer had to carry out duties corresponding to those carried out in Ordinary Enumeration Districts by the enumerator.

On receiving Enumeration Books from his enumerators he was required to check the totalling of each book, and the summary at its back. When all books had thus been checked, he prepared a summary form setting out the population and other brief data for each area and the total for his sub-district and despatched this to the General Register Office, where it was used in the compilation of the Preliminary Report. This work was due to be completed by the census officer by the 23rd April (i.e. 2 weeks after the census).

On receipt of the schedules and other documents from the enumerators his first main duty was to examine the Sample Extract forms, to verify that the instructions had been understood and followed correctly, and the necessary particulars fully and accurately copied from the schedules and from the enumeration books, in particular that the enumerator had selected the Schedules to be copied strictly in accordance with the instructions, and that no entry that should have been included had been omitted. These forms, with those prepared by himself for the Special Enumeration Districts, had to be sent to the General Register Office by the 7th May.

Next the census officer was called upon to examine the Workplace and Usual Residence cards written by the enumerator to ensure that this part of his duties had been carried out correctly. This procedure is described in section (f) below. He had also to code cards received by him through the post.

The census officer was instructed to check the schedules and, in particular, to:

(i) See that the schedules had been correctly numbered in the proper order in which they should be arranged.

(ii) Verify the totals of persons entered in the bottom left-hand panel of each schedule (except "S" Schedules) and that these had been initialled by the enumerator and see that the reference numbers of the registration district, etc., had been correctly entered.

(iii) See that each entry was complete. Schedules containing incomplete or obviously incorrect entries had to be returned to the responsible enumerator who had if necessary to revisit the house personally to ascertain the required particulars. Trifling errors, the cause of which was quite clear—as, for instance, mistakes of spelling or an obviously wrong statement of sex—did not need to be so referred, and could be corrected by the census officer, but no alteration of substance could in any circumstances be made without the express confirmation of the person who made the return.

Having examined the schedules, the census officer bound them in covers provided and tied them in parcels of not more than 3 binders. This last instruction was given as a result of consultation with the railway authorities to make for convenience in handling. They were collected by the railway for transport by goods train to Southport, where arrangements for their reception and delivery to the General Register Office had been made.

Finally the census officer was called upon to make a statutory declaration that he had, to the best of his knowledge and belief, completely and correctly performed the duties imposed upon him by the Census Act, 1920, the Census Regulations, 1950, and the instructions of the Registrar

General, and that he had faithfully observed the obligations as to secrecy enjoined upon him by the Act and the Regulations.

(e) Confidential Returns

Section 3 of the Census Order, 1950, provided that each member of a household was required to furnish to the head of that household the necessary information to allow the latter to complete the schedule, with the exception that "any person claiming in the prescribed manner to make a confidential return shall . . . be the person by whom the return is to be made with respect to himself". This provision, which is similar to that included in the Orders for the 1921 and 1931 Censuses, was inserted because, although in most cases the information called for at the census is already in the possession of the head of the household or is not regarded as confidential by the person concerned, it is realised that some people, especially boarders or other persons not enumerated in the households of close relatives, may have good reasons for wishing to keep information about subjects such as occupation and marital condition secret from the head of the household.

To enable the census tabulations to be carried out it is essential that the particulars entered on any confidential return should eventually be copied on to the schedule on which they would otherwise have appeared. In 1951, it was felt that it could be made rather easier for such returns to be obtained without causing an unwarranted amount of extra work. In general, any person could obtain such a form by applying "to the enumerator, when he attends to deliver the form of return to the prescribed person . . . required to make a return in respect of the applicant", or "in person, not later than two days before the census day, to a registrar". In the case of large hotels and similar premises which were Special Enumeration Districts, arrangements were made for the head of the 'household' to act as enumerator for the purpose of the distribution of these forms, though not for copying them on to the main schedule.

When a form for a confidential return was issued, a small form was made out by the officer issuing it; part of it was attached to the confidential return and the other part, if possible, to the corresponding main return. The person making the main return was instructed by this form to enter on it only the name and relationship to him of the person making the confidential return. To reduce the number of unnecessary applications enumerators were instructed first to endeavour tactfully to ascertain the reason for the request, as possibly the person concerned had an erroneous idea of the questions which were included on the census schedule. They were not, however, to refuse any persistent request.

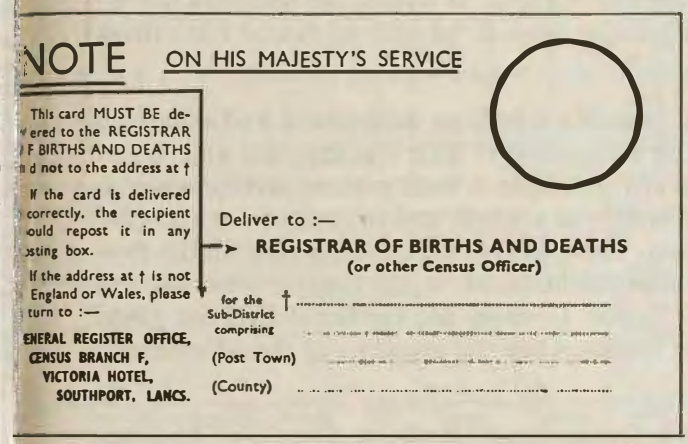
The total of confidential returns called for was under 19,000.

(f) Workplace and Usual Residence Postcards

In order to produce the desired tabulations by Area of Workplace, it was necessary to allocate each address of workplace given on the Census Schedules to the Local Authority Area (borough, urban or rural district) in which it was situated. The allocation of these addresses by a staff of coders at the Head Office would have presented great practical difficulties. The addresses to be expected on the schedules were in general those used for postal purposes which are commonly well known but often bear little relationship to the administrative boundaries. This is particularly so in and around the larger towns, where the town name provides the postal address for a much wider area than that administered by the relevant authority. To have attempted accurate coding centrally would have required very extensive reference to street lists and other detailed documents making it a comparatively slow process and necessitating the employment of a very large staff. Experience of similar operations in other contexts made it clear that it would not even then be entirely accurate.

These difficulties attendant upon central coding had been appreciated in 1921, when the question on Workplace was previously asked and had then been solved by a system of local coding which it was decided should be again adopted. A similar problem on a rather smaller scale existed in relation to the Usual Residence question, which had not been asked in 1921, and it was decided to extend the system to cover that question also. In 1931, when the Usual Residence question was asked but not that about Workplace, the former was dealt with by central coding which was considered to be practicable for the smaller number of addresses involved and the most economical method of dealing with them. The procedure used in 1951 is described below.

Enumerators were issued with supplies of specially printed postcards of two types, green for Usual Residence (of which the two sides were as reproduced below) and buff (of very similar design) for Workplace. They were instructed to prepare a card in respect of every address of usual residence or workplace given by any person whom they enumerated which was outside the Local Authority Area in which they were acting (apart from workplace addresses outside England and Wales). The cards bore a reference number by which the schedule from which they were prepared could be identified, the sex of the person concerned, age (Usual Residence cards only), and the address concerned (also employer's name on Workplace cards). These cards were handed to the census officer by the enumerator at the same time as the schedules and other documents. The census officer checked them and entered on each a code (supplied by the General Register Office) representing the local authority area of enumeration. Cards bearing Usual Residence addresses outside England and Wales were separated at this stage and sent direct to the General Register Office where they were used as described in a later section.


NOTE ON HIS MAJESTY'S SERVICE

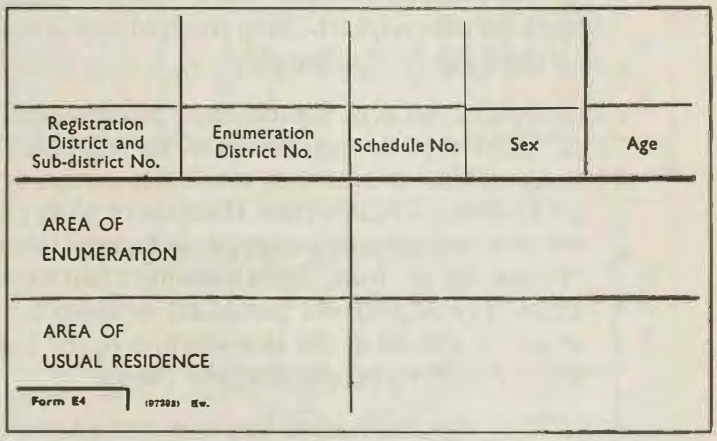
This card MUST BE de-
ered to the REGISTRAR
F BIRTHS AND DEATHS
d not to the address at †

If the card is delivered
correctly, the recipient
ould repost it in any
sting box.

If the address at † is not
England or Wales, please
turn to :—

ENERAL REGISTER OFFICE,
CENSUS BRANCH F,
VICTORIA HOTEL,
SOUTHPORT, LANCS.

Deliver to :—
REGISTRAR OF BIRTHS AND DEATHS
(or other Census Officer)
for the Sub-District comprising †
(Post Town)
(County)


Registration District and Sub-district No.	Enumeration District No.	Schedule No.	Sex	Age
AREA OF ENUMERATION				
AREA OF USUAL RESIDENCE				

Form E4 (07302) Rev.

The remaining cards, all of which should have borne addresses within this country, were then handed in at the nearest Head Post Office. Special arrangements had been made by the General Post Office, at the request of the General Register Office, by which the cards were handled in the same way as ordinary mail until they reached the Office from which they would ordinarily have been delivered to the address on them, but they were then extracted and diverted to the Census Officer acting in the area containing that address (or in a few cases to a neighbouring officer who would then pass them on). The Census Officer who received them, using his local knowledge (which in most cases he was already required to possess by reason of his position as Registrar) checked that all of the addresses were within his sub-district, passed on to the Officer concerned any which were not, and entered on each card the code for the Area containing that address (of Workplace or Usual Residence as the case might be). After coding, the cards were despatched to Southport; later procedure on them is described in paragraph (g) on p. 20.

These arrangements generally worked very satisfactorily. A total of about 8 million cards (1 million usual residence and the remainder workplace) were written and despatched. Almost all of them were delivered to the appropriate census officer and duly coded. In a small proportion of cases the cards were inadvertently delivered to the addresses entered on them. Many were reposted, as was asked in the instruction printed on them, but some were referred to the General Register Office.

Since the Usual Residence cards were to bear the age of the person concerned, specific instructions were given to enumerators that the person's name should not also appear.

Central Office Procedure after Census Day

(a) Preliminary Report

As already described, the census officer was required to send in within two weeks of the census a summary showing the population of each enumeration district within his sub-district together with the total population for each Local Authority Area so far as it lay within his area. The provisional figures thus received were aggregated and used in the compilation of the Preliminary Report (see p. 24).

(b) Sample Tabulation

The next documents to be received from the field officers were the Extract forms on which had been copied one per cent of the census returns, as described on p. 12. These extracts were first

examined to ensure that one had been received from each enumeration district and that the correct households or individuals had been included in accordance with the instructions. The number of the last extraction made for each enumeration district was checked from the summary form used for the Preliminary Report to ensure that all extractions required had been made. The extracts were also briefly examined to ensure that all particulars needed appeared to have been correctly copied from the original documents.

Cases in which extractions appeared to have been incorrectly or incompletely made were referred back to the census officer concerned for correction. It was not found possible in every case to effect this return before the census officer had despatched the original documents to Southport. In that case it was necessary to refer to them after their arrival and make necessary adjustments to the extract forms at that stage. Some of the errors which were found to exist in the Extracts received are described in the Introduction to the *One per cent Sample Tables*. The number of extracts containing errors was rather greater than had been anticipated and the examination and correction employed a staff averaging 10 clerks for about 35 weeks; the necessity to wait until the schedules had been received and arranged in their places in the racking caused some delay to the work on the Sample.

A One per cent Sample was similarly extracted from the schedules in Scotland and examined in Edinburgh. It was then sent to Southport to be amalgamated with the England and Wales sample. The extracts were totalled to obtain figures of the sample in both persons and households (in Ordinary Enumeration Districts only) in Great Britain as a whole and in each of the areas for which it was intended to produce Sample tabulations. These figures were compared with the provisional figures from the full enumeration and necessary adjustments to the Sample were decided upon. The adjustment procedure is described in Chapter II on p. 65; further details are given on pp. xi and xii of the Introduction to the Sample Tables, while the amounts of the adjustments are shown in Appendix A to the Tables.

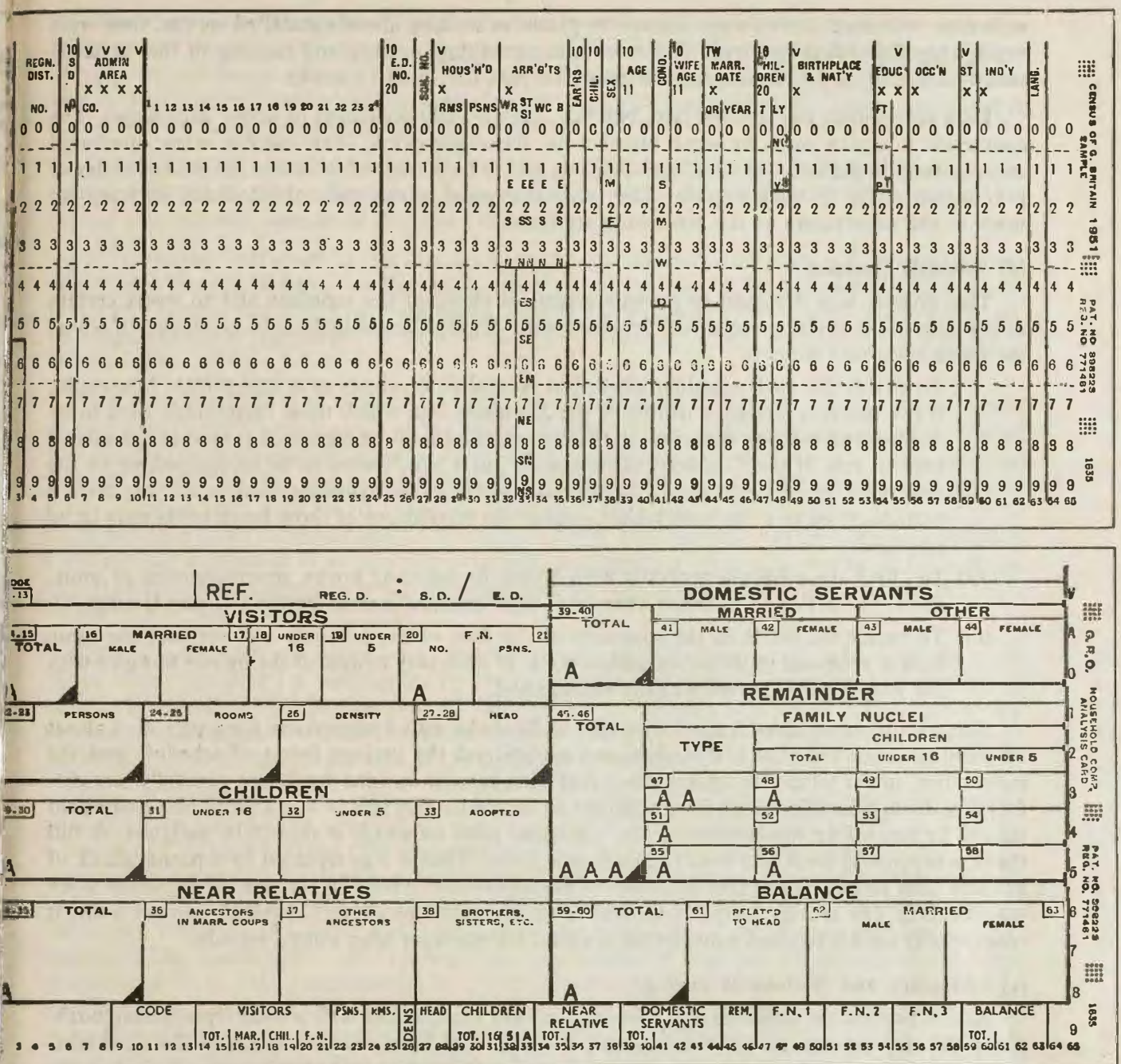
The adjusted sample was then revised and coded. Operations of Revision, Dwellings Abstraction, Birthplace and Nationality coding and Occupation and Industry coding were carried out. These differed only in necessary detail from the corresponding processes which were performed later on the main returns (see below) and are therefore not described here. The Sample was the first work to be passed through these processes so that it was largely carried out while the staff were still gaining skill and experience. This in itself provided a source of discrepancy between the sample and the main tabulations, especially for those involving the more complex occupation and industry coding (see pp. 169 and 202). A special operation of 'Miscellaneous coding' was also applied to the Sample. It replaced the coding of non-private households which formed part of the main Schedule Revision and provided codes for numbers of earners and children from which tabulations required only for the Sample could be derived. The operation consisted of allocating each non-private household to one of the eleven groups required for the Tables of Section VII of the Sample Tables, and of marking on the extract against the particulars of each private household the number of gainfully occupied persons and the numbers of persons under 16 which it contained. Throughout these operations on the sample all work done was checked.

A punched card was then prepared for each person in the sample. The procedure was very similar to that described below for the main punching operation and the same machines were used (see p. 21). The card was slightly different in design, since columns were needed for the numbers of 'earners' and 'children' from the coding mentioned above, but none for the last two digits of schedule number (which were fixed for any given enumeration district number by the sampling instructions) or for the area of workplace (which it was not found practicable to identify in the sample tabulations). The card was as reproduced opposite.

These cards were mechanically tabulated to obtain figures from which were compiled most of the tables in Sections I-V and VII-XII of the Sample Tables. A few tables were produced by manual methods from other sources. The procedure was very similar to that followed in the main tabulation programme described below. The machines used are described on pp. 27-28.

Section VI of the Sample Tables, which was partly reprinted and to some extent amplified in Appendix A to the Housing Report, presents the results of a separate analysis of household composition of a type not before attempted in this country and not repeated on the full data. For this analysis, dual purpose punched cards were used, laid out as in the reproduction opposite.

One of these cards was completed for each private household included in the sample. It will be noted that for many of the categories only one card column is provided. It was assumed that numbers of 10 or more for these would be very rare if they existed at all, and it was therefore



arranged that any such should be separately dealt with. In the event, it was found that they occurred in only one category (children under 16) and numbered only some half dozen.

The preparation of these cards required a considerable measure of judgment in deducing the relationships of persons to each other from the information given on the schedule (mainly that of their relationship to the head of their household). It employed a staff of 20 selected clerks with two supervisors for a period of nearly five weeks. Details of the analysis are given in the *Housing Report*, p. xxxix.

The information written on the cards, apart from the reference particulars of registration district number, etc., was then punched into them. This was a straightforward punching process since every figure to be punched was already written on the card in the correct order and there were special indications of skipping points and of the fields in which two digits were required. The cards were tabulated to produce the Tables of Section VI. At a later stage some additional tabulation was necessary to provide some of the figures given in the Housing Report.

(c) Receipt of Material

Census officers were instructed to despatch the enumeration books and the postcards by parcel post to Southport, while the bound volumes of schedules were to be sent by rail. The two former items represented a relatively small quantity of material which was fairly easily handled. The schedules, which were received in some 39,000 volumes amounting together to some 240 tons in weight, presented a handling problem of considerable magnitude. On arrival they were stencilled

with their reference, sorted and assigned to places in racking already installed so that they were easily accessible when required. The reception, stencilling, sorting and racking of this material occupied a staff of 13 messengers and paper-keepers for some 15 weeks.

Each sub-district was divided into 'batches', each usually consisting of about 20 volumes. The enumeration books were fastened together in these groupings. The batches were numbered consecutively in the order in which sub-districts had to be processed to obtain the desired order of publication of the County Reports. They were then used as the units of allocation in assigning work to the supervisors of the processing sections.

(d) Schedule Revision

This process was designed to provide a general check of the schedule and to insert certain minor codes. The revising clerk was provided with detailed instructions as to his duties, of which the more important were:—

(i) To decide for each schedule whether it related to a private or a non-private household. If the latter, to assign it to one of the 22 classes into which these households were to be divided and indicate that class in the enumeration book, assign each person in the household to one of the 13 classes of inmate or guest which were to be recognised, or to the remainder group, and mark the relevant code on the schedule, and to extract certain particulars on to a list from which some of the tabulations of those households were to be prepared.

(ii) To check the schedule generally with a view to detecting errors, inconsistencies or omissions. The action to be taken when such were detected is described in Chapter II on p. 32.

(iii) To verify the totals in the summary at the foot of the schedule and see that the same figures appeared in the enumeration book. If necessary to amend the figures to agree with the number of persons actually enumerated.

This operation occupied a maximum staff of 59 clerks with 4 supervisors for a period of about 18 months. Once the staff had studied and understood the various forms of schedule and the instructions under which the enumeration had been carried out, the work was generally straightforward, though in a few cases it was difficult to determine whether or not a particular household should be treated as non-private or the particular class to which it should be assigned. A full check was applied for 4 to 5 weeks to each new coder. Then it was replaced by a partial check of not less than 10 per cent at the discretion of the supervisor. About 16 per cent of the whole work was checked. The average output after two weeks training was about 175 population per hour; it rose steadily until it reached a maximum of about 500 per hour after some 4 months.

(e) Birthplace and Nationality coding

At this process the schedule entry for each person was marked with a code representing birthplace and, for persons resident in England or Wales and born elsewhere than in the Commonwealth, nationality. The codes were designed to give the various sub-classifications called for by the scheme of tabulation, including the distinction of residents of England and Wales from visitors. The full code comprised 5 digits; where nationality was not coded only 2 digits were used; for persons born within the county in which they were enumerated (who formed a large majority of the whole) the special code of 'A' was used for reasons of punching economy.

This was a relatively simple process in which the information given on the schedule usually allowed of immediate and certain allocation to the correct code. A few cases necessitated reference to gazetteers and atlases and some had vague descriptions requiring a little judgment in their interpretation. Coding was mainly carried out by clerical assistants. A 100 per cent check was applied to each coder's work for 3 to 4 weeks. Then it was reduced to 10 per cent if the error rate was less than one per cent. An increase in the amount of checking was made for a short time whenever coding of a new county was commenced. Overall about 20 per cent of the work was checked. Up to 58 staff were employed during a period of about 16 months to carry out the work, the average strength of the section during that time being 33. Coders rapidly acquired speed and reached an average output of about 400 population per hour after 4 weeks experience; longer experience produced outputs averaging 750 per hour.

(f) Occupation and Industry coding

The work in this section was based upon the Census 1951 Classifications of Occupations and Industries. The section employed about 140 persons when it was at full size but was built up gradually.

Two months prior to the date on which coding was to commence the clerical officers selected

for temporary promotion as coding supervisors took over the occupation coding of the entries in the birth and death registers in order to gain experience. During this time most of these potential supervisors each made a visit to some industrial concern and reported on the use of occupational and industrial terms. Thanks are due to the Ministry of Labour and National Service for arranging these visits and to the firms which kindly co-operated.

Coding the One per cent Sample was started on 28th May, 1951, by a coding staff of 10 part-trained and 10 untrained officers with four supervisors. A week later 25 more untrained officers started and this staff completed the One per cent Sample.

Main coding continued at this low level until 29th October, 1951, when the remaining six supervisors were appointed and the coding staff rose from then on to a maximum of 127. As, however, owing to restriction on recruitment of staff this was below the number originally planned, one supervisor was transferred to other work on 1st February, 1952. Coding was completed in March, 1953.

The general standard of accuracy aimed at was a maximum of one per cent error. The whole of each coder's work was checked during the first 8 weeks at least. After that checking was reduced to a sample of approximately 20 per cent of the volumes coded when the following four conditions were all fulfilled: (i) his average error rate was one per cent or less, (ii) 6 consecutive volumes coded showed none with an error rate more than 1·5 per cent, (iii) his errors appeared to be random and not due to misconception about any part of the code, and (iv) the error rate had been confirmed by a re-check of at least one volume by a supervisor. Provision was made for a return to 100 per cent checking of any coder whose subsequent work showed a deterioration. Overall some 42 per cent of the work was checked.

From the coders it was necessary to select at an early date the most capable to check the work of the others and also for training for coding occupation and industry together. The experiment of one person coding both occupation and industry was successfully introduced in 1931, but owing to various difficulties it was not possible to introduce this "dual" coding to any substantial degree in 1951 and only six per cent of the entries were so coded.

Lists of large employers compiled in the General Register Office to assist industry coding partially from information supplied by local Census Officers had been used with success in the censuses of 1921 and 1931. In 1951, however, as a part of a large combined operation designed to improve the comparability of official statistics and consequent on the introduction of the Standard Industrial Classification, these lists were prepared from information provided by the Board of Trade and Ministry of Labour and National Service. Reference cards showing assignments to Minimum List Headings (i.e. the 163 main units into which the Standard Classification is divided, as described on p. 126) were received for all establishments in the fields of production and construction with more than ten employees. The lists for the coders were prepared from these on a geographical basis and contained most establishments in these fields with 50 or more employees and smaller establishments of the same firm at the same addresses. The receipt of these cards was spread over a long period and in the early stages a substantial number of establishments were missing from the lists. All the cards received were built into a single alphabetical index.

Coding to census sub-divisions of Minimum List Headings was performed with the aid of any source of information including that obtained from the "pioneering" coders. This was a small section of especially skilled coders who worked well in advance of the main body of coders taking approximately a five per cent sample of each area. The function of this section was to supply census splits of Minimum List Headings for the lists of large employers; to suggest codes for the larger firms outside the ambit of the lists; to add to the lists selected establishments proper to other areas when a large amount of inter-travelling was found; and generally to comment on any aspect of occupation or industry in a particular area as seemed likely to assist the coders generally.

Despite the effort devoted to obtaining full returns of industry a large number of schedule entries contained insufficient detail to enable them to be coded. Many of these were coded with the aid of the lists of large employers; to deal with the remainder a single alphabetical index mentioned above, together with various Trade directories and other sources of information, formed an enquiry centre to which all cases of insufficient information were referred. A total of over 210,000 queries was raised with this section with the daily rate rising above 1,000 on occasions. Over 75 per cent of them were answered satisfactorily. A maximum staff of one clerical officer and seven temporary clerks was employed.

Two thirds of the coding staff were temporary clerks recruited locally in Southport who had normally spent a few weeks on simpler aspects of the census before being tried on occupation and industry coding. Upwards to six months was required for a coder to become fully proficient. No

fewer than 25 per cent of the coders either resigned or were found unsuitable and left after less than six months. This high rate of wastage and the long training period considerably depressed the overall average coding speed. However, many of the temporary staff were excellent and the average coding speed in the later months reached 600 entries per hour for occupation and rather higher for industry. Including all ancillary work, supervision and leave, each entry took approximately half a minute to code.

The maximum staff was 135 clerks and 10 supervisors.

(g) Handling of Usual Residence and Workplace cards

As described above, the Usual Residence and Workplace cards relating to addresses in England or Wales were sent to Southport by the Census Officer who had inserted the second code on them. The Usual Residence cards were first counted according to area of residence and then sorted to area of enumeration and counted in that order. These counts gave early figures which were of assistance in making estimates of resident populations. It was later found that some five per cent of the cards which should have been written were not received; whether because they had not been prepared by the enumerator or because they had become lost at some later stage of the procedure could not be determined. Cards were prepared in the General Register Office for these cases and counted by areas of residence and enumeration; the counts thus obtained were added to the original count to obtain the figures for non-residents published in Table 1 of the *Report on Usual Residence and Workplace*.

After the count of the Usual Residence cards, all cards of both types were placed together and sorted according to the reference number (registration district and sub-district, enumeration district and schedule number) on them. This involved the manual sorting of some 8,000,000 cards on the equivalent of about 8 digits. This sort was started by a staff of 75 clerical assistants who worked for some 19 weeks. When a number of districts had been fully sorted the bulk of the staff was transferred to the entering work described in the next paragraph and the sort was completed by a staff of about 25 who continued for a further 60 weeks.

The sorted cards were next matched against the schedule entries from which they had been written. This process was known as "Workplace Entering" and was designed to achieve a number of objectives, of which the principal were as follows:

(i) To enter on the schedule against each occupied person the code for the area in which that person's workplace was situated. If the workplace was outside England and Wales, had not been stated or was described as "no fixed place", the code for the area of usual residence was entered if that was stated and was within England or Wales; otherwise the code for the area of enumeration was used. For persons whose workplace was within the area in which they were enumerated the code should already have been entered by the census officer.

(ii) Where appropriate, to amend the "Area of Enumeration" code shown on the Workplace card to the "Area of Usual Residence" code shown on the Usual Residence card for that person.

(iii) To extract and put aside any cards which had been written unnecessarily, for example, workplace cards for persons described as out of work or retired.

(iv) To prepare cards in replacement of any found to be missing.

(v) To count the number of persons for each area of usual residence who had stated that they had no fixed place of work and the number who failed to state their place of work.

The instructions gave detailed directions as to the exact procedure to be adopted in each possible combination of circumstances. A total of over 40 combinations were listed, all of which were possible and probably occurred on occasion. Only a few, however, were common and the clerks soon learned the procedure for these, having then to refer to their instructions only when an unusual type occurred.

A staff averaging some 40 clerical assistants was employed on this simple task and the work took some 19 months. A fair degree of familiarity was achieved in most cases after about two weeks, when a speed of some 400 population per hour was reached.

While the entering was proceeding a small section was engaged on assigning area codes as accurately as possible from gazetteers and other information to addresses in respect of which cards had to be written.

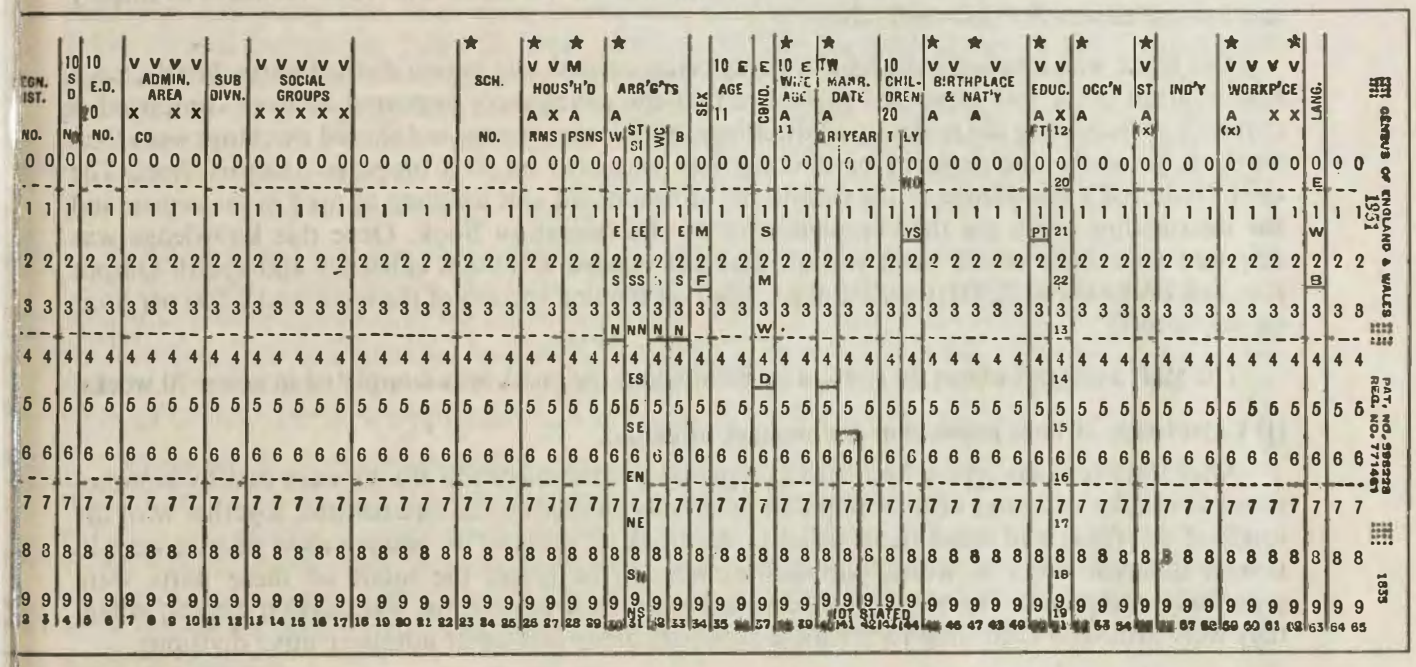
During the entering process the cards were separated into several categories according to the next stage in their handling. The bulk of the Usual Residence cards were not further required.

Newly written Usual Residence cards had to be counted as already described. The Workplace cards on which a code for Usual Residence had been inserted were kept separate from the remainder and sorted on that code. They were then put together with the other cards bearing that code in the " Area of Enumeration " space, thus bringing together all the Workplace cards for persons resident in a particular area.

The Workplace cards were then sorted on workplace area within each usual residence group. Each group of 25 or more with the same pair of codes was counted separately and remainders of counties and of the whole country were also counted so as to obtain the figures required in sections (i) of Table 5 of the Workplace Report. It was next necessary to obtain sections (ii) of the same Table by sorting the cards to usual residence code within workplace code. This would have involved the sorting of some 7,000,000 cards on four digits and partially on four others. To reduce the labour at this stage, each group of about 20 cards or more with identical codes for the two factors was replaced by a single 'summary card' showing the two codes and the number of cards for each sex which had been removed. This reduced the number of cards to be handled to less than 400,000 and greatly expedited the work. These sorting and counting operations and the simultaneous production of a rough copy of Table 5 were carried out by the same staff who had carried out the earlier sections of the work on the cards, an average of 43 of them being occupied on it for about 28 weeks.

(h) Punching of machine cards

When operations (d) to (g) had been performed on the schedules they bore all the codes needed for transfer to the machine cards. A card for each person was then punched, the form of the card being as below. (The machines used are described on p. 27.)



Columns 1-12 of the card were in general gang-punched automatically by the machine, which needed only to be re-set when punching of an enumeration district was completed. Columns 23-62 or 63 were punched manually on each card, though a good deal of time was saved by the use made of skipping. Overall, the operator was required to make approximately 25 key depressions for each card punched.

The punching staff was built up fairly slowly as work from the other sections became available. It reached a figure of 90 with 9 clerks as supervisors early in 1952. In August of that year it was found possible to increase it to 120 with 11 supervisors, at which level it remained fairly constant until the punching was completed in June, 1953. The training of the first groups of punchers was carried out by a demonstrator supplied by the machine company but later training was carried out by the supervisors when they had had adequate opportunity to become proficient. The trainee spent about a week on preparatory exercises and then began actual punching. Initial outputs were small and it was some three months in most cases before 200 cards per hour was achieved.

At the end of May, 1952, a proficiency allowance was introduced, payable to those punchers who demonstrated their ability to maintain an output of 325 cards per hour with less than 3 per cent containing errors. At that time, very few punchers had achieved that figure but introduction

of the allowance promoted a rapid increase in production. Altogether 95 punchers held the allowance for varying periods, usually qualifying after 6 to 9 months experience.

All the work of each puncher was verified until she had shown an average error in each of three consecutive weeks below three per cent of the cards punched. After that a spot check amounting to an average of one volume per week was applied. Any consistent failure to maintain the average resulted in the puncher being again placed on full verification; it also caused her to lose her proficiency allowance if she was receiving it. Some 15 per cent of the work overall was verified. Examination of the error percentages shown by the spot checking suggests that overall about 1·5 per cent of the unverified cards contained errors. If the verified work can be regarded as substantially free from error, the overall error rate in the cards as put forward to the machine tabulation section will have been a little over one per cent.

(i) Analysis of Dwellings

As on previous occasions, it was decided when the census was planned that it would be more economical to derive the analysis of dwellings (Table 10 in the County Reports, Table 1 in the Housing Report and other tables) from a manual ticking process than from punched cards. Information about dwellings appears in the Enumeration Book and not on the Schedule and cannot therefore appear on the main punched card produced from the latter unless it is transferred at a special process.

Subsequent experience of the tabulation work involved showed that considerable difficulties arose from the necessity to make the results of this manual operation consistent with the machine results for other Tables. These difficulties were considerably greater in 1951 than on previous occasions owing to the more elaborate tabulations given for sharing households. It seems necessary to consider for a future occasion whether these factors do not make it more economical to employ mechanical means for this work also.

The work was relatively straightforward, being carried out in two distinct parts. Firstly, each enumeration book was examined to ensure that the enumerator appeared to have completed it correctly in indicating the make-up of dwellings, and vacant rooms and shared dwellings were then marked. Secondly, the required particulars were extracted on to a prepared analysis sheet. The clerks required a knowledge of the definitions of household and dwelling as used in the census and the instructions given for the completion of the Enumeration Book. Once this knowledge was acquired experience of the work was all that was needed to obtain efficiency and speed. Output rose quickly to about 2,500 population per hour on the first section of the work and 1,500 per hour on the second.

The staff averaged about 30 clerical assistants and the work was completed in some 70 weeks.

(j) Calculation of final population and number of cards

After the processes above had been completed the Enumeration Books were cast by comptometer to check the figures of total population already entered by the enumerator, together with the totals of dwellings and other items listed in the book. If parts of an enumeration district were in several different areas of which populations were to be given, the totals of these parts were separately computed. The totals thus checked were then set out on Verification Sheets, where they were arranged according to the local authority areas and other administrative divisions.

The verification sheets were sent to the machine room together with the punched cards. The cards for each enumeration district were counted by sex and the totals compared with those on the verification sheet. Initially, it was decided that all discrepancies should be investigated but later it was felt that the work involved in doing so was not justified by the improvement in quality obtained and it was therefore decided that any case in which the aggregate of the discrepancies for the two sexes did not exceed 2 need not be investigated, but the total given on the verification sheet could be accepted as the final population. When there was a discrepancy needing investigation the next stage was to count by sex the number of cards for each schedule in the enumeration district. These tabulations were referred to a special section set up to deal with the discrepancies. They were compared with the enumeration book and the schedule to identify the cause of the discrepancy. A fresh set of cards was punched for any schedule shown to be faulty and this was substituted for the original batch. No attempt was made to detect the particular card which was incorrect; this was largely decided upon because the schedule storage and the card storage were in separate buildings and it could not be conveniently arranged for the two documents to be brought together, though it also had advantages in avoiding tedious examination of cards to match them with particular schedule entries.

The section ascertaining the reasons for discrepancies employed an average of 14 clerks for a

period of 98 weeks. Repunching of cards in accordance with their instructions employed 2-3 punchers during the same period. The initial verification run occupied Universal Printing Counting Sorters for a total running time of 6,500 hours, while the further run by schedule number took 3,200 hours. Ancillary work to the process took up 7,800 hours time on high-speed sorters. An average of 4 clerks and 2 comptometer operators were engaged on work connected with the checking of the machine sheets and the removal and insertion of cards.

(k) Extraction of results by machine

When all the enumeration districts in an area had been brought to the necessary degree of agreement the production of figures for the tables could be proceeded with. This was performed on Universal Printing Counting Sorters and high-speed sorters, which are briefly described on p. 28. The procedures were designed to obtain as economically as possible figures from which, without undue intervening labour, the tables required for publication could be constructed. All the tables published were derived from the results of this machine running, apart from those dealing with dwellings (see section (i) above), those relating to population sub-divided only by sex, those in the Report on Usual Residence and Workplace (of which the derivation is described in section (g)) and a few others dealing with non-private population and minor matters.

The many machine processes, numbering in all over 200, are not described in detail here, since their application is limited to the particular tabulation scheme being covered and the particular machines in use. The following is a brief outline of the general plan.

The main housing data (e.g. County Report Tables 11-15) were first extracted. The cards for some of the smaller areas were then put together into larger units and tabulations for the birthplace and age and terminal education age tables (County Reports, 19-26) prepared, separate counts being made of the individual smaller units to the extent necessary. Occupations were counted in each area and group and from these Occupation Tables 20-23 and, indirectly, County Report Table 27 and Occupation Table 24, were obtained. After this work the cards for the occupied population for the whole country were segregated and arranged in a single order by occupation and age and the remaining data for the Occupation Tables were extracted; the same cards were re-arranged by industry and tabulations for the Industry Tables made. The last main stage was the separating out of the samples of cards for married females and their husbands, from which were prepared the tables in the Fertility Report.

It will be noted that the above description makes no mention of the Housing Report or the General Tables. The tables in the latter volume relating to terminal education ages in various occupations were extracted at the same time as those for the Occupation Tables, the remainder of the tables in these two volumes, with minor exceptions for which small machine runs were incorporated in the scheme, were obtained by aggregation of tables in the County Reports or of extended versions of them for which provision was made in the design of the machine tabulations.

During all these processes taken together a total of 380 million card passages were made through the U.P.C.S. and 550 million through the high-speed sorter, an average of 8·7 and 12·6 passages respectively for each of the cards. Numbers of passages for individual cards will have varied widely; for example the card for an alien head of household living and working in England and having a wife aged under 50 might pass 25 and 39 times respectively through the two machines, while that of his child born in the town in which they were enumerated would pass only 2 and 4 times respectively.

The total machine times on this tabulation work were 36,500 hours for the U.P.C.S. and 47,600 for the sorter. Apart from the time spent by staff actually operating the machines, some 10,000 hours of clerical time were taken up in examining the tabulation sheets produced and other work, including the manual re-arrangement of the cards at certain stages. An average of 3 comptometer operators were employed to assist in the checking work.

(l) Production of volumes for publication

The figures obtained by the machine tabulation operations and other extractions described above required considerable re-arrangement, aggregation and checking before they were assembled in the form in which they were to be published. In some cases the work amounted to little more than transferring the figures from the machine tabulation sheets on to specially prepared sheets which were used as printers' manuscript. In other cases, there were many intervening stages. For example, the figures of persons at individual ages in Table 17 of the General Tables were derived by aggregating figures obtained for each of some 500 areas at the same time as other figures published for those areas. This was a substantial task, but it was considered more economical than the additional machine run of the whole of the cards which would have been necessary to obtain the figures without it.

The bulk of the Reports were produced by Varityping with a carbon ribbon. Proof reading was carried out on photographic copies of the 'master' thus produced and it was corrected by sticking corrected words, figures, etc., over the errors. The Varityping and correction were carried out partly by H.M. Stationery Office at their own establishments and partly by contractors engaged by them. Printing from the masters was by a photographic offset method.

The number of staff engaged on the production of the Reports fluctuated widely as the amount of work on hand at various stages changed, and to a limited extent according to the demands of other processes. It reached a maximum of 62 clerks with 8 supervisors in late 1954. For nearly 3 years centred on that time it averaged 42 and never fell below 30. Outside that period smaller staffs were employed, commencing in June, 1951 (on the Preliminary Report) and ending late in 1958 when the last proofs of the Fertility Report and this volume were cleared. A staff of comptometer operators which reached a maximum of 13 and averaged 10 over the bulk of the period assisted the clerical staff by carrying out the more routine casting work, especially in checking proof.

Schemes of Tabulation and Publication

Programme of Census Reports

The tables in which the census results are embodied were fully discussed in draft with the Departments principally concerned. In addition an even broader view was obtained by an invitation to the Interdepartmental Committee on Social and Economic Research (which includes academic as well as Departmental members) to examine the first draft of the tabulation proposals. Full consultation was also maintained with Scotland in order to obtain the maximum degree of comparability in the main census results throughout Great Britain. Northern Ireland was kept fully informed on tabulation proposals with the same objective of general comparability. The census authorities in the Isle of Man and the Channel Islands requested the Registrar General to produce their Census Reports, which so far as relevant were on similar lines to those for England and Wales, on an agency basis.

(*a*) *Preliminary Report*. As has been customary at recent censuses, a Preliminary Report was issued giving provisional figures by sex of the population enumerated in England and Wales as a whole, in administrative counties, county boroughs and county districts. These figures, which served to meet some of the more urgent purposes served by the provision of census results, were obtained in advance of the main statistical operations direct from summaries supplied to the Department by the local Census Officers (see also p. 13). Final figures were published later in the substantive Census Reports, but subsequent checking revealed no serious discrepancies. The final total of 43,757,888 persons enumerated in England and Wales was 12,964 more than the provisional total; this represented an increase in the provisional total of 21,518 females and a reduction of 8,554 males. The Preliminary Report also contained an account of the preparations for the census and the process of enumeration, together with brief statistical notes on the salient features exhibited by the Tables. The Preliminary Report was published on 11th July, 1951, just three months after census day (8th April).

(*b*) *One per cent Sample Tables*. In order to meet the point that national tabulations of the census results are usually not available for several years, a one per cent sample was drawn from the full census returns for processing in advance. The results of this analysis were published in two volumes, on 11th July, 1952, and 7th November, 1952, that is, some fifteen months and nineteen months after census day; they dealt with the main subject matters in a broad way, but could not give very detailed groupings for the country as a whole or any details for the smaller local authority areas. The Tables contained twelve sections, namely Ages and Marital Condition, Occupations, Industries, Housing of Private Households, Social and Economic Characteristics of Private Households, Composition of Private Households, Institutions and other Non-Private Households, Education, Birthplace and Nationality, Fertility, Welsh and Gaelic Languages, Divisions of Conurbations. Further reference is made to the One per cent Sample analysis on pp. 61-74 of this Report.

(*c*) *County Reports*. A series of 44 County Reports gives the final population figures for all administrative areas, as well as details of dwellings and households, of persons enumerated in hotels, institutions or elsewhere outside private households, of sex, age and marital condition, of birthplace and nationality, of education and of social class. Local figures for occupation, industry, usual residence and workplace were not included in County Reports but in the relevant subject volumes mentioned below. Each Report dealt with a single county or a small group of adjacent counties, figures for county boroughs in all cases being included in the volume dealing with the county with which they are normally associated for statistical purposes. The series of County

Reports thus contains statistics of special interest and value for local government or other local purposes and was produced first because the working of the census processes made available many of the figures for local areas before the analysis for the country as a whole could be assembled from these components. The series was published between 16th November, 1953, and 4th April, 1955.

(*d*) *The Report on Welsh Speaking Population* gives the statistics on the speaking of the Welsh Language by those enumerated in Wales (including Monmouthshire) with a brief commentary on the census enquiry. The gathering of this material into a separate report was to meet the general convenience and was a return to the practice of 1911. The report was published in July, 1955.

(*e*) *The Populations of Ecclesiastical Areas* (*England*) gives the enumerated populations of ecclesiastical parishes and dioceses in England, with a comparison with the 1931 Census figures. This was published in July, 1955, and was similar to volumes produced for the 1921 and 1931 Censuses.

(*f*) *The Index of Place Names* gives the location and the enumerated population of every area mentioned in the Tables of the various census volumes. It also includes the names of places without defined boundaries for which the populations have not been ascertained. It was published in December, 1955, and this was the first time such a volume had been published since that relating to the 1921 Census.

(*g*) *The Report on Greater London and Five Other Conurbations* gives statistics for the six major conurbations in England and Wales (Greater London, South East Lancashire, West Midlands, West Yorkshire, Merseyside, Tyneside) and for certain main divisions and sub-divisions. The tabulations are generally similar to those given in the County Reports. The Report, which was a new development of the 1951 programme, was published in June, 1956.

(*h*) *The Report on Usual Residence and Workplace* contains tables showing the population resident in one specified area and working in another, the units of area being boroughs, urban and rural districts; tables comparing the enumerated census population in those units with an alternative allocation based on the statement of usual residence on the census schedules, together with the numbers enumerated there who were usually resident outside England and Wales, and tables classifying the latter by country and usual residence and by age. The workplace tabulations and commentary are on generally similar lines to the Report on Workplace, 1921, in connection with the 1921 Census which was the only previous occasion at which such a question had been specifically asked and tabulated. The usual residence tabulations were similar to those carried out in 1931 when a question was first asked on this topic, and were included in this volume for convenience. The Report was published in July, 1956.

(*j*) *The Housing Report* summarises the housing information given in the County Reports relating to private households and gives a commentary on these figures together with other statistics about households which were only produced as part of the One per cent Sample programme. The issue of a separate report on Housing repeated the 1931 Census practice; the report was published in December, 1956.

(*k*) *The Occupation Tables* volume gives statistics of the occupied population according to their gainful occupation (classified according to the unit groups of the *Census 1951, Classification of Occupations*, which was published separately) and according to the area in which they were enumerated, with reference to age, marital condition, industrial status in employment (manager, employee, etc.) social classes and socio-economic groups. The report is on closely similar lines to the corresponding 1931 Census volume; it was published in January, 1957.

(*l*) *The General Tables* volume mainly comprises summaries of the information given in the County Reports on local populations (with figures for county court districts in addition), the various categories of non-private population, birthplace and nationality, ages and marital condition and education. An appendix gives information about merchant seamen not included in the home census enumerations and about various categories of population enumerated abroad. The volume is on similar lines to the corresponding volume for previous censuses so far as the main contents on population characteristics are concerned, but as it is the residual volume of tabulations its overall content varies from census to census according to the design of the publication programme as a whole. Thus on this occasion it does not include tabulations on usual residence or on Welsh speaking populations, which are dealt with separately, but includes the education tabulations, as it was not considered necessary to present these in a separate report. The 1951 General Tables volume was published in January, 1957.

(*m*) *The Industry Tables* volume gives statistics of the occupied population based on the in-

dustrial activity to which their occupations contribute with identification of industrial status categories, age-groups, and married women, the industry units being those of the Standard Industrial Classification. The *Census 1951, Classification of Industries* was published separately for general convenience. The statistics of local populations given in the Industry Tables volume are based on the area (borough, urban and rural district) containing the place of work as distinct from the place of enumeration or residence. The volume also contains an analysis of each important industry or group of industries showing the principal occupations contributing to the industry. This volume is on generally similar lines to the corresponding volume in the 1931 Census series. It was published in June, 1957.

(*n*) *The Fertility Report* will give statistics derived from the questions put to married women under the age of 50 on the date of marriage and number of children, with a commentary. This is the first census report on this subject since those relating to the 1911 Census. It is now complete and should shortly be published.

(*o*) The present *General Report* completes the 1951 Census series of publications.

Unpublished information

The information published in the census reports is no more than a selection of the potential total. The tabulations selected as significant could almost always have been designed to give greater detail, either by introducing smaller units of area, for example wards and parishes, or additional categories or age-groups. Special areas, for example large homogeneous housing estates not delimited by local government boundaries, might be the subject of detailed social or medical investigations. Census information, for example on workplace, might be correlated with particulars of age or occupation for special groups of the population in areas of some special interest for town planning. To meet such special needs there is power under Section 4 (2) of the Census Act, 1920, to satisfy on repayment of cost any reasonable demand for statistical information from the census which is not covered by the standard census programme. Not only has the 1951 Census provided many special tabulations to meet particular needs by Departments but this power to apply for special information has been freely made use of by local authorities, universities and individuals. Many such needs were brought to the notice of the Department in time for them to be incorporated in the census tabulation programme. This is always to be preferred, as it is the cheapest and most effective way of obtaining additional statistical information from the census returns. But with the punched card machinery and methods used in 1951 as on previous occasions, once the moment has passed when the punched cards are suitably arranged for any particular type of tabulation, there is much less scope for additional tabulations, as the cost of rearranging the cards afresh would be prohibitive. Later requests have therefore been met by manual extraction from the census schedules, in many cases on a sample basis. The extent to which this provision for additional tabulations has been used is indicated by the payment to the Department of £5,400 in the financial years 1951-57, apart from the assistance afforded to other Departments. Requests for such information continue to be received and to be met where possible.

Accommodation, Staffing and Machines

(a) Location and accommodation of the Census staff

The general planning and administrative control of the Census was carried out at Somerset House, London, at the headquarters of the General Register Office.

Circumstances required that the detailed work and the bulk of the staff should be housed at Southport, more than 200 miles distant from London. This was in general accord with the Government's policy of dispersal of convenient blocks of Civil Service work and partly dictated by the difficulty of obtaining either accommodation or staff in central London suitable for the task. The General Register Office already had staff on other work in Southport.

The main accommodation of the Census Office was in a former hotel which had been in use for Government purposes for some years. This necessitated the placing of a number of sections, notably the punching section, in a number of relatively small rooms. The punched card tabulating machines and the main storage for the punched cards were located in a separate building nearly half a mile away.

(b) Staff

The staff employed in London was small. Apart from a short period just before the enumeration, when the distribution of schedules and forms was being organised, it did not at any time exceed 8 persons.

The more senior staff of the Census Office were mainly temporarily transferred from other duties with the Department in London. Some junior supervisors were also recruited from the London staff; others were transferred from other departments or promoted from among the staff already serving in Southport. Of the clerical staff, about 100 were established civil servants of whom some 50 were transferred from other work of the Department in Southport and the remainder transferred from other Departments, either at their own request because they wished to work in Southport or because they had become redundant in their former duties. Nearly 400 clerical staff were recruited locally. They provided almost the whole of the card punch operators and workplace card sorters and over half of the staff of the various coding sections.

(c) Machines used

(i) Card punching

The cards used were the standard 65 column Powers-Samas type. They were punched on the Powers-Samas Automatic Key Punch (A.K.P.) used in conjunction with the Automatic Verifier in the standard manner. A small number of Hand Punches were also obtained and were used mainly for the re-punching of erroneous cards and in the Machine Room.

In the A.K.P. a punching mechanism is set by the depression of the keys and the actual operation of feeding in and punching the card is carried out electrically when a 'Punch' key is depressed. An error detected during the setting can be corrected without a card being wasted. Until the 'Punch' key is depressed, the card about to be punched is visible to the operator; this facility is used when 'dual-purpose' cards are employed, that is cards so arranged that information can be written on them first and later punched in. The machine has an adjustment to allow it to be set to punch the holes about half their diameter further up the card than usual; this is the 'Verify' position. When checking of the punching is desired, they are repunched on a machine set to 'verify'. If no errors have been made by either operator, all holes will then be in overlapping pairs (in effect, elongated). The Automatic Verifier is then used to detect any cards having round holes (i.e. those in which errors have been made by either puncher or verifier).

The A.K.Ps. used for census punching were modified from the standard type for two purposes:

1. It was desired to carry on in 1951 the earlier Census practice that fields of the card not applying to a particular person should not be entirely blank but should contain a punching in the second position (designated X) in the first column of the field. This makes it possible at later stages to distinguish such cards from any inadvertently left blank in that column or incorrectly rejected by the sorting machines. A special key was therefore provided and designated 'A'; it performed the combined functions of the 'X' and 'Skip' keys, punching an 'X' in the column at which the carriage was then standing and also moving it forward to the next Skip stop. As it was not convenient to have one key more than the standard fifteen on the machine keyboard, and it was desired to retain the 'Skip' key with its normal function for certain sections of the card, it was decided to remove the 'Space' key which was not normally required during punching of census cards.

2. As described in a previous section, it was considered uneconomical in the census operation to perform complete verification of all cards punched. The existence of a certain amount of error in the product was accepted, but the objective was to minimise that error so far as was consistent with no material increase of punching effort. The type of punching error which has the most serious effect on the quality of the product is the omission or duplication of one or more characters, which may result in a considerable number of otherwise correct characters being punched in the wrong columns. Modifications to the A.K.P. were designed which enabled the omission or duplication of a single character to be detected automatically. The census cards were, firstly, so designed that the column at which the machine should be set when the 'Punch' key was depressed was predetermined; an error of the type described would normally cause the operator to depress the 'Punch' key when the carriage was at some other column. However, if the 'Skip' (or 'A') key was depressed after the error had been made, the carriage would in general finish at the correct position. The card (and the punching instructions) were also so designed that depression of the Skip keys was only correct on certain columns, no two of which were adjacent to each other. With this arrangement of the card, it was possible to say that any omission or duplication of a single punching (unaccompanied by any other such error) would cause the operator to depress either the Punch key or a skip key on an 'incorrect' column. The machine was modified so that the Punch key would only operate when the carriage was in the correct position. Further, it was arranged that if a skip key was depressed on an incorrect column a red warning light was lit and the Punch key was put completely out of action. The light could only be caused to go out by returning the carriage manually to the beginning of the card, an action which automatically removed all punchings set in, and put the operator in a position to make a fresh start on that card.

(*ii*) *Card sorting*

Power-Samas High Speed Sorters fitted with counting attachments were used. These sorted the cards on the punching in one column at a rate of 36,000 cards per hour and at the same time counted the number of cards punched in each hole position. The counting feature was used mainly to establish the number of cards being passed, but it was also made use of to produce figures for some of the simpler tabulations.

(*iii*) *Card counting*

The machine used to produce the figures for the great bulk of the tabulations which were obtained from the punched cards was the Powers-Samas Universal Printing Counting Sorter (U.P.C.S.) of which the main functions are implied by its name. The machines supplied for census purposes embodied several modifications, as described below, designed to increase their usefulness for the work to be done.

The standard U.P.C.S. has 40 counting units, each comprising a sub-total and a grand total counter. One unit provides a 'card count' and the remainder are arranged in three banks each containing 12 unit counters and a 'Bank total' which records whenever any of the unit counters operate. If the three banks are each linked to a card column the machine will count the number of cards punched in each position of each of those columns, with the total punched in *any* position of each column and the total number of cards. The machine can 'control' on up to four other columns. As long as all cards passing have the same combination of holes in the 'control' columns the machine will continue to count. When the 'control' changes, it will stop momentarily and print in a single line on a tabulation sheet all the figures it has counted, putting alongside them the 'designation', i.e. the number in the 'control' columns for those cards. When printing is completed (in about $1\frac{1}{2}$ seconds) the sub-total counters re-set themselves and the machine begins counting the next set of cards. The grand total counters continue to add until, by operation of the controls, they are made to print separately, when they also automatically return to zero. While counting, the machine can sort on any column. The arrangement of the machine is such that it is possible to count on parts of more than 3 columns of the card and also to sort in more complex ways.

The modifications on the Census machines gave additional flexibility as follows:

Distributor. This device was designed mainly to allow the counting of ages in any desired groupings direct from a straightforward two-column punching on the card. It consisted of two main parts. Signals representing the punchings in the two columns were fed to a combining unit which had 144 outputs, each representing one possible combination of the 12 positions in each column. These outputs were led to a second unit which provided for combining them into the required groups. From this second unit impulses were fed to the counter units. The sides of the combining unit could be connected to parts of more than one column and many combinations were found to be possible.

Group counter. This was a relatively simple device which made possible the connection of a counting unit so that it would operate whenever there was a hole in any one or more of several positions.

Extended bank. Provision was made for the first part of the second bank of counters to be disconnected and connected instead to the first bank. The first bank then had effectively 18 counters and could be conveniently employed for the counting of up to 18 age-groups.

(*iv*) *Adding and Calculating*

Comptometers were extensively used for checking totals shown on the machine tabulation sheets, aggregating tabulations, and checking printers' proofs by casting. Two Burroughs' Electric Adding Listers were also held and employed on a variety of tasks.

Six Odhner hand-operated calculating machines were obtained for the computation of percentages, rates, etc. They were found to be insufficient to cope with the work and were supplemented by obtaining 2 semi-automatic Friden calculators. When the Fertility Report was being prepared, some 500,000 multiplications were rendered necessary by the making of corrections for understatement of the remarried (see p. 33) and for this and other allied tasks 4 fully automatic Friden calculators were obtained.

Cost of the Census

The total expenditure under the Census Vote of the General Register Office amounted to £1,263,362. Expenditure chargeable to the votes of other Departments (on printing, stationery,

maps, machines and accommodation) amounted to £280,903. The cost per head of population wa altogether 8·47d.

Of the costs to other Departments, the expense to H.M. Stationery Office for the hire of tabulating machinery (including punches) and the supply of punched cards amounted to £100,547. Other expenditure of H.M. Stationery Office (including printing and publishing the Reports) totalled £92,744, and £21,271 has so far been received from the sale of copies of the Reports. The cost to the Ministry of Works (accommodation, heating, lighting and other office services) was £55,185.

The Census Vote expenditure covers payments to Census Officers and Enumerators and salaries, etc. at Head Office. The costs of these items were as follows:

	Fees and expenses of		Salaries, etc. at Head Office	Total of Census Vote
	Census Officers	Enumerators		
	£	£	£	£
1951	187,822	484,396	591,144	1,263,362

Census Officers' fees

The number of Census Officers was 1,225. The total of Census Officers' fees and expenses was £187,822.

The payment was calculated as follows:

(a) A basic allowance of £10 (£6 only in the case of each sub-district consisting solely of one or more hospitals);

(b) An allowance of £1 for each Ordinary Enumeration District and 10s. for each Special Enumeration District;

(c) An allowance of 5s. per complete 100 of the population enumerated in the sub-district;

(d) An allowance of 2s. per complete 50 for all postcards written in respect of persons enumerated in Special Enumeration Districts;

(e) An allowance of 2s. 6d. per 100 or part of 100 for all postcards received from other sub-districts and coded in excess of a number equal to one-fifth of the population enumerated, and

(f) An allowance of 3s. 6d. per 100 or part of 100 for all postcards written within the sub-district and checked and coded by the Census Officer in excess of a number equal to one-fifth of the enumerated population. (Postcards qualifying for payment under "d" were not allowable for payment here.)

The payment for each Enumeration District was an innovation introduced in 1951 to compensate the Census Officers in large but sparsely populated rural areas which provided relatively poor payment on a population basis. No specific payment for postcards written or coded was made when they were used for the previous Workplace enquiry in 1921.

Enumerators' fees

The number of enumerators in Ordinary Enumeration Districts was 49,318. The total payment to enumerators was £484,396.

Payment to the enumerators was as follows:

(a) A basic allowance of £6;

(b) An allowance of 4s. for every complete 50 persons enumerated in the Enumeration District;

(c) Where the circuit of the Enumeration District, by way of every habitation, was in excess of 5 miles:—6d. for every complete mile which would be traversed in covering such excess three times;

(d) Where the return journey between the Census Officer's Office and the Enumeration District was in excess of 5 miles:—6d. for every complete mile which would be traversed in covering such excess three times, and

(e) An allowance of 2s. per 50 postcards or part of 50, written in excess of a number equal to one-fifth of the enumerated population.

Other Payments and Receipts

"Ex gratia" payments amounting to £1,018 were made to persons responsible for completing

the returns in Special Enumeration Districts where the establishments were not under the control of a public authority.

Receipts for additional tabulations supplied to persons and bodies other than Government Departments amounted to £5,400 in the financial years 1951-57, and are still being received.

Summary

Conclusions

It will be clear from the foregoing account of the operations, both central and local, connected with the 1951 Census that the work of preparation, enumeration and analysis proceeded on generally similar lines to those followed on the last occasion, i.e. at the 1931 Census. The recent war had left the General Register Office with a very heavy programme of arrears of statistical publications, which had to be cleared concurrently with contemporary work. The break in continuity, and the disturbance in normal recruitment to the civil service, meant that the census headquarters organization had to be built up completely anew, and that the numbers of junior and intermediate supervisors available to take charge of the census analysis were severely limited. The machine companies in this country had devoted their efforts to furthering war supplies, and were not in a position to offer more than improved versions of machines that had been used in 1931. Not only were the possibilities of innovations thus severely limited, but there was little if any time to carry out the investigations and experiments which would be required before departures were made from a system which had worked with undoubted efficiency on previous occasions.

It cannot be denied that the 1951 procedures were cumbersome and slow moving. Their time consuming nature was aggravated by two factors. Owing to the need for the maximum economy in manpower a limit had to be set to the total number of staff employed. As it would not have helped to pare all sections with consequent delay all round, some work which might have been put in hand earlier was delayed until it could be effectively dealt with. When the mass handling operations were over, there was a limitation on what could then be achieved because there were few supervisors and clerical staff available of sufficient calibre to work on the intricate and difficult job of completing the final census analyses. Another matter was the extreme geographical separation between London (where the organizational headquarters must necessarily be, owing to the need for contact with other Departments, and because those concerned with census problems were connected intimately, and necessarily, with the other work of the General Register Office) and Southport, where the Census Office was situated. Liaison and discussion of the day to day problems were impeded and delayed by distance. Such a complex operation as a census is bound to throw up many problems as it proceeds, requiring discussion and investigation between those in charge on the spot and those directing the operation. Owing to the distance to be covered such contact was not as intimate or as frequent as would have been desirable, while discussions of matters by post naturally took some time. A teleprinter service was maintained between London and Southport during most of the period during which the census tables were being assembled and proved its worth fully; but many census problems on which decisions were required were too intricate to be resolved by this means.

Since and so long as a census is taken only once in ten years it is only to be expected that accommodation for the census office may have to be found afresh on each occasion. While every effort was made by all concerned to make the best of the accommodation that had to be used, the fact remains that it fell far short of what was desirable. A census operation of the traditional kind requires large blocks of clerical work, where supervisors can handle fairly large staffs. Large rooms are obviously called for, but very few of these were available, and many large sections had to be accommodated in a series of small rooms; the work of supervision was made much more difficult and the organization of the flow of work through the section was hampered. The machine tabulation section had to be housed in a separate building nearly half a mile distant. Analysis of queries involving reference to the original returns became therefore more difficult than it might have been.

A further cause for delay was the time required to get any reports of this nature through the press, owing to the congestion of work in the printing trade. Census reports are not attractive publishing ventures for all their importance. The number of copies printed will not be large. With the exception of the Preliminary Report (of which some 9,250 copies were sold) the total copies printed of each Report ranged a little above or below a thousand. Yet to get the material ready for press is expensive, owing to the complexity of the statistical tables. Most of the census reports were therefore prepared by the varitype method, and printed by a photographic process; while not as acceptable in some respects as normal letterpress printing, these reports are considered to have

reached a generally satisfactory standard. This enabled the cost to be considerably reduced and yet even so the cost price for the bulky volumes is heavy. Most of the work was prepared for press by H.M. Stationery Office, as apparently few outside contractors were willing, or were able, to handle satisfactorily material so complicated. Proof reading and correction required especial care, and while the cost was low the time required for any volume to go through the press was considerable, sometimes as much as a year being necessary. This again has contributed to the 1951 series of reports being slower to appear than previously.

As against this must be set the innovation of the One per cent Sample analysis, made available within a year or a year and a half of the census date. As this was prepared by staff recruited earlier than would otherwise have been the case and working independently, and by the use of machines delivered earlier than was necessary for the full analysis, no delay to the full census reports was occasioned thereby.

Preparations for the next census, normally due in 1961, are already in hand. Attention is being paid to various methods of speeding up the completion of census results. Sampling methods may be found to have something more to contribute to speed and economy. Improved tabulation machinery that will be more flexible and accurate in its functioning may cut short or eliminate many of the clerical processes now deemed necessary. If to this can be added the ability to produce results which could be immediately printed photographically, much of the labour now spent on preparing the material for the press, both in the census office and by the printer, could be avoided. Success in any of these fields should mean that the demand for very large concentrations of clerical staff would be considerably reduced, so making it much easier to provide accommodation of a suitable design and location to enable the operation to proceed with maximum efficiency.

CHAPTER II

THE QUALITY OF THE CENSUS DATA

1. Introduction

Before commenting on various aspects of the census tabulations it will be of interest to examine the general validity of the data collected in the 1951 enumeration. On this occasion it has been possible to carry out a number of supplementary analyses directed to establishing the nature and size of those errors which in a total population census can be and are minimised by effective planning and organisation but which, human fallibility being what it is, cannot be entirely eliminated.

2. Completeness of Cover

Every year in the period between one census and the next an attempt is made to estimate the population of England and Wales. These estimates are formed by continued projection from the last census, adding births and immigrants and deducting deaths and emigrants in the intervals between each estimate. In normal times the comparison of the estimate as at census date with the population actually enumerated (subject to adjustment for comparability in definition) serves to validate the previous intercensal series of estimates and alternatively, if the estimates can be independently validated, to indicate the likelihood of any shortfall in enumeration. The intercensal period from 1931 to 1951 was, however, far from normal since it encompassed the second world war and its aftermath.

Successive estimates of the home population from 1932 to 1939 obtained by continued projection from the census of 1931 were validated by the National Register count of civilians in 1939. Thereafter war conditions brought changes in the nature of the population identified and the sources available for its estimation. From 1939 the estimated population included Forces and Mercantile Marine attributable to England and Wales and serving overseas but excluded the Commonwealth and Allied Forces which were temporarily transferred to England and Wales. From 1949 it was possible to resume estimates of the home population (the extended definition used from 1939 being continued and referred to as a " total population "). After 1950 it was considered possible to balance the Mercantile Marine overseas element against the excess of visitors to this country over those residents of England and Wales who were absent, so that the home population so revised became identified with the population which would be enumerated in the census. Table 1 compares the revised estimate as at 8 April 1951 with the final tabulation

of the census. It shows an apparent deficiency in the census population of 134 thousand or 3 per thousand. Having regard to the unsettled conditions during and especially immediately after the war, however, the migration element in the estimates must be regarded as having a wide margin of error which, at least over a period of several years, could accumulate to a figure of the same order; but it must be borne in mind that the issue of food ration books, together with movements in the National Register which were also associated with food rationing, formed a main source of statistics for the population estimates, and that birth and death registration in this country is complete except for very isolated individual cases. It seems reasonable to regard the population estimates as independently validated by the ration book issue and, further, to discount any likelihood that the population has been *under*estimated. It is therefore probable that any deficiency in the census record is quite trivial.

Table 1.—Estimated Discrepancy between mid-1950 Total Population Estimate and the 1951 Census

	Persons (thousands)	
Mid-1950 Total Population Estimate		**44,020**
Movement 30.6.1950—31.3.1951:		
Births	508·1 (a)	
Deaths	−444·1 (b)	
Immigrants from Overseas and Allied Forces discharged	239·7	
Net migration from other United Kingdom countries	15·1	
Emigration Overseas	−249·1	
Net movement	**69·7**	
Rounded to	*70*	
Movement 31.3.1951—8.4.1951	2	
Net movement 30.6.1950—8.4.1951		72
Expected Total Population at census date		**44,092**
Total Armed Forces attributable to England and Wales		−710
Excess of Mercantile Marine overseas over balance of civilian visitors (c)		−12
Expected Civilian Population at census date		**43,370**
Home Armed Forces: British		503
Allied		19
Expected Enumerated Population		**43,892**
Actual Enumerated Population		**43,758**
EXCESS OF EXPECTED OVER ACTUAL		**134**

(a) Occurrences.
(b) Registrations.
(c) To accord with revised definition of population estimate.

3. Unanswered Questions

Although the enumerators were able to exercise some scrutiny of the completeness of the schedules (see p. 12) there were instances of unanswered questions not necessarily as a result of negligence or refusal but mostly as a consequence of genuine ignorance of, or doubt about, the true facts. These were dealt with at schedule revision (p. 18) in the following manner:

Sex. Where omitted this was deduced from other details on the schedule, e.g. name and relationship to Head of Household. No difficulties were encountered in dealing with such cases, which were rare. For all persons a check was made to see that the sex stated was consistent with other information on the schedule.

Age. All schedules were checked at revision to see that the ages stated were consistent with the details of relationship to Head, and terminal education age. Where no age was given, an approximate age was inserted having regard to other information on the schedule (marital condition, relationship to Head, education, occupation, etc.). This deficiency occurred more often among mental hospital patients than among the general public and in such cases reference was made to the general age structure of the other patients recorded on the schedule, the estimated ages being distributed in rough proportion. Reference to Table 8 indicates that the incidence of unstated age was of the order of one person per thousand of the enumerated population.

Marital condition. A plausible assumption could usually be made to explain apparent inconsistencies with other information on the schedule and no entries were amended. There were some cases in which the marital condition was omitted; usually the context enabled

the condition to be inserted but sometimes it was necessary to make a frank guess with intelligent regard for such factors as age, occupation, etc.

Date(s) of marriage and number of children. If the date of the present marriage was omitted for a woman under age 50 this was marked as " not known " and the woman was excluded from the fertility analyses. (Some cases were also excluded because the stated date of marriage was clearly inconsistent with other information on the schedule.) If the space for date of first marriage (for those married more than once) was left blank it was assumed that the woman had been married once only. In the course of the fertility analyses it became clear (from the average size of family in relation to duration of present marriage) that this assumption could not be justified in all cases. The tabulations were corrected by an adjustment procedure based upon the registrations of first and subsequent marriages in the years preceding the census. For full details reference should be made to the *Fertility Report*. Where the column for total children was not completed this was marked " not known " and the woman was excluded from the fertility analyses. If the question asking whether the woman had given birth to a child (live born) in the year preceding the census was unanswered the answer was assumed to be " no " unless the schedule indicated elsewhere that the woman had a child born since the date of marriage and under age one.

Altogether, out of 7,394 thousand married women enumerated under the age of 50, 377 thousand (5 per cent) had to be excluded from the fertility analyses on the grounds of incompleteness of data.

Birthplace and Nationality. At the Census 9 per 1,000 persons enumerated did not state their birthplace and 19 per 1,000 of the foreign born did not state their nationality. In general there was a strict avoidance of any attempt at supposition, e.g., a person recorded as born in " Great Britain " would be classified as " Birthplace—not stated ; Nationality—British by Birth ". Even if a birthplace had been entered against all persons on the schedule except one it was not assumed that the latter had the same birthplace as the others.

It may be calculated from Table 34 of the *General Tables* that between two thirds and three quarters (72 per cent) of those who gave no birthplace also gave no nationality. Nearly all the persons (96 per cent) who did not state their nationality also failed to give their birthplace and only a very small proportion (4 per cent) gave a foreign birthplace. It is likely that a large proportion of those giving no birthplace were in fact born in England and Wales. It appeared that in some cases the birthplace had been omitted because the exact location was not known, and in other cases inadvertently or because it was believed unnecessary as it did not differ from the place of enumeration.

Education. While there may have been some misunderstanding about the meaning of " part-time " attendance at school (see Chapter VI) there was very little difficulty about lack of answers to the question about current full-time attendance, and none that could not be dealt with by reference to the information given under " age " or " personal occupation ".

As to whether or not there was any understatement may be assessed from the following comparison of proportions in full-time education at individual ages from 5 to 14 last

Age	Percentage in full-time education	
	Census, April 1951	Ministry of Education, January 1952
5	86·3	95·0
6	94·6	95·5
7	95·4	96·2
8	95·8	96·5
9	96·0	96·6
10	96·3	96·8
11	96·6	95·9
12	97·1	95·9
13	97·4	95·8
14	97·7	93·3

birthday as derived from the census (Table 42 of General Tables) and as estimated by the Ministry of Education from returns from Grant-aided Schools or Departments and Other Schools Recognised as Efficient at January 1952 (Annual Report of Ministry of Education for 1952, Cmd. 8835, H.M.S.O.).

Allowing for differences in concept (full-time attendance for census purposes would not necessarily be restricted to schools recognised by the Board of Education) there does not appear to have been any serious degree of understatement. The low proportion shown by the census for age 5 probably arises from the fact that the census was held when many schools were on holiday and a large proportion of those who had attained age 5 in the previous 3 or 4 months would not have actually entered school before census day.

The question about the age at which full-time education ceased may have involved a memory factor for older persons, but the main difficulty arose from its combination on the schedule with the question on full-time or part-time attendance at an educational establishment, and the possibility of its being interpreted as applying only to those who were recorded in the previous column of the schedule as attending " part-time ". There is evidence that in some cases the question, though understood, was regarded as objectionable. No attempt was made to estimate ages and the "not stated" have been shown in the tabulations, the full analysis being based only on the stated ages. As a proportion of the total occupied population the "not stated" for men rose from 6·6 per cent at ages 20-24 to 10·5 per cent at 55-64 and 25·7 per cent at age 75 and over. For women the corresponding percentages were 6·0, 15·9 and 40·5.

Occupation. If the occupation column of the schedule was not completed it was not of course possible to invent an occupation or former occupation, except that where education particulars indicated full-time attendance at an educational establishment it was possible to enter "student". In other cases the absence of any entry for a person aged 15 or over was assumed to indicate that the person was not gainfully occupied and had not retired from a gainful occupation (for in such cases the former occupation should have been stated).

There were the following proportions with "no gainful occupation stated" among males:

Age	Percentage "no gainful occupation stated"
15	1·6
16	0·9
17	0·8
18-19	0·9
20-24	0·8
25-29	0·7
30-34	0·7
35-44	0·7
45-54	0·8
55-59	1·4
60-64	2·3
65-69	6·7
70-74	10·7
75 and over	15·2

These proportions appear to be generally reasonable. The rise at age 55 is probably due to some retired men failing to show a former occupation. The alternative hypothesis that it is due to the older generations containing a higher proportion with independent means appears to be unlikely since at the 1931 Census the corresponding percentages from 45-54 upwards were 1·0, 1·4, 1·8, 3·8, 7·1, 12·1, viz., the increase occurred at the same age point and not twenty years younger as would be required to indicate a generation effect. Furthermore, at ages 65 and over the proportions are higher in 1951 than in 1931 and, bearing in mind the general increase in the level of retirements at ages 65 and over which has been a consequence of the extension of contributory pensions, this supports the suggestion that some of those for whom no gainful occupation had been stated were not in the position of never having been occupied but were, in fact, retired.

4. Accuracy of Census Statements of Age and Marriage

From the time that tabulations were first made by single years of age, it was clear from irregularities in the numbers from age to age that there was a "preference" for certain unit digits and a "dislike" for others. The error may be substantially corrected by graduating the tabulated data (see p. 45) but it seems to be an inherent feature of the population census and impossible to eradicate.

To reduce this form of error an attempt was made at the 1921 Census of England and Wales to concentrate attention on the need for accuracy by asking for the age in years *and months* (though tabulations by months were neither made nor contemplated). This did lead to a considerable reduction in digital preference and it was diminished further in 1931 (*Census of England and Wales* 1931, *General Report*, pp. 91 and 92).

At previous censuses the following test had been applied. The populations for the 50 single years of age from 23 to 72 were aggregated into 10 groups of 5 each, the 10 groups corresponding to ages with end digits 3, 4 etc., to 2. The aggregates for the enumerated population, irregular in trend from one age ending to another by virtue of the digital preference, were then compared with smoothed aggregates and the differences were expressed as percentages as shown in Table 2. This smoothing is to take account of the fact that the successive aggregates have an age spread which advances by one year and therefore decline by virtue of mortality losses. To establish this declining trend free of irregularities due to digital preference, or other causes (birth irregularities, migration, etc.), second degree curves were fitted to the enumerated aggregates. This is not the same as the graduation of the enumerated population referred to on p. 45. For purposes of continuity a similar test has been applied to 1951 but it must be regarded as of questionable validity owing to the large antecedent birth irregularities which in fact produce curves that initially rise before declining. (A different and more reliable test is provided in the section on graduation (p. 46).)

The decrease in error in the 1921 Census compared with the 1911 Census, and the relative stability in the pattern of differences in subsequent censuses will be noted. Judged by this test with its somewhat distorted "trend" from which preferences are measured, the 1951 Census figures show a marked attraction only for 0 as a digital ending, though in previous censuses there had been a smaller but still appreciable preference for 8.

The full graduation of the census data in Table 11 (p. 48) shows upward irregularities at many ages ending in 0, 2, 5, 8 and 9, but the tendency does not attain any high degree of consistency except for ages ending in 0 and possibly 8. Myers' Test (see p. 46) applied from ages 38 and upwards to avoid the large scale birth fluctuations associated with the first world war shows for males an excess over expectation of 3·4 per cent for digit 0, 1·6 per cent for 8 and 1·3 per cent for 9 and no other excesses; for females the excesses are 4.0 per cent for 0, 0·9 per cent for 8, 0·7 per cent for 3 and 0·5 per cent for 2. The impression therefore remains that preferences at digital endings other than 0 are of diminished importance.

Table 2.—Percentage excess or deficiency (—) of enumerated aggregate of population over smoothed aggregate

Census of	Aggregate of ages ending in									
	3	4	5	6	7	8	9	0	1	2
	Males									
1911	−0·1	0·6	1·1	0·1	—6·1	3·0	−1·5	11·3	−10·9	2·5
1921	0·8	−0·4	−0·1	−0·6	−2·3	1·5	0·3	5·1	−5·3	1·0
1931	0·6	0·2	−0·7	−0·3	−2·3	1·6	−0·1	4·2	−3·3	—
1951	0·8	0·6	−0·4	−0·8	−2·2	−1·1	0·7	4·9	0·5	−3·0
	Females									
1911	—	0·9	0·6	−0·5	−5·7	3·4	−1·8	12·1	−11·9	3·0
1921	0·5	0·3	0·1	−1·0	−3·3	2·5	−0·5	7·3	−7·4	1·6
1931	0·3	0·3	−0·4	−0·3	−2·2	2·2	−1·0	4·6	−4·7	1·1
1951	0·7	0·3	−0·5	−0·4	−2·0	−0·5	−0·3	5·5	−0·6	−2·2

A more serious form of error in age statement, if it exists, and one less susceptible to precise examination, is the transfer, not to a neighbouring preferred number, but to a wholly different part of the age range. One method of examining such errors is to apply to the numbers enumerated at each age at one census the losses and gains from mortality and migration that they are expected to have suffered in the intercensal period, and then to compare the estimated survivors with the numbers enumerated at the next census at appropriately older ages. However, at recent censuses it has been found that the differences were consistent with their being due to possible errors in

estimating the age structure of migrants in the intercensal periods, the available data being scanty even for the estimation of total numbers of migrants without age analysis. Such comparison is therefore too insensitive to show the presence or absence at censuses of the type of mis-statement of age under consideration.

Matching with birth registration records

In order to provide a more absolute test of the types of errors discussed above, it was decided to match a sample of census age statements against the dates of birth of the selected persons as shown in the birth registers.

A sample of 1 in 1,000 Ordinary Enumeration Districts was drawn by selecting the 500th, 1,500th, etc., District in a serial list. In each selected District the particulars of the following persons were to be recorded on cards:

Household reference number ending in digit	Selected sample
1	All persons
3, 5, 7, 9	Those with stated ages 0, 1, 21, and any with ages terminating in 0, 8.

This procedure was designed to provide a sample of a little more than 8,000 (as large as it was expedient to impose on the normal complement of staff available for searching the birth register) with a special weighting of ages suspected to be subject to higher risk of mis-statement but free from geographical bias.

Certain inherent difficulties associated with searching procedure rendered some modification of this plan necessary. It was thought that where children existed in a household it would be easier to find these in the birth register owing to their more recent birth dates and the smaller likelihood of error in age on the schedule. Having found an entry relating to a child's birth, the full names of the parents and the maiden name of the mother (an essential requirement) could be ascertained. Before searching therefore the cards relating to a family were grouped together and the search was conducted on a family basis, beginning with the children and adding to the information furnished as the search progressed. Where the mother was designated for inclusion in the sample but none of the children, the census particulars of the youngest child were nevertheless used in the searching process and the child was retained in the sample in order not to waste the labour of matching the entry. An important source of bias was also introduced quite deliberately. It was known that the certainty of identification would be least (and the labour of attempting it greatest) for the commonest surnames. To remove this uncertainty it was decided to "forbid" a dozen or so of the commonest names (Smith, Jones, Brown, etc.) and a few others with which they might be confused (Davies with Davis, Clarke with Clark, etc.). The names so forbidden were estimated to account for 8·6 per cent of the population. In such cases the next permissible schedule in numerical order was substituted.

The names, sex, place and month and year of birth were extracted from the census schedule for the persons in the sample. A search for the birth entry was then instituted in the manner outlined above and when a match was established the date of birth was extracted from the birth entry to enable the true age to be compared with that stated on the census schedule.

For all women stating a date of marriage a marriage card was prepared giving dates of all marriages shown on the schedule, the husband's name, ages of parties at the last marriage, place of enumeration and birthplace of eldest child (the last two details being recorded to indicate the likely place of marriage). The relevant marriage entry was sought where necessary as a means of tracing the birth entry of the woman.

In total 7,999 persons were matched, distributed by digital ending of census age as follows:—

Digital ending of census age	Males	Females
0	908	1,097
1	393	479
2	252	258
3	233	273
4	225	267
5	230	235
6	238	223
7	191	227
8	849	1,011
9	188	222
Total	3,707	4,292

As a pure matching operation this must be regarded as a highly satisfactory result.* It is the first time that such an investigation has been carried out in England and Wales and it clearly demonstrates the utility of a well-developed birth registration system in validating census data.

Table 3 provides an overall picture of the agreement between census and true ages. In this table the representation of the digits 0 and 8 was reduced to the same scale as the other digits by dividing by 4. The representation of digital ending 1 is higher than for other endings but is not so seriously out of scale and the ages are not subject to so much error; the representation has not therefore been adjusted.

It is clear that errors in age amounting to movement to a wholly different part of the age range are rare unless it can be assumed that all the untraced cases (54 men, 119 women) and virtually no others were errors of this type. It seems more reasonable to assume that there would be some graduation from smaller to larger margins in such errors and that any appreciable incidence would be indicated among the traced cases.

In Table 4 the data have been arranged in such a way as to show the direction of movement in digital errors. For men the main tendency appears to be that of anticipating the age next birthday. If ${}_xN_y$ is the number of men with true age x and stated age y we find that ${}_xN_{x+1} > {}_xN_{x-1}$. If other errors of one year are regarded as equally likely to be above and below the true age, then the number anticipating a birthday is $[{}_xN_{x+1} - {}_xN_{x-1}]$ and the proportion is $\frac{\Sigma[{}_xN_{x+1} - {}_xN_{x-1}]}{\Sigma_xN}$ where the summation is over all ages (the few errors of more than one year are unbiased and may be ignored). This proportion amounts to $2\frac{1}{2}$ per cent. Investigation of the records showed that 59 men with birthdays between 9 and 30 April inclusive anticipated their birthdays, fully accounting for the estimated degree of overstatement of this kind. The proportions anticipating birthdays were 36 per cent for those born 9-15 April, 18 per cent for those born 16-25 April and 15 per cent for those born 26-30 April. The numbers for individual days are too small to provide reliable percentages but it appears that there is a rapid fall from about 70 per cent for 9 April to about 30 per cent for 11 April with a tendency for the percentage to level off over the remaining days of the month. It is of interest to note that of 102 men with birthdays 1-8 April only 2 understated their age by a year, i.e., effectively failed to take account of the birthday. Roughly the same pro-

*The distribution by age, as stated on the census schedule, of the cases which could not be found in the birth register was:

	0–14	15–34	35–64	65 and over	Total
Males	11	11	23	9	54
Females (a)	10	12	64	33	119
(b)	—	3	55	29	87

(a) searched (b) not searched, no surname available.

Naturally there were relatively more older persons among the untraced than among the traced especially for women. Most of the women in the older age groups are married and there is the added hazard that a surname must be found and this may not match with the birth entry. On the whole the numbers of untraced cases are small and even at older ages do not seriously diminish the value of the sample.

Table 3.—Comparison of Ages derived from Birth Register and those recorded on Census Schedules

Age derived from Birth Register	Ages recorded on Census Schedule																	
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85 and over	All
MALES																			
0– 4	373	1																	374
5– 9		228	1																229
10–14			168	1															169
15–19				150															150
20–24					221	3													224
25–29						151	2												153
30–34							158	1											159
35–39								162	2										164
40–44									125	1									126
45–49										157	3								160
50–54										2	115								117
55–59										1	1	84	1						87
60–64													85						85
65–69													1	66					67
70–74												1			59				60
75–79																42			42
80–84																	15		15
85+																		7	7
All Ages	373	229	169	151	221	154	160	163	127	161	119	85	87	66	59	42	15	7	2,388
FEMALES																			
0– 4	371																		371
5– 9		211																	211
10–14			179	1															180
15–19				160															160
20–24					269	1													270
25–29						154													154
30–34						3	184	1											188
35–39								159	1										160
40–44								1	170	1									172
45–49									3	172	3								178
50–54											161	1							162
55–59											1	120							121
60–64													102	5					107
65–69													1	111	1				113
70–74															73	1			74
75–79																49			49
80–84																1	26		27
85+																1		6	7
All Ages	371	211	179	161	269	158	184	161	174	173	165	121	103	116	74	52	26	6	2,704

portion of men as anticipated birthdays ($2\frac{1}{2}$ per cent) may be regarded as committing unbiased errors of one year in their age. On the average, for men, taking account of all errors, ages were overstated by about 0·016 of a year, a very small net error.

The distribution of errors for women was a little different. There were a number of cases (17 for women against only 5 for men) of understatement of age by 2 years or more. It is possible that this difference between men and women also holds for understatements of one year only and so distorts the position there. If the understatements of one year are distorted by deliberate as well as unbiased errors, then the same basis of estimation as for men, which suggests that only about $1\frac{1}{2}$ per cent of cases anticipated birthdays, would give too small an estimate of the incidence of this type of error. In fact, investigation showed that 56 women with birthdays 9-30 April inclusive anticipated their birthdays. This is 2·1 per cent of all women in Table 4, i.e. nearly as large a proportion as for men. The variation of the percentages over the month was similar to

Table 4.—Summary of digital errors

Correct Digit ending	Stated Digit ending																				Correct Digit ending
	MALES										FEMALES										
	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	
3	219	7									259	9	1					1	2	5	3
4	6	217	7								7	255	8		1						4
5		1	217	6	1						2	3	216	13							5
6	1		5	226	10								8	202	11						6
7				5	178	9	1			1				7	209	10					7
8					2	200	7							1	3	233	12				8
9						3	178	7					1		3	7	204	6			9
0								215	9				1			1	1	258	17		0
1							2	3	382	14	1						4	6	451	7	1
2	7								2	237	4							1	9	246	2

that for men. For birthdays 9-15 April there was 30 per cent anticipation, for 16-25 April, 16 per cent, and for 26-30 April, 24 per cent (this last figure is based on 16 cases of anticipation and the rise cannot be regarded as statistically significant). Out of 116 with birthdays 1-8 April, only 3 understated their age by one year. The average net error in age for women was a very slight overstatement, of about 0·003 of a year.

Table 5 summarises the errors in age-groups for males and females separately.

Table 5.—Errors in age, in age-groups for males and females separately

Error in age	Males					Females				
	0–14	15–34	35–64	65+	All ages	0–14	15–34	35–64	65+	All ages
Overstatement										
10 and over										
9										
8										
7										
6										
5			1		1			1		1
4										
3							1			1
2			2		2		1	1		2
1	17	25	32	9	83	16	18	45	18	97
0	754	652	682	180	2,268	745	736	817	235	2,533
Understatement										
1	1	8	17		26	1	13	29	13	56
2			2		2		3	9	2	14
3				1	1				1	1
4									1	1
5										
6										
7										
8										
9										
10 and over			1	1	2				1	1
Total	**772**	**685**	**737**	**191**	**2,385**	**762**	**772**	**902**	**271**	**2,707**
Percentage agreement	98	95	93	94	96	98	95	91	87	94

For men there is only a small increase in the liability to error with increasing age. The disagreement between census schedule and birth register increased from 5 per cent at ages 15-34 to 7 per cent at ages 35-64 and 6 per cent at ages 65 and over, and the range of error increased in width. The possibility of errors of ten years or more is apparent at advanced ages but the incidence of such large errors can hardly be regarded as of serious proportions.

For women the increase in the frequency of error was greater than for men. The disagreement increased from 5 per cent at ages 15-34 to 9 per cent at ages 35-64 and 13 per cent at ages 65 and over, and the range of error increased slightly more than for men.

For both sexes even at ages 65 and over the net error in age is small; in this sample it amounts to an average understatement of 0·02 years for men, and an understatement of 0·06 for women, but it should be borne in mind that here, and also in relation to other figures quoted in this section, the numbers involved in this matching operation were severely restricted by the limitation of resources and large sampling errors may be involved. For example, the figure of —0·02 years for the mean error for men aged 65 and over is subject to a standard error of 0·06, and the mean error of —0·06 for women is subject to a standard error of 0·05.

The sample is not large enough to provide reliable evidence of digital preference as such. As percentages of stated cases with specified digital endings the incorrect cases were:

Digit	0	1	2	3	4	5	6	7	8	9
Males	4·4	2·8	6·0	6·0	3·6	5·2	4·6	6·8	5·7	5·3
Females	5·1	5·8	4·7	5·1	4·5	8·1	9·4	7·9	7·2	7·7

These percentages are, however, subject in most cases to standard errors of 1·5 or more and it is not possible to discern any special digital emphasis. The higher percentages for females for

digits 5-9 can be seen from Table 4 to arise from an increased tendency to overstatement as the latter part of a decade is reached.

Despite these reservations as to the precise size of the errors likely to obtain in the census data it is possible to claim that the recording of ages at the censuses is subject to a relatively high order of accuracy, the main features being a minor degree of digital preference and a tendency to anticipate the next birthday (more marked in men than women), and a small degree of random error. The average net error (adjusting for the representation of digital ending 0 and 8) for males of all ages was + ·024 of a year with a standard error of ·009 and for females of all ages + ·003 with a standard error of ·007.

Table 6.—Comparison of Bride's Age as stated in Marriage Entry with True Age (calculated from dates of Birth and Marriage)

True Age	Total Brides	Age stated in Marriage Entry												
		Less than true age by:								Correct	Exceeding true age by:			
		8 years	7 years	6 years	5 years	4 years	3 years	2 years	1 year		1 year	2 years	3 years	4 years
16	2									1		1		
17	7									3	1	2	1	
18	19									13	4		1	1
19	36								1	33	1	1		
20	40									37	2	1		
21	35									33	2			
22	41							1		37	2	1		
23	46								1	43	2			
24	32								1	29	2			
25	37								2	32	2		1	
26	32					1	2			28	1			
27	23					1		1		19	2			
28	17							2	1	13		1		
29	18						1	1	1	14	1			
30	12							1		10		1		
31	7									5	2			
32	12								1	10				1
33	12		1			1			3	6	1			
34	12							1	3	8				
35	5								1	4				
36	5									4	1			
37	9									9				
38	9						1		1	7				
39	6								2	4				
40	2								1	1				
41	3	1							1	1				
42	2									1	1			
43	4								1	3				
44	4				1				2	1				
45	1									1				
46	4								2	1	1			
47	1									1				
48	3									1	2			
49	1								1	—				
50	1									1				
51	—									—				
52	1									—	1			
53	1									1				
54	—									—				
55	1							1		—				
56	—									—				
57	—									—				
58	—									—				
59	—									—				
60	—									—				
61	—									—				
62	—									—				
63	—									—				
64	2									2				
65	1									1				
66	1									1				
Total	**507**	**1**	**1**	**—**	**1**	**3**	**4**	**8**	**26**	**419**	**31**	**8**	**3**	**2**

Marriage data

For a comparatively small number of married women the marriage entry was searched as a necessary means of finding the birth entry of the woman (for most married women the method outlined on p. 36 made it possible to obtain the maiden name from the birth entry of a child). In such cases it was possible to check the age at marriage shown in the marriage entry against the true age of the woman as indicated by the birth register.

The results are shown in Table 6. They confirm what has long been suspected, namely, that at young ages of marriage there is a tendency to overstatement of age. For the 139 young women in the sample married at true ages up to and including age 21, the age at marriage, in the marriage entry, was overstated in 18 cases and understated in 1 case, the average net overstatement being 0·21 of a year. The numbers involved here are very small and are subject to considerable sampling error. It must not be assumed therefore that these errors apply to all marriage data. There is a clear contrast between the biased character of the errors up to true age 21 or 22 and their random character at higher ages.

For these women also it was possible to check the duration of marriage as derived from the census schedule with the true duration of marriage at census date as derived from the marriage entry. The results are summarised in Table 7.

Table 7.—Errors in duration of marriage as derived from the census schedule

Error in duration (years)	True duration (years)			Total
	0 — 9	10 — 19	20 and over	
+5	—	—	—	—
+4	—	1	—	1
+3	—	—	1	1
+2	1	—	—	1
+1	3	3	10	16
0	196	113	189	498
−1	6	7	5	18
−2	1	1	1	3
−3	—	—	—	—
−4	—	—	—	—
−5 or more	—	—	2	2
	207	125	208	540*

*This number exceeds that shown in Table 6 by 33 cases for whom dates of birth were not found.

It is not possible to draw firm conclusions from such a small sample but the figures do not suggest that there is any appreciable degree of bias in errors in the statement of marriage dates on the census schedule. Unbiased errors of 1 year or more in either direction affected some 8 per cent. This again is a mere indication of the order of frequency of error.

Age discrepancies between census schedules and death registrations

For persons who die sufficiently soon after census date to render a change of home address between enumeration and death unlikely, yet sufficiently long after the census to make it probable that they were enumerated at their usual home address and not in hospital, it is possible to match the census schedule and the information obtained at death registration in order to check the consistency of comparable items of information and to gain some appreciation of the validity of such information. Such an investigation has been carried out by the General Register Office.

The procedure was as follows—

Information for each death registered in the period 1st to 7th May, 1951, inclusive, was extracted on to a special form, the following particulars being noted—

(i) The registration district and sub-district.

(ii) Usual residence.

(iii) Name of deceased and, for children under age 16, the name of the parent.

(iv) Place of death.

(v) Sex, age, occupation code, cause of death code, marital condition and age of surviving spouse where applicable.

(vi) For married females, the year of last marriage and whether there were any children.

A search was then made among the census schedules of the appropriate Enumeration District for the census entry, from which the following recorded details were extracted on to the same form—

(i) Age, marital condition.

(ii) Occupation code.

(iii) Age of surviving spouse.

(iv) For married females, year of last marriage and number of children.

A total of 9,864 death entries were extracted and of these there were 892 for which the place of enumeration or circumstances at census date were such that the death entry did not furnish sufficient information to enable the census schedule to be traced (this number includes 22 males and 17 females born since census day); there were also 449 cases where the schedule could be found but identification of the individual could not be made or was uncertain. There were a further 198 cases (111 males, 87 females) where a schedule was traced but the record indicated that the deaths related to infants born after census day.

Table 8 shows separately for males and females the comparison of age distribution (quinary groups) according to the two sources of data; and Table 9 summarises the discrepancies between the two sources within broad age-groups.

On the whole there was complete agreement in 80 per cent of cases with only 4 per cent of cases differing by more than 1 year. There was some counter-balancing of excesses and deficiencies of age at death as compared with census age leaving a net average excess at death of ·11 of a year.

Table 8.—Assignment to Quinary Age-groups according to both Death Registration and Census Schedule

Age stated on Census Schedule	Age stated at Death Registration																			
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85 and over	Not stated	A Ag
MALES																				
0– 4	86	2																		
5– 9		15																		
10–14			13																	
15–19				9																
20–24					19	2					1									
25–29						25														
30–34							34	1												
35–39							2	56	1											
40–44									93	1										
45–49								1	2	156	4								1	1
50–54										1	225	11	1				1			2
55–59											8	292	9	4	1•		1•			3
60–64											1	6	447	11	1	1				4
65–69													6	527	19	4				5
70–74													1	6•	613	26	1			6
75–79															16	686	13	1		7
80–84																10	460	9		4
85 and over											1						7	257•		2
All Ages	86	17	13	9	19	27	36	58	96	158	240	309	464	548	650	727	483	267	1	4,20
FEMALES																				
0– 4	68																			
5– 9		14																		
10–14			4																	
15–19				13																
20–24					16	1														
25–29						32														
30–34							34													
35–39								44	1											
40–44								2	85	7						1				
45–49									2	116	4									12
50–54									1	1	124	17		1	1	1•				14
55–59											6	202	7		1	1				21
60–64												4	283	15	2•	1	2•	2•		30
65–69													9	450	18	2•	1	1		48
70–74												1	1	4	621	29	2			65
75–79														3	17	667	21	2		71
80–84															2	11•	601	12		62
85 and over																1	16	509		52
All Ages	68	14	4	13	16	33	34	46	89	124	134	224	300	473	662	714	643	526		4,11

•In one case in each of these groups the age was not shown on the census schedule as originally completed but was presumed according to conventions adopted during the processing of census data.

Table 9.—Distribution of age discrepancies

Excess (+) or deficiency (−) of age at death as compared with census age	Age-group according to census data										TOTAL
	MALES					FEMALES					
	0–14	15–34	35–64	65+	All Ages	0–14	15–34	35–64	65+	All Ages	
+10 or more		1	10	2	**13**			12*	7‡	**19**	**32**
+ 9				1	**1**			1	2	**3**	**4**
+ 8				1	**1**			2‡	2	**4**	**5**
+ 7				2	**2**			1	3	**4**	**6**
+ 6			1		**1**			1	1	**2**	**3**
+ 5			2	6	**8**			2	4	**6**	**14**
+ 4			2	4	**6**			2	13	**15**	**21**
+ 3			3	9‡	**12**			9	17	**26**	**38**
+ 2	1	1	10	20	**32**		1	14	28	**43**	**75**
+ 1	8	9	140	280	**437**	1	14	111	340	**466**	**903**
0	107	75	1,081	2,173‡	**3,436**	85	80	716	2,367	**3,248**	**6,684**
− 1		4	69	122	**195**		1	50	161	**212**	**407**
− 2		1	9	21†	**31**			7	22	**29**	**60**
− 3			1	10	**11**			4	12‡	**16**	**27**
− 4			3	2	**5**				6	**6**	**11**
− 5			4	4	**8**			1	4	**5**	**13**
− 6				1	**1**				5	**5**	**6**
− 7				2	**2**			1	2	**3**	**5**
− 8			1	1	**2**				1	**1**	**3**
− 9									1	**1**	**1**
−10 or more			1	2	**3**				3	**3**	**6**
Not stated			1		**1**						**1**
TOTAL	**116**	**91**	**1,338**	**2,663**	**4,208**	**86**	**96**	**934**	**3,001**	**4,117**	**8,325**
Percentage:											
Greater at death by more than 1 year	0·9	2·2	2·1	1·7	**1·8**	—	1·0	4·7	2·6	3·0	**2·4**
Less at death by more than 1 year	—	1·1	1·4	1·6	**1·5**	—	—	1·4	1·9	1·7	**1·6**
Agreement	92·2	82·4	80·8	81·6	**81·7**	98·8	83·3	76·7	78·9	78·9	**80·3**
Average discrepancy at death (years)	+·09	+·16	+·11	+·07	**+·08**	+·01	+·16	+·27	+·09	+·13	**+·11**

* Includes 3 cases; † includes 2 cases; ‡ includes one case, where the age was not shown on the Census schedule as originally completed but was presumed according to conventions during the processing of census data.

A large part of the net excess of age is due to natural ageing between census day and the date of death. Assuming an approximately even distribution of birthdays over the calendar year then, in the average period of 3½ weeks between census date and death, some 7 per cent of the deceased persons would have had a birthday between the census day and the date of death and would have increased their integral age by one year. In other words the shift in average age of all persons in the sample would be ·07 of a year.

There was more overstatement at death, viz., exaggeration of longevity, for women (3·0 per cent more than one year) than for men (1·8 per cent more than one year), the counteracting understatements being of the order of 1½ per cent for both sexes. However, the net average excess at death for men was ·08 of a year, and for women ·11 of a year; very little more than expected. The excess at death was greatest for women dying at ages 35-64 where 4·7 per cent were in excess by more than one year. The average net excess of age at death after allowing for the shift of ·07 of a year for intervening birthdays was negligible in most age-groups; for young adults of both sexes it approached one tenth of a year but was considerably more (about a fifth of a year) for females aged 35-64.

Since population estimates are based initially on the census enumeration these discrepancies tend to distort death rates in the direction of exaggerating longevity, but bearing in mind that the expectation of life even at age 65 is still more than fifty times the largest average discrepancy in Table 9 (after allowing for ageing) it is clear that any exaggeration is of a trivial magnitude for normal vital statistics purposes. On the whole it is fair to say that age statements at death registration have a high order of reliability.

Marital condition discrepancies between census schedules and death registrations

In the comparison of death registrations and census schedules referred to above, the oppor-

tunity was taken to check statements of marital condition. The results are shown in Table 10. The agreement is very close in most categories, especially for women. There were some cases where persons who were recorded as "single" at the census, were recorded as "widowed or divorced" at death registration. This discrepancy amounted to less than 3 per cent of all male "widowed and divorced", and affected only one third of one per cent of female "widowed and divorced". Of 2,683 men recorded as "married" at census date and subsequently dying 72 or 3 per cent were shown as "widowed" at death registration. It is doubtful, having regard to prevailing mortality rates for women, whether more than perhaps ten of these cases can be explained by the prior decease of the wife between census date and the date of death registration in respect of men. The incidence of this type of error was in total of the same order for women; in both sexes the discrepancy was more frequent at older ages—at ages below 65 it affected 2 women and only 1½ per cent of married men, at ages 65 and over it affected nearly 4 per cent of married men and nearly 6 per cent of married women. As a proportion of the widowed and divorced the errors in this age-group amount to 6 per cent for males and 3 per cent for females.

Table 10.—Statements of marital condition on census schedule and death registration

Age-group	Marital condition as stated at Census	Marital condition as stated at death registration									
		MALES					FEMALES				
		Single	Married	Widowed and Divorced	Not stated	Total	Single	Married	Widowed and Divorced	Not stated	Total
15–34	Single	42	—	—	12	**54**	41	—	—	—	**41**
	Married	—	27	1	8	**36**	1	47	2	1	**51**
	Widowed and Divorced	—	—	1	—	**1**	—	—	4	—	**4**
35–64	Single	111	6*	9*	18	**144**	162	—	—	2	**164**
	Married	3	1,031	16†	52	**1,102**	—	590*	—	5	**595**
	Widowed and Divorced	1	4	78*	9	**92**	2	2*	169	2	**175**
65+	Single	193*	3*	18†	17	**231**	460	—	7†	7	**474**
	Married	3	1,449*	55‡	36	**1,543**	—	731	44*	6	**781**
	Widowed and Divorced	10†	7*	844	28	**889**	7*	10	1,715	14	**1,746**
All Ages	**Total**	**363**	**2,527**	**1,022**	**180**	**4,092**	**673**	**1,380**	**1,941**	**37**	**4,031**

* Includes one case; † includes two cases; ‡ includes three cases where there was no statement on the census schedule but the marital condition was inferred from other information.

Subsequent scrutiny of the records relating to the 55 males who were entered on the census schedule as "married" but registered as "widowed" on death indicated that—

(i) 14 were enumerated in the census while in hospital.

(ii) 21 were entered as married on the census schedule for the household (in all but 7 cases by themselves) but there was no record of a wife on the same schedule.

(iii) 13 were entered on a household census schedule as married (in all but 4 cases by themselves) and their wives were also recorded on the same schedule.

(iv) 7 cases had some element of doubt in the interpretation of the record and though recorded at face value in Table 10 have been excluded here.

(v) In no instance was the wife the death informant (in all cases but 5 it was a son or daughter or other close relative) but in 5 cases the death record was clearly not self-consistent since it quoted the age of a surviving spouse.

(vi) Search in the death registers revealed 5 cases in which the wife died between census day and the death of the husband. Complete search was not practicable and there may well have been 2 or 3 other such cases.

In group (i) there must be an element of unreliability in the census record to the extent that elderly sick persons are not always able to be very helpful to the officers concerned with the completion of the hospital schedule. With regard to group (ii) there is the possibility that "married" on the census schedule was effectively interpreted as "ever-married" by the tendency, commonly experienced in the response to questions of this type, to select the first listed condition which may appear to be applicable (in this case "married"), and also the possibility that "widowed" was used at death registration to cover up a separation. In considering group (iii) the possibility

must not be overlooked that the deceased man was in fact a widower who was not legally married to the woman shown as his wife, but it seems likely that the death record may be incorrect in about half of the instances. Taking account of all these possibilities the married at ages 65 and over in this sample could be regarded as overstated at the census by about 2 per cent and understated at death by rather less than 1 per cent. It should however be borne in mind that the rather large sampling errors likely to be involved in such a small group of cases renders it necessary to treat these proportions with considerable caution. They are quoted only to indicate the order of the discrepancies and are not intended to be applied to the whole of the census data.

5. Graduation of the Age and Marital Condition distribution of the population

The foregoing analyses have been concerned not only with errors in age statement which are due to deliberate mis-statement or frank inaccuracy tending to bias the age distribution in a particular direction, but also with local errors of a cyclical character arising from a preference for certain digital endings, e.g. 0 or 8. Errors of the latter type appear in the age distribution curves (Diagram A) and have been discussed earlier in this Report. The net effect of all these errors upon the age structure of the population may be corrected to a considerable extent by a process of graduation which smoothes out the irregularities.

After some review of available methods it was decided to use in substance that used for the graduation of the 1931 Census population (described in the General Report on that Census, pp. 96-99) and again for that of the 1951 Census One per cent Sample (*One per cent Sample Tables*, pp. 2-4, and Appendix B, p. 362). It is a modification of King's method, described by him in Vol. VII of the *Report on the Census of England and Wales, 1911*, pp. xxxix ff. The procedure this time was as follows:—

Younger Ages

The population at census date aged 0, 1 and 2 last birthday was estimated from births, deaths and migration, and the census data, which have been known for a long time to suffer from understatement and other inaccuracies at the very youngest ages, were ignored altogether. It was possible on this occasion to take account of migration as well as births and deaths owing to the existence of National Register statistics. A similar estimate for age 3 was so close to the number enumerated that the latter was used from this age onwards, with the modifications now to be described.

The enumerated population of children, and of adult males in the younger half of the age field, was noticeably depleted, respectively, by the children of Commonwealth and Allied servicemen who left the country round about 1946 and by members of the Armed Forces stationed overseas. The numbers enumerated at ages 4 to 14 were therefore increased by an estimate of these emigrant children (about 16,000 for each sex), and the males at ages 17 to 61 by the estimated excess of the contribution of England and Wales to the Armed Forces of the United Kingdom over all Armed Forces (including Commonwealth and Allied) enumerated in England and Wales.

The population at each age from 0 to 63 obtained as above was divided by the related number of live births in England and Wales of which (in a loose sense, having regard to the effect of migration) they could be regarded as the survivors, to give a set of survivorship ratios. As in 1931 graduation of these ratios was preferred to that of the population direct at the younger ages, which are affected by the irregular birth incidence of war and immediate post-war periods. Subsidiary ratios at ages 4 to 14 were also calculated from the enumerated population before increasing it by the emigrant children.

From these ratios, graduated pivotal ratios were calculated at ages 11, 16, 21. . . 56 as the central point of the curve of a 3rd-degree polynomial fitted to 15 consecutive values by the method of least squares, and similar ratios at age 6 were calculated by using 11 consecutive values, while at age 1 there were the ungraduated ratios derived from the population estimates.

The choice of ages ending in 1 and 6 as pivotal values resulted from (a) experimental work which indicated that residual undulations due to the cyclical character of the age irregularities were minimal for those ages, and (b) the following test of the digital incidence of such age irregularities by Myers* method—

* This method (R. J. Myers, *Trans. Act. Soc. America 41, 413 (1940)*) consists in summing the enumerated population at ages with digital ending a+x (a being the commencing digit and x taking the values 0, 1, 2 . . .9) in two runs the first starting and finishing a decade earlier than the second. The two totals are then blended in the proportions $\left(\frac{x+1}{10}\right)$ and $\left(\frac{9-x}{10}\right)$ to give the enumerated group population for the digital ending a+x; and finally the average of the totals for all digital endings is used as a unit of comparison, i.e. the expectation on the assumption of no digital bias.

Myers' Test of Age Digital Bias and Groupings
(Ages 23 and over)

Last digit of Age	Percentage deviation of enumerated from expected population	Five year moving total of (b)
(a)	(b)	(c)
	Males	
0	7·0	9·8
1	1·2	1·2
2	−4·2	−5·4
3	−6·3	−13·8
4	−3·1	−14·3
5	−1·4	−9·8
6	0·7	−1·2
7	0·3	5·4
8	2·3	13·8
9	3·5	14·3
	Females	
0	6·9	7·0
1	−0·2	0·8
2	−3·1	−2·8
3	−4·3	−10·7
4	−2·2	−9·7
5	−1·0	−7·0
6	0·8	−0·8
7	−0·3	2·8
8	1·9	10·7
9	1·4	9·7

Ranking of 5-Year Group Totals according to Bias

Rank (1=least bias)	Males	Females
	Group centred on digit	
1	1 and 6	1 and 6
2	2 and 7	2 and 7
3	0 and 5	0 and 5
4	3 and 8	4 and 9
5	4 and 9	3 and 8

In his original graduation King had experimentally reached the conclusion that digital endings 1 and 6 were the optimum pivotal points.

The chosen pivotal values were then plotted on a graph, and some which seemed still to reflect a residual waviness due to the interaction of age mis-statements and the formula rather than to real factors (males 1 and 6, females 1, 36, 41, 46, 51 and 56) were adjusted by hand.

That even with the best pivotal values some inherent waves remain has long been recognised. King himself did not claim their total elimination and their presence in English Life Table No. 9 was specially referred to by Derrick (*Journal of Institute of Actuaries, 1928, Vol. 59*, p. 212). Their removal by hand hardly constitutes an alteration of the essential shape of the curve.

The graduated ratios at intervening ages were then interpolated, at ages 7 to 50, by King's 3rd-difference osculatory interpolation formula, converted from the form of advancing differences used on previous occasions to that of coefficients applied direct to the pivotal values. The values at ages 3, 4 and 5 were interpolated by a 4-point Lagrange formula using the values at ages 1, 2, 6 and 11. The graph of the ratios and examination of their differences showed several places where the formulae produced unsatisfactory junctions between the sections bounded by the pivots, and the values at male ages 3 to 5, 17 to 20 and 22 to 25 were replaced by others read from the graph and hand-polished by smoothing differences.

The differences between the ungraduated ratios including and excluding emigrant children at ages 4 to 14 were deducted from the graduated ratios including them, and the results hand-adjusted by reference to the graph before being adopted as the graduated survivorship ratios at those ages. This procedure was preferred to that used for the Armed Forces (see next paragraph) because of the somewhat tenuous data on the age distribution of the emigrant children as at census date.

The graduated survivorship ratios up to age 51 were multiplied by the numbers of births to give a graduated population at each age. For males the balance of Armed Forces outside the country was next deducted to give a "home" or census-type population comparable with the other sections.

Older Ages

In the older half of the age field the enumerated population was graduated directly, without calculating survivorship ratios, and without first increasing the males by the balance of Armed Forces outside the country.

Graduated pivotal values at ages 46, 51, etc., were calculated by the same 15-point cubic formula as had been used with the birth ratios, and the values at age 41 by the corresponding 11-point formula. These values were again plotted on a graph and some of them (males 51, 56 and 61, females 41, 46, 51 and 56) hand-adjusted. At ages 87 and over for both sexes it was found necessary, in order to get tolerable smoothness and goodness of fit, to obtain all values (except the pivotal value at male age 91) by graphical graduation and smoothing of differences. The remaining values at ages 47 and over were interpolated by the same 3rd-difference osculatory formula as before, and those at ages 42 to 45 by a 4-point Lagrange formula using values at ages 41, 46, 48 and 50.

A further adjustment was found necessary at those male ages where the population had been most depleted by the casualties of the war of 1914-18 and at immediately younger ages (46 to 60). This need had already been observed when the 1931 Census population was graduated, but had been obscured in the case of the 1951 Census One per cent Sample population by sampling variations. It was met by graphical graduation and smoothing of differences.

Completion

The older and younger sections overlapped at ages 41 to 51. It was found that an adequate junction could be produced by a simple linear blending function at ages 46 to 51.

Adding the graduated populations derived from the survivorship ratios at ages up to 45, the blended populations at ages 46 to 51 and those graduated directly at ages 52 and over gave totals for each sex which differed little from the number enumerated. The difference was removed by rateable distribution, with some hand adjustment to leave age 0 (estimated from births etc.) unaffected and to taper off the differences at immediately higher ages. The result gave a run of differences from the enumerated population which changed signs frequently, and was adopted as the final graduated home population (see Table 11). Adding the balance of non-civilians abroad (both male and female) gave the graduated total population.

A comparison of the graduated and ungraduated populations is shown in Table 11 and Diagram A.

Marital Condition

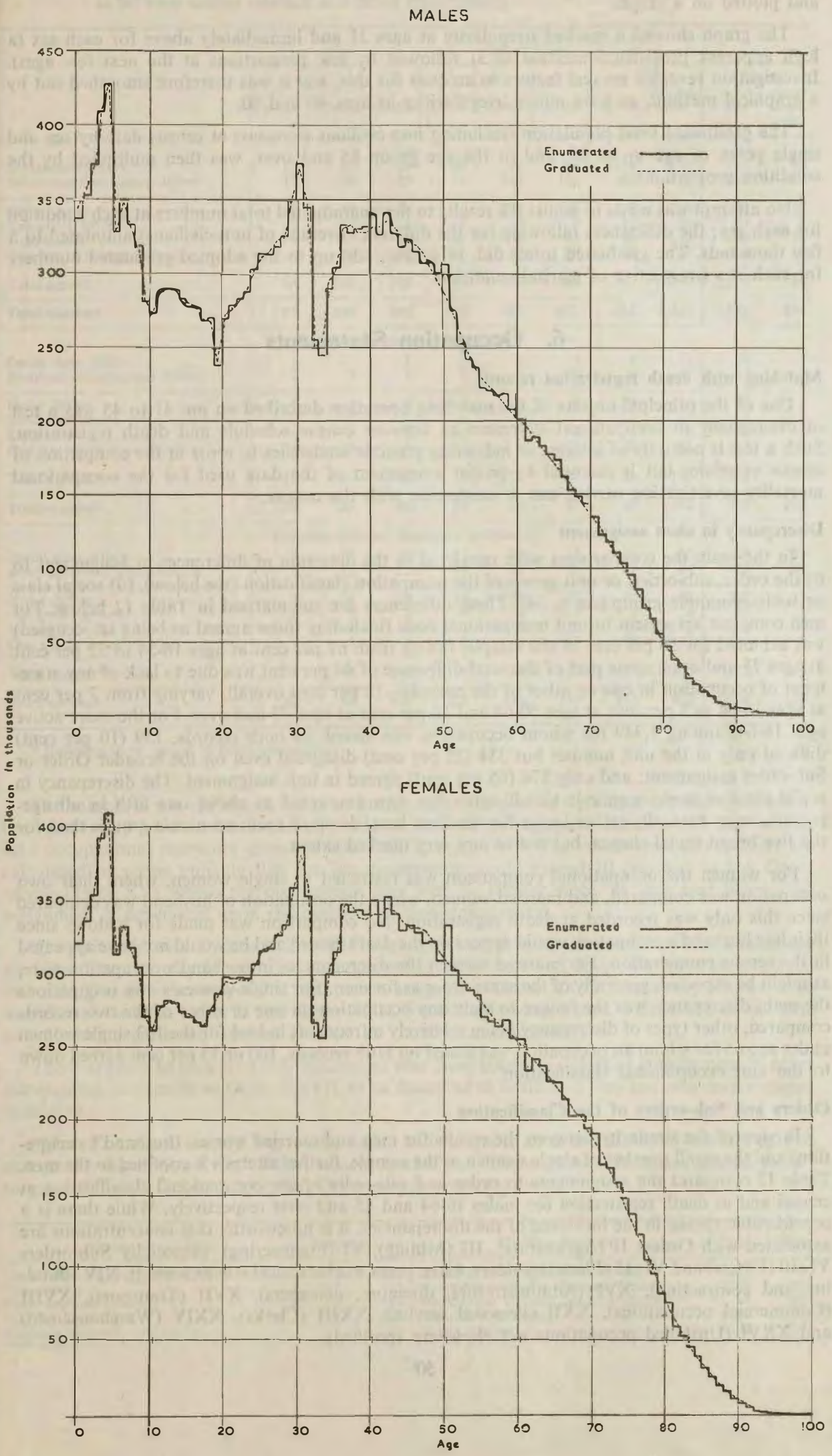
Elaborate graduation of the separate age distributions of the single, married, and widowed and divorced did not appear to be necessary, but some simple adjustments were needed to remove the worst errors and produce figures consistent with the age graduation of the total population (including non-civilians at home and abroad) irrespective of marital condition, for purposes of the Registrar General's series of annual population estimates.

The ratios of the single, married, and widowed and divorced combined to the all conditions

Table 11.—Comparison of Enumerated and Graduated Populations

Age Last Birthday	Males				Females				Age Last Birthday	Males				Females			
	Enumerated Population	Graduated Home Population	Excess or deficiency of Enumerated		Enumerated Population	Graduated Home Population	Excess or deficiency of Enumerated			Enumerated Population	Graduated Home Population	Excess or deficiency of Enumerated		Enumerated Population	Graduated Home Population	Excess or deficiency of Enumerated	
			Units	Per cent			Units	Per cent				Units	Per cent			Units	Per cent
	a	b	c	d	e	f	g	h		a	b	c	d	e	f	g	h
0	338,009	345,400	−7,400	−2·1	320,996	327,700	−6,700	−2·0	55	222,685	228,600	−5,900	−2·6	271,589	279,100	−7,500	−2·7
1	352,598	358,700	−6,100	−1·7	336,511	342,200	−5,700	−1·7	56	220,735	222,600	−1,900	−0·9	269,942	273,200	−3,300	−1·2
2	373,179	373,900	− 700	−0·2	354,480	355,400	− 900	−0·3	57	217,895	217,000	900	0·4	265,340	267,700	−2,400	−0·9
3	410,799	411,600	− 800	−0·2	392,673	393,300	− 600	−0·2	58	219,360	211,500	7,900	3·7	269,398	262,500	6,900	2·6
4	428,971	429,400	− 400	−0·1	409,427	409,600	− 200	−0·0	59	208,619	206,000	2,600	1·3	257,442	257,400	—	
5	329,728	329,900	− 200	−0·1	314,799	315,600	− 800	−0·3	60	200,975	200,400	600	0·3	256,620	252,200	4,400	1·7
6	350,206	350,600	− 400	−0·1	333,869	334,000	− 100	−0·0	61	186,913	194,700	−7,800	−4·0	235,298	246,800	−11,500	−4·7
7	334,734	332,500	2,200	0·7	319,444	317,100	2,300	0·7	62	189,938	188,600	1,300	0·7	243,810	241,200	2,600	1·1
8	318,901	318,300	600	0·2	305,504	304,200	1,300	0·4	63	183,949	182,300	1,600	0·9	239,453	235,600	3,900	1·7
9	282,824	282,300	500	0·2	271,926	271,200	700	0·3	64	177,038	176,000	1,000	0·6	228,846	229,700	− 900	−0·4
10	273,080	273,000	100	0·0	263,398	264,500	−1,100	−0·4	65	172,470	169,500	3,000	1·8	227,873	223,500	4,400	2·0
11	289,434	290,800	−1,400	−0·5	279,733	279,400	300	0·1	66	161,599	162,800	−1,200	−0·7	216,005	216,900	− 900	−0·4
12	291,190	290,100	1,100	0·4	283,116	282,300	800	0·3	67	153,164	155,900	−2,700	−1·7	204,672	209,800	−5,100	−2·4
13	290,346	290,600	− 300	−0·1	281,343	282,200	− 900	−0·3	68	149,066	148,900	200	0·1	204,748	202,400	2,300	1·1
14	284,551	283,000	1,600	0·6	275,743	274,900	800	0·3	69	144,341	141,700	2,600	1·8	195,486	194,700	800	0·4
15	279,427	280,000	− 600	−0·2	271,574	273,400	−1,800	−0·7	70	135,235	134,300	900	0·7	191,275	186,300	5,000	2·7
16	277,078	276,600	500	0·2	269,445	269,900	− 500	−0·2	71	122,702	126,500	−3,800	−3·0	170,543	177,200	−6,700	−3·8
17	268,728	269,200	− 500	−0·2	265,567	265,400	200	0·1	72	118,786	118,400	400	0·3	168,459	167,200	1,300	0·8
18	270,600	268,400	2,200	0·8	276,110	276,500	− 400	−0·1	73	110,586	109,900	700	0·6	157,982	156,300	1,700	1·1
19	239,466	242,300	−2,800	−1·2	286,479	285,700	800	0·3	74	103,898	101,200	2,700	2·7	148,371	144,900	3,500	2·4
20	270,347	272,300	−2,000	−0·7	298,764	296,100	2,700	0·9	75	95,238	92,350	2,890	3·1	137,267	133,300	4,000	3·0
21	279,620	277,600	2,000	0·7	297,379	294,500	2,900	1·0	76	85,728	83,580	2,150	2·6	124,463	121,900	2,600	2·1
22	284,654	284,800	− 100	−0·0	298,331	297,200	1,100	0·4	77	72,802	74,550	−1,750	−2·3	106,911	110,200	−3,300	−3·0
23	289,899	289,700	200	0·1	297,924	297,000	900	0·3	78	65,376	65,180	200	0·3	97,727	98,070	− 340	−0·3
24	302,708	301,400	1,300	0·4	307,833	308,300	− 500	−0·2	79	55,356	55,910	− 550	−1·0	82,822	86,030	−3,210	−3·7
25	314,448	311,400	3,000	1·0	316,271	316,500	− 200	−0·1	80	47,430	47,180	250	0·5	76,896	74,600	2,300	3·1
26	314,087	315,400	−1,300	−0·4	317,690	319,200	−1,500	−0·5	81	37,957	39,450	−1,490	−3·8	61,806	64,300	−2,490	−3·9
27	319,979	322,800	−2,800	−0·9	326,356	328,100	−1,700	−0·5	82	32,076	32,720	− 640	−2·0	54,491	55,170	− 680	−1·2
28	326,300	325,700	600	0·2	334,904	331,500	3,400	1·0	83	26,211	26,700	− 490	−1·8	47,831	46,840	990	2·1
29	350,985	350,500	500	0·1	358,863	357,900	1,000	0·3	84	21,139	21,370	− 230	−1·1	40,216	39,280	940	2·4
30	375,737	371,100	4,600	1·2	385,580	381,000	4,600	1·2	85	16,220	16,710	− 490	−2·9	31,818	32,460	− 640	−2·0
31	345,035	350,700	−5,700	−1·6	352,875	359,500	−6,600	−1·8	86	12,662	12,680	− 20	−0·2	26,211	26,350	− 140	−0·5
32	256,273	250,600	5,700	2·3	268,089	258,700	9,400	3·6	87	9,513	9,358	155	1·7	20,725	20,980	− 260	−1·2
33	246,854	254,600	−7,700	−3·0	257,558	264,700	−7,100	−2·7	88	7,227	6,833	394	5·8	16,299	16,340	− 40	−0·2
34	290,023	295,000	−5,000	−1·7	300,481	305,700	−5,200	−1·7	89	4,942	4,958	− 16	−0·3	12,073	12,390	− 320	−2·6
35	304,592	302,800	1,800	0·6	315,465	313,700	1,800	0·6	90	3,661	3,493	168	4·8	9,317	9,136	181	2·0
36	334,342	332,000	2,300	0·7	347,830	347,400	400	0·1	91	2,321	2,353	− 32	−1·4	6,418	6,551	− 133	−2·0
37	329,659	334,300	−4,600	−1·4	342,339	347,900	−5,600	−1·6	92	1,591	1,529	62	4·1	4,540	4,635	− 95	−2·0
38	331,081	328,100	3,000	0·9	344,766	339,000	5,800	1·7	93	1,018	990	28	2·8	3,278	3,187	91	2·9
39	332,871	328,300	4,600	1·4	340,273	337,500	2,800	0·8	94	578	643	− 65	−10·1	2,174	2,178	− 4	−0·2
40	340,603	332,700	7,900	2·4	350,038	340,600	9,400	2·8	95	411	414	− 3		1,516	1,499	17	
41	327,261	333,300	−6,000	−1·8	333,428	341,100	−7,700	−2·3	96	267	267	—		1,026	992	34	
42	341,855	336,500	5,400	1·6	352,353	344,400	8,000	2·3	97	157	172	− 15		587	645	− 58	
43	328,244	333,300	−5,100	−1·5	341,091	342,200	−1,100	−0·3	98	127	108	19		446	411	35	
44	319,903	327,700	−7,800	−2·4	330,430	335,800	−5,400	−1·6	99	84	63	21		320	242	78	
45	324,283	322,200	2,100	0·7	333,891	332,200	1,700	0·5	100	14	35	− 21		84	131	− 47	
46	315,654	320,100	−4,400	−1·4	328,767	332,400	−3,600	−1·1	101	21	19	2		46	69	− 23	
47	307,922	315,400	−7,500	−2·4	321,277	330,600	−9,300	−2·8	102	5	10	− 5		53	34	19	
48	308,272	305,800	2,500	0·8	321,900	322,800	− 900	−0·3	103	5	5	—		13	16	− 3	
49	300,277	295,500	4,800	1·6	309,930	315,000	−5,100	−1·6	104	3	2	1		13	8	5	
50	307,292	285,700	21,600	7·6	334,855	308,600	26,300	8·5	105	1	1	—		7	5	2	
51	275,945	274,500	1,400	0·5	302,047	303,700	−1,700	−0·6	106	—	—			2	3	− 1	
52	254,546	259,600	−5,100	−2·0	293,626	297,700	−4,100	−1·4	107	—	—			1	2	− 1	
53	243,440	245,600	−2,200	−0·9	290,244	291,500	−1,300	−0·4	108	—	—			3	1	2	
54	236,698	235,600	1,100	0·5	286,118	285,200	900	0·3									

Diagram A.—Comparison of Enumerated and Graduated Populations



total at each year of age in the enumerated population, separately for each sex, were calculated and plotted on a graph.

The graph showed a marked irregularity at ages 31 and immediately above for each sex (a high apparent proportion married at 31 followed by low proportions at the next few ages). Investigation revealed no real factors to account for this, and it was therefore smoothed out by a graphical method, as were minor irregularities at ages 40 and 50.

The graduated total population (including non-civilians overseas) at census date by sex and single years of age up to 84, and in the age group 85 and over, was then multiplied by the condition proportions.

No attempt was made to adjust the results to the ungraduated total numbers at each condition for each sex; the differences (allowing for the different coverage of non-civilians) amounted to a few thousands. The graduated totals did, of course, add up to the adopted graduated numbers for each sex irrespective of marital condition.

6. Occupation Statements

Matching with death registration records

One of the principal objects of the matching operation described on pp. 41 to 45 was a test of discrepancy in occupational statement as between census schedule and death registration. Such a test is not only of interest as indicating possible tendencies to error in the completion of census schedules but is essential to proper assessment of the data used for the occupational mortality investigation carried out in connexion with the census.

Discrepancy in class assignment

In the main the comparisons were restricted to the detection of differences in assignment to (i) the order, sub-order, or unit group of the occupation classification (see below), (ii) social class or socio-economic group (see p. 54). These differences are summarised in Table 12 below. For men complete agreement to unit occupational code (including those agreed as being unoccupied) was achieved for 56 per cent of the sample, falling from 67 per cent at ages 16-34 to 52 per cent at ages 75 and over; some part of the total difference of 44 per cent was due to lack of any statement of occupation in one or other of the records—12 per cent overall, varying from 7 per cent at ages 16-34 to 5 per cent at ages 60-64 and 18 per cent at ages 75 and over. For the more active ages 16-64, among 1,349 for whom occupation was stated on both records, 139 (10 per cent) differed only in the unit number but 334 (25 per cent) disagreed even on the broader Order or Sub-order assignment; and only 876 (65 per cent) agreed in unit assignment. The discrepancy in social class or socio-economic classification for men amounted to about one fifth in all age-groups, being naturally rather larger for the finer breakdown of socio-economic groups than for the five broad social classes, but not to any very marked extent.

For women the occupational comparison was restricted to single women, where their own occupation was compared, and married women, where the occupation of husband was compared since this only was recorded at death registration. No comparison was made for widows since their late husband's occupation would appear on the death record and he would not have appeared in the census enumeration. For married women the discrepancies in husband's occupation were, as might be expected, generally of the same order as for men. For single women's own occupations the main discrepancy was the failure to state any occupation on one or other of the two records compared, other types of discrepancy being relatively infrequent; indeed for the 133 single women under age 65 for whom an occupation was stated on both records, 100 or 75 per cent agreed down to the unit occupational classification.

Orders and Sub-orders of the Classification

In view of the similarity between the results for men and married women (husband's occupation) and the small number of single women in the sample, further analysis is confined to the men. Table 13 compares the assignments to order and sub-order of the occupational classification at census and at death registration for males 16-64 and 65 and over respectively. While there is a considerable spread in the incidence of the discrepancies, it is noteworthy that concentrations are associated with Orders II (Agriculture), III (Mining), VI (Engineering) (especially Sub-orders VI. 10 (Fitters) and VI. 18 (Electric welders, filers, press workers, steel erectors, etc.)), XIV (Building and contracting), XVI (Administrators, directors, managers), XVII (Transport), XVIII (Commercial occupations), XXII (Personal service), XXIII (Clerks), XXIV (Warehousemen) and XXVI (Unskilled occupations not elsewhere specified).

Table 12.—Summary of discrepancies in class assignment as between census schedule and death registration

	Age at census								All ages	
	16–34	35–44	45–54	55–59	60–64	65–69	70–74	75 and over	Number	Per cent
Males										
Social class differs	15	32	80	60	90	99	126	260	762	19
Socio-economic group differs	17	36	95	71	108	110	143	325	905	22
Order differs	12	26	78	74	106	107	117	270	790	20
Sub-order differs	3	2	11	9	13	7	13	25	83	2
Unit differs	9	16	48	20	46	65	68	142	414	10
One n.s. or no occupation	6	6	12	15	25	68	87	267	486	12
Total agreed *	61	103	249	194	269	306	347	749	2,278	56
Total matched	**91**	**153**	**398**	**312**	**459**	**553**	**632**	**1,453**	**4,051**	**100**
Females—single (own occupation)										
Social class differs	1	3	3	7	5	3	4	12	38	7
Socio-economic group differs	2	3	5	7	3	2	4	13	39	7
Order differs	6	1	3	8	2	5	4	11	40	7
Sub-order differs	—	1	—	—	—	—	1	1	3	1
Unit differs	—	1	3	4	4	3	1	4	20	4
One n.s. or no occupation	11	6	6	2	9	22	30	101	187	35
Total agreed *	15	20	28	16	21	27	51	105	283	53
Total matched	**32**	**29**	**40**	**30**	**36**	**57**	**87**	**222**	**533**	**100**
Females—married (husband's occupation)										
Social class differs	8	13	34	12	30	32	39	55	223	17
Socio-economic group differs	5	13	37	15	35	44	49	64	262	20
Order differs	5	11	38	19	29	41	42	42	227	17
Sub-order differs	2	3	2	5	2	5	7	6	32	2
Unit differs	3	4	8	2	10	26	19	30	102	8
One n.s. or no occupation	3	1	6	2	8	13	27	44	104	8
Total agreed *	28	75	140	94	95	134	137	140	843	65
Total matched	**41**	**94**	**194**	**122**	**144**	**219**	**232**	**262**	**1,308**	**100**

* Including those agreed as being unoccupied.

The sample is not sufficiently large to justify firm estimates of the likely net discrepancies in the relationship between the census data as a whole and the registered deaths which are brought into occupational mortality investigations, but at ages 16-64 (for which mortality indices are calculated) it seems unlikely that the net discrepancy would exceed 10 per cent in any Order except Order XVI where the discrepancy may well be greater since, as indicated below, the assignment is dependent upon the mention of managerial status.

The difficulty with Orders II and XIV appears to arise from the possibility that a relatively unskilled labourer may at one time be employed in agriculture and at another time be employed in building or in some unspecified occupation assigned to Order XXVI. There may also be some interchange between Order II and Order XXII, for example when a man is described at one time as a "jobbing gardener" and at another as "handyman domestic".

There appears to be a tendency for miners who have taken up unskilled employment in other occupations (assignable to Order XXVI), to be described at death as if they had remained engaged in mining.

"Fitter" is a notoriously vague description and (to quote an actual example) one has only to change the description from "Fitter, cement works" to "Under-general foreman, cement work" to get a different Order assignment. Other actual examples are:—

Census description	Order	Unit	Death registration	Order	Unit
Mechanical engineer (retired)	VI	183	Engineer's Draughtsman (retired)	XIX	799
Engineering	VI	183	Consulting Marine Engineer (retired)	XIX	787
Fitter engineer (retired)	VI	183	Electrician, torpedo works (retired)	VI	242
Railway signal fitter	VI	188	Platelayer (retired)	XIV	593
Engineer (retired)	VI	183	Ship's engineer	XVII	674

Table 13.—Assignment of Males to Occupation Orders and Sub-orders at Census and Death

	Occupation (orders and sub-orders)	Aged 16-64							Aged 65 and over						
		Assigned at Death			Assigned at both Death and Census	Assigned at Census			Assigned at Death			Assigned at both Death and Census	Assigned at Census		
		Total	Order differs	Sub-order differs		Sub-order differs	Order differs	Total	Total	Order differs	Sub-order differs		Sub-order differs	Order differs	T
		a	b	c	d	e	f	g	a	b	c	d	e	f	
I.	Fishermen	2	—		2		1	3	6	2		4		2	
II.	Agricultural, etc. occupations	69	13		56		2	58	223	26		197		29	2
	1. Agricultural and horticultural occupations	68	13	—	55	1	2	58	211	23	—	188	2	28	2
	2. Occupations ancillary to agriculture	1	—	1	—	—	—	—	4	1	—	3	—	—	
	3. Foresters and woodmen	—	—	—	—	—	—	—	8	2	2	4	—	1	
III.	Mining and quarrying	61	2		59		8	67	152	13		139		18	1
	1. In coal mines	59	2	—	57	—	7	64	143	11	1	131	—	14	1
	2. In other mines, quarries, brine pits, etc.	2	—	—	2	—	1	3	9	2	—	7	1	4	
IV.	Workers in ceramics, glass, cement, etc.	7	2		5		2	7	7	5		2		4	
	1. Makers of bricks, pottery, etc.	6	1	—	5	—	1	6	5	3	—	2	—	1	
	2. Makers of glass and glass ware	—	—	—	—	—	—	—	2	2	—	—	—	2	
	3. Makers of other mining products (not metal)	1	1	—	—	—	1	1	—	—	—	—	—	1	
V.	Coal gas, etc. makers, workers in chemicals	9	3		6		4	10	8	5		3		3	
	1. Makers of coal gas and coke	1	1	—	—	—	2	2	4	3	—	1	—	2	
	2. Workers in chemical and allied trades	8	2	—	6	—	2	8	4	2	—	2	—	1	
VI.	Workers in metal manufacture, engineering	195	39		156		32	188	209	33		176		44	2
	1. Foremen, overlookers	8	1	1	6	3	1	10	15	1	5	9	2	—	
	2. Furnacemen (not annealing or foundry)	5	3	—	2	1	—	3	8	3	1	4	—	1	
	3. Rolling and tube mill workers, wire drawers	3	—	1	2	—	—	2	5	—	1	4	—	—	
	4. Foundry workers (excluding pattern makers)	14	6	1	8	2	3	13	9	2	—	7	1	4	
	5. Smiths, forgemen	11	1	1	9	1	—	10	25	4	1	20	1	2	
	6. Annealers, hardeners, temperers, picklers	—	—	—	—	—	—	—	—	—	—	—	2	—	
	7. Sheet metal workers, metal spinners, etc.	6	—	—	6	—	1	7	6	—	—	6	—	2	
	8. Platers, riveters, shipwrights	10	2	—	8	1	3	12	15	2	—	13	1	2	
	9. Metal machinists	22	1	3	18	6	—	24	15	3	4	8	4	6	
	10. Fitters, machine erectors	47	7	13	27	6	11	44	55	7	9	39	7	16	
	11. Metal finishers	2	—	1	1	1	1	3	3	2	1	—	1	—	
	12. Plumbers, pipe fitters, etc.	14	2	—	12	—	1	13	10	2	—	8	1	4	
	13. Vehicle makers and repairers (n.e.s.)	1	—	1	—	—	—	—	4	1	1	2	—	—	
	14. Watch, clock, instrument makers (n.e.s.)	3	—	—	3	—	2	5	2	—	—	2	2	1	
	15. Workers in precious metals; gem setters	2	1	—	1	—	1	2	4	—	2	2	—	1	
	16. Electrical apparatus makers, etc. (n.e.s.)	18	3	1	14	1	3	18	18	3	1	14	—	3	
	17. Inspectors, viewers, testers	10	6	—	4	2	—	6	3	—	—	3	1	—	
	18. Other skilled workers	19	7	3	9	2	5	16	12	3	—	9	3	2	
VII.	Textile workers	18	2		16		4	20	54	6		48		9	
	1. Openers, sorters, blenders, carders, etc.	4	1	—	3	2	1	6	9	1	—	8	1	2	
	2. Spinners and doublers	2	—	—	2	—	—	2	11	1	1	9	1	2	
	3. Winders, warpers, sizers, drawers-in	—	—	—	—	—	—	—	3	—	1	2	—	—	
	4. Weavers	1	—	—	1	—	—	1	10	—	—	10	1	—	
	5. Knitters	—	—	—	—	—	—	—	—	—	—	—	—	—	
	6. Bleachers, dyers, finishers	7	1	2	4	—	2	6	10	2	—	8	1	4	
	7. Other skilled workers	4	—	2	2	2	1	5	11	2	2	7	—	1	
VIII.	Leather workers, fur dressers	13	2		11		3	14	20	4		16		5	
	1. Leather tanners and dressers, fur dressers	5	2	—	3	—	—	3	—	—	—	—	—	1	
	2. Boot and shoe makers	7	—	—	7	—	3	10	19	4	1	14	—	4	
	3. Makers of leather or substitute goods	1	—	—	1	—	—	1	1	—	—	1	1	—	
IX.	Makers of textile goods and articles of dress	6	—		6		1	7	34	2		32		3	
	1. Garment workers	4	—	—	4	—	1	5	26	2	—	24	—	1	
	2. Hat and cap makers, milliners (makers)	1	—	—	1	—	—	1	3	—	—	3	—	1	
	3. Upholsterers, etc., bedding makers	1	—	—	1	—	—	1	4	—	—	4	—	—	
	4. Other makers	—	—	—	—	—	—	—	1	—	—	1	—	1	
X.	Makers of foods, drinks and tobacco	17	2		15		4	19	32	9		23		6	
	1. Makers of foods	12	—	—	12	—	4	16	29	9	—	20	—	3	
	2. Makers of alcoholic drinks	4	1	—	3	—	—	3	2	—	—	2	—	3	
	3. Makers of non-alcoholic drinks	—	—	—	—	—	—	—	—	—	—	—	—	—	
	4. Makers of tobacco, cigars, cigarettes, etc.	1	1	—	—	—	—	—	1	—	—	1	—	—	
XI.	Workers in wood, cane and cork	39	6		33		6	39	81	15		66		9	
XII.	Makers of, workers in, paper; printers	16	3		13		1	14	22	3		19		1	
	1. Makers of paper, paperboard	2	—	—	2	1	—	3	1	—	—	1	—	—	
	2. Workers in paper and paperboard	3	—	1	2	—	—	2	3	1	—	2	—	—	
	3. Printers, bookbinders	11	3	—	8	—	1	9	18	2	—	16	—	1	
XIII.	Makers of products (n.e.s.)	6	1		5		2	7	4	—		4		1	
	1. Workers in rubber	1	—	—	1	—	—	1	1	—	—	1	—	—	
	2. Workers in plastics moulding, manipulating	1	—	—	1	—	—	1	—	—	—	—	—	—	
	3. Makers of musical instruments	1	—	—	1	—	—	1	2	—	—	2	—	—	
	4. Makers of other products	3	1	—	2	—	2	4	1	—	—	1	—	1	
XIV.	Workers in building and contracting	73	14		59		21	80	136	35		101		45	1
XV.	Painters and decorators	22	4		18		2	20	41	5		36		7	
XVI.	Administrators, directors, managers (n.e.s.)	37	22		15		11	26	60	27		33		17	
XVII.	Persons employed in transport, etc.	151	30		121		23	144	214	46		168		50	
	1. Railway transport workers	40	5	4	31	—	2	33	53	4	2	47	1	11	
	2. Road transport workers	53	11	—	42	2	11	55	76	19	1	56	1	11	
	3. Water transport workers	28	8	1	19	—	6	25	42	15	—	27	1	14	
	4. Air transport workers	1	1	—	—	—	1	1	—	—	—	—	—	—	
	5. Other workers in communications	29	5	—	24	3	3	30	43	8	2	33	2	14	
XVIII.	Commercial, finance, etc. (exc. clerical)	101	17		84		26	110	263	61		202		42	
	1. Commercial occupations	85	13	—	72	1	26	99	231	54	—	177	6	39	
	2. Persons employed in finance and insurance	16	4	1	11	—	—	11	32	7	6	19	—	3	

13.—Assignment of Males to Occupation Orders and Sub-orders at Census and Death—*continued*

Occupation (orders and sub-orders)	Aged 16-64							Aged 65 and over						
	Assigned at Death			Assigned both Death and Census	Assigned at Census			Assigned at Death			Assigned both Death and Census	Assigned at Census		
	Total	Order differs	Sub-order differs		Sub-order differs	Order differs	Total	Total	Order differs	Sub-order differs		Sub-order differs	Order differs	Total
	a	b	c	d	e	f	g	a	b	c	d	e	f	g
I. Professional and technical (excl. clerical)	42	9		33		12	45	82	15		67		9	76
II. Persons employed in defence services	38	10		28		8	36	80	20		60		21	81
1. Armed forces	12	*4*	—	*8*	—	*1*	9	29	*8*	—	*21*	—	*7*	28
2. Civilian defence services	26	*6*	—	*20*	—	*7*	27	51	*12*	—	*39*	—	*14*	53
III. Persons engaged in entertainments and sport	6	1		5		2	7	13	—		13		3	16
IV. Persons engaged in personal service	61	11		50		5	55	88	14		74		24	98
V. Clerks, typists, etc.	92	15		77		27	104	94	21		73		26	99
VI. Warehousemen, storekeepers, packers, etc	42	14		28		6	34	45	17		28		12	40
VII. Stationary engine drivers, stokers, etc.	22	6		16		6	22	39	15		24		8	32
VIII. Workers in unskilled occupations (n.e.s.)	172	63		109		61	170	183	87		96		91	187
IX. Other and undefined workers	14	5		9		16	25	13	8		5		5	10
1. Workers in distribution of gas, water, etc.	5	*1*	—	*4*	—	*2*	6	5	*3*	—	*2*	—	*1*	3
2. Other workers	9	*4*	—	*5*	—	*14*	19	8	*5*	—	*3*	—	*4*	7

In this group, as elsewhere, some of the discrepancies were probably due to change of occupation being recorded on one document but not on the other, e.g. one man was recorded as "Fitter (retired)" at the census and as "Master photographer" on death registration.

With regard to Sub-order VI. 18 there were discrepancies within the Order such as "Retired locksmith" (census) contrasting with "Retired master whitesmith" (death) or "Press operator (retired)" (census) contrasting with "Mechanic R.S.A.F." (death), but also discrepancies between Orders such as "Rigger ship repairers (retired)" (census) contrasting with "Ship's rigger" (death), and "Manufacturer of steel tube fittings (own account)" (census) altered to "Company director, tube fitting works" (death).

Assignment to Order XVI is dependent on the mention of the status of "Manager". As an example, there may be quoted the case of a man who described himself at the census as "Electrical engineer, retired" (Order VI, unit 241) and who was described at death registration as "Manager, electrical engineers, retired" (Order XVI, unit 622).

Assignment to Order XVII is dependent on a sufficiently clear reference to transport itself and to a skill peculiar to a form of transport. (It has to be borne in mind that the occupational code is distinct from the industry classification, and groups together similar occupations, e.g. clerks, regardless of the industry in which the clerks are engaged.) Examples of discrepancy were:—

Census description	Order	Unit	Death registration	Order	Unit
Ganger, wharf	XVII	672	Dock clerk	XXIII	890
Coach proprietor	XVII	657	Retired coal merchant	XVIII	729
Carter, retired	XVII	654	Agricultural labourer	II	019
General manager, coal wharf	XVII	672	Coal Office clerk	XXIII	890
Riveter's labourer, ship repair	VI	163	Seaman M.N.	XVII	675

Men who at one time follow a trade and at other times engage in shopkeeping on their own account are involved in discrepancies in Order XVIII. If the retail business succeeds, the man may yet record his earlier trade skill at the census while at his death his widow claims the status of a proprietor for him (or vice versa); if the venture fails the man may claim at the census to be a retired proprietor while on his death his widow may record the occupation in which the husband was last engaged (or vice versa). Sometimes there is a sheer discrepancy in description, e.g. "Confectioner" (Order X, unit 422) contrasted with "Confectionery Manufacturer" (Order XVI, unit 629).

Examples of discrepancies in Order XVIII were:

Census description	Order	Unit	Death registration	Order	Unit
Minister of religion (retired)	XIX	762	Retired grocer's carter (retired)	XVIII	741
Grocer, own account (retired)	XVIII	720	Tram conductor (retired)	XVII	661
General labourer	XXVI	950	Confectioner, tobacconist	XVIII	726
Sales manager, general engineers	XVIII	713	Planning engineer	XVI	622
Buyer (retired)	XVIII	712	Pastrycook, journeyman	X	422

Discrepancies may occur in Order XXII if (as in the example quoted under Order II) the description of a domestic servant, such as a handyman, refers to some particular current or former

skill. Another example noted was that of a retired Army officer who was recorded on the census schedule, but not in the death entry, as a boarding house keeper. The assignment of a cook or waiter can be changed from Order XXII to Order XVII if mention is made, in one record but not in the other, of his having been currently engaged in sea transport.

Men following occupations which involve some clerical duties, e.g. agents, canvassers, warehousemen, storekeepers, dock officials, may be incorrectly described as "clerks", in which case they are assigned to Order XXIII. (See example above under Order XVII.) The converse error also occurs. Such discrepancies commonly affect Orders XVII (Transport), XVIII (Commercial, financial, etc., occupations), though this order expressly excludes clerical staff, and XXIV (Warehousemen, etc.).

Order XXVI comprises unskilled occupations not classified to other orders and thus any lack of specificity on either document may mean assignment to this order while an entirely different order is used for coding the other record. There are also genuine changes in occupation which may be noted on one record but not on the other. (See the general labourer /confectioner, tobacconist contrast noted above.)

This brief review covers only the discrepancies involving a change of Order or Sub-order; local discrepancies involving only the unit number are liable to occur from slight changes or extension in description, e.g. Seaman=675, Donkeyman on steam vessel=677; or Coal miner, lampman=047, Colliery lampman (above ground)=049. The scope for such minor discrepancies is wide in such a detailed classification but as they operate less from deliberation than from chance rearrangements in description, the net error is probably smaller than the gross displacements. Some of the discrepancies were due to differences in coding but in a random selection of 300 discrepancies which were examined in detail only 22 cases were found where the discrepancy in unit number arose from differences in interpretation of the classification.

The net effect upon socio-economic distributions

It remains to show the net effect of these errors on the social class and socio-economic group distributions (Tables 14 and 15). At the ages 20-64 which are mainly of interest in relation to occupational mortality or other social studies (since the distributions here broadly relate to current occupations), there is a slight upward shift in social class at death registration. Social Classes I and II comprise 16·0 per cent at census and 17·9 per cent at death, the Social Class III proportion is virtually unchanged, Social Classes IV and V comprise 36·8 per cent at census and 35·2 per cent at death. This is a very small net shift. At the working ages the net shift at death in socio-economic group is also generally upward in status, but the effect on the shape of the distribution is very small; groups 1 to 4, 8 and 13 (Farmers, agricultural workers, personal service, administrative,

Table 14.—Social class distribution as at census and death registration—Males

Social Class at Census	Social Class on Death						Total	
	I	II	III	IV	V	N.A.	No.	Per cent*
	Ages 20-64							
I	24	6	2	—	—	—	**32**	2·4
II	3	142	32	2	1	—	**180**	13·6
III	7	35	529	28	26	1	**626**	47·2
IV	—	6	30	162	28	—	**226**	17·0
V	—	12	30	28	193	—	**263**	19·8
N.A.	8	6	29	3	17	18	**81**	
Total	**42**	**207**	**652**	**223**	**265**	**19**	**1,408**	
Per cent*	3·0	14·9	46·9	16·1	19·1			100·0
	Ages 65 and over							
I	53	4	5	—	—	2	**64**	2·9
II	14	328	54	6	6	2	**410**	18·5
III	9	53	860	60	37	2	**1,021**	46·1
IV	2	12	65	262	33	2	**376**	17·0
V	1	13	65	46	215	4	**344**	15·5
N.A.	12	76	176	71	75	13	**423**	
Total	**91**	**486**	**1,225**	**445**	**366**	**25**	**2,638**	
Per cent*	3·5	18·6	46·9	17·0	14·0			100·0

*of stated cases.

professional and managerial, Armed Forces) gain slightly at the expense of groups 7, 11 and 12 (shop assistants, semi-skilled and unskilled workers).

At ages 65 and over the gross discrepancies are greater as a result of the greater opportunities for discrepancy in occupational description but the net upward shift in social class and socio-economic group is smaller. Social Classes I and II comprise 21·4 per cent at census and 22·1 per cent at death registration. This compares with an increase from 16·0 to 17·9 per cent for ages 20-64. The reduction in Socio-economic Groups 11 and 12 (semi-skilled and unskilled workers) at death registration as compared with the census record at ages 65 and over is only from 25·0 per cent to 24·1 per cent compared with a reduction from 32·5 per cent to 30·2 per cent at ages 20-64.

Table 15.—Socio-economic distribution as at census and death registration—Males

Socio-economic Group at Census	Socio-economic Group on Death														Total	
	1	2	3	4	5	6	7	8	9	10	11	12	13	N.A.	No.	Per cent*
Ages 16-64																
1	24	1	—	—	—	—	—	—	—	—	—	—	—	—	**25**	1·9
2	2	33	—	1	—	—	—	—	—	1	—	—	—	—	**37**	2·8
3	—	—	24	5	—	1	—	—	—	2	—	—	—	—	**32**	2·4
4	1	—	2	78	4	14	—	1	2	8	—	1	1	—	**112**	8·4
5	1	—	1	6	33	—	3	—	3	2	2	—	—	—	**51**	3·8
6	—	—	4	10	—	64	—	1	1	6	—	2	—	—	**88**	6·6
7	—	—	—	2	4	2	18	—	3	1	1	1	—	—	**32**	2·4
8	—	—	—	1	—	—	—	22	—	1	1	2	—	—	**27**	2·0
9	—	—	1	1	—	1	1	—	32	8	2	3	—	—	**49**	3·7
10	1	1	2	12	5	2	—	2	6	366	21	20	1	1	**440**	33·0
11	—	2	—	1	1	3	—	—	4	20	115	27	1	—	**174**	13·1
12	1	5	—	4	7	2	1	4	—	26	18	189	1	—	**258**	19·4
13	—	1	—	—	—	—	—	—	—	—	—	—	6	—	**7**	0·5
N.A.	1	2	8	5	—	—	3	5	—	19	1	16	3	18	**81**	
Total	**31**	**45**	**42**	**126**	**54**	**89**	**26**	**35**	**51**	**460**	**161**	**261**	**13**	**19**	**1,413**	
Per cent*	2·2	3·2	3·0	9·0	3·9	6·4	1·9	2·5	3·7	33·1	11·5	18·7	0·9			100·0
Ages 65 and over																
1	72	5	—	—	1	—	1	—	1	2	—	1	—	—	**83**	3·7
2	7	112	—	—	—	1	1	4	—	7	3	7	—	1	**143**	6·5
3	—	—	53	3	1	3	1	—	—	—	—	—	1	2	**64**	2·9
4	—	—	11	137	7	12	4	1	2	15	1	2	—	2	**194**	8·8
5	3	—	3	13	102	2	7	—	1	3	2	3	—	—	**139**	6·3
6	—	—	3	10	1	70	3	1	—	3	1	3	—	—	**95**	4·3
7	—	2	—	4	7	—	35	—	1	6	—	1	—	1	**57**	2·6
8	—	2	—	2	1	1	2	50	—	5	5	2	—	—	**70**	3·2
9	—	—	—	1	2	1	—	—	48	14	2	—	—	—	**68**	3·1
10	—	3	3	22	9	3	4	3	16	584	43	35	3	1	**729**	32·8
11	—	2	2	4	3	—	—	2	8	36	139	24	1	1	**222**	10·0
12	2	11	1	8	5	2	2	4	5	45	33	211	—	4	**333**	15·0
13	—	1	3	—	—	—	—	—	—	1	1	—	12	—	**18**	0·8
N.A.	11	27	12	39	26	20	12	13	14	122	37	74	3	13	**423**	
Total	**95**	**165**	**91**	**243**	**165**	**115**	**72**	**78**	**96**	**843**	**267**	**363**	**20**	**25**	**2,638**	
Per cent*	3·6	6·3	3·5	9·3	6·3	4·4	2·8	3·0	3·7	32·2	10·2	13·9	0·8			100·0

*of stated cases.

In summary it may be said that, while the occupational classification sometimes falls victim to the combined forces of its own specificity and the human capacity for variation in description, the general impression emerges that the level of reliability of occupational assignment at the census justifies the statistical analyses which are based thereon. While discrepancies between census and death records are sometimes favourable and sometimes unfavourable to the status of the deceased, there is on balance a tendency for the social standing of a group to be slightly raised on the basis of death registration as compared with the census. It seems likely that, though both the deceased, at the census, and their widows (or other informants), at death registration, tend to use flattering descriptions of recent employment or to select an earlier occupation if this appears to them of greater weight, there is rather less inaccurancy of this kind at the census, surrounded as it is with an atmosphere of fact-finding and of legal persuasion, and conducted with more publicity

and instructional assistance than is death registration. The shift in socio-economic distribution is not sufficient seriously to threaten the validity of the occupational mortality analyses.

7. Household Arrangements

Information about the availability of piped water, cooking stove, kitchen sink, watercloset, and fixed bath for the use of private households, was required to supplement the mere quantitative information about numbers of dwellings and rooms by the inclusion of data on certain qualitative aspects of housing accommodation. Neither these questions nor any similar ones had been asked at any previous census in England and Wales and there was no existing body of experience to indicate the likely difficulties in response. Moreover, the questions were answered by householders themselves on the census schedule, in contrast to the assessment of numbers of rooms and of the sub-division of dwellings which was the responsibility of the census enumerator. Finally, it should be borne in mind that the questions were designed to find out to what extent households had access to facilities in their dwellings, and whether they shared them with other households or not, rather than whether and in what numbers dwellings contained these facilities. The difference between these two concepts is of special significance in the case of dwellings shared by more than one household.

The precise form of question asked on the census schedule may be seen by reference to the copy of the schedule at Appendix F. The tabulations have been extensively analysed and commented upon in the *Housing Report* which has been separately published. This present note is concerned with certain difficulties which have been encountered in considering that analysis. It may be useful first to review the character of the questions themselves.

Piped water supply: The question was intended to relate to the existence of a tap, connected to the mains or to a storage tank, which could be reached by a household without leaving the shelter of the building containing the rooms occupied by it or of an attached covered structure. If such a tap were for the exclusive use of a household, then that household should have reported "exclusive use of piped water"; if such a tap was in a building occupied by more than one household (or in an attached covered structure) and was shared by more than one household, each of the households so sharing it should have reported "sharing piped water", whether or not the tap was in their part of the building, unless one or all of these households had access also to another tap which was for that household only. It is to be noted that sharing of the piped water supply, in this case, could occur not only where several households shared the same dwelling, but also where several structurally separate dwellings were found within a single building, as might occur in certain types of flat or tenement building whether built as such or converted to this type of use. It seems likely that there was confusion between the exclusive use of piped supply to the tap itself and the common participation in the whole plumbing system supplying taps exclusively used by other households. It should be noted that the question on the schedule referred only to "piped water supply within the house" and only in the instructions on the reverse of the schedule was any reference made to a "tap".

Cooking stove or range: It was stipulated that there must be some kind of fixed apparatus incorporating an oven, and that gas rings, hotplates or portable electric ovens did not come within the concept of a "cooking stove or range". In an era of portable and "put-away" equipment this restriction may have been regarded by many as unreal and it may have been disregarded on occasion.

Kitchen sink: As in the case of the piped water supply question, the definition required the sink to be within the building but not necessarily within the structurally separate dwelling, which may account for households occupying their own structurally separate dwellings, but at the same time sharing the kitchen sink.

Watercloset } In sharp contrast to the definition for piped water (and perhaps not sufficiently
Fixed bath } appreciated by the householder), the definitions did not specify where these two pieces of equipment were to be located. Some modern blocks of flats are built with bathrooms and waterclosets located on each floor and for the common use of all the flats on the floor; some converted dwellings qualify to be regarded as structurally separate but nevertheless depend on bathrooms and waterclosets, particularly the latter, accessible to and shared by several dwellings in the same building; for some dwellings in poor districts, built a long time ago, the waterclosets are located in a yard common to a block or a court and shared by the occupants of all the dwellings in the block or court. In all such cases a household occupying a separate dwelling should have reported sharing of the bath or watercloset.

Examination of Table 1 of Appendix C of the *One per cent Sample Tables, Part II*, shows that in Great Britain there were 595,900 households (4 per cent of all households) who claimed exclusive use of a sink but alleged that they did not have exclusive use of a piped water supply. This might have been expected to be an infrequent combination and the proportion seems unduly high. Furthermore there were only 196,700 households with exclusive use of a sink but entirely without access to piped water within the building, although it might be expected that this would be a greater number than the 595,900 quoted above since it is more likely that accommodation would be fitted with a tapless sink or that a sink would be available for exclusive use without exclusive use of a tap if there were in fact no piped supply than if a supply existed in the dwelling. In addition it may be stated that of the 595,900 households referred to above, 370,000 claimed exclusive use of a water closet. Though this is not conclusive evidence of error it does suggest that there was confusion between sharing water from a single main supply and sharing a particular pipe with its tap. The former condition was not within the census definition of sharing and to the extent that it was a popular misconception the incidence of sharing (but not of lacking) piped water was overstated.

Inspection of census schedules indicated instances where in shared dwellings one household claimed exclusive use of piped water while the other household claimed to be sharing it; this is not an impossible situation but it seems likely to be uncommon. Such an apparent inconsistency could arise from the misconception already referred to above affecting one household or it could arise from a confusion between use and ownership in the case of an owner who sublets part of a house and insists that the right of ownership overrides the fact that he no longer has exclusive use of the domestic arrangements.

Another indication of probable error in response to the household arrangements question was noted. There were some areas where the existence of earth or chemical closets was considered unlikely but where households claimed to be entirely without access to waterclosets. There may, as already suggested, have been confusion with the "within dwelling" restriction which applied to piped water, so that householders having to go outside the dwelling recorded themselves as lacking this amenity.

Sample enquiry

In order to carry the investigation further a small sample of households in unshared occupation of dwellings but recorded as entirely lacking waterclosets was selected from the census schedules for the following areas (which had an appreciable number of such households).

	Households
Southwark Met. B	42
Wandsworth Met. B	30
Woolwich Met. B	19
Cardiff C.B.	98
Halifax C.B.	100
Warrington C.B.	100
	389

Visits were made by local registration officers to the addresses concerned in order to ascertain whether accommodation of households was similar to that obtaining at the date of the census and, if so, what were the facts relating to accessibility of watercloset, and piped water. Altogether 88 households were omitted from the enquiry because the accommodation was no longer occupied in the same way as at census date. The results in the remainder are shown in Table 16.

It will be seen that one third of the claims to be lacking access to waterclosets in these areas were incorrect; this is not a measure of the overall incidence of error in the country as these areas were chosen for their higher opportunity for error in order to ascertain the nature of errors. Of the 101 cases of error 76 had access (in 46 instances, exclusive use) to waterclosets in gardens, yards, or common landings. The remaining 25 all had the use of waterclosets within the dwelling and in only one case was this arrangement shared with another household. Most of the errors were thus of the type suspected. The general impression gained is that there may have been some appreciable overstatement of lack of availability of waterclosets but that, as most of these errors relate to "outside" waterclosets, they do not exaggerate the estimation of obsolescence of housing accommodation.

With regard to piped water, it appears likely that sharing was substantially overstated and the

Table 16.—Household Arrangements: investigation of replies **Six selected areas**

Note : E = exclusive use, S = shared use, N = access completely lacking.

Area	House-holds visited	Census schedule showed Watercloset N			Census schedule showed						
					Piped water S				Piped water N		
		Reply correct	Should be S	Should be E	Piped Water E	Reply correct	Should be N	Should be E	Reply correct	Should be S	Should be E
Southwark Met. B. ..	**25**	—	11	14	9	2	—	4	2	4	4
Wandsworth Met. B. ..	**13**	—	4	9	7	—	—	3	—	1	2
Woolwich Met. B. ..	**16**	6	2	8	10	—	—	3	2	—	1
Cardiff C.B.	**69**	19	14	36	59	—	4	1	2	—	3
Halifax C.B.	**95**	94	—	1	65	—	4	4	21	—	1
Warrington C.B.	**83**	81	—	2	79	2	1	1	—	—	—
Total	**301**	**200**	**31**	**70**	**229**	**4**	**9**	**16**	**27**	**5**	**11**

entire lack of piped water was to a less extent overstated for single household dwellings in England and Wales. The sample investigated was neither large enough nor sufficiently representative to allow accurate assessment of the error, but the impression is gained that in the country as a whole the percentage of households in single occupation of dwellings who shared piped water was not 6, as shown in Table 11 of the *Housing Report*, but perhaps as low as one or two. The percentage of such households lacking piped water, also shown as 6, might well be less than 5.

A special investigation was also carried out in one area, Richmond M.B., to examine the origin of anomalous answers (i.e. one S, the other E) to the question on piped water given by households in shared dwellings. A selection of 50 pairs of such households was made and enquiries were made as to the probable situation at the census date. In 20 of these, changes of occupancy or other reasons rendered it impossible to obtain useful information. Of the remaining 30 where one household had stated E for piped water and the other had stated S it appeared that 27 of those who stated S had in fact exclusive use of a tap within their "flat"; two of those who had stated E in fact shared all their taps with the other household (living in bed-sitting rooms with use of kitchen and bath). In one instance the combination of S and E was apparently correct; the latter household stated that they had both shared taps and taps for their exclusive use. In this enquiry questions were also asked about waterclosets. In these households there had been 8 anomalous SE combinations in 1951. It was found that 3 of the pairs should have been SS, and 4 should have been EE. In the remaining case there were two waterclosets (at least) of which one only was shared between households, so that SE was correct.

8. Household Composition

British practice since 1841, which is embodied in the census legislation, requires "the Head or person acting as Head, of a private Household," to be responsible for the completion of the census schedule "in respect of all persons (members of the household, including visitors, employees and boarders) who are present in the dwelling at midnight" of census day and "all persons who arrive at the dwelling and join the household" on the following day "before the collection of the schedule, and who have not been enumerated elsewhere". The schedule is signed by the Head, who certifies that the form is "correctly filled up to the best of my knowledge and belief".

The head of the household has never been defined or specified. It is assumed that in any household of more than one person there will be one who will be recognised as the head. In the simple household consisting only of a primary family unit, the head was almost invariably the husband if he was present. In other cases it may mean that the "head" is the principal earner, the oldest member or the person who in fact on this single occasion of the census assumed the responsibility for completing the form.

The absence of any official insistence on the choice of a specified member of the household as "head" has the advantage of simplicity (the necessary instructions are sufficiently lengthy without further addition). On the other hand the absence of any specificity of the head has statistical drawbacks, restricting the utility of any classification of households, for example, by size or economic strength, according to various characteristics of the head.

The census schedule does, however, require that in respect of other members of the household the relationship to the head should be stated as "wife", "son", "mother", or other specified relative, "visitor", "boarder", "employee", etc. This makes it possible for statistical examination to be made of the structure of households.

Two kinds of analyses have been carried out:

(i) Social and Economic Characteristics of Private Households

In these analyses, households have been classified by (a) the sex, age and marital condition of the head; (b) (for the One per cent Sample only) the size of the household, the number of earners and the number of children, distinguishing in some tables the social class and socio-economic group of the head.

(ii) Composition of Private Households

In these analyses, households in the One per cent Sample are examined to identify the *primary family unit*, viz. the head, spouse of head, the children* of the head or head's spouse with the exception of such as were married or, if widowed or divorced, were accompanied by children of their own, near relatives of head or head's spouse, resident domestic servants (and their children if under 16), and the *remainder* including any *family nucleus*, viz. a married couple and their children, a lone parent with children. The tables indicated the size of these elements in themselves and for different ages and marital condition of head.

These analyses have appeared in the *One per cent Sample Tables* and in the *Housing Report* in which they have been fully commented upon.

The distribution of heads of households in England and Wales by age and condition (per 1,000) was as follows:

Married aged under 40	244	
40-59	361	
60 and over	154	
	—	759
Non-married heads aged under 40		19
Single heads aged 40-59	31	
60 and over	30	
	—	61
Widowed and divorced heads aged 40-59	44	
60 and over	117	
	—	161
		1,000

The sample analysis of household composition shows that of 11,331 thousand married couples enumerated together in Great Britain, 10,320 thousand provided the head of a private household, and 782 thousand provided the head of a family nucleus in the remainder section of a composite household; 37 thousand were the parents of the head (or his spouse) of a private household; the bulk of the remainder of 192 thousand were in hotels, boarding houses, hospitals, institutions and other non-private households. It is estimated that of married men of all ages 90 per cent were heads of households (80 per cent at ages under 40, 96 per cent at 40-59, and 97 per cent at 60 and over). Only 3 per cent of married women were heads of households and in almost all cases the husband was absent from the household on census night.

Of 14,481 thousand households enumerated in Great Britain, 12,501 thousand comprised only primary family units. The remaining 1,980 thousand were composite households and

* Certain other children under 16 were included, viz. brothers and sisters of head or spouse, children without any parent present.

contained within them 982 thousand family nuclei. Of the 12,501 thousand primary family units, 11,513 thousand were of the simplest types, viz.

	thousands
Married heads with no children	3,166
Married heads with non-married children	6,102
Widowed (or divorced) persons living alone....	901
Widowed (or divorced) heads with non-married children	755
Single persons living alone	589
	11,513

These analyses have involved considerable machine work and have entailed problems of presentation which have not been entirely solved at this first venture. The potential value of the information, however, both in housing development and in the administration of social affairs appears to justify the further pursuit of the study of household composition. Possible lines of development appear to include (i) the direct recording of the pattern of household structure, just as rooms, household size, and household arrangements were directly recorded; (ii) indications, perhaps in some indirect form, of the links of economic dependency as well as of blood relationship, within the household.

9. Urban-rural Analysis

As a special study the population was analysed between urban and rural areas. For this purpose the administrative classification of areas was insufficient. A new definition was devised. Land was called "built up" when it was assigned to density categories 1 and 2 by the Ministry of Housing and Local Government when preparing their map of population density. This assignment was made primarily on the basis of ward and parish population density as shown in Table 3 of the County Reports of the 1951 Census. Density categories 1 and 2 were of more than 10 people to the acre. The classification was modified by referring to the actual pattern of settlement shown on Ordnance Survey maps or in aerial photographs. As a result of the modifications many wards and parishes were subdivided into two or even three zones of different population density. For some areas the date of the map or aerial photograph was up to 4 years different from the census date and there was a risk that the pattern of settlement was different at the two dates. Also for some of those areas there was an obvious inconsistency between the pattern of settlement shown on the map and the population figures. All wards and parishes where this was true were treated with special care and the Land Use Maps prepared by Local Planning Authorities as well as the local knowledge of the Ministry's technical staff were used to ensure that they were correctly classified.

"Urbanised land" was then defined for the census study as any (Urban) ward or (Rural) civil parish of which any part, however small, was "built up land".

A second part of the study was to analyse the population between urban clusters of different sizes. For this purpose the first definition needed was "built up cluster"—a single area of "built up land", or a group of areas of "built up land" separated from each other by less than a mile but from all others by more than a mile. Following this in the same way that "urbanised land" followed "built up land", an "urban cluster" was defined as the aggregate of all the wards and civil parishes which contained the "built up land" of a "built up cluster".

The areas ascribed to the different density categories by the Ministry of Housing and Local Government were outlined originally on transparent overlays for the set of Ordnance Survey 1 inch to the mile maps. These were laid over a set of maps on which the ward and parish boundaries were emphasised and it was not hard to list all the wards in urban areas which contained no land of density category 1 or 2, and all the civil parishes in rural districts which contained any land of density category 1 or 2. This list, of "non-urbanised" wards in urban areas and "urbanised" civil parishes in rural districts, is the shortest that can be compiled to make it possible to compute the total "urbanised population" split into its components. At the same time the constitution of each "urban cluster" was listed, as a set of wards of urban areas and civil parishes in rural districts.

If a ward or parish had parts of its area in two "built up clusters", it was not divided but assigned as a whole to the "urban cluster" in which it was judged that it had the larger population.

The results of this study are shown in Chapter III, p. 83.

10. Comparability with 1931 Census Tables

Housing—changes in definition

There were two differences in definition affecting households and their accommodation between 1931 and 1951; one concerning the definition of a non-private household and the other concerning the definition of a room.

In 1951 households were treated as boarding houses and therefore as non-private, either when the census records indicated this fact or, if the total number of persons in a household was ten or more, when the number of boarders exceeded the number of the householders' family including domestic servants. On the other hand the 1931 Census Reports and the 1951 Census Sample Tables (as distinct from other 1951 Census Reports in which housing data appear) used the same convention but without regard to the size of the household in question. The effect was to bring into the private household category for the main 1951 Census Reports certain households which would not have been classed as private households on the 1931 definition. The number of households affected by this change in definition is not known—but it may have had an appreciable effect on the proportion of larger dwellings recorded as in the occupation of private households.

The other change in definition was a slight one affecting the definition of a kitchen. The relevant sections of the instructions to enumerators for the 1931 Census stated that the kitchen should be counted as a room but that the scullery must not be counted, and stated that "a room or annex or recess which adjoins a living-room and which is only used for purposes of washing, cleaning or cooking and not as a place where meals are eaten may be regarded as a scullery and excluded from the count". The comparable instructions in 1951 were to the effect that all rooms in which the household eat, live or sleep, including the kitchen if so used, should be counted but that a scullery or kitchenette should not normally be included. The instructions then warned enumerators that "the name kitchen, kitchenette or scullery may be given to a room, annex or recess used only for the purposes of washing, cleaning or cooking, and not as a place where meals are eaten, in which case it should be excluded. But a kitchen or kitchenette where meals are eaten should be included as a living room." This difference may have led to some kitchens being excluded from the 1951 count that would have been included in 1931, but its practical effect is not thought to be sufficient to impair intercensal comparison.

Boundary changes

There were considerable changes in the boundaries of local authority areas between 1931 and 1951 which in most cases preclude direct comparison between published figures for local areas. In the County Reports, where this difficulty mainly arises, comparative figures in respect of earlier censuses have been adjusted wherever possible to relate to areas as constituted at the date of the 1951 Census. Owing to the loss of the 1931 Census records by fire in 1941 such adjustments could not be carried out for areas affected by boundary changes taking place after 1941. In the case of local authority areas these changes were slight and comparative figures relating to the situation as existing in 1941 afforded a reasonable comparison, but for wards and civil parishes the changes were frequently extensive and comparative figures are consequently omitted for any ward or civil parish affected by changes taking place after 1941.

Occupation and Industry

Changes in the classification of occupations or industries affecting comparability with 1931 are discussed in Chapter VIII.

11. An appraisal of the Census One per cent Sample Tables

An important innovation in the arrangements for the 1951 Census was the decision to produce tables based on a one per cent sample only of the records, which could be prepared and published well in advance of the main subject tables, and would provide an advance conspectus of some of the most important results of the census not only for the country as a whole but also for its larger geographical divisions. The two census volumes which contain the *One per cent Sample Tables* were published in 1952. They have been extensively used by Government Departments and others concerned with public affairs in the considerable intervals between those dates and the dates of publication of the county reports and the main volumes covering the same subjects. The last *County Report* was published in 1955; the *Report on Greater London and Five Other Conurbations* and the *Housing Report* in 1956; the *Occupation Tables*, the *General Tables* and the *Industry Tables* in 1957 and the *Fertility Report* in 1958. The value of much of the local information contained in the *County Reports* (the first volumes of final tables to be published) was enhanced by the fact that

in the commentaries comparisons with sample data for the country as a whole could be made before the main local tables had been aggregated.

Now that the tabulations from the complete records have been published the subject matter in the Sample Tables is no longer of much interest except for the analysis of private households by social and economic characteristics in Section V and by household composition in Section VI, and for the analysis of household arrangements in combination with one another given in Appendix C, which have not been reproduced on the basis of the complete census record.* The tables are, however, of considerable methodological interest in view of the fact that, as rarely happens in sampling investigations, many characteristics of the "population" from which the sample was drawn have been measured precisely now that the full census records have been analysed. The actual differences between sample and 1/100th of "main" figures can be compared with the sampling errors which are to be expected. Such consideration is desirable for the information both of those who may still wish to use the sample tables and of those who may be concerned in the future to draw other such samples.

The methods that were used and the arrangements that were made for the selection of the One per cent Sample have been described in the introduction to the published volumes of Sample Tables. The salient features are as follows: it is a sample of the complete census record, constituting a selected number of the household schedules of ordinary enumeration districts and a selected number of lines relating to individual persons on the schedules for special enumeration districts,† the selected schedules and lines were chosen after the complete enumeration had been carried out, and contain information precisely comparable with that on those which were not selected; the procedure of drawing the sample was thus rendered much more efficient than one drawn in the more usual manner from a "population" of sampling units in respect of which such prior knowledge does not exist.

The important aspects of the census record on which the adequacy of the method of selection of the sample depends, are as follows: (1) the country was divided into census areas consisting of the sub-districts of the registrars of births and deaths; (2) most census areas were divided into ordinary and special enumeration districts (O.E.Ds. and S.E.Ds.) which were numbered consecutively in a single series from one upwards, the S.E.Ds. being placed together at the end of the numbered list ("shipping" enumeration districts were normally separately numbered, with suffix A, after the last other O.E.D. in their particular ward or parish); (3) each ordinary enumeration district was divided into households which were numbered consecutively from one upwards in an ordered series corresponding to the way in which the enumerator made his tour of the area; (4) each person enumerated in each "household" constituting an S.E.D. was numbered from one upwards in the order of entry on the schedule; (5) the sample from O.E.Ds. consisted, in odd numbered O.E.Ds., of *households* with identification numbers whose last two digits were 25 (i.e. 25, 125, 225, etc.) and in even numbered O.E.Ds. of *households* with identification numbers with last two digits 76; (6) the sample in S.E.Ds. consisted, in odd numbered S.E.Ds. of *persons* with identification numbers with last two digits 25 and in even numbered S.E.Ds. of *persons* with last two digits 76; (7) adjustments were made to bring the sample totals of population and households in each tabulation area into agreement with the preliminary full counts of these statistics, by the addition and/or removal of small numbers of households of given sizes chosen on a specified basis.

Some indication of the various elements of sampling error which are implied in this sampling design, as they affect some of the most important tabulations, is afforded by the facts given in the following paragraphs. Although the published sample tables cover Great Britain the application of the same method of sample selection in each census area enables the discussion to be limited to conditions in England and Wales. As has been stated in the introduction to the published volumes which comprise the One per cent Sample Tables the design, as applied to the Scottish record, did not afford such high precision as was obtained for England and Wales.

Census areas

The census areas constituted by the birth and death registration sub-districts numbered 1,226‡ in England and Wales at the time when the census operation was planned. 1,196 sub-districts contained O.E.Ds. at the date of the census (the remainder contained S.E.Ds. only).

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* In the various contexts in which they appear in the County volumes the sample figures will probably also continue to be used.

† See pp. 4 and 13. Special enumeration districts (S.E.Ds.) in general consisted of large institutions or 'households' expected to contain at least 100 persons; ordinary enumeration districts (O.E.Ds.) consisted of all other 'households' both private and non-private.

‡ Owing to an amalgamation of 2 of these sub-districts there were in fact only 1,225 registration sub-districts at the date of the census.

The population content averaged nearly 36,000 per sub-district but varied very considerably. In Cheshire for instance Birkenhead had two sub-districts covering in total a population of 142,501; Chester had one for 48,200; Stockport had three for 141,650 and Wallasey one for 101,369. The administrative county of Cheshire with 24 sub-districts for a population of 824,750 had an average of over 34,000 persons per sub-district. Over the whole country the range in size of sub-district population was, in fact, from just over 1,700 to a little under 179,000.

Numbers of households in Enumeration Districts

49,318 ordinary enumeration districts were used for the 1951 Census in England and Wales, with an average content of about 270 households or 860 persons each. Their distribution into odd and even numbered O.E.Ds., and by the numbers of households in each, is illustrated by Table 17 below relating to the Northern Region of England.

Table 17.—Ordinary Enumeration Districts by number of households, distinguishing those having odd and even numbers {**Administrative aggregates in Northern Region**

Number of households* in an O.E.D.	Number of O.E.Ds. in following classes in Northern Region							
	Total		County Boroughs		Other urban areas		Rural areas	
	Odd	Even	Odd	Even	Odd	Even	Odd	Even
100 and under	**365**	**335**	3	1	15	13	347	321
101—200	**265**	**274**	20	17	69	71	176	186
201—220	**61**	**78**	8	13	23	38	30	27
221—240	**78**	**61**	18	11	42	25	18	25
241—260	**89**	**99**	26	29	36	48	27	22
261—280	**109**	**93**	36	29	51	51	22	13
281—300	**136**	**128**	57	56	62	52	17	20
301—320	**128**	**141**	51	60	60	60	17	21
321—340	**145**	**124**	58	49	72	58	15	17
341—360	**111**	**114**	50	53	51	48	10	13
361—380	**130**	**114**	61	58	52	51	17	5
381—400	**82**	**97**	47	55	28	37	7	5
401—420	**59**	**51**	33	26	23	22	3	3
421—440	**38**	**37**	18	20	19	15	1	2
441—460	**22**	**21**	11	10	9	10	2	1
461—480	**10**	**14**	2	6	8	8	—	—
481—500	**6**	**4**	3	2	2	1	1	1
Over 500	**13**	**16**	6	5	6	10	1	1
All	**1,847**	**1,801**	**508**	**500**	**628**	**618**	**711**	**683**

* Private and non-private.

Altogether 903,814 households (private and non-private) were enumerated in these O.E.Ds., 197,118 of them being in the rural parts of the region. The average number of households per O.E.D., at 248, was a little lower than for the country as a whole and differed widely between the urban and rural parts of the region where averages of 314 and 141 respectively obtained. Nearly half the O.E.Ds. in the rural areas in the region each contained fewer than 100 households, as compared with under 2 per cent in the urban areas. There were very few O.E.Ds. with as many as 500 households. As was to be expected, there was no appreciable difference in these respects between the odd and even numbered O.E.Ds.

The distribution of O.E.Ds. in the Northern Region by the last two digits in the number of households each contained is given in Table 18, again distinguishing conditions in the odd and even numbered O.E.Ds. It shows little departure from the "rectangular" distribution which the sampling design required.

3,221 S.E.Ds. were designated for the enumeration in England and Wales, with an average population content of 366 persons per S.E.D. The variations in their size were very large: 531 S.E.Ds. each contained fewer than 100 persons while 237 each contained over 1,000. The range was from 3 to 16,710.

Size of households

The definition of a household and the procedure whereby the census enumeration was obtained on household schedules have been described (p. 8). In considering the sample design it may, however, be recalled that generally a non-private household expected to contain at least a

Table 18.—Ordinary Enumeration Districts by last two digits of number of households, distinguishing those having odd and even numbers

Administrative aggregates in Northern Region

Last 2 digits of number of households*	Number of O.E.Ds. in the following classes in Northern Region							
	Total		County Boroughs		Other urban areas		Rural areas	
	Odd	Even	Odd	Even	Odd	Even	Odd	Even
	a	b	c	d	e	f	g	h
01—05	**84**	**81**	24	26	28	28	32	27
06—10	**87**	**85**	27	23	28	29	32	33
11—15	**91**	**91**	30	28	33	37	28	26
16—20	**75**	**91**	20	26	27	33	28	32
21—25	**90**	**77**	23	22	42	24	25	31
26—30	**82**	**81**	19	20	26	25	37	36
31—35	**114**	**82**	24	16	52	28	38	38
36—40	**95**	**97**	31	25	30	34	34	38
41—45	**96**	**94**	25	27	28	30	43	37
46—50	**95**	**80**	22	15	27	21	46	44
51—55	**98**	**95**	27	23	29	32	42	40
56—60	**79**	**113**	18	28	27	40	34	45
61—65	**119**	**79**	31	19	43	25	45	35
66—70	**97**	**111**	25	33	30	38	42	40
71—75	**90**	**82**	24	20	31	40	35	22
76—80	**91**	**84**	25	27	33	39	33	18
81—85	**90**	**89**	23	33	33	29	34	27
86—90	**90**	**96**	32	26	26	31	32	39
91—95	**83**	**100**	23	35	24	29	36	36
96—00	**101**	**93**	35	28	31	26	35	39
All	**1,847**	**1,801**	**508**	**500**	**628**	**618**	**711**	**683**
included in above								
25	**22**	**14**	8	6	9	2	5	6
75	**23**	**15**	6	2	10	12	7	1
76	**12**	**13**	4	5	5	7	3	1

* Private and non-private.

hundred persons was classed as a special enumeration district, but that ordinary enumeration districts contained almost all the smaller non-private households as well as all the private households. It is hardly surprising that the variability in size among non-private households in O.E.Ds. is greater than the variability in size among private households. It should also be explained that the distinction between private and non-private households was made in a slightly different way for the sample and for the full tabulations, certain classes of household (mainly small boarding houses) being classed as non-private for the sample tables but as private for the main tables.

Besides affecting the comparability of sample and non-sample figures of certain characteristics, this entails that sample rather than 'main' distributions are the more relevant to the consideration of the precision of the sample figures. Table 19 sets out the sample distribution per 1,000 of households enumerated in England and Wales in O.E.Ds.

Table 19.—Size distribution of Households in Ordinary Enumeration Districts

Persons in household	Percentage distribution of households in O.E.Ds.		
	Total	Private	Non-private
1	**10·6**	10·7	2·4
2	**27·7**	27·9	5·9
3	**25·0**	25·0	25·0
4	**19·0**	19·1	16·2
5–9	**17·2**	17·0	38·3
10–14	**0·4**	0·3	6·5
15–19			2·7
20–29	**0·1**	**0·0**	1·8
30–39			0·8
40–69			0·4
All	**100·0**	**100·0**	**100·0**

Adjustments to the sample as first drawn

The sample totals of population and households were brought into line with preliminary full counts for individual tabulation areas, for the convenience of users of the sample tables who had access to these already announced full counts of population. The procedure which was used for effecting these adjustments is described in some detail on pp. xi and xii of the introduction to the One per cent Sample Tables. It involved the addition and/or removal of one or more households to or from the households which had been originally selected from the O.E.Ds. of individual tabulation areas. (In a few cases where, for example, the sample as originally drawn showed a deficiency of population but a surplus of households it involved both additions and removals.)

For the purpose of the present discussion it is only necessary to demonstrate the inevitable element of arbitrariness in this adjustment procedure, and this is sufficiently indicated by the following extract from the description given in the Sample Report:

A list was drawn up prescribing the numbers and sizes of households to be added to or removed from the original sample material in respect of each of the Large, Medium and Smaller Areas identified in the tables. They were designed to remove the population deviation entirely and to improve the ratio of population to households in all areas; they also aimed at eliminating or reducing the household deviations where possible, and ensuring that in no area was the remaining deviation after adjustment more than 1 per cent of the total sample households. Constraints towards limiting the introduction of personal bias were (a) that the number of households involved in any adjustment should be as amall as practicable and (b) that the sizes of the households involved should not be concentrated in a single size category but distributed, having regard to the frequencies with which the several sizes are met with in actuality. The type of the adjustment prescriptions may be seen in the following illustrations:—

Area	Original Sample excess or defect (−)		Adjustment Prescription
	Population	Households	
East Ham C.B. ..	+22	+6	Remove 6 household of sizes 2, 3, 4, 4, 4, 5
Wallasey C.B. ..	−20	−4	Add 4 ,, ,, ,, 4, 5, 5, 6
Orkney County ..	+34	+7	Remove 7 ,, ,, ,, 4, 4, 4, 5, 5, 6, 6
Chigwell U.D. ..	+17	−1	Add 6 ,, ,, ,, 1, 2, 2, 3, 3, 4 Remove 5 ,, ,, ,, 6, 6, 6, 7, 7
Huntingdon A.C. ..	−33	−2	Add 7 ,, ,, ,, 5, 5, 5, 6, 6, 7, 7 Remove 4 ,, ,, ,, 1, 2, 2, 3
Ayr Burgh	−27	+1	Add 6 ,, ,, ,, 5, 6, 6, 7, 7, 7 Remove 6 ,, ,, ,, 1, 1, 2, 2, 2, 3

The selection of the particular households to be added or removed in respect of an area was accomplished by dividing the full or sample records of the area into as many sections as the number of households respectively involved and selecting a household of one of the prescribed sizes from each section in accordance with a mechanical selection procedure.

The bulk of the Large, Medium and Smaller Areas were adjusted in this way, but there remained a handul of intractable cases for which a solution was only possible after a more exhaustive examination of the individual records. An example may be cited in the case of Chelsea Met. B., in which the sample population of 603 was in excess by 94, while the sample households of 187 was in excess by 1 only: detailed examination showed that the sample had been correctly taken but had unexpectedly included a hotel with a 100 population content, and that apart from this, no other household in the sample exceeded 7 persons; the hotel could be recognised as being unrepresentative and the obvious solution was to remove it and add a household of 6 persons to provide the required adjustment of −94 population.

Altogether, the adjustment process involved the addition of 1,266 new households and the removal of 1,255 existing households, less than 1 per cent either way of the original total of 146,628 sample households. (Great Britain figures.)

The precision of the sample figures as estimates

The characteristics of the population portrayed by the census statistics are many and varied. The sampling variances to be attached to the estimates in the One per cent Sample tables of numbers and sizes of private and non-private households, and numbers of persons contained in them, depend in one way or another on the types of variability discussed above, combined with the effects of the somewhat arbitrary adjustments made to the sample as originally drawn, to which reference has also been made. Additional elements of variance in the estimates of other characteristics derive from the sampling variability, within given size classes of household, of the incidence of related census characteristics, e.g., persons in given age and marital condition classes. There are also differences to be taken into account in the impact of all these factors on the precision of the sample figures for different sized areas.

The arbitrary element in the adjustment of the sample by the addition of certain census schedules to the sample set and the removal of others from it modifies the error distributions and renders it impossible to apply rigorous probability theory to an examination of the differences between the published sample figures and non-sample figures, for nearly all the tabulated characteristics of the population. Certain comparisons, made in a very limited field are, however, discussed briefly in this section. In the first place sample totals, as obtained before the adjustment procedure had been applied, of population and households (private plus non-private) enumerated in O.E.Ds. in England and Wales and corresponding non-sample figures are available, and it is therefore possible to compare the differences between sample and non-sample figures with the sampling

errors to be expected. Secondly, the precision of sample estimates of households and population can be separately assessed for private and non-private households. Thirdly, evidence can be adduced to indicate the effect of the adjustment procedure on the record. Fourthly, adjusted sample figures and non-sample figures can be readily compared for most of the census characteristics tabulated in the published sample tables. For certain population characteristics the distributions of differences between them bear out the assumption made when the sample was designed (based on limited consideration of certain 1921 census records), that sampling errors in this sample are of no greater magnitude than those of random sampling, the combined effect of the various elements of departure from a random selection of persons being small. These elements are (a) the sampling unit was the household rather than the person in O.E.Ds., (b) the mode of selection implies areal stratification, (c) the arbitrary adjustments and (d) any irregularities, not subsequently corrected, due to failure of enumerators to carry out accurately their instructions with regard to selecting and copying the schedules which were to comprise the sample.

Comparisons of the four general types described above have been made and are discussed in the following sections.

Numbers of households in Ordinary Enumeration Districts

The number of households drawn from O.E.Ds. in the sample for England and Wales was 131,973, and 1/100th of the corresponding full census number was 131,874. The sample design was constructed, in part, on conclusions derived from evidence available when the census operation was planned*, that the distributions of O.E.Ds. by the last two digits in the number of households each contained would be rectangular, both for the odd numbered and for the even numbered O.E.Ds. in each tabulation area. Table 18, given above, provides data for the Northern Region from the records which are now available of the census as taken, to show how far the earlier conclusions were justified. The columns of this table do not show any appreciable departures from rectangularity (χ^2 tests give probability values greater than ·05 in all cases).

Although these departures from the rectangular form of distribution are not significant, in the statistical sense, they provide an element of variability which needs to be taken into account in estimating the reliability of the estimates (both as regards bias and range of sampling error) of numbers of households in O.E.Ds. as derived from the sample. In the discussion below the sample number of households in O.E.Ds. in England and Wales is compared with an expected number derived on the hypothesis that the 49,318 O.E.Ds. used in the 1951 census were a sample from a "universe" of O.E.Ds., the distribution of the universe according to the last two digits in household numbers being precisely rectangular. The variance of the difference between the sample number and this expected value is also calculated. The extent to which the universe may differ from rectangularity is not considered theoretically but the effects of substituting the Northern Region distributions of Table 18 are examined by way of example. Such systematic departures from the rectangular form alter considerably the magnitude of the small bias to be expected in the sample estimate of numbers of households drawn from all the odd and even numbered O.E.Ds. taken together, though the variance to be attached to the difference between the sample number and its expected value is not much affected.

The sample of households in O.E.Ds. in England and Wales was drawn from 49,318 O.E.Ds. contained in 1,197 sub-districts. There were 24,973 odd numbered and 24,345 even numbered O.E.Ds. The sampling variance of the number of households drawn from odd numbered O.E.Ds. may be estimated as follows: the number of households in an O.E.D. may be represented as $100h+k$ where h and k are integers and $0 \leqslant k \leqslant 99$ (except where $h=0$ when k cannot be 0). Since the sample consisted of all households whose reference number ended in the digits 25, the excess of the sample number of households over 1/100th of the total number, for a given O.E.D., will be

$$x = -\frac{k}{100} \text{ for } 0 \leqslant k \leqslant 24 \text{ and } 1-\frac{k}{100} \text{ for } 25 \leqslant k \leqslant 99 \qquad \ldots\ldots(\alpha)$$

The mean excess per O.E.D. may be estimated as

$$\bar{x} = \sum_{k=0}^{k=24} n_k\left(-\frac{k}{100}\right) + \sum_{k=25}^{k=99} n_k\left(1-\frac{k}{100}\right) \qquad \ldots\ldots(\beta)$$

where n_k is the proportion of O.E.Ds. with a number of households with last two digits k.

* The investigation had to be made on the basis of 1921 census records, on account of the destruction by fire in 1941 of the 1931 records.

Similarly the variance of the excess per O.E.D. may be estimated as

$$\text{var } x = \sum_{k=0}^{k=24} n_k \left(\frac{k}{100}\right)^2 + \sum_{k=25}^{k=99} n_k \left(1-\frac{k}{100}\right)^2 - \bar{x}^2 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(\lambda)$$

If the distribution of k is rectangular $n_k = \frac{1}{100}$ for all values of k and the above expressions reduce to

$$\bar{x} = -\frac{1}{100^2}[0+1+\ldots\ldots\ldots+24+(25-100)+(26-100)+\ldots\ldots+(99-100)] = +\frac{51}{200}$$

and

$$\text{var } x = \frac{1}{100}\left[\sum_{k=0}^{k=24}\left(\frac{k}{100}\right)^2 + \sum_{k=25}^{k=99}\left(1-\frac{k}{100}\right)^2 - 100\left(\frac{51}{200}\right)^2\right]$$

$$= \frac{1}{100^3}\left[\sum_{k=0}^{k=24} k^2 + \sum_{k=1}^{k=75} k^2 - 100^3\left(\frac{51}{200}\right)^2\right]$$

$$= \frac{1}{100^3}(148350-65025)$$

$$= 0{\cdot}083325$$

(Note that this is only a sampling variance in terms of samples of O.E.Ds. taken from a universe of O.E.Ds. of rectangular distribution.)
Similarly the mean excess per O.E.D. in an estimate from even O.E.Ds., i.e. where the complementary digital ending 76* applies and the positive and negative terms of (β) are reversed in magnitude, is

$\bar{x} = -\frac{51}{200}$ and var $x = 0{\cdot}083325$.

If therefore the odd and even numbered O.E.Ds. were taken in pairs and were equal in number, the combined distribution would yield $\bar{x}=0$ (i.e. zero bias) and var $x = {\cdot}083325$ whereas if the same digital ending were used for odd and even numbered O.E.Ds. the value of $\bar{x}$ would vary with the digital ending from $+{\cdot}495$ (for 01) to $-{\cdot}495$ (for 00) though var x would be ${\cdot}083325$ for every digital ending. Thus the use of complementary digital endings (if odd and even numbered O.E.Ds. are equal) eliminates bias in numbers of households. The choice of the widely separated digits 25 and 76 provides a safeguard against bias in the distribution of census characteristics arising from the possibility of cyclical distribution of similar households. In fact of the total of 49,318 O.E.Ds. there were 628 more odd numbered than even numbered O.E.Ds. It would be accepted as tolerable, therefore, that the sample would exceed 1/100th of the number of households in O.E.Ds. by $628 \times \frac{51}{200} = 160$, subject to a variance of $49318 \times {\cdot}083325 = 4109$ or to a standard error of about 64.

In fact as stated above the sample number of households drawn from O.E.Ds. (before adjustment) was 131,973 and exceeded 1/100th of the total number by 99, which is well within the range of sampling fluctuation from 160 and is consistent with this assumption that the distribution of the universe of O.E.Ds. is rectangular. The rectangular hypothesis was, of course, made in the first place on sample evidence which leaves room for an element of departure from rectangularity which the distributions of 1951 for the Northern Region given in Table 18 also suggest. It may be of interest to note that if the alternative hypothesis is made of a distribution of the universe as for the odd numbered O.E.Ds. in Table 18, and if the odd numbered and the even numbered O.E.Ds. of 1951 are regarded each as samples from such a universe, the expected excess number of households in the 1951 sample works out at 166; on the second alternative hypothesis of a universe distributed as for the even numbered O.E.Ds. in Table 18 the expected excess is only 65. The standard errors of sample estimates of numbers of households work out at 64 on either hypothesis. Although the differences between these expected numbers are large, relative to one another, they are all extremely small in relation to the sample estimates of numbers of households. Since either of these hypotheses, and a whole range of others, could logically be substituted for that of a strictly rectangular distribution of O.E.Ds. the actual excess of 99 households in the sample cannot be said to be outside the range of sampling variations: it differs by only about one half of the standard

* Two numbers a and b are complementary in this sense if $a+b=101$.

error from the number (65) to be expected on the second hypothesis, and by only about one standard error from that expected on the basis of the first alternative hypothesis or on the basis of strict rectangularity.

In the above discussion the difference between sample and non-sample numbers of households is assumed to be due solely to sampling variations and is considered only in terms of probability theory. In consequence no account is taken in the first place of the sources of error likely to arise in the selection of the sample households by a large number of persons not trained to apply rigorous rules to such processes nor to appreciate the necessity for the selection to be made purely automatically. In the second place no account is taken of clerical errors likely to arise in the counting of such large numbers as are involved: the level of accuracy aimed at in processing the census records was such as to provide published tabulations reliable enough for any reasonable use likely to be made of them, which in many cases involved the toleration of errors of the order of one in a thousand. These two types of error are independent of one another. In all these circumstances the relatively small differences between a sample and a non-sample figure both purporting to measure the same census characteristic will have little if any significance. The analysis shows that the sample of households drawn from O.E.Ds. numbered, within very small limits of error, 1/100th of the total number of households, but it is in fact not possible to tell to what extent this result was achieved (i) because the hypotheses on which the sample design was based represented accurately the facts of the situation, (ii) because the census officers applied accurately the rules laid down for the selection of the sample and (iii) because the households drawn in the sample and the total of all households enumerated in O.E.Ds. were accurately counted. General considerations suggest that errors in each of these three spheres were very small, but it is possible that the overall very small differences conceal larger differences not all operating in the same direction in two or in all three of these spheres.

The reliability of the sample figures of numbers of households in different tabulation areas of the country is also of interest. In cols. (c) to (e) of Table 20 the sample and full counts of households are compared for each of the "medium" tabulation areas* of the One per cent Sample Tables; cols. (c) and (d) provide the data with which to assess the expected differences between sample and 1/100th of non-sample numbers and the standard errors of these differences, and the values of these two functions are shown in cols. (f) and (g). (The remaining columns of this table are discussed on p. 71.) In only three areas, Dorset A.C., Southampton A.C. and Leeds C.B., did the actual difference (column (e)) exceed or fall short of the expected difference (column (f)) by more than twice its standard error. There is no evidence in these figures of any failure of the sample design.

Estimate of population in Ordinary Enumeration Districts

The number of persons drawn from O.E.Ds. in the sample for England and Wales was 424,859 and 1/100th of the corresponding full census count was 425,213; thus there was a deficiency of 354. The variance to be attached to the sample estimate may be calculated as follows:—With notation n, h, p, for sample numbers of persons, households, persons per household, and N, H for corresponding non-sample numbers of persons and households

$$\text{Var } n = \text{Var } h.p$$
$$= \left[\text{Var } h + \left(\frac{H}{100}\right)^2\right]\left[\text{Var } p + \left(\frac{N}{H}\right)^2\right] - \left(\frac{N}{100}\right)^2$$

Var h has been estimated as 4,109 on the assumption of rectangular distribution of k (see p. 66) and it may be taken that small variations from rectangularity will not affect this variance much; H=13,187,378.

Var p may be derived using the data from which Table 19 was prepared and is estimated as about $0{\cdot}22\times10^{-4}$; and N=42,521,287.

Using these values var n works out at about 425,800 giving a standard error of the sample estimate of population in O.E.Ds. (before adjustment) of about 653.

In addition to this variance there will be a small bias in the sample estimate of population, corresponding to that in the sample estimate of households, due to the excess 628 odd numbered over even numbered O.E.Ds. The population in the sample from O.E.Ds. would on this account be expected to exceed 1/100th of the total population enumerated in O.E.Ds. by $\frac{51}{200}\times628\times\frac{N}{H}=516$

* A.Cs., C.Bs., or Met.Bs. with populations between 250,000 and 1,000,000.

le 20.—Differences between sample and non-sample figures for
(i) Households in Ordinary Enumeration Districts
(ii) Persons per Household
(iii) Proportion of population aged 0-14

"Medium Areas" in England and Wales

Area	Number of Ordinary Enumeration Districts		Number of households in Ordinary Enumeration Districts			"Expected" excess of households in sample†		Differences between sample and non-sample figures‡			
								Average number of persons per household in ordinary enumeration districts		Percentage of population aged 0–14	
	Total number	Excess of odd numbered over even numbered	Total* (hundreds)	Sample (unadjusted)	Difference (d)−(c)	Number	Standard error	Unadjusted sample	Adjusted sample	Unadjusted sample	Adjusted sample
	a	b	c	d	e	f	g	h	j	k	l
ministrative Counties											
rdshire	341	5	921	924	3	1	5	−0·055	−0·027	−0·27	−0·14
hire	361	7	819	821	2	2	5	−0·065	−0·028	−0·85	−0·41
nghamshire	462	8	1,139	1,134	− 5	2	6	−0·039	−0·004	−0·28	0·00
ire	933	11	2,516	2,515	− 1	3	9	0·030	0·019	0·37	0·22
wall	603	13	1,048	1,058	10	3	7	−0·018	−0·012	0·27	0·28
yshire	766	14	2,025	2,038	13	4	8	0·014	0·001	0·91	0·86
n	957	17	1,567	1,581	14	4	9	−0·041	−0·021	−0·44	−0·28
t	399	1	864	847	−17	0	6	0·013	0·014	−0·66	−0·85
am	956	12	2,569	2,561	− 8	3	9	0·016	0·004	−0·08	−0·17
organshire	763	11	2,099	2,109	10	3	8	−0·040	−0·021	0·07	0·27
estershire	607	11	1,249	1,255	6	3	7	−0·005	−0·006	1·29	1·25
ordshire	635	9	1,802	1,812	10	2	7	0·026	0·008	−0·47	−0·57
tershire	415	5	1,037	1,033	− 4	1	6	−0·006	−0·004	−1·74	−1·75
lnshire (Lindsey)	504	6	909	901	− 8	2	6	−0·013	−0·008	0·06	0·17
nouthshire	391	5	920	913	− 7	1	6	−0·093	−0·027	−1·57	−0·88
olk	613	9	1,098	1,100	2	2	7	0·008	0·006	1·35	1·33
hamptonshire	362	6	783	783	0	2	5	0·031	0·021	0·19	−0·10
umberland	591	9	1,284	1,283	− 1	2	7	0·018	0·015	0·16	0·22
nghamshire	587	7	1,570	1,577	7	2	7	−0·047	−0·028	0·73	0·90
shire	461	5	784	792	8	1	6	0·039	0·011	1·51	1·23
rset	706	18	1,415	1,422	7	5	8	−0·005	−0·002	−0·13	−0·08
hampton	780	12	1,758	1,739	−19	3	8	−0·077	0·035	0·66	0·06
rdshire	909	19	2,401	2,395	− 6	5	9	−0·007	−0·000	0·73	0·86
, East	443	5	1,075	1,080	5	1	6	0·055	−0·004	0·71	−0·01
, West	389	5	988	991	3	1	6	−0·002	0·010	0·14	0·16
wickshire	565	7	1,423	1,424	1	2	7	−0·005	−0·006	0·82	1·11
hire	502	6	1,036	1,036	0	2	6	−0·073	−0·027	−0·15	0·15
estershire	468	10	1,180	1,185	5	3	6	0·071	0·017	1·50	0·92
shire, North Riding	598	8	1,042	1,047	5	2	7	0·020	0·010	1·09	1·03
unty Boroughs											
ford	267	3	961	963	2	1	5	−0·038	−0·024	0·17	0·31
ol	427	3	1,362	1,357	− 5	1	6	−0·015	−0·007	0·35	0·53
ntry	236	2	767	767	0	1	4	−0·070	−0·025	−0·18	0·21
ston upon Hull	274	4	894	893	− 1	1	5	−0·035	−0·024	0·25	0·34
	464	4	1,620	1,606	−14	1	6	−0·045	−0·017	−0·88	−0·49
ster	275	3	888	884	− 4	1	5	−0·024	−0·013	0·10	0·24
pool	702	6	2,182	2,173	− 9	2	8	0·108	0·022	1·25	0·67
hester	608	6	2,145	2,152	7	2	7	−0·046	−0·027	−0·20	−0·03
astle	264	2	880	890	10	1	5	−0·053	−0·034	−0·23	−0·03
ngham	327	3	938	940	2	1	5	0·063	0·032	1·56	1·17
eld	546	2	1,586	1,589	3	1	7	−0·007	−0·007	−0·55	−0·55
on Trent	253	3	793	801	8	1	5	0·041	0·010	0·91	0·54
tropolitan Borough											
lsworth	284	2	1,095	1,095	0	1	5	0·055	0·021	−0·35	−0·03
of the above areas	21,994	304	55,432	55,466	34	78	43	−0·0004	−0·0001	0·25	0·23

Preliminary count.
i.e. excess over 1/100th of non-sample number.
Positive differences denote the sample figure exceeding the non-sample figure.

if the distributions of O.E.Ds. by k values were precisely rectangular or by some other amount of the same order of magnitude if the distribution of k was not precisely rectangular. Allowing for a bias of 516 the sample figure falls below expectation by 516+354=870, this difference being subject to a standard error of 654.

Private and non-private households

The precision with which the sample estimates numbers of private households in O.E.Ds. differs little from that for all households in O.E.Ds., since the number of non-private households in O.E.Ds. is such a small proportion of the total. The sample estimates of households and population in non-private households in O.E.Ds. are, by contrast, considerably less precise, the sampling variance in the population estimate being fairly evenly divided between its two elements (a) the variance in the estimate of number of non-private households and (b) that in their size. The following statement indicates these relative levels of accuracy (assuming rectangular distribu-

tion of k and neglecting the bias). The calculations are based on the sample distributions from which Table 19 is derived.

	Standard error of estimate as percentage of estimate	
	Households	Population
All households in O.E.Ds.	0·05	0·16
Private „ „ „	0·06	0·15
Non-private „ „ „	2·6	3·6

The precision with which the sample estimates the population in non-private households as a whole and in those of particular classes also depends much on the relative numbers of persons in them who were enumerated in O.E.Ds. and S.E.Ds. For those classes of establishment that were mostly enumerated in O.E.Ds., such as the smaller hotels and boarding houses, nursing homes and homes for the aged, it was to be expected that the sample figures would be very unreliable. The objective in designing the one per cent sample was to give reliable figures in respect of characteristics of total population and population in private households, the reliability of figures for non-private households being regarded as of minor importance. In so far as counts of numbers of persons and of households for the country as a whole are concerned this objective was achieved, but the sample figures of non-private households must clearly be regarded as of uncertain validity. The comparison in Table 21 between published sample and non-sample figures may be of interest.

Table 21.—Comparison of sample and non-sample numbers of persons enumerated in non-private households

Class of non-private household	Numbers enumerated in England and Wales		
	In One per cent Sample Tables	In full census (hundreds)	Percentage difference $\frac{(a)-(b)}{(b)} \times 100$
	a	b	c
Hotels, boarding houses, permanent holiday camps, etc.			
—with 10 or more rooms	246,1	270,4	− 9·0
—with less than 10 rooms	505,1	*	
Educational establishments and children's homes	106,4	114,8	− 7·3
Civilian hospitals and nursing homes	338,6	349,1	− 3·0
Institutions for mentally ill or deficient	196,2	216,5	− 9·4
Homes for permanently disabled or aged	61,3	86,6	−29·2
Miscellaneous communal establishments	175,4	233,2	−24·8
Places of detention including Borstals and police stations	23,8	24,0	− 0·8
Defence Establishments including naval ships and service hospitals	479,5	483,1	− 0·7
Civilian ships, boats and barges	40,0	40,8	− 2·0

* No comparable figures available.

The comparison shows the combined effect of sampling variations and any changes in coding practice which were made when the main census records were processed. The sample figure for hotels and boarding houses with ten or less rooms includes an unknown number of establishments of a kind that were transferred to the private household category when the analysis of the full census record was made. It is possible that some difference of treatment in classification has also been given to the miscellaneous communal establishments, but it is not improbable that the greater part of the difference of 25 per cent shown in column (c) for this class, and the corre-

spondingly high difference (29 per cent) in the case of homes for the permanently disabled and aged is due to sampling error.*

Increase in precision of sample estimates of two census characteristics as a result of the adjustment procedure

For the areas listed in Table 20 the average numbers of persons per household, among all households enumerated in O.E.Ds., whether private or non-private, have been calculated from non-sample numbers, from sample numbers before the adjustment procedure had been applied and from sample numbers as modified by the adjustment procedure. These statistics are of little interest in themselves for they comprise some but not all of the non-private households together with all of the private households. Comparisons between them, however, afford a convenient method of indicating the extent to which the adjustment procedure improved the record in respect of one important characteristic which the census figures measure. The differences between non-sample and unadjusted sample figures of persons per household, shown in column (h) of Table 20, have a standard deviation of 0·045; those between non-sample and adjusted sample figures in column (j) have a standard deviation less than half as large, 0·018. This reduction in the scatter suggests that the adjustment procedure has improved the record, at any rate in respect of this particular function, persons per household. Reference to the bottom line of the table shows that for the whole of the 42 areas the deficiency of the unadjusted sample as compared with the non-sample persons per household figure is only ·0004, a negligible degree of bias; on the adjusted sample basis the bias is reduced to ·0001. Since the adjustments were made in the light of knowledge of differences between sample and non-sample figures of just these two statistics it is not to be expected that there will have been so great, if any, improvement in the record of other characteristics. One other characteristic, viz. the percentage of persons aged under 15, has been similarly analysed. The non-sample percentage ranges from 18·91 for Wandsworth Metropolitan Borough to 25·91 for Liverpool County Borough. Columns (k) and (l) show the differences between the non-sample figures and the two series of sample estimates of these percentages. The standard deviation of the differences in column (k) between non-sample and unadjusted sample figures is 0·78 while the corresponding figure obtained from column (l) which relates to adjusted sample figures is 0·65. The reduction in the scatter resulting from, though not the direct object of, the adjustments, which were designed to secure agreement of absolute numbers not proportions, is small but appreciable. For all the areas taken together the unadjusted sample percentage aged 0-14 was only 0·25 in excess of the non-sample figure; on the adjusted sample basis the excess was 0·23. On both bases the bias was of the order of only 1 per cent of the true proportion (22·60).

Proportion of Population in given age-groups: Comparison between published sample figures and final non-sample figures

Since there are many population characteristics for which corresponding sample and non-sample statistics have been published for each of a large number of areas, it is possible to examine distributions of differences between sample and non-sample figures and to compare them with appropriate theoretical distributions.

Statistics of numbers of persons of one sex in a comparatively small age-group have been chosen as suitable for this type of comparison because they can easily be transformed into values of a variable which would be approximately Normally distributed with unit variance under conditions of random sampling. Since the adjustment procedure employed with the census sample was designed to control, within very small limits, the total number of persons in the sample in each of the tabulation areas of the published sample tables, it seems reasonable to consider that if a random sample design in terms of persons had been employed the sample figure of, for example, males aged 0-4 in Cheshire could have been regarded as a value of a binomially distributed random variable with standard error $\sqrt{np\,(1-p)\times 0\cdot 99}$ where n is the total number of persons (male and female) of all ages selected for the sample in Cheshire and p is the proportion of males aged 0-4 in the population of Cheshire. It follows from this that if n_1 is the sample number of males aged 0-4 in Cheshire and N_1 is 1/100th of the corresponding full census number, then $\frac{n_1-N_1}{\sqrt{np\,(1-p)\times 0\cdot 99}}$ may be regarded as a value of a binomially distributed random variable with unit standard error. Moreover for Cheshire and every other tabulation area of the published One per cent Sample Tables n is large enough for each of these binomial distributions to approximate closely to a unit Normal distribution. In the examination that has been made, the distribution of values of the

* It is quite possible that more than half the sample figure of 613 for homes for permanently disabled and aged relates to establishments in O.E.Ds. The number of such establishments selected for the sample may well have been as small as 15, and these may have differed widely in size.

variable* $y_{ij} = \frac{n_{ij} - N_{ij}}{\sqrt{n_j\, p_{ij}\,(1-p_{ij}) \times 0{\cdot}99}}$ (where i denotes a particular sex age group and j a particular area) for the 250 mutually exclusive small, medium and large tabulation areas of the published sample tables†, has been compared with a unit Normal distribution. Such examination has been made also for a number of other sex age groups.

Table 22 sets out the frequency distributions of the 250 values of each of the six y variables, the data being derived from the published One per cent Sample tables and from the County Reports. Table 23 sets out statistics of these distributions. They are also represented diagrammatically in Diagram B, superimposed on unit Normal distributions.

Table 22.—Frequency Distribution of values of y_{ij} — **250 mutually exclusive areas of England and Wales**

Notation: $y_{ij} = \frac{n_{ij} - N_{ij}}{C_i \sqrt{N_{ij}}}$

where i denotes the sex age group
j denotes the area
N_{ij} = 1/100th of (non-sample) census population in sex age group i in area j
n_{ij} = sample population in sex age group i in area j
C_i = constant for a given sex age group, as specified in the footnote below.

y_{ij}	Sex age group i					
	Males 0–4	Females 0–4	Males 25–34	Females 25–34	Males 55–64	Females 55–64
3·3 to 3·1	1				1	
3·1 to 2·9						
2·9 to 2·7						
2·7 to 2·5			1			1
2·5 to 2·3				2		1
2·3 to 2·1	3	2	1	2		
2·1 to 1·9	1	3	3	1	4	1
1·9 to 1·7	6	1	3	1	1	5
1·7 to 1·5	9	7	7	2	6	3
1·5 to 1·3	13	8	8	8	12	7
1·3 to 1·1	10	9	12	10	9	15
1·1 to 0·9	9	17	11	19	14	9
0·9 to 0·7	12	13	19	11	4	21
0·7 to 0·5	12	18	19	21	15	18
0·5 to 0·3	30	20	18	18	24	19
0·3 to 0·1	17	23	27	23	23	23
0·1 to −0·1	19	22	15	22	13	18
−0·1 to −0·3	17	17	21	22	19	13
−0·3 to −0·5	19	20	21	19	22	21
−0·5 to −0·7	9	13	16	12	10	21
−0·7 to −0·9	13	9	13	16	14	11
−0·9 to −1·1	11	10	10	14	17	9
−1·1 to −1·3	8	11	4	9	13	14
−1·3 to −1·5	4	10	8	10	11	4
−1·5 to −1·7	7	7	5		3	9
−1·7 to −1·9	4	1	1	2	9	1
−1·9 to −2·1	7	5	3	2	5	5
−2·1 to −2·3	2	2		3		
−2·3 to −2·5	1	1	2	1		1
−2·5 to −2·7	3				1	
−2·7 to −2·9	1	1				
−2·9 to −3·1	1					
−3·1 to −3·3	1					
−3·3 to −3·5			1			
−3·5 to −3·7			1			
	250	250	250	250	250	250

* All the sex age groups analysed in this way contain only small proportions of total population, i.e. p is small. For economy of calculation $\sqrt{n_j\, p_{ij}\,(1-p_{ij}) \times 0{\cdot}99}$ has been replaced by $\sqrt{N_{ij}}$ multiplied by a correcting factor C_i which is a constant for each of the sex age groups analysed, calculated as the value of $\sqrt{\frac{np_i\,(1-p_i) \times 0{\cdot}99}{N_i}}$ where n is the total sample number of persons enumerated in England and Wales, N_i is 1/100th of the non-sample number in the sex age group in England and Wales, and P_i is the national proportion of the population in the sex age group calculated from non-sample figures.

†C.Bs., Met. Bs., other urban areas with 50,000 or more population, and A.Cs. or remainders of A.Cs.

Diagram B.—Frequency distributions of Standardised Sampling Deviations from expected numbers, in specified sex and age groups, for 250 areas, compared with Normal distributions

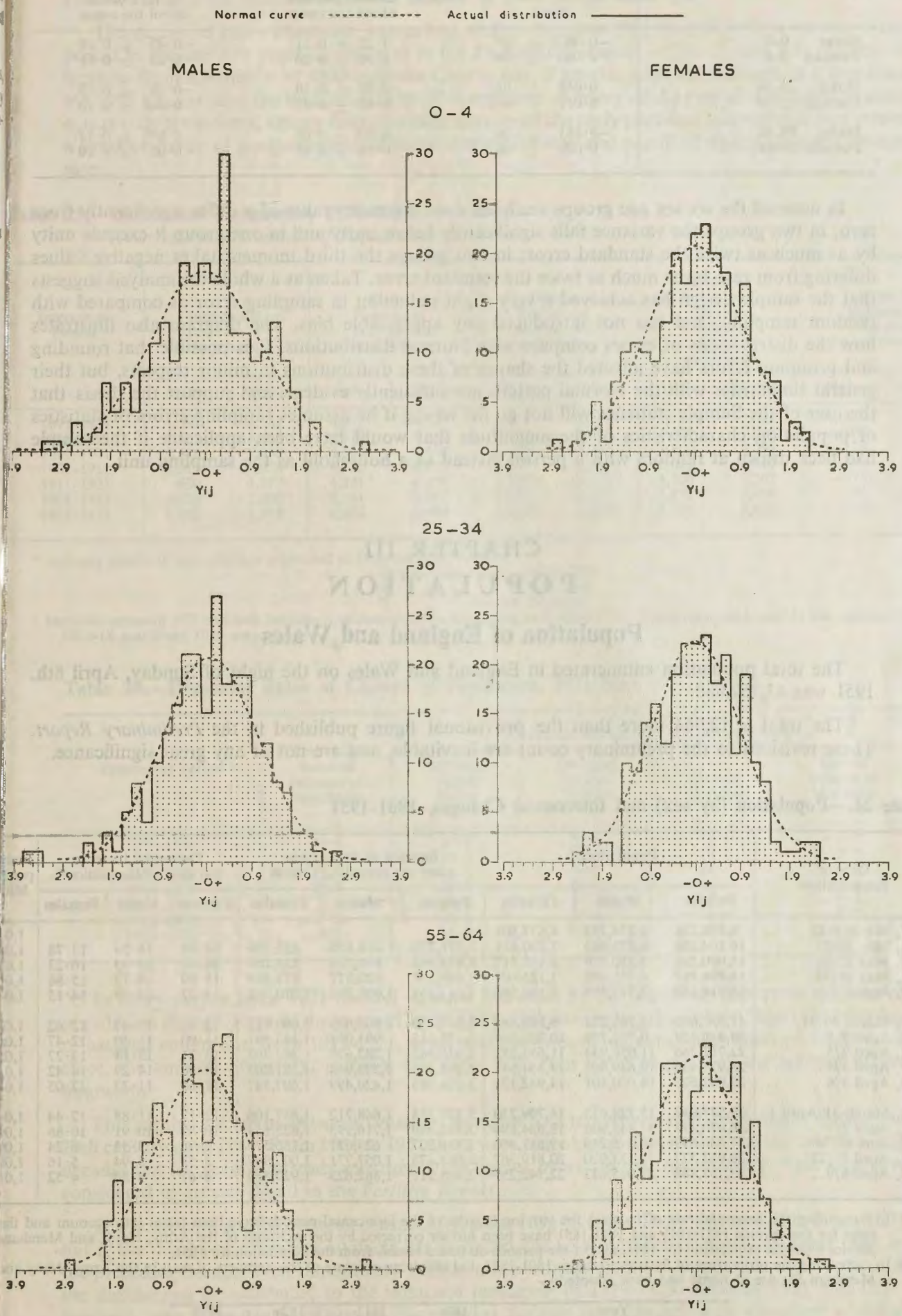


Table 23.—Statistics of the distributions of y_{ij} shown in Table 22

	Mean	Second moment about the mean	Third moment about the mean
Males 0–4	−0·0024 ± ·07	1·22 ± 0·11	−0·43 ± 0·19
Females 0–4	0·000 ± ·06	0·92 ± 0·08	−0·20 ± 0·11
Males 25–34	0·068 ± ·06	0·92 ± 0·10	−0·38 ± 0·19
Females 25–34	0·017 ± ·06	0·80 ± 0·07	−0·048 ± 0·10
Males 55–64	−0·083 ± ·06	0·97 ± 0·08	0·091 ± 0·14
Females 55–64	0·020 ± ·06	0·86 ± 0·07	0·057 ± 0·10

In none of the six sex age groups analysed does the mean value of y differ significantly from zero; in two groups the variance falls significantly below unity and in one group it exceeds unity by as much as twice the standard error; in two groups the third moment takes negative values differing from zero by as much as twice the standard error. Taken as a whole the analysis suggests that the sample design has achieved a very slight reduction in sampling error as compared with random sampling, and has not introduced any appreciable bias. The diagram also illustrates how the distributions of errors compare with Normal distributions. It is possible that rounding and grouping errors have affected the shapes of these distributions in minor respects, but their general similarities with the Normal pattern are sufficiently evident, and support the thesis that the user of the Sample statistics will not go far wrong if he assumes sampling errors of statistics of population characteristics of the magnitude that would have been applicable if the sample had been drawn at random with a person instead of a household as the sampling unit.

CHAPTER III
POPULATION

Population of England and Wales

The total population enumerated in England and Wales on the night of Sunday, April 8th, 1951 was 43,757,888.

The total is 12,964 more than the provisional figure published in the *Preliminary Report*. These revisions to the preliminary count are inevitable, and are not of any great significance.

Table 24.—Population (by sex) and Intercensal Changes, 1801-1951

Date of Enumeration	Population			Increase of Population since the preceding Census			Decennial Increase per cent of Population*			Fem per 1 Ma
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
1801, March 9/10 ..	**8,892,536**	4,254,735	4,637,801							1,0
1811, May 26/27 ..	**10,164,256**	4,873,605	5,290,651	1,271,720	618,870	652,850	14·00	14·24	13·78	1,0
1821, May 27/28 ..	**12,000,236**	5,850,319	6,149,917	1,835,980	976,714	859,266	18·06	20·03	16·23	1,0
1831, May 29/30 ..	**13,896,797**	6,771,196	7,125,601	1,896,561	920,877	975,684	15·80	15·73	15·86	1,0
1841, June 6/7	**15,914,148**	7,777,586	8,136,562	2,017,351	1,006,390	1,010,961	14·27	14·39	14·15	1,0
1851, March 30/31 ..	**17,927,609**	8,781,225	9,146,384	2,013,461	1,003,639	1,009,822	12·65	12·68	12·62	1,0
1861, April 7/8.. ..	**20,066,224**	9,776,259	10,289,965	2,138,615	995,034	1,143,581	11·90	11·30	12·47	1,0
1871, April 2/3.. ..	**22,712,266**	11,058,934	11,653,332	2,646,042	1,282,675	1,363,367	13·21	13·14	13·27	1,0
1881, April 3/4.. ..	**25,974,439**	12,639,902	13,334,537	3,262,173	1,580,968	1,681,205	14·36	14·29	14·42	1,0
1891, April 5/6.. ..	**29,002,525**	14,060,401	14,942,124	3,028,086	1,420,499	1,607,587	11·65	11·23	12·05	1,0
1901, March 31/April 1	**32,527,843**	15,728,613	16,799,230	3,525,318	1,668,212	1,857,106	12·17	11·88	12·44	1,0
1911, April 2/3 ..	**36,070,492**	17,445,608	18,624,884	3,542,649	1,716,995	1,825,654	10·89	10·91	10·86	1,0
1921, June 19/20 ..	**37,886,699**	18,075,239	19,811,460	1,816,207	629,631	1,186,576	4·93	3·53	6·24	1,0
1931, April 26/27 ..	**39,952,377**	19,133,010	20,819,367	2,065,678	1,057,771	1,007,907	5·53	5·94	5·16	1,0
1951, April 8/9.. ..	**43,757,888**	21,015,633	22,742,255	3,805,511	1,882,623	1,922,888	4·67	4·80	4·52	1,0

* In computing the decennial rate of increase the varying lengths of the intercensal periods have been taken into account and the rates for the periods 1831-1841 and 1841-1851 have been further corrected by the exclusion of the Army, Navy, and Merchant Service from the population for 1841, and of the persons on board vessels from the population for 1851.

† In computing the proportion of females to males 1801-1831, the following estimate of the numbers of men in the Army, Navy and Merchant Service at home had been adopted:—

Year	1801	1811	1821	1831
Estimated Number of Males ..	131,818	145,137	87,740	78,968

The number enumerated in 1951 was the highest ever, but the increase since 1931 was the smallest for any twenty year period since 1811-1831. The largest twenty year increase was from 1891-1911, and the increase has been smaller in each period since then.

The decennial rate of increase was in fact smaller between 1931 and 1951 than for any other period in the last 150 years. It was said in the Preliminary Report of the Census that the rate of increase from the middle of 1939 until the Census was, if anything, slightly more than it was from the 1931 Census until the middle of 1939. This apparent recovery of the rate of increase is to some extent only temporary, arising from the high fertility of the early post-war years, which was in turn a product partly of postponement of births during the war and partly of high post-war marriage rates.

Table 25.—Intercensal Movements, 1871-1951
(Numbers in Thousands of Population)

Intercensal Period	Intercensal Increase of Population		Births Registered in England and Wales		Deaths Registered in England and Wales		Excess of Births over Deaths Registered in England and Wales		Inward Balance of Migration (− =outward)	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1871–1881	1,581	1,681	4,383	4,221	2,679	2,499	1,704	1,722	−123	− 41
1881–1891	1,413	1,615	4,529	4,365	2,708	2,557	1,821	1,808	−408	−193
1891–1901	1,676	1,850	4,659	4,498	2,859	2,704	1,800	1,794	−124	56
1901–1911	1,717	1,826	4,732	4,558	2,705	2,541	2,027	2,017	−310	−191
1911–1921	630	1,187	4,231	4,050	2,725*	2,543	1,506	1,507	−876†	−320
1921–1931	1,058	1,008	3,541	3,387	2,389	2,303	1,152	1,084	− 94	− 76
1931–1951	1,883	1,923	6,852	6,480	5,147*	4,858*	1,706	1,622	177†	301

* Includes deaths of non-civilians registered in England and Wales:—
68 thousand males 1911-1921
64 ,, ,, 1931-1951
1 ,, females 1931-1951

† Includes losses of 577 and 240 thousands of non-civilians belonging to England and Wales who died outside the country during 1914-18 and from 1939 respectively.

Table 26.—Decennial Rates of Change of Population, 1871-1951

Intercensal Period	Decennial increase per cent of Population	Decennial change per cent of Population			
		Increase due to Births	Decrease due to Deaths	Natural Increase	Inward balance of Migration (− =outward)
1871–1881	14·4	37·9	22·8	15·1	−0·7
1881–1891	11·7	34·3	20·3	14·0	−2·3
1891–1901	12·2	31·6	19·2	12·4	−0·2
1901–1911	10·9	28·6	16·1	12·4	−1·5
1911–1921	4·9	22·5	14·3	8·2	−3·2
1921–1931	5·5	18·6	12·6	6·0	−0·5
1931–1951	4·7	16·3	12·3	4·0	0·6

In every period since 1871 natural increase has been by far the more important element of population change. Even in the years of agricultural collapse during the eighties, and in the heyday of assisted emigration from 1911-1921, when there was more net emigration than ever before or since, the amount of natural increase was more than four times as great as the amount of net migration.

The number of births between censuses, adjusted to a ten year period, fell steadily during the 20th century until 1941. From 1941 to 1951 there were more births than in either of the two previous decades but for reasons already mentioned the figures overstate the true recovery. This subject is considered in greater detail in the *Fertility Report*.

The number of deaths between censuses fell from 1891 to 1931. There was no fall in 1911-1921, but if the deaths of male non-civilians are excluded the total number of deaths is lower than in the preceding decade, even though very slightly more women died. No doubt this interruption of the decline can be attributed to the influenza pandemic of 1919-1920. Between 1931 and 1951, however, even if the deaths of non-civilians during the war are excluded as an abnormal addition to the number of deaths, more people died, both men and women, than between 1911 and 1931. As a result of these changes in the numbers of births and deaths, the excess of births over deaths

was, of course, much smaller between 1931 and 1951 than between 1911 and 1931. So quickly has the natural increase fallen that in the twenty years between 1931 and 1951 it was substantially less than in the ten years between 1901 and 1911. It is worth noting, too, that since 1881, with the exception of 1911-1921 when deaths of male non-civilians were an abnormal influence, the excess of births over deaths has been greater for men than for women.

The balance of migration was outwards between every two censuses until 1931. More men than women emigrated except between 1911 and 1921. (The figure for men appears higher even then because it includes the deaths of non-civilians abroad.) Fluctuations in the balance reflect economic fluctuations at home and in the receiving countries. The effect of the severe agricultural depression in Britain that was precipitated by the disastrous harvest in 1879 has already been mentioned. After the economically relatively placid 1890s when there was even a net influx of women, the beginning of economic development in Canada and Australia produced a larger outflow from 1901 to 1921. Indeed, in spite of the almost complete cessation of migration during the war, net emigration from 1911-1921 was the highest ever. This movement tailed off quickly during the 1920s for reasons that are not clear and in spite of assisted emigration to the Dominions. Emigration to the United States and Canada fell sooner and further than emigration to Australia. After 1931 the migration balance was inward for the first time for over a hundred years. Although the great depression made Britain unattractive, the primary producing countries including the British Dominions and Colonies had been affected already and there was no incentive to emigrate. Emigration to the Empire countries had therefore virtually ceased by 1930, and the migration balance consisted mostly of people coming to England and Wales from Europe.

Although the highest number of births occurred in the decade 1901-1911 the birth rate has been declining steadily since 1871-1881. From 1871 to 1901 the whole population was increasing faster than the number of births, so that the rate was falling. The same sort of thing happened with deaths between 1911 and 1951. The number of deaths in the last intercensal period was higher than in the preceding periods, but because the population nevertheless increased, the rate was lower.

The period from 1931 to 1951 was so disturbed that it is worth while examining more closely the changes in the population that took place. In the Preliminary Report an attempt was made to show the changes year by year. The final census count does not differ enough from the preliminary count to make it necessary substantially to alter those figures or the conclusions drawn from them.

Table 27.—Analysis of population change, 1921-1951

	Years (July to June)	Live Births	Deaths Registered		Excess of Live Births over Deaths	Deaths of Non-Civilians and Merchant Seamen outside England and Wales (approx.)	Estimated Inward Balance of Civilian Migration (− =outward)	Percentage increase or decrease (−) in Population					
			Total	Non-Civilians included in col. (b)				By births		By deaths		Inward Balance of Migration (− =outward)	
								Males	Females	Males	Females	Males	Females
		a	b	c	d	e	f	g	h	j	k	l	m
					(thousands)								
Yearly Averages	1921–26 (5 years)	750	469		281		−45	2·12	1·85	−1·32	−1·18	−0·12	−0·12
	1926–31 (5 „)	654	484		170		5	1·78	1·57	−1·32	−1·16	0·00	0·02
	1931–39 (8 „)	607	489		118		66	1·61	1·42	−1·30	−1·15	0·17	0·16
	1939–45 (6 „)	650	514	9	136	−35	48	1·66	1·46	−1·50	−1·14	0·17	0·06
	1945–51 (6 „)	766	508	2	258	− 5	− 8	1·92	1·68	−1·30	−1·12	−0·03	−0·01

The twenty year period is obviously divisible into three parts—the eight years before the war, the six war years and the six post-war years. Before the war births and deaths continued in the trends that had been established throughout the century. Births, both in absolute numbers and as a percentage change in the population, continued to decline, with little difference between the sexes. The absolute number of deaths increased slightly but although the population was older as well as larger the increase was not enough to produce an increased death rate; age for age (especially at younger ages) mortality was declining.

The change in direction of the migration balance has already been mentioned. The great outward movements of the preceding periods had been to the undeveloped Empire countries, and had masked the small flow into England and Wales from European countries. Consequently, when, for whatever reason, the outward flow to the "new" countries stopped, the net migration balance with the whole of the world became inwards for the first time for a century.

During the war the average number of births increased slightly, contrary to expectations. This

change has by no means been completely explained. It occurred in other countries, both belligerent and neutral, which had also been experiencing a falling trend, so that it was not necessarily solely an effect of the war. Whilst many marriages and some upsurge in fertility may be regarded as part of a natural war reflex, there is reason to believe that a change in social values determining family size began to take place in the years immediately before the war. The percentage change in the population by deaths of females continued to fall, but the rate for males was much higher than before the war. This increase comes entirely from deaths due to operations of war, but there is a real difference between the experiences of males and females; if all deaths due to operations of war are treated separately the percentage changes in the population by non-war deaths are −1·30 for males and −1·12 for females compared with −1·30 and −1·15 in the 8 years before the war. This relative improvement of female mortality has been taking place for about 100 years but has been more marked since about 1920. The cause is not clear; the accentuation since 1920 might be a result of delayed effects of the first world war upon men, though there is no clear evidence; it might be the effect of the progressive emancipation of women. The percentage change by migration remained about the same as before the war for males but was lower for females.

The most striking change after the war was the large increase in births. This was similar to what happened after the first world war. The upward movement in the birth rate was partly due to births postponed by wartime separations and partly to a high incidence of marriage at the end of and immediately after the war. There was also a real increase in fertility which began to take place even before the second world war. By 1951 these influences had largely spent themselves and annual births had settled down at a level about 10 per cent above that of the years immediately before the war.

The percentage changes in the population by deaths continued to fall slowly, although the fall is appreciable for females only. The change by migration was once more outward in balance; as well as a general resurgence of interest in migration to the Commonwealth countries there was emigration of the wives of Commonwealth and Allied service men, and their children, most of whom went to Canada and the United States in the years immediately after the end of the war.

World Population

To provide background to the picture, Table 28 gives estimates of the populations of all countries with 1 million or more inhabitants, and continental totals of the others. The table also shows estimated birth and death rates for certain countries. These statistics are taken from the *Demographic Yearbook* of the United Nations. The precision and reliability of the figures varies very widely; many of them should only be used as indicators of order of magnitude.

Birth and death rates are only reproduced where no serious defect was actually mentioned in the Yearbook. For example, some countries did not use births or deaths when moving population estimates on from one year to the next. Unless there was a special reason (as in Norway for example where a continuous population register is kept) this was assumed to mean that the birth and death statistics were deficient. Other countries limited their vital statistics to part only of their populations. Although there is at least one set of vital rates shown for each continent except the U.S.S.R. it is not claimed that they are representative, only that they are available.

The table is so large that a summary is useful:

World population 1954-55
(*Thousands*)

Continent	Commonwealth	Other	Total
Africa	81,868	138,724	220,592
N. America	18,685	218,981	237,666
S. America	481	123,110	123,591
Asia	477,639	977,225	1,454,864
Europe	51,472	355,845	407,317
Oceania....	13,639	816	14,455
U.S.S.R.	—	216,000	216,000
Total	**643,784**	**2,030,701**	**2,674,485**

Table 28.—World Population and Natural Increase in certain countries

Continent	Country	Population			Natural Increase				Notes
		Year of Estimate	Type of Estimate[1]	Estimate (thousands)	Year of Estimate	Birth rate[2] (per thousand)	Death rate[2] (per thousand)	Excess of Birth rate over Death rate	
Africa				215,898					
	Egypt	1954	B.3	22,651	1953	48·5 R	22·3 R	26·2	
	Federation of Ethiopia and Eritrea	1955	Unofficial	20,000					
	Liberia	1954	E.8	1,250					
	Libya	1954	Census 1954	1,092					
	Union of South Africa	1955	A.1 white A.5 non-white	13,669					
	TERRITORIES AND DEPENDENCIES—								
	Belgium								
	Belgium Congo	1954	D.0	12,264					
	France								
	Algeria	1954	Census 1954	9,369	1954	43·2 MU 19·0 EC	13·7 MU 8·8 EC	29·5 M 10·2 E	M = Moslem popu E = European popu
	French Equatorial Africa	1955	Unofficial	4,680					
	French West Africa	1955	....	18,729					
	Madagascar	1955	....	4,776	1953	33·0 U	12·8 U	20·2	
	Morocco	1954	A..	8,340					
	Tunisia	1955	B..	3,745	1954	32·5 U	8·5 U	24·0	
	Portugal								
	Angola	1954	A.6	4,243					
	Mozambique	1955	A.5	6,040					
	Spain								
	Morocco (Northern Zone)	1954	A.5	1,017					
	United Kingdom								
	Gold Coast	1955	B.6	4,190					
	Kenya	1954	B.7	5,947					
	Nigeria, Federation of	1954	A..	30,300					
	Northern Rhodesia	1954	A..	2,072					
	Nyasaland	1954	D..	2,484					
	Southern Rhodesia	1954	D.0	2,321					
	Sierra Leone	1954	D..	2,040					
	Uganda	1954	B.7	5,425					
	TRUST TERRITORIES—								
	Cameroons (*Br. Adm.*)	1954	A..	1,460					
	Cameroons (*Fr. Adm.*)	1955	....	3,146					
	Ruanda-Urundi (*Belg. Ad.*)	1954	D.0	4,262					
	Somaliland (*Ital. Adm.*)	1954	D.0	1,269					
	Tanganyika (*Br. Adm.*)	1954	B.7	8,196					
	Togoland (*Fr. Adm.*)	1955	....	1,070					
	CONDOMINIUM—								
	Anglo-Egyptian Sudan	1954	D..	8,900					
	Others	1954/1955		5,645					
America, North				237,666					
	Canada	1955	A.2	15,601	1954	28·7 C	8·2 C	20·5	Rates exclude Yuk North West Terr
	Cuba	1953	Census 1953	5,807	1952	25·1 UR	6·5 UR	18·6	Infants dying wit hours of birth a cluded from both and deaths.
	Dominican Republic	1955	A.5	2,404					
	El Salvador	1954	A.4	2,122					
	Guatemala	1954	A.3	3,149	1954	51·7 R	18·5 R	33·2	
	Haiti	1954	A..	3,506					
	Honduras	1955	B.2	1,660	1954	41·9 CR	11·2 CR	30·7	
	Mexico	1954	A.1	28,849	1954	46·4 CR	13·1 CR	33·3	
	Nicaragua	1954	A.4	1,202	1954	43·1 UR	9·6 UR	33·5	
	United States	1955	A.1	165,248	1954	24·9 C	9·2 C	15·7	
	TERRITORIES AND DEPENDENCIES—								
	United Kingdom								
	Jamaica	1954	C.1	1.518	1954	35·3 C	10·7 C	24·6	
	United States								
	Puerto Rico	1954	A.1	2,229	1954	35·0 U	7·6 U	27·4	According to test registration was complete in 1940
	Others	1954/1955		4,371					
America, South				123,501					
	Argentine	1955	B.1	19,110	1954	24·1 CR	8·4 R	15·7	Birth registration ted to be 97% co Liveborn infants before registrat birth are exclude births.
	Bolivia	1954	A.6	3,162	1953	37·8 U	14·4 U	23·4	Compulsory civil re tion from 1940.
	Brazil	1955	A.5	58,456					
	Chile	1955	A.5	6,560	1954	34·3 CR	13·1 CR	21·2	
	Colombia	1955	A.5	12,657					
	Ecuador	1954	A.4	3,567					
	Paraguay	1955	A.6	1,565					
	Peru	1955	C.6	9,396					
	Uruguay	1955	C..	2,615					
	Venezuela	1955	A.5	5,774					
	Others	1954		729					
Asia				1,456,864					
	Afghanistan	1951	E.8	12,000					
	Burma	1954	C.7	19,242					
	Cambodia	1954	E.7	4,100					
	Ceylon	1955	A.2	8,588	1954	36·2 CR	10·4 CR	25·8	Registration 89% plete in 1953 ac to test.
	China	1953	Census 1953	582,603					
	India	1954	A.7	377,000					
	Indonesia	1954	D..	81,100					
	Iran	1954	D.4	20,721					
	Iraq	1954	B..	4,948	1954	13·0 U	5·9 U	7·1	
	Israel	1955	B.1	1,748	1954	29·2 UR	6·8 UR	22·4	Excluding Bedouir lation in the Ne

le 28.—World Population and Natural Increase in certain countries—*continued*

ent	Country	Population			Natural Increase				Notes
		Year of Estimate	Type of Estimate[1]	Estimate (thousands)	Year of Estimate	Birth rate[2] (per thousand)	Death rate[3] (per thousand)	Excess of Birth rate over Death rate	
ont.)	Japan	1955	A.1	88,900	1954	20·1 C	8·2 C	11·9	Japanese nationals in Japan only.
	Jordan	1954	A.4	1,384					
	Korea	1955	C.6	28,000					
	Laos	1954	D..	1,360					
	Lebanon	1954	D.4	1,383	1954	28·6 UR	5·4 UR	23·2	Lebanese nationals only.
	Nepal	1954	Census 1954	8,432					
	Pakistan	1954	....	80,167	1951	21·2 U	11·9 U	9·3	Registration area covers about 90% of total population. Liveborn infants dying before registration of birth are excluded from both births and deaths.
	Philippines	1954	B.5	21,440					
	Saudi Arabia	1952	....	7,000					
	Syria	1954	D.4	3,670					
	Taiwan	1955	D..	8,907	1954	44·5 CR	8·1 CR	36·4	Births and deaths among tribal aborigines are excluded though the populations are included in the denominators of the rates.
	Thailand	1955	B.5	20,300					
	Turkey	1955	Census 1955	24,110					
	Vietnam	1954	D..	26,000					
	Yemen	1949	....	4,500					
	TERRITORIES AND DEPENDENCIES—								
	United Kingdom								
	Hong Kong	1954	D.3	2,277	1954	36·6 R	8·5 R	28·1	Rates computed on civilian population.
	Malaya, Federation of	1955	B.2	6,059	1954	43·8 C	12·2 C	31·6	
	Singapore	1955	B.2	1,213	1954	48·9 CR	9·3 CR	39·6	
	Others	1954		7,712					
				406,358					
	Albania	1954	B.6	1,260					
	Austria	1954	A.2	6,969	1954	14·9 C	12·1 C	2·8	
	Belgium	1954	B.2	8,819	1954	16·7 C	11·9 C	4·8	
	Bulgaria	1955	B.3	7,548	1955	20·0 C	9·0 C	11·0	
	Czechoslovakia	1955	A.2	13,089	1954	20·5 C	10·4 C	10·1	
	Denmark	1954	R.0	4,406	1954	17·3 C	9·1 C	8·2	
	Finland	1955	R.0	4,238	1954	21·3 C	9·1 C	12·2	
	France	1955	A.2	43,300	1954	18·8 C	12·0 C	6·8	
	Germany	1955	A.6	70,134					
	—Democratic Republic	1955	....	16,794	1954	16·6	12·0 U	4·6	
	—Federal Republic	1955	A.1	49,995	1954	15·7 C	10·4 C	5·3	
	—East Berlin	1955	....	1,150					
	—West Berlin	1955	A.1	2,195	1954	8·0 C	13·9 C	− 5·9	
	Greece	1954	A.4	7,901					
	Hungary	1955	B.2	9,808	1954	23·0 C	11·0 C	12·0	
	Irish Republic	1955	A.2	2,909	1954	21·1 CR	12·1 CR	9·0	Births registered within one year of occurrence
	Italy	1955	A.1	47,837	1954	17·9 C	9·2 C	8·7	
	Netherlands	1955	R.0	10,747	1954	21·6 C	7·5 C	14·1	
	Norway	1954	R.0	3,392	1954	18·6 C	8·4 C	10·2	
	Poland	1955	....	27,278	1955	29·0 C	9·1 C	19·4	
	Portugal	1955	A.5	8,765					
	Roumania	1953	B.4	17,150					
	Spain	1955	A.5	28,976					
	Sweden	1955	R.0	7,260	1954	14·6 C	9·6 C	5·0	
	Switzerland	1955	A.2	4,978	1954	17·0 C	10·0 C	7·0	
	United Kingdom	1955	A.1	50,968	1954	15·6 C	11·4 C	4·2	
	England and Wales	1955	A.1	44,441	1954	15·2 C	11·3 C	3·9	
	Northern Ireland	1955	A.1	1,394	1954	20·8 CR	10·9 CR	9·9	
	Scotland	1955	A.1	5,133	1954	18·0 CR	12·0 CR	6·0	
	Yugoslavia	1955	A.2	17,550	1954	28·4 C	10·8 C	17·6	
	Others	1954		2,035					
				14,455					
pia	Australia	1955	A.1	9,201	1954	22·5 CR	9·1 CR	13·4	Excluding full-blooded Aborigines estimated at 47,000 in 1944.
	New Zealand	1954	A.1	2,093	1954	25·8 UR	9·0 CR	16·8	Birth registration incomplete for Maori population only.
	TRUST TERRITORIES—								
	New Guinea (*Australian Adm.*)	1954	D..	1,207					
	Others	1950–1954		1,954					
S.R.				**216,000**					
	Union of Soviet Socialist Republics	1954	D.7	216,000					

The code symbols indicate the method by which official estimates of population were prepared, so far as could be ascertained. The letters R and A to E indicate the nature of the base data; the numerals 0 to 8 indicate the method of time adjustment to other dates.
The details of the code classification are given below.

Base data are classified:
- R Continuous population registers.
- A Census enumerations, the last having been made since 1st January 1950.
- B Census enumerations, the last having been made between 1st January 1945 and 1st January 1950.
- C Census enumerations, the last having been made before 1st January 1945.
- D Non-censal counts or partial censuses.
- E Conjectural estimates derived by other means than counting.
- .. Not ascertained.

Methods of time adjustment are classified:
- 0 None, base data being secured annually and requiring no time adjustment.
- 1 Substantially accurate statistics of births and deaths and (where relevant) comprehensive migration statistics.
- 2 Substantially accurate statistics of births and deaths; doubtful or deficient data on migration or no account taken of migration.
- 3 Birth and death statistics of undetermined reliability; (adequacy of migration data is disregarded).
- 4 Birth and death statistics which are stated to be deficient; (adequacy of migration data is disregarded).
- 5 Mathematical extrapolation (or interpolation) at least three censuses having been taken since 1900.
- 6 Mathematical extrapolation (or interpolation) less than three censuses having been taken since 1900.
- 7 Assumed rates of increase not derived by mathematical extrapolation.
- 8 None, base figure being held constant.
- .. Not ascertained.

Data of births and deaths which are stated to be complete or virtually complete are coded C; those stated to be affected by irregularities in registration or incomplete coverage are coded U. Where the data is known to be by year of registration instead of by year of occurrence they are coded R as well.

"Others" in each continent are countries with populations of less than 1 million.

More than half of the world's population is in Asia. Only about a seventh of it lives in Europe but it is in a disproportionately small area. As the Asiatic countries possess much less than half of the natural and created wealth of the world, and as their populations are increasing probably by 1 to 2 per cent every year it is obvious that population problems there are of a different kind and of much greater urgency than in Europe.

Other continents are much less densely populated; although the economic and social problems, for example, of Africa, undoubtedly have their demographic aspects, population problems as such are not the most acute. The rates of natural increase for Africa shown in the table are, except for Madagascar, all for predominantly Moslem countries on the southern shores of the Mediterranean, and are not likely to be true also for the rest of Africa. Natural increase for the whole continent may be as high as 2 per cent each year but even so the problem is to develop existing resources, which are probably adequate for the existing relatively small population, rather than to discover new ones. In all the less densely populated continents there are large areas which are, at present anyway, of very little use to their populations; these are areas of desert, mountain, tropical forest or icefield, and they must be left out of consideration except for the longest term problems.

This digression underlines the relative stability of the population in England and Wales, where, in contrast to the less developed areas of the world, there is no problem of mounting pressure. Only one country, Austria, is shown with a smaller rate of natural increase.

The Commonwealth, which includes about one quarter of the world's population, is three quarters Asiatic. If the populations of Canada, Australia and New Zealand are counted as "European", the remaining quarter of the population of the Commonwealth is roughly evenly divided between Africans and Europeans.

Regional Distribution of population

The population of England and Wales is not, of course, spread evenly over the country but is concentrated in towns.* The County Boroughs and the Administrative County of London, which are almost entirely urban in any definition, contain nearly 40 per cent of the population in only $2\frac{1}{2}$ per cent of the total area. Municipal Boroughs and Urban Districts, which are less certainly urban in character as some of them contain stretches of rural country, contain another 40 per cent in $11\frac{1}{2}$ per cent of the total area. The remaining Rural Districts—some of which contain urban patches—have less than 20 per cent of the population in 86 per cent of the area. In the conurbations—which contain some of the urban areas already referred to but hardly any Rural Districts, and which are designed to be exclusively urban in character—there are nearly 40 per cent of the population in $3\frac{1}{2}$ per cent of the area. The densities of the regions with their conurbations range from 0·5 in Wales to 4·1 in the London and South Eastern Region—a range of 3·6 persons per acre. If the conurbations are excluded—and this does not mean removing all the urban parts—the range is from 0·5 in Wales and the Northern Region to 1·6 in the North Western Region, a range of 1·1 persons per acre.

Estimates of the rates of natural increase of population between 1931 and 1951 are subject to an element of approximation owing to the abnormal features of the period, viz., the long intercensal interval, the intervention of war and the large migratory movements connected with war and post-war conditions. This particularly affects the estimates for individual local administrative areas shown in col. (f) of Table 8 of the General Tables and in col. (1) of Table 2 in the County Reports. In the first place war deaths which occurred outside the country are not included but appear as losses by migration since estimates for individual areas are not available. An estimate of these war deaths for England and Wales as a whole has been given as 240,000 in a footnote to Table B of the Appendix to the General Tables i.e. about $\frac{1}{2}$ per cent of the population. Secondly, many of the areas have been subject to boundary changes for which only approximate allowance could be made in the compilation of intercensal population change and its apportionment between natural increase and migration. Nevertheless, there is no reason to suspect that any serious distortion of the general trend of growth of local populations has been involved.

Changes in regional populations also vary. Since 1891 populations have increased in all regions, but by proportions varying from 31 per cent in the South Western to 77 per cent in the Southern Region. These variations cannot be completely explained by the intensity of town development in the regions. The 60 year period is complex and the explanation of all the changes would be long. The very large increase in the Eastern Region can be explained by the rise in the number of people

* In this Section the discussion is in terms of Local Authority Areas, as the main tables are drawn up with reference to them. An analysis using the alternative classification described in Chapter II 9 is given in the next Section on p. 83.

Table 29.—Changes in distribution of population and changes in density, 1891-1951

England and Wales, Administrative Aggregates, Regions of England, Wales and Conurbations

Area	Acreage	Percentage of acreage of England and Wales	Persons per acre		Population		Percentage change in population 1891–1951	Decennial percentage increase in population					Decennial percentage increase by migration 1931–1951	Percentage of population of England and Wales	
			1891	1951	1891	1951		1891–1901	1901–1911	1911–1921	1921–1931	1931–1951		1891	1951
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p
England and Wales	**37,340,814**	**100·0**	**0·8**	**1·2**	**29,002,525**	**43,757,888**	**50·9**	**12·2**	**10·9**	**4·9**	**5·5**	**4·7**	**0·6**	**100·0**	**100·0**
Administrative Aggregates															
County Boroughs and London A.C.	963,519	2·6	12·3	17·7	11,820,654	17,034,546	44·1	15·7	12·5	10·7	3·8	— 1·9	−3·3	40·7	38·9
Municipal Boroughs and Urban Districts	4,310,398	11·5	2·1	4·2	9,074,850	18,301,175	101·7	25·4	12·2	1·5	10·0	13·3	2·4	31·3	41·9
All Urban Areas	5,273,917	14·1	4·0	6·7	20,895,504	35,335,721	69·1	19·9	12·4	6·5	6·5	5·2	−0·4	72·0	80·8
All Rural Areas	32,066,897	85·9	0·3	0·3	8,107,021	8,422,167	3·9	— 7·9	5·9	— 0·7	1·9	2·6	5·5	28·0	19·2
Regions of England, Wales															
Northern	4,781,262	12·8	0·5	0·7	2,214,770	3,140,503	41·8	12·9	12·6	7·1	0·6	1·7	−3·4	7·6	7·2
East and West Ridings	2,536,146	6·8	1·1	1·6	2,862,325	4,097,178	43·1	12·8	10·4	4·6	5·4	2·1	−1·7	9·9	9·4
North Western	1,973,123	5·3	2·4	3·3	4,711,605	6,446,778	36·8	12·0	9·8	3·9	2·9	2·0	−1·0	16·2	14·7
North Midland	4,034,450	10·8	0·5	0·8	2,066,837	3,378,147	63·4	13·2	12·1	4·6	7·0	7·2	1·9	7·1	7·7
Midland	3,215,910	8·6	0·8	1·4	2,663,988	4,422,511	66·0	12·1	9·7	6·8	7·0	8·7	2·5	9·2	10·1
Eastern	4,648,866	12·5	0·4	0·7	1,796,269	3,098,127	72·5	5·3	11·4	5·5	9·6	12·8	8·7	6·2	7·1
London and South Eastern ..	2,681,924	7·2	2·7	4·1	7,115,984	10,905,853	53·3	16·1	10·2	4·2	9·0	2·8	−0·9	24·6	24·9
Southern	3,101,603	8·3	0·5	0·9	1,497,945	2,649,358	76·9	9·3	13·8	4·7	9·4	11·4	7·2	5·2	6·1
South Western	5,237,423	14·0	0·4	0·6	2,301,372	3,020,758	31·3	4·2	4·6	1·4	2·8	7·5	5·0	7·9	6·9
Wales (including Monmouthshire)	5,130,107	13·7	0·3	0·5	1,771,430	2,598,675	46·7	13·6	20·3	9·5	— 2·4	0·1	−3·4	6·1	5·9
Conurbations															
Greater London	461,824	1·2	12·2	18·1	5,638,419	8,348,023	48·1	16·8	10·2	3·1	9·9	0·8	−3·2	19·4	19·1
South East Lancashire	242,920	0·7	7·8	9·9	1,893,555	2,422,650	27·9	11·8	10·0	1·4	2·8	— 0·1	−2·3	6·5	5·5
West Midlands	172,006	0·5	7·4	13·0	1,268,682	2,237,095	76·3	16·9	10·2	8·3	9·0	7·6	0·8	4·4	5·1
West Yorkshire	307,787	0·8	4·6	5·5	1,410,110	1,692,687	20·0	8·1	4·3	1·5	2·6	1·1	−0·4	4·9	3·9
Merseyside	95,063	0·3	9·6	14·5	908,308	1,382,443	52·2	13·4	12·3	9·0	6·7	1·3	−1·4	3·1	3·2
Tyneside	57,688	0·2	9·5	14·5	550,872	835,533	51·7	23·1	12·3	7·0	1·4	0·5	−4·1	1·9	1·9

Table 30.—Census Populations 1931-1951; Intercensal Changes; Density in 1951 and 1931 — **England and Wales, Regions of England, Wales, Conurbations**

Administrative Area	Persons per Acre		Enumerated Population		Resident Population	Percentage change in Enumerated Population 1931-1951		
	1931	1951	1931	1951	1951	Total	By Births and Deaths	Balance
	a	b	c	d	e	f	g	h
England and Wales	**1·1**	**1·2**	**39,952,377**	**43,757,888**	**43,758,000**	**9·5**	**8·2**	**1·3**
Regions and Conurbations, Wales								
Northern	0·6	0·7	3,038,282	3,140,503	3,133,000	3·4	10·1	− 6·7
Tyneside conurbation	*14·3*	*14·5*	*827,091*	*835,533*	*835,490*	*1·0*	*9·3*	*− 8·3*
Remainder of Northern	*0·5*	*0·5*	*2,211,191*	*2,304,970*	*2,297,510*	*4·2*	*10·5*	*− 6·3*
East and West Ridings	1·5	1·6	3,929,413	4,097,178	4,091,000	4·3	7·6	− 3·3
West Yorkshire conurbation	*5·4*	*5·5*	*1,655,419*	*1,692,687*	*1,687,820*	*2·3*	*3·0*	*− 0·7*
Remainder of East and West Ridings	*1·0*	*1·1*	*2,273,994*	*2,404,491*	*2,403,180*	*5·7*	*11·0*	*− 5·3*
North Western	3·1	3·3	6,196,550	6,446,778	6,424,000	4·0	6·1	− 2·1
South East Lancashire conurbation	*10·0*	*10·0*	*2,426,922*	*2,422,650*	*2,416,250*	*− 0·2*	*4·4*	*− 4·6*
Merseyside conurbation	*14·2*	*14·5*	*1,346,662*	*1,382,443*	*1,379,360*	*2·7*	*12·8*	*−10·1*
Remainder of North Western	*1·5*	*1·6*	*2,422,966*	*2,641,685*	*2,628,390*	*9·0*	*4·1*	*4·9*
North Midland	0·7	0·8	2,938,924	3,378,147	3,375,000	14·9	11·0	3·9
Midland	1·2	1·4	3,743,111	4,422,511	4,422,000	18·2	12·9	5·3
West Midlands conurbation	*11·2*	*13·0*	*1,932,980*	*2,237,095*	*2,234,340*	*15·7*	*14·1*	*1·6*
Remainder of Midland	*0·6*	*0·7*	*1,810,131*	*2,185,416*	*2,187,660*	*20·7*	*11·6*	*9·1*
Eastern	0·5	0·7	2,433,153	3,098,127	3,105,000	27·3	8·9	18·4
London and South Eastern	3·9	4·1	10,329,876	10,905,853	10,916,000	5·6	7·4	− 1·8
Greater London conurbation	*17·8*	*18·1*	*8,215,673*	*8,348,023*	*8,348,240*	*1·6*	*8·0*	*− 6·4*
Remainder of South Eastern	*1·0*	*1·2*	*2,114,203*	*2,557,830*	*2,567,760*	*21·0*	*5·0*	*16·0*
Southern	0·7	0·9	2,134,782	2,649,358	2,682,000	24·1	9·0	15·1
South Western	0·5	0·6	2,614,954	3,020,758	3,026,000	15·5	5·2	10·3
Wales (including Monmouthshire)	0·5	0·5	2,593,332	2,598,675	2,584,000	0·2	6·9	− 6·7
Wales I (South East)	*1·0*	*1·0*	*1,897,550*	*1,856,238*	*1,845,000*	*− 2·2*	*8·2*	*−10·4*
Wales II (Remainder)	*0·2*	*0·2*	*695,782*	*742,437*	*739,000*	*6·7*	*3·4*	*3·3*

who work in Greater London but live in other parts of Essex and Hertfordshire. The very large increase in the Southern Region is partly explained by a similar growth, partly by the growth of the Southampton and Portsmouth group of areas, and partly by the growth of Oxford. The Midland Region contains the West Midlands conurbation which has the largest percentage increase of all conurbations, mainly due to the growth of the motor industry in the last 60 years.

In the twenty years since 1931 the Southern and Eastern Regions still had the largest percentage increases and Wales and the Northern Region the smallest. This was, of course, mainly because of the movement away from coal mining and other heavy industry into light industry, during the 1930s. The South Western Region also received a large percentage of immigrants; until 1931 the south west had been losing population to the rest of England and Wales at least since 1891. Some part of this change is due to the growth of the aircraft industry near Bristol but there were also fairly substantial movements into certain country towns and seaside resorts in the region.

The large migration gain by rural areas does not, of course, indicate any return of population to farming but merely a movement of population away from their workplaces in the towns to more open residential areas in the surrounding country. The almost uniformly outward migration from the conurbations is another indication of this change.

No clear picture is painted by the variations in the percentage change by births and deaths. Apart from a few special influences like the high fertility of the population in the Merseyside conurbation, it is likely that regional variation in age and marital condition structure is the most important influence. Thus the low rate of natural increase in the South Western Region, Wales II and the more rural remainders of other regions is associated with an older age structure of the population in those areas; they contain many coastal and inland places which are attractive to retired people. The high rate of natural increase in the Midland and North Midland Regions

and in the remainder of the East and West Ridings reflects the younger age structure of the populations and, except in the Midland Region, the relatively high proportion of married women of reproductive age. The low rate of natural increase in the West Yorkshire and South East Lancashire conurbations is the result of the combination of average fertility with the high mortality associated with the industrial north.

The small differences between resident and enumerated populations of regions and conurbations are probably mostly children at boarding schools. There would only be a few people away on holiday at the beginning of April, and the only region with its resident population sensibly above the enumerated population is the Southern where there are more boarding schools than in any other region. Schools were on holiday at the time of census so that the children who count as resident at their boarding schools were enumerated at their homes.

Urban-rural analysis

For some time it has been felt that the customary analysis of the population by types of Administrative Area may not give an accurate picture of urban development. Areas administered by Borough or Urban District Councils may contain tracts of land that cannot fairly be called urban in character; areas administered by Rural District Councils may contain some land that should be called urban in character.

Much of the information on which the intercensal estimates of population are based is available only for complete Boroughs and County Districts. It is, therefore, not possible to attempt a more realistic urban-rural analysis of the population in intercensal years. The more complete record available at the census however does make such an attempt possible.

A special analysis of the 1951 Census population has been made, using the definitions given on p. 60. Because it was made in terms of entire wards and parishes there will still be a small amount of blurring. A parish, for example, might be classed as urbanised because it contained a portion of built up land, and yet might also contain a substantial area of rural land. However, the population in the rural tracts of an urbanised parish or ward is necessarily small and the distortion can be ignored. For this section the phrase "urbanised population" means the population living on urbanised land as defined.

Table 31 shows, for each region of England and for Wales, the distribution of the urbanised and non-urbanised population between Urban and Rural Administrative Areas.

In every region there were more people living on non-urbanised land in Urban Administrative Areas than on urbanised land in Rural Administrative Areas. This means that the customary analysis (in terms of types of Administrative Area) produces a more 'urban' picture than this more rigorous treatment.

Nearly three quarters of the population of the whole country was urbanised. The regions vary considerably, from the Eastern and South Western Regions, in which little more than half of the population was urbanised, to the London and South Eastern and North Western Regions, in which nearly nine tenths of the population was urbanised.

Table 31.—Distribution of Urbanised Population — **England and Wales, Regions of England, Wales**

Region	Urbanised Population			Non-urbanised Population		
	In Urban Administrative Areas	In Rural Administrative Areas	Total	In Urban Administrative Areas	In Rural Administrative Areas	Total
	a	b	c	d	e	f
Northern	1,929,487	61,684	**1,991,171**	487,677	661,655	**1,149,332**
East and West Ridings	2,925,851	15,030	**2,940,881**	636,820	519,477	**1,156,297**
North Western	5,440,822	85,632	**5,526,454**	488,100	432,224	**920,324**
North Midland	1,897,221	94,268	**1,991,489**	377,481	1,009,177	**1,386,658**
Midland	3,414,564	44,582	**3,459,146**	274,537	688,828	**963,365**
Eastern	1,517,122	72,390	**1,589,512**	429,062	1,079,553	**1,508,615**
London and South Eastern	9,581,725	9,060	**9,590,785**	531,216	783,852	**1,315,068**
Southern	1,415,967	73,559	**1,489,526**	305,628	854,204	**1,159,832**
South Western	1,530,144	34,916	**1,565,060**	339,226	1,116,472	**1,455,698**
Wales (including Monmouthshire)	1,281,212	94,065	**1,375,277**	531,859	691,539	**1,223,398**
England and Wales	**30,934,115**	**585,186**	**31,519,301**	**4,401,606**	**7,836,981**	**12,238,587**

Table 32.—Urban Clusters by size

{England and Wales, Regions of England, Wales

Type of Area	Regions of England																		Wales (including Monmouthshire)		England and Wales	
	Northern		East and West Ridings		North Western		North Midland		Midland		Eastern		London and South Eastern		Southern		South Western					
	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population	Number of Clusters	Population
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s	t	u	v	w
Urban Clusters wholly or mainly in the area, of:—																						
Over 500,000 population	1	817,318	2	1,156,017	2	3,585,680	—	—	1	2,228,702	—	—	1	8,426,087	—	—	—	—	—	—	7	16,213,804
100,000-499,999 ..	2	501,842	5	1,109,092	6	819,696	6	1,258,369	2	625,915	5	647,528	3	519,541	5	978,262	2	717,133	4	613,145	40	7,790,523
25,000-99,999 ..	10	476,387	9	479,450	17	909,761	9	432,869	9	402,779	9	442,690	13	589,551	6	274,678	9	549,631	10	370,199	101	4,927,995
10,000-24,999 ..	12	179,310	13	195,603	13	184,653	16	275,322	11	173,968	12	197,174	17	292,126	12	198,071	12	202,513	18	272 843	136	2,171,583
5,000-9,999	1	5,235	4	32,959	3	25,424	1	7,680	4	28,963	4	31,975	4	35,805	2	15,846	12	91,316	14	108,158	49	383,361
2,000-4,999	1	4,834	—	—	1	4,413	—	—	—	—	2	6,605	—	—	1	4,928	1	4,467	2	6,788	8	32,035
All sizes	**27**	**1,984,926**	**33**	**2,973,121**	**42**	**5,529,627**	**32**	**1,974,240**	**27**	**3,460,327**	**32**	**1,325,972**	**38**	**9,863,110**	**26**	**1,471,785**	**36**	**1,565,060**	**48**	**1,371,133**	**341**	**31,519,301**
Add population within the area in clusters mainly situated outside it		6,245		—		971		26,205		—		272,696		9,156		17,741		—		4,144		
Deduct population outside the area in clusters mainly situated inside it		—		32,240		4,144		8,956		1,181		9,156		281,481		—		—		—		
All urbanised areas ..		1,991,171		2,940,881		5,526,454		1,991,489		3,459,146		1,589,512		9,590,785		1,489,526		1,565,060		1,375,277		31,519,301
Non-urbanised areas ..		1,149,332		1,156,297		920,324		1,386,658		963,365		1,508,615		1,315,068		1,159,832		1,455,698		1,223,398		12,238,587
Total Population ..		**3,140,503**		**4,097,178**		**6,446,778**		**3,378,147**		**4,422,511**		**3,098,127**		**10,905,853**		**2,649,358**		**3,020,758**		**2,598,675**		**43,757,888**

In Table 32 the urbanised population in each region is analysed by the size of the urban cluster in which it lived. The two adjustments at the bottom of each column are needed because a few clusters overlap regional boundaries. The only region which is seriously affected is the Eastern.

In the country as a whole more than half of the urbanised population lived in the seven largest clusters. Another quarter lived in the clusters of 100,000 or more. Over half, therefore, of the total population of the country lived in urban clusters of 100,000 or more population. This differs from the result given by the customary analysis by type of Administrative Area mostly because of the Local Authority Areas which had populations of less than 100,000 but which were in the conurbations. Since the conurbations contained only a little non-urbanised land this suggests that most of the $4\frac{1}{2}$ million people living on non-urbanised land in Urban Administrative Areas are in fact in the smaller Boroughs and Urban Districts.

In the regions in which a large proportion of the population was urbanised, a large proportion of the urbanised population lived in the largest sized clusters. The London and South Eastern Region is exceptional, and nearly nine tenths of the urbanised population lived in the London cluster. In the North Western and Midland Regions the largest sized clusters contained about two thirds of the urbanised population. At the other end of the scale, in the Eastern and South Western Regions and Wales about half of the urbanised population lived in clusters of less than 100,000.

The distribution of the clusters over the country is shown in the Map facing p. 84. It should be borne in mind that population density, though giving a good broad picture of the distribution and concentration of urban development, is only one of a number of criteria which ought, ideally, to be brought to account, e.g., contiguity of built-up areas, street formations, and the nature and position of foci of industrial, commercial, administrative and social activity. An element of roughness in the method itself, and in the basic density maps, is likely to have arisen in particular localities. It is probable that some towns or parts of towns which ought to have been included in urban clusters have been excluded.

Population in Non-private Households

1,917,888 people were enumerated in non-private households in England and Wales. This is 4·4 per cent of the total enumerated population.

Comparison with 1931 and earlier years is exceptionally difficult partly because of changes in definition of the different sorts of institution but much more because of social legislation. However, a few comparisons with 1931 are possible.

The proportion of the population in institutions for the mentally ill or deficient was 400 per 100,000 in 1931 and rose to 456 per 100,000 by 1951. The proportion in civilian hospitals and nursing homes rose from 390 per 100,000 in 1931 to 582 in 1951. It is not possible to conclude from these figures alone that more people were ill; it is probable that a larger proportion of those who were ill had access to hospitals. It has also to be borne in mind that the population has been ageing and that in terms of actual numbers of patients as distinct from relative incidence in age-groups, the problem of infirmity in old age has grown larger.

The number of resident staff, together with any members of their families living with them in the institution, per 1,000 inmates is highest in hospitals and nursing homes (372); in homes for cripples, blind, deaf and dumb and other specifically sick there are 311, in children's homes and hostels 273, in approved schools, etc., 224, in homes for the aged and infirm 128, in institutions for the mentally ill or deficient 86 and in prisons and Borstal institutions 65.

The age and marital condition of the inmates of these classes of institutions can be compared with the same figures for the total enumerated population of England and Wales. As would be expected in hospitals and nursing homes there are larger proportions of babies and old people than in the whole population. There is also a slight excess in the distribution of women in the age group 15-39, reflecting admission for childbirth. In homes for cripples the age distribution is very similar to the national one except that there is a larger proportion of children aged 5-14, and a slightly larger proportion of men aged 60-64. The children are, no doubt, those for whom there is still substantial hope of a cure or at least substantial improvement, and the men aged 60-64 are, mainly, those who were crippled in the first world war. More than half of the inmates of homes for deaf and dumb are children of 5-14; outside the school ages deaf and dumb people for the most part can be cared for at home. About three quarters of the inmates of homes for other specifically sick are aged 15-59. The very small number of babies in prisons were children

Table 33.—Population enumerated in certain classes of Institution

	Total Population			Inmates Only			Inmates per 100,000 persons in the total enumerated population			Staff pe inmates sex
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Males
	a	b	c	d	e	f	g	h	j	k
1. Children's homes and hostels	**58,104**	29,606	28,498	**45,645**	27,633	18,012	**104**	63	41	43
2. Approved schools, remand homes, approved probation homes and hostels..	**13,281**	9,810	3,471	**10,850**	8,875	1,975	**25**	20	5	86
3. Hospitals, sanatoria, etc., (National Health Service and including Ministry of Pensions hospitals) ..	**307,707**	109,320	198,387	**226,630**	101,614	125,016	**518**	232	286	34
4. Other civilian hospitals and nursing homes	**41,351**	11,167	30,184	**27,877**	9,232	18,645	**64**	21	43	69
5. Institutions for mentally ill or mentally deficient ..	**216,476**	95,493	120,983	**199,313**	90,436	108,877	**456**	207	249	25
6. Homes for cripples ..	**3,015**	1,465	1,550	**2,192**	1,270	922	**5·0**	2·9	2·1	89
7. Homes for blind	**4,231**	1,577	2,654	**3,105**	1,360	1,745	**7·1**	3·1	4·0	70
8. Homes for deaf and dumb..	**1,259**	527	732	**878**	447	431	**2·0**	1·0	1·0	91
9. Homes for other specifically sick (inebriates, epileptics, etc.)	**3,126**	1,390	1,736	**2,698**	1,300	1,398	**6·2**	3·0	3·2	33
10. Homes for aged and infirm	**74,987**	31,477	43,510	**66,515**	29,700	36,815	**152**	68	84	27
11. Prisons and Borstal institutions	**22,707**	20,917	1,790	**21,307**	20,185	1,122	**49**	46	3	34
12. Police stations, etc. ..	**1,298**	1,064	234	**347**	324	23	**0·8**	0·7	0·1	2,133

Table 34.—Age and Marital Condition of Inmates of certain classes of institutions

		Total inmates	Percentage of inmates aged									Percentage of inm		
			0–4	5–9	10–14	15–39	40–59	60–64	65–69	70–74	75 and over	Single	Married	
Children's homes and hostels	Males	27,633	22·6	32·8	37·7	6·2*			0·7†				‡	
	Females	18,012	25·5	30·7	36·0	6·9*			0·9†				‡	
Approved schools, remand homes, approved probation homes and hostels	Males	8,875	0		53·1	40·7*			4·2†				‡	
	Females	1,975	4·5‡		30·4	52·2*			12·9†				‡	
Hospitals, sanatoria, etc., (National Health Service and including Ministry of Pensions hospitals)	Males	101,614	14·1	5·5	3·3	23·9	22·8	6·1	6·2	6·2	11·9	47·2	41·0	
	Females	125,016	9·8	3·6	2·6	33·0	18·8	5·0	5·6	6·0	15·6	38·8	42·0	
Other civilian hospitals and nursing homes	Males	9,232	14·0	9·1	5·5	13·6	27·9	7·0	5·6	5·4	11·9	44·8	43·0	
	Females	18,645	6·4	4·5	3·2	18·8	14·4	4·5	5·6	8·4	34·2	46·6	26·0	
Institutions for mentally ill or mentally deficient	Males	90,436	0·4	1·7	3·2	34·9	36·5	7·1	6·3	4·9	5·0	76·4	19·1	
	Females	108,877	0·2	0·8	1·5	24·1	36·8	9·5	8·8	7·8	10·5	62·8	24·3	
Homes for cripples	Males	1,270	7·3	16·6	10·4	35·5	15·0	6·7	3·6	2·2	2·7	78·3	15·7	
	Females	922	10·7	16·4	15·4	28·7	18·1	4·2	1·8	1·7	3·0	90·7	4·0	
Homes for blind	Males	1,360	1·4	6·0	11·6	15·4	16·9	7·1	7·9	12·0	21·7	60·8	15·7	
	Females	1,745	0·4	3·3	4·2	6·6	13·9	7·5	9·6	14·8	39·7	63·9	4·8	
Homes for deaf and dumb	Males	447	2·5	26·8	39·7	15·7	6·7	2·5	1·6	2·7	1·8	98·5	0·2	
	Females	431	5·3	19·7	36·5	11·8	13·7	3·0	4·4	3·7	1·9	97·9	0·5	
Homes for other specifically sick (inebriates, epileptics, etc.)	Males	1,300	0·2	4·2	11·8	44·2	31·3	2·8	2·2	1·2	2·1	93·6	4·6	
	Females	1,398	0·1	3·2	7·5	35·3	36·8	6·4	3·9	3·1	3·7	89·7	4·9	
Homes for aged and infirm	Males	29,700	0·3	0·1	0·1	1·6	9·6	7·5	13·5	20·8	46·5	50·5	12·7	
	Females	36,815	0·2	0·1	0·0	1·7	8·6	6·0	9·5	16·3	57·6	46·1	6·8	
Prisons and Borstal institutions	Males	20,185	0·1	—	0·0	78·5	18·9	1·4	0·6	0·3	0·2	53·1	42·4	
	Females	1,122	0·8	—	0·1	68·6	22·2	2·4	2·0	0·8	3·1	42·2	44·2	

*Relate to ages 15-17 only.
†Relate to ages 18 and over
‡Separate figures are not available.

born to women prisoners. There are very few people in prison outside what, even in this context, might be called the working ages.

The distribution by marital condition of the inmates of these classes of institution is at least partly determined by the age distribution. In hospitals, where young and old people predominate, there are relatively more single, widowed and divorced and fewer married than in the national population. In institutions for mentally ill or mentally deficient the proportion widowed and divorced is very slightly above the national proportion, but the proportion single is very much higher. In homes for cripples and even more in homes for deaf and dumb where most of the inmates are young people or children, there are few married, widowed or divorced. Although about three quarters of the inmates of homes for blind are over 40, the proportion single is very high, presumably because the married blind are cared for by their spouses.

The largest single group of non-private household population not covered in Tables 33 and 34 consists of guests in hotels and boarding houses. Table 35 gives the number and distributions by sex, age and marital condition of guests in hotels and boarding houses with 10 rooms or more. The substantial excess of male residents is concentrated in the 15-39 age-group and is probably accounted for largely by students and young unmarried workers in lodgings. Among residents the other dominant type is the unmarried female over 60. For visitors the distribution is much nearer to the national pattern. The slight excess of males aged 15-59 probably consists of men travelling on business. The large excess of married men over married women also probably consists of men travelling on business.

le 35.—Hotels and Boarding Houses with 10 or more rooms: Age and Marital Condition of Guests

	Total	Percentage of guests aged									Percentage of guests		
		0–4	5–9	10–14	15–39	40–59	60–64	65–69	70–74	75 and over	Single	Married	Widowed and divorced
dent guests													
ales	**40,696**	1·4	1·0	0·7	49·1	26·5	5·2	4·9	4·3	6·9	58·5	31·5	10·0
emales ..	**30,536**	1·9	1·2	1·0	27·4	21·7	7·1	8·5	9·7	21·5	44·1	26·9	29·0
tor guests													
ales	**38,901**	2·0	3·1	4·3	43·7	32·4	5·3	4·1	2·8	2·3	38·2	57·8	4·0
emales ..	**36,008**	2·2	3·3	4·2	34·1	33·2	7·4	6·3	4·8	4·5	42·4	44·5	13·1

CHAPTER IV

SEX, AGE AND MARITAL CONDITION

Sex Ratio

Table 37.—Females per thousand Males 1801-1951

Year	Females per 1,000 Males	Year	Females per 1,000 Males
1801	1,057	1871	1,054
1811	1,054	1881	1,055
1821	1,036	1891	1,064
1831	1,040	1901	1,068
1841	1,046	1911	1,068
1851	1,042	1921	1,096
1861	1,053	1931	1,088
		1951	1,082

It is now clear that the long continued increase in the ratio of females to males which started in 1821, or possibly earlier, has finished. The position has been distorted by the deaths of men in two world wars, but had they not occurred the ratios in 1921, 1931 and 1951 would have shown a steady fall from the figure of 1,068 recorded at the census of 1911.

During the 19th century there were 40-50 more boys born for every 1,000 girls, but most of this difference was eliminated in the first year of life by the higher infantile death rates for boys. More men than women emigrated, and the death rates for men over 45 were again higher than for women so that throughout the century the ratio of females to males in the population was increasing. About the beginning of this century the infantile death rates began to fall steeply and, although the proportional difference between the rates for boys and girls did not alter much, the lower level meant that in absolute numbers the difference was smaller. There is no doubt that the ratio of females to males in the population would have decreased from 1911 onwards had it not been for the wars.

At present there are about 60 more boys born for every 1,000 girls; only about one eighth of the difference is eliminated by differential infantile mortality, and there is very little net emigration; death rates for people over, say, 65 remain, it is true, relatively high, and higher for men than for women, but it is nevertheless certain that if there are no more wars the ratio of females to males will continue to fall slowly.

Table 38.—Excess of Females by Age-groups

Age Last Birthday	Females per 1,000 Males in each age-group			Numerical excess of females in 1951 (*thousands*)
	1921	1931	1951	
All ages	**1,096**	**1,088**	**1,082**	**1,727**
0–4	976	980	953	− 89
5–14	992	980	962	−116
15–44	1,142	1,094	1,032	293
45–64	1,086	1,129	1,155	758
65 and over	1,337	1,328	1,447	881

Table 38 shows separate ratios for certain age-groups. It helps to illustrate the trends already mentioned. Children aged 0-4 are, of course, those born in the immediately preceding 5 years, so that the sex ratios in this age-group reflect sex ratios at birth and infant mortality rates. The steady fall in infant mortality produced a relative increase in the number of boys. The ratio in 1921 is out of the trend because of the unexplained fact that in both of the world wars the proportion of boy babies born was slightly but definitely higher than would otherwise have been expected. The 1951 ratio has been similarly affected to some extent; although none of the children aged 0-4 in 1951 were actually born during the war, the number of boy babies seems to have remained unusually high for a few years after it.

The excess of women aged 15-44 at each of the last three censuses has been due mostly to war deaths. The excess is a good deal smaller in 1951 than in 1921 because there were many fewer deaths in the second world war than in the first, and because there was much less emigration in the third and fourth than in the first two decades of this century. The effect of the deaths in the first world war is to be seen also in the rise, since 1921, in the proportion of women in the two age-groups over 45. Differential improvement in female mortality in the last half century also contributed to this.

The sex ratio varies between the different parts of the country. There are, proportionately, more women in urban areas than in rural areas, because women's jobs are even more concentrated in towns than are men's; consequently unmarried women who have to earn their living are more likely to live in towns. The local changes between censuses in the proportion of women differ considerably. The variations could be due either to variations in "natural" influences (sex ratios in infant mortality, sex ratios at birth, etc.) or to variations in migration. A quick check can be made by comparing the indexes of change in the sex ratio with the figures from columns (g) and (h) of Table 30.

It appears from this that the change in the sex ratio is associated quite closely with the migration element of population change, and to a negligible extent with the natural increase element. (The linear correlation coefficients are −0·79 and −0·04.) More of the migrants were male than

female so that the parts of the country which lost migrants lost more males than females and the sex ratio therefore rose; and the parts which gained migrants gained more males than females so that the sex ratio fell.

Region	Percentage Change in Sex ratio	Percentage Change in Population due to Births and Deaths	Percentage Change in Population not due to Births and Deaths
South Western	−3·9	+ 5	+10
Southern	−2·3	+ 9	+15
Midland	−2·1	+13	+ 5
Eastern	−1·7	+ 9	+18
North Midland	−0·8	+11	+ 4
London and South Eastern	−0·4	+ 7	− 2
North Western	−0·4	+ 6	− 2
East and West Ridings	+0·8	+ 8	− 3
Northern	+1·8	+10	− 7
Wales	+4·2	+ 7	− 7

Table 39.—Females per 1,000 Males, 1921-1951 } **England and Wales, Administrative Aggregates, Regions of England, Wales**

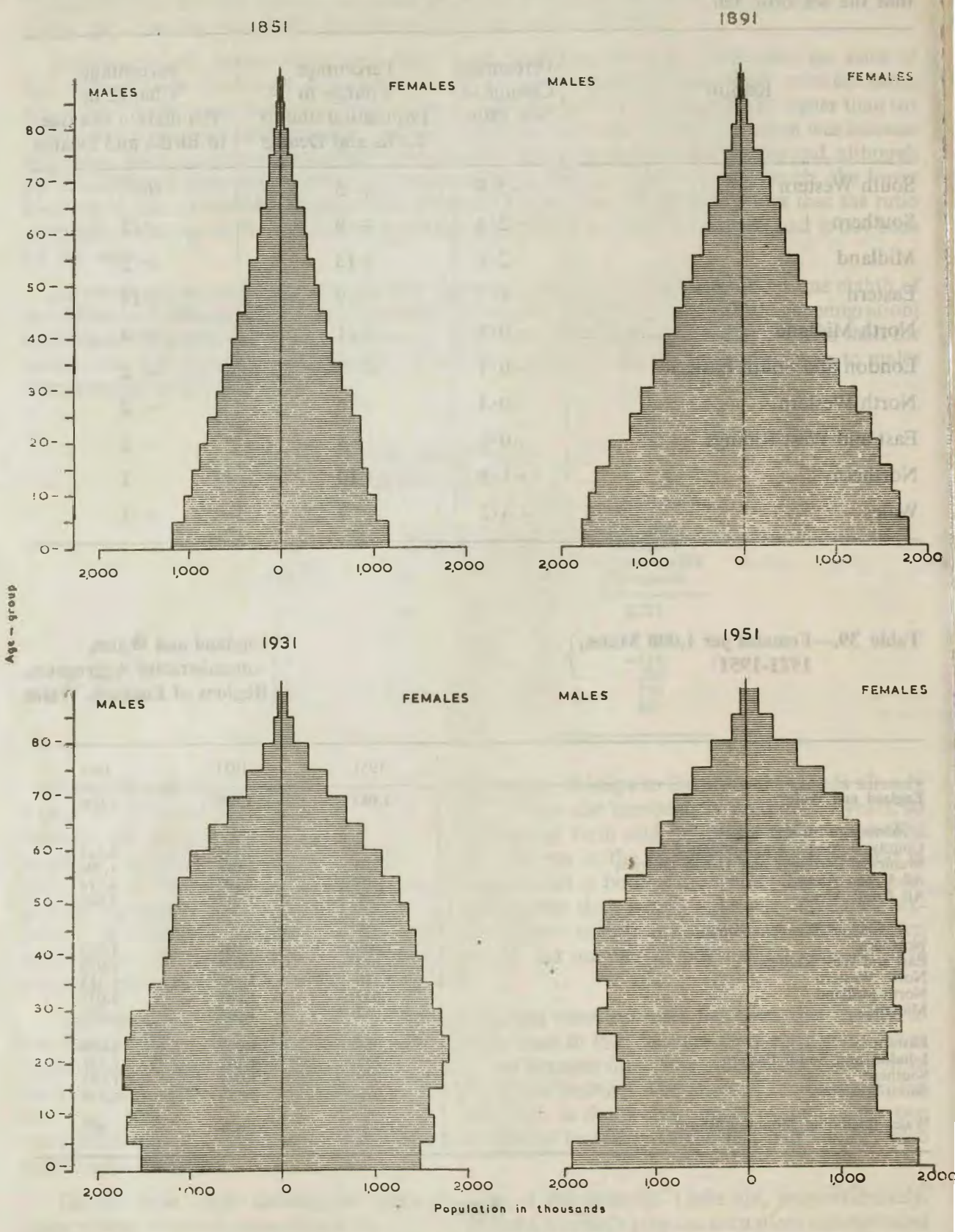
	1951	1931	1921
England and Wales	**1,082**	**1,088**	**1,096**
Administrative Aggregates:			
County Boroughs and London A.C.	1,112	1,118	1,121
Municipal Boroughs and Urban Districts	1,103	1,093	1,106
All Urban Areas	1,107	1,107	1,114
All Rural Areas	983	1,017	1,025
Regions of England, Wales:			
Northern	1,039	1,021	1,022
East and West Ridings	1,083	1,074	1,079
North Western	1,110	1,115	1,113
North Midland	1,039	1,047	1,057
Midland	1,042	1,064	1,067
Eastern	1,051	1,069	1,090
London and South Eastern	1,138	1,142	1,161
Southern	1,049	1,074	1,092
South Western	1,073	1,116	1,136
Wales (including Monmouthshire)	1,046	1,004	997

Age

The problems of age mis-statement and the methods of correcting were discussed in Chapter II.

The changes already mentioned in the chapter about the population as a whole have effects, of course, on the age structure of the population. The fall in the birth rate since 1881 has produced a succession of youngest generations that have been smaller and smaller proportions of the whole population. It is conventional to represent a stationary population as a pyramid with the youngest and largest age-groups at the bottom and the width of each layer of the pyramid proportional to the numbers in each age-group. In the years before about 1911 the number of births was increasing so that, for example, in 1851 and 1891 the bottom of the pyramid was the widest part, and was growing wider. By the time of the 1931 census the generations born in the period of

Diagram C.—Age pyramids, 1851-1951



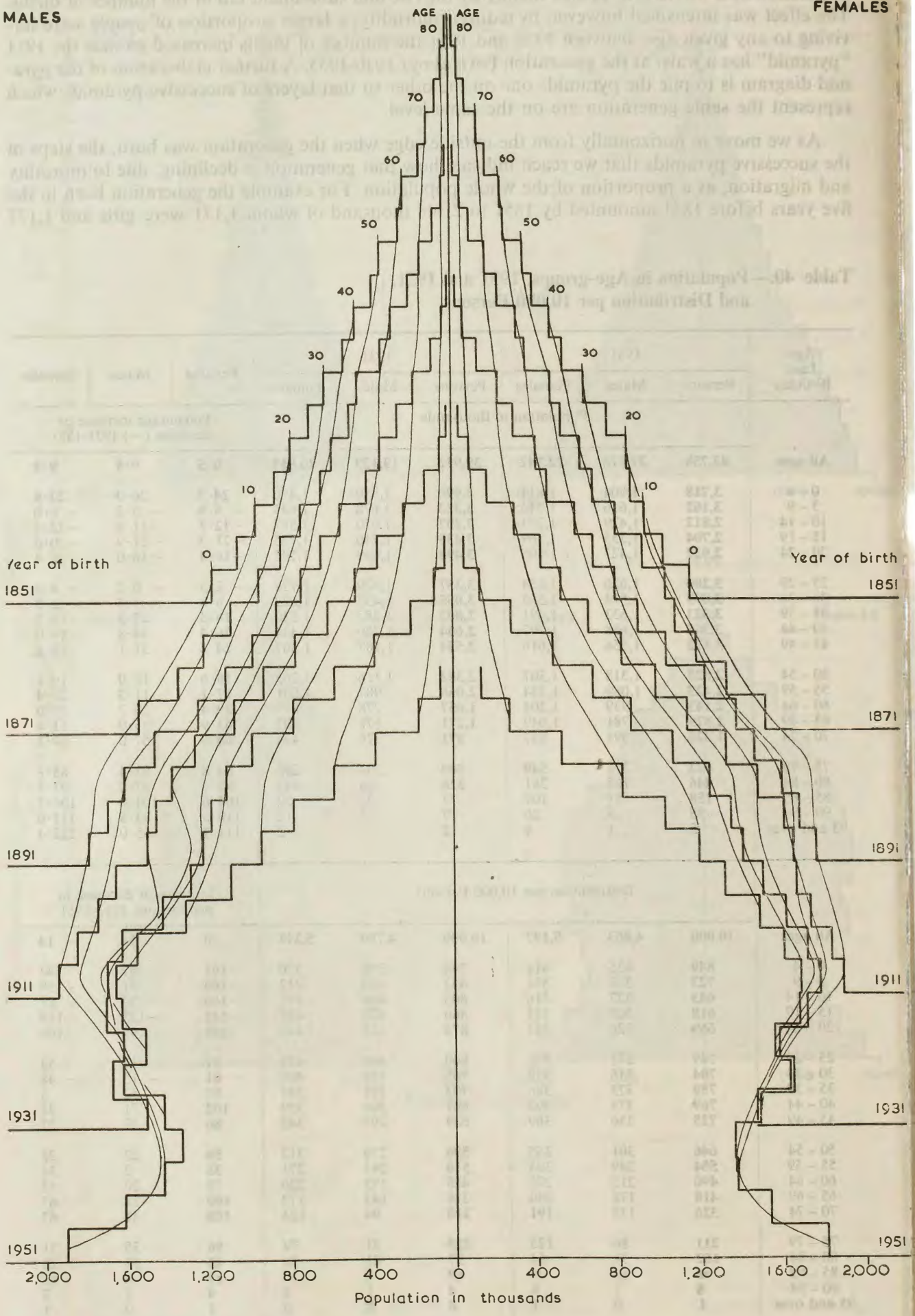
growth, say before 1910, were all more than 20 years old and they were all larger than the generations of the same age at earlier censuses. The generations less than 20 years old at the 1931 Census, however, were smaller than the generations of the same age at earlier censuses. This increase in the generations over 20 and decrease in the generations under 20, equivalent to an ageing of the population as a whole, was caused mainly by the rise and subsequent fall of the number of births. The effect was intensified however, by reduced mortality; a larger proportion of people were surviving to any given age. Between 1935 and 1951 the number of births increased so that the 1951 "pyramid" has a waist at the generation born about 1930-1935. A further elaboration of the pyramid diagram is to pile the pyramids one on the other so that layers of successive pyramids which represent the same generation are on the same level.

As we move in horizontally from the outside edge when the generation was born, the steps in the successive pyramids that we reach indicate how that generation is declining, due to mortality and migration, as a proportion of the whole population. For example the generation born in the five years before 1851 amounted by 1851 to 2,348 thousand of whom 1,171 were girls and 1,177

Table 40.—Population in Age-groups, 1951 and 1931, and Distribution per 10,000 Persons

Age Last Birthday	1951			1931			Persons	Males	Females
	Persons	Males	Females	Persons	Males	Females			
	Population in thousands						Percentage increase or decrease (—) 1931-1951		
All ages	**43,758**	**21,016**	**22,742**	**39,952**	**19,133**	**20,819**	**9·5**	**9·8**	**9·2**
0 – 4	**3,718**	1,904	1,814	**2,990**	1,510	1,480	**24·3**	26·0	22·6
5 – 9	**3,162**	1,616	1,546	**3,323**	1,678	1,645	**— 4·8**	— 3·7	— 6·0
10 – 14	**2,812**	1,429	1,383	**3,207**	1,620	1,587	**—12·4**	—11·8	—12·7
15 – 19	**2,704**	1,335	1,369	**3,435**	1,710	1,725	**—21·3**	—21·9	—20·6
20 – 24	**2,927**	1,427	1,500	**3,494**	1,699	1,795	**—16·3**	—16·0	—16·4
25 – 29	**3,280**	1,626	1,654	**3,357**	1,629	1,728	**— 2·3**	— 0·2	— 4·3
30 – 34	**3,079**	1,514	1,565	**3,055**	1,433	1,622	**0·8**	5·7	— 3·5
35 – 39	**3,323**	1,633	1,691	**2,803**	1,283	1,520	**18·5**	27·3	11·2
40 – 44	**3,365**	1,658	1,707	**2,664**	1,229	1,434	**26·4**	34·8	19·0
45 – 49	**3,172**	1,556	1,616	**2,554**	1,187	1,367	**24·2**	31·1	18·2
50 – 54	**2,825**	1,318	1,507	**2,382**	1,116	1,265	**18·6**	18·0	19·1
55 – 59	**2,423**	1,089	1,334	**2,068**	987	1,081	**17·1**	11·3	23·4
60 – 64	**2,143**	939	1,204	**1,657**	778	879	**29·4**	20·7	37·0
65 – 69	**1,829**	781	1,049	**1,271**	578	693	**43·9**	35·0	51·4
70 – 74	**1,428**	591	837	**871**	376	494	**64·0**	57·0	69·3
75 – 79	**924**	375	549	**500**	204	296	**84·8**	83·4	85·8
80 – 84	**446**	165	281	**226**	84	142	**97·5**	97·0	97·8
85 – 89	**158**	51	107	**77**	25	52	**104·6**	104·0	106·7
90 – 94	**35**	9	26	**17**	5	12	**110·3**	93·8	117·0
95 and over	**5**	1	4	**2**	1	2	**114·1**	85·0	122·4
	Distribution per 10,000 Persons						Increase or decrease in proportions 1931-1951		
All ages	**10,000**	**4,803**	**5,197**	**10,000**	**4,789**	**5,211**	**0**	**14**	**— 14**
0 – 4	**849**	435	414	**748**	378	370	**101**	57	44
5 – 9	**723**	369	354	**832**	420	412	**—109**	— 51	— 58
10 – 14	**643**	327	316	**803**	406	397	**—160**	— 79	— 81
15 – 19	**618**	305	313	**860**	428	432	**—242**	—123	—119
20 – 24	**669**	326	343	**874**	425	449	**—205**	— 99	—106
25 – 29	**749**	371	378	**840**	408	432	**— 91**	— 37	— 54
30 – 34	**704**	346	358	**765**	359	406	**— 61**	— 13	— 48
35 – 39	**759**	373	386	**702**	321	381	**57**	52	5
40 – 44	**769**	379	390	**667**	308	359	**102**	71	31
45 – 49	**725**	356	369	**639**	297	342	**86**	59	27
50 – 54	**646**	301	345	**596**	279	317	**50**	22	28
55 – 59	**554**	249	305	**518**	247	271	**36**	2	34
60 – 64	**490**	215	275	**415**	195	220	**75**	20	55
65 – 69	**418**	178	240	**318**	145	173	**100**	33	67
70 – 74	**326**	135	191	**218**	94	124	**108**	41	67
75 – 79	**211**	86	125	**125**	51	74	**86**	35	51
80 – 84	**102**	38	64	**57**	21	36	**45**	17	28
85 – 89	**36**	12	24	**19**	6	13	**17**	6	11
90 – 94	**8**	2	6	**4**	1	3	**4**	1	3
95 and over	**1**	0	1	**0**	0	0	**1**	0	1

Diagram D.—Generation Age Pyramids



boys. By 1871 when they were 20-24 years old, death and emigration had reduced them to 2,005 thousand, 1,053 women and 952 men. If the layers of each pyramid representing the same age are joined (by lines which are more or less vertical) it is easy to compare successive generations. For example, the girls born in 1906-1911 numbered 1,918 thousand in 1911. The girls born in 1926-1931, however, numbered 1,480 thousand in 1931. This is shown in the diagram by the inward sweep of the line joining the successive 0-4 steps on the right hand side. These lines are particularly interesting when considering the age structure of the population. The inward sweep of the young age lines after 1911 is primarily a result of the falling birth rate, but the 20-24 and 30-34 lines for men swing in more sharply from 1911 to 1921 as a result of the deaths in the first world war. Because of lower mortality the age lines for the older people have been swinging outwards fairly steadily since about 1911. The most notable change between 1931 and 1951 is the outward

Table 41.—Population in Age-groups and Distribution per 1,000 total population, 1881-1951

Age Last Birthday	1881	1911	1921	1931	1951
			POPULATION IN THOUSANDS		
			Persons		
All Ages	**25,974**	**36,070**	**37,887**	**39,952**	**43,758**
0 – 4	3,521	3,854	3,322	2,990	3,718
5 – 14	5,947	7,196	7,179	6,530	5,974
15 – 44	11,609	17,314	17,762	18,808	18,678
45 – 64	3,708	5,827	7,333	8,662	10,563
65 and over	1,189	1,879	2,291	2,962	4,825
			Males		
All Ages	**12,640**	**17,445**	**18,075**	**19,133**	**21,016**
0 – 4	1,758	1,936	1,681	1,510	1,904
5 – 14	2,971	3,595	3,604	3,298	3,045
15 – 44	5,619	8,326	8,294	8,984	9,193
45 – 64	1,756	2,779	3,516	4,069	4,902
65 and over	536	809	980	1,272	1,972
			Females		
All Ages	**13,334**	**18,625**	**19,812**	**20,819**	**22,742**
0 – 4	1,763	1,918	1,641	1,480	1,814
5 – 14	2,976	3,601	3,575	3,232	2,929
15 – 44	5,990	8,988	9,468	9,824	9,485
45 – 64	1,952	3,048	3,817	4,593	5,661
65 and over	653	1,070	1,311	1,690	2,853
			DISTRIBUTION PER 1,000 ALL AGES		
			Persons		
All Ages	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
0 – 4	136	107	88	75	85
5 – 14	229	199	189	163	137
15 – 44	446	480	469	471	427
45 – 64	143	162	194	217	241
65 and over	46	52	60	74	110
			Males		
All Ages	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
0 – 4	139	111	93	79	91
5 – 14	235	206	199	172	145
15 – 44	445	478	459	470	437
45 – 64	139	159	195	213	233
65 and over	42	46	54	66	94
			Females		
All Ages	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
0 – 4	132	103	83	71	80
5 – 14	223	193	180	155	129
15 – 44	450	483	478	472	417
45 – 64	146	164	193	221	249
65 and over	49	57	66	81	125

Table 42.—Sex and Age Constitution of Sections of the Population

{England and Wales, Aggregates Summary, Regions of England, Wale

Administrative Areas		All Ages	0 – 4	5 – 14	15 – 24	25 – 34	35 – 44	45 – 54	55 – 64	65 and over
		Distribution per 10,000 persons								
England and Wales	Persons	10,000	850	1,365	1,287	1,453	1,529	1,370	1,043	1,103
	Males	4,803	435	696	631	718	752	657	463	451
	Females	5,197	415	669	656	735	777	713	580	652
		Ratio of Proportionate Population in each section to that of England and Wales								
Aggregates Summary (by type of area)										
Conurbations	Persons	100	100	98	96	104	104	103	100	94
	Males	98	100	97	90	102	104	101	98	90
	Females	102	100	98	102	105	105	104	101	96
Areas outside conurbations:										
Urban areas, with populations 100,000 and over	Persons	100	102	102	99	101	98	100	101	98
	Males	99	102	101	95	101	98	99	101	96
	Females	101	102	102	102	101	99	100	101	99
Urban areas, with populations of 50,000 and under 100,000	Persons	100	99	99	97	99	98	100	103	107
	Males	99	99	99	94	99	97	99	101	103
	Females	101	99	99	100	99	99	101	104	109
Urban areas, with populations under 50,000	Persons	100	100	101	97	97	98	100	102	107
	Males	100	100	101	95	96	97	100	102	109
	Females	100	100	101	99	98	98	100	102	106
Rural Districts	Persons	100	100	103	113	96	95	95	97	104
	Males	105	100	103	132	98	98	98	100	112
	Females	95	100	102	95	93	93	93	93	97
Regions of England, Wales										
Northern	Persons	100	107	107	110	102	94	96	95	90
	Males	102	107	107	111	104	95	97	98	98
	Females	98	108	107	108	101	93	95	93	85
East and West Ridings	Persons	100	103	102	97	100	100	102	102	96
	Males	100	103	101	93	101	100	102	102	97
	Females	100	103	102	101	99	99	102	101	95
North Western	Persons	100	101	100	98	98	100	102	104	97
	Males	99	101	100	95	97	99	101	102	95
	Females	101	101	101	100	99	101	104	106	99
North Midland	Persons	100	103	104	101	102	99	98	96	96
	Males	102	103	104	102	105	101	101	99	101
	Females	98	103	104	100	99	97	96	94	92
Midland	Persons	100	104	108	103	106	101	97	91	87
	Males	102	104	108	104	107	104	99	93	89
	Females	98	103	108	103	104	98	95	89	85
Eastern	Persons	100	101	100	101	97	99	97	99	109
	Males	102	101	100	106	98	100	98	100	112
	Females	99	100	99	96	96	98	96	98	106
London and South Eastern	Persons	100	95	93	94	101	105	103	102	104
	Males	97	95	93	88	99	104	101	100	98
	Females	102	95	93	99	104	107	105	104	109
Southern	Persons	100	99	98	110	96	96	95	99	110
	Males	102	99	98	124	96	96	95	98	109
	Females	99	99	98	96	95	96	95	99	111
South Western	Persons	100	96	97	103	94	95	99	105	115
	Males	100	95	97	113	94	95	98	104	113
	Females	100	96	97	95	94	95	100	106	116
Wales (including Monmouthshire)	Persons	100	100	104	101	100	96	100	102	98
	Males	102	100	104	101	100	97	102	107	107
	Females	98	100	104	100	99	95	99	98	92

swing of the 0-4 line, caused by the wartime and post-war increase in the birth rate. It is not at all easy to see any sign of the deaths in the second world war. The age lines for young men should swing in more steeply than for young women. The difference between men and women was lessened, of course, by the emigration of wives of Allied and Commonwealth servicemen immediately after the war, and the war losses may not show up clearly until the 1961 pyramid can be inserted at the bottom.

Another point of interest in the diagram is that the 20-24 line for women is outside the 10-14 line for almost the whole period. This means that the generations of young women have increased during those ten years of life. In the *General Report* of the 1901 Census (pp. 52-60) it was assumed that this was due solely to systematic mis-statements of age. It seems unlikely that that sort of mis-statement would be made as late as 1951. The other possible explanation is immigration of young women into this country for a few years to work as nurses or domestic servants. It is not now possible to say whether this occurred in the 19th century or whether mis-statement of age was the sole explanation.

These changes in age structure are of practical interest. For example, between 1931 and 1951 the proportion of the population who were aged 5-14 fell from 163 to 137 per 1,000. This fall will not be continued to 1961, however, because the proportion of the population who were 0-4 years old had risen from 75 to 85 per 1,000. The proportion of young workers, who are also those bearing and rearing children, fell from 471 to 427 per thousand; the fall was steeper for women (472 to 417) than for men (470 to 437). This makes the increase in the proportion aged 0-4 the more remarkable. The proportion of people over 65—roughly the retired group—increased and, because the proportion of older workers also increased, it is likely that the proportion of retired will continue to increase. The increase in the total population between 1931 and 1951, as well as being at a lower rate than earlier changes, had a very different age structure. From 1881 to 1911 most of the increase was in the working population, and well over half was in the younger, reproductive part of the working population. From 1931 to 1951, however, less than half of the total increase was in the working population and the younger part of it actually became smaller.

The age structure of the population is different in the different parts of the country.

The conurbations, which are almost exclusively urban and contain most of the commercial and managerial centres, have a clear bias towards the working ages, especially for women. In the higher working ages the bias is less because senior staffs are likely to live in the more attractive neighbourhoods outside the conurbations. The smaller urban areas have a larger than national proportion of their populations aged over 55; this is probably because the small towns are attractive both to people who are inclined and can afford to live at some distance from their work and to retired people. All of these urban areas had a relatively small number of young men aged 15-24. This is because National Servicemen serve their two years in Armed Forces camps which are, for the most part, in rural areas or overseas. Consequently the proportion of young men in rural areas is very much above the national figure. Women of working ages are relatively scarce in rural areas as the sorts of job that women do are found mostly in towns. The bias towards women in the active and reproductive ages in the conurbations is not associated with high proportions of children because only a relatively small proportion of the women are married. The relatively large number of young women in the Midland Region has already been mentioned as an explanation of its high rate of natural increase. The effect of this large natural increase is a relatively large number of children in that region. The Northern Region has, in fact, even larger proportions of people under 25. This is explained by the relatively high natural increase and loss of population by migration from this region which are shown in Table 30. The large proportion of young men aged 15-24, however, is entirely due to the presence of large Defence Establishments in the region. This is also true of the Eastern, Southern and South Western Regions. London and South Eastern Region is dominated by the Greater London conurbation and has, therefore, relatively large numbers of women in the working ages. The numbers of women over 65, however, are relatively large only in the part of the region outside Greater London. The Eastern, Southern and South Western Regions are favourite areas of retirement for people over 65.

Marital Condition

9,202 thousand males and 9,201 thousand females were single at the census. Although the numbers were very nearly the same, as proportions of the whole populations there is some difference; 43·8 per cent of the males were single but only 40·5 per cent of the women. Furthermore there are differences in the numbers when the age-groups are separated. All children under 15 are single, so that the greater number of boys arises solely from the influences mentioned in the

Table 43.—Marital Condition Distribution

	Males					Females				
	Total	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced
					Numbers (*thousands*)					
All Ages	**21,016**	**9,202**	**10,996**	**739**	**79**	**22,742**	**9,201**	**11,092**	**2,319**	**130**
0 – 14	**4,949**	4,949				**4,743**	4,743			
15 – 19	**1,335**	1,328	7	0	0	**1,369**	1,309	60	0	0
20 – 24	**1,427**	1,088	338	1	0	**1,500**	777	719	2	2
25 – 34	**3,140**	854	2,260	9	17	**3,219**	587	2,567	31	34
35 – 44	**3,291**	397	2,836	28	30	**3,397**	467	2,788	99	43
45 – 54	**2,874**	266	2,520	68	20	**3,123**	471	2,371	250	31
55 – 64	**2,028**	158	1,725	137	8	**2,538**	394	1,584	546	14
65 and over	**1,972**	162	1,310	496	4	**2,853**	453	1,003	1,391	
					Distribution per 1,000 at each age					
0 – 14	**1,000**	1 000				**1,000**	1,000			
15 – 19	**1,000**	995	5	0	0	**1,000**	956	44	0	0
20 – 24	**1,000**	762	237	1	0	**1,000**	518	480	1	1
25 – 34	**1,000**	272	720	3	5	**1,000**	182	797	10	11
35 – 44	**1,000**	120	862	9	9	**1,000**	137	821	29	13
45 – 54	**1,000**	92	877	24	7	**1,000**	151	759	80	10
55 – 64	**1,000**	78	850	68	4	**1,000**	155	624	215	6
65 and over	**1,000**	82	664	252	2	**1,000**	159	352	487	2
					Increase or decrease (—) in Proportions 1931-1951					
0 – 14	**0**	0				**0**	0			
15 – 19	**0**	— 2	2	0	0	**0**	— 26	26	0	0
20 – 24	**0**	—99	99	0	0	**0**	—224	223	0	1
25 – 34	**0**	—80	80	— 4	4	**0**	—148	139	— 1	10
35 – 44	**0**	— 5	7	— 9	7	**0**	— 57	69	—23	11
45 – 54	**0**	—16	29	—18	5	**0**	— 13	39	—34	8
55 – 64	**0**	—24	54	—33	3	**0**	— 1	5	— 9	5
65 and over	**0**	— 4	45	—42	1	**0**	5	11	—18	2

Table 44.—Excess of Females in the Marriageable Population (i.e. Single and Widowed and Divorced), aged 15 years and over

Age Last Birthday	Females per 1,000 Males		Excess of Females over Males (*thousands*)	
	1951	1931	1951	1931
15 – 19	985	994	— 20	— 11
20 – 24	717	911	—308	—130
25 – 34	741	1,041	—228	45
35 – 44	1,342	2,005	156	367
45 – 54	2,125	2,094	398	384
55 – 64	3,144	2,065	651	385
65 and over	2,792	2,295	1,187	629

section of this chapter concerned with the analysis of the population by sex. Most brides are younger than their bridegrooms so that there are more single men than single women in all age-groups up to 34. At older ages, however, the marriage rates for men are higher than for women; also the lower mortality rates of women, and, in particular, the deaths of single men in the first world war, make a significant difference, so that there are more single women than single men. The opposite distribution is found in the married population. Because women get married younger than men there are more married women than married men under the age of 35, but above that age more men get married than women. (Mortality differences do not make any difference, because the death of a married man removes both himself and his wife from the married population, his wife being transferred to the widowed population.) There were more married women enumerated altogether than married men, as in every census for the past hundred years, but the excess was smaller than ever before (1,009 wives per thousand husbands). Women in general live longer than men so that there are more widows than widowers, the difference increasing with age. The reason for the difference between the numbers of divorced men and women is that more divorced men than divorced women marry again.

The sum of the single, widowed and divorced population is the marriageable population. In 1951 there was an excess of marriageable men at ages up to 34; in 1931 the limit was 24 and the excess was a good deal smaller. Part of the change since 1931 is due to changes in the total population, part to the ageing of generations depleted of men in the first world war, and part to changes in marriage experience.

The proportions of men and women who are married have increased for all age-groups since 1931. At the younger ages this is due mainly to the higher marriage rates in the period 1931-1951; the proportions of single men and women declined. At older ages, however, the proportions married have increased at the expense of the widowed. There are no signs that the rates of remarriage of widows and widowers have increased so that the cause at these ages must be the decrease in mortality rates. The fall, since 1931, in the proportion widowed at ages over 50 is less for women than for men because, in 1951, this is the generation of widows of men killed in the first world war.

The change in the proportions who were divorced at the census is not a true reflection of the change in the proportions ever divorced because the number of people who get divorced each year is not much larger than the number of divorced people who remarry. There is some understatement of divorce in the schedules; possibly as many as one in ten of divorced people describe themselves as single or widowed. This is a smaller amount of understatement than in the 1931 census when it was probably about one in five.*

Some of the regional variations in the analysis of the population by marital condition have already been mentioned.

The proportions of people who were divorced are above the national average in conurbations and the larger urban areas. This could be either because married people in large towns are more likely to become divorced or because divorced people go to live in the large towns.

The proportions of men who are single are above the national average at all ages over 20 in rural areas, though for women this is only true above the age of 55. Because the national proportions of single persons are so small above the age of 25, these differences are not as large as the ratios make them appear. In the age-group 20-24 the ratio of single men is probably high because of the presence of National Servicemen in Rural Districts. This particular ratio is also high in the four Regions where Defence Establishments are especially important—the Eastern, Northern, Southern and South Western.

* In the General Report of the 1931 Census this was incorrectly estimated to be about 40% or one in 2½.

Table 45.—Sex and Marital Condition Constitution of Sections of the Population

Age Last Birthday		Proportions per 1,000 at each age by marital condition					Ratio of Regions of				
		England and Wales									
		1901	1911	1921	1931	1951	Northern	East and West Ridings	North Western	North Midland	Midland
MALES											
15 and over	**Single**	**411**	**403**	**365**	**356**	**265**	**111**	**92**	**97**	**96**	**100**
	Married	**536**	**545**	**584**	**593**	**684**	**95**	**103**	**101**	**102**	**100**
	Widowed	**53**	**52**	**50**	**50**	**46**	**111**	**105**	**108**	**101**	**94**
	Divorced			**1**	**1**	**5**	**80**	**92**	**88**	**90**	**82**
15 – 19	Single	997	998	996	997	995	100	100	100	100	100
	Married	3	2	4	3	5	91	91	91	112	93
	Widowed	0	0	0	0	0	193	61	132	171	129
	Divorced			0	0	0	210	87	17	193	73
20 – 24	Single	826	857	822	861	763	102	95	99	96	98
	Married	173	142	177	138	237	94	115	103	111	106
	Widowed	1	1	1	1	0	117	134	115	105	102
	Divorced			0	0	0	71	94	103	63	77
25 – 34	Single	359	385	341	352	272	107	90	97	92	96
	Married	631	607	649	641	720	97	104	101	103	101
	Widowed	10	8	9	6	3	128	103	110	107	114
	Divorced			1	1	5	83	94	92	85	85
35 – 44	Single	158	169	150	125	120	112	89	94	93	94
	Married	812	806	827	855	862	98	102	101	101	101
	Widowed	30	25	22	18	9	123	103	110	99	106
	Divorced			1	2	9	84	92	87	95	76
45 – 54	Single	110	121	120	108	92	111	88	95	91	94
	Married	819	818	831	848	877	98	101	100	101	101
	Widowed	71	61	48	42	24	124	103	112	99	102
	Divorced			1	2	7	81	86	83	86	83
55 – 64	Single	89	99	104	102	78	111	91	97	90	90
	Married	764	762	782	796	850	98	100	99	101	101
	Widowed	147	139	113	101	68	120	105	111	99	105
	Divorced			1	1	4	76	88	80	90	76
65 and over	Single	74	80	86	86	82	122	96	100	91	93
	Married	574	578	601	619	664	93	98	97	100	100
	Widowed	352	342	312	294	252	111	106	108	103	104
	Divorced			1	1	2	75	90	80	80	75
FEMALES											
15 and over	**Single**	**395**	**390**	**368**	**354**	**248**	**99**	**93**	**102**	**89**	**95**
	Married	**497**	**506**	**520**	**534**	**616**	**101**	**103**	**98**	**106**	**104**
	Widowed	**108**	**104**	**111**	**111**	**129**	**98**	**100**	**105**	**92**	**92**
	Divorced			**1**	**1**	**7**	**69**	**83**	**79**	**81**	**74**
15 – 19	Single	985	988	982	982	956	101	100	101	99	100
	Married	15	12	18	18	44	87	106	89	122	99
	Widowed	0	0	0	0	0	64	79	126	114	72
	Divorced			0	0	0	138	58	85	118	88
20 – 24	Single	726	757	726	742	518	100	92	104	89	97
	Married	272	242	270	257	480	100	109	96	112	103
	Widowed	2	1	4	1	1	105	117	101	104	94
	Divorced			0	0	1	89	92	87	97	75
25 – 34	Single	340	355	337	330	182	93	84	104	80	90
	Married	643	632	631	658	798	102	104	99	105	103
	Widowed	17	13	31	11	10	105	97	99	91	92
	Divorced			1	1	10	81	92	82	87	72
35 – 44	Single	185	196	192	194	137	89	90	106	83	87
	Married	751	753	746	752	821	102	102	99	104	103
	Widowed	64	51	61	52	29	115	95	105	86	91
	Divorced			1	2	13	69	82	81	80	71
45 – 54	Single	136	158	164	164	151	87	92	105	84	84
	Married	705	709	721	720	759	102	102	98	105	104
	Widowed	159	133	114	114	80	113	100	108	89	97
	Divorced			1	2	10	62	80	77	72	72
55 – 64	Single	117	132	153	156	155	85	90	103	83	82
	Married	569	584	600	619	624	101	102	97	107	104
	Widowed	314	284	246	224	215	108	102	108	92	102
	Divorced			1	1	6	58	75	71	76	71
65 and over	Single	111	121	137	154	159	87	85	99	79	83
	Married	306	313	326	341	351	102	101	95	112	105
	Widowed	583	566	537	505	488	103	104	104	99	102
	Divorced			0	0	2	60	65	70	75	75

Proportionate Population in each Section to that of England and Wales, 1951

England					Aggregates Summary (by type of area)				
						Areas outside Conurbations			
Eastern	London and South Eastern	Southern	South Western	Wales (including Monmouthshire)	Conurbations	Urban Areas with population of 100,000 and over	Urban Areas with population of 50,000 and under 100,000	Urban Areas with population under 50,000	Rural Districts
102	**96**	**112**	**106**	**109**	**95**	**94**	**94**	**95**	**121**
99	**102**	**96**	**97**	**96**	**102**	**102**	**102**	**101**	**92**
98	**90**	**94**	**103**	**115**	**94**	**102**	**104**	**108**	**100**
90	**141**	**108**	**92**	**76**	**120**	**108**	**106**	**88**	73
100	100	100	100	100	100	100	100	100	100
116	90	129	124	86	83	105	96	96	121
—	25	100	225	—	**82**	175	79	64	114
67	60	220	90	123	23	227	37	97	153
102	101	102	102	103	100	97	97	98	106
94	96	93	94	90	101	111	110	108	82
78	78	107	98	95	98	115	127	110	80
123	114	120	131	74	100	106	111	80	111
99	104	102	101	114	101	92	93	95	113
100	98	99	100	95	100	103	103	102	95
76	79	90	93	124	97	107	110	100	90
104	125	115	96	77	109	106	109	89	81
101	102	103	104	121	97	92	92	95	120
100	100	100	100	97	100	101	101	101	97
80	86	90	97	127	100	109	101	100	93
93	132	111	92	75	113	108	107	89	75
104	100	106	106	124	95	92	94	96	123
100	100	100	100	97	100	101	101	101	98
86	89	87	94	117	100	106	103	100	94
86	142	116	94	77	119	104	104	84	74
102	98	105	105	129	93	92	97	98	123
101	101	100	100	96	101	100	100	100	98
88	88	88	95	115	100	104	100	101	97
76	141	112	102	78	115	102	102	85	80
96	96	100	99	128	95	91	98	99	115
103	104	103	102	94	101	101	100	100	99
95	91	93	96	107	99	101	100	101	99
80	155	115	100	75	125	110	100	80	85
97	**107**	**101**	**103**	**98**	**103**	**95**	**100**	**98**	**100**
102	96	99	98	100	98	**101**	99	**101**	**102**
95	**102**	**101**	**103**	**103**	**102**	**105**	**103**	**101**	**90**
97	**146**	**119**	**103**	**65**	**115**	**103**	**108**	**88**	79
100	100	99	100	100	100	100	100	100	100
103	97	115	102	100	95	106	102	104	100
128	64	193	114	143	88	74	33	153	109
80	123	93	110	88	100	173	95	60	98
97	107	97	100	102	104	96	97	96	100
103	93	103	100	98	95	105	104	105	100
95	93	90	93	121	96	103	93	107	98
115	118	100	123	89	103	114	103	92	90
94	117	99	99	101	109	89	**95**	92	99
101	96	100	100	100	98	102	101	102	101
95	105	106	104	108	102	105	100	102	92
105	130	118	108	75	107	108	109	91	83
92	115	99	103	96	108	92	98	95	94
102	97	100	99	101	98	101	100	101	102
88	101	106	103	113	103	108	103	100	86
98	141	123	103	67	112	105	108	89	76
96	114	101	106	92	106	91	100	96	97
102	96	100	99	101	98	101	100	101	103
84	100	97	94	113	106	109	101	96	84
92	153	120	105	58	117	98	109	85	76
99	114	108	114	88	101	89	106	101	102
105	96	100	99	101	97	100	99	101	105
87	100	92	92	108	107	107	99	96	84
100	162	129	98	55	115	95	115	85	85
101	113	114	120	85	95	90	115	105	104
109	94	101	99	101	94	99	96	102	111
93	100	94	94	104	106	104	98	97	91
80	160	120	105	55	115	95	115	85	80

CHAPTER V

BIRTHPLACE AND NATIONALITY

Introduction

The census schedule contained the following questions under the heading Birthplace:—

(1) If born in Great Britain or Northern Ireland, write the name of the County, and of the Town or Parish.

(2) If born elsewhere, write the name of the Country, and of the State, Province or District, or, if born at sea, write " At sea".

and the following question under the heading Nationality:—

For all persons not born in Great Britain or Northern Ireland, state present Nationality, e.g., French, German, Polish, etc., or if British, whether British by Birth or Descent, British by Naturalisation, British through Marriage, British by Registration, etc.

These questions correspond to those asked in 1931 except that in 1931 only foreign born persons were asked the Nationality question.*

The main object of the Birthplace question when first asked in 1841 was to obtain information on rural-urban movement. In 1851 the detail required was increased and persons born abroad had to state if they were British subjects. In 1901 more attention was paid to the foreign born to reduce the number wrongly classified as aliens due to their failure specifically to state British nationality, and nationality was asked of all enumerated. At the 1921 Census, after the first world war when attention was focussed on aliens, a dual classification of aliens by birthplace and nationality was undertaken. In 1931 there was no classification of aliens by nationality but only of the number of aliens whose nationality differed from their country of birth.

Tables resulting from the replies to the 1951 Census questions on Birthplace and Nationality appear in the *General Tables* (Tables 32 to 41) and the *County Reports* (Tables 19 and 20), while Tables have also appeared in the *Occupation Tables* and the *Report on Greater London and Five Other Conurbations*.

Nationality

The Nationality question was limited to those born outside Great Britain and Northern Ireland. There are several ways of obtaining British nationality which may be summarised.

(1) Birth: persons born within the Commonwealth.

(2) Descent: persons born outside the Commonwealth to a father who was a British subject at the time of the child's birth.

(3) Naturalisation: by the normal process through the Home Secretary.

(4) Marriage: acquired by all foreign born women who married British subjects before 1st January 1949.

(5) Registration: acquired by foreign born women who married British subjects after 1st January 1949, and have also registered with the Home Secretary under the provisions of the British Nationality Act 1948.

Response to Birthplace and Nationality Questions

At the census 9 per 1,000 persons enumerated did not state their birthplace and 19 per 1,000 of the foreign born did not state their nationality. It was found that 72 per cent of those who gave

* Due to irregularities in the coding of the 1931 Census results, some persons who should have been coded as having not stated their birthplace or nationality, or both, were in fact assigned a birthplace or nationality on the basis of other information on the schedule and were then coded accordingly. This causes difficulties in making comparison between 1931 and 1951. In practice the effect on comparability was most considerable for the Birthplace Not Stated and Nationality Not Stated categories which if the coding scheme had been followed consistently would have been wholly comparable apart from the inclusion of visitors in 1931 and their exclusion in 1951. In view of this, in all but the earliest County Reports, Table N, giving a distribution of foreign born by nationality, was amended to exclude persons who did not state a birthplace in 1951 while the 1931 figures were adjusted to obtain approximate comparability. A similar adjustment has been made to Table 51.

The effect of the assigned birthplace and nationality cases would be to inflate slightly the 1931 figures for stated birthplaces and nationalities when compared with 1951, but the size of this inflation is not likely to affect significantly comparisons made between 1931 and 1951.

no birthplace also gave no nationality, and 96 per cent of the persons who did not state their nationality also failed to give their birthplace, the remaining 4 per cent giving a foreign birthplace. It is likely that a large proportion of those giving no birthplace were in fact born in England and Wales. It appeared that in some cases the birthplace had been omitted because the exact location was not known, and in other cases inadvertently or because it was believed unnecessary as it did not differ from the place of enumeration.

Birthplaces of persons enumerated in England and Wales

Of the 43,757,888 persons enumerated in England and Wales Table 46 shows that 94 per cent were born in England and Wales compared with 96 per cent in 1931. Those born elsewhere numbered 2,256,042 compared with 1,321,095 in 1931, an increase of 71 per cent. The proportion born elsewhere was considerably higher than at any of the earlier censuses quoted in Table 46. There has been a steady fall in the proportion born in Great Britain and all Ireland at all the census dates given, excluding 1931, and this is matched by a rise in the proportion of aliens, again excluding 1931. The proportions for Commonwealth areas and British subjects born in foreign countries had been rising steadily (apart from a temporary reduction in the latter proportion in 1891), but more sharply since 1931.

Natives of England and Wales

Table 47 gives the distribution by region of enumeration of persons born in each region and enumerated in England and Wales, and Table 48 gives the distribution by birthplace of persons enumerated in each region. In drawing conclusions on internal migration from such data it should be remembered that the region of enumeration may only represent the latest of a series of moves since birth, and such a series of moves which ends in a return to the region of birth is missed. Nevertheless such data should indicate the broad aspects of internal migration.

Table 46.—Birthplaces of the Population at Selected Censuses, 1851-1951
(Proportions per 100,000 persons)

Birthplace	1851	1871	1891	1911	1931	1951
TOTAL	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**	**100,000**
England and Wales	**95,750**	**95,509**	**96,139**	**95,545**	**96,345**	**93,972**
Elsewhere	**4,250**	**4,491**	**3,861**	**4,455**	**3,655**	**6,028**
Scotland	726	939	973	892	917	1,328
Northern Ireland	2,899	2,493	1,580	190	175	308
Irish Republic				786	761	1,079
Ireland (part not stated)				65	18	46
Isle of Man and Channel Islands	77	114	105	102	91	86
Commonwealth Countries, Colonies, Protectorates, etc.	188	312	385	448	565	769
Foreign Countries						
British Subjects by Birth or Descent	64	171	120	185	159	191*
British Subjects by Naturalisation, Registration or Marriage				61	161	412*
Alien or not stated Nationality	281	443	683	790	449	867*
At Sea	15	19	15	19	10	5*
Birthplace not stated	†	†	†	917	349	872*

*These figures exclude visitors to England and Wales totalling 65 persons per 100,000 enumerated.
†At Censuses prior to 1911, persons whose birthplaces were not stated were included with those born in England and Wales.

Table 47 indicates that about 80 per cent of persons were enumerated in the same region as that in which they were born, the actual proportions varying from 87 per cent in the North Western Region to 70 per cent in the Southern. Movement since birth has been mainly either to the regions adjoining that of birth or to the London and South Eastern Region. For every region but the East and West Ridings, from which a higher proportion went to the North Western Region, the highest proportion of migrants went to the London and South Eastern Region. The combination of the influences of regional proximity and the attraction of London produced the highest proportions of movement to the London and South Eastern Region, thus 15 per cent of those born in the Southern Region, and 14 per cent of those born in the Eastern Region were enumerated in the London and South Eastern Region.

From Table 48 it can be seen that the proportion of native born among those enumerated in a region varied more than the proportion of those born in a region who were enumerated there. The highest proportion of native born was 86 per cent in the Northern Region, while the Southern

Table 47.—Distribution by Region of Enumeration of persons with specified Birthplaces — England and Wales, Regions of England, Wa

Region or Country of Birth	Total Persons with each birthplace	Persons per 1,000 enumerated in										
		Northern Region	East and West Ridings Region	North Western Region	North Midland Region	Midland Region	Eastern Region	London and South Eastern Region	Southern Region	South Western Region	Wales (including Monmouthshire)	Engla and Wale
	a	b	c	d	e	f	g	h	j	k	l	m
Regions of England, Wales												
Northern	3,382,968	797	45	31	15	16	15	54	14	9	4	1,000
East and West Ridings	4,023,809	25	825	39	32	13	10	32	11	9	4	1,000
North Western	6,197,479	10	20	867	11	19	9	32	10	9	13	1,000
North Midland	3,227,103	7	40	20	808	28	23	44	16	10	4	1,000
Midland	4,199,331	5	12	30	24	835	10	34	15	19	16	1,000
Eastern	2,575,534	7	11	12	28	13	738	143	28	15	5	1,000
London and South Eastern	9,759,798	5	7	11	11	12	62	822	41	23	6	1,000
Southern	2,155,996	6	8	12	16	21	29	150	702	47	9	1,000
South Western	2,787,562	5	7	12	10	25	15	79	50	772	25	1,000
Wales (including Monmouthshire)	2,800,765	4	8	31	10	40	13	68	21	36	769	1,000
England and Wales	41,120,159†	73	96	148	79	102	71	241	60	69	61	1,000
Elsewhere in United Kingdom, Islands of the British Seas and the Irish Republic	1,245,548	67	60	154	57	99	63	342	75	55	28	1,000
Commonwealth Countries	259,174	34	42	83	41	66	71	443	107	89	24	1,000
Colonies, Protectorates, etc	77,196	29	31	78	31	53	54	507	103	79	35	1,000
Foreign countries*	643,405	29	71	112	65	67	74	419	70	56	37	1,000
Birthplace not stated*	381,687	62	81	147	62	109	99	264	57	72	47	1,000

*These figures relate to residents only and exclude a total of 28,581 visitors.
†Including 9,814 persons born in England but Region not stated.

Table 48.—Distribution by Birthplace of persons enumerated in each area — England and Wales, Regions of England, Wa

Area of Birthplace	Area of Enumeration										
	Northern Region	East and West Ridings Region	North Western Region	North Midland Region	Midland Region	Eastern Region	London and South Eastern Region	Southern Region	South Western Region	Wales (including Monmouthshire)	Engl and Wak
	a	b	c	d	e	f	g	h	j	k	l
All Birthplaces (persons)	3,140,503	4,097,178	6,446,778	3,378,147	4,422,511	3,098,127	10,905,853	2,649,358	3,020,758	2,598,675	43,757
	Distribution by Birthplace (per 1,000 persons* enumerated in each area)										
Regions of England, Wales											
Northern	859	37	16	15	12	16	17	18	10	6	7
East and West Ridings	31	811	25	39	11	13	12	16	12	6	9
North Western	19	30	832	21	26	18	18	24	19	32	14
North Midland	7	32	10	772	20	24	13	19	11	5	7
Midland	7	12	19	30	795	13	13	25	27	26	9
Eastern	5	7	5	21	8	615	34	27	13	5	5
London and South Eastern	16	16	16	32	26	195	737	149	74	24	22
Southern	4	4	4	10	10	20	30	573	34	7	4
South Western	4	5	5	8	15	14	20	52	713	27	6
Wales (including Monmouthshire)	4	5	14	8	25	12	18	23	33	830	6
England and Wales	956	959	946	956	948	940	912	926	946	968	94
Elsewhere in the United Kingdom, Islands of the British Seas and the Irish Republic	26	18	30	21	28	26	39	35	23	13	2
Commonwealth Countries	3	3	3	3	4	6	11	11	8	2	
Colonies, Protectorates, etc.	1	1	1	1	1	1	4	3	2	1	
Foreign Countries	6	11	11	12	10	15	25	17	12	9	1
Birthplace not stated	8	8	9	7	9	12	9	8	9	7	

*Residents and visitors, but excluding visitors with Foreign and not stated birthplaces and all persons born at sea.

Region had the lowest with 57 per cent. Wales had the highest proportion of England and Wales born with 97 per cent, followed by the East and West Ridings with 96 per cent, while the London and South Eastern Region had the lowest with 91 per cent. The importance of the London and South Eastern Region as exporting as well as importing population is clear from Table 48. The numbers who had moved to a particular region since birth, though a small proportion of those born in the London and South Eastern Region, were naturally a rather larger proportion of the population of the region in which they were enumerated. In nearly all cases those regions which provided 2 per cent or more of those enumerated in a particular region were adjoining regions; the main exception was the London and South Eastern Region which was the birthplace of more

than 2 per cent of the enumerated population of the North Midland and Midland Regions and of Wales, while in the Southern Region more than 2 per cent of the enumerated population was born in the North Western Region and in Wales.

If the persons both born and enumerated in England and Wales are distributed by region of enumeration and also by region of birth the distributions are:—

Region	Percentage distribution of persons born in and enumerated in England and Wales by	
	Region of Enumeration	Region of Birth
Northern	7·3	8·2
East and West Ridings	9·6	9·8
North Western	14·8	15·1
North Midland	7·9	7·8
Midland	10·2	10·2
Eastern	7·1	6·3
London and South Eastern	24·1	23·8
Southern	6·0	5·2
South Western	6·9	6·8
Wales	6·1	6·8

The above percentages indicate well-marked net movements since birth from the Northern Region and Wales and smaller net movements from the North Western and East and West Ridings Regions. These have been balanced by net movements into the Eastern, Southern, and London and South Eastern Regions; that is, in general, a move from the older to the newer industrial areas, while the North Midland, Midland and South Western Regions show little net movement.

Persons born outside England and Wales

(a) Natives of Scotland

There were 580,806 persons born in Scotland enumerated in England and Wales, compared with 366,486 in 1931, an increase of 58 per cent. The proportion of Scottish born increased from 9 to 13 per 1,000 between 1931 and 1951. Males, numbering 302,078, increased by 67 per cent and females, numbering 278,728, by 50 per cent, the difference being due to the Scottish born enumerated in the defence services (40,000 males and 1,400 females). Particulars of the sex, age, and marital condition of the Scottish born residents are given in Table 49 which shows that there were 293 males aged 15-44 and 241 females aged 15-44 out of every 1,000 Scottish born persons enumerated in England and Wales, compared with 210 and 218 for those born in England and Wales. These higher proportions in the 15-44 age-group were reflected in the distribution of the married, where this age-group accounts for 595 per 1,000 compared with 525 per 1,000 among those born in England and Wales.

Of the Scottish born enumerated in England and Wales the London and South Eastern Region accounted for 29 per cent of the males and 34 per cent of the females, and was the only region where females outnumbered males, i.e. 93,599 females compared with 86,562 males. The North Western (13 per cent for males and females) and Northern (11 per cent for males and females) Regions had the next highest percentages, while Wales (3 per cent for males, 2 per cent for females) had the lowest, being less than half as great as that of the region taking the next higher proportion of the total Scottish born, viz. the South Western.

Table 35 in the *General Tables* gives the proportion per 10,000 of the population of each sex by place of birth, and the following regional figures for those born in Scotland are taken from that table.

Region	Males	Females
Northern	221	189
East and West Ridings	104	90
North Western	124	104
North Midland	128	101
Midland	120	95
Eastern	156	123
London and South Eastern	170	161
Southern	200	155
South Western	127	93
Wales	66	50
England and Wales	**144**	**123**

Table 49.—Sex, Age and Marital Condition of persons Born outside but Resident in England and Wales

Birthplace or Nationality	Total Enumerated in England and Wales	Married only	Sex, age distributions per 1,000 total population of both sexes								Percentage married each age-group			
			Males				Females				Males		Fema	
			0–14	15–44	45–64	65 and over	0–14	15–44	45–64	65 and over	15–44	45 and over	15–44	
	a	b	c	d	e	f	g	h	j	k	l	m	n	
Total enumerated population	**43,757,888**	**22,086,877**	**113**	**210**	**112**	**45**	**108**	**218**	**129**	**65**	**24·6**	**25·1**	**27·9**	
Birthplaces of British Subjects and Citizens of the Irish Republic														
Scotland	563,820	343,583	50	293	126	49	49	241	126	66	29·8	23·0	29·7	
Northern Ireland	131,955	76,905	48	311	114	43	46	284	105	49	32·2	20·0	33·4	
Irish Republic	466,981	251,049	19	291	117	46	19	324	124	60	29·4	21·1	32·1	
Isle of Man and Channel Islands	36,462	20,985	51	190	142	70	50	207	180	110	19·6	29·3	24·0	
Commonwealth countries	**244,784**	**131,255**	**62**	**282**	**101**	**36**	**58**	**276**	**118**	**67**	**30·8**	**20·9**	**31·8**	
Union of South Africa	27,437	16,536	53	224	134	24	53	298	161	53	23·6	22·2	35·0	
Southern Rhodesia	1,690	559	217	218	34	3	201	282	44	1	31·3	9·7	50·1	
Canada (including Newfoundland)	45,833	27,968	51	369	68	25	48	333	65	41	41·8	12·1	37·2	
Ceylon	5,816	2,716	65	260	107	46	61	247	132	82	24·7	26·8	29·1	
India	110,767	55,304	75	261	100	41	71	249	124	79	27·9	23·2	29·9	
Pakistan	11,117	5,708	85	436	111	17	77	187	62	25	50·8	20·6	20·1	
Australia	30,718	16,549	31	229	124	44	29	301	158	84	23·4	25·3	30·9	
New Zealand	11,406	5,915	36	271	104	51	32	295	124	87	29·9	24·0	28·9	
Colonial territories	**74,702**	**35,090**	**76**	**363**	**95**	**27**	**71**	**244**	**84**	**40**	**37·8**	**20·2**	**28·9**	
West African territories	5,619	2,524	45	649	91	11	47	148	6	3	72·1	15·6	11·5	
East African territories	3,937	987	197	306	19	5	171	282	15	5	40·1	8·0	46·9	
Other African territories	4,082	1,794	73	354	93	29	69	238	98	46	36·8	21·0	27·1	
Far Eastern territories	11,717	4,513	119	285	72	22	111	275	85	31	32·0	19·1	34·4	
Mediterranean territories	31,707	16,785	71	339	98	22	67	272	93	38	34·0	18·3	33·8	
Caribbean territories	15,301	7,119	40	387	111	51	37	199	105	70	38·5	26·6	19·7	
Foreign countries or at sea														
British subjects by birth or descent	85,727	39,885	90	231	105	42	87	244	131	70	25·9	25·5	28·9	
British subjects by naturalisation, registration or marriage	180,421	137,724	11	121	124	55	11	402	208	68	10·7	19·6	47·0	
Nationality of Aliens														
European (excluding Turkish)	**321,632**	**148,764**	**21**	**442**	**112**	**36**	**22**	**252**	**76**	**39**	**43·3**	**23·9**	**22·7**	
Austrian	9,526	2,521	26	84	55	45	27	532	163	68	15·0	26·7	36·3	
Belgian	4,077	2,106	40	178	205	92	52	215	130	88	23·1	46·2	17·1	
Czecho-Slovakian	4,366	1,999	33	483	103	29	33	216	72	31	46·5	21·4	23·2	
Danish	3,357	1,320	30	263	125	62	31	400	62	27	35·1	37·9	18·3	
Dutch	7,457	3,853	48	347	128	59	43	272	66	37	49·2	28·9	13·5	
French	11,398	3,969	35	190	86	60	41	329	145	114	31·3	31·6	20·5	
German	37,549	11,251	34	319	27	22	39	472	55	3	57·0	10·6	27·0	
Hungarian	3,871	1,494	17	481	63	19	16	277	97	30	44·8	15·5	30·1	
Italian	20,204	9,173	24	235	117	71	27	376	103	47	30·8	31·2	22·4	
Jugo-Slavian	9,160	3,988	4	741	128	4	5	100	15	3	60·8	23·8	13·8	
Polish	130,865	70,100	18	550	132	18	18	178	64	22	47·1	21·0	23·5	
Russian	57,801	28,127	15	510	112	55	13	151	82	62	39·2	25·0	22·6	
Swiss	8,084	2,737	9	143	167	81	10	456	88	46	14·3	56·8	14·1	
Other European	13,917	6,126	25	332	134	63	25	293	83	45	39·3	33·3	17·4	
Asian	6,921	2,732	48	493	150	39	36	173	45	16	43·1	28·6	21·3	
United States	34,472	13,864	61	683	35	11	62	115	22	11	66·5	9·1	20·8	
Stateless	8,090	4,626	18	212	224	102	16	149	170	109	18·6	45·9	12·6	

The proportion of Scottish born was highest in the Northern Region, the proportion rising to 802 per 10,000 total for males and 763 for females in Carlisle C.B., 384 for males and 311 for females in Cumberland A.C., and 346 for males and 312 for females in Northumberland A.C. The Southern Region had the next highest proportion, the high proportions in Portsmouth C.B. and Gosport M.B., especially for males, indicating the influence of the armed forces. Very high proportions were also found in certain parts of the London and South Eastern Region, for example Westminster Met. B. (447 for males and 433 for females), Chelsea Met. B. (335 and 366), Holborn Met. B. (346 and 348), and St. Marylebone Met. B. (336 and 353). The very low proportion in Wales will be noted.

(b) Natives of Ireland

There were 627,021 persons born in all Ireland enumerated in England and Wales, of whom 305,271 or 49 per cent were males. Of the total, 75 per cent were born in the Irish Republic. The number of Irish born increased by 65 per cent between 1931 and 1951, males by 71 per cent and females by 59 per cent. Males from Northern Ireland increased by 102 per cent compared with 60 per cent for males from the Irish Republic. The proportion of Irish born in the population of England and Wales rose from 10 to 14 per 1,000 between 1931 and 1951. Of the Irish born, a higher proportion were aged 15-44 than for those born in England and Wales. Of those born in Northern Ireland 31 per cent were males aged 15-44 and 28 per cent were females in the same age-group, and for those born in the Irish Republic the corresponding figures were 29 per cent and 32 per cent which compared with the England and Wales figures of 21 per cent and 22 per cent and these differentials are again reflected in the sex and age distribution of the married.

Of the total Irish born enumerated in England and Wales, 102,644 or 34 per cent of the males and 134,613 or 42 per cent of the females were enumerated in the London and South Eastern Region, 54,017 males (18 per cent) and 55,171 (17 per cent) females in the North Western Region and 40,829 (13 per cent) males and 33,475 (10 per cent) females in the Midland Region.

Figures taken from Table 35 of the General Tables give the proportion per 10,000 of each sex, in each region, who were born in Ireland:—

Region	Males	Females
Northern	67	48
East and West Ridings	90	71
North Western	177	163
North Midland	104	78
Midland	189	149
Eastern	114	108
London and South Eastern	202	233
Southern	152	156
South Western	108	102
Wales	82	62
England and Wales	**145**	**141**

The London and South Eastern Region had the highest proportion, with particularly high proportions in certain London boroughs, for example, Hammersmith (613 males per 10,000 total and 543 females), Hampstead (486 and 635), Holborn (504 and 664), Paddington (829 and 853) and St. Pancras (624 and 570). The regions with the next highest proportions of Irish born were the North Western and the Midland. Areas with high proportions per 10,000 in those regions were Stretford M.B. (430 and 332), Manchester C.B. (300 and 263), Bootle C.B. (298 and 279), Birkenhead C.B. (323 and 272) and Chester C.B. (289 and 242) in the North Western Region, and Coventry C.B. (461 and 312) and Birmingham C.B. (376 and 282) in the Midland Region.

(c) Natives of the Commonwealth, Colonies, etc.

Persons born in the Commonwealth Countries and Colonies and enumerated as resident in England and Wales numbered 319,486, an increase of 48 per cent since 1931. The proportion of Commonwealth and Colonial born residents and visitors rose from 6 to 8 per 1,000 population. Of the total, those born in the Commonwealth Countries numbered 244,784 and those born in the Colonies, Protectorates, etc., 74,702.

Of residents of England and Wales born in the Commonwealth Countries, 110,767 or 45·3 per cent of the total were natives of India. From the other Commonwealth Countries, 45,833 (18·7 per cent) were natives of Canada, 30,718 (12·5 per cent) natives of Australia, 27,437 (11·2 per cent) natives of South Africa, 11,406 (4·5 per cent) natives of New Zealand, 11,117 (4·5 per cent) natives of Pakistan, 5,816 (2·4 per cent) natives of Ceylon and 1,690 (0·7 per cent) natives of Southern Rhodesia. Table 49 shows that 52 per cent of those born in the Commonwealth Countries were females, but there was much variation between the individual countries, there being more males than females among those born in Canada and Pakistan. Of those born in the Commonwealth Countries 56 per cent were aged between 15 and 44. The proportion aged 15-44 was as high as 70 per cent of those born in Canada with slightly more males than females, while of those born in Pakistan 44 per cent were males aged 15-44 compared with only 19 per cent females in the same age-group. The distribution by sex and age of those born in Southern Rhodesia differs from that of any other area in that 42 per cent of those born in Southern Rhodesia were aged 0-14, mainly due to the presence of Royal Air Force personnel and their families in Southern Rhodesia from 1939 until 1952.

It is seen from Table 47 that of the persons born in the Commonwealth Countries and enumerated in England and Wales, 44 per cent were in the London and South Eastern Region, 11 per cent in the Southern Region, 9 per cent in the South Western, and 8 per cent in the North Western, while Wales had the lowest percentage with only 2 per cent. These proportions were maintained by the larger contributing Commonwealth Countries for which details are given in Table 50, which relates to residents only.

Of the 74,702 residents born in the Colonies, Protectorates, etc., 31,707 were from Mediterranean territories, including 14,503 persons born in Malta, 6,996 in Gibraltar and 10,208 in Cyprus. The number born in Cyprus compares with 1,059 (including visitors) in 1931—an almost tenfold increase. The other main areas of birth of the Colonial born were the Caribbean with 15,301, Africa with 13,638, and Asia with 12,866. Among the Caribbean group 6,447 were born in Jamaica, while in Asia the principal contributory areas were Malaya with 4,046 and Hong Kong with 3,459. Table 49 shows that 56 per cent of those born in the Colonial territories were males. The highest male proportion was 80 per cent for the West African territories, while the Far Eastern territories were the only group which did not have a majority of males. Of those born in the Colonial territories 61 per cent were aged 15-44, the proportions varying from 80 per cent from the West African territories to 56 per cent from the Far Eastern territories. For those born in all the Colonial territories combined the proportion aged under 15 was a third less than for those born in England and Wales, but there was much variation and the East African and Far Eastern territories had a higher proportion in this age-group than those born in England and Wales. There was a marked deficiency of those aged 65 and over born in territories in East and West Africa, as compared with those born in England and Wales.

Of those born in the Colonies, Protectorates, etc., 51 per cent were enumerated in the London and South Eastern Region, 10 per cent in the Southern Region, 8 per cent in the South Western, and 8 per cent in the North Western Region. The Northern Region had the smallest percentage with 2·9 per cent, closely followed by the East and West Ridings and North Midland Regions with 3·1 per cent. Figures for the main groups of Colonies, Protectorates, etc., are given in Table 50 and show little variation from this pattern.

(d) Persons born in foreign countries or at sea

There were 643,405 persons enumerated as born in foreign countries and resident in England and Wales, of whom 332,471 or 52 per cent were males and 310,934 females. 2,138 persons (918 males and 1,220 females) were born at sea. Since 1931 the number of foreign born persons increased by 353,628 or 122 per cent, males increasing by 134 per cent and females by 110 per cent.

Table 51 shows the division into the nationality classes of aliens and stateless, British by birth or descent, and British by naturalisation, registration or marriage. Between 1931 and 1951 the percentage of British subjects among the foreign born fell from 44 to 41 and of these 32 per cent were British by birth or descent in 1951 compared with 51 per cent in 1931.

Table 46 shows that the proportion of British subjects by birth or descent born in foreign countries among the enumerated population rose from 159 per 100,000 in 1931 to 191 in 1951, that of British subjects by naturalisation, registration or marriage from 161 to 412 and alien or not stated nationality from 449 to 867; this represents for the British by birth or descent and the aliens a return to the levels of 1911, while the proportion of British by naturalisation, registration or marriage was much higher than at any other date shown in Table 46, reflecting the world political situation of recent years.

Table 50.—Residents of England and Wales Born in selected areas Overseas; number and distribution by area

England and Wales, Regions of England, Wales

Birthplace	Regions of England																Wales (including Monmouthshire)		England and Wales	
	Northern		East and West Ridings		North Western		North Midland		Midland		Eastern		London and South Eastern		Southern		South Western			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Commonwealth Countries																				
Australia	1,052	3·4	1,124	3·7	2,381	7·8	1,189	3·9	1,803	5·9	2,092	6·8	14,431	46·8	3,059	10·0	2,677	8·7	910	3·0	30,718	100·0
Canada	1,936	4·2	2,634	5·7	5,077	11·1	2,507	5·5	3,323	7·3	3,495	7·6	17,188	37·5	4,377	9·5	3,878	8·5	1,418	3·1	45,833	100·0
India	3,310	3·0	4,382	4·0	8,182	7·4	4,350	3·9	7,338	6·6	8,318	7·5	50,526	45·6	12,549	11·3	9,694	8·8	2,118	1·9	110,767	100·0
Union of South Africa	949	3·5	1,059	3·9	2,172	7·9	1,090	4·0	1,473	5·4	1,960	7·1	11,869	43·2	3,147	11·5	2,939	10·7	779	2·8	27,437	100·0
Colonies, Protectorates, etc., in																				
Africa	613	4·5	560	4·1	1,648	12·1	454	3·3	714	5·2	711	5·2	6,161	45·3	1,244	9·1	1,043	7·6	490	3·6	13,638	100·0
Asia	477	3·7	430	3·3	964	7·5	400	3·1	787	6·1	950	7·4	5,540	43·1	1,530	11·9	1,300	10·1	488	3·8	12,866	100·0
Caribbean	288	2·2	434	3·3	1,264	9·5	518	3·9	984	7·4	678	5·1	6,504	49·0	1,091	8·2	1,021	7·7	495	3·7	13,277	100·0
Mediterranean	623	2·0	839	2·6	1,747	5·5	878	2·8	1,361	4·3	1,526	4·8	17,892	56·4	3,607	11·4	2,217	7·0	1,017	3·2	31,707	100·0
Foreign Countries																				
France	622	2·0	1,027	3·4	1,839	6·1	1,032	3·4	1,448	4·8	1,789	5·9	17,455	57·4	2,669	8·8	1,783	5·9	704	2·3	30,368	100·0
Germany	3,527	3·7	5,898	6·1	8,073	8·4	6,430	6·7	6,561	6·8	7,300	7·6	42,561	44·0	7,027	7·3	5,738	6·0	3,264	3·4	96,379	100·0
Italy	1,293	3·9	1,758	5·3	2,583	7·8	1,556	4·7	2,286	6·9	1,851	5·6	15,634	47·0	1,976	6·0	1,709	5·2	2,513	7·6	33,159	100·0
Poland	3,855	2·5	13,683	9·0	17,800	11·7	14,135	9·3	13,694	9·0	8,967	5·9	53,638	35·5	9,772	6·4	10,094	6·7	6,098	4·0	151,736	100·0
Russia	2,092	2·7	10,356	13·6	11,388	14·9	8,298	10·9	5,661	7·4	4,131	5·4	26,742	35·1	3,105	4·1	2,520	3·3	1,961	2·6	76,254	100·0
United States	1,703	2·9	2,184	3·7	12,030	20·3	1,728	2·9	2,768	4·7	10,948	18·5	15,985	27·0	5,165	8·7	3,716	6·3	2,930	5·0	59,157	100·0

Table 51.—Foreign Born Residents of England and Wales by nationality

Census date	Sex	Foreign born residents	Distribution per 1,000 foreign born persons enumerated, by nationality					
			British			Stateless	Alien	Nationality not stated
			Total	By birth or descent	By naturalisation, registration or marriage			
		a	b	c	d	e	f	g
1931	**Persons**	**293,729**	**444**	**225**	**219**		**556**	
	Males	143,585	380	207	173		620	
	Females	150,144	505	242	263		495	
1951	**Persons**	**645,543**	**411**	**132**	**279**	**12**	**558**	**19**
	Males	333,389	287	119	168	13	682	18
	Females	312,154	543	145	398	11	427	19

Table 52.—Residents of England and Wales Born in Foreign Countries and at Sea, by Nationality classes, and changes 1931-1951

Birthplace		Total	British Subjects by Birth or Descent *	British Subjects by Naturalisation, Registration or Marriage *	Aliens, Stateless and Nationality not stated *†	Distribution per 1,000 persons of each Birthplace		
						British by Birth or Descent	British by Naturalisation, Registration or Marriage	Aliens, Stateless and Nationality not stated †
		a	b	c	d	e	f	g
Europe (excluding Turkey)	1931	224,361	22,529	55,883	158,683	95	236	669
	1951	524,950	31,333	163,484	330,133	60	311	629
Austria	1931	3,800	291	1,040	2,777	71	253	676
	1951	30,445	1,477	17,978	10,990	49	590	361
Belgium	1931	9,447	1,610	2,422	6,047	160	240	600
	1951	15,394	2,534	8,259	4,601	165	536	299
Czecho-Slovakia	1931	1,798	126	456	1,363	65	234	701
	1951	12,974	255	6,044	6,675	20	466	514
France	1931	27,113	6,741	6,806	15,628	231	233	536
	1951	30,368	7,051	11,392	11,925	232	375	393
Germany	1931	25,220	4,205	8,862	14,981	150	316	534
	1951	96,379	8,539	47,241	40,599	89	490	421
Italy	1931	19,446	1,231	1,914	16,878	61	96	843
	1951	33,159	1,982	10,413	20,764	60	314	626
Jugo-Slavia	1931	444	59	112	423	99	189	712
	1951	10,529	78	860	9,591	7	82	911
Netherlands	1931	7,331	559	1,722	5,927	68	210	722
	1951	13,041	860	5,092	7,089	66	390	544
Poland	1931	43,604	403	12,086	31,423	9	275	716
	1951	151,736	667	20,800	130,269	4	137	859
Russia	1931	35,745	2,547	9,428	24,158	70	261	669
	1951	76,254	2,390	16,821	57,043	31	221	748
Switzerland	1931	11,191	819	1,786	9,762	66	144	790
	1951	12,196	893	3,380	7,923	73	277	650
Asia	1931	13,385	7,171	1,115	6,257	493	77	430
	1951	32,475	18,206	5,038	9,231	561	155	284
China	1931	5,563	3,907	132	1,934	654	22	324
	1951	8,636	5,720	699	2,217	662	81	257
Turkey	1931	2,083	779	495	873	363	231	406
	1951	3,337	1,079	1,360	898	323	408	269
Africa	1931	6,198	5,009	378	1,171	763	58	179
	1951	15,394	9,907	2,563	2,924	644	166	190
Egypt	1931	4,921	4,107	247	788	799	48	153
	1951	12,180	8,283	1,878	2,019	680	154	166
America	1931	45,647	28,717	7,052	13,416	584	143	273
	1951	70,418	24,076	9,153	37,189	342	130	528
United States	1931	34,575	20,113	6,087	11,220	537	163	300
	1951	59,157	15,770	7,660	35,727	267	129	604
Oceania	1931	186	107	50	32	566	265	169
	1951	168	74	39	55	441	232	327
Born at sea	1931	3,952	3,809	88	75	959	22	19
	1951	2,138	1,393	144	601	652	67	281

* Residents and visitors for 1931.
† Stateless persons and those with nationalities not stated were not separately identified in 1931, but amounted to 7,815 and 11,960 respectively in 1951.

Born in Europe

There were 524,950 persons—82 per cent of all foreign born residents—resident in England and Wales and born in Europe, which represented an increase of 300,589 or 134 per cent since 1931. The principal numerical increases were of 108,132 born in Poland, 71,159 born in Germany, 40,509 from Russia and 26,645 from Austria. The large increase in those born in Poland was partly due to the discharge of Polish armed forces in Britain at the end of the war, while a considerable proportion of those here classified as Russian born were likely to have in fact been natives of the former Baltic States of Estonia, Lithuania and Latvia, which were included in Russia in the birthplace and nationality coding for 1951.

Of the countries shown in Table 52, several showed very large increases; for example, the Austrian born increased about eightfold, those born in Czecho-Slovakia about sevenfold, Jugo-Slavia about twenty four fold, Poland and Germany between three and fourfold, and Russia twofold. Of these countries, Germany, Russia, and Poland had substantial numbers of natives in England and Wales in 1931 but the others had relatively negligible numbers. The percentage increases in numbers born in Italy (66), the Netherlands (59) and Belgium (53) while considerable are clearly of a different order from the increases in the numbers of natives of Eastern and Central Europe.

The sex proportion for those born in the various European countries was remarkably varied and serves to split them into two main groups. The countries of Eastern Europe tended to have a considerable male majority, examples being Jugo-Slavia (82 per cent males), Poland (70 per cent), Russia (62 per cent). In contrast the following countries provided a preponderance of females, viz. Austria (70 per cent females), Belgium (69 per cent), France (69 per cent), Germany (66 per cent), Italy (62 per cent) and Switzerland (65 per cent). Those born in the Netherlands and Czecho-Slovakia were more evenly divided between the sexes.

The distribution by nationality per 1,000 persons of each birthplace is given in columns (e)-(g) of Table 52. Similar figures for each sex are given below:

	Percentage distribution of each sex by nationality classes					
	British by Birth or Descent		British by Naturalisation, Registration or Marriage		Aliens, Stateless and Nationality not stated	
	Males	Females	Males	Females	Males	Females
Austria	7·5	3·7	61·4	58·0	31·1	38·3
Belgium	25·4	12·3	26·7	66·0	47·9	21·7
Czecho-Slovakia	2·2	1·7	43·7	50·0	54·1	48·3
France	34·4	18·2	17·4	46·6	48·2	35·2
Germany	12·2	7·1	37·5	55·1	50·3	37·8
Italy	7·7	4·9	19·3	38·9	73·0	56·2
Jugo-Slavia	0·5	1·9	2·8	32·3	96·7	65·8
Netherlands	7·2	6·1	20·8	54·0	72·0	39·9
Poland	0·3	0·7	10·5	21·1	89·2	78·2
Russia	2·3	4·5	15·9	32·0	81·8	63·5
Switzerland	9·8	6·0	16·5	33·8	73·7	60·2

Apart from Austria, with an exceptionally high proportion of British by naturalisation, registration or marriage for males, the proportion for females in this category was higher than for males; apart from Germany and Czecho-Slovakia it was more than twice the proportion for males. For all countries but Jugo-Slavia, Poland and Russia the percentage for British by birth or descent for males exceeded that for females. In general where natives of a particular country are predominantly male, they also show a high proportion of alien nationality since men cannot obtain British nationality after marriage to a British subject as can foreign born women.

The sex and age distribution of foreign born aliens is given in Table 49. All European countries had a noticeable deficiency in the under 15 age-group for both sexes, as compared with the total England and Wales line of Table 49. This is due partly to the fact that children born to foreign

born parents in England and Wales are not foreign born. There was a large excess of males aged 15-44, 442 per 1,000 compared with 210 for England and Wales. The Eastern European countries had the highest proportion in this sex age group, for example Jugo-Slavia (741), Poland (550) and Russia (510). This high proportion is to be expected as it is at the younger working ages that movement is most likely to take place, and there is the special factor for Eastern European countries of the demobilisation in this country of the Polish and other allied armed forces. The proportions at ages 15-44 for females were considerably below those for males, partly due to the selective transfer of females from the alien class to British by naturalisation, registration or marriage; but even so for all aliens, at 252 per 1,000, it was still noticeably higher than the England and Wales proportion, the highest values being for Austria (532), Germany (472) and Switzerland (456). The proportion of 112 per 1,000 at ages 45-64 for males was the same as for England and Wales but there was large variation between countries, values ranging from 205 for Belgium to 27 for Germany. For females aged 45-64 and both sexes at ages 65 and over the proportions were noticeably less than for the England and Wales distribution. Two thirds of the married aliens were males. Such a proportion is not unexpected because alien females can acquire British nationality on marriage to a British subject. Only Austria of the individual countries of birth did not have more males than females among married aliens, but all other European countries given in Table 49 have proportions of males among the married of 60 per cent or more. The age distribution of married aliens varied; those from the Eastern European countries and from Germany and Holland were mainly aged 15-44, while those born in Belgium and Switzerland were mainly over 45 years old; married aliens from the remaining European countries were more evenly distributed by age.

Persons born in foreign countries—non-European

Of persons born in foreign countries only 18 per cent, that is 118,455, were born outside Europe and of these 59 per cent were born in the Americas, 27 per cent in Asia and 13 per cent in Africa.

The largest contributory country was the United States with 59,157, an increase of 71 per cent over 1931. Of this number 36,859 were males of whom 76 per cent were aliens, in contrast to 35 per cent of the females. This and the distribution by sex and age of United States aliens, in which 683 of every 1,000 aliens were males aged 15-44, are mainly explained by the presence of over 20 thousand American servicemen in England and Wales.

The next largest group were the Egyptian born numbering 12,180 of whom, however, 68 per cent were British by birth or descent, probably being the children of service families stationed in Egypt. There were 2,019 Egyptian born aliens resident in England and Wales. The Chinese born numbered 8,636 of whom 66 per cent were British subjects by birth or descent and only 2,217 were aliens.

Regional Distribution of foreign born

Table 47 shows that of every thousand foreign born persons resident in England and Wales, 419 were enumerated in the London and South Eastern Region, compared with 241 per thousand of those born in England and Wales. The region with the next highest share was the North Western with 112 per thousand, but this was less than its proportion of England and Wales natives. The Eastern and Southern Regions were the only others to have more than their share of foreign born, while the Northern Region (29 per thousand) and Wales (37 per thousand) were the regions with the smallest shares. This basic pattern was repeated for individual countries of birth but there were certain variations shown by the selected countries included in Table 50. The London and South Eastern Region accounts for only 35 per cent of the Russian and Polish born, larger proportions than usual being found in the East and West Ridings, North Western, North Midland and Midland Regions. The French born were more heavily concentrated in the London and South Eastern Region. The predominately Armed Forces character of the United States born population explains its unusual distribution, only 27 per cent being found in the London and South Eastern Region while 20 per cent were enumerated in the North Western Region and 18 per cent in the Eastern Region.

CHAPTER VI

EDUCATION

Introduction

The census schedule contained two questions on education; these were:—

N. For all persons attending a school, university or other educational establishment for the purpose of receiving instruction, write "Full-time" or "Part-time" as the case may be.

O. For persons not now receiving full-time education at an educational establishment state age at which such full-time education ceased.

In the instructions on the schedule, "Full-time" was defined as being "such time as leaves no reasonable opportunity for substantial regular employment during term-time", and the instruction relating to question O asked respondents to give their age when full-time instruction ceased even if they were still attending part-time, and further instructed that no reply was required for retired persons, for persons not following or seeking to follow an occupation for payment or profit, or for those National Servicemen who intended to resume full-time education on their release.

The 1951 Census was the first in England and Wales in which question O had been asked. Analysis of the answers makes it possible to discover the type of work undertaken by people who terminated full-time attendance at an educational establishment at different ages, to show what proportion of those engaged in particular occupations had the benefit of full-time education beyond the compulsory school leaving age, to compare the occupations of those who stayed longer at school in the past with the occupations of the larger number who remained there more recently, and to help to discover how far the present system of education met the needs of the nation's industry and to what extent there is variation between different sections of the community in the total amount of full-time educational instruction received.

A question similar to N was asked in 1921 and before then in 1851, 1861, 1871, 1881 and 1911.

Tables derived from the questions on education are published in the *County Reports* (Tables R and S and 24 to 26), the *One per cent Sample Tables* (Section VIII), the Conurbation Report (Tables K, 24 and 25), and the *General Tables* (Tables 42 to 48).

Response

Question N was answered satisfactorily as regards full-time education, but the response on part-time education was seriously defective, a lack of definite instruction probably raising doubts as to whether evening classes should be included, doubts which may have been increased by the fact that the census was held when evening classes were not in session throughout the country. The results were such that, apart from the education section of the One per cent Sample Tables, tabulations from question N have been confined to full-time attendance.

Appreciable numbers did not answer question O. As indicated in Chapter II, p. 34, it seems likely that the non-response was to a large extent attributable to the linking of question O with question N on the schedule. Table 56 gives the percentages of the occupied who failed to answer, and shows that the non-response rate was around 6 per cent up to age 45 for males, but only up to age 30 for females; it then increased with age, rather more rapidly for females than for males, until in the 75 and over age-group 40 per cent of occupied females did not reply compared with 26 per cent of occupied males.

Full-time attendance at an educational establishment

Columns (a) to (d) of Table 53 show the percentages of males and females at each age who were attending an educational establishment full-time, in 1921 and 1951. For the ages of compulsory education in 1951 except the earliest, the proportion of both boys and girls returned as in full-time education was over 95 per cent. At age 5 the proportion was 86 per cent and at age 6 only just less than 95 per cent. The main differences between 1921 and 1951 were: an increase in the percentage of five year olds in full-time education from 81 per cent in 1921 to 86 per cent in 1951; the increase shown for the final year of compulsory education, from 85 per cent

of those aged 13 in 1921 to 98 per cent of those aged 14 in 1951; and a slightly higher percentage attending an educational establishment at ages 6 to 11. These differences may be partly due to the 1921 Census being held in June, during the summer term of the school year.

The percentage of four year olds in full-time education fell from 24 per cent in 1921 to 13 per cent in 1951 (the number attending decreasing from 149,638 to 106,444), and the percentage for three year olds fell from 6·5 per cent to 1·7 per cent. These changes reflected the reduction during the thirty year period in the proportion of very young children sent to infant schools.

Table 53.—Percentage of persons in full-time attendance at an educational establishment by age, 1921 and 1951

Age Last Birthday	Percentage in full-time education at each age				Percentage distribution by age of all persons in full-time education			
	1921		1951		1921		1951	
	Males	Females	Males	Females	Males	Females	Males	Females
	a	b	c	d	e	f	g	h
All Ages					**100·0**	**100·0**	**100·0**	**100·0**
Under 4	1·6	1·6	0·6	0·6	0·6	0·6	0·3	0·3
4	25·3	23·7	12·7	12·6	2·3	2·2	1·7	1·7
5	81·3	80·2	86·4	86·2	8·0	7·9	8·8	8·8
6 – 12	94·6	94·2	96·0	95·9	71·9	72·2	63·2	64·0
13	84·8	84·4	97·3	97·4	9·5	9·5	8·7	8·9
14	35·2	33·1	97·6	97·7	3·8	3·7	8·6	8·7
15	14·0	13·9	33·8	34·0	1·5	1·5	2·9	3·0
16	7·2	8·5	18·8	19·1	0·8	0·9	1·6	1·7
17	4·0	5·2	9·7	9·8	0·4	0·6	0·8	0·8
18	2·2	2·6	6·3	6·2	0·2	0·3	0·5	0·6
19	1·6	1·8	4·8	5·3	0·2	0·2	0·4	0·5
20 – 24	1·3	0·7	3·8	1·7	0·5	0·3	1·7	0·8
25 and over	0·1	0·0	0·2	0·0	0·3	0·1	0·8	0·2

Beyond the age limit for compulsory education, the percentage in full-time education fell rapidly; while 34 per cent of males aged 15 were in full-time education compared with 98 per cent of those aged 14, by age 16 the proportion fell to 19 per cent, by age 17 to 10 per cent, and by age 18 to 6 per cent, after which the percentage declined more slowly to 5 per cent at age 19, and 3 per cent at age 24. The percentage of females in full-time education was similar to that for males until age 20 after which it declined rapidly, being only 0·4 per cent by age 24 compared with nearly 3 per cent for males—that is in numbers 1,231 females and 7,769 males. This was partly due to National Service which extended the age range of male students and partly to males taking higher education courses of longer duration than females.

There was a considerable extension of full-time education beyond the minimum school leaving age between 1921 and 1951; at age 20, in 1921 9,861 persons (1·5 per cent) were in full-time education compared with 24,390 persons (4·3 per cent) in 1951.

In 1951 there were noticeable fluctuations in the number of children at each single year of age within the compulsory school ages. These fluctuations resulted from changes in the annual number of births during and after the second world war. The following statement shows the number of boys in full-time education between the ages of 6 and 11, in 1951 and 1921.

Age	1951		1921	
	Boys in full-time education	Percentage change on next higher age, i.e., the preceding annual generation	Boys in full-time education	Percentage change on next higher age, i.e., the preceding annual generation
6	331,515	+ 3·8	326,541	—4·1
7	319,450	+ 4·6	340,621	—0·5
8	305,468	+12·5	342,331	+0·4
9	271,614	+ 3·3	341,079	—0·8
10	263,015	— 6·1	343,986	—2·1
11	280,016	— 1·0	351,304	—0·6

The large fluctuations which were a feature of the 1951 figures were absent from the 1921 figures. Clearly a substantial change between successive generations causes considerable practical difficulties in school accommodation. Much larger changes than those appearing in the census figures of school attendance were imminent in both 1921 and 1951, however, as a result of post-war rises in births. For example, at the 1921 Census children aged 1 exceeded those aged 2 by 50 per cent, and at the 1951 Census children aged 4 exceeded those aged 5 by 30 per cent.

Columns (e) to (h) of Table 53 show for all persons in full-time education in 1921 and 1951 the percentage in each age-group. The proportion in the 6 to 13 age-group in 1951 was almost the same as the proportion at ages 6 to 12 in 1921, a reflection of the raising of the compulsory education age. There was also in 1951 a rather higher proportion for all ages over 15, as would be expected from the extension of education beyond the compulsory age limit already noted.

Regional variations in proportions in full-time education

Regional differences occurred in the percentages in full-time education over the age of 15, and these are shown by Table 54 which gives figures for Standard Regions, Conurbations, and the Aggregates Summary.

In the five northern and midland regions, Northern, East and West Ridings, North Western, North Midland and Midland, the proportions of both males and females in full-time education over the age of 15 (apart from males aged 18 and 19 (see below)), were below the values for England and Wales as a whole. In contrast, the London and South Eastern Region and Wales both showed proportions in full-time education higher than for England and Wales, those for the London and South Eastern Region being particularly high. For example, 10 per cent of males aged 18 in the London and South Eastern Region were in full-time education as compared with 6 per cent in all England and Wales, and 4 per cent in the Midland, Southern, and South Western Regions. The remaining regions, Eastern, Southern, and South Western, showed more variation; all these regions had above average proportions in full-time education for ages 15 to 17 (apart from males aged 15 and 16 and females aged 17 in the Eastern Region) but for the higher ages shown in the table the Eastern Region had proportions lower than England and Wales for both males and females, while the proportions in full-time education in the Southern and South Western Regions were lower than England and Wales for males but higher for females, apart from those aged 19 in the Southern Region.

Among the conurbations, Greater London had attendance proportions considerably higher than those for England and Wales, while all the other conurbations were well below the average

ble 54.—Percentage of persons in Full-time Attendance at an educational establishment — **England and Wales, Regions, Aggregates Summary, Conurbations**

Area	Age Last Birthday											
	15		16		17		18		19		20 – 24	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
	a	b	c	d	e	f	g	h	j	k	l	m
land and Wales	33·8	34·0	18·8	19·1	9·7	9·8	6·3	6·2	4·8	5·3	3·8	1·7
egions of England, Wales												
rthern	27·1	27·9	13·9	14·4	7·1	7·7	4·5	5·3	3·8	5·0	3·0	1·4
t and West Ridings	29·2	28·8	15·6	16·0	7·6	7·9	6·9	5·4	5·9	5·2	3·6	1·4
rth Western	31·1	31·0	17·2	16·9	8·7	8·4	6·3	5·7	5·6	5·2	3·5	1·6
rth Midland	29·8	28·5	16·0	14·8	7·5	7·2	5·8	4·9	3·5	4·7	2·7	1·3
land	27·1	26·4	14·6	14·5	6·7	6·9	4·0	4·5	3·5	4·0	2·4	1·2
tern	33·3	34·3	18·6	20·2	10·6	9·7	5·8	5·6	2·9	4·8	3·2	1·4
don and South Eastern	41·1	41·8	23·3	24·1	12·3	12·0	10·3	7·3	8·0	5·6	5·3	2·2
thern	38·6	38·0	22·3	22·3	12·0	11·2	3·9	7·1	2·5	5·2	3·6	2·0
th Western	38·2	38·3	21·6	20·6	10·9	13·4	4·0	6·9	2·8	5·5	3·3	1·8
les (including Monmouthshire)	36·6	38·7	21·2	23·3	13·3	13·7	9·5	9·1	8·5	8·5	5·1	2·4
ggregates Summary (by type of area)												
nurbations	34·4	34·2	18·5	18·5	9·2	9·0	8·8	5·9	7·8	4·8	4·4	1·8
reas outside conurbations												
ban Areas with populations of 00,000 and over	32·0	29·5	16·5	15·2	8·2	8·5	7·2	5·1	5·8	4·6	3·5	1·4
ban Areas with populations of 0,000 and under 100,000	33·9	32·6	18·8	18·4	9·6	9·5	8·0	5·9	5·2	5·4	4·3	1·6
ban Areas with populations under 0,000	35·1	34·7	20·1	20·2	10·7	10·6	7·2	6·8	5·4	6·2	3·6	1·7
ral Districts	32·7	36·5	19·3	22·0	10·8	11·8	3·5	7·2	2·2	6·0	2·8	1·8
Conurbations												
eater London	40·7	42·0	22·5	23·4	11·5	11·3	11·5	7·0	9·5	5·4	5·4	2·2
uth East Lancashire	30·7	28·9	16·3	15·1	7·9	7·6	6·9	5·3	6·6	4·6	3·8	1·6
st Midlands	25·0	23·6	13·1	12·1	5·5	5·5	6·1	3·7	5·5	3·3	2·6	1·1
st Yorkshire	31·5	29·0	16·4	15·2	9·0	7·8	8·8	5·8	9·5	5·1	4·5	1·5
rseyside	31·1	30·4	16·2	16·1	7·4	7·4	5·7	4·9	5·2	4·4	3·2	1·5
neside	26·4	27·1	12·6	12·5	6·0	6·0	6·1	4·5	5·0	3·5	3·8	1·4

except for males aged 18 and over. Among the aggregates, urban areas with populations over 100,000 were well below the England and Wales figure, apart from the figures for males aged 18 and 19, while urban areas with less than 50,000 population had higher than average proportions in full-time education, except at ages 20-24, and rural areas were well above the England and Wales average, apart from males over 18, for whom the proportions in full-time education were well below average, and males aged 15.

Local variations in the proportion in full-time education were partly due to the location of armed forces, which constituted a selected group of males aged 18 and over not in full-time education. The difference between males and females over 18 in rural areas was mainly due to the fact that 62 per cent of the armed forces were located in rural districts. The effect on regional proportions is shown by the following statement which shows the number of males aged 18 and 19 in full-time education under A as a percentage of the enumerated population, and under B as a percentage of the population adjusted by redistributing those aged 18 and 19 enumerated as being in defence forces in proportion to the male civilian population aged 18 and 19. The effect for the Southern and South Western Regions is marked, while the pattern of lower percentages in full-time education in the north and midland regions and higher percentages elsewhere again becomes apparent.

Region	A	B	Region	A	B
Northern	4·2	3·9	Eastern	4·3	5·2
East and West Ridings	6·4	4·8	London and South Eastern	9·2	8·0
North Western	6·0	4·9	Southern	3·2	6·3
North Midland	4·6	4·1	South Western	3·4	5·1
Midland	3·8	4·0	Wales	9·1	7·5

Table 55.—Percentage of males attending Educational Establishments and proportion in Social Classes I and II — **Selected Urban Areas of 50,000 to 100,000 population**

Selected Urban Area	Percentage of Males at each Age attending an Educational Establishement full-time				Males in Social Classes I and II (per thousand total occupied and retired)
	15	16	17 – 19	20 – 24	
	a	b	c	d	e
Finchley M.B.	55·5	38·6	23·0	11·7	352
Orpington U.D.	52·0	32·1	13·8	6·2	332
Worthing M.B.	45·4	30·2	20·4	7·9	327
Ruislip Northwood U.D.	50·2	37·0	15·3	7·6	326
Crosby M.B.	46·9	29·8	15·1	6·8	290
Harrogate M.B.	52·3	32·2	12·3	5·6	278
Eastbourne C.B.	45·6	30·3	15·8	6·8	267
Torquay M.B.	48·7	30·6	11·8	7·3	263
Hastings C.B.	39·4	20·4	9·3	3·4	236
Chislehurst and Sidcup U.D.	35·9	18·2	8·6	4·1	226
Uxbridge U.D.	38·0	20·8	3·7	2·4	201
Exeter C.B.	44·9	29·1	10·5	6·2	199
Wood Green M.B.	41·6	29·1	10·3	6·4	197
Watford M.B.	30·8	16·8	10·2	4·6	193
Oxford C.B.	40·8	26·0	13·3	20·9	193
Acton M.B.	42·2	18·6	11·5	4·6	185
Worcester C.B.	29·2	15·8	7·8	2·8	168
Darlington C.B.	28·4	17·8	8·7	4·1	152
Doncaster C.B.	35·1	18·9	8·0	3·2	150
Tynemouth C.B.	21·5	13·8	4·8	3·6	149
Grimsby C.B.	22·4	10·3	4·6	2·4	141
Gillingham M.B.	50·0	24·1	3·0	1·6	139
Oldbury M.B.	28·6	15·5	5·7	1·5	130
Mansfield M.B.	33·2	14·1	5·6	2·0	125
Dudley C.B.	18·5	7·7	3·1	1·4	123
West Bromwich C.B.	23·3	11·3	3·3	1·4	106
Nuneaton M.B.	20·0	12·5	3·6	2·2	105
Merthyr Tydfil C.B.	35·4	17·4	11·9	5·1	104
Barking M.B.	21·6	6·3	3·5	1·6	103
Bootle C.B.	29·8	13·4	5·4	2·1	80
Warrington C.B.	25·6	11·0	3·9	1·3	78

The effect of the location of the armed forces on the proportion continuing in full-time education was, however, limited to males aged 18 or over. At other ages the regional differences are not distorted. Further analysis suggests that the main influence on the continuation of a child's education beyond the compulsory age was the income and social status of the parents. Table 55 shows for a selection of towns with populations between 50,000 and 100,000 the percentages of males in full-time education at various ages while column (e) shows the number per thousand occupied and retired males in each town who were in Social Classes I and II.

The relation between the proportions in Social Classes I and II of these towns and the proportion in full-time education after 15 is clear. Two further points are to be noticed; firstly, the effect of the presence of armed forces in an area is again shown by the figures for Gillingham M.B.; the second point is the exception to the general rule provided by Merthyr Tydfil C.B. which reflects the generally higher proportions of persons in full-time education in Wales, a feature shown for the local education authorities by Table 48 in the General Tables and for Wales as a whole by Table 54.

A similar relationship between social status and continuation in full-time education is provided by these figures from the West Midlands Conurbation:—

Area	Percentage of males at each age attending an educational establishment full-time				Males in Social Classes I and II (per thousand total occupied and retired)
	15	16	17 – 19	20 – 24	
I	19·0	9·0	3·1	1·4	92
II	27·4	14·2	6·7	3·2	160
III	40·7	27·4	11·2	5·1	300

I = main industrial and commercial centres and older residential areas.
II = transitional residential areas of varying age.
III = new residential fringe.

Terminal Education Age distribution of occupied population

Table 56 gives for England and Wales the distribution of the occupied population by terminal education age. Figures are given by five year age-groups up to age 35 and then in ten year age-groups up to age 75 and over.

The minimum school leaving age was raised to 15 in 1947, affecting only the under 20 age-group at the Census. This age-group, however, still showed over 31 per cent of persons having a terminal education age of 14. The full-time education age limit of 14 became fully compulsory in 1918, although widely applied after 1900, and the 45-54 age-group was therefore the youngest to show a considerable percentage with a school leaving age of 13. Those aged 55-64 at census, who would have been 12 years old between 1899 and 1908 had only 7 per cent males and 5 per cent females who left school before they were 13, compared with 21 per cent and 18 per cent for those who would have been 12 between 1889 and 1898. The Education Act of 1891 gave parents the right to demand free elementary education for their children, in 1893 the minimum age for partial or total exemption from attendance was raised to 11 years; in 1899 it was raised to 12 years; and the Elementary Education Act of 1900 enabled bye-laws to be made requiring school attendance up to the age of 14.

For the higher terminal education ages there has apparently been little increase in the more recent generations. In those occupations calling for formal qualifications which involve later terminal education ages, males tend to continue working longer. At these later working ages the "not stated" proportion becomes considerable. As the "not stated" are probably biased in the direction of younger terminal education ages, this further inflates the proportions with high terminal education ages in the older generations and reduces the apparent secular improvement. There has been a greater increase in the proportion of females with high terminal education age, but the combination of a large non-response rate, and the tendency for women to leave their occupations on marriage makes time comparisons of doubtful value. The two sets of percentages in Table 56 indicate a generally higher terminal education age for occupied females than for

Table 56.—Terminal Education Age of Occupied Population in 9 Age sections classified by 11 Terminal Education Ages

Age Section of Occupied Population	Total Occupied	Persons with Terminal Education Age not stated		Percentage with stated Terminal Education Ages as follows:—											
		Number	Percentage of Occupied	Total	Under 13	13	14	15	16	17	18	19	20	21	22 and over
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p
MALES															
All Ages	**14,063,542**	**1,057,618**	**7·5**	**100·0**	**2·5**	**9·1**	**63·7**	**10·3**	**7·6**	**2·5**	**1·5**	**0·4**	**0·4**	**0·5**	**1·5**
Under 20	1,117,102	72,854	6·5	100·0	0·1	0·2	31·6	52·4	11·8	2·8	1·0	0·1			
20 – 24	1,354,723	89,953	6·6	100·0	0·3	0·5	70·8	9·5	10·6	3·6	2·2	0·7	0·5	0·6	0·7
25 – 29	1,586,538	90,645	5·7	100·0	0·3	0·6	73·4	8·4	9·4	2·9	1·5	0·5	0·5	0·3	2·2
30 – 34	1,488,776	84,440	5·7	100·0	0·3	0·6	73·1	7·6	9·5	3·5	1·8	0·6	0·6	0·6	1·8
35 – 44	3,243,842	204,934	6·3	100·0	0·6	3·9	73·4	6·3	7·8	2·9	1·7	0·4	0·4	0·7	1·9
45 – 54	2,809,679	211,917	7·5	100·0	2·6	19·3	62·4	5·3	5·1	1·7	1·1	0·3	0·3	0·4	1·5
55 – 64	1,856,506	195,185	10·5	100·0	7·3	24·5	54·5	4·9	4·2	1·4	1·0	0·3	0·3	0·4	1·2
65 – 74	530,572	88,191	16·6	100·0	21·0	27·4	38·0	4·5	4·1	1·4	1·2	0·3	0·3	0·4	1·4
75 and over	75,804	19,499	25·7	100·0	30·0	20·0	32·3	5·2	5·3	2·0	1·8	0·4	0·5	0·5	2·0
FEMALES															
All Ages	**6,272,876**	**560,984**	**8·9**	**100·0**	**1·3**	**6·2**	**58·8**	**15·5**	**9·3**	**3·5**	**2·0**	**0·6**	**1·1**	**0·8**	**0·9**
Under 20	1,077,568	67,692	6·3	100·0	0·1	0·2	31·5	52·3	11·9	3·1	0·8	0·1			
20 – 24	982,291	59,270	6·0	100·0	0·3	0·4	64·5	11·2	12·0	4·6	2·4	1·3	1·8	0·9	0·6
25 – 29	671,491	42,374	6·3	100·0	0·3	0·5	66·8	9·8	11·9	4·3	1·9	0·7	1·4	0·8	1·6
30 – 34	530,562	38,743	7·3	100·0	0·3	0·7	69·9	7·9	10·6	4·3	2·3	0·6	1·3	0·9	1·2
35 – 44	1,214,804	103,822	8·5	100·0	0·5	4·4	70·7	6·3	8·0	3·5	2·3	0·6	1·3	1·0	1·4
45 – 54	1,091,394	117,001	10·7	100·0	1·7	17·0	61·0	5·6	5·7	2·7	2·1	0·5	1·3	1·1	1·3
55 – 64	552,969	87,808	15·9	100·0	5·2	21·5	54·0	5·3	5·1	2·5	2·5	0·6	1·2	1·1	1·6
65 – 74	132,408	36,430	27·5	100·0	17·7	26·1	39·8	5·1	5·0	2·3	2·0	0·5	0·4	0·4	0·7
75 and over	19,389	7,844	40·5	100·0	25·7	19·7	35·0	6·3	5·8	2·5	2·8	0·5	0·5	0·5	0·7

occupied males. Apart from census ages under 20, where the two lines are very similar, the percentages for males tend to exceed those for females at school leaving ages under 15, while the female percentages are generally higher than the male at the later school leaving ages, apart from those completing their education after the age of 21.

The value of this comparison is limited in that little more than a third of the female population over 15 was occupied. Even at ages 20-24 less than two thirds of the women were occupied, and those women who were not occupied and were excluded from the distributions of terminal education age may well have left school before those who were employed and were still mainly unmarried. The raising of the school leaving age to 15 in 1947 will have a greater effect on the all ages female distribution by terminal education age because the under 20 age-group constituted 17 per cent of the female occupied population compared with 8 per cent of the occupied males.

Regional variations in terminal education age

Table 57 gives, for three age-groups 20-24, 25-44 and 45-64, the percentages of males with terminal education ages of 15 or 16, and 17 or over for the regions and conurbations in England and Wales. Differences between regions and conurbations shown by this table were very similar to those shown by Table 54, and arose from the application in the past of the factors which affected the regional variations in the proportions who were in full-time education beyond the compulsory age limit.

In the section dealing with terminal education ages 15 and 16, the regions can be split into two groups; the regions in the north and midlands with low percentages, and the remainder with high percentages. This split holds in general for all three age-groups, although the variation between regions decreases with increasing age. The northern and midland group showed little variation within itself apart from the rather higher percentages for the East and West Ridings and North Western Regions for ages 20-24. At the 45-64 age-group the northern and midland group only varied between 7·2 per cent and 7·9 per cent compared with a range from 8·7 per cent to 13·5 per cent among the remainder.

For males with a terminal education age of 17 or over, corresponding to university, college and the upper limit of secondary education, there was the same division between the midlands and north, which in this section showed remarkable uniformity, and the remainder of England and Wales. The remainder section consisted of the London and South Eastern and Southern Regions with percentages rather higher than for England and Wales—the London and South Eastern having 11·4 per cent and the Southern 10·0 per cent for the 20-24 age-group, compared with the England and Wales figure of 8·2 per cent and the Eastern and South Western Regions

Table 57.—Terminal Education Ages by age-groups — **England and Wales, Regions of England, Wales, Conurbations**

Area	Total Occupied (all ages)	Percentage with T.E.A. 15 or 16 among occupied males aged			Percentage with T.E.A. 17 or over among occupied males aged		
		20 – 24	25 – 44	45 – 64	20 – 24	25 – 44	45 – 64
	a	b	c	d	e	f	g
England and Wales	**14,063,542**	**20·1**	**15·7**	**9·9**	**8·2**	**8·2**	**5·1**
Regions of England, Wales							
Northern	**1,013,826**	16·5	13·1	7·7	5·6	5·3	3·2
East and West Ridings	**1,317,271**	18·2	13·0	7·2	6·1	5·5	3·2
North Western	**2,044,307**	18·9	13·6	7·9	6·6	6·1	3·5
North Midland	**1,117,145**	16·8	12·3	7·3	6·4	5·9	3·4
Midland	**1,475,061**	16·4	12·3	7·6	6·5	6·2	3·8
Eastern	**999,085**	19·3	16·4	10·5	8·5	9·0	5·5
London and South Eastern	**3,448,517**	23·7	19·5	13·5	11·4	11·5	7·7
Southern	**856,796**	20·6	17·7	12·2	10·0	10·8	7·0
South Western	**958,011**	24·4	19·5	12·3	8·8	9·2	5·8
Wales (including Monmouthshire)	**833,523**	23·0	16·1	8·7	8·8	8·8	5·0
Conurbations							
Greater London	**2,700,350**	24·2	19·8	13·5	11·7	11·4	7·5
South East Lancashire	**777,313**	19·5	13·3	7·2	6·7	5·8	3·2
West Midlands	**736,675**	15·8	11·9	7·2	5·5	5·4	3·3
West Yorkshire	**535,415**	20·5	15·2	8·1	7·0	6·1	3·4
Merseyside	**420,820**	20·9	16·5	11·4	5·9	6·4	4·0
Tyneside	**263,279**	18·2	14·8	9·1	5·4	5·3	3·1

and Wales having percentages slightly above those for England and Wales and forming an intermediate group between the regions of the north and midlands and the London and South Eastern and Southern Regions.

The pattern of regional variation was reflected in the conurbations where the main feature was the contrast between Greater London and the others, which showed little variation among themselves apart from Merseyside which had rather higher percentages in the 45-64 age-group.

Terminal education age and occupation

Table 58 gives the distribution of terminal education age for a few selected occupations, listed by socio-economic group. A complete presentation of those occupations for which terminal education age was published was not practicable, and the selected occupations have been chosen to indicate the main forms and causes of variation. The data in Table 58 refer mainly to males but some data for females have been included for comparison.

There was a close relationship between education and occupation for both males and females. In general the more skilled occupational groups contained a greater proportion of persons with high terminal education ages. There were variations within any one socio-economic group, based upon conditions in a particular occupation, and in some cases there were differences in an occupation between those aged 20-24 and those aged 25 or over. The first two socio-economic groups which comprise the first section of Table 58 are agricultural occupations, a feature of which was the difference between the two age-groups. Those aged 25 and over showed a definite relationship between position and terminal education age. Farmers and farm managers tended to have a rather later terminal education age than other agricultural labourers with farm bailiffs and foremen in an intermediate position (the higher school leaving age of farmers was only relative, for over three quarters left school under the age of 15). Ages 20-24 showed a rise in terminal education age for all three occupation groups, but while the proportion of farmers aged 20-24 with terminal education ages 17-19 was 13 per cent compared with 5 per cent for those 25 and over, that for farm bailiffs and foremen was 21 per cent compared with 3 per cent. Farm manager, farm bailiff and farm foreman are positions of responsibility and authority, and therefore men in such positions at the early age of 20-24 would be men of above average ability who would tend to have higher terminal education ages. This factor appears throughout Table 58 and Table 46 of the General Tables, and an apparently later terminal education age in skilled occupations for those aged 20-24 compared with those aged 25 and over may partly represent a raising of the terminal education age in that occupation and partly reflect the greater ability of those who had achieved such positions by an early age.

Table 58.—Terminal Education Age for selected occupations in Socio-economic Groups, 1951

Selected Occupations within Socio-Economic Groups	Sex	Persons aged 20 – 24						Persons aged 25 and over					
		Total	Percentage distribution of stated terminal education ages					Total	Percentage distribution of stated terminal education ages				
			Under 15	15	16	17 – 19	20 and over		Under 15	15	16	17 – 19	20 and over
1, 2. Agricultural													
010 Farmers, farm managers	Males	7,975	52·9	13·9	17·5	13·1	2·6	246,991	75·7	8·5	8·6	5·5	1·7
011 Farm bailiffs, farm foremen	Males	453	48·1	11·3	16·7	20·8	3·1	14,813	87·9	4·4	4·3	2·7	0·7
012, 019 Other agricultural workers	Males	57,634	80·6	7·9	6·5	4·4	0·6	282,950	93·0	2·9	2·3	1·4	0·4
3. Higher administrative, professional and managerial													
610 Civil Service administrative and other higher officers	Males	77	—	4·1	8·1	18·9	68·9	10,037	12·9	17·3	19·0	24·0	26·8
760 Clergymen (Church of England)	Males	35	6·9	—	3·4	13·8	75·9	16,517	5·0	2·0	4·4	8·4	80·2
764, 765 Legal professions	Males	1,538	1·0	2·9	12·0	53·2	30·9	20,611	7·0	4·0	13·9	36·8	38·3
766, 767 Physicians, surgeons, etc.	Males	1,053	0·8	0·9	1·1	5·2	92·0	35,124	1·4	0·5	1·5	5·4	91·2
768 Dental practitioners	Males	296	1·1	1·1	3·2	6·0	88·6	10,385	13·1	5·6	9·1	11·0	61·2
810 Qualified accountants	Males	3,935	3·7	6·9	35·2	49·2	5·0	24,379	15·0	11·1	31·6	35·5	6·8
4. Other administrative, professional and managerial													
756 Auctioneers, estate agents, appraisers, valuers	Males	1,421	12·0	10·5	30·8	41·8	4·9	20,717	29·1	13·7	26·8	26·1	4·3
769 Veterinary surgeons and practitioners	Males	219	3·8	1·4	3·8	3·3	87·7	2,446	8·1	1·9	5·5	9·5	75·0
770 Trained nurses, midwives	Males	899	62·4	12·5	12·6	11·8	0·7	18,128	79·6	8·4	7·4	3·7	0·9
	Females	17,570	27·9	13·4	26·0	31·3	1·4	106,982	39·7	13·1	22·3	22·8	2·1
780, 785 Teachers	Males	6,750	2·4	1·5	4·8	43·7	47·6	115,056	8·8	4·4	9·7	14·1	63·0
	Females	30,143	2·2	1·4	5·1	27·2	64·1	159,102	6·4	2·8	7·3	23·6	59·9
862 Proprietors and managers of restaurants	Males	852	51·8	13·2	15·3	17·3	2·4	38,902	77·6	7·7	8·4	5·3	1·0
	Females	1,635	49·4	7·8	10·5	22·2	10·1	40,985	76·2	7·4	8·0	6·7	1·7
5. Shopkeepers (including proprietors and managers of wholesale businesses)													
Proprietors, managers of retail businesses selling:—													
720-4 Food goods	Males	3,381	69·3	11·4	11·9	7·0	0·4	172,703	84·0	7·0	6·4	2·3	0·3
	Females	1,328	78·6	10·9	8·1	2·2	0·2	50,324	85·0	6·2	5·6	2·7	0·5
725 Chemists' wares, photographic goods	Males	86	29·9	11·7	15·6	15·6	27·2	6,855	24·5	10·9	21·5	14·6	28·5
	Females	68	66·7	13·3	11·7	5·0	3·3	1,341	42·7	12·5	17·6	17·6	9·6
726-9 Other non-food goods	Males	4,873	53·4	12·5	17·0	15·0	2·1	200,771	70·4	10·5	12·1	6·0	1·0
	Females	2,950	68·1	10·9	11·5	6·8	2·7	99,639	76·7	9·0	8·8	4·7	0·8
6. Clerical workers													
755 Insurance agents and canvassers	Males	2,127	49·4	14·9	21·5	12·5	1·7	49,829	68·4	11·3	13·5	6·3	0·5
890 Clerks	Males	69,711	37·8	14·9	29·0	17·0	1·3	475,894	58·0	13·5	18·3	8·9	1·3
	Females	96,634	56·0	14·8	20·5	8·0	0·7	275,417	57·1	13·6	18·3	9·9	1·1
891 Shorthand typists, secretaries	Males	1,107	30·0	18·2	28·4	18·4	5·0	12,830	41·9	14·9	22·1	15·9	5·2
	Females	106,515	30·3	21·9	28·5	17·9	1·4	185,152	28·0	18·6	29·1	22·1	2·2
7. Shop assistants													
Salesmen, shop assistants selling:—													
730-4 Food goods	Males	19,343	82·7	8·7	5·8	2·6	0·2	98,691	89·5	5·6	3·6	1·1	0·2
	Females	34,735	88·2	7·8	2·9	1·0	0·1	117,374	88·6	5·9	4·0	1·3	0·2
735 Chemists' wares, photographic goods	Males	590	47·9	9·3	20·5	16·9	5·4	3,897	49·0	11·4	18·1	12·4	9·1
	Females	7,264	70·7	13·2	11·6	4·1	0·4	10,266	66·4	12·4	13·8	5·9	1·5
736-9 Other non-food goods	Males	17,612	62·4	13·3	14·1	9·4	0·8	84,027	72·0	10·9	11·3	5·1	0·7
	Females	58,220	81·4	10·2	5·4	2·6	0·4	165,862	81·6	9·0	6·5	2·6	0·3
8. Personal service													
866-7 Barmen, barmaids, waiters, waitresses	Males	3,203	68·6	12·5	9·2	8·1	1·6	27,890	82·3	7·3	5·6	3·7	1·1
	Females	14,425	83·4	9·6	4·3	2·4	0·3	84,695	89·0	5·2	3·8	1·8	0·2
873 Hairdressers, manicurists	Males	2,017	80·9	10·0	6·6	2·3	0·2	32,794	87·8	6·3	4·3	1·4	0·2
	Females	11,543	74·0	14·4	8·8	2·7	0·1	22,069	69·1	13·1	12·5	4·9	0·4
875 Caretakers, office keepers	Males	355	81·5	8·2	5·5	3·9	0·9	41,143	93·4	3·4	2·0	0·8	0·4
876 Charwomen, office cleaners	Females	3,242	93·0	4·3	2·0	0·6	0·1	211,277	97·7	1·3	0·7	0·2	0·1
882 Chefs, cooks	Males	2,535	74·3	10·2	7·8	6·8	0·9	28,106	81·6	7·3	6·0	3·8	1·3
	Females	6,657	66·7	10·0	6·7	11·5	5·1	112,229	87·7	5·1	4·0	2·7	0·5
9. Foremen													
Foremen in:—													
110, 111, 112 Furnace, rolling mills, foundry	Males	98	61·7	9·6	14·8	9·6	4·3	9,213	91·7	3·7	3·4	0·9	0·3
115 Electrical work	Males	357	60·5	11·0	18·4	9·8	0·3	21,321	72·6	10·5	12·0	4·3	0·6
280, 290, 300, 310, 320, 330, 340 Textiles	Males	597	72·4	9·2	12·2	5·5	0·7	18,630	93·1	2·8	3·0	0·9	0·2
580 Building and contracting	Males	503	81·7	7·2	5·5	4·5	1·1	46,467	93·1	3·6	2·4	0·7	0·2
10. Skilled workers													
042 Coal miners—hewers and getters (by hand)	Males	13,515	93·9	3·9	1·3	0·7	0·2	159,316	97·6	1·3	0·6	0·3	0·2
183 Machine erectors	Males	26,633	73·7	10·3	10·8	4·5	0·7	210,519	84·9	6·7	5·8	2·0	0·6
583 Bricklayers	Males	12,222	88·0	7·2	3·9	0·8	0·1	114,624	95·9	2·5	1·2	0·3	0·1
705 Telephone operators	Females	16,855	62·8	15·4	17·8	3·8	0·2	28,636	65·8	14·1	15·3	4·5	0·3
11. Semi-skilled workers													
386 Machinists	Females	35,296	93·0	5·0	1·2	0·6	0·2	86,783	95·0	2·6	1·5	0·7	0·2
533 Locomotive engine firemen	Males	13,556	89·6	7·3	2·6	0·4	0·1	19,567	91·7	5·4	2·6	0·3	0·0
661 Bus and tram conductors	Males	9,061	87·2	7·9	3·4	1·3	0·2	56,754	91·7	4·6	2·5	0·9	0·3
877-8 Laundry workers, dry cleaners	Females	13,402	90·3	7·0	2·1	0·5	0·1	77,681	93·9	2·9	2·1	0·9	0·2
12. Unskilled workers													
582 Builders' labourers	Males	13,165	91·8	5·4	2·1	0·6	0·1	71,051	95·4	2·6	1·4	0·5	0·1
639 Railway porters (including lampmen)	Males	5,369	89·7	7·3	2·1	0·7	0·2	55,964	95·5	2·5	1·3	0·5	0·2
681 Dock labourers	Males	3,648	93·5	5·0	1·2	0·2	0·1	67,826	97·5	1·6	0·7	0·1	0·1
743 Costermongers and other hawkers	Males	1,973	89·0	6·1	2·7	2·0	0·2	24,850	93·5	2·8	2·6	0·9	0·2
833 Watchmen	Males	168	80·9	9·2	5·6	3·7	0·6	39,957	95·6	2·2	1·3	0·7	0·2

Another example occurs in administrative and other higher officers of the Civil Service in socio-economic group 3. The high proportion of those aged 20-24 with terminal education age 20 and over (69 per cent) compared with 27 per cent among those aged 25 and over reflects the fact that the older age-group contained a large number who had attained such positions by promotion, while the younger section contained a large proportion of entrants at graduate level. Such a situation differed from that found for physicians and surgeons where entry into an occupation is by qualification and not by promotion and whose terminal education age distribution remained constant between the two age-groups. In general in socio-economic group 3 the typical terminal education age was high but the actual distribution depended upon the system of training. When training was carried on full-time at a specialised institution, the terminal education age distribution was concentrated in the 20 and over group, thus of physicians and surgeons aged 25 or over 91

per cent had terminal education ages of 20 or over. Training may be obtained individually by combined work and study and qualified accountants provided an example of this system, having only 7 per cent with terminal education ages of 20 or more but large proportions between 16 and 19. The legal professions, which here combine barristers and solicitors, showed a combination of the two forms of training, having for the 25 and over age-group 38 per cent with terminal education age of 20 and over and 37 per cent between 17 and 19.

Among the other administrative, professional and managerial group (socio-economic group 4) there was rather more variation, while the average terminal education age tended to be lower than for socio-economic group 3. Examples of occupations having high average terminal education ages in this group were veterinary surgeons or practitioners and teachers, the former having 75 per cent of those aged 25 and over with a terminal education age of 20 or over. For male teachers, while the terminal age distribution of those aged 25 or more showed a concentration in the over 20 group which accounted for 63 per cent, the 20-24 age-group had 91 per cent divided nearly equally between the 17-19 and 20 and over terminal education age-groups, i.e. the very young teachers included correspondingly fewer graduates, partly because graduates would enter teaching toward the end of the 20-24 age-group and partly because recent generations of male graduates may have been attracted more to industry than to teaching. For female teachers, however, the terminal education age distributions showed no such variation with census age, both younger and older female teachers' distributions being similar to that for males aged 25 and over. The terminal education age distribution for both teachers and veterinary surgeons can be contrasted with that for proprietors and managers of restaurants of whom 78 per cent of males aged 25 and over left school before the age of 15; the younger males had a more even distribution. The terminal education age distribution for females in this occupation was similar to that of males of similar age, although for the 20-24 age-group there were 22 per cent with terminal education age 17-19 compared with 17 per cent of the males. Auctioneers and estate agents had a more even distribution than any other of the male occupations shown in this group. The terminal education age distribution of trained nurses differed between sexes, for while males were concentrated in the under 15 group (80 per cent of those 25 and over, 62 per cent of those aged 20-24), females were more evenly distributed up to terminal education age 19.

In socio-economic groups 5 (shopkeepers) and 7 (shop assistants) in both food and "other non-food" shops the male and female terminal education age distributions were similar for census age 25 and over, while at ages 20-24 males had a slightly later school leaving age; the shopkeepers had slightly higher proportions in the higher education ages than shop assistants. The terminal education age distribution of assistants in and keepers of chemists' shops differed from those working in other types of shop; 9 per cent of male assistants in chemists' shops aged 25 and over had a terminal education age of 20 or over compared with 0·2 per cent in food shops and 0·7 per cent in "other non-food" shops, while of the same group only 49 per cent had left school before they were 15 compared with 90 per cent of those in food shops and 72 per cent of those in "other non-food" shops. Of males keeping chemists' shops 29 per cent had a terminal education age of 20 or over compared with 0·3 per cent of keepers of food shops and 1 per cent of males keeping "other non-food" shops. The differences between females working in chemists' shops and those in other shops were not as great as for males but were still noticeable.

Within socio-economic group 6 there are terminal education age distributions for selected clerical occupations. Of the 475,894 male clerks aged 25 and over, 58 per cent left school before they were 15, but there was a secondary peak at age 16 (18 per cent), while the distribution for female clerks aged 25 and over was similar. In the 20-24 age-group male clerks showed a clearer secondary peak in that although 38 per cent left school before they were 15, 29 per cent did not do so until they were 16, and they tended to have a higher terminal education age than female clerks in the same age-group of whom 56 per cent left school before the age of 15, 15 per cent at age 15, and 20 per cent at age 16. Among shorthand typists and secretaries aged 20-24 the distributions of terminal education ages for males and for females were practically identical; they had a higher school leaving age than clerks of the same age. Among those aged 25 or more, females tended to have a higher terminal education age than males, only 28 per cent leaving school before the age of 15 compared with 42 per cent of the males in the same age-group.

Apart from female hairdressers and manicurists, of all those aged 25 or more in the selected occupations in personal service (socio-economic group 8) 80 per cent left school before they were 15, the proportion rising to 93 per cent for caretakers and office keepers and 98 per cent for charwomen. Waiters and barmen had a slightly higher average terminal education age than waitresses and barmaids, especially in the 20-24 age-group, while for hairdressers and manicurists the females showed a considerably higher terminal education age than the males, particularly among those aged 25 and over. Among chefs and cooks aged 20-24 the terminal age distribution of females, of

whom two thirds left school before they were 15, also showed a secondary peak at ages 17-19, but there was no sign of this among the males. At ages 25 and over, however, the males had a slightly higher average terminal education age than the females.

Socio-economic group 9—foremen—showed the influence of a promotion entry into an occupation in that the younger men comprised a small proportion of the whole occupational group and tended consistently to have higher terminal education ages than the older men. Among foremen in furnaces, rolling mills and foundries only 98 were aged 20-24 compared with 9,213 aged 25 and over. 10 per cent of the younger men had terminal education ages 17-19 compared with 1 per cent of the older men, while 62 per cent of the younger men left school before they were 15 compared with 92 per cent of the older men. For both age-groups, foremen in electrical work stood out as having higher terminal education ages than other foremen.

Socio-economic groups 10, 11 and 12, comprising skilled, semi-skilled and unskilled workers respectively, showed a very slight tendency for the proportion who left school before they were 15 to increase as the degree of skill fell, particularly among those aged 20-24. The tendency was not pronounced and the differences between occupations of comparable skill were sometimes as great as differences between the different socio-economic groups. The variation in skill in these groups is probably not large enough for marked educational differences to be revealed.

CHAPTER VII

HOUSING

The main tabulations relating to housing are presented in the *Census 1951, England and Wales, Housing Report*, which includes a full commentary on the figures. Detailed figures for counties and other local authority areas appear in the *County Reports* series. The tabulations contain information derived from the requirement that the census enumerator should list each household which each dwelling in his area contained on the night of the census, giving particulars to enable dwellings occupied by private households to be distinguished from hotels, institutions, etc.; that he should obtain a completed census schedule from the head of each household or his representative; and that he should record the number of rooms occupied by each household, whether any were shared, and how many in the dwelling were vacant. The householder gave information, obtained in 1951 for the first time, about five specified domestic arrangements available to his household, viz., piped water, cooking stove, kitchen sink, watercloset, fixed bath.

The tabulation of housing data for 1921 and 1931, on a comprehensive basis, was limited to the production, down to local authority areas, of two main tables: (1) dwellings analysed by number of rooms and by the number of households each contained, and (2) households analysed by number of persons and by number of rooms each occupied. Tables in this form were constructed for 1951, and provide basic data from which to derive indices of density in terms of persons per room as well as distributions by size of dwellings, household occupations, and households, on a comparable basis for these three census dates.

New comprehensive tabulations for 1951 for which there was no counterpart in 1921 or 1931 are:

(i) households in shared dwellings analysed by size and by numbers of rooms occupied;

(ii) households analysed by the sex, age and marital condition of their heads;

(iii) households analysed by the number of earners and the number of children they contained (One per cent Sample basis);

(iv) household composition in terms of relationships to head of household (One per cent Sample basis);

(v) social and economic characteristics of private households in terms of the gainful occupation of the head of household (One per cent Sample basis);

(vi) the availability to households of the specified domestic arrangements.

The Stock of Dwellings

There were 12,389,448 dwellings for the occupation of private households in England and Wales in 1951. This was more than three times the number which existed in 1851, nearly twice as large as the number at the turn of the century, as recorded in the 1901 Census, and 32 per cent more than in 1931.

The secular changes in numbers of dwellings existing at specific points of time provide very limited evidence on which to judge the age of the dwellings which formed the stock in 1951, due to the considerable amount of demolition or conversion to non-residential use of house property located in areas, once residential, which had become commercial or industrial districts, the conversion of large houses into several small dwellings, and demolition (including destruction by bombing) of houses which had been replaced before 1951 by new residential accommodation. On the assumption that almost all of this demolition and change of use related to houses built before the first world war, however, about five million or 40 per cent of the 1951 stock of dwellings were at that date less than 30 years old.

The changes in numbers of dwellings in the 1921-51 period, from 7,979 thousand in 1921 to 12,389 thousand in 1951, considerably affected their size distribution, and brought them more into line with the smaller families of recent generations. In 1951 15 per cent of dwellings were of one to three rooms, 63 per cent of 4 or 5 rooms and 21 per cent of over 5 rooms. Most of the change took place after 1931, the proportion of 4 – 5 room dwellings having increased in the 1931-51 period from 53 to 63 per cent while that of larger dwellings decreased from 32 to 21 per cent.

Household Occupations

Some 86 per cent of private households were occupying a dwelling to themselves in 1951, while 7 per cent of dwellings contained more than one household. The distributions by size of the room occupations of individual households were therefore different from those of dwellings. In 1951, 26 per cent of households were living in 3 or fewer rooms, 59 per cent in 4 or 5 rooms, and 15 per cent in more than 5 rooms. Although the proportion of households sharing dwellings fell from 20 per cent in 1921 to 14 per cent in 1951 the pattern of change between 1931 and 1951 in the distribution of household occupations by size was similar to that of dwellings, viz., considerable increase in the proportion of 4 – 5 room occupations and compensating decrease in larger occupations.

Households

In 1951, there were 13,117,868 private households in England and Wales. 11 per cent of them contained 1 person, 28 per cent contained 2 persons, 25 per cent 3 persons, 19 per cent 4 persons and 17 per cent 5 or more persons. The proportion of households of 1 - 3 persons increased from 45 per cent in 1921 to 64 per cent in 1951. An analysis of households by size indicates considerable homogeneity of composition within the size classes. Among 1·6 million one person households in Great Britain, 1 million comprised single, widowed or divorced women aged 40 or over (representing about a quarter of all such persons enumerated) and 0·3 million were men in the same category; among 4·1 million two person households more than two thirds consisted of married couples with no children (representing about 60 per cent of all married couples without children)—moreover more than half of all households with married heads in the 60 and over age-group were in this size class, representing nearly a third of all households of two persons; among 3.6 million households of three persons about three quarters were married couples with one child who represented nearly three quarters of all married couples with one child; among 2·7 million households of four persons about two thirds were married couples with two children, and among 2·4 million larger households nearly two thirds were married couples with three or more children.

The household composition tables for Great Britain also show that nearly 80 per cent of households were of the simplest "primary family unit" type, i.e. they consisted solely of married couples or widowed or divorced persons with their children and certain near relatives* if any, or single persons living alone; and a further 14 per cent were of a composite type containing one or more of the following: a family nucleus; a married brother or child of the head (without spouse or children); a remainder element consisting of a person or persons unrelated or only distantly related to the head of household. (The full definitions used for these categories are set out on pp. 121-123 of the Housing Report.)

More than 900,000 composite households contained a married couple or person in a family nucleus, including about 500,000 in which both the head of the household and the head of the family nucleus were married. Over 80 per cent of the heads of all family nuclei consisted of sons or daughters of the head of the composite household or of his spouse. 37,000 households contained a married couple in the status of parents of the head of household, 28,000 of them being primary family unit households with married heads. The number of households containing two married couples, apart from those included among the above categories, cannot have exceeded 20,000 but it needs to be borne in mind that nearly 300,000 married persons, not being heads of household

*Ancestors; or brothers or sisters aged 16 or over, with the exception of such as were married, or, if widowed or divorced, were accompanied by children of their own.

or ancestors of heads, were enumerated in private households without either spouse or children and therefore came outside the family nucleus class, into which some of them would have been classified but for the temporary absence from home of spouse or children on census night. The enumeration of married persons without their spouses is a factor to be taken into account in assessing all these figures but it seems clear that the total number of households in Great Britain whose usual residents included two married couples was at least half a million and probably appreciably more.

Density and Persons in relation to Rooms

Density statistics in the form of persons per room ratios, and other indices derived from the customary distributions of households by numbers of persons and numbers of rooms, are limited in their value as indicators of housing conditions by the fact that the several members of most households do not lay equal claim to the rooms which the household occupies. The density analysis made possible for 1951 by the household composition tables enables the size distributions of the occupations inhabited by households of given compositions to be compared with those based on a series of hypothetical room allocations. Several such hypothetical allocations were made in the *Housing Report* with the primary object of showing whether some types of household were more heavily pressed for rooms than others, irrespective of any absolute standard which might be thought desirable. One example lays down as conditions for sharing rooms:

(i) Two living rooms per household for all types of household

(ii) Bedrooms:

- (a) Married couples should share
- (b) One child under 5 and one 5 or over of the same or opposite sex should share
- (c) Two children aged 5 or over of the same sex should share
- (d) Up to two children under 5 should share
- (e) Two or more domestic servants should share.

As would be expected, composite households were found to be less spaciously housed than primary family unit households. The figures indicate, however, that among composite households with heads in the older age-groups the presence of family nuclei within the household was largely responsible for the lower than average ratios of actual to hypothetical numbers of rooms; among those with heads aged under 40, comparatively few of which contained family nuclei, the presence of boarders or other persons not closely related to the head accounted for much of the corresponding difference.

The census analysis of housing density in terms of household composition provides no direct estimates of numbers of households inhabiting dwellings at space levels below any of the hypothetical standards considered. The cross-tabulations of households by numbers of persons and numbers of rooms, however, enable some maximum figures to be worked out. On the hypothesis that, apart from one person households, the accommodation in a dwelling is inadequate unless it contains one habitable room in addition to a bedroom for each married couple, for each pair of children of the head, and for each other person, it is possible to say that in England and Wales at least 650,000 households had inadequate numbers of rooms in their dwellings in 1951. If the one person households enumerated in one room are included the number is increased to 850,000.

Households Sharing Dwellings

Nearly two million private households in England and Wales were enumerated in shared dwellings. The proportion of small households was larger among sharing than among non-sharing households; 80 per cent of sharing households were of 1, 2 or 3 persons. The majority of these households were living in small occupations; nearly 80 per cent were inhabiting 1, 2 or 3 rooms; over half the dwellings occupied by more than one household were of 5 or 6 rooms and only a third were larger than this. A special analysis, made in a few selected areas of very different types, indicated a wide range of types of combination of households sharing dwellings in pairs as regards size of household and number of rooms occupied and some other characteristics. It was not the case that a relatively large proportion of sharing household combinations included one household in a position subsidiary to that of a "main" household, the former being considerably smaller in numbers of persons and occupying only a small proportion of the rooms contained in the dwelling (e.g. a lodger with a 'family' household). In most cases of sharing the rooms available were divided fairly evenly between the constituent households.

Among households in shared dwellings were 150,000 of one person living in one room and probably about 350,000 larger households living in occupations too small to allow for a living

room for each household in addition to a bedroom for each married couple and each pair of children and each other person. Thus it would appear that, on a modest standard of accommodation, about three quarters of all sharing households, that is nearly one and a half million, were not seriously deficient in numbers of rooms in relation to the households contained in them. This number included 280,000 one person households living in occupations of at least two rooms.

Composite Households

Apart from any deficiencies in the housing accommodation of households in shared dwellings there were family units which did not possess separate accommodation at all. The census household composition analysis of households throws indirect light on this question by identifying family units and boarders within the 'main' household.

In Great Britain in 1951 nearly 2 million private households were of a composite type containing persons other than those in the primary family unit. Almost half of them contained, apart from the head of household, a family nucleus composed either of a married couple and their children, if any, or of one parent with one or more children. Further, the main class of primary family unit households included nearly a million which contained a near relative of head or spouse (parent, or unmarried brother or sister except a widowed or divorced brother or sister accompanied by children of their own) in addition to the head, his spouse and children. Among these were 37,000 households which contained both parents of the head of household or his spouse. Only 130,000 composite households contained near relatives of these types.

Household Arrangements

The tabulations covering the availability to private households of a piped water supply, a cooking stove, a kitchen sink, a watercloset, and a fixed bath show that just over half the households of England and Wales were recorded in 1951 as having exclusive use of all these arrangements. This proportion was much higher for households in undivided dwellings (59 per cent) than for households sharing dwellings (10 per cent). In addition the numbers of households with exclusive use of the four specified arrangements other than fixed bath were considerable—21 per cent of households in undivided occupations and 11 per cent of households in shared dwellings.

In 1951, 6·8 million households altogether had exclusive use of all five arrangements, 11·3 million had exclusive use of both sink and stove, 10·6 million had exclusive use of a piped water supply and 10·3 million had exclusive use of a watercloset. There were 1·4 million households without exclusive use of both a kitchen sink and a watercloset. As has been shown, disproportionately large numbers of households in shared dwellings were without separate provision of the domestic arrangements.

Local Variations

There were considerable differences in the housing conditions of different parts of the country and different kinds of town, which rendered deficiencies more acute in some areas, and less acute in others, than the figures for the country as a whole imply. The main patterns of difference derive from the historical factors responsible for the growth of the population during the last two centuries and the changes that have taken place in its distribution. Certain parts of the country, and certain parts of many towns which exist today, were already urbanised during the eighteenth century, and many houses which were built in those days and in the early part of the nineteenth century still exist. They were built for larger families than those of today, and most of them are obsolete in size even if not also obsolete in interior arrangements.

CHAPTER VIII

OCCUPATIONS

Introduction

An important part of the census record derives from the questions concerning the gainful occupations of the working population and the branches of economic activity in which such occupations are followed. Enquiry of this kind has found a place on the schedule of every census taken in this country, the scope and detail of the information collected in 1951 having developed very substantially from the modest requirements of the 1801 Census when the third question put to enumerators was: "What Number of Persons in your Parish, Township, or Place, are chiefly

employed in Agriculture; how many in Trade, Manufactures, or Handicraft; and, how many are not comprized in any of the preceding Classes?" The evolution of a classification which was in the earlier years a mixture of the personal occupations of individuals and the branches of economic activity in which such individuals were engaged, and the introduction and development of classification of persons by industrial status are fully described, up to 1931, in "*Census Reports of Great Britain 1801-1931*".* Entirely separate classifications for occupations and industries were drawn up for the first time for use at the 1921 Census and formed the basis of two separate volumes of tables, the *Occupation Tables* giving separate figures for each unit of the occupational classification for employers, persons working on own account and the residual employee class.

These census enquiries have been generally limited to cover work done for payment or profit, but specific reference to apprentices, articled pupils and unpaid workers helping in a family business as classes to be included appears on the schedules of the more recent censuses.

In 1921 and 1951, but not in 1931, details of the place of work of each occupied person were recorded and this enabled tabulations to be constructed to relate place of work to place of residence or enumeration and to relate the distribution of industry to place of work.†

Form of questions on 1951 census schedule

The precise form in which the questions were asked in 1951 can be seen in the copy of the census schedule included at the end of this report. These questions related to all persons aged 15 or over. In column P particulars of personal occupation were to be given in respect of all persons occupied for payment or profit at the time of the census, the words "Apprentice", "Articled Pupil", "Part-time", "Unpaid" being also inserted where applicable; in respect of persons out of work but seeking work and persons retired from gainful work the "usual or former" occupation was to be stated followed by the words "out of work" or "retired"; for other persons the words "Home Duties", "School", "Medical Student", "Law Student", "Private Means" or some other descriptive term were to be inserted as appropriate.

In column R particulars were to be given, for every person working for an employer, of the business of the employer or, if more than one kind of business was engaged in, "the main business carried out at the works or establishment where the person is employed"; for persons not working for an employer the words "Employs Others" or "Own Account" were to be inserted in column R as appropriate, together with a statement of the nature of the business unless this was the same as indicated by the statement of occupation given in column P. Column R also carried particulars of the business of the former employer for persons out of work and retired who had previously worked for an employer.

Column S carried the full address of each occupied person's place of work or the statement "No fixed place" or "At home".

Comparability between 1921, 1931 and 1951 census questions

The particulars required in columns P and R of the 1951 schedule are the same as those required in 1931 except that the 1931 information was required of persons aged 14 and over and that in 1951 apprentices, articled pupils, part-time workers and persons working unpaid in a family business were to be separately specified. The wording of the instructions for completion of this part of the schedule was also very similar in 1931 and 1951. The substance of the corresponding particulars required in 1921 was the same as in 1931 (except that it applied to persons aged 12 and over), but the form in which the questions were to be asked subsequently had not been fully developed in 1921, the first occasion when both the occupation and the industry of every occupied person were required to be stated.

The particulars of place of work required in column S of the 1951 schedule were similar to those required in 1921.

Development of classifications, 1921-1951

General

In view of the considerable measure of comparison that is possible, both in the occupational and in the industrial classification, as between 1921, 1931 and 1951, some account is given here of the classifications as constructed in 1921 and their subsequent modification. The decision to construct entirely separate classifications for industry and occupation in 1921 was made in accord-

* H.M.S.O. 1951. Interdepartmental Committee on Social and Economic Research, Guides to Official Sources, No. 2.
† See Chapter X of this volume.

ance with a resolution of the British Empire Statistical Conference of 1920* and a committee was appointed to draw up the new classifications, which were to be suitable both for the purposes of the census and of any other occupational and industrial tabulations prepared by government departments. The Board of Trade, Home Office, Ministry of Labour and General Register Office were the departments chiefly concerned and were represented on the committee. The committee accepted a recommendation of the Statistical Conference that "the basic principle of the industrial classification should be the product or type of service and that of the occupational classification the process carried out, and the material worked in". They also accepted a recommendation that the headings in each classification should be so arranged as to be capable of grouping into broader classes.

Generally speaking the occupation classifications which have been worked out, as far as productive industry is concerned, are primarily by material worked in and secondarily by process, but in some activities it was recognised that there are no processes of sufficient importance to call for separate enumeration and for these material worked in is the only reasonable basis of classification. Further, activities such as glove-making, boot-making, surgical instrument making cannot sensibly be defined in terms of the material worked in or processed and must be referred to in terms of the final product. Certain environments which are obviously of social or demographic significance (for example, coal mines or ships) have been used to distinguish occupations which would not be distinguished on the basis of process or material.

The basis of the industry classification is the *product* while the basis of the occupational classification is *material worked in*. There are points at which these two bases coincide, i.e. where they are the same, e.g. coal, drink, paper. The economic activities which do not fall under the heading of productive industry are the transport and communication services, the wholesale and retail distribution of goods and other commercial services, public administration and defence, professional and other miscellaneous services. In these spheres many of the occupational and industrial descriptions are in terms of the service rendered.

It is not surprising that, in the light of the above considerations, many of the terms used in the two classifications are similar. Such cases may suggest at first sight that the occupational classification tends to become industrial in places, but they well exemplify the fundamental distinction between the two classifications. The occupational order "Textile workers" includes only those persons concerned with the manufacturing processes of textile production, while the industry order "Textiles" includes not only such persons but also engineers, transport workers, clerks, etc., employed in a textile producing establishment.

A second general aspect of the census classifications is the over-riding fact that it must be possible to apply them consistently to the data on the census schedule, whether or not other non-census information is also brought to bear. The numbers of separate units which are identified, both in the occupational and in the industrial classifications are limited not only by considerations of consistency but also by the practical limit to the number of codes which can be dealt with efficiently by a coder.

In addition to the assignment of a person to an occupation and industry he may also be classified with reference to the relationship in which he stands to his trade or employment; as "employee", "manager", "operative" or "worker on own account", that is his industrial status.

A third aspect of these systems, as they apply to census data, is that in any one of the three classifications, viz., Occupation, Industry, and Industrial status, regard can be had simultaneously to all the information on the census schedule about all three aspects and obvious inconsistencies can be removed. One of the early stages in the work of preparing the census tabulations has been to examine the results and remove such anomalies. In view of the very complex nature of many industries, however, such editing as has been done has been very narrowly confined and it is possible that some incorrectly completed answers to these very difficult census questions remain, along with other inaccuracies which possibly arise on account of distorted accounts that some people give of their work, but such errors are indistinguishable from those which have inevitably occurred at the coding and punching stages.

Finally, the systematic use of certain non-census data in constructing and applying these classifications must be referred to. The unit for industrial classification was the "establishment", the assignment of an establishment being determined (without regard to the kind of ownership) by its principal product, or, for a service industry, activity. Usually an establishment was the whole of the premises under the same ownership or management at a particular address, but if such

* Report of the Conference, CMD. 648.

premises contained two or more departments engaged in different activities which the records allowed to be distinguished each department was treated as a separate establishment.

An essential part of the job of coding a person enumerated on a census schedule by industry is to determine the establishment in which his occupation is followed and ensure as far as possible that all persons working in the same establishment, however they describe it, are given the same industry code. This coding was assisted by lists of the larger employers of labour. For the 1921 and 1931 Censuses such lists were prepared in the first instance by each local census officer, who was able to obtain advice as he thought necessary from the more important concerns in his area. For the 1951 Census lists were drawn up centrally. Lists of addresses with coding to Minimum List Headings came from records maintained by the Board of Trade and Ministry of Labour and National Service and used in connection with the preparation of their statistical tabulations, for establishments employing more than 50 persons (and smaller establishments at the same address) and engaged in the fields of production and construction. Any other sources of information likely to be of help were used both for assignment to Minimum List Headings of all establishments not in these lists and also for assignment generally to the sub-divisions of the Headings adopted for census purposes. The 1951 list of establishments, therefore, showed each separately and specified the major activity of each. It seems likely that separate establishments will also have been listed separately in 1921 and 1931 (although this is not explicitly stated in the contemporary records) but, in the absence then of the decision to treat the establishment as the unit for classification, these earlier lists must have provided details of the separate industrial activities (in contrast to the major single activity) of establishments engaged in more than one such activity.

Non-census data has also been employed systematically, to a more limited extent, in the application of the status classification in 1951. The Ministry of Labour provided lists of occupations in which apprenticeship schemes were operated, which provided the basis on which to exclude from the apprentice status numbers of persons recorded as apprentices. More generally, with a great many units of the occupational classification certain status codes are impossible (e.g., foremen cannot be managers nor government officials employ others) and rules were operated to remove such anomalies.

Classification of Occupations, 1921-1951

The Classification of Occupations has remained unchanged in principle since 1921: the principal changes made between 1921 and 1931 are set out in Table G of the 1931 Occupation Tables; those made between 1931 and 1951 in Table C of the 1951 Occupation Tables.

Classification of Industries, 1921-1951

The Classification of Industries has suffered certain changes in the treatment of firms or businesses engaging in more than one industrial activity: in 1921 the classification sought to assign to separate industry headings those persons who were working in the same firm or business but were engaged in separate activities leading to the production of different final products or services; ancillary activities such as the maintenance of plant or the production of intermediate products for use within the business were, however, to be regarded industrially as part of the main business or service except where the classification included headings specifically related to that industry to cover such activities. In 1931 a change of principle was introduced in that those ancillary activities which in 1921 had been regarded as part of the main business were in 1931 assigned industrially according to the nature of the activity if that was carried on in a separate factory or works. In 1951 the main change of principle derived from the decision adopted to treat the establishment as the unit of classification and to code all persons occupied in it to the major industry. Apart from these changes of principle certain detailed changes in the classification have been made. The principal changes made between 1921 and 1931 are described in the footnotes to Table B of the 1931 Industry Tables; those made between 1931 and 1951 in Table C of the corresponding 1951 volume of tables. The 1951 classification is based on the *Standard Industrial Classification* which was prepared as a means of securing uniformity and comparability in the statistics published by Government Departments in the United Kingdom, and published in 1948. In some sections of it, however, the standard headings (termed Minimum List Headings) have been further subdivided.

Classification of persons in work by Industrial Status, 1921-1951

The status classification, as operated at all three censuses of 1921, 1931 and 1951 is based upon statements on the census schedule given by persons not working for an employer to distinguish those who were themselves employers from those working on own account, and the 1921 tabulations distinguished these three classes of worker. In 1931 and 1951, managers were classed with employers in the tabulations, and the distinction between "employers" and "employees", which

increasingly loses significance as the structure of industry becomes more complicated, was replaced by the distinction between "managerial" and "operative". Identification of the managerial group by the census coding staff was carried out by reference mainly to the statements of occupation on the schedules, and three managerial classes were distinguished, viz.:

(1) chairmen of companies, managing directors, directors, general superintendents (large concerns)

(2) branch shop managers and managers of primary operations in manufacturing or other businesses

(3) managers of office or subsidiary departments.

The 1931 tabulations bracket employers with managers and also show classes (2) and (3) managers separately. Similar tabulations can also be derived from the 1951 published tables but, in addition, the employers are shown separately. This latter change enables the census figures to be compared with the Ministry of Labour's statistics derived from National Insurance records, and the tabulations of the employee classes in the salary/wage-earner classification (see p. 149 below) to be constructed.

The presence of numbers of workers on own account in seemingly unlikely occupations is due to outworkers having been coded to this status.

The status classification of persons in work was supplemented for 1951 by the additional statements required on the census schedule of three new classes, viz.:

(a) apprentice or articled pupil

(b) part-time

(c) unpaid (if helping unpaid in a family business).

A part-time worker was defined in the instruction on the schedule as one who did less than 30 hours of work a week in the stated occupation. An unpaid family worker was defined as "a member of the household who is chiefly occupied in giving unpaid help, i.e. without receiving a definite wage or share of the profit, in a business carried on by the head of the household or other relative". The meaning of "chiefly occupied" and "definite wage" which are vague phrases had to be left to the person's own discretion. It is probably not possible to devise a precise definition that would be comprehensible and acceptable to the public in general.

The lines of demarcation between the states of being (a) occupied, (b) out of work but seeking work, and (c) retired or not gainfully occupied, must for many people, especially elderly people, be difficult to draw. Moreover, the conditions under which social security arrangements or private pensions schemes operate may affect a person's judgment as to which of these economic statuses he should properly report for census purposes; for example, a person may be unemployed in the census sense, but if he is not in receipt of unemployment benefit under the National Insurance Scheme he may not regard himself as out of work; again, a person who is entitled to and in receipt of a retirement pension may yet be occupied in the census sense. In consequence of these conditions, and in spite of the fact that the census definitions were intended to be treated quite independently of definitions in use for other (e.g. national insurance) purposes, the census record of persons unemployed and of persons retired must be regarded as somewhat less reliable than that of the occupied population as a whole. In addition, even where the form of the census question remained precisely the same from one census to another, secular changes in numbers out of work or retired, as measured by census figures, must be regarded with some caution in view of possible effects of changes in statutory entitlements to unemployment benefits and retirement pensions.

Persons out of work, as recorded 1921-1951

The schedule record has been in the same form for all three censuses, enabling persons out of work to be included in or excluded from the tabulations by occupation and by industry, or to be tabulated separately. In 1921 no separate tables of persons out of work were prepared and such persons were included in the industry tables. In 1931, owing to the high level of unemployment, it was thought best to exclude unemployed persons from the basic series of detailed industry tables, which are in this respect not comparable as they stand with the corresponding 1921 series. Persons out of work in 1931 were, however, tabulated separately in some detail by such characteristics as sex, age and marital condition. In 1951 the unemployed were excluded from all industry tables apart from Table 4.

Persons out of work have been included in the tabulations of persons by occupation, at all three censuses.

Persons retired from gainful occupation, as recorded in 1921-1951

The schedule record has been in the same form at all three censuses as has been the general treatment in tabulation. Retired persons are analysed separately by former occupation. They are not included in the various series of occupation tables. They are, however, included in the analyses by Social Class (see below).

Analysis by Social Class, Socio-economic Group, Salary/wage earner Group

The genesis of these three classifications has been discussed elsewhere.* Each of the three classifications represents a broad grouping of the units of the occupational classification. In the Social Class and Socio-economic Group classifications the whole of the occupied and retired population are analysed to indicate characteristics of the adult population. In the salary/wage earner classification the employed population (i.e. those members of the working population who were working for an employer, as distinct from the employers themselves, those working on own account and persons in the armed forces) is analysed.

Classification of census data by social class was made for the first time in 1911, and the tabulation formed part of the Fertility Report of that census. The breakdown was also made in 1921 and 1931 mainly for the purpose of the Decennial Supplement on Occupational Mortality. The distribution by Social Class appeared in the Occupation Tables for the first time in 1951. The concept behind it is sufficiently well known to make further reference here unnecessary. There have necessarily been changes in the classification due to changes in the occupation classification as well as certain changes made as a result of re-assessment of the nature of particular occupations and particular social classes. In Table D of the 1951 Occupation Tables an attempt has been made to reconstruct the analysis of the 1951 occupied and retired population on the basis of the 1931 social classes, for the purpose of comparing the 1931 and 1951 distributions.

Classification by Socio-economic Group has been made for the first time for 1951. There are thirteen mutually exclusive groups, in contrast to the five groups by Social Class. Like the social class grouping the socio-economic grouping is a simple matter of combining occupations; status and industry are only taken into account to the extent that they are indicated by the occupation classification itself. The socio-economic groups were designed to achieve a greater degree of homogeneity than the social classes in the characteristics of a person's occupation, and to distinguish between manual and non-manual workers.

The constitutions of the Social Classes and Socio-economic Groups are set out in terms of the unit groups of the occupation classification in Appendix C.

Classification by salary/wage earner group has also been made for the first time for 1951, primarily to provide information useful in studies of national income.

Tabulation Programmes

The tabulation programmes for the occupation and industry data obtained at all three censuses of 1921, 1931 and 1951 have been designed primarily to show the distributions of the population in these classifications, numbers in the different statuses in different occupations and industries, numbers retired, important occupations associated with given industries, and the geographical distribution of particular occupations and industries. In most of these aspects the material is analysed by sex, age and marital condition, but the tables for individual local authority areas are only analysed by sex.

Particular features of the 1951 tabulation scheme are the new tables showing numbers of male and female apprentices, part-time workers and unpaid assistants in family businesses by industry and occupation; some extra information has been given about married women in gainful occupations; the cross-classification of industry by occupation has been expanded to show virtually all occupation units for every minimum list industry heading.†

A feature of the 1951 industry tables for local authority areas and other geographical subdivisions of the country is that they have been prepared on the basis of place of work, as in 1921. In contrast the 1931 industry tables were on the basis of place of enumeration. The occupation tables showing geographical distribution were on a place of enumeration basis at all three censuses.

In designing the 1951 tables special regard was had to the problem of making the tables less

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* *Census 1951, England and Wales, Occupation Tables* pp. x-xii.

† Except that M.L.Hs. 113 and 114 were combined.

unwieldy, and in consequence more easy to assimilate, by the amalgamation of units of the classification into groups in some tables, and by the omission in others of units unimportant in the particular context. Much saving of space in the published volumes of tables was also achieved by this means. For most of the tables, however, the full detail is available in the departmental records and can be obtained at small cost by anyone who needs it.

Total Occupied Population

A total of 20,336,418 persons were enumerated in England and Wales as gainfully occupied at the 1951 census, 14,063,542 being males and 6,272,876 females. These numbers represent 87·5 per cent of all males aged 15 and over enumerated and 34·9 per cent of all females aged 15 and over. They include 396,394 persons recorded as out of work but seeking work (281,274 males and 115,120 females).

Comparison with 1931 shows the total occupied population to have risen by 7·9 per cent in the intercensal period (6·2 for males; 11·9 for females), while the whole population at ages above school leaving age (15 in 1951, 14 in 1931) rose by 9·8 per cent for males and 9·7 per cent for females.

Table 59 analyses these figures by age, marital condition and industrial status and Table 60 shows in more detail the changes that have taken place in the 1931-51 period in the extent to which various sections of the community seek gainful work.

The main features of the age-distribution of the occupied population are as follows:—

	Percentage distribution by age							
	Males				Females			
	Under 25	25–44	45–64	65 and over	Under 25	25–44	45–64	65 and over
Total population 14 and over 1931	25	38	28	9	23	39	28	10
15 and over 1951	17	40	31	12	16	37	31	16
Occupied population 1931	25	41	29	5	46	35	16	3
1951	18	45	33	4	33	39	26	2

The proportion of the occupied male population under age 25 was lower in 1951 than in 1931 (18 as compared with 25 per cent) and the proportions in the age-groups 25-44 and 45-64 were correspondingly higher. To a large extent these differences reflect changes in the age structure of the male population. For men aged 65 or over the story is very different. The ratios given in Table 60 indicate the much higher proportions of men retiring at or soon after age 65 than in 1931—only 47 per cent of men enumerated in the 65-69 age-group were occupied in 1951 as compared with 65 per cent in 1931; among men aged 70-74 the proportions were 27 per cent in 1951 and 42 per cent in 1931. The proportions of younger males not in work, which were small in 1931, were rather larger in 1951 due to the extension of further education. The age distribution of the female occupied population was also older in 1951 than in 1931 owing to the increase in the employment of married women.

The factors which affect the recruitment of women to gainful occupations differ fundamentally from those of males on account of the dependence of many women on the incomes of husbands or former husbands. The proportion of married women who undertake paid work is not generally large and at the older ages it becomes quite small; and the extent to which widowed and divorced women have gainful occupations is also smaller than for single women of the same age. Table 60 illustrates this by reference to conditions both in 1931 and 1951. In 1951 nearly 30 per cent of married women aged under 25 were working, about a quarter of those at ages between 25 and 55, and 16 per cent of those aged 55-59. Up to age 45 about two thirds of widowed and divorced women were working but the proportions were lower at higher ages. Among single women the proportions at work were much higher and approached those for males: 9 out of every 10 single women aged 20-29 and more than 8 out of every 10 aged 30-45 had jobs. The most noteworthy feature of the statistics is that for the separate marital conditions the proportions at work in 1951 were considerably higher than in 1931 for every age-group of women under 60, this increased tendency to engage in a gainful occupation being particularly marked among married women.

Table 59.—Total occupied population by Industrial Status, Age and Marital Condition, and comparison with 1931

	Total Number		1931					1951					1931			1951		
			Percentage distribution of Occupied by Status	Percentage distribution by Age				Percentage distribution of Occupied by Status	Percentage distribution by Age				Percentage distribution by Marital Condition			Percentage distribution by Marital Condition		
	1931	1951		Under 25	25–44	45–64	65 and over		Under 25	25–44	45–64	65 and over	Single	Married	Widowed and Divorced	Single	Married	Widowed and Divorced
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s
MALES																		
Total Population (all ages)	19,133,010	21,015,633		43	29	21	7		37	31	23	9	52	44	4	44	52	4
Total Population 15 and over (14 and over in 1931)	14,632,859	16,067,083		25	38	28	9		17	40	31	12	37	58	5	26	69	5
Total occupied (including out of work)	13,247,333	14,063,542	100	25	41	29	5	100	18	45	33	4	37	59	4	26	71	3
Total retired	802,876	1,365,102		0	5	23	72		1	3	12	84	13	60	27	11	64	25
Others not occupied (aged 15 and over, 14 and over in 1931)	582,650	638,439		66	10	9	15		44	12	11	33	78	15	7	59	29	12
Employers and Managers	922,062	1,000,661	7	3	42	46	9	7	2	45	45	8				8	89	3
Employers		*375,606*						*3*	*1*	*39*	*49*	*11*				*7*	*89*	*4*
Managers		*625,055*						*4*	*3*	*47*	*44*	*6*				*9*	*88*	*3*
Operatives	9,806,092	11,939,751	74	29	43	25	3	85	20	45	31	4	40	57	3	29	68	3
Apprentices		*351,315*						*2*	*98*	*2*	*0*	*0*				*98*	*2*	*0*
Part-time		*43,519*						*0*	*5*	*13*	*29*	*53*				*17*	*68*	*15*
Unpaid		*11,850*						*0*	*48*	*31*	*16*	*5*				*72*	*26*	*2*
Other		*11,533,067*						*83*	*18*	*47*	*32*	*3*				*27*	*70*	*3*
Own Account	835,437	841,856	6	6	38	44	12	6	3	41	45	11				14	81	5
Out of Work	1,683,742	281,274	13	22	37	34	7	2	15	31	49	5	38	56	6	36	58	6
FEMALES																		
Total Population (all ages)	20,819,367	22,742,255		40	30	22	8		33	29	25	13	50	41	9	40	49	11
Total Population 15 and over (14 and over in 1931)	16,410,894	17,999,293		23	39	28	10		16	37	31	16	37	52	11	25	61	14
Total occupied (including out of work)	5,606,043	6,272,876	100	46	35	16	3	100	33	39	26	2	77	16	7	52	40	8
Total retired	172,416	277,036		2	10	33	55		1	5	34	60	61	12	27	66	13	21
Others not occupied (aged 15 and over, 14 and over in 1931)	10,632,435	11,449,381		11	41	34	14		7	37	34	22	15	72	13	9	75	16
Employers and Managers	137,545	186,994	2	5	37	46	12	3	4	41	47	8				36	45	19
Employers		*52,407*						*1*	*1*	*30*	*53*	*16*				*24*	*42*	*34*
Managers		*134,587*						*2*	*5*	*45*	*46*	*4*				*40*	*46*	*14*
Operatives	4,664,406	5,739,574	83	51	34	13	2	91	35	38	25	2	82	13	5	53	40	7
Apprentices		*21,668*						*0*	*97*	*2*	*1*	*0*				*98*	*2*	*0*
Part-time		*743,705*						*12*	*5*	*55*	*37*	*3*				*8*	*81*	*11*
Unpaid		*35,858*						*1*	*17*	*46*	*33*	*4*				*26*	*71*	*3*
Other		*4,938,343*						*78*	*38*	*37*	*23*	*2*				*60*	*33*	*7*
Own Account	321,028	231,188	6	7	33	47	13	4	3	33	50	14				32	47	21
Out of Work	483,064	115,120	9	42	39	17	2	2	37	34	27	2	61	32	7	64	25	11
PERSONS																		
Total Population (all ages)	39,952,377	43,757,888		41	30	22	7		35	30	24	11	51	43	6	42	51	7
Total Population 15 and over (14 and over in 1931)	31,043,753	34,066,376		24	38	28	10		17	38	31	14	37	55	8	26	64	10
Total occupied (including out of work)	18,853,376	20,336,418	100	32	39	25	4	100	22	43	31	4	48	47	5	34	61	5
Total retired	975,292	1,642,138		1	6	24	69		1	3	16	80	21	52	27	20	56	24
Others not occupied (aged 15 and over, 14 and over in 1931)	11,215,085	12,087,820		14	39	33	14		9	35	33	23	18	69	13	12	72	16
Employers and Managers	1,059,607	1,187,655	6	3	41	47	9	6	2	44	46	8				12	82	6
Employers		*428,013*						*2*	*1*	*38*	*49*	*12*				*10*	*82*	*8*
Managers		*759,642*						*4*	*3*	*47*	*44*	*6*				*14*	*81*	*5*
Operatives	14,470,498	17,679,325	77	36	40	21	3	87	25	43	29	3	53	43	4	37	59	4
Apprentices		*372,983*						*2*	*98*	*2*	*0*	*0*				*98*	*2*	*0*
Part-time		*787,224*						*4*	*5*	*52*	*37*	*6*				*8*	*81*	*11*
Unpaid		*47,708*						*0*	*25*	*42*	*29*	*4*				*37*	*60*	*3*
Other		*16,471,410*						*81*	*24*	*44*	*29*	*3*				*37*	*59*	*4*
Own Account	1,156,465	1,073,044	6	7	37	44	12	5	3	39	46	12				18	74	8
Out of Work	2,166,806	396,394	11	27	37	30	6	2	22	32	42	4	43	51	6	45	48	7

At ages over 60 (the National Insurance pension age for women) the proportions at work were, however, lower in 1951; this is in line with the decline in the employment of males at ages 65 and over.

Table 60.—Percentage of males and females at each age occupied (including out of work); with separate representation of females by marital condition; and comparison with 1931

Age	Males		Females							
			All conditions		Single		Married		Widowed and divorced	
	1931	1951	1931	1951	1931	1951	1931	1951	1931	1951
14	52·8		40·4		*40·4*					
15–19*	89·9	98·0	75·1	78·7	*75·5*	*80·5*	*19·4*	*39·3*	*51·4*	*67·0*
20–24†	97·3	98·8	65·1	65·5	*84·1*	*91·2*	*19·3*	*37·7*	*59·9*	*66·9*
25–29	98·4	99·0	42·7	40·6	*81·8*	*88·6*	*15·3*	*26·6*	*57·4*	*68·8*
30–34	98·5	99·3	29·6	33·9	*78·2*	*84·2*	*12·5*	*23·9*	*54·9*	*67·5*
35–44	98·2	99·4	24·5	35·8	*72·8*	*81·2*	*10·5*	*26·7*	*45·7*	*64·3*
45–54	96·7	98·6	21·1	35·0	*64·5*	*75·0*	*8·8*	*24·6*	*36·0*	*54·8*
55–59	93·9	96·0	18·9	27·9	*55·5*	*64·1*	*7·2*	*16·3*	*29·3*	*39·8*
60–64	87·2	88·7	16·4	15·0	*45·4*	*34·7*	*5·8*	*7·5*	*22·4*	*19·8*
65–69	64·9	48·5	12·3	8·9	*31·1*	*20·1*	*3·9*	*4·0*	*14·7*	*10·4*
70–74	41·7	29·0	7·2	4·7	*17·3*	*10·8*	*2·1*	*2·0*	*7·6*	*4·8*
75 and over	22·7	14·8	38·5	2·0	*8·7*	*4·4*	*1·2*	*1·0*	*3·4*	*1·7*
All ages	**90·5**	**90·4**	**34·2**	**34·9**	**71·9**	**73·0**	**10·4**	**22·5**	**21·6**	**21·2**

* 15-20 in 1931.
† 21-24 in 1931.

The fertility analyses which have been carried out with the 1951 census data enable another feature of the gainful occupation of married women to be illustrated. This is the lesser extent to which women with children engage in gainful work. The tabulations which show this are derived from questions asked of married women under 50 about the number of live-born children they had had, and they distinguish women in a gainful occupation. Table 61 shows the percentage in a gainful occupation among women married once only and enumerated at the census in the most

Table 61.—Percentage of Women Married Once only and Gainfully Occupied — **One Fifth Sample**

Age at Marriage in years	Marriage duration in years	Approx. census age in years	Women married once only							
			Number				Percentage gainfully occupied			
			Total	Infertile	Fertile		Total	Infertile	Fertile	
					Child born within 12 months	Other			Child born within 12 months	Other
Under 20	Under 5	20	**49,141**	16,423	13,770	18,948	**29·6**	60·7	7·4	18·8
20–24	Under 5	25	**162,374**	74,783	33,831	53,760	**35·7**	64·4	5·3	14·9
Under 20	5–9	25	**44,833**	4,112	7,014	33,707	**21·3**	58·8	3·7	20·4
25–29	Under 5	30	**62,380**	30,428	11,772	20,180	**33·5**	58·5	4·4	12·8
20–24	5–9	30	**142,312**	19,097	18,575	104,640	**20·1**	55·0	3·3	16·8
Under 20	10–14	30	**37,034**	1,818	3,641	31,575	**26·1**	49·2	5·4	27·1
30–34	Under 5	35	**18,994**	10,055	2,992	5,947	**31·8**	51·6	5·0	11·7
25–29	5–9	35	**49,822**	10,186	5,299	34,337	**19·9**	48·1	3·3	14·1
20–24	10–14	35	**151,334**	15,302	9,809	126,223	**24·0**	47·0	4·0	22·7
Under 20	15–19	35	**24,183**	840	1,446	21,897	**29·7**	46·2	5·0	30·8
35–39	Under 5	40	**9,598**	6,377	953	2,268	**34·4**	45·5	6·8	14·9
30–34	5–9	40	**19,251**	6,310	1,297	11,644	**23·3**	42·9	4·1	14·8
25–29	10–14	40	**87,501**	16,411	3,416	67,674	**22·6**	41·3	3·9	19·0
20–24	15–19	40	**117,548**	11,446	3,366	102,736	**28·2**	41·5	5·4	27·4
Under 20	20–24	40	**22,743**	915	660	21,168	**30·2**	47·3	4·5	30·3
All under 50	**All**	**All under 50**	**1,346,003**	**292,512**	**120,069**	**933,422**	**26·7**	**50·9**	**4·8**	**21·9**

important classes of age and duration of marriage, distinguishing those who had never had a live-born child, those who had had one in the 12 months preceding the census, and the remainder who had had one or more live-born children at dates prior to April 8th, 1950.

27 per cent of the women married once only enumerated in England and Wales at ages under 50 were gainfully occupied at the time of the census. The majority were women with children all of whom were at least one year old: among these women 22 per cent were occupied; in contrast, among those married women who had never had a live-born child the proportion occupied was 51 per cent. Only 5 per cent of those who had given birth to a live-born child in the 12 months preceding census date were occupied. The figures for the separate classes by age at marriage and duration of marriage show that these differences are not due only to differences in marriage duration, though this is a factor influencing the employment of married women. Among fertile married women of a given age (exclusive of those with a child under one year old) those who have been married the longest are most likely to be gainfully occupied, reflecting in part the greater freedom from family ties which comes to a mother as her youngest children grow up and in part the greater need which a family may have to supplement its income as its children increase in numbers and grow to ages at which they make substantial demands on family income. Among infertile women the proportions occupied were somewhat lower in the higher age-groups and larger marriage durations.

The 1931-51 period has seen the introduction of National Insurance and a considerable increase in the scope of other pension schemes, both these changes increasing the tendency for men to regard age 65 and women age 60 as the normal ages at which to retire from gainful work. There is also the contrast between 1931 conditions of high unemployment and 1951 conditions of full employment. These factors are no doubt largely responsible for the higher proportions in work in 1951 in the main working age-groups, both among males and females, and the indications of earlier retiring ages which the census figures give. Changes in the incidence of women in gainful work will have been due mainly to the heavy demand for labour in the second world war and the years which followed.

Distribution of occupied by Industrial Status

Table 59 gives information of the numbers in the Industrial Statuses in 1931 and 1951. In 1951, out of 20,336,418 occupied persons, 17,679,325 (87 per cent) were operatives, 1,187,655 (6 per cent) were employers and managers, 1,073,044 (5 per cent) were workers on own account and 396,394 (2 per cent) were out of work. The main change between 1931 and 1951 was the reduction of the out of work from 11 per cent of the total occupied to 2 per cent, and the corresponding increase in the proportion accounted for by operatives. The 1,187,655 employers and managers in 1951 were composed of 1,000,661 males and 186,994 females—rather less than a 6:1 ratio. About 90 per cent of employers and managers were aged between 25 and 65 and 8 per cent were aged 65 and over. Employers had a much older age structure than managers; 12 per cent were aged 65 and over as compared with 6 per cent of managers.

Among operatives, of 372,983 apprentices (including articled clerks) 94 per cent were males, practically all younger than 25. Of the 787,224 part-time workers, 743,705 (94 per cent) were females. Of the part-time female workers (the part-time category includes persons such as part-time managers) 81 per cent were married and rather over half were aged 25-44. Part-time workers accounted for 12 per cent of all occupied females. Females also accounted for three quarters of those classified as unpaid family workers. Among all operatives there was a fall in the proportion under 25 from 36 per cent in 1931 to 25 per cent in 1951, and an increase in the proportion aged between 25 and 64, particularly those aged 45-64 (from 21 to 29 per cent).

There was a small decline in the proportion of the occupied population classified as "workers on own account", viz. from 6.1 to 5.3 per cent; numbers of workers on own account have decreased from 1,156,465 to 1,073,044, the number of males of this status having increased from 835,457 to 841,856 while female workers on own account decreased in number from 321,028 to 231,188. The different economic circumstances at the times of the two censuses are reflected in the decline in the number of out of work from 2,166,806 in 1931 to 396,394 in 1951.

Distribution of occupied by occupation order, 1931-1951

Table 62 shows details of the occupied population of England and Wales enumerated in the principal occupations. For each of the selected occupations the numbers of persons, males and females are shown for 1931 and 1951, together with the increase or decrease per thousand between the two censuses. The distribution by occupation per thousand occupied is shown at both censuses for persons, males and females. A comparison of columns (k) and (l), which show the distribution by occupation per thousand occupied for 1931 and 1951 respectively, indicates changes which have

taken place in the relative importance of the principal occupations. As a later section of this report is to deal individually with the more important occupations, attention is confined here to occupation orders which have shown significant changes in their share of the occupied population of England and Wales.

Workers in metal manufacturing and engineering (Order VI) increased their share of the occupied population from 9 per cent in 1931 to 12 per cent in 1951—the persons occupied in this Order having increased from 1,698,875 to 2,458,095. All of the constituent occupation groups (apart from smiths and forgemen) shown in Table 62 increased their numbers. There was a large proportionate increase in the number classified as foremen and overlookers (which increased by over 160 per cent), but the greatest numerical increases were among fitters and machine erectors and among the occupations linked with electrical engineering.

Workers in building and contracting (Order XIV) form another Order whose share of the occupied population increased between the two census dates—from 3 per cent to 4 per cent. The numbers in this Order increased by 30 per cent from 646,307 to 841,865. There had been great activity in the building and contracting and metal manufacture and engineering trades since the war in contrast to the situation at the time of the 1931 Census.

Order XIX, professional and technical occupations, increased its share of the occupied population from 4 to 6 per cent. The numbers in these occupations increased by 55 per cent from 798,691 to 1,237,254, large percentage increases occurring among professional engineers and surveyors, industrial designers and draughtsmen and scientific professions.

The numbers occupied in the defence services (Order XX) rose by 150 per cent from 282,420 to 705,481 and their contribution to the number of total occupied increased from 1.5 per cent in 1931 to 3.5 per cent in 1951.

Order XXIII, clerks and typists, increased its share of the total occupied from 7 per cent to 10 per cent. The numbers in these occupations increased by 66 per cent from 1,281,781 to 2,132,135; the increase was far greater for females who more than doubled their numbers than for males whose numbers increased by 21 per cent.

Other occupation Orders which increased their share of the total occupied population were: coal gas, etc. makers, workers in chemicals (Order V), makers of food, drink and tobacco (Order X), painters and decorators (Order XV), administrators, directors and managers (Order XVI), warehousemen, storekeepers, packers, etc. (Order XXIV) and stationary engine drivers, stokers, etc. (Order XXV).

There were, however, several occupation Orders whose share of the total occupied population diminished between 1931 and 1951. Agricultural, etc. occupations (Order II) decreased their share of the total occupied population from 6 per cent in 1931 to 5 per cent in 1951. The numbers occupied fell by 10 per cent from 1,172,256 to 1,058,786. There was a slight increase in the number of farmers, farm managers and bailiffs, in contrast with the other occupation groups identified in Table 62 within this Order.

The number of persons working in mining and quarrying occupations (Order III) decreased between 1931 and 1951 by 39 per cent from 962,548 to 591,030 which represented a fall in the share of this Order in the total number of occupied from 5 per cent to 3 per cent. Most of the occupations in this Order are concerned with coal mining.

The number of textile workers (Order VII) decreased by 37 per cent from 879,457 to 556,768, a fall from 5 per cent to 3 per cent of the total occupied. The decline was spread over all the separate occupation units of this Order identified in Table 62, and extended—to a lesser degree—to the makers of textile goods and articles of dress (Order IX) whose numbers fell by 15 per cent from 657,748 to 561,383.

Workers in transport (Order XVII) reduced their share of the total occupied from 9 per cent to 8 per cent. Numbers working in transport fell by 6 per cent from 1,634,745 to 1,533,823. The greatest change was the fall of 76 per cent in the number of messengers from 180,614 to 44,101. If messengers are excluded from the figures for the Order then a fall of 6 per cent is converted into an increase of 2 per cent. Commercial and financial occupations (Order XVIII) decreased their share of the total occupied population slightly from 11 per cent in 1931 to 10 per cent in 1951. The decline in numbers for the whole Order is a residual of gains and losses among the separate occupation groups; viz. an increase in owners and managers of wholesale businesses and sales managers, and a reduction in the number of owners, managers and supervisors of retail businesses; an increase in roundsmen and coal carmen, a reduction in commercial travellers and canvassers and in shop assistants.

Table 62.—Total occupied population in principal occupations, and comparison with 1931

Occupation (1951 code numbers)	Persons			Males			Females			Distribution per 1,000 occupied by occupation					
	Numbers		Increase or decrease (−) per 1,000	Numbers		Increase or decrease (−) per 1,000	Numbers		Increase or decrease (−) per 1,000	Persons		Males		Females	
	1931	1951		1931	1951		1931	1951		1931	1951	1931	1951	1931	1951
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p
Total population of all ages	39,952,377	43,757,888	95	19,133,010	21,015,633	98	20,819,367	22,742,255	92						
Total population aged 15 and over	30,432,179	34,066,376	119	14,324,520	16,067,083	122	16,107,659	17,999,293	117						
Total occupied population aged 15 and over	**18,568,022**	**20,336,418**	**95**	**13,084,514**	**14,063,542**	**75**	**5,483,508**	**6,272,876**	**144**		**1,000**		**1,000**		**1,000**
Total occupied population 1931 aged 14 and over	*18,853,376*			*13,247,333*			*5,606,043*			*1,000*		*1,000*		*1,000*	
Total retired	975,292	1,642,138	684	802,876	1,365,102	700	172,416	277,036	607						
Total other unoccupied	11,215,085	12,087,820	78	582,650	638,439	96	10,632,435	11,449,381	77						
I. Fishermen	**27,025**	**15,275**	**−435**	**26,945**	**15,248**	**−434**	**80**	**27**	**−663**	**1**	**1**	**2**	**1**	**0**	**0**
II. Agricultural, etc, Occupations	**1,172,256**	**1,058,786**	**− 97**	**1,116,573**	**961,300**	**−139**	**55,683**	**97,486**	**751**	**62**	**52**	**84**	**68**	**10**	**16**
010, 011 Farmers, farm foremen, etc.	264,948	290,971	98	247,467	272,387	101	17,481	18,584	63	14	14	19	19	3	3
013-015 Gardeners, nurserymen, seedsmen	220,971	181,768	−177	216,569	174,381	−195	4,402	7,387	678	12	9	16	12	1	1
012, 019, 029 Other agricultural workers	658,211	496,150	−246	624,582	425,561	−319	33,629	70,589	1,099	35	24	47	30	6	11
III. Mining and quarrying occupations	**962,548**	**591,030**	**−386**	**960,041**	**589,714**	**−386**	**2,507**	**1,316**	**−475**	**51**	**29**	**72**	**42**	**0**	**0**
041, 042 Coalface coal getters; loaders	438,664	200,551	−543	438,664	200,551	−543	—	—	—	23	10	33	14	—	—
043 Conveyers of material to the shaft (coal mines)	159,928	75,388	−529	159,928	75,388	−529	—	—	—	8	4	12	5	—	—
044-047 Other workers below ground (coal mines)	152,201	164,309	80	152,201	164,309	80	—	—	—	8	8	11	12	—	—
049 Other workers above ground (coal mines)	104,092	71,957	−309	101,684	70,768	−304	2,408	1,189	−506	6	4	8	5	0	0
IV. Workers in ceramics, glass, cement, etc.	**120,915**	**127,517**	**55**	**76,828**	**81,161**	**56**	**44,087**	**46,356**	**51**	**6**	**6**	**6**	**6**	**8**	**7**
V. Coal gas, etc. makers, workers in chemicals	**51,043**	**104,090**	**1,039**	**47,067**	**93,000**	**976**	**3,976**	**11,090**	**1,789**	**3**	**5**	**4**	**7**	**1**	**2**
VI. Workers in metal manufacture, engineering	**1,698,875**	**2,458,095**	**447**	**1,556,644**	**2,260,189**	**452**	**142,231**	**197,906**	**391**	**90**	**122**	**118**	**160**	**25**	**32**
110-119 Foremen, overlookers	47,508	124,959	1,630	45,888	121,127	1,640	1,620	3,832	1,365	3	6	3	9	0	1
131-138 Foundry workers (excluding pattern makers)	116,507	127,828	97	113,432	121,101	68	3,075	6,727	1,188	6	6	9	9	1	1
145-149 Smiths, forgemen	102,228	58,870	−424	101,322	58,363	−424	906	507	−440	5	3	8	4	0	0
171-177, 268 Turners, millers, machine setters, grinders, drillers	207,144	238,913	153	184,641	220,723	195	22,503	18,190	−192	11	12	14	16	4	3
181-189 Fitters, machine erectors	429,988	733,356	706	428,718	728,801	700	1,270	4,555	2,587	23	36	32	52	0	1
200-204 Plumbers, pipe fitters, etc.	110,635	145,499	315	110,565	145,226	313	70	273	2,900	6	7	8	10	0	0
241, 242 Electrical fitters, electricians	111,502	203,840	828	110,890	201,780	820	612	2,060	2,366	6	10	8	14	0	0
231, 237, 239, 243, 249 Radio, telephone engineers; linemen, etc.	47,355	123,235	1,602	38,749	103,852	1,680	8,606	19,383	1,252	3	6	3	7	2	3
VII. Textile workers	**879,457**	**556,768**	**−367**	**297,741**	**197,639**	**−336**	**581,716**	**359,129**	**−383**	**47**	**27**	**22**	**14**	**104**	**57**
284 Carders, combers, drawers, etc.	77,337	44,532	−424	11,181	10,566	− 55	66,156	33,966	−487	4	2	1	1	12	5
291, 292 Spinners, doublers	128,228	75,124	−414	61,506	30,988	−496	66,722	44,136	−339	7	4	5	2	12	7
301, 302 Winders, reelers, beamers, warpers	118,421	85,551	−278	7,348	6,449	−122	111,073	79,102	−288	6	4	1	0	20	13
311, 312 Weavers	270,570	120,664	−554	53,833	23,864	−557	216,737	96,800	−553	14	6	4	2	39	15
331-339 Bleachers, dyers, finishers	131,575	111,070	−156	72,853	49,057	−327	58,722	62,013	56	7	5	5	3	10	10
VIII. Leather workers, fur dressers	**229,791**	**181,740**	**−209**	**166,673**	**116,864**	**−299**	**63,118**	**64,876**	**28**	**12**	**9**	**13**	**8**	**11**	**10**
361 Boot and shoe makers and repairers (not factory)	64,113	37,557	−414	62,912	36,653	−417	1,201	904	−247	3	2	5	3	0	0
362-369 Other skilled workers (boot and shoe)	111,345	93,507	−160	67,107	47,920	−286	44,238	45,587	30	6	5	5	3	8	7
IX. Makers of textile goods and articles of dress	**657,748**	**561,383**	**−147**	**151,420**	**124,165**	**−180**	**506,328**	**437,218**	**−136**	**35**	**28**	**11**	**9**	**90**	**70**
X. Makers of foods, drinks and tobacco	**192,141**	**232,811**	**212**	**135,898**	**148,897**	**96**	**56,243**	**83,914**	**492**	**10**	**11**	**10**	**11**	**10**	**13**
420-426, 428-439 Makers of food (not sugar confectionery)	150,672	178,355	184	113,538	122,703	81	37,134	55,652	499	8	9	9	9	7	9
XI. Workers in wood, cane and cork	**449,029**	**446,583**	**− 5**	**441,942**	**433,321**	**− 20**	**7,087**	**13,262**	**871**	**24**	**22**	**33**	**31**	**1**	**2**
472 Carpenters, joiners	248,623	244,929	− 15	248,551	244,213	− 17	72	716	8,944	13	12	19	17	0	0
XII. Makers of, workers in, paper; printers	**252,257**	**242,783**	**− 38**	**159,121**	**161,725**	**16**	**93,136**	**81,058**	**−130**	**13**	**12**	**12**	**11**	**17**	**13**
520-531, 533, 539 Printers, book binders (not silk screen printers)	174,576	174,011	− 3	133,842	131,562	− 17	40,734	42,449	42	9	9	10	9	7	7
XIII. Makers of products (n.e.s.)	**90,333**	**125,197**	**386**	**57,946**	**84,507**	**458**	**32,387**	**40,690**	**256**	**5**	**6**	**4**	**6**	**6**	**6**
XIV. Workers in building and contracting	**646,307**	**841,865**	**303**	**645,929**	**840,475**	**301**	**378**	**1,390**	**2,677**	**34**	**41**	**49**	**60**	**0**	**0**
583 Bricklayers	118,299	141,852	199	118,299	141,699	198	—	153	—	6	7	9	10	—	0
XV. Painters and decorators	**255,527**	**308,954**	**209**	**242,263**	**298,566**	**232**	**13,264**	**10,388**	**−217**	**14**	**15**	**18**	**21**	**2**	**2**
XVI. Administrators, directors, managers (n.e.s.)	**381,123**	**452,049**	**186**	**354,620**	**406,190**	**145**	**26,503**	**45,859**	**730**	**20**	**22**	**27**	**29**	**5**	**7**

XVII. Persons employed in transport, etc.	1,634,745	1,533,823	— 62	1,565,846	1,403,722	−104	68,899	130,101	888	87	75	118	100	12	21
630-649 Railway transport workers	271,881	281,187	34	270,282	274,233	15	1,599	6,954	3,349	14	14	20	19	0	1
657, 658 Drivers of self-propelled passenger vehicles	131,452	147,791	124	130,359	145,611	117	1,093	2,180	995	7	7	10	10	0	0
659, 913 Lorry and civil engineering plant drivers	236,081	397,507	684	235,667	394,462	674	414	3,045	6,355	13	20	18	28	0	0
681 Dock labourers	108,812	72,341	—335	108,785	72,326	−335	27	15	−444	6	4	8	5	0	0
705 Telephone operators	32,961	79,906	1,424	5,355	16,751	2,128	27,606	63,155	1,288	2	4	0	1	5	10
706 Messengers	180,614	44,101	—756	164,755	41,806	−746	15,859	2,295	−855	10	2	12	3	3	0
XVIII. Commercial, finance, etc. (exc. clerical)	2,074,471	1,985,312	— 43	1,469,520	1,227,541	−165	604,951	757,771	253	110	98	111	87	108	121
710, 713 Owners, etc. of wholesale businesses; sales managers	81,973	117,433	433	79,250	111,868	412	2,723	5,565	1,044	4	6	6	8	0	1
715 Commercial travellers, canvassers	156,466	133,037	−150	147,552	127,201	−138	8,914	5,836	−345	8	7	11	9	2	1
720-729 Owners, etc. of retail businesses	569,127	546,161	— 40	419,537	389,424	— 72	149,590	156,737	48	30	27	32	28	27	25
730-739 Salesmen, shop assistants	865,305	811,216	— 63	456,573	266,131	−417	408,732	545,085	334	46	40	34	19	73	87
741, 742 Roundsmen, coal carmen	84,853	112,117	321	83,214	106,350	278	1,639	5,767	2,519	5	6	6	8	0	1
750-759 Persons employed in finance and insurance	129,153	137,497	65	124,840	130,386	44	4,313	7,111	649	7	7	9	9	1	1
XIX. Professional and technical (exc. clerical)	798,691	1,237,254	549	404,302	714,197	766	394,389	523,057	326	42	61	31	51	70	83
770-773 Nurses, student nurses	153,843	235,397	530	15,173	25,527	682	138,670	209,870	513	8	12	1	2	25	33
785 Teachers (not music)	261,271	301,679	155	79,465	119,270	501	181,806	182,409	3	14	15	6	8	32	29
786-791 Professional engineers, surveyors	35,790	107,988	2,017	35,585	107,442	2,019	205	546	1,663	2	5	3	8	0	0
794, 799 Industrial designers, draughtsmen	52,606	123,912	1,355	47,576	110,101	1,314	5,030	13,811	1,746	3	6	4	8	1	2
800-809 Scientific professions	28,291	109,473	2,870	25,612	88,452	2,454	2,679	21,021	6,847	2	5	2	6	0	4
XX. Persons employed in defence services	282,420	705,481	1,498	282,118	685,813	1,431	302	19,668	64,126	15	35	21	49	0	3
XXI. Persons engaged in entertainments and sport	113,438	103,879	— 84	91,129	82,140	— 99	22,309	21,739	— 26	6	5	7	6	4	3
XXII. Persons engaged in personal service	2,406,800	1,929,761	−198	472,506	465,624	— 15	1,934,294	1,464,137	−243	128	95	36	33	347	234
863-865 Owners, etc. of lodging houses, hotels, etc.	167,897	132,362	−212	77,551	73,371	— 54	90,346	58,991	−347	9	7	6	5	16	9
867 Waiters, waitresses, still room hands	95,292	101,891	69	24,777	21,031	−151	70,515	80,860	147	5	5	2	1	13	13
778, 873 Barbers, manicurists, chiropodists	82,919	87,868	60	49,283	38,315	−223	33,636	49,553	473	4	4	4	3	6	8
876 Charwomen, office cleaners	145,576	228,512	570	5,430	13,176	1,427	140,146	215,336	537	8	11	0	1	25	34
877, 878 Laundry workers, dry cleaners	143,240	127,338	—111	15,593	21,336	368	127,647	106,002	−170	8	6	1	2	23	17
882-885 Domestic servants (indoor)	1,413,450	789,821	—441	80,228	66,247	−174	1,333,222	723,574	−457	75	39	6	5	238	115
XXIII. Clerks, typists, etc.	1,281,781	2,132,135	663	711,172	861,679	212	570,609	1,270,456	1,226	68	105	54	61	102	204
712, 890, 894, 895 Clerks, accounting clerks, buyers	1,082,107	1,641,174	517	719,304	859,171	194	362,803	782,003	1,155	57	81	54	61	65	125
891, 892 Typists, secretaries	217,451	510,337	1,347	5,155	15,346	1,977	212,296	494,991	1,332	12	25	0	1	38	79
XXIV. Warehousemen, storekeepers, packers, etc.	391,698	529,501	352	244,702	348,305	423	146,996	181,196	233	21	26	18	25	26	29
901 Storekeepers	49,245	139,958	1,842	46,644	131,906	1,828	2,601	8,052	2,096	3	7	4	9	0	1
XXV. Stationary engine drivers, stokers, etc.	162,776	227,881	400	162,367	225,905	391	409	1,976	3,831	9	11	12	16	0	0
XXVI. Workers in unskilled occupations (n.e.s.)	1,490,160	1,497,379	5	1,292,190	1,118,942	−134	197,970	378,437	912	79	74	98	80	35	60
XXVII. Other and undefined workers	150,021	149,086	— 6	113,830	116,713	25	36,191	32,373	−105	8	7	9	8	6	5
XXVIII. Retired or not gainfully occupied	12,190,377	13,729,958	126	1,385,526	2,003,541	446	10,804,851	11,726,417	85						
980 Students in educational institutions	526,721	513,995	— 24	278,362	280,008	6	248,359	233,987	— 58						
X No gainful occupation stated	10,673,147	11,545,440	82	291,577	335,252	150	10,381,570	11,210,188	80						

Table 63.—Age and Status distributions of population in selected occupations and comparison with 1931

Occupation (1951 code numbers)	Sex	Total Occupied (thousands)		1931 Percentage distribution by Age				1951 Percentage distribution by Age				1931 Percentage distribution by Status				1951 Percentage distribution by Status				1951 Included in operatives		
		1931	1951	Under 25	25–44	45–64	65 and over	Under 25	25–44	45–64	65 and over	Employers and managers	Operatives	Working on own account	Out of work	Employers and managers	Operatives	Working on own account	Out of work	Articled clerks and apprentices	Part-time workers	Unpaid assistants
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s	t	u	v	w
All occupations	M	13,247·3	14,063·5	25	41	29	5	18	45	33	4	7	74	6	13	7	85	6	2	*2*	*0*	*0*
	F	5,606·0	6,272·9	46	35	16	3	33	39	26	2	2	83	6	9	3	91	4	2	*0*	*12*	*1*
010, 011 Farmers, farm foremen, etc.	M	247·5	272·4	2	37	47	14	4	38	46	12	59	4	36	1	38	6	56	0	—	*0*	*0*
013, 014, 015 Gardeners, nurserymen, seedsmen	M	216·6	174·4	17	32	37	14	10	32	44	14	5	74	16	5	5	77	16	2	*1*	*3*	*0*
013, 014 Market gardeners, etc. and foremen	*M*		*48·7*					*15*	*40*	*37*	*8*					*17*	*46*	*36*	*1*	*1*	*0*	*0*
015 Other gardeners	*M*		*125·7*					*8*	*29*	*47*	*16*					*0*	*90*	*8*	*2*	*1*	*4*	*0*
012, 019, 029 Other agricultural workers	M	624·6	425·6	36	34	23	7	31	39	25	5	0	91	2	7	0	97	1	2	*0*	*1*	*1*
	F	33·6	70·6	49	34	15	2	38	41	19	2	0	90	5	5	0	96	1	3	*0*	*11*	*17*
022 A gricultural machine owners, drivers	M	8·2	64·2	16	48	31	5	33	51	15	1	10	75	7	8	2	93	5	0	—	*0*	*0*
041, 042 Coalface coal getters; loaders	M	438·7	200·6	17	53	28	2	11	58	30	1	—	80	—	20	—	96	0	4	—	*0*	—
043 Conveyers of material to the shaft (coal mines)	M	159·9	75·4	58	30	11	1	27	42	28	3	—	87	—	13	—	99	—	1	—	*0*	—
044 Developing workings in rock (coal mines)	M		52·8					5	51	42	2					—	99	—	1	—	*0*	—
047 Other workers below ground (coal mines)	M		67·5					21	38	36	5					—	97	—	3	—	*0*	—
049 Other workers above ground (coal mines)	M	101·7	70·8	34	33	29	4	15	32	47	6	—	81	—	19	—	98	—	2	—	*0*	*0*
101-109 Skilled workers (chemicals)	M	29·0	66·5	18	54	*26	2	9	54	35	2	—	89	1	10	—	99	0	1	*0*	*0*	*0*
110-119 Foremen, overlookers (engineering, etc.)	M	45·9	121·1	2	49	46	3	1	50	47	2	—	96	—	4	—	100	—	0	—	*0*	*0*
131, 132 Moulders and core makers	M	70·4	66·4	28	41	28	3	17	55	25	3	—	73	0	27	0	99	0	1	*6*	*0*	*0*
135, 136, 138 Foundry labourers	M	36·7	45·7	26	39	31	4	9	50	36	5	—	74	—	26	—	98	—	2	—	*0*	*0*
145-149 Smiths and skilled forge workers	M	101·3	58·4	17	38	39	6	14	39	40	7	—	71	9	20	1	91	7	1	*4*	*0*	*0*
155-157 Coppersmiths, sheet metal workers, metal spinners	M	44·8	71·2	31	41	24	4	23	51	24	2	—	81	3	16	1	96	2	1	*8*	*0*	*0*
160, 162, 164 Platers, riveters, shipwrights	M	65·5	63·7	20	44	33	3	20	38	39	3	—	60	1	39	0	96	1	3	*12*	*0*	*0*
161, 163 Platers', riveters' labourers	M	15·3	13·7	36	36	25	3	13	45	39	3	—	53	—	47	—	96	—	4	—	*0*	*0*
171-177, 268 Turners, millers, machine setters, grinders, drillers	M	184·6	220·7	30	44	24	2	12	59	27	2	—	78	0	22	0	99	0	1	*3*	*0*	*0*
173 Turners (not brass)	*M*		*65·9*					*16*	*52*	*29*	*3*					*0*	*99*	*0*	*1*	*5*	*0*	*0*
176 Machine setters, setter operators	*M*		*107·4*					*10*	*65*	*24*	*1*					*0*	*99*	*0*	*1*	*2*	*0*	*0*
184 Motor and motor cycle mechanics	M		135·8					31	48	20	1					2	91	6	1	*14*	*0*	*0*
181-188 Fitters, machine erectors	M	384·5	673·8	31	46	21	2	25	47	26	2	—	82	3	15	1	96	2	1	*12*	*0*	*0*
189 Machine erectors', fitters', etc. mates	M	44·2	55·0	22	43	31	4	14	44	39	3	—	79	—	21	—	98	—	2	—	*0*	*0*
200 Plumbers (not chemical plumbers)	M	64·4	89·8	37	36	24	3	30	46	21	3	—	77	10	13	4	85	10	1	*18*	*0*	*0*
201 Plumbers' labourers	M	12·1	12·0	64	24	11	1	45	29	24	2	—	82	—	18	—	97	—	3	—	*0*	*0*
241, 242 Electrical fitters, electricians	M	110·9	201·8	38	46	15	1	33	46	20	1	—	85	4	11	1	95	3	1	*18*	*0*	*0*
231, 237, 239, 243, 249 Radio, telephone engineers, linemen, etc.	M	38·7	103·9	26	54	19	1	20	58	22	0	—	92	2	6	1	96	2	1	*3*	*0*	*0*
251-259 Inspectors, viewers, testers (engineering)	M		78·0					7	51	39	3					—	99	0	1	*0*	*0*	*0*
261 Oxy-acetylene or electric welders, etc.	M	11·5	61·4	32	56	12	0	20	63	17	0	—	82	1	17	0	98	1	1	*4*	*0*	*0*
271 Press workers and stampers, drawers	F	31·4	42·7	68	27	5	0	29	49	21	1	—	85	0	15	0	99	0	1	*0*	*15*	*0*
284 Carders, combers, drawers, etc.	F	66·2	34·0	36	48	15	1	19	48	32	1	—	76	—	24	—	99	0	1	—	*8*	*0*
291 Spinners, piecers	F	47·8	31·0	51	43	6	0	28	45	26	1	—	75	0	25	—	99	—	1	*0*	*8*	*0*
301,302 Winders, reelers, beamers, warpers	F	111·1	79·1	41	43	15	1	28	44	27	1	—	80	—	20	—	99	0	1	*0*	*12*	*0*
311, 312 Weavers	F	216·7	96·8	32	49	18	1	23	38	37	2	—	74	0	26	0	99	0	1	*0*	*9*	*0*
321 Hosiery frame tenters and knitters	F	33·6	26·8	55	37	7	1	47	35	17	1	—	89	2	9	0	97	2	1	—	*11*	*0*
331 Lookers, examiners, burlers, menders	F	33·0	36·9	43	43	13	1	31	39	28	2	—	92	0	8	0	98	1	1	—	*15*	*0*

501 Boot and shoe makers and repairers (not factory)	M	62·9	36·7	18	37	34	11	14	34	42	10	—	39	52	9	7	42	49	2	3	0	0
422-424 Bakers, dough mixers and ovenmen	M	78·1	71·4	36	37	23	4	16	47	32	5	—	80	9	11	10	78	10	2	4	0	0
	F	26·1	26·8	60	28	11	1	39	37	22	2	—	77	15	8	4	85	9	2	8	10	1
471, 472 Joiners and cabinet makers	M	294·0	275·6	33	33	28	6	26	45	24	5	—	76	7	17	1	92	5	2	14	0	0
477, 479, Sawyers, wood cutting machinists	M	50·7	56·0	30	39	27	4	21	48	28	3	—	82	1	17	0	98	1	1	4	0	0
511-519 Workers in paper and paperboard	F	45·8	30·3	63	28	8	1	46	34	19	1	—	93	0	7	0	98	1	1	0	11	0
520-531, 533, 539 Printers, book binders (not silk screen printers)	M	133·8	131·6	34	36	27	3	23	43	29	5	—	90	2	8	1	95	3	1	12	0	0
580 Foremen, gangers (building and contracting)	M	29·1	47·0	2	35	58	5	1	44	52	3	—	96	—	4	—	99	—	1	—	0	0
582 Builders' labourers	M	92·0	89·4	17	46	33	4	20	45	31	4	—	78	—	22	—	95	—	5	—	0	0
583 Bricklayers	M	118·3	141·7	28	33	33	6	19	53	24	4	—	84	3	13	0	97	2	1	11	0	0
584 Bricklayers' labourers	M	44·4	46·0	19	49	28	4	21	46	30	3	—	77	—	23	—	97	—	3	—	0	0
585 Plasterers	M	33·0	38·0	35	34	26	5	16	57	24	3	—	78	4	18	3	86	8	3	8	0	0
593 Platelayers	M	45·4	40·9	5	52	41	2	5	46	46	3	—	96	—	4	—	99	—	1	—	0	0
597 Builders	M		56·6					7	48	38	7					28	16	55	1	4	0	0
596, 599 Other workers (building and contracting)	M	172·4	289·5	10	46	38	6	14	42	40	4	—	84	0	16	—	95	0	5	—	0	0
601-609 Painters and decorators	M	239·1	288·9	24	38	33	5	16	48	32	4	—	77	9	14	2	86	9	3	6	0	0
610-623, 629 Administrators, directors, managers (not building)	M	295·1	367·7	3	43	46	8	2	46	46	6	79	20	—	1	65	35	0	0	—	0	—
631 Locomotive engine drivers	M	37·3	44·8	1	37	60	2	1	19	79	1	—	97	—	3	—	100	—	0	—	0	—
633 Locomotive engine firemen	M	33·2	36·6	3	94	3	0	47	49	4	0	—	98	—	2	—	100	—	0	—	0	—
639 Porters (including lampmen) (railway)	M	73·1	64·3	19	51	29	1	13	38	47	2	—	95	—	5	—	99	—	1	—	0	—
657 Drivers of buses and coaches	M		89·2					3	64	32	1					—	98	1	1	—	0	0
658 Drivers of other passenger vehicles	M		56·4					4	48	43	5					0	75	23	2	—	1	0
659, 913 Lorry and civil engineering plant drivers	M	235·7	394·5	27	60	13	0	11	62	26	1	—	85	5	10	0	95	3	2	—	0	0
660 Lorry drivers' mates, van guards, etc.	M	33·3	31·8	85	11	4	0	67	21	11	1	—	93	—	7	—	99	—	1	—	0	0
661 Bus and tram conductors	M	57·1	66·2	27	61	12	0	14	64	21	1	—	95	—	5	—	99	—	1	—	0	0
	F	1·4	17·8	73	26	1	0	31	63	6	0	—	91	—	9	—	99	—	1	—	1	0
681 Dock labourers	M	108·8	72·3	9	42	44	5	6	43	45	6	—	78	—	22	—	97	0	3	—	0	—
702 Postmen, post office sorters	M	69·9	83·4	11	51	37	1	7	47	44	2	—	98	—	2	—	99	—	1	—	2	—
705 Telephone operators	F	27·6	63·2	61	36	3	0	55	36	9	0	—	98	—	2	—	99	—	1	—	4	—
706 Messengers	M	164·8	41·8	91	4	4	1	35	17	40	8	—	94	0	6	—	98	0	2	—	1	—
708 Porters (n.e.s.)	M	66·3	42·4	28	37	30	5	13	37	42	8	—	81	3	16	—	96	1	3	—	1	—
710 Owners, etc. of wholesale businesses	M		89·3					3	41	45	11					75	0	24	1	—	0	0
715 Commercial travellers, canvassers	M	147·6	127·2	12	50	33	5	6	52	36	6	—	90	2	8	0	96	2	2	0	0	0
720-729 Owners, etc. of retail businesses	M	419·5	389·4	5	43	44	8	2	44	45	9	47	1	50	2	52	2	45	1	—	0	0
	F	149·6	156·7	5	36	47	12	3	35	50	12	28	1	70	1	37	3	60	0	—	1	0
730-734 Shop assistants (food goods)	M		140·4					30	47	20	3					—	98	—	2	3	1	1
	F		196·5					40	39	20	1					—	99	—	1	0	19	4
735-739 Shop assistants (non-food goods)	M		125·8					30	45	21	4					—	98	—	2	2	1	1
	F		348·6					50	32	17	1					—	98	—	2	1	13	2
741, 742 Roundsmen, coal carmen	M	83·2	106·4	44	43	12	1	22	55	22	1	—	93	1	6	0	98	1	1	—	0	0
751 Bankers, bank managers, inspectors	M	14·3	14·5	1	43	54	2	0	27	72	1	62	38	0	0	65	35	0	0	—	0	—
753 Insurance managers, underwriters	M	22·7	23·8	6	53	38	3	2	51	45	2	41	57	1	1	52	47	1	0	—	0	—
754, 755 Insurance brokers, agents, canvassers	M	57·2	56·8	13	50	34	3	5	54	39	2	2	90	2	6	3	94	2	1	—	0	—
760 Clergymen (Church of England)	M	20·0	16·6	1	29	50	20	0	39	42	19	2	95	3	0	1	87	12	0	—	0	—
765 Solicitors	M	15·8	19·7	4	36	43	17	11	51	26	12	65	21	13	1	42	41	16	1	13	0	—
766, 767 Registered medical practitioners	M	26·5	36·2	2	50	38	10	3	55	35	7	14	26	59	1	11	52	36	1	—	1	—
768 Dental practitioners	M	11·1	10·7	3	56	36	5	3	35	50	12	34	17	48	1	39	22	38	1	—	0	—
770 Trained nurses, midwives	F		130·2					18	52	28	2					4	92	2	2	—	10	0
771 Assistant nurses	F		14·9					17	56	26	1					—	98	—	2	—	20	—
772 Student nurses	F		45·7					85	15	0	0					—	99	—	1	—	0	—
773 Nursery nurses	F		19·1					60	26	13	1					3	93	0	4	—	2	—
780, 785 Teachers	M	84·3	122·0	12	50	35	3	6	63	29	2	2	90	7	1	10	87	2	1	—	1	—
	F	199·6	191·2	19	52	27	2	17	44	37	2	2	86	10	2	7	88	4	1	—	6	—
786 Civil, structural engineers	M		22·5					14	52	30	4					8	88	3	1	4	0	—
791 Surveyors	M		31·0					22	53	22	3					6	89	4	1	7	0	—
787-789 Mechanical, electrical, chemical engineers	M	11·1	50·2	6	53	38	3	11	54	32	3	9	82	6	3	4	92	3	1	4	0	—
794, 799, Draughtsmen, industrial designers	M	47·6	110·1	37	49	13	1	36	50	13	1	1	92	1	6	0	98	1	1	10	0	—
800, 801 Chemists, metallurgists	M	14·5	24·7	28	57	13	2	23	57	19	1	3	89	2	6	2	96	1	1	—	0	—
804 Laboratory assistants, technicians	M		47·6					42	42	15	1					—	99	—	1	—	0	—
	F		16·6					66	27	7	0					—	99	—	1	—	3	—
810 Qualified accountants	M	27·2	31·9	50	32	15	3	23	46	27	4	20	73	6	1	23	66	10	1	23	0	—

Table 63.—Age and Status distributions of population in selected occupations and comparison with 1931 —*continued*

Occupation (1951 code numbers)	Sex	Total Occupied (thousands)		1931 Percentage distribution by Age				1951 Percentage distribution by Age				1931 Percentage distribution by Status				1951 Percentage distribution by Status						
																				Included in operatives		
		1931	1951	Under 25	25–44	45–64	65 and over	Under 25	25–44	45–64	65 and over	Employers and managers	Operatives	Working on own account	Out of work	Employers and managers	Operatives	Working on own account	Out of work	Articled clerks and apprentices	Part-time workers	Unpaid assistants
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s	t	u	v	w
820, 822, 824 Armed forces—commissioned officers	M	15·1	42·2	22	58	19	1	17	68	15	0	—	100	—	—	—	100	—	—	—	—	—
821, 823, 825 Armed forces—other ranks	M	165·9	485·4	55	43	2	0	78	21	1	0	—	100	—	—	—	100	—	—	—	—	—
831 Police—other ranks	M	61·2	69·5	13	73	14	0	14	64	22	0	—	100	—	0	—	100	—	0	—	*0*	—
833 Watchmen	M	30·5	40·2	1	21	55	23	0	10	58	32	—	79	—	21	—	93	—	7	—	*4*	*0*
862 Proprietors and managers of restaurants	M	26·1	39·8	4	45	45	6	2	46	47	5	43	3	51	3	56	0	42	2	—	*0*	*0*
	F	19·6	42·9	5	48	42	5	4	45	47	4	55	3	39	3	68	2	28	2	—	*2*	*1*
863 Lodging and boarding house keepers	F	68·7	32·3	1	19	58	22	1	28	55	16	19	2	79	0	13	2	85	0	—	*0*	*2*
865 Publicans, beersellers, innkeepers	M		50·9					0	30	58	12					46	0	53	1	—	*0*	*0*
866 Barmaids	F	27·7	29·2	43	47	10	0	8	48	41	3	—	87	—	13	—	97	—	3	—	*26*	*4*
867 Waitresses, still room hands	F	70·5	80·9	55	40	5	0	28	46	25	1	—	86	0	14	—	96	0	4	—	*20*	*1*
868 Restaurant counter hands	F	15·0	28·7	53	36	10	1	22	46	30	2	—	92	—	8	—	98	—	2	—	*23*	*3*
873, 778 Barbers, manicurists, chiropodists	M	49·3	38·3	34	37	26	3	9	49	35	7	17	47	30	6	15	40	43	2	*2*	*1*	*0*
	F	33·6	49·6	68	27	5	0	51	36	12	1	7	67	22	4	8	66	24	2	*14*	*6*	*1*
875 Caretakers, office keepers	M	31·7	41·6	2	30	54	14	1	23	62	14	—	96	0	4	—	98	—	2	—	*4*	*0*
876 Office cleaners	F	140·1	215·3	6	38	49	7	2	36	56	6	—	92	1	7	—	99	—	1	—	*48*	*0*
877, 878 Laundry workers, dry cleaners	F	127·6	106·0	50	28	19	3	27	42	28	3	3	86	5	6	4	94	1	1	—	*15*	*0*
882 Cooks	F		122·0					8	38	49	5					1	97	0	2	*0*	*7*	*0*
883 Kitchen hands	F		170·6					11	42	44	3					—	98	—	2	—	*30*	*0*
884 Chambermaids, house, etc. maids	F		57·6					33	37	27	3					—	98	—	2	—	*6*	*0*
885 Other domestic servants (indoor)	F		373·5					16	34	42	8					—	97	0	3	—	*21*	*0*
891, 892 Typists, secretaries	F	212·3	495·0	57	39	4	0	54	35	11	0	—	95	0	5	0	99	0	1	—	*6*	*0*
891 Shorthand typists, secretaries	*F*		*380·2*					*52*	*36*	*12*	*0*					*0*	*99*	*0*	*1*	—	*6*	*0*
892 Typists	*F*		*114·8*					*63*	*30*	*7*	*0*					*0*	*99*	*0*	*1*	—	*6*	*0*
890, 894, 895, 712 Clerks, accounting clerks, buyers	M	719·3	859·2	35	44	19	2	20	46	31	3	0	94	0	6	0	99	0	1	—	*0*	*0*
	F	362·8	782·0	56	38	6	0	46	36	17	1	0	96	0	4	0	99	0	1	—	*6*	*0*
894 Other office machine operators	*F*		*69·9*					*64*	*32*	*4*	*0*					—	*99*	*0*	*1*	—	*3*	*0*
895 Costing and accounting clerks	*F*		*196·2*					*43*	*38*	*18*	*1*					*0*	*99*	*0*	*1*	—	*7*	*0*
900 Warehousemen	M	103·7	97·2	22	42	32	4	12	42	40	6	3	86	0	11	3	96	0	1	*0*	*0*	*0*
901 Storekeepers	M	46·6	131·9	16	45	35	4	9	40	46	5	—	90	—	10	2	97	—	1	—	*0*	*0*
902 Warehouse and storekeepers' assistants	M	33·4	47·3	55	27	16	2	22	34	39	5	—	93	—	7	—	98	—	2	—	*0*	*0*
903-909 Packers and bottlers	M	60·9	71·9	32	40	25	3	15	41	39	5	—	87	0	13	—	99	—	1	*0*	*0*	*0*
	F	113·5	143·0	74	23	3	0	38	39	22	1	—	91	0	9	—	99	—	1	*0*	*14*	*0*
915 Boiler firemen and stokers	M	49·6	71·7	6	47	43	4	3	39	52	6	—	86	—	14	—	98	—	2	—	*0*	*0*
930-950 Workers in unskilled occupations (n.e.s.)	M	1,292·2	1,118·9	25	41	30	4	16	40	38	6	—	72	0	28	—	96	0	4	—	*0*	*0*
930 Assemblers (n.e.s.)	F		65·6					31	50	19	0					—	99	0	1	—	*15*	*0*
931 Machine minders (engineering etc.)	*M*		*90·5*					*20*	*56*	*23*	*1*					—	*99*	—	*1*	—	*0*	*0*
	F		58·9					31	53	16	0					—	99	—	1	—	*10*	*0*

The share of the total occupied taken by Order XXII (persons engaged in personal service) declined from 13 per cent to 9 per cent between 1931 and 1951. The numbers in this occupation Order declined from 2,406,800 to 1,929,761—a fall of 20 per cent. Amongst the occupation groups of this Order identified in Table 62 indoor domestic servants showed the greatest fall. Certain occupations within this Order showed increases during the 1931-51 period, such as waitresses, hairdressers, and particularly charwomen and office cleaners.

Other occupation Orders to show a fall in their share of the total occupied between 1931 and 1951 were leather workers and fur dressers (Order VIII), workers in wood, cane and cork (Order XI), makers of and workers in paper and printing (Order XII) and persons engaged in entertainments and sport (Order XXI).

Occupations by age and industrial status

Table 63 shows the age and status distributions of the population in selected occupations for 1951 and 1931. The principles followed in the selection of occupations for this table were to limit selection in the first instance to occupation units or groups of units having more than 30,000 males or 18,000 females. Exceptions to these criteria were made to identify two grades of the same job—for example plumbers and plumbers' labourers—and also in the case of certain occupations falling into Social Class I. Occupations having dissimilar age distributions were not combined. The age-groups shown are, under 25, 25-44, 45-64 and 65 and over; and the status groups, employers and managers, operatives, working on own account, and out of work are identified for both censuses, while articled clerks and apprentices, part-time workers and unpaid assistants who are included in the operatives are identified separately for 1951. Attention will be drawn to distributions by age and industrial status for individual occupation groups in later sections dealing with the main occupations.

Occupations of young persons

The numbers of persons under 25 in various occupations in 1951 and 1931 are shown by Table 64. Those occupied at ages under 25 are split into age-groups 15, 16, 17, 18-19, and 20-24 for 1951 and 14-15, 16-17, 18-20 and 21-24 for 1931 and for each selected occupation the numbers at each age are shown as a percentage of the total occupied at each age. The selection of occupations was based on the list of occupations in Occupation Table 22, modified to aid comparison with 1931.

The number of occupied males under 25 fell from 3,328,516 in 1931 to 2,471,825 in 1951, a decrease of 26 per cent; for females there was a decrease of 21 per cent from 2,621,440 to 2,059,859. Given the same extent of employment and ignoring migration, a decline in numbers of about one quarter would have been expected as a result of the fall in births between 1906 and 1936 and the reduction in the size of the surviving generations coming into the age-group 14 to 24 between the two censuses. A further fall would be expected as a consequence of the raising of the minimum school leaving age from 14 to 15 in 1947.

Comparison with the total population shows there had been a slight decrease in the employment of males at ages 16 to 17 (from 89 to 85 per cent) and at ages 18 to 24 (from 97 to 94 per cent); and a slight increase in the employment of young females at ages 16 to 17 (from 76 to 81 per cent). At ages 18 to 24, at both censuses 71 per cent of females were occupied.

(*i*) *Males*

Of the occupied males aged under 25 the largest proportion were occupied in metal manufacture and engineering. This occupation Order accounted for 18 per cent of the occupied males under 25, as compared with 16 per cent of all occupied males of all ages. Of these 443,015 young men, 174,266 were classified as apprentices. The proportion of young men had risen considerably since 1931 at all ages apart from 18-19 where the rather small rise was due to the absence of young men on national service.

The occupation Order which accounted for the next highest proportion of young occupied males at ages under 25 was defence services with 16 per cent compared with only 5 per cent of occupied males at all ages. At ages 18-19 this Order accounted for 43 per cent of all occupied males, the numbers being small at ages 15 to 17, and declining rapidly to 13 per cent at ages 20-24. The contrast with 1931, when the numbers gradually increased with age but even at ages 21-24 were only 4 per cent of all occupied males of that age, is clear. This great change is mainly attributable to the effect of national service.

The next largest group of males under 25 were found in agricultural occupations. This Order accounted for 8 per cent of those aged under 25, the proportion declining from 9 per cent of those

Table 64.—Occupations of Persons under 25 and comparison with 1931

Occupation	1951											1931									
	Total aged under 25	Numbers at age					Percentage distribution of total occupied at each age by occupation					Total aged under 25	Numbers at age				Percentage distribution of total occupied at each age by occupation				
		15	16	17	18–19	20–24	Under 25	15	16–17	18–19	20–24		14–15	16–17	18–20	21–24	Under 25	14–15	16–17	18–20	21–24
MALES Total Occupied	**2,471,825**	**180,345**	**222,311**	**239,687**	**474,759**	**1,354,723**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**3,328,516**	**404,236**	**617,504**	**981,366**	**1,325,410**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
II. Agricultural, etc. occupations	**186,323**	**16,822**	**19,968**	**21,059**	**37,002**	**91,472**	**7·5**	**9·3**	**8·9**	**7·8**	**6·8**	**268,933**	**39,088**	**54,028**	**78,426**	**97,391**	**8·1**	**9·7**	**8·7**	**8·0**	**7·3**
III. Mining and quarrying occupations	**77,510**	**6,017**	**7,086**	**7,971**	**13,961**	**42,475**	**3·1**	**3·3**	**3·3**	**2·9**	**3·1**	**242,085**	**29,201**	**48,713**	**67,959**	**96,212**	**7·3**	**7·2**	**7·9**	**6·9**	**7·3**
1. In coal mines	73,193	5,769	6,734	7,536	13,532	39,622	3·0	3·2	3·1	2·9	2·9	228,560	28,279	46,785	64,161	89,335	6·9	7·0	7·6	6·5	6·7
041, 042 Coalface coal getters; loaders	*21,322*	*781*	*1,114*	*1,318*	*3,229*	*14,880*	*0·9*	*0·4*	*0·5*	*0·7*	*1·1*	*75,427*	*5,944*	*11,437*	*19,396*	*38,650*	*2·3*	*1·5*	*1·9*	*2·0*	*2·9*
043 Conveyers of material to the shaft	*20,727*	*615*	*1,921*	*2,432*	*5,083*	*10,676*	*0·8*	*0·3*	*0·9*	*1·1*	*0·8*	*92,535*	*11,687*	*22,895*	*29,206*	*28,747*	*2·8*	*2·9*	*3·7*	*3·0*	*2·2*
044, 045, 047 Other workers below ground	*19,731*	*1,962*	*2,027*	*2,301*	*3,551*	*9,890*	*0·8*	*1·1*	*0·9*	*0·7*	*0·7*	*24,809*	*2,461*	*4,080*	*6,686*	*11,582*	*0·7*	*0·6*	*0·7*	*0·7*	*0·9*
049 Other workers above ground	*10,838*	*2,406*	*1,649*	*1,441*	*1,587*	*3,755*	*0·4*	*1·3*	*0·7*	*0·3*	*0·3*	*34,827*	*8,186*	*8,308*	*8,679*	*9,654*	*1·0*	*2·0*	*1·3*	*0·9*	*0·7*
IV. Workers in ceramics, glass, cement, etc.	**13,603**	**1,137**	**1,562**	**1,566**	**1,543**	**7,795**	**0·6**	**0·6**	**0·7**	**0·3**	**0·6**	**22,698**	**1,979**	**4,111**	**7,109**	**9,499**	**0·7**	**0·5**	**0·7**	**0·7**	**0·7**
VI. Workers in metal manufacture, engineering	**443,015**	**38,472**	**48,500**	**49,251**	**67,975**	**238,817**	**17·9**	**21·3**	**21·2**	**14·3**	**17·6**	**434,463**	**42,231**	**91,107**	**137,923**	**163,202**	**13·1**	**10·4**	**14·8**	**14·1**	**12·3**
8. Platers, riveters, shipwrights	14,739	1,128	1,672	1,701	2,717	7,521	0·6	0·6	0·7	0·6	0·6	18,410	1,989	4,411	5,984	6,026	0·6	0·5	0·7	0·6	0·5
10. Fitters, machine erectors	173,502	17,258	20,553	20,313	28,060	87,318	7·0	9·6	8·8	5·9	6·4	127,958	12,389	28,563	42,133	44,873	3·8	3·1	4·6	4·3	3·4
184 Motor and motor cycle mechanics	*42,653*	*5,396*	*5,443*	*4,960*	*5,859*	*20,995*	*1·7*	*3·0*	*2·3*	*1·2*	*1·5*										
188 Other fitters	*17,525*	*1,821*	*2,254*	*2,197*	*2,757*	*8,496*	*0·7*	*1·0*	*1·0*	*0·6*	*0·6*										
12. Plumbers, pipe fitters, etc.	40,837	3,938	5,092	5,499	8,113	18,195	1·7	2·2	2·3	1·7	1·3	40,266	3,924	8,385	12,806	15,151	1·2	1·0	1·4	1·3	1·1
16. Electrical apparatus makers, etc.	88,043	7,073	9,662	10,190	14,896	46,222	3·6	3·9	4·3	3·1	3·4										
242 Electricians (house, ship, factory)	*43,810*	*3,869*	*5,239*	*5,102*	*7,870*	*21,730*	*1·8*	*2·1*	*2·2*	*1·7*	*1·6*										
VII. Textile workers	**26,730**	**2,992**	**3,479**	**3,273**	**2,782**	**14,204**	**1·1**	**1·7**	**1·5**	**0·6**	**1·0**	**75,382**	**6,517**	**12,667**	**22,835**	**33,363**	**2·3**	**1·6**	**2·1**	**2·3**	**2·5**
VIII. Leather workers, fur dressers	**17,447**	**1,831**	**2,271**	**2,082**	**1,961**	**9,302**	**0·7**	**1·0**	**0·9**	**0·4**	**0·7**	**41,313**	**6,025**	**8,128**	**11,861**	**15,299**	**1·2**	**1·5**	**1·3**	**1·2**	**1·2**
IX. Makers of textile goods and articles of dress	**23,271**	**3,176**	**3,628**	**3,500**	**3,159**	**9,808**	**0·9**	**1·8**	**1·5**	**0·7**	**0·7**	**45,167**	**5,440**	**9,602**	**13,738**	**16,387**	**1·4**	**1·3**	**1·6**	**1·4**	**1·2**
1. Garment workers	12,919	1,687	1,946	1,791	1,520	5,975	0·5	0·9	0·8	0·3	0·4										
381, 382 Cutters	*4,765*	*581*	*739*	*696*	*439*	*2,310*	*0·2*	*0·3*	*0·3*	*0·1*	*0·2*	*5,681*	*499*	*1,015*	*1,787*	*2,380*	*0·2*	*0·1*	*0·2*	*0·2*	*0·2*
3. Upholsterers, etc., bedding makers	7,934	1,191	1,355	1,377	1,289	2,722	0·3	0·7	0·6	0·3	0·2										
X. Makers of foods, drinks and tobacco	**22,069**	**2,258**	**2,529**	**2,603**	**2,123**	**12,556**	**0·9**	**1·3**	**1·1**	**0·4**	**0·9**	**40,043**	**3,781**	**7,427**	**12,324**	**16,511**	**1·2**	**0·9**	**1·2**	**1·3**	**1·2**
XI. Workers in wood, cane and cork	**104,338**	**10,715**	**13,396**	**13,651**	**19,353**	**47,223**	**4·2**	**5·9**	**5·9**	**4·1**	**3·5**	**137,120**	**13,397**	**25,103**	**43,403**	**55,217**	**4·1**	**3·3**	**4·1**	**4·4**	**4·2**
471 Cabinet makers	*8,709*	*1,388*	*1,543*	*1,382*	*1,294*	*3,102*	*0·4*	*0·8*	*0·6*	*0·3*	*0·2*	*19,973*	*2,494*	*4,235*	*6,500*	*6,744*	*0·6*	*0·6*	*0·7*	*0·7*	*0·5*
476 Pattern makers (wood or undefined)	*5,300*	*580*	*624*	*623*	*1,340*	*2,133*	*0·2*	*0·3*	*0·3*	*0·3*	*0·2*	*4,412*	*435*	*1,001*	*1,502*	*1,474*	*0·1*	*0·1*	*0·2*	*0·2*	*0·1*
XII. Makers of, workers in, paper; printers	**35,949**	**4,407**	**5,821**	**5,799**	**4,918**	**15,004**	**1·5**	**2·4**	**2·5**	**1·0**	**1·1**	**52,114**	**6,309**	**11,171**	**15,927**	**18,707**	**1·6**	**1·6**	**1·8**	**1·6**	**1·4**
3. Printers, bookbinders	31,117	3,989	5,185	5,129	4,522	12,292	1·3	2·2	2·2	1·0	0·9										
XIII. Makers of products (n.e.s.)	**16,641**	**1,361**	**2,183**	**2,474**	**2,072**	**8,551**	**0·7**	**0·8**	**1·0**	**0·4**	**0·6**	**17,749**	**1,785**	**3,394**	**5,376**	**7,194**	**0·5**	**0·4**	**0·5**	**0·5**	**0·5**
XIV. Workers in building and contracting	**123,541**	**6,443**	**9,298**	**11,093**	**17,284**	**79,423**	**5·0**	**3·6**	**4·4**	**3·6**	**5·9**	**113,055**	**5,191**	**12,634**	**30,993**	**64,237**	**3·4**	**1·3**	**2·0**	**3·2**	**4·8**
583 Bricklayers	*27,075*	*2,455*	*3,490*	*3,104*	*5,804*	*12,222*	*1·1*	*1·4*	*1·4*	*1·2*	*0·9*	*33,018*	*1,410*	*3,703*	*9,575*	*18,330*	*1·0*	*0·3*	*0·6*	*1·0*	*1·4*
XV. Painters and decorators	**47,156**	**3,893**	**5,490**	**6,283**	**8,168**	**23,322**	**1·9**	**2·2**	**2·5**	**1·7**	**1·7**	**57,061**	**4,982**	**9,613**	**17,040**	**25,426**	**1·7**	**1·2**	**1·6**	**1·7**	**1·9**
XVII. Persons employed in transport, etc.	**177,231**	**14,604**	**16,104**	**16,252**	**12,955**	**117,316**	**7·2**	**8·1**	**7·0**	**2·7**	**8·7**	**398,743**	**110,207**	**72,854**	**84,345**	**131,337**	**12·0**	**27·3**	**11·8**	**8·6**	**9·9**
1. Railway transport workers	39,743	2,045	3,251	4,094	2,256	28,097	1·6	1·1	1·6	0·5	2·1	25,867	660	3,494	7,350	14,363	0·8	0·2	0·6	0·7	1·1
2. Road transport workers	80,310	4,668	5,585	5,546	4,365	60,146	3·2	2·6	2·4	0·9	4·4										
659, 660 Lorry drivers and mates; van guards	*62,470*	*4,523*	*5,403*	*5,286*	*3,787*	*43,471*	*2·5*	*2·5*	*2·3*	*0·8*	*3·2*										
5. Other workers in communications, etc.	30,308	7,168	5,471	3,996	1,976	11,697	1·2	4·0	2·0	0·4	0·9										
706 Messengers	*14,573*	*6,549*	*4,343*	*2,572*	*619*	*490*	*0·6*	*3·6*	*1·5*	*0·1*	*0·0*	*149,577*	*95,607*	*41,784*	*10,479*	*1,707*	*4·5*	*23·7*	*6·8*	*1·1*	*0·1*
XVIII. Commercial, finance, etc. occupations	**135,124**	**13,263**	**16,100**	**15,101**	**10,863**	**79,797**	**5·5**	**7·4**	**6·8**	**2·3**	**5·9**	**372,818**	**41,210**	**72,669**	**108,576**	**150,363**	**11·2**	**10·2**	**11·8**	**11·1**	**11·3**
1. Commercial occupations	129,764	13,251	16,005	14,879	10,457	75,172	5·2	7·3	6·7	2·2	5·5	362,045	41,205	72,374	106,639	141,827	10·9	10·2	11·7	10·9	10·7
730-739 Salesmen, shop assistants	79,516	10,614	12,849	11,374	7,134	37,545	3·2	5·9	5·2	1·5	2·8	256,653	32,527	58,954	80,875	84,297	7·7	8·0	9·5	8·2	6·4
730 Grocery, provisions	*18,418*	*3,022*	*3,281*	*2,758*	*1,477*	*7,880*	*0·7*	*1·7*	*1·3*	*0·3*	*0·6*										
731-734 Other food goods	*23,250*	*2,834*	*3,662*	*3,229*	*2,062*	*11,463*	*0·9*	*1·6*	*1·5*	*0·4*	*0·8*										
735-739 Non-food goods	*37,848*	*4,758*	*5,906*	*5,387*	*3,595*	*18,202*	*1·6*	*2·6*	*2·4*	*0·8*	*1·4*										
XIX. Professional and technical occupations	**118,316**	**2,323**	**6,419**	**11,143**	**18,885**	**79,546**	**4·8**	**1·3**	**3·8**	**4·0**	**5·9**	**69,555**	**1,800**	**8,515**	**21,065**	**38,175**	**2·1**	**0·4**	**1·4**	**2·1**	**2·9**
799 Draughtsmen (n.e.s.)	*38,608*	*1,292*	*2,709*	*3,862*	*6,249*	*24,496*	*1·6*	*0·7*	*1·4*	*1·3*	*1·8*										
804 Laboratory assistants, technicians	*19,821*	*538*	*1,693*	*2,858*	*3,659*	*11,073*	*0·8*	*0·3*	*1·0*	*0·8*	*0·8*										
XX. Persons employed in defence services	**399,611**	**2,112**	**5,215**	**9,501**	**203,611**	**179,172**	**16·2**	**1·2**	**3·2**	**42·9**	**13·2**	**103,260**	**1,787**	**7,186**	**43,320**	**50,967**	**3·1**	**0·4**	**1·2**	**4·4**	**3·8**
XXI. Persons engaged in entertainments and sport	**14,270**	**1,297**	**1,788**	**1,824**	**1,695**	**7,666**	**0·6**	**0·7**	**0·8**	**0·4**	**0·6**	**19,993**	**1,633**	**3,300**	**5,649**	**9,411**	**0·6**	**0·4**	**0·5**	**0·6**	**0·7**
847 Cinematograph operators	*6,161*	*782*	*1,114*	*1,024*	*791*	*2,450*	*0·2*	*0·4*	*0·5*	*0·2*	*0·2*										
XXII. Persons engaged in personal service	**35,906**	**2,535**	**3,292**	**3,467**	**3,865**	**22,747**	**1·5**	**1·4**	**1·5**	**0·8**	**1·7**	**99,368**	**11,950**	**17,984**	**29,287**	**40,147**	**3·0**	**3·0**	**2·9**	**3·0**	**3·0**
XXIII. Clerks, typists, etc.	**174,389**	**10,814**	**18,361**	**24,642**	**15,024**	**105,548**	**7·1**	**6·0**	**9·3**	**3·2**	**7·8**	**254,213**	**13,230**	**49,334**	**90,501**	**101,148**	**7·6**	**3·3**	**8·0**	**9·2**	**7·6**
XXIV. Warehousemen, storekeepers, packers, etc.	**44,533**	**4,495**	**4,796**	**4,450**	**3,599**	**27,193**	**1·8**	**2·5**	**2·0**	**0·8**	**2·0**	**68,311**	**7,759**	**14,017**	**21,353**	**25,182**	**2·1**	**1·9**	**2·3**	**2·2**	**1·9**
902 Warehouse and storekeepers' assistants	*10,560*	*2,189*	*1,808*	*1,415*	*832*	*4,316*	*0·4*	*1·2*	*0·7*	*0·2*	*0·3*	*18,272*	*4,544*	*5,672*	*4,776*	*3,280*	*0·5*	*1·1*	*0·9*	*0·5*	*0·2*
XXVI. Workers in unskilled occupations (n.e.s.)	**179,370**	**20,495**	**20,820**	**18,940**	**16,614**	**102,501**	**7·3**	**11·4**	**8·6**	**3·5**	**7·6**	**324,664**	**40,795**	**63,286**	**93,781**	**126,802**	**9·8**	**10·1**	**10·2**	**9·6**	**9·6**
XXVIII. Retired or not gainfully occupied	**290,702**	**99,082**	**54,767**	**29,041**	**35,307**	**72,505**						**388,476**	**226,842**	**78,609**	**46,798**	**36,227**					
980 Students in educational institutions	*264,712*	*94,612*	*51,997*	*26,199*	*28,345*	*53,659*						*271,709*	*163,605*	*57,808*	*30,864*	*19,432*					

FEMALES Total Occupied	2,059,859	165,958	207,231	227,401	476,978	982,291	100·0	100·0	100·0	100·0	100·0	2,621,440	316,352	532,175	831,756	941,157	100·0	100·0	100·0	100·0	100·0
II. Agricultural, etc. occupations	**29,534**	**1,710**	**2,557**	**2,949**	**7,022**	**15,296**	**1·4**	**1·0**	**1·3**	**1·5**	**1·6**	**18,574**	**2,057**	**3,892**	**6,076**	**6,549**	**0·7**	**0·7**	**0·7**	**0·7**	**0·7**
VI. Workers in metal manufacture, engineering	**55,082**	**2,611**	**3,500**	**4,433**	**12,395**	**32,143**	**2·7**	**1·6**	**1·8**	**2·6**	**3·3**	**91,477**	**9,478**	**19,783**	**30,093**	**32,123**	**3·5**	**3·0**	**3·7**	**3·6**	**3·4**
VII. Textile workers	**99,375**	**9,790**	**11,557**	**11,953**	**23,935**	**42,140**	**4·8**	**5·9**	**5·4**	**5·0**	**4·3**	**233,244**	**22,082**	**42,086**	**72,885**	**96,191**	**8·9**	**7·0**	**7·9**	**8·8**	**10·2**
1. Openers, sorters, blenders, carders, etc.	6,882	487	739	695	1,571	3,390	0·3	0·3	0·3	0·3	0·3	24,600	1,549	3,183	7,581	12,287	0·9	0·5	0·6	0·9	1·3
2. Spinners, doublers	12,027	778	1,234	1,379	2,902	5,734	0·6	0·5	0·6	0·6	0·6										
3. Winders, warpers, sizers, drawers-in	22,767	2,258	2,433	2,531	5,421	10,124	1·1	1·4	1·1	1·1	1·0										
4. Weavers	22,672	2,155	2,574	2,882	5,537	9,524	1·1	1·3	1·3	1·2	1·0										
5. Knitters	12,641	1,747	1,739	1,667	3,141	4,347	0·6	1·1	0·8	0·7	0·4										
6. Bleachers, dyers, finishers	19,126	2,068	2,424	2,382	4,520	7,732	0·9	1·2	1·1	0·9	0·8										
VIII. Leather workers, fur dressers	**19,629**	**1,731**	**1,965**	**2,102**	**4,505**	**9,326**	**1·0**	**1·0**	**0·9**	**0·9**	**0·9**	**34,276**	**5,645**	**6,846**	**10,233**	**11,552**	**1·3**	**1·8**	**1·3**	**1·2**	**1·2**
IX. Makers of textile goods and articles of dress	**176,692**	**21,421**	**22,479**	**20,931**	**44,415**	**67,446**	**8·6**	**12·9**	**10·0**	**9·3**	**6·9**	**259,291**	**41,907**	**54,726**	**76,826**	**85,832**	**9·9**	**13·2**	**10·3**	**9·2**	**9·1**
1. Garment workers	153,936	19,167	19,768	18,293	38,434	58,274	7·5	11·5	8·8	8·1	5·9										
386 Machinists	*93,112*	*11,354*	*12,146*	*11,000*	*23,316*	*35,296*	*4·5*	*6·8*	*5·3*	*4·9*	*3·6*										
2. Hat and cap makers, milliners (makers)	2,156	197	261	282	549	867	0·1	0·1	0·1	0·1	0·1										
3. Upholsterers, etc., bedding makers	6,660	556	743	747	1,724	2,890	0·3	0·3	0·3	0·4	0·3										
X. Makers of foods, drinks and tobacco	**31,971**	**3,311**	**4,025**	**3,903**	**7,489**	**13,243**	**1·6**	**2·0**	**1·8**	**1·6**	**1·3**	**32,650**	**4,124**	**6,813**	**10,678**	**11,035**	**1·2**	**1·3**	**1·3**	**1·3**	**1·2**
XII. Makers of, workers in, paper; printers	**38,175**	**4,273**	**5,041**	**4,780**	**10,104**	**13,977**	**1·9**	**2·6**	**2·3**	**2·1**	**1·4**	**59,971**	**9,883**	**14,432**	**18,009**	**17,647**	**2·3**	**3·1**	**2·7**	**2·2**	**1·9**
XVII. Persons employed in transport, etc.	**50,059**	**3,132**	**4,411**	**5,179**	**10,645**	**26,692**	**2·4**	**1·9**	**2·2**	**2·2**	**2·7**	**38,877**	**11,275**	**6,837**	**9,628**	**11,137**	**1·5**	**3·6**	**1·3**	**1·2**	**1·2**
705 Telephone operators	*34,519*	*2,145*	*3,559*	*4,305*	*7,655*	*16,855*	*1·7*	*1·3*	*1·8*	*1·6*	*1·7*	*16,927*	*511*	*2,214*	*6,415*	*7,787*	*0·6*	*0·2*	*0·4*	*0·8*	*0·8*
XVIII. Commercial, finance, etc. occupations	**268,063**	**33,165**	**35,087**	**32,686**	**56,260**	**110,865**	**13·0**	**20·0**	**15·6**	**11·8**	**11·3**	**284,123**	**32,801**	**59,041**	**91,126**	**101,155**	**10·8**	**10·4**	**11·1**	**11·0**	**10·7**
1. Commercial occupations	267,734	33,162	35,075	32,671	56,222	110,604	13·0	20·0	15·6	11·8	11·3	283,811	32,793	59,020	91,058	100,940	10·8	10·4	11·1	10·9	10·7
730-739 Saleswomen, shop assistants	251,583	32,591	34,131	31,452	53,190	100,219	12·2	19·6	15·1	11·2	10·2	266,801	32,026	57,165	86,452	91,158	10·2	10·1	10·7	10·4	9·7
730-734 Food goods	*79,116*	*9,367*	*9,826*	*8,983*	*16,205*	*34,735*	*3·8*	*5·6*	*4·3*	*3·4*	*3·5*										
735-739 Non-food goods	*172,467*	*23,224*	*24,305*	*22,469*	*36,985*	*65,484*	*8·4*	*14·0*	*10·8*	*7·8*	*6·7*										
XIX. Professional and technical occupations	**150,167**	**2,406**	**6,570**	**12,297**	**32,197**	**96,697**	**7·3**	**1·4**	**4·3**	**6·8**	**9·8**	**97,052**	**918**	**5,157**	**27,041**	**63,936**	**3·7**	**0·3**	**1·0**	**3·3**	**6·8**
770-773 Nurses, nursery nurses	76,141	1,444	3,952	7,644	21,184	41,917	3·7	0·9	2·7	4·4	4·3	44,944	99	1,946	16,139	26,760	1·7	0·0	0·4	1·9	2·8
770-772 Nurses and midwives	*64,648*	*775*	*2,502*	*5,783*	*18,061*	*37,527*	*3·1*	*0·5*	*1·9*	*3·7*	*3·9*										
773 Nursery nurses	*11,493*	*669*	*1,450*	*1,861*	*3,123*	*4,390*	*0·6*	*0·4*	*0·8*	*0·7*	*0·4*										
799 Draughtswomen	*7,018*	*391*	*692*	*866*	*1,688*	*3,381*	*0·3*	*0·2*	*0·4*	*0·4*	*0·3*										
804 Laboratory assistants, technicians	*10,826*	*241*	*808*	*1,435*	*2,851*	*5,491*	*0·5*	*0·1*	*0·5*	*0·6*	*0·6*										
812 Librarians (not booksellers)	*5,579*	*55*	*353*	*744*	*1,652*	*2,775*	*0·3*	*0·0*	*0·3*	*0·3*	*0·3*	*1,868*	*56*	*317*	*667*	*828*	*0·1*	*0·0*	*0·1*	*0·1*	*0·1*
XX. Persons employed in defence services	**12,865**	**8**	**12**	**448**	**4,922**	**7,475**	**0·6**	**0·0**	**0·1**	**1·0**	**0·8**	**38**	**—**	**1**	**10**	**27**	**0·0**	**—**	**0·0**	**0·0**	**0·0**
XXII. Persons engaged in personal service	**234,183**	**14,267**	**19,955**	**22,635**	**53,802**	**123,524**	**11·4**	**8·6**	**9·8**	**11·3**	**12·6**	**813,627**	**92,532**	**168,504**	**265,287**	**287,304**	**31·0**	**29·2**	**31·7**	**31·9**	**30·5**
867 Waitresses, still room hands	*22,920*	*1,284*	*1,844*	*2,085*	*5,184*	*12,523*	*1·1*	*0·8*	*0·9*	*1·1*	*1·3*	*38,293*	*1,833*	*5,390*	*12,875*	*18,195*	*1·5*	*0·6*	*1·0*	*1·5*	*1·9*
873 Hairdressers, manicurists	*25,222*	*1,964*	*2,503*	*2,719*	*6,493*	*11,543*	*1·2*	*1·2*	*1·2*	*1·4*	*1·2*										
877, 878 Laundry workers, dry cleaners	*28,321*	*2,404*	*3,024*	*3,045*	*6,446*	*13,402*	*1·4*	*1·4*	*1·4*	*1·4*	*1·4*	*63,320*	*11,862*	*14,954*	*19,183*	*17,321*	*2·4*	*3·7*	*2·8*	*2·3*	*1·8*
883 Kitchen hands	*18,917*	*949*	*1,333*	*1,602*	*4,399*	*10,634*	*0·9*	*0·6*	*0·7*	*0·9*	*1·1*										
884 Chambermaids, house, etc. maids	*19,149*	*1,111*	*1,678*	*1,933*	*4,554*	*9,873*	*0·9*	*0·7*	*0·8*	*1·0*	*1·0*										
885 Other domestic servants (indoor)	*61,122*	*4,410*	*5,670*	*5,955*	*13,965*	*31,122*	*3·0*	*2·7*	*2·7*	*2·9*	*3·2*										
XXIII. Clerks, typists, etc.	**627,981**	**39,122**	**62,016**	**74,752**	**148,785**	**303,306**	**30·5**	**23·6**	**31·5**	**31·2**	**30·9**	**323,146**	**21,708**	**64,272**	**114,885**	**122,281**	**12·3**	**6·9**	**12·1**	**13·8**	**13·0**
890 Clerks (n.e.s.)	*233,893*	*26,148*	*30,609*	*30,599*	*49,903*	*96,634*	*11·4*	*15·8*	*14·1*	*10·5*	*9·8*										
891, 892 Typists, secretaries	266,839	7,848	20,752	29,462	68,838	139,939	13·0	4·7	11·6	14·4	14·2	122,531	2,247	20,809	47,810	51,665	4·7	0·7	3·9	5·7	5·5
891 Shorthand typists, secretaries	*195,057*	*4,450*	*13,330*	*20,117*	*50,645*	*106,515*	*9·5*	*2·7*	*7·7*	*10·6*	*10·8*										
892 Typists	*71,782*	*3,398*	*7,422*	*9,345*	*18,193*	*33,424*	*3·5*	*2·0*	*3·9*	*3·8*	*3·4*										
894 Other office machine operators	*44,081*	*1,764*	*4,059*	*5,227*	*10,525*	*22,506*	*2·1*	*1·1*	*2·1*	*2·2*	*2·3*										
895 Costing and accounting clerks	*83,168*	*3,362*	*6,596*	*9,464*	*19,519*	*44,227*	*4·0*	*2·0*	*3·7*	*4·1*	*4·5*										
XXIV. Storekeepers, packers, etc.	**65,892**	**7,389**	**7,725**	**7,585**	**15,040**	**28,153**	**3·2**	**4·5**	**3·5**	**3·2**	**2·9**	**103,892**	**18,761**	**24,962**	**31,153**	**29,016**	**4·0**	**5·9**	**4·7**	**3·7**	**3·1**
XXVI. Workers in unskilled occupations (n.e.s.)	**134,966**	**12,815**	**14,086**	**14,479**	**31,547**	**62,039**	**6·6**	**7·7**	**6·6**	**6·6**	**6·3**	**142,260**	**31,279**	**36,703**	**40,931**	**33,347**	**5·4**	**9·9**	**6·9**	**4·9**	**3·5**
XXVIII. Retired or not gainfully occupied	**809,547**	**105.616**	**62,214**	**38,166**	**85,611**	**517,940**						**1,202,130**	**305,572**	**171,456**	**221,197**	**503,905**					
980 Students in educational institutions	*228,029*	*92,311*	*51,421*	*26,087*	*32,403*	*25,807*						*244,591*	*148,028*	*56,245*	*29,134*	*11,184*					

aged 15 to 7 per cent of those aged 20-24. The proportions at separate ages under 25 apart from 16 and 17 were smaller than in 1931.

Order XXVI, unskilled workers (not elsewhere specified), accounted for 179,370 or 7.3 per cent of all occupied males under 25, workers in transport number 177,231 (7.2 per cent), clerks and typists 174,389 (7.1 per cent), commercial and financial occupations 135,124 (5.5 per cent) and workers in building and contracting 123,541 (5.0 per cent). Of these occupation Orders only clerks and typists accounted for a larger proportion of men aged under 25 than of all occupied men (7.1 per cent of the under 25 compared with 6.1 per cent of all occupied men).

(*ii*) *Females*

Among the 2,059,859 occupied females aged under 25 no less than 627,981 (30.5 per cent) were occupied as clerks and typists. The proportion was around 31 per cent for all ages under 25 except 15, where it was under 24 per cent. The 30 per cent of females aged less than 25 in this occupation Order compares with the 20 per cent of all occupied females in these occupations. The percentage of females under 25 occupied as clerks and typists was higher than in 1931, when the comparableproportion wasonly 12 per cent. In 1951 clerks of all kinds and machine operators accounted for 17 per cent, and shorthand typists, typists and secretaries 13 per cent of all occupied females aged under 25.

Commercial occupations accounted for a further 13 per cent of females aged under 25. These were mainly shop assistants and saleswomen who accounted for 12 per cent. The proportion of all females in commercial and financial occupations was highest at age 15 (20 per cent) and thereafter declined with age to 11 per cent at ages 20-24. These percentages by age were higher than their 1931 equivalents—particularly at the youngest ages. The percentage of females aged under 25 in commercial occupations was a little higher than the corresponding percentage for females of all ages.

Of occupied females under 25, 11 per cent were engaged in personal service compared with 23 per cent of occupied females of all ages. The proportion increased with age from 9 per cent at 15 to 13 per cent at 20-24. There had been a large decline since 1931 in the number of young females in personal service; from 813,627 in 1931 to 234,183 in 1951. The percentage of young females in personal service fell from 31 per cent in 1931 to 11 per cent in 1951.

Other occupation orders which accounted for more than 5 per cent of all occupied females aged under 25 were: makers of textile goods and articles of dress with 176,692 (9 per cent)—of which garment makers accounted for nearly nine tenths, professional and technical with 150,167 (7 per cent)—of whom about half were nurses, and unskilled occupations (not elsewhere specified) which accounted for 134,966 (7 per cent).

Retired

Between 1931 and 1951 the number of retired persons increased from 975,292 to 1,642,138, that is by 68 per cent. The number of retired males increased by 70 per cent and females by 61 per cent during the same period.

3 per cent of retired males were found in each of the age-groups under 45, 45-54 and 55-59, 7 per cent at ages 60-64, 26 per cent at 65-69, 27 per cent at 70-74 and 31 per cent at ages 75 and over. The percentages of retired females in the younger retired age-groups are about twice as large as for males, while at ages 60-64 the proportion rises to 22 per cent after which it remains around 20 per cent for each of the higher age-groups.

In addition to those persons stated to be "retired" or "pensioned" the following categories were coded as retired when their previous occupation was given:—

(a) all inmates of mental hospitals and mental deficiency institutions,

(b) all inmates aged 70 years and over of Residential Establishments maintained under the National Assistance Act, 1948,

(c) all inmates of almshouses, homes for the aged and similar institutions,

(d) all inmates of prisons and Borstal institutions.

Clearly categories (a) and (d) will have a different age distribution from the main category of the retired.

Occupation orders which contained a considerably higher proportion of the total retired males than of the total occupied males included fishermen, agriculture, mining, textile workers, leather workers, building and contracting, transport, commercial and financial, and unskilled (n.e.s.).

Table 65.—Persons retired from selected occupations; distributions by occupation and age

Occupation	Total Occupied (excluding retired)	Total Retired	Occupied per thousand total Occupied	Retired per thousand total Retired	Retired as percentage of Occupied in each Occupation	Percentage distributions of Retired by Age						
						Under 45	45–54	55–59	60–64	65–69	70–74	75 and over
	a	b	c	d	e	f	g	h	j	k	l	m
MALES												
TOTAL	14,063,542	1,365,102	1,000	1,000	9·7	3	3	3	7	26	27	31
I. Fishermen	15,248	2,898	1	2	19·0	3	2	1	4	22	26	42
II. Agricultural, etc. occupations	961,300	128,689	68	94	13·4	2	2	2	5	21	25	43
010, 011 Farmers, farm foremen, etc.	272,387	43,901	19	32	16·1	1	2	4	8	21	24	40
013 Market gardeners, nurserymen, etc.	46,236	4,992	3	4	10·8	2	3	3	6	21	24	41
015 Other gardeners	125,724	31,405	9	23	25·0	2	2	1	3	21	27	44
022 Agricultural machine owners, drivers	64,226	749	5	1	1·2	12	1	2	5	24	24	32
012, 019, 029 Other agricultural workers	425,561	45,039	30	33	10·6	4	2	2	3	21	26	42
III. Mining and quarrying occupations	589,714	92,278	42	68	15·6	3	3	2	4	25	30	33
Workers below ground (in coal mines):—												
041, 042 Coalface coal getters; loaders	200,551	54,429	14	40	27·1	3	3	3	4	22	30	35
043 Conveying material to the shaft	75,388	4,050	5	3	5·4	6	3	3	5	26	28	29
044 Developing workings in rock	52,818	4,638	4	3	8·8	2	2	1	4	29	31	31
045 Repairing and maintaining roads	44,004	3,922	3	3	8·9	2	2	2	4	28	31	31
047 Other workers below ground	67,487	6,079	5	4	9·0	4	3	2	4	28	30	29
049 Other workers above ground (in coal mines)	70,768	6,733	5	5	9·5	3	2	2	4	30	30	29
IV. Workers in ceramics, glass, cement, etc.	81,161	5,153	6	4	6·3	4	2	2	4	22	28	38
V. Coal gas, etc. makers, workers in chemicals	93,000	5,945	7	4	6·4	2	1	2	4	32	28	31
100-109 Workers in chemical and allied trades	75,986	3,782	5	3	5·0	2	1	2	5	33	29	28
VI. Workers in metal manufacture, engineering	2,260,189	139,305	160	101	6·2	3	2	2	6	29	28	30
110-119 Foremen, overlookers	121,127	7,165	9	5	5·9	0	1	1	10	35	27	26
131, 132 Moulders and core makers	66,367	5,904	5	4	8·9	3	2	1	3	26	30	35
135, 136 Other ferrous foundry workers	39,799	3,059	3	2	7·7	5	2	2	4	26	30	31
145-149 Smiths, forgemen	58,363	12,100	4	9	20·7	1	1	1	3	23	29	42
155-157 Sheet metal workers, metal spinners, etc.	71,216	3,882	5	3	5·5	3	2	2	4	27	28	34
160, 162, 164 Platers, riveters, shipwrights	63,724	9,597	5	7	15·1	1	2	1	7	30	26	33
161 Platers' labourers	11,580	935	1	1	8·1	3	2	2	2	32	33	26
173 Turners (not brass)	65,883	4,254	5	3	6·5	3	2	2	3	31	28	31
176 Machine setters, setter operators	107,383	2,523	8	2	2·3	4	2	2	4	32	31	25
181-189 Fitters, machine erectors	728,801	42,572	52	31	5·8	4	3	3	6	29	27	28
181 Precision fitters, tool makers, etc.	*194,196*	*10,962*	*14*	*8*	*5·6*	*3*	*2*	*2*	*6*	*31*	*27*	*29*
183 Machine erectors, maintenance engineers	*268,605*	*21,717*	*19*	*16*	*8·1*	*3*	*3*	*3*	*5*	*28*	*28*	*30*
184 Motor and motor cycle mechanics	*135,830*	*4,100*	*10*	*3*	*3·0*	*10*	*7*	*6*	*10*	*30*	*20*	*17*
189 Machine erectors', fitters', etc. mates	*54,972*	*2,555*	*4*	*2*	*4·6*	*4*	*3*	*2*	*4*	*38*	*26*	*23*
200 Plumbers(not chemical plumbers)	89,840	6,235	6	5	6·9	3	2	1	5	26	31	32
201 Plumbers' labourers	12,031	456	1	0	3·8	17	4	2	5	27	26	19
241, 242 Electricians, electrical fitters	201,780	8,204	14	6	4·1	5	3	3	7	33	27	22
241 Electrical fitters	*71,986*	*3,855*	*5*	*3*	*5·4*	*3*	*3*	*3*	*8*	*33*	*27*	*23*
242 Electricians (house, ship, factory)	*129,794*	*4,349*	*9*	*3*	*6·4*	*6*	*3*	*3*	*6*	*33*	*28*	*21*
243 Linemen and cable jointers	20,449	1,364	1	1	3·7	2	2	3	8	33	28	24
251-259 Inspectors, viewers, testers	77,958	3,117	6	2	4·0	2	2	3	8	37	27	21
261 Oxy-acetylene or electric welders, etc.	61,419	641	4	0	1·0	22	5	2	5	32	19	15
VII. Textile workers	197,639	24,890	14	18	12·6	1	2	2	4	24	30	37
VIII. Leather workers, fur dressers	116,864	16,170	8	12	13·8	2	2	2	4	20	27	43
361 Boot and shoe makers and repairers (not factory)	36,653	6,533	3	5	17·8	3	3	3	5	21	26	39
IX. Makers of textile goods and articles of dress	124,165	14,009	9	10	11·3	4	2	2	5	21	27	39
X. Makers of foods, drinks and tobacco	148,897	17,663	11	13	11·9	3	3	3	7	24	27	33
422 Bakers and pastry cooks	67,189	10,163	5	7	15·1	3	3	3	7	23	26	35
XI. Workers in wood, cane and cork	433,321	44,943	31	33	10·4	2	1	1	4	28	29	35
471 Cabinet makers	31,376	3,778	2	3	12·0	3	2	2	4	25	26	38
472 Carpenters, joiners	244,213	26,540	17	19	10·9	2	1	1	3	28	30	35
479 Other sawyers, wood cutting machinists	54,717	3,825	4	3	7·0	4	2	1	3	26	29	35
XII. Makers of, workers in, paper; printers	161,725	14,728	11	11	9·1	2	1	1	4	23	29	40
521 Compositors (hand or machine)	34,618	4,041	2	3	11·7	2	1	1	3	19	30	44
526 Printing machine minders and setters	28,209	2,179	2	2	7·7	1	1	1	4	27	29	37
527 Printing machine assistants	15,303	671	1	0	4·4	2	3	3	4	33	29	26
XIII. Makers of products (n.e.s.)	84,507	3,577	6	3	4·2	5	4	3	5	24	25	34
XIV. Workers in building and contracting	840,475	96,778	60	71	11·5	4	2	1	4	28	30	31
580 Foremen, gangers	46,994	5,659	3	4	12·0	1	1	1	3	29	31	34
582 Builders' labourers	89,357	8,737	6	6	9·8	10	3	2	3	25	27	30
583 Bricklayers	141,699	12,936	10	9	9·1	3	1	1	3	25	32	35
584 Bricklayers' labourers	45,950	3,581	3	3	7·8	10	3	2	3	25	29	28

Table 65.—Persons retired from selected occupations; distributions by occupation and age —*continued*

Occupation	Total Occupied (excluding retired)	Total Retired	Occupied per thousand total Occupied	Retired per thousand total Retired	Retired as percentage of Occupied in each Occupation	Percentage distributions of Retired by Age						
						Under 45	45–54	55–59	60–64	65–69	70–74	75 and over
	a	b	c	d	e	f	g	h	j	k	l	m
MALES—*continued*												
585 Plasterers	37,967	2,836	3	2	7·5	4	2	1	3	29	32	29
586 Plasterers' labourers	7,987	361	1	0	4·5	13	3	2	3	23	27	29
593 Platelayers	40,870	6,759	3	5	16·5	1	1	1	2	31	31	33
597 Builders	56,551	9,837	4	7	17·4	1	2	3	7	23	27	37
599 Other workers (mainly navvies)	288,899	36,035	21	26	12·5	4	2	2	4	30	30	28
XV. Painters and decorators	**298,566**	**24,894**	**21**	**18**	**8·3**	**4**	**2**	**2**	**4**	**28**	**29**	**31**
XVI. Administrators, directors, managers (n.e.s.)	**406,190**	**33,706**	**29**	**25**	**8·3**	**1**	**2**	**4**	**14**	**28**	**24**	**27**
610, 611 Civil Service executive and administrative officers	59,514	7,729	4	6	13·0	0	2	4	27	33	20	14
614 Secretaries of companies, etc.	26,329	2,508	2	2	9·5	1	2	4	10	26	26	31
615 Heads or managers of office departments	52,365	3,420	4	3	6·5	1	2	3	15	31	24	24
622 Managers in engineering and allied trades	89,683	4,153	6	3	4·6	1	3	5	10	26	24	31
623 Managers in production of textiles and leather goods	38,897	3,561	3	3	9·2	1	2	4	9	20	24	40
XVII. Persons employed in transport, etc.	**1,403,722**	**146,916**	**100**	**107**	**10·5**	**3**	**2**	**2**	**8**	**29**	**27**	**29**
631 Locomotive engine drivers	44,760	10,595	3	8	23·7	0	1	1	3	32	29	34
633 Locomotive engine firemen	36,591	485	3	0	1·3	17	12	1	5	18	21	26
639 Porters (including lampmen)	64,321	8,516	5	6	13·2	2	2	2	4	34	29	27
657 Drivers of buses and coaches	89,218	2,735	6	2	3·1	4	4	4	8	39	26	15
658 Drivers of other passenger vehicles	56,393	4,913	4	4	8·7	3	2	2	5	27	27	34
659 Drivers of goods vehicles	369,727	9,713	26	7	2·6	12	4	3	6	30	25	20
660 Lorry drivers' mates, van guards, etc.	31,766	675	2	0	2·1	37	3	2	3	22	18	15
661 Bus and tram conductors	66,181	2,137	5	2	3·2	4	4	4	7	36	26	19
681 Dock labourers	72,326	9,593	5	7	13·3	2	2	2	4	25	31	34
702 Postmen, post office sorters	83,351	15,656	6	11	18·8	1	2	4	16	30	24	23
705 Telephone operators	16,751	599	1	0	3·6	4	8	6	13	33	22	14
706 Messengers	41,806	3,621	3	3	8·7	8	3	2	7	30	27	23
XVIII. Commercial, finance, etc. (exc. clerical)	**1,227,541**	**130,673**	**87**	**95**	**10·6**	**2**	**3**	**3**	**10**	**24**	**25**	**33**
710 Owners, etc. of wholesale businesses	89,253	9,447	6	7	10·6	2	3	4	9	21	25	36
715 Commercial travellers, canvassers	127,201	10,524	9	8	8·3	2	2	2	7	24	27	36
720-724 Owners, etc. of retail businesses (food)	176,376	27,150	13	20	15·4	1	2	4	9	23	26	35
725-729 Owners, etc. of retail businesses (non-food)	213,048	28,285	15	21	13·3	2	3	4	9	22	25	35
730-734 Salesmen, shop assistants (food)	140,359	8,566	10	6	6·1	4	3	2	6	26	27	32
735-739 Salesmen, shop assistants (non-food)	125,772	7,854	9	6	6·2	6	4	3	6	23	27	31
741, 742 Roundsmen, coal carmen	106,350	4,288	8	3	4·0	8	3	2	5	26	25	31
751 Bankers, bank managers, inspectors	14,454	5,703	1	4	39·5	0	2	4	26	28	20	20
753 Insurance managers, underwriters	23,818	3,737	2	3	15·7	0	1	2	18	29	23	27
754, 755 Insurance agents, brokers and canvassers	56,798	10,380	4	8	18·3	1	1	2	11	29	26	30
XIX. Professional and technical (exc. clerical)	**714,197**	**59,597**	**51**	**44**	**8·3**	**2**	**2**	**3**	**12**	**25**	**24**	**32**
760 Clergymen (Church of England)	16,563	3,017	1	2	18·2	1	1	1	4	12	24	57
765 Solicitors	19,689	1,779	1	1	9·0	2	4	3	9	17	21	44
766 Registered medical practitioners	35,798	3,318	3	2	9·3	1	3	4	8	16	22	46
768 Dental practitioners	10,697	1,005	1	1	9·4	1	3	6	12	18	26	34
780, 785 Teachers	122,019	19,273	9	14	15·8	1	1	2	17	30	23	26
786 Civil, structural engineers	22,549	2,562	2	2	11·4	1	3	3	12	28	24	29
787-789 Mechanical, electrical, chemical and gas engineers	50,156	3,331	4	2	6·6	1	3	4	12	32	24	24
791 Surveyors	30,980	1,963	2	1	6·3	2	2	3	10	30	22	31
799 Draughtsmen (n.e.s.)	106,802	2,391	8	2	2·2	6	3	3	12	30	24	22
800 Chemists (not pharmaceutical)	20,448	921	1	1	4·5	2	3	4	12	26	26	27
804 Laboratory assistants, technicians	47,609	656	3	0	1·4	6	4	3	16	33	25	13
810 Qualified accountants	31,851	1,311	2	1	4·1	3	3	6	12	23	24	29
XX. Persons employed in defence services	**685,813**	**59,656**	**49**	**44**	**8·7**	**5**	**8**	**10**	**13**	**22**	**20**	**22**
820-825 Armed forces	527,657	28,572	38	21	5·4	11	12	12	13	17	16	19
820, 822, 824 Commissioned officers	*42,231*	*14,017*	*3*	*10*	*33·2*	*3*	*16*	*16*	*17*	*17*	*15*	*16*
830 Police superintendents, etc.	4,378	2,282	0	2	52·1	0	5	11	17	22	20	25
831 Police, other ranks	69,488	16,581	5	12	23·9	1	6	11	17	22	21	22
833 Watchmen	40,150	8,529	3	6	21·2	1	1	2	4	31	31	30
XXI. Persons engaged in entertainments and sport	**82,140**	**6,965**	**6**	**5**	**8·5**	**8**	**3**	**4**	**7**	**23**	**24**	**31**
XXII. Persons engaged in personal service	**465,624**	**48,567**	**33**	**36**	**10·4**	**4**	**3**	**3**	**7**	**26**	**26**	**31**
862 Proprietors and managers of restaurants	39,846	3,633	3	3	9·1	3	4	7	12	26	23	25
865 Publicans, beersellers, innkeepers	50,908	7,587	4	6	14·9	0	3	4	10	23	26	34
871 Hospital or ward orderlies, attendants	21,353	1,355	2	1	6·3	6	4	3	7	31	26	23
873 Barbers, hairdressers, manicurists	36,084	3,260	3	2	9·0	5	3	4	7	23	27	31
875 Caretakers, office keepers	41,591	6,216	3	5	14·9	0	1	1	4	30	29	35
879 Window cleaners	32,728	1,941	2	1	5·9	8	4	3	7	29	25	24
882, Chefs, cooks	32,253	2,283	2	2	7·1	15	6	3	7	26	22	21
XXIII. Clerks, typists, etc.	**861,679**	**74,618**	**61**	**55**	**8·7**	**2**	**3**	**3**	**13**	**30**	**25**	**24**
890 Clerks (n.e.s.)	600,712	54,695	43	40	9·1	2	3	3	13	31	25	23

Table 65.—Persons retired from selected occupations; distributions by occupation and age —*continued*

Occupation	Total Occupied (excluding retired)	Total Retired	Occupied per thousand total Occupied	Retired per thousand total Retired	Retired as percentage of Occupied in each Occupation	Percentage distributions of Retired by Age						
						Under 45	45–54	55–59	60–64	65–69	70–74	75 and over
	a	b	c	d	e	f	g	h	j	k	l	m
MALES—*continued*												
XXIV. Warehousemen, storekeepers, packers, etc.	348,305	24,308	25	18	7·0	3	2	2	5	30	29	29
900 Warehousemen	97,212	8,540	7	6	8·8	3	2	2	4	27	28	34
901 Storekeepers	131,906	9,088	9	7	6·9	2	1	2	6	34	30	25
902 Warehouse and storekeepers' assistants	47,299	2,062	3	2	4·4	4	2	2	5	37	28	22
XXV. Stationary engine drivers, stokers, etc.	225,905	18,959	16	14	8·4	2	2	2	4	30	30	30
915 Boiler firemen and stokers	71,702	7,245	5	5	10·1	2	2	2	4	30	30	30
XXVI. Workers in unskilled occupations (n.e.s.)	1,118,942	119,591	80	88	10·7	7	4	2	5	28	27	27
931 Machine minders (engineering, etc.)	90,535	3,599	6	3	4·0	8	2	2	4	28	28	28
Labourers and other unskilled workers in:—												
937 Chemical and allied trades	54,173	5,074	4	4	9·4	3	2	2	4	34	30	25
940 Metal manufacture, engineering, etc.	414,434	36,582	29	27	8·8	4	2	2	4	32	30	26
941 Textiles (not textile goods)	53,050	4,888	4	4	9·2	7	2	2	4	28	30	27
XXVII. Other and undefined workers	116,713	9,626	8	7	8·2	4	3	3	8	29	26	27
FEMALES												
TOTAL	6,272,876	277,036	1,000	1,000	4·4	6	5	6	22	22	18	21
II. Agricultural, etc. occupations	97,486	3,629	16	13	3·7	6	6	6	17	18	18	29
IV. Workers in ceramics, glass, cement, etc.	46,356	1,135	7	4	2·4	10	7	5	21	22	16	19
VI. Workers in metal manufacture, engineering	197,906	2,167	32	8	1·1	16	8	4	22	22	14	14
VII. Textile workers	359,129	22,344	57	81	6·2	4	4	4	21	23	22	22
284 Carders, combers, drawers, etc.	33,966	1,857	5	7	5·5	4	5	5	24	22	21	19
291 Spinners, piecers	30,995	1,222	5	4	3·9	8	8	6	23	22	18	15
301 Winders, reelers	*69,610*	*3,393*	*11*	*12*	*4·9*	*4*	*5*	*4*	*20*	*23*	*21*	*23*
302 Beamers, warpers	*9,492*	*603*	*2*	*2*	*6·4*	*2*	*2*	*2*	*23*	*24*	*26*	*21*
301, 302 Winders, reelers, beamers, warpers	79,102	3,996	13	14	5·1	4	4	4	20	23	22	23
311 Weavers (not carpets)	93,582	11,237	15	41	12·0	2	3	4	21	24	23	23
321 Hosiery frame tenters and knitters	26,756	713	4	3	2·7	10	9	4	20	21	16	20
331 Lookers, examiners, burlers, menders	36,929	1,086	6	4	2·9	4	4	5	23	23	19	22
VIII. Leather workers, fur dressers	64,876	1,764	10	6	2·7	7	6	4	22	24	18	19
IX. Makers of textile goods and articles of dress	437,218	20,975	70	76	4·8	5	4	4	21	21	19	26
X. Makers of foods, drinks and tobacco	83,914	2,742	13	10	3·3	6	7	9	25	21	17	15
422 Bakers and pastry cooks	25,308	1,058	4	4	4·2	5	5	6	22	20	19	23
XII. Makers of, workers in, paper; printers	81,058	2,191	13	8	2·7	7	5	5	23	25	18	17
510-519 Workers in paper and cardboard	31,135	1,044	5	4	3·4	6	4	7	22	24	18	19
XIII. Makers of products (n.e.s.)	40,690	595	6	2	1·5	11	8	7	24	19	12	19
XVI. Administrators, directors, managers (n.e.s.)	45,859	1,978	7	7	4·3	3	7	10	30	24	14	12
XVII. Persons employed in transport, etc.	130,101	4,097	21	15	3·1	6	6	8	25	23	16	16
705 Telephone operators	63,155	755	10	3	1·2	14	10	12	33	18	8	5
XVIII. Commercial, finance, etc. (exc. clerical)	757,771	19,626	121	71	2·6	5	6	6	22	22	18	21
720-724 Owners, etc. of retail businesses (food)	51,973	2,753	8	10	5·3	1	5	7	18	21	21	27
725-729 Owners, etc. of retail businesses (non-food)	104,764	7,002	17	25	6·7	1	4	6	19	22	21	27
730-734 Saleswomen, shop assistants in retail businesses (food)	196,490	1,445	31	5	0·7	10	8	6	29	21	14	12
736, 738, 739 Saleswomen, shop assistants in retail businesses (excluding chain stores)(non-food)	282,958	5,759	45	21	2·0	10	7	6	25	21	16	15
XIX. Professional and technical (exc. clerical)	523,057	73,422	83	265	14·0	3	3	6	22	25	19	22
770 Trained nurses, midwives	130,179	20,530	21	74	15·8	4	4	8	20	23	19	22
771 Assistant nurses	14,913	326	2	1	2·2	12	10	10	28	25	9	6
773 Nursery nurses	19,055	1,874	3	7	9·8	5	3	4	19	20	18	31
780 Teachers of music	8,807	1,290	1	5	14·6	3	4	6	18	19	18	32
785 Other teachers	182,409	43,096	29	156	23·6	1	3	5	23	27	20	21
XX. Persons employed in defence services	19.688	343	3	1	1·7	34	7	7	14	17	11	10
XXI. Persons engaged in entertainments and sport	21,739	1,618	3	6	7·4	6	8	7	17	18	17	27
XXII. Persons engaged in personal service	1,464,137	83,343	233	301	5·7	6	6	5	22	20	18	23
862 Proprietresses, etc. of restaurants	42,869	1,727	7	6	4·0	4	6	8	26	23	17	16
863 Lodging and boarding house keepers	32,312	1,746	5	6	5·4	1	3	4	18	18	20	36
866 Barmaids	29,204	662	5	2	2·3	8	6	5	31	22	14	14
867 Waitresses, still room hands	80,860	1,627	13	6	2·0	17	7	7	26	20	13	10
873 Hairdressers, manicurists	47,291	562	8	2	1·2	26	14	8	20	12	10	10

Table 65.—Persons retired from selected occupations; distributions by occupation and age } *—continued*

Occupation	Total Occupied (excluding retired)	Total Retired	Occupied per thousand total Occupied	Retired per thousand total Retired	Retired as percentage of Occupied in each Occupation	Percentage distributions of Retired by Age						
						Under 45	45–54	55–59	60–64	65–69	70–74	75 and over
	a	b	c	d	e	f	g	h	j	k	l	m
FEMALES—*continued*												
875 Caretakers, office keepers ..	18,237	1,018	3	4	5·6	0	2	3	24	28	19	24
876 Charwomen, office cleaners ..	215,336	7,977	34	29	3·7	2	3	4	32	24	18	17
877, 878 Laundry workers, dry cleaners	106,002	4,415	17	16	4·2	8	4	5	21	21	18	23
882 Cooks	121,960	9,045	19	33	7·4	2	3	4	21	22	20	28
883 Kitchen hands	170,560	2,956	27	11	1·7	10	6	6	39	22	11	6
884 Chambermaids, house, etc. maids	57,574	3,214	9	12	5·6	9	7	4	16	19	18	27
885 Other domestic servants (indoor)	373,480	42,559	60	154	11·4	7	7	5	19	19	18	25
XXIII. Clerks, typists, etc.	1,270,456	23,517	203	85	1·9	8	10	13	27	21	12	9
890 Clerks (n.e.s.)	509,310	11,773	81	42	2·3	7	8	11	29	23	13	9
891 Shorthand typists, secretaries ..	380,209	5,419	61	20	1·4	10	11	11	26	21	12	9
892 Typists	114,782	944	18	3	0·8	32	15	9	19	13	8	4
895 Costing and accounting clerks	196,247	5,232	31	19	2·7	4	12	20	27	19	11	7
XXIV. Warehousewomen, storekeepers, packers, etc.	181,196	2,418	29	9	1·3	13	6	7	29	20	13	12
902 Warehouse and storekeepers' assistants	26,093	387	4	1	1·5	10	7	5	30	20	14	14
XXVI. Workers in unskilled occupations	378,437	7,257	60	26	1·9	20	10	6	21	17	13	13
930 Assemblers (n.e.s.)	65,593	320	10	1	0·5	33	8	4	32	12	4	7
931 Machine minders (engineering, etc.)	58,882	415	9	1	0·7	26	9	6	20	19	12	8
940 Unskilled workers in engineering, etc.	57,667	864	9	3	1·5	23	9	6	24	17	11	10
941 Unskilled workers in textiles (not goods)	40,810	1,795	7	6	4·4	12	9	5	22	18	17	17
XXVII. Other and undefined workers ..	32,373	769	5	3	2·4	17	10	8	18	19	15	13

They are all, apart from building and contracting, occupation orders whose share of the total occupied fell between 1931 and 1951. On the other hand those orders where the retired were relatively few compared with the occupied include occupation orders such as workers in coal gas and chemicals, metal manufacture and engineering, administrators, professional and technical, defence services, clerks and typists, and warehousemen, storekeepers, packers, etc., all of which increased their share of the total occupied between 1931 and 1951.

The most noticeable feature of the distribution of retired females by occupation order is the concentration of rather over a half of all retired females in two occupation orders; 30 per cent in personal service and 26 per cent in professional and technical (mainly nurses and teachers). 23 per cent of all occupied females were in personal service which allowing for the rather older than normal age distribution (41 per cent of all occupied females aged 55-59 were in personal service) accounts for the large proportion retired from personal service. There were, however, only 8 per cent of occupied females of all ages in professional and technical occupations, which at ages 55-59 only rose to 9 per cent. There was, however, a predominance of single women in professional and technical occupations and, while married women who retire may be described as occupied with "home duties", there may not be the same tendency with single women.

Social Class distribution 1931 and 1951

Changes in the social class distribution of occupied and retired males can be mainly attributed to two factors; changes in the numbers in occupations, and changes in the allocation of occupations to social classes. The effects of these two factors are shown in Table 66. This table shows firstly the numerical results of major changes between 1931 and 1951 in the numbers in the occupation units of the 1931 classes; the effects of these changes in numbers occupied are shown in the Social Class distribution 1951, based upon the 1931 classification. This distribution was further modified by changes due to differences between the 1931 classification and the 1951 classification; this adjustment, together with small residual net changes unaccounted for, gives the Social Class distribution 1951 based on 1951 classification. Only the effects of major changes in numbers in occupation units and major changes due to classification reassignment are indicated in Table 66, the figures shown being the totals of the main increases or decreases in the numbers of those in or retired from particular occupation groups.

Section (a) of the table gives the major changes for occupied and retired combined. The proportions in Social Classes I, II and III rose slightly while the proportions in Social Classes IV and

V fell. The distribution by Social Class in 1931 on the basis of the 1931 classification is compared with the 1951 distribution based on the 1951 classification below:—

Class	1931	1951
I	2.4	3.3
II	13.2	14.5
III	48.7	53.0
IV	18.2	16.1
V	17.5	13.1
	100.0	100.0

In order to obtain a better idea of the actual changes which took place it is necessary to examine changes for individual occupations, as shown in Table D in the *Occupation Tables*.

able 66.—Social Class distribution of Occupied and Retired males and comparison with 1931

(numbers in thousands)

	Total	Social Class I		II		III		IV		V	
		+	−	+	−	+	−	+	−	+	−
(a) OCCUPIED AND RETIRED MALES											
Social Class distribution 1931	**14,050**	**336**		**1,855**		**6,848**		**2,552**		**2,459**	
Major changes in 1931-1951 in numbers in occupation units of the 1931 classes:											
increases		164		416		2,010		428		257	
decreases			6		125		817		547		458
Social Class distribution 1951 (based on 1931 classification)	**15,372**	**494**		**2,146**		**8,041**		**2,433**		**2,258**	
Major changes due to classification reassignment		38	25	345	252	710	628	581	541	31	259
Net changes unaccounted for		3		4		38		17			5
Social Class distribution 1951 (based on 1951 classification)	**15,429**	**510**		**2,243**		**8,161**		**2,490**		**2,025**	
(b) OCCUPIED MALES											
Social Class distribution 1931	**13,247**	**289**		**1,703**		**6,484**		**2,417**		**2,355**	
Major changes in 1931-1951 in numbers in occupation units of the 1931 classes:											
increases		153		349		1,726		367		149	
decreases			3		125		812		534		458
Social Class distribution 1951 (based on 1931 classification)	**14,060**	**439**		**1,927**		**7,398**		**2,250**		**2,046**	
Major changes due to classification reassignment		35	23	318	234	671	562	535	516	28	252
Net changes unaccounted for		1			1	6		3			6
Social Class distribution 1951 (based on 1951 classification)	**14,064**	**452**		**2,010**		**7,513**		**2,272**		**1,816**	
(c) RETIRED MALES											
Social Class distribution 1931	**802·9**	**46·2**		**151·7**		**364·4**		**135·6**		**104·9**	
Major changes in 1931-1951 in numbers in occupation units of the 1931 classes:											
increases		11·4		67·9		284·1		61·2		106·9	
decreases			2·9		—		5·3		13·3		—
Social Class distribution 1951 (based on 1931 classification)	**1,312·8**	**54·7**		**219·6**		**643·2**		**183·5**		**211·8**	
Major changes due to classification reassignment		3·2	2·2	26·8	17·1	38·9	66·4	45·9	25·4	3·4	7·1
Net changes unaccounted for		2·3		3·7		31·8		13·9		0·6	
Social Class distribution 1951 (based on 1951 classification)	**1,365·1**	**58·0**		**233·0**		**647·5**		**217·9**		**208·7**	

Table 66 is a summary of the changes in individual occupation groups shown in Occupation Table D which in turn is based upon changes shown in Table C. Some of these changes involved either in 1931, or 1951, or both, more than one social class. If more than one 1931 social class was affected such a change was distributed rateably to the individual social classes on the 1931 basis, and the balance estimated as inter-class transfer on the 1951 reassignment. These calculated values were italicised in Table D and being only approximations should be regarded with some caution.

The changes in numbers of occupied males in the 1931 occupation units resulted in net gains in Social Classes I, II and III and net losses in Social Classes IV and V. Among retired males, however, all the Social Classes showed net gains.

The major changes due to classification reassignment produced a considerable net loss in Social Class V and slight net gains in all the other Social Classes among the occupied, while among the retired Social Classes III and V showed net losses. Although the net effect of the changes due to classification reassignment was limited these changes made some considerable differences to the composition of the Social Classes in 1951 compared with 1931.

The changes in assignment which had the greatest numerical effect may be mentioned briefly. The main changes in Social Class I were the addition of chemists and metallurgists and civil service administrative and other higher officers, and the removal of auctioneers, estate agents and valuers; in Social Class II the main changes were the addition of book-keepers and the removal of commercial travellers; in Social Class III the addition of other ranks of the army, turners, millers and machine setters, and commercial travellers, and the removal of book-keepers and "other gardeners"; in Social Class IV the addition of "other gardeners" and assemblers and machine minders and the removal of other ranks of the army and turners, millers and machine setters; while in Social Class V the main change was the removal of assemblers and machine minders.

Social Classes, Socio-economic Groups, and Salary/wage earner Groups by age

Of the total occupied and retired male population Social Class I included 3 per cent, Social Class II 15 per cent, Social Class III 53 per cent, Social Class IV 16 per cent and Social Class V 13 per cent.

When compared with the age distribution of the total occupied and retired population, Social Class I was deficient at ages under 25, after which age the proportions were slightly higher than those for all occupied and retired males. This is partly due to the fact that persons in the occupations which comprise Social Class I often have late terminal education ages but having completed their education move at once into an occupation which forms part of Social Class I.

Social Class II shows a rather greater deficiency at ages under 25 than Social Class I (having 1.6 per cent under 20, compared with 2.7 per cent in Social Class I and 7.3 per cent for all occupied and retired; and 4.8 per cent at ages 20-24 compared with 7 per cent in Social Class I and 8.8 per cent for all occupied). In contrast to Social Class I the deficiency in Social Class II continues into the next age-group, 25-34. This difference is largely due to the fact that the occupations comprising Social Class II (Intermediate Occupations), while containing some which follow a similar career pattern to that which characterises Social Class I (such as veterinary surgeons and teachers), are largely occupations which are unlikely to be carried on by persons at the younger working ages; these are occupations which are either likely to be attained by promotion from a subordinate position (such as managers of industrial and commercial organisations), or involve the ownership of businesses which even on a fairly small scale is normally not possible at the relatively early working ages. (Shopkeepers, owners of restaurants and hotels, are examples of this latter type.)

The age distribution for Social Class III (skilled occupations) shows a slight excess of males at ages under 45 balanced by a similar deficiency at older ages. A reverse difference but on a smaller scale is found for Social Class IV (semi-skilled occupations) apart from the under 20 group which was higher than for the all occupied, but the departures from the all occupied percentages are small and probably of little significance.

Social Class V (unskilled workers) shows more variation from the proportions for the all occupied than Social Class IV. Social Class V had an excess over the age of 45 particularly in the 55-64 age-group and there were deficiencies below the age of 45, although only small at age 20-24. The majority of males in this class were labourers and other unskilled workers, but there were in

addition certain occupations such as messengers and watchmen which had age distributions biased towards the older ages.

The features shown up by the age distribution of the social classes become rather clearer when the occupied are divided to form the 13 Socio-economic Groups.

Socio-economic Group 1—farmers—shows clearly the effect which influences the age distribution of Social Class II. There were two thousand farmers (less than 1 per cent) aged under 20 and only 8,481 aged 20-24 (3 per cent). These percentages contrast with the 7 per cent and 9 per cent shown for all occupied and retired males in the age-groups under 20 and 20-24 respectively. The deficiency continued into the next age-group (25-34) which contained 13 per cent of all farmers compared with 20 per cent of all occupied males. At ages over 45 the proportions were correspondingly rather higher than for all occupied and retired males.

Socio-economic Group 2—agricultural workers—had a clear excess at the younger ages—23 per cent being aged under 25. There is a certain shift with advancing age from Socio-economic Group 2 to Socio-economic Group 1 which would partly explain this concentration at younger ages.

The data shown for Socio-economic Group 3 are the same as for Social Class I. The age distribution of Socio-economic Group 4 (other administrative, professional and managerial) is rather similar to that of Socio-economic Group 3; it relates to a set of occupations which are mainly within Social Class II, such as managers, teachers, veterinary surgeons, auctioneers, trained nurses, and proprietors and managers of hotels and restaurants. Another group which is included in Social Class II is Socio-economic Group 5 which consists of shopkeepers, including managers and proprietors of wholesale businesses. The age distribution for this socio-economic group shows a marked deficiency at ages under 35 as compared with all occupied males and corresponding, though more evenly spread, excesses above that age. Out of 562,299 occupied and retired males in this socio-economic group, only 991 were aged under 20, 10,924 between 20 and 24, while even between 25 and 34, the 71,610 shopkeepers enumerated were only 13 per cent of the total compared with 20 per cent of all occupied and retired males between these ages.

The age distribution for Socio-economic Group 6 (clerical workers) is generally similar to that for all occupied and retired males. Compared with all occupied and retired, Socio-economic Group 7 (shop assistants) had an excess below the age of 45 and deficiencies above that age. This is due to movement from this group into Group 5 at higher ages as more experienced shop assistants become either managers of retail businesses or else proprietors of their own businesses.

The age distribution of occupied and retired males in Socio-economic Group 8 (personal service) also shows a deficiency at ages under 45 and an excess at older ages, a feature which occurs in most of the separate occupations which go to make up the socio-economic group.

The age distribution of Socio-economic Group 9 (foremen) clearly indicates the effect of promotion, with low proportions below the age of 35 and higher than average proportions at higher ages, apart from those aged over 65.

Socio-economic Group 10 (skilled workers) differs little in age distribution from the total of occupied and retired males, being slightly in excess at ages 25-44 and deficient from 45 upwards, while for Socio-economic Group 11 (semi-skilled workers) the main feature is a deficiency in the over 65 age-group. The age distribution of Socio-economic Group 12 (unskilled workers) is deficient below the age of 45 and shows an excess above that age.

The final Socio-economic Group is 13 (armed forces other ranks) which, as would be expected, shows a concentration at the younger ages, 91 per cent being aged less than 35.

The final section of Table 67 shows civilian occupied males who were either managers or operatives classified by salary/wage earner group and age.

Salary earners are divided into: Group A—managerial, which accounted for 7 per cent of all employed male civilians; Group B—technical and professional, with 6 per cent; Group C—clerical workers, with 9 per cent.

Group A (managerial) shows a large deficiency as compared to the total at ages under 20—there being 2,500 out of 813,000 at this age, i.e. 0·3 per cent compared with the all employed figure of 7 per cent. The deficiency in Group A continued until the age of 35 after which age there was a corresponding excess. The deficiency at the early ages was greater for Group A than for Social Class I.

Group B (technical and professional) shows a slight deficiency below the age of 20 but a more noticeable feature is the deficiency above the age of 45. This group is heavily weighted by the age

Table 67.—Males in Social Classes, Socio-Economic Groups and Salary/Wage Earner groups classified by age

(numbers in thousands)

	Total	Age Last Birthday							Percentage at age							
		Under 20	20–24	25–34	35–44	45–54	55–64	65 and over	All Ages	Under 20	20–24	25–34	35–44	45–54	55–64	65 and over
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q
Social Classes (*occupied and retired*)																
Total	**15,428·6**	**1,120·0**	**1,361·2**	**3,091·1**	**3,262·7**	**2,846·2**	**1,987·9**	**1,759·5**	**100·0**	**7·3**	**8·8**	**20·0**	**21·2**	**18·4**	**12·9**	**11·4**
I	**510·3**	13·9	35·6	109·0	121·2	96·9	67·3	66·3	100·0	2·7	7·0	21·4	23·7	19·0	13·2	13·0
II	**2,243·0**	35·4	107·3	382·6	538·6	497·7	357·8	323·5	100·0	1·6	4·8	17·1	23·9	22·2	16·0	14·4
III	**8,160·8**	752·7	836·1	1,780·6	1,747·2	1,385·6	879·8	778·8	100·0	9·2	10·2	21·8	21·5	17·0	10·8	9·5
IV	**2,490·0**	202·3	218·3	479·8	490·8	462·2	335·8	300·8	100·0	8·1	8·8	19·3	19·6	18·6	13·5	12·1
V	**2,024·6**	115·7	163·8	339·0	364·9	403·9	347·2	290·1	100·0	5·7	8·1	16·7	18·0	20·1	17·1	14.3
Socio-Economic Groups (*occupied and retired*)																
Total	**15,428·6**	**1,120·0**	**1,361·2**	**3,091·1**	**3,262·7**	**2,846·2**	**1,987·9**	**1,759·5**	**100·0**	**7·3**	**8·8**	**20·0**	**21·2**	**18·4**	**12·9**	**11·4**
1	**317·4**	2·2	8·5	39·7	65·7	73·4	58·2	69·7	100·0	0·7	2·7	12·5	20·7	23·1	18·3	22·0
2	**772·6**	92·9	83·4	133·3	131·6	117·2	90·6	123·6	100·0	12·0	10·8	17·3	17·0	15·2	11·7	16·0
3	**510·3**	13·9	35·6	109·0	121·2	96·9	67·3	66·3	100·0	2·7	7·0	21·4	23·7	19·0	13·2	13·0
4	**1,413·0**	33·3	90·4	281·8	339·3	298·2	209·4	160·6	100·0	2·4	6·4	19·9	24·0	21·1	14·8	11·4
5	**562·3**	1·0	10·9	71·6	145·4	136·1	98·2	99·1	100·0	0·2	1·9	12·7	25·9	24·2	17·5	17·6
6	**757·8**	56·4	75·4	169·4	141·4	130·9	106·3	78·0	100·0	7·4	10·0	22·3	18·7	17·3	14·0	10·3
7	**506·7**	49·7	55·4	124·9	112·1	73·1	49·4	42·1	100·0	9·8	10·9	24·8	22·1	14·4	9·7	8·3
8	**339·5**	13·1	19·1	49·9	69·0	72·8	62·9	52·6	100·0	3·9	5·6	14·7	20·3	21·5	18·5	15·5
9	**521·5**	4·3	14·9	74·8	140·3	143·6	86·1	57·6	100·0	0·8	2·9	14·3	26·9	27·6	16·5	11·0
10	**5,538·3**	401·6	493·2	1,268·0	1,246·8	974·1	595·6	559·0	100·0	7·3	8·9	22·8	22·5	17·6	10·8	10·1
11	**1,702·4**	118·7	149·3	361·5	361·1	328·9	222·8	160·0	100·0	7·0	8·8	21·2	21·2	19·3	13·1	9·4
12	**1,986·9**	114·3	162·1	334·7	359·2	395·8	338·0	282·8	100·0	5·8	8·2	16·8	18·1	19·9	17·0	14·2
13	**500·0**	218·6	163·1	72·5	29·5	5·2	3·1	8·0	100·0	43·8	32·6	14·5	5·9	1·0	0·6	1·6
Salary/Wage Earner groups (*civilian employed persons*)																
Total	**12,037·1**	**871·0**	**1,138·6**	**2,783·3**	**2,827·4**	**2,413·5**	**1,545·4**	**458·0**	**100·0**	**7·2**	**9·5**	**23·1**	**23·5**	**20·1**	**12·8**	**3·8**
A	**813·2**	2·5	22·3	140·9	243·6	225·1	137·1	41·6	100·0	0·3	2·7	17·3	30·0	27·7	16·9	5·1
B	**681·9**	41·6	84·9	200·2	164·9	108·1	63·8	18·2	100·0	6·1	12·5	29·3	24·1	15·9	9·4	2·7
C	**1,080·1**	70·6	116·6	273·9	236·9	203·9	141·0	37·1	100·0	6·5	10·8	25·4	21·9	18·9	13·1	3·4
D	**7,826·7**	584·5	745·4	1,830·2	1,839·3	1,579·6	986·0	261·8	100·0	7·5	9·5	23·4	23·5	20·2	12·6	3·3
E	**992·0**	79·6	87·6	210·6	221·6	192·9	142·5	57·4	100·0	8·0	8·8	21·2	22·4	19·4	14·4	5·8
F	**643·2**	92·3	81·7	127·5	121·0	103·9	75·0	41·8	100 0	14·3	12·7	19·8	18·8	16·2	11·7	6·5

distribution of certain occupations, such as draughtsmen and laboratory assistants and technicians, which had age distributions concentrated at the younger ages. Another numerically strong occupation in this group is teachers, of whom 64 per cent were aged between 25 and 45.

The age distribution of clerical workers (Group C) was similar to that for all employed.

Wage earners are divided into: Group D—industrial, Group E—non-industrial and Group F—agricultural, Group D containing 65 per cent of all employed male civilians, Group E 8 per cent and Group F 5 per cent.

Group D, as expected, differs little in age distribution from the total, of which it forms 65 per cent.

Group E (non-industrial wage earners) shows slight deficiencies between the ages of 20 and 55, and compensating excesses at both extremes of the age distribution. This group although mainly consisting of occupations such as shop assistants, roundsmen, postmen, policemen, firemen, also includes occupations such as domestic servants, messengers and watchmen which have unusual age distributions.

Agricultural wage earners had an age distribution which is biased towards the younger ages—having deficiencies at all ages between 25 and 65—and 14 per cent aged less than 20 compared with only 7 per cent among all employed. It should however be remembered that the data of these younger ages are a limited sample due to the large proportion of young men in the armed forces.

Geographical and age distribution of occupation

The geographical distributions of those enumerated in selected occupations are shown in Tables 68 to 74. Nineteen occupation orders are shown out of a total of twenty seven, the orders excluded covering groups such as fishermen, defence forces, persons engaged in entertainments and sport, warehousemen, storekeepers and packers, stokers, stationary engine drivers, and various groups of loosely defined workers. In addition occupation groups whose geographical distribution follows closely the distribution of population in England and Wales have been omitted, including various groups occupied in transport, personal service and commercial and financial occupations.

Lines are included in these tables for England and Wales, Standard Regions and Conurbations and for any county (including associated county boroughs), county borough, or urban area of more than 50,000 population, which contained 2 per cent of the 1951 England and Wales total for any occupation order, sub-order, group or code shown in that particular table. A remainder line has been included for each selected occupation group showing the persons not accounted for by the identified counties.

Agricultural, Horticultural and Forestry Occupations (Order II)

While in this order as a whole numbers had decreased since 1931 from 1,172,256 to 1,058,786 persons some of the individual occupations increased and others decreased between the two censuses.

In contrast to other occupation groups within this order, the number of male farmers, farm foremen, etc., had increased by 10 per cent since 1931 (from 247,467 to 272,387). A comparison of the industrial status distributions at the two censuses (see Table 63) shows this increase to have been concentrated among farmers working on their own account, the number in this status having increased from 90,000 to 154,000 between 1931 and 1951. The geographical distribution of farmers, farm foremen, etc., is naturally determined by the availability of land. The South Western, Eastern and North Midland Regions and Wales which accounted for 54 per cent of farmers, etc., but only 26 per cent of the whole occupied population cover 51 per cent of the land. As a proportion of the occupied population, farmers, etc., represented 19 per 1,000 in England and Wales as a whole, 46 per 1,000 in the South Western Region, 45 per 1,000 in Wales, 33 in the Eastern Region and 28 in the North Midland. English administrative counties with the highest proportions were: Lincolnshire (Holland) (122 per 1,000), Isle of Ely (116), Westmorland (115), Herefordshire (105), Cornwall (98), Devon (92), and those in Wales were: Radnorshire (237 per 1,000), Montgomeryshire (232) and Cardiganshire (226). There had been little change in the age distribution of farmers, etc., since 1931, which may be contrasted with the general ageing of the occupied population. There were relatively fewer farmers, etc., under the age of 25 than in the occupied population as a whole; this is due partly to the skilled and responsible nature of these occupations and partly to the fact that farmers' sons may not acquire a farm of their own until they have gained experience on the family farm. There was a considerably higher than average proportion of farmers, farm

Table 68.—Agricultural, Horticultural and Forestry Occupations; Mining and Quarrying Occupations; Workers in the treatment of Non-metalliferous Mining Products (other than Coal)

England and Wales, Regions, Conurbations and selected areas

II Agricultural, etc. occupations	II.1 Agricultural and horticultural occupations	010, 011 Farmers, farm foremen, etc.	013-015 Gardeners, nurserymen, seedsmen	012, 019 Other agricultural workers	Area	I-XXVII All Occupations	III Mining and quarrying occupations	041-047 Workers below ground in coal mines	049 Workers above ground in coal mines	IV Workers in ceramics glass, cement, etc.
1,058,786	959,037	290,971	181,768	486,298	**England and Wales—Total**	20,336,418	591,030	440,248	71,957	127,517
					Percentage distribution by Area					
					Regions of England, Wales					
7·1	6·9	8·7	4·3	6·9	Northern	6·7	25·0	25·2	25·5	4·1
6·0	6·1	6·9	5·8	5·7	East and West Ridings	9·4	19·9	20·7	21·5	7·0
7·0	7·4	7·9	9·7	6·2	North Western	15·4	8·2	8·4	9·2	11·0
11·3	11·2	11·4	6·5	12·9	North Midland	7·7	15·8	16·0	15·2	6·0
9·3	9·4	9·6	8·6	9·5	Midland	10·6	8·7	8·7	9·8	44·8
16·3	16·0	12·0	11·9	19·7	Eastern	6·7	0·2	0·0	0·0	3·8
12·4	12·5	6·7	25·9	11·0	London and South Eastern	25·9	1·2	1·0	1·0	15.3
8·6	8·3	6·5	12·2	8·0	Southern	5·8	0·2	0·0	0·0	2·4
13·5	13·7	16·0	11·5	13·1	South Western	6·4	2·2	1·1	0·8	2·9
8·5	8·5	14·3	3·6	7·0	Wales (including Monmouthshire)	5·4	18·6	18·9	17·0	2·7
					Conurbations					
2·8	2·9	0·7	9·9	1·6	Greater London	20·6	0·1	0·0	0·0	11·9
1·0	1·1	0·9	2·5	0·6	South East Lancashire	6·1	1·5	1·6	1·6	3·1
0·6	0·7	0·3	2·2	0·3	West Midlands	5·5	0·9	0·9	0·9	5·8
1·1	1·1	1·3	2·1	0·7	West Yorkshire	4·1	2·4	2·5	2·3	2·2
0·5	0·6	0·2	1·7	0·4	Merseyside	3·1	0·2	0·2	0·1	0·9
0·2	0·2	0·1	0·6	0·2	Tyneside	1·8	3·0	3·2	3·1	1·4
					Counties (A.Cs. with associated C.Bs.)					
1·4	1·3	0·8	2·4	1·2	Berkshire	0·9	0·0	0·0	0·0	0·4
2·6	2·7	2·6	3·4	2·5	Cheshire	2·9	0·1	0·1	0·1	1·0
2·5	2·6	3·8	1·7	2·3	Cornwall	0·7	0·7	0·0	—	0·4
1·4	1·4	2·0	0·5	1·3	Cumberland	0·6	1·1	1·0	0·9	0·1
1·6	1·6	2·2	1·2	1·4	Derbyshire	1·8	6·9	6·9	6·7	3·6
4·0	4·1	5·1	3·5	3·6	Devon	1·6	0·3	0·0	0·0	0·8
1·3	1·3	1·4	1·3	1·3	Durham	3·1	16·6	17·4	16·9	2·5
3·6	3·6	2·4	4·0	4·1	Essex	4·6	0·0	0·0	0·0	2·9
2·1	2·1	2·0	2·4	2·0	Gloucestershire	2·1	0·6	0·6	0·4	0·8
1·7	1·7	0·8	3·1	1·7	Hertfordshire	1·4	0·0	0·0	0·0	0·9
4·5	4·5	2·9	5·3	5·2	Kent	3·3	1·0	1·0	0·9	2·3
4·3	4·5	5·1	6·3	3·6	Lancashire	12·4	7·9	8·3	9·1	9·5
0·0	*0·0*	*0·0*	*0·1*	*0·0*	*St. Helens C.B.*	*0·3*	*0·8*	*0·9*	*0·9*	*3·5*
					Lincolnshire—					
1·7	1·7	1·4	0·4	2·4	Parts of Holland	0·2	0·0	0·0	0·0	0·0
2·6	2·6	2·6	0·9	3·1	Parts of Lindsey	1·0	0·1	0·0	0·0	0·3
0·4	0·4	0·1	1·7	0·1	London	8·8	0·0	0·0	0·0	4·7
0·9	1·0	0·3	3·3	0·5	Middlesex	5·6	0·0	0·0	0·0	3·5
4·5	4·3	3·3	2·2	5·7	Norfolk	1·2	0·0	0·0	—	0·1
1·5	1·4	1·4	1·1	1·5	Northumberland	1·7	6·6	6·7	7·7	1·2
1·4	1·4	1·4	1·3	1·4	Nottinghamshire	2·0	6·9	7·3	6·8	1·0
2·2	2·2	2·5	0·9	2·5	Shropshire	0·7	0·5	0·4	0·4	0·4
2·9	3·0	3·4	2·5	2·9	Somerset	1·2	0·6	0·4	0·3	0·7
2·8	2·7	1·9	4·6	2·4	Southampton	2·6	0·0	0·0	0·0	0·5
2·1	2·2	2·6	1·9	2·1	Staffordshire	3·9	6·0	6·0	6·8	40·0
0·1	*0·1*	*0·1*	*0·2*	*0·1*	*Stoke on Trent C.B.*	*0·7*	*1·6*	*1·6*	*2·0*	*30·5*
0·0	*0·0*	*0·0*	*0·1*	*0·0*	*Newcastle under Lyme M.B.*	*0·2*	*0·5*	*0·5*	*0·5*	*2·9*
1·9	1·8	1·4	1·1	2·4	Suffolk, East	0·7	0·0	0·0	—	0·1
2·3	2·3	0·9	7·0	1·4	Surrey	3·6	0·0	0·0	0·0	1·7
2·1	2·1	1·5	4·0	1·7	Sussex, East	1·2	0·1	0·0	0·0	0·5
1·6	1·6	0·8	2·9	1·5	Sussex, West	0·6	0·0	0·0	—	0·4
1·8	1·8	1·5	2·7	1·7	Warwickshire	4·5	2·1	2·1	2·4	2·3
1·9	1·9	1·6	1·4	2·2	Wiltshire	0·9	0·0	0·0	—	0·1
1·8	1·8	1·4	2·5	1·8	Worcestershire	1·2	0·2	0·1	0·1	1·9
					Yorkshire—					
1·9	1·9	1·9	1·2	2·1	East Riding	1·1	0·1	0·0	0·0	0·3
2·3	2·3	3·1	1·2	2·3	North Riding	1·1	0·4	0·0	0·0	0·2
4·1	4·2	5·0	4·6	3·6	West Riding	8·3	19·9	20·7	21·6	6·7
1·1	1·2	2·2	0·1	0·9	Carmarthenshire	0·4	1·0	1·1	1·0	0·2
0·9	0·9	1·2	1·0	0·7	Glamorganshire	2·5	10·4	11·2	9·9	1·1
0·0	*0·0*	*0·0*	*0·0*	*0·0*	*Rhondda U.D.*	*0·2*	*2·1*	*2·4*	*1·9*	*0·1*
0·7	0·7	1·0	0·5	0·5	Monmouthshire	0·9	4·3	4·7	4·2	0·5
21·6	21·2	24·5	13·9	22·4	Remainder	8·7	5·6	4·0	3·8	6·4

foremen, etc., in the over 65 age-group; in fact 6 per cent of them were recorded as still working at ages of 70 and over. 3 per cent of those recorded as retired from the occupations of farmer, farm foreman, etc., were below the age of 55, compared with 6 per cent for all retired males.

The number of male "other" agricultural workers (012, 019, 029) was 425,561, a decline of 32 per cent from the corresponding 1931 total of 624,582, and this group accounted for 30 per thousand of all occupied males compared with 47 per thousand in 1931. Most farm workers are included in this group and it also includes a relatively small number of males in occupations ancillary to agriculture. The geographical distribution of agricultural workers (012, 019) differs slightly from that of farmers. The London and South Eastern Region replaces Wales among the regions accounting for the largest proportions. The administrative counties in which agricultural workers formed the highest proportions of the total occupied population were: Lincolnshire (Holland) 25.9 per cent, Isle of Ely 22.7, Norfolk 19.0, Suffolk, West 16.3, Suffolk, East 15.5 and Herefordshire 15.1 in England: and Radnorshire 16.5 and Montgomeryshire 16.3 in Wales. The age distribution of agricultural workers shows that 31 per cent were aged under 25 compared with 18 per cent among all occupied males and there were relatively fewer than among all occupied males between the ages of 25 and 64. The 1951 male age distribution differs little from that found in 1931. Of all males in this group 3 per cent were aged 15 compared with 1 per cent among all occupied males, reflecting a somewhat higher degree of recruitment immediately to the occupation from those leaving school at the minimum school leaving age. Among occupied males in the group of "other" agricultural workers (012, 019, 029) 5 per cent were aged 65 and over compared with 4 per cent for all occupied males. Of retired males with former occupations in this group 8 per cent were below the age of 60, almost the same as for all occupied males. While the number of males occupied as agricultural workers has declined since 1931 the number of females has increased from 33,629 to 70,589 and they now account for 11 per thousand of all occupied females. 17 per cent of the female workers in this group were classified as unpaid assistants and a further 11 per cent were part-time workers.

The number of males classified as market gardeners, nurserymen, seedsmen, flowergrowers, their foremen, and other gardeners (013-015) had declined since 1931 from 216,569 to 174,381, accounting in 1951 for 12 per thousand occupied males as against 16 per thousand in 1931. Over a quarter of those in this occupation group were found in the London and South Eastern Region and 10 per cent within the Greater London conurbation. Surrey had the highest number of any individual county followed by Lancashire and Kent. Their age distribution was rather older than average; only 42 per cent being under 45 compared with 63 per cent of all occupied males, and there was a tendency to continue in this occupation group beyond the normal retiring age.

Workers below ground in Coal mines (041-047)

This occupation group contained 440,248 males, 41 per cent less than in 1931, and its proportion of all occupied males had fallen from 56 per thousand in 1931 to 31 per thousand. The geographical distribution shows these occupations concentrated in a few counties; ten counties identified in Table 68 containing 91 per cent of all workers below ground in coal mines, the same proportion as these counties accounted for in 1931. The counties with the largest numbers were Yorkshire, West Riding (with 21 per cent of the total), Durham (with 17 per cent) and Glamorganshire (with 11 per cent). The age distribution of this occupation group shows that half those occupied in it were between the ages of 25 and 44, a further third were aged 45 to 64 and only 14 per cent were aged under 25. The main change since 1931 was in the under 25 age-group which contained 26 per cent in 1931, the reduction being rather more than can be accounted for by the general ageing of the occupied population and probably reflecting the smaller numbers entering coal mining in 1951. The high proportion of retired to occupied for workers below ground in coal mining, 17 per cent compared with 10 per cent for all occupations, reflects the decreasing numbers in coal mining, the retired being survivors from a larger number than were currently in the occupation. Only 80 per thousand of the occupied were aged 60 or over compared with 101 per thousand for all occupations, and of the retired males giving this as their former occupation, 8 per cent were below the age of 60 compared with 6 per cent for all occupations.

Workers in the treatment of Non-metalliferous Mining products (other than Coal) (Order IV)

The number of males occupied as workers in ceramics, glass, cement, etc. had increased since 1931 from 76,828 to 81,161—an increase of 6 per cent, which is less than the percentage increase for all occupied males. In this occupation order males represented 64 per cent of the total. Persons occupied as workers in ceramics, glass, cement, etc. tended to be concentrated in relatively few areas; thus 40 per cent of them were found in Staffordshire (31 per cent in Stoke on Trent C.B.), the centre of the manufacture of china, pottery and earthenware, and Lancashire accounted for

Table 69.—Coal Gas and Coke Makers, Workers in Chemical and Allied Trades; Workers in Metal Manufacture, Engineering and Allied Trades | **England and Wales, Regions, Conurbations and selected areas**

V Coal gas, etc. makers, workers in chemicals	Area	I-XXVII All Occupations	VI Workers in metal manufacture, engineering	VI.1 Foremen, overlookers	VI.4 Foundry workers (excluding pattern makers)	VI.9 Metal machinists	VI.10 Fitters, machine erectors	184 Motor and motor cycle mechanics	VI.12 Plumbers, pipe fitters, etc.	VI.16 Electrical apparatus makers, etc. (n.e.s.)
104,090	**England and Wales—Total**	20,336,418	2,458,095	124,959	127,828	233,070	733,356	136,169	145,499	341,492
	Percentage distribution by Area									
	Regions of England, Wales									
8·7	Northern	6·7	7·2	6·4	8·2	4·9	6·9	6·2	8·7	6·6
8·8	East and West Ridings	9·4	10·3	10·0	13·9	13·0	9·3	9·6	8·4	8·0
27·1	North Western	15·4	14·7	14·0	16·0	17·0	15·4	13·3	16·7	15·1
7·1	North Midland	7·7	7·5	7·1	11·5	8·3	8·5	8·2	6·3	6·6
8·0	Midland	10·6	18·2	17·5	28·9	26·4	13·8	12·0	8·9	11·4
4·9	Eastern	6·7	5·5	5·8	4·4	5·0	6·4	8·1	6·2	6·4
19·1	London and South Eastern	25·9	21·5	23·4	8·3	17·0	22·2	21·6	27·8	29·4
2·6	Southern	5·8	5·0	5·3	2·4	2·9	5·9	7·2	6·4	5·8
3·4	South Western	6·4	5·2	5·3	2·8	3·7	6·7	8·9	6·4	6·0
10·3	Wales (including Monmouthshire)	5·4	4·9	5·2	3·6	1·8	4·9	4·9	4·2	4·7
	Conurbations									
16·7	Greater London	20·6	17·9	19·8	7·1	14·6	17·7	15·4	21·5	24·2
6·9	South East Lancashire	6·1	6·3	6·2	8·5	9·6	6·3	5·0	6·6	6·4
4·3	West Midlands	5·5	12·0	11·6	21·0	17·2	7·5	5·9	5·0	6·0
3·8	West Yorkshire	4·1	4·0	4·1	7·1	6·4	4·2	4·4	3·9	3·5
5·5	Merseyside	3·1	2·7	2·5	0·9	1·7	2·8	2·5	3·7	3·4
1·0	Tyneside	1·8	2·5	2·3	2·3	2·4	2·4	1·6	2·9	2·2
	Counties (A.Cs. with associated C.Bs.)									
7·1	Cheshire	2·9	2·9	3·0	1·9	2·9	3·3	2·9	3·5	2·8
3·5	Derbyshire	1·8	2·2	1·9	5·9	2·4	2·3	1·7	1·6	1·6
0·5	Devon	1·6	1·1	1·1	0·4	0·4	1·3	2·5	1·8	1·6
5·0	Durham	3·1	3·7	3·1	4·0	2·7	3·4	2·4	4·3	3·3
6·9	Essex	4·6	4·2	4·9	3·0	3·1	4·2	3·9	5·1	5·2
1·6	Gloucestershire	2·1	2·1	2·2	1·5	2·1	2·8	2·4	2·0	2·0
2·2	Kent	3·3	2·7	3·2	1·3	1·8	3·1	3·3	3·8	3·8
19·7	Lancashire	12·4	11·7	10·9	14·0	14·1	11·9	10·3	13·1	12·1
2·4	*Liverpool C.B.*	*1·8*	*1·5*	*1·2*	*0·6*	*1·0*	*1·5*	*1·3*	*1·8*	*1·9*
2·3	*Manchester C.B.*	*1·8*	*1·8*	*1·5*	*2·1*	*2·7*	*1·7*	*1·5*	*2·2*	*2·0*
0·6	Leicestershire	1·5	1·4	1·4	1·6	2·0	1·7	1·6	1·2	1·4
6·0	London	8·8	6·1	5·0	2·3	4·3	6·0	5·4	9·0	8·6
3·3	Middlesex	5·6	5·9	7·5	1·8	5·9	5·9	4·9	5·5	7·7
0·8	Northumberland	1·7	1·8	1·6	1·2	1·4	1·9	1·8	2·3	1·8
2·1	Nottinghamshire	2·0	1·8	1·6	1·7	1·6	2·0	2·0	1·5	1·8
1·0	Southampton	2·6	2·3	2·6	0·7	1·1	2·8	2·9	3·1	2·8
3·4	Staffordshire	3·9	6·5	5·9	16·9	7·9	4·5	3·8	3·1	3·8
0·3	*West Bromwich C.B.*	*0·2*	*0·6*	*0·5*	*2·4*	*0·7*	*0·3*	*0·2*	*0·2*	*0·2*
1·9	Surrey	3·6	3·0	3·6	1·0	2·5	3·3	3·7	4·0	4·1
3·5	Warwickshire	4·5	9·0	8·8	7·6	15·4	7·0	5·6	4·1	5·8
1·7	*Birmingham C.B.*	*2·8*	*5·8*	*5·7*	*4·4*	*8·9*	*3·8*	*3·2*	*2·8*	*3·5*
1·1	*Coventry C.B.*	*0·6*	*1·6*	*1·5*	*1·3*	*4·0*	*1·7*	*1·0*	*0·4*	*1·0*
1·0	Worcestershire	1·2	2·0	2·0	3·0	2·5	1·5	1·4	1·1	1·1
	Yorkshire—									
2·0	North Riding	1·1	1·1	1·0	2·4	0·6	0·9	1·2	1·3	0·9
7·0	West Riding	8·3	9·4	9·2	13·1	12·5	8·4	8·5	7·4	7·2
0·7	*Leeds C.B.*	*1·2*	*1·3*	*1·2*	*2·1*	*1·9*	*1·4*	*1·4*	*1·1*	*1·1*
0·4	*Sheffield C.B.*	*1·2*	*2·6*	*2·6*	*2·5*	*3·8*	*1·3*	*1·2*	*1·0*	*1·1*
2·8	Flintshire	0·3	0·2	0·3	0·2	0·1	0·3	0·4	0·4	0·3
2·8	Glamorganshire	2·5	2·6	2·8	1·7	1·0	2·6	1·9	2·0	2·5
2·7	Monmouthshire	0·9	0·9	1·2	1·0	0·5	0·9	0·6	0·7	0·8
12·6	Remainder	19·7	15·4	15·2	11·8	11·2	18·0	24·9	18·1	17·1

9 per cent—4 per cent being in the glass making centre of St. Helens C.B. The age distribution of males in this occupation order was:—

Under 25	25-44	45-64	65 and over
17	55	26	2

The main change in the age distribution since 1931 has been a proportional transfer from the under 25 age-group which had 30 per cent in 1931 to the 25-44 age-group which in 1931 accounted for 41 per cent. Although those occupied as workers in ceramics, glass, cement, etc., had an older age distribution than the corresponding workers in 1931, it was still a younger age distribution than that of all occupied males, having 72 per cent under the age of 45 compared with 63 per cent of all occupied males. The age distribution of the youngest occupied males in this order was similar to that for all occupations. Among the older workers only 2 per cent were over 65 compared with 4 per cent among all occupied males, while among the retired only 12 per cent were under 65 compared with 16 per cent of all retired males. These two features in combination indicate widespread retirement from these occupations around the age of 65.

Coal Gas and Coke makers, workers in Chemical and allied trades (Order V)

The number of males in this occupation order had nearly doubled since 1931, increasing from

47,067 to 93,000 and within it the number of males occupied as skilled workers in chemicals rose from 28,997 to 66,474, an increase of 129 per cent. Skilled workers in chemicals (101, 102, 103, 104, 109) include mixers, blenders, grinders, furnacemen, kilnmen, fillers of explosives and other skilled workers. The geographical distribution of all those occupied in this order is mainly influenced by the distribution of the chemical workers, both on account of their numerical strength and the fact that coal gas is normally produced near to the centres of consumption and therefore those occupied in it are distributed similarly to the total occupied population. The largest geographical concentration was found in the North Western Region (27 per cent), followed by the London and South Eastern Region (19 per cent) and Wales (10 per cent). Among the individual counties, those accounting for the greatest proportions of persons occupied as coal gas, etc., makers and workers in chemicals were Lancashire (20 per cent), Cheshire, Essex, and Yorkshire, West Riding (7 per cent each), London (6 per cent) and Durham (5 per cent). The age distribution of skilled workers in chemicals shows relatively few males in the under 25 age-group and a relatively high proportion in the 25-44 age-group compared with the age distribution of all occupied males. This was also true in 1931 but the differences between all occupied males and males occupied as skilled workers in chemicals were less well marked than in 1951. The proportion of males retired from chemical and allied trades (100-109) to males occupied in this group was 5 per cent, a low figure to be expected from an industry which was expanding. In the same occupation group only 15 per thousand of the occupied were over 65 years of age compared with 42 per thousand of all occupied males, and of those males retired from this occupation group 10 per cent were under 65 compared with 16 per cent of all retired males, while 62 per cent of males retired from this occupation group were aged 65 to 74 compared with 53 per cent of all retired males.

Workers in Metal Manufacture, Engineering and allied trades (Order VI)

The number of persons in this order had increased by 45 per cent since 1931, being 2,458,095 compared with 1,698,875. Of this number 2,260,189 (92 per cent) were males, who accounted for 160 out of every thousand occupied males compared with 118 per thousand in 1931. The London and South Eastern Region contained 22 per cent of those occupied in this order compared with 26 per cent of all occupied persons, after which the next most important regions were the Midland (18 per cent), North Western (15 per cent) and East and West Ridings (10 per cent). The Greater London and West Midland conurbations together had 30 per cent of workers in metal manufacture and engineering, and the individual counties which had the greatest proportions include Lancashire (12 per cent), Yorkshire, West Riding, and Warwickshire (each 9 per cent), Staffordshire (7 per cent). The importance of the Black Country is reflected in the figures for Warwickshire and Staffordshire while Birmingham C.B. alone accounted for 6 per cent of those occupied in this order. Combining the above counties accounts for 37 per cent of the persons occupied as workers in metal manufacture and engineering whereas in 1931 the same counties accounted for 41 per cent, which indicates some increase in dispersion since 1931. The percentage age distribution of males occupied as workers in metal manufacture and engineering was:—

Under 25	25-44	45-64	65 and over
20	50	28	2

Any change in this distribution since 1931 can be attributed to the ageing of all occupied males to which reference has already been made. Compared with the age distribution of all occupied males, those occupied in metal manufacture and engineering were a little younger, having 70 per cent aged under 45 compared with 63 per cent for all occupied. Among all occupied males under 25, 18 per cent were in metal manufacture and engineering—more than in any other occupation order; this is also true for all the individual age-groups identified in Table 64, apart from 18-19 at which ages there were more in Defence Services (Order XX). The proportion of retired to occupied in this occupation order was 6 per cent compared with 10 per cent for all occupations. The age distribution of the retired males is similar to that for all occupied males so that the relative scarcity of occupied males over 60 years of age in this occupation order—7 per cent compared with 10 per cent among all occupied males—was probably due to the expansion which had occurred in these occupations, rather than to any tendency to early retirement.

In contrast to the increase in the numbers of those occupied as workers in metal manufacture and engineering, the number of males occupied as smiths and forgemen (145-149) had fallen by 42 per cent since 1931—from 101,322 to 58,363, their proportion of all occupied males having decreased from 8 to 4 per thousand. The percentage age distribution of smiths and forgemen is older than that of all males occupied in metal manufacture and engineering, 47 per cent being over the age of 45 compared with 30 per cent, and 17 per cent being over the age of 60. Those retired from the former occupations of smiths and forgemen amounted to 21 per cent of the corresponding occupied males, more than double the percentage for all male occupations, while the age distribu-

tion of the retired was biased towards the higher ages, only 6 per cent being under 65 years of age and 41 per cent being 75 years old or more—all typical of an occupation group whose size was decreasing.

The numbers of males occupied as platers and shipwrights (160,164) and as platers' labourers (161) had both increased since 1931, the former by 7 per cent from 47,515 to 50,948 and the latter by 12 per cent from 10,308 to 11,580. Riveters and their labourers on the other hand had decreased by 35 per cent from 22,964 to 14,913. The age distributions of platers, riveters and shipwrights and of platers' and riveters' labourers differ in that 20 per cent of the former group were aged under 25 (of whom over half were apprentices) compared with 12 per cent of their labourers, a proportion which had fallen from 35 per cent in 1931, indicating a lack of new entrants. Of the 9,597 males who were retired platers, riveters and shipwrights, amounting to 15 per cent of the occupied, only 4 per cent were under 60.

The number of males occupied as turners, millers, machine setters, grinders and drillers (171-177, 268) had increased by 20 per cent from 184,641 in 1931 to 220,723. Of this number 59 per cent were in the 25 to 44 age-group compared with 44 per cent in 1931 and the proportion who were under 25 had fallen from 30 per cent in 1931 to 11 per cent, again indicating a lack of new entrants. The geographical distribution of sub-order 9 which excludes edge tool grinders (268) differed a little from that of all persons in metal manufacture and engineering, with a greater concentration in the East and West Ridings, North Western, and Midland Regions which together accounted for 56 per cent of this occupation group compared with 43 per cent of persons occupied in metal manufacture and engineering. Warwickshire accounted for 15 per cent (Birmingham C.B. having 9 per cent), Lancashire 14 per cent, and Yorkshire, West Riding 13 per cent.

The number of males occupied as fitters and machine erectors (181-189) had increased by 70 per cent since 1931 (from 428,718 to 728,801) and their proportion of all occupied males had risen from 32 to 52 per thousand during the same period. The regional distribution of this group was similar to that for all metal manufacture and engineering, the London and South Eastern Region (22 per cent), the North Western Region (15 per cent) and the Midland Region (14 per cent) having the largest concentrations while among the counties Lancashire (12 per cent), Yorkshire, West Riding (8 per cent), Warwickshire (7 per cent) and London and Middlesex (each 6 per cent) were the only ones to exceed 5 per cent. Fitters and machine erectors (181-188), with the exclusion of their mates, had an age distribution little different from that of all males occupied in metal manufacture and engineering while machine erectors' and fitters' mates had an older age distribution having 41 per cent over 45 compared with 30 per cent for the whole occupation order. Motor and motor cycle mechanics (184) were younger, 79 per cent of this group being under 45, 14 per cent being classified as apprentices. Fitters and machine erectors accounted for 10 per cent of all occupied males aged 15 and 9 per cent of those aged 16 and 17. The low proportion of retired to occupied reflects an occupation group which was expanding. The age distribution of all male retired fitters and machine erectors is very similar to that of all retired males but motor and motor cycle mechanics are noteworthy in having 33 per cent of retired males below the age of 65 compared with 16 per cent for all retired males while only 4 per cent of the occupied were over 60 compared with 10 per cent for all occupied males.

The number of males occupied as electrical fitters and electricians (241, 242) had increased by 82 per cent since 1931 from 110,890 to 201,780 and the number of males occupied as radio, telephone engineers; linemen, etc. (231, 237, 239, 243, 249) had increased by 168 per cent from 38,749 to 103,852. The geographical distribution of persons occupied in electrical engineering is shown in Table 69. There was a greater concentration in the London and South Eastern Region (29 per cent) than for other identified groups of the occupation order, the other important Regions being the North Western (15 per cent) and the Midland (11 per cent). The Greater London conurbation accounted for 24 per cent and there was a marked concentration over the home counties to which London (9 per cent), Middlesex (8 per cent), Essex (5 per cent) and Kent and Surrey (each 4 per cent) all contributed, although the county having the greatest proportion was Lancashire (12 per cent) and other concentrations occurred in Yorkshire, West Riding (7 per cent) and Warwickshire (6 per cent). Among male radio, telephone engineers, linemen, etc., 58 per cent were in the 25-44 age-group compared with 50 per cent for all males occupied in metal manufacture and engineering while electrical fitters and electricians had a third of their number in the under 25 age-group. Table 65 again shows for electrical engineering the low proportion of retired to occupied which generally characterises occupations which are expanding.

Textile Workers (Order VII)

The number of textile workers had decreased by 37 per cent since 1931 being 556,768 compared with 879,457, of whom 359,129 (65 per cent) were females. The percentage decrease was a little

greater among females than males being 38 per cent compared with 34 per cent. Since 1931 the proportion of the occupied population who were textile workers had decreased from 47 to 27 per thousand, while female textile workers accounted in 1951 for 57 per thousand occupied females compared with 104 per thousand in 1931. Textile workers were concentrated in the North Western (47 per cent), the East and West Ridings (29 per cent) and the North Midland (14 per cent) Regions. Among individual counties Lancashire had 42 per cent, Yorkshire, West Riding, 28 per cent while no other county had more than the 6 per cent found in Leicestershire. In 1931 Lancashire accounted for 50 per cent of textile workers and Yorkshire, West Riding, for 26 per cent. The following are the percentage age distributions of male and female textile workers in 1951 and 1931:—

		Under 25	25-44	45-64	65 and over
1951	Male	14	43	38	5
	Female	28	41	30	1
1931	Male	25	42	29	4
	Female	40	45	14	1

Both male and female textile workers had an older distribution in 1951 than they had in 1931, the differences between the distributions for the two dates being more than can be accounted for by

Table 70.—Textile Workers; Tanners, etc., Leather Goods Makers, Fur Dressers — **England and Wales, Regions, Conurbations and selected areas**

VII Textile workers	VII.2 Spinners, doublers	301, 302 Winders, reelers, beamers, warpers	VII.4 Weavers	VII.6 Bleachers, dyers, finishers	Area	I-XXVII All Occupations	VIII Leather workers, fur dressers	VIII.2 Boot and shoe makers
556,768	79,321	85,551	123,143	115,770	England and Wales—Total ..	20,336,418	181,740	135,313
					Percentage distribution by Area			
					Regions of England, Wales			
1·5	1·3	1·1	1·5	1·6	Northern	6·7	3·6	3·5
28·7	36·4	21·8	29·5	33·9	East and West Ridings	9·4	6·3	4·5
47·1	55·3	60·3	58·5	29·8	North Western	15·4	14·4	12·7
13·6	3·2	9·1	2·2	22·2	North Midland	7·7	33·1	40·8
3·7	1·5	4·5	4·3	5·2	Midland	10·6	7·4	5·4
1·0	0·3	0·6	1·0	1·2	Eastern	6·7	8·8	10·3
1·9	0·3	0·6	0·7	3·2	London and South Eastern ..	25·9	16·4	13·0
0·5	0·3	0·2	0·5	0·6	Southern	5·8	2·2	2·1
1·3	0·9	1·0	1·4	1·6	South Western	6·4	5·4	5·4
0·7	0·5	0·8	0·4	0·7	Wales (including Monmouthshire)	5·4	2·4	2·3
					Conurbations			
1·6	0·2	0·5	0·6	2·9	Greater London	20·6	14·3	11·1
24·2	40·0	37·2	13·1	17·2	South East Lancashire	6·1	4·6	2·8
0·4	0·2	0·3	0·3	0·6	West Midlands	5·5	4·2	2·0
24·2	31·6	17·9	22·5	29·7	West Yorkshire	4·1	4·1	2·7
0·5	0·2	0·3	0·1	0·6	Merseyside	3·1	1·5	1·1
0·2	0·1	0·1	0·1	0·1	Tyneside	1·8	1·0	0·8
					Counties (A.Cs. with associated C.Bs.)			
4·1	5·6	7·0	2·1	3·8	Cheshire	2·9	1·7	1·2
1·2	*2·2*	*2·7*	*0·1*	*0·9*	*Stockport C.B.*	*0·3*	*0·2*	*0·1*
3·8	1·7	4·0	2·0	5·3	Derbyshire	1·8	1·2	1·4
0·5	0·3	0·3	0·5	0·6	Essex	4·6	3·9	3·9
0·4	0·2	0·2	0·6	0·5	Gloucestershire	2·1	2·0	2·3
42·3	49·3	52·7	55·7	25·0	Lancashire	12·4	12·7	11·4
2·1	*0·9*	*2·6*	*5·3*	*0·6*	*Blackburn C.B.*	*0·3*	*0·6*	*0·6*
3·5	*6·9*	*4·6*	*1·5*	*1·8*	*Bolton C.B.*	*0·4*	*0·7*	*0·2*
2·0	*0·4*	*1·2*	*6·8*	*0·4*	*Burnley C.B.*	*0·2*	*0·4*	*0·3*
2·0	*2·2*	*2·3*	*0·8*	*3·4*	*Manchester C.B.*	*1·8*	*0·7*	*0·6*
2·9	*6·4*	*5·2*	*0·8*	*0·5*	*Oldham C.B.*	*0·3*	*0·3*	*0·1*
1·5	*1·4*	*1·6*	*3·1*	*0·5*	*Preston C.B.*	*0·3*	*0·7*	*0·8*
2·3	*4·3*	*3·8*	*1·2*	*1·2*	*Rochdale C.B.*	*0·2*	*0·3*	*0·2*
5·7	1·1	3·0	0·7	9·9	Leicestershire	1·5	12·2	16·0
2·9	*0·9*	*1·9*	*0·2*	*5·3*	*Leicester C.B.*	*0·7*	*6·8*	*8·9*
0·5	0·1	0·2	0·2	1·2	London	8·8	7·3	5·0
0·6	0·1	0·2	0·2	1·0	Middlesex	5·6	3·2	3·1
0·2	0·0	0·2	0·3	0·2	Norfolk	1·2	5·0	6·4
0·0	*0·0*	*0·0*	*0·1*	*0·0*	*Norwich C.B.*	*0·3*	*4·1*	*5·3*
0·0	0·0	0·0	0·0	0·1	Northamptonshire	0·8	17·8	21·7
0·0	*0·0*	*0·0*	*0·0*	*0·0*	*Northampton C.B.*	*0·3*	*6·0*	*7·2*
4·5	0·9	2·7	0·1	7·8	Nottinghamshire	2·0	1·2	1·2
2·2	*0·4*	*1·3*	*0·0*	*4·6*	*Nottingham C.B.*	*0·8*	*0·4*	*0·2*
0·3	0·3	0·3	0·3	0·3	Somerset	1·2	2·1	2·1
1·3	0·5	2·0	0·8	2·2	Staffordshire	3·9	4·3	3·0
1·2	0·4	1·3	2·3	1·7	Worcestershire	1·2	0·8	0·6
28·5	36·4	21·7	29·4	33·3	Yorkshire, West Riding ..	8·3	5·7	4·1
6·3	*8·7*	*4·4*	*3·9*	*7·3*	*Bradford C.B.*	*0·7*	*0·3*	*0·3*
1·6	*3·3*	*1·8*	*1·2*	*1·6*	*Halifax C.B.*	*0·2*	*0·2*	*0·1*
2·6	*2·1*	*2·0*	*3·1*	*3·8*	*Huddersfield C.B.*	*0·3*	*0·2*	*0·1*
1·3	*1·5*	*0·6*	*1·6*	*2·0*	*Leeds C.B.*	*1·2*	*1·9*	*1·4*
1·3	*2·6*	*1·1*	*1·0*	*1·2*	*Keighley M.B.*	*0·1*	*0·2*	*0·1*
6·1	3·1	4·2	4·8	7·1	Remainder	41·7	18·9	16·6

the overall ageing of the occupied population between 1931 and 1951. Those occupied as textile workers had 43 per cent over 45 compared with 37 per cent among all occupied males, and only 28 per cent of females occupied as textile workers were under 25 compared with 33 per cent of all occupied females. The ratios of retired to occupied textile workers were 13 per cent for males and 6 per cent for females, both figures being considerably higher than those for all occupations. This is a reflection of the fall in numbers, the retired being the survivors of a larger occupied population than is found for 1951 in this occupation order. Only 9 per cent of male retired textile workers were under 65 compared with 16 per cent of all retired males and only 12 per cent of retired female textile workers were under 60 compared with 17 per cent of all retired females. Table 64 indicates a steady entry into this occupation order from those leaving school at the minimum school leaving age.

The number of females occupied as winders, reelers, beamers and warpers (301, 302) had decreased by 29 per cent since 1931—a proportionately smaller decrease than for all female textile workers, and they numbered 79,102 compared with 111,073. The geographical distribution of this occupation group shows that Lancashire accounted for 53 per cent of persons in this sub-order, the next most important area being Yorkshire, West Riding, with 20 per cent.

The number of females occupied as weavers (311, 312) had decreased by 55 per cent from 216,737 to 96,800 and their share of the total female occupied population had decreased from 39 to 15 per thousand. The age distribution for female weavers shows them to be on average a little older than female textile workers in general, having 38 per cent of their numbers aged over 45 compared with 31 per cent for all textile workers; since 1931 the proportion aged over 45 had doubled. The ratio of retired to occupied female weavers (excluding carpet weavers) was 12 per cent compared with a figure for all females of 4 per cent. Only 9 per cent of the retired weavers (excluding carpet weavers) were under 60 years of age, compared with 17 per cent of all retired females. The geographical distribution of all weavers (including foremen) indicates that Lancashire and Yorkshire, West Riding, combined accounted for 85 per cent of weavers, Lancashire having nearly twice as many as the West Riding.

Tanners, etc., Leather Goods makers, Fur Dressers (Order VIII)

The number of persons occupied as leather workers and fur dressers had decreased by 21 per cent since 1931 from 229,791 to 181,740. This fall was the net effect of a decrease of 30 per cent from 166,673 to 116,864 among the males, who accounted in 1951 for 64 per cent of this occupation order, and an increase of 3 per cent from 63,118 to 64,876 among the females. Persons occupied as leather workers and fur dressers were concentrated in the North Midland, London and South Eastern, and North Western Regions, the North Midland Region alone having a third of the England and Wales total. The makers of boots and shoes were the main influence on the geographical distribution. Among the individual counties Northamptonshire accounted for 18 per cent, Lancashire 13 per cent, Leicestershire 12 per cent, London 7 per cent and Yorkshire, West Riding, 6 per cent, and concentrations were found in Leicester C.B. (7 per cent) and Northampton C.B. (6 per cent), both centres of boot and shoe manufacture. The following data show the percentage age distribution of males occupied as leather workers and fur dressers in 1951 and 1931:—

	Under 25	25-44	45-64	65 and over
1951	15	39	38	8
1931	25	37	31	7

The 1951 age distribution shows male leather workers and fur dressers to be older than occupied males in general, 46 per cent being aged over 45 compared with 37 per cent of all occupied males. The declining numbers in this occupation order are further reflected by the high proportion of retired to occupied and by the fact that 43 per cent of the retired were aged 75 or over compared with 31 per cent of all retired males, while at the younger retirement ages only 10 per cent of retired male leather workers and fur dressers were under 65 years of age compared with 16 per cent of all retired males. The figures of the occupations of juveniles indicate recruitment to this occupation order from those leaving school at the minimum school leaving age.

Makers of Textile Goods and Articles of Dress (not Boots and Shoes) (Order IX)

The number of persons occupied as makers of textile goods and articles of dress had decreased since 1931 by 15 per cent from 657,748 to 561,383 of whom 78 per cent were females. Females occupied as makers of textile goods and articles of dress numbered 437,218 which is 69,110 less than in 1931, and accounted for 7 per cent of all occupied females compared with 9 per cent in 1931. The geographical distribution of persons in this occupation order indicates the most important regions to be the London and South Eastern (32 per cent), North Western (20 per cent) and East and West Ridings (12 per cent). The Greater London conurbation had 30 per cent, and all

Table 71.—Makers of Textile Goods and Articles of Dress (not Boots and Shoes); Makers of Foods, Drinks and Tobacco; Workers in Wood, Cane and Cork — **England and Wales, Regions, Conurbations and selected areas**

IX Makers of textile goods and articles of dress	IX.1 Garment workers	383 Tailors	385 Dress-makers and light clothing makers	386 Machinists	Area	I-XXVII All Occupations	X Makers of foods, drinks and tobacco	X.1 Makers of foods	XI Workers in wood, cane and cork	472 Carpenters, joiners
561,383	433,318	85,323	55,865	185,629	England and Wales—Total	20,336,418	232,811	185,304	446,583	244,929
					Percentage distribution by Area					
					Regions of England, Wales					
5·6	6·1	6·5	7·2	5·8	Northern	6·7	6·6	7·1	7·0	8·6
11·7	13·4	18·4	9·0	12·1	East and West Ridings	9·4	10·2	11·4	8·7	8·8
19·8	20·1	11·9	13·1	24·9	North Western	15·4	19·0	19·9	14·3	14·3
8·8	9·8	4·7	5·5	13·3	North Midland	7·7	8·7	7·4	7·2	7·4
5·7	4·6	6·5	5·9	3·9	Midland	10·6	8·2	8·9	9·7	7·9
5·4	4·5	4·4	5·1	4·6	Eastern	6·7	7·3	7·2	7·5	8·1
32·5	32·8	36·9	41·2	28·1	London and South Eastern	25·9	21·3	20·5	26·8	24·5
3·3	2·5	3·6	4·2	1·8	Southern	5·8	5·0	5·2	7·1	7·0
4·3	3·3	4·7	5·0	2·4	South Western	6·4	9·2	7·5	7·2	8·0
2·9	2·9	2·4	3·8	3·1	Wales (including Monmouthshire)	5·4	4·5	4·9	4·5	5·4
					Conurbations					
29·9	30·8	34·2	36·1	26·9	Greater London	20·6	17·4	16·2	21·4	18·1
12·2	12·6	5·2	5·1	16·6	South East Lancashire	6·1	6·7	7·3	5·4	4·9
3·1	2·6	4·2	3·4	1·9	West Midlands	5·5	4·4	5·0	5·2	3·6
8·6	10·2	14·4	5·4	9·0	West Yorkshire	4·1	3·9	4·2	3·6	3·7
2·5	2·1	2·6	2·4	2·2	Merseyside	3·1	5·1	4·3	2·9	3·1
1·7	1·7	2·3	2·2	1·4	Tyneside	1·8	2·1	2·0	2·2	2·5
					Counties (A.Cs. with associated C.Bs.)					
3·3	3·1	1·8	2·8	3·7	Cheshire	2·9	3·0	3·4	2·6	3·1
1·0	0·8	1·3	1·7	0·5	Devon	1·6	1·6	1·8	1·8	2·4
3·3	3·6	3·3	3·8	3·7	Durham	3·1	2·7	3·0	3·3	3·9
6·4	6·7	4·9	6·0	7·5	Essex	4·6	4·2	4·2	6·0	5·1
1·3	1·1	2·0	1·3	0·8	Gloucestershire	2·1	4·4	2·6	2·3	2·1
0·8	*0·7*	*1·3*	*0·6*	*0·4*	*Bristol C.B.*	*1·0*	*3·2*	*1·3*	*1·0*	*0·9*
1·5	1·4	1·7	2·9	1·0	Kent	3·3	2·4	2·6	3·2	3·9
16·4	16·9	10·0	10·3	21·0	Lancashire	12·4	15·8	16·2	11·6	11·0
1·8	*1·5*	*1·8*	*1·6*	*1·6*	*Liverpool C.B.*	*1·8*	*3·6*	*2·7*	*1·6*	*1·6*
5·9	*6·6*	*2·4*	*1·8*	*9·1*	*Manchester C.B.*	*1·8*	*1·9*	*1·9*	*1·5*	*1·2*
1·7	*2·0*	*0·7*	*0·4*	*2·6*	*Salford C.B.*	*0·5*	*0·5*	*0·5*	*0·4*	*0·3*
2·6	3·1	1·1	1·1	4·5	Leicestershire	1·5	1·0	1·1	1·4	1·4
1·5	*1·9*	*0·7*	*0·6*	*2·5*	*Leicester C.B.*	*0·7*	*0·5*	*0·5*	*0·6*	*0·6*
17·5	18·5	21·6	19·4	16·2	London	8·8	8·9	7·5	8·3	6·9
2·9	*3·2*	*4·5*	*1·2*	*2·9*	*Hackney Met. B.*	*0·4*	*0·4*	*0·3*	*0·9*	*0·3*
1·8	*2·1*	*2·8*	*1·1*	*1·8*	*Stepney Met. B.*	*0·3*	*0·6*	*0·3*	*0·3*	*0·1*
5·6	5·4	7·1	8·1	3·8	Middlesex	5·6	3·9	4·1	6·1	5·0
1·0	0·9	1·2	1·9	0·6	Northumberland	1·7	1·9	1·8	1·9	2·3
3·2	3·5	1·3	1·6	5·1	Nottinghamshire	2·0	3·4	1·5	1·7	1·7
1·9	*2·1*	*0·7*	*0·8*	*3·0*	*Nottingham C.B.*	*0·8*	*2·2*	*0·6*	*0·7*	*0·6*
1·3	1·1	1·7	1·7	0·8	Southampton	2·6	2·1	1·9	2·8	3·3
2·1	2·2	2·9	1·9	2·1	Staffordshire	3·9	2·8	2·9	3·5	3·1
2·0	1·5	1·9	4·0	0·8	Surrey	3·6	2·1	2·2	3·2	3·5
2·5	1·7	2·1	2·9	1·4	Warwickshire	4·5	3·5	4·0	4·3	3·0
1·5	*1·1*	*1·3*	*2·1*	*0·9*	*Birmingham C.B.*	*2·8*	*2·6*	*3·0*	*2·7*	*1·7*
					Yorkshire					
0·4	0·3	0·6	0·7	0·1	East Riding	1·1	1·8	2·2	1·4	1·5
11·3	13·1	17·7	8·3	12·0	West Riding	8·3	8·4	9·3	7·3	7·4
6·1	*7·6*	*11·9*	*2·5*	*6·3*	*Leeds C.B.*	*1·2*	*1·2*	*1·2*	*1·2*	*1·1*
1·9	1·9	1·5	2·0	2·2	Glamorganshire	2·5	2·0	2·1	2·1	2·3
15·4	13·2	14·3	17·6	12·2	Remainder	23·9	24·1	25·6	25·2	27·1

the conurbations combined accounted for 58 per cent of makers of textile goods and articles of dress compared with 41 per cent of all occupied persons, illustrating the manner in which the clothing trade tends to be concentrated in the large centres of population. Among the individual counties London (18 per cent), Lancashire (16 per cent), Yorkshire, West Riding (11 per cent), and Essex and Middlesex (each with 6 per cent) were the most important; in 1931 London accounted for 25 per cent of makers of textile goods and articles of dress, since when their numbers had fallen from 164,484 to 98,383. Leeds C.B. and Manchester C.B., both accounting for 6 per cent of persons in this order, were important centres outside the London area. The percentage age distribution of female makers of textile goods and articles of dress was:—

Under 25	25-44	45-64	65 and over
41	35	22	2

The main feature of this age distribution is the large proportion under the age of 25 which compares with a figure for all occupied females of 33 per cent. 25 per cent of female makers of textile goods and articles of dress were under the age of 20 compared with 17 per cent of all occupied females; 13 per cent of all occupied females aged 15 and 10 per cent of those aged 16 were in this occupation order. The age distribution of retired female makers of textile goods and articles of dress differed little from that of all retired females.

Makers of Foods, Drinks and Tobacco (Order X)

The number of persons occupied as makers of foods, drinks and tobacco had increased by 21 per cent since 1931 rising from 192,141 to 232,811, males having increased by 10 per cent to 148,897 and females by 49 per cent to 83,914. Males constituted 64 per cent of the order compared with 71 per cent in 1931. The geographical distribution of makers of foods, drinks and tobacco was similar to that for all occupations, apart from slight relative concentrations in the North Western and South Western Regions, while the most important of the individual counties were Lancashire (16 per cent), London (9 per cent) and Yorkshire, West Riding (8 per cent), but in general this is not an occupation order with very many marked local concentrations. Table 63 shows the age distributions for both males and females in 1931 and 1951 for bakers, dough mixers and ovenmen (422-424), which were similar to those for the whole order. The most noticeable feature is the reduction since 1931 in the proportions under 25 years of age. Among bakers and dough mixers the proportion in the under 25 age-group had decreased for males from 36 per cent to 16 per cent, and for females from 59 per cent to 39 per cent. This occupation order had a larger share of the occupied females under 25 (16 per thousand) than of males in the same age-group (9 per thousand). The male makers of foods, drinks and tobacco had a higher than average ratio of retired to occupied, while the females had a lower than average ratio. Among occupied female makers of foods, drinks and tobacco only 3 per cent were over 60 years of age, compared with 5 per cent of all occupied females, and among the retired 47 per cent were under 65 years of age compared with 39 per cent of all retired females.

Workers in Wood, Cane and Cork (Order XI)

The number of male workers in wood, cane and cork had decreased slightly since 1931 from 441,942 to 433,321 and they accounted for 31 per thousand of all occupied males. Within this occupation order male carpenters and joiners (472) had decreased slightly to 244,213—56 per cent of the order. For male carpenters and joiners the age distribution was younger than that for all occupied males; 26 per cent were under the age of 25 compared with 18 per cent for all occupied males—a feature which was also found in 1931. The reduction which had occurred since 1931 in the proportion under 25 was less than can be accounted for by the general ageing of the occupied male population, but there was a marked increase in the proportion in the 25-44 age-group. Among male carpenters and joiners 14 per cent were classified as apprentices and 4 per cent of occupied males under 25 were workers in wood, cane and cork compared with only 3 per cent of workers of all ages. Among retired workers in wood, cane and cork only 8 per cent were under 65 years of age compared with 16 per cent of all retired males and 5 per cent of occupied workers in wood, cane and cork were over 65 years of age compared with 4 per cent among all occupied males—both reflecting a tendency to late retirement. Table 70 reveals no marked geographical concentrations of persons occupied as workers in wood, cane and cork.

Makers of and workers in Paper and Paperboard; Bookbinders, Printers (Order XII)

Among the 242,783 persons occupied in this order, printers and bookbinders (520-531, 533, 539) accounted for 72 per cent. The number of male printers and bookbinders (not silk screen printers) had decreased slightly since 1931 from 133,842 to 131,562 and amounted to 11 per thousand of all occupied males; this movement is in contrast to that of the females whose numbers had increased from 40,734 to 42,449. Table 72 shows the geographical distribution of all printers and bookbinders (including 1,388 silk screen printers). There was a considerable concentration in the London area, the Greater London conurbation accounting for 35 per cent of all persons in this sub-order; since 1931 there had been movement away from London A.C., which in 1951 had 15 per cent of printers and bookbinders compared with 23 per cent in 1931, into the surrounding counties such as Middlesex (6 per cent in 1931, 8 per cent in 1951), Surrey (4 per cent in 1931, 6 per cent in 1951), Kent (3 per cent in 1931, 4 per cent in 1951), and Hertfordshire (2 per cent in 1931, 4 per cent in 1951). Apart from London and the home counties, the most important areas were Lancashire (12 per cent) and Yorkshire, West Riding (7 per cent). Table 63 shows the age distribution of male printers and bookbinders (excluding silk screen printers) in 1931 and 1951. Of this group 23 per cent were under 25 years of age compared with 18 per cent of all occupied males and this age-group contained most of the 12 per cent classified as apprentices. 3 per cent of this group were aged 15, 4 per cent aged 16, 4 per cent aged 17, 3 per cent aged 18-19, and 9 per cent aged 20-24 whereas the age distribution for all occupied males (excluding the armed forces) had 1 per cent aged 15, 2 per cent at 16, 17 and 18-19, and 9 per cent aged 20-24. The occupations within this group which are identified in Table 65 had differing age distributions of the retired; two examples are retired male compositors (who amounted to 12 per cent of the occupied) of whom 44 per cent were aged 75 or over and only 7 per cent were under 65 years of age on the one hand, and on the other the 671 retired printing machine assistants of whom 12 per cent were under 65

and only 26 per cent aged 75 or over and who only amounted to 4 per cent of their occupied equivalents.

Workers in Building and Contracting (Order XIV)

The number of males occupied as workers in building and contracting had increased by 30 per cent since 1931, from 645,929 to 840,475, and accounted for 6 per cent of all occupied males compared with 5 per cent in 1931. This occupation order was widely distributed, its geographical distribution differing little from the distribution of all occupations. The rates of increase since 1931 varied between occupations within the order; for example the number of bricklayers increased by 20 per cent, while that of platelayers decreased by 10 per cent. The age distributions of a number of the separate occupations are shown in Table 63 and these show considerable variations about the percentage age distribution for all workers in building and contracting which was, together with the 1931 equivalent:—

	Under 25	25-44	45-64	65 and over
1951	15	46	35	4
1931	18	41	36	5

This age distribution was a little older than that for all occupied males, and there had been little change since 1931. Bricklayers and builders' and bricklayers' labourers are shown to have higher proportions in the under 25 age-group than all workers in building and contracting, but 77 per cent of bricklayers and 76 per cent of their labourers were aged between 25 and 64. Although the

Table 72.—Makers of and Workers in Paper and Paperboard; Bookbinders, Printers; Workers in Building and Contracting; Painters and Decorators; Administrators, Directors, Managers (not elsewhere specified) — **England and Wales, Regions, Conurbations and selected areas**

XII Makers of, workers in, paper; printers	XII.3 Printers, bookbinders	Area	I-XXVII All Occupations	XIV Workers in building and contracting	583 Bricklayers	XV Painters and decorators	XVI Administrators, directors, managers (n.e.s.)	620–629 Managers in industrial undertakings
242,783	**175,399**	**England and Wales—Total** ..	**20,336,418**	**841,865**	**141,852**	**308,954**	**452,049**	**258,840**
		Percentage distribution by Area						
		Regions of England, Wales						
3·4	3·3	Northern	6·7	7·8	8·5	5·2	4·4	4·3
7·3	7·7	East and West Ridings	9·4	8·0	9·1	7·8	8·8	10·2
16·3	14·3	North Western	15·4	13·0	12·2	13·5	13·9	15·2
5·7	5·7	North Midland	7·7	7·5	9·4	6·2	6·5	7·5
6·7	6·9	Midland	10·6	8·7	11·2	9·9	10·3	12·7
8·8	9·4	Eastern	6·7	8·3	9·5	7·0	6·6	6·4
38·2	39·7	London and South Eastern ..	25·9	24·6	21·2	32·8	35·5	30·5
5·0	5·3	Southern	5·8	6·6	7·3	7·0	5·1	4·9
6·8	6·0	South Western	6·4	8·0	5·8	6·6	5·1	4·9
1·8	1·7	Wales (including Monmouthshire)	5·4	7·5	5·8	4·0	3·8	3·4
		Conurbations						
32·0	34·7	Greater London	20·6	18·2	14·1	26·4	29·7	25·2
8·6	7·6	South East Lancashire	6·1	4·2	4·4	5·0	6·0	6·9
4·3	4·4	West Midlands	5·5	3·8	5·0	5·6	6·0	7·5
4·3	4·7	West Yorkshire	4·1	2·7	2·6	3·7	4·5	5·4
3·1	3·1	Merseyside	3·1	3·3	2·3	3·1	2·4	2·3
1·5	1·5	Tyneside	1·8	1·8	1·9	1·7	1·6	1·4
		Counties (A.Cs. with associated C.Bs.)						
2·7	2·5	Cheshire	2·9	2·6	2·8	2·6	3·7	4·2
1·3	1·1	Derbyshire	1·8	1·8	2·1	1·4	1·4	1·6
0·9	0·9	Devon	1·6	2·3	1·6	1·8	1·2	1·1
1·5	1·4	Durham	3·1	3·5	4·3	2·4	1·7	1·7
6·4	6·8	Essex	4·6	5·0	4·5	5·9	5·1	4·7
3·8	2·9	Gloucestershire	2·1	2·3	1·7	2·2	1·9	1·9
2·9	*2·1*	*Bristol C.B.*	*1·0*	*1·0*	*0·7*	*1·2*	*0·9*	*0·8*
4·2	4·3	Hertfordshire	1·4	1·4	1·5	1·5	2·2	2·2
5·9	4·4	Kent	3·3	3·7	3·9	3·7	4·1	3·3
13·4	11·7	Lancashire	12·4	10·2	9·3	10·8	9·9	10·8
2·1	*2·0*	*Liverpool C.B.*	*1·8*	*2·0*	*1·2*	*1·8*	*1·1*	*1·0*
3·1	*3·3*	*Manchester C.B.*	*1·8*	*1·4*	*1·2*	*1·6*	*1·3*	*1·5*
1·5	1·6	Leicestershire	1·5	1·2	1·5	1·3	1·7	2·2
13·8	14·5	London	8·8	8·2	5·4	11·6	8·6	7·2
7·9	8·4	Middlesex	5·6	4·2	3·8	6·7	10·1	9·2
0·8	1·0	Norfolk	1·2	1·7	2·2	1·1	0·7	0·7
1·6	1·7	Nottinghamshire	2·0	1·7	2·1	1·5	1·7	1·9
1·6	1·7	Southampton	2·6	2·9	3·1	3·1	1·9	1·7
2·5	2·5	Staffordshire	3·9	3·5	5·2	3·2	3·5	4·4
4·6	5·6	Surrey	3·6	3·3	3·3	4·4	7·3	5·8
3·4	3·4	Warwickshire	4·5	3·1	3·5	4·9	5·0	6·2
2·5	*2·5*	*Birmingham C.B.*	*2·8*	*1·8*	*1·9*	*3·1*	*2·7*	*3·3*
6·4	6·7	Yorkshire, West Riding ..	8·3	6·9	7·5	6·8	8·0	9·4
1·9	*2·2*	*Leeds C.B.*	*1·2*	*0·9*	*0·9*	*1·2*	*1·3*	*1·5*
1·1	0·9	Glamorganshire	2·5	3·4	2·5	2·0	2·0	1·8
14·7	16·0	Remainder	22·3	27·1	28·2	21·1	18·3	18·0

proportions of males at ages 15 to 24 in building and contracting were below those for all occupations, those for bricklayers were above the all occupations proportions up to age 20. The 96,778 retired workers in building and contracting were 12 per cent of the number of the occupied, which is a slightly higher proportion of the occupied than for all retired. The age distribution of retired workers in all building and contracting differs little from that of all retired males apart from there being only 11 per cent under the age of 65 compared with 16 per cent for all retired males. Only 8 per cent of retired bricklayers were under the age of 65 and 67 per cent aged 70 and over; bricklayers' labourers had 18 per cent under 65 years of age, and only 57 per cent aged 70 and over.

Painters and Decorators (Order XV)

The number of males occupied as painters and decorators was 298,566 or 21 per thousand of all occupied males, an increase of 23 per cent over the 1931 total of 242,263. The geographical distribution of painters and decorators (as for workers in building and contracting) is similar to the geographical distribution of all occupations, in this respect showing little change since 1931. The age distributions of painters and decorators (601-9) (excluding foremen and overlookers), in 1931 and 1951 are shown in Table 63. These age distributions are similar to those for all occupied males and the differences between 1931 and 1951 are attributable to the general ageing of the occupied male population already noted. The retired amounted to 8 per cent of the occupied. There were, however, only 12 per cent of the retired under the age of 65 compared with 16 per cent of all retired males.

Administrators, Directors, Managers (not elsewhere specified) (Order XVI)

The number of males classified as administrators, directors and managers was 406,190 which represented an increase of 15 per cent since 1931 and accounted for 29 per thousand of all occupied males compared with 27 per thousand in 1931. Their geographical distribution shows concentration around London; the London and South Eastern Region accounted for 36 per cent of all those occupied as administrators, directors and managers, the Greater London conurbation alone having 30 per cent.

Outside the London and home counties area important counties were Lancashire (10 per cent) and Yorkshire, West Riding (8 per cent). The age distribution of administrators, directors, and managers (excluding those occupied in building) shows that there were few males in these occupations younger than 25 years of age, and that 92 per cent were between 25 and 65 years of age and 6 per cent 65 and over, compared with 8 per cent in 1931; 12 per cent of males in this occupation order were 60 and over years old and 2·6 per cent 70 and over compared with 1·6 per cent among all occupied males. Among the retired, who amounted to 8 per cent of the occupied, 21 per cent were below the age of 65, 14 per cent being aged 60-64 compared with 7 per cent of all retired males

Persons employed in Transport and Communications (Order XVII)

The number of persons employed in transport, etc., had decreased by 6 per cent since 1931, numbering 1,533,823. Males, who constituted 92 per cent of those in this order had decreased by 10 per cent since 1931 to 1,403,722, while females who numbered 130,101 had increased by 89 per cent. Males employed in transport accounted for 10 per cent of all occupied males, compared with 12 per cent in 1931. The London and South Eastern Region accounted for 30 per cent of persons employed in transport, etc., of which the Greater London conurbation contributed 24 per cent, and the North Western Region had 16 per cent. Among the individual counties identified, Lancashire (13 per cent), London (12 per cent), Yorkshire, West Riding (7 per cent), Essex and Middlesex (each 6 per cent) had the largest concentrations of persons employed in transport, etc. The number in London had decreased since 1931 from 265,602 to 180,278—mainly reflecting a residential movement into the counties surrounding London. The following are the percentage age distributions for males in this order in 1951 and 1931:—

	Under 25	25-44	45-64	65 and over
1951	13	48	37	2
1931	25	46	27	2

The 1951 distribution differs a little from that of all occupied males in having 85 per cent between the ages of 25 and 64 compared with 78 per cent in the distribution of all occupied males. There had been a noticeable fall in the proportion under 25—a fall which is largely due to the sharp fall in the number of messengers (706) particularly at the very young ages. At the older working ages 8 per cent of males in this order were aged 60 or over compared with 10 per cent for all occupied males. The ratio of retired to occupied is 10 per cent and the age distribution of the retired differs little from that of all occupied males.

The transport order is composed of a wide variety of occupation groups which have differing

age and geographical distributions. Locomotive engine drivers (631), whose numbers had increased from 37,339 to 44,760 since 1931, had an age distribution heavily weighted to the 45-64 age-group which contained 79 per cent of this occupation. In 1931 the 25-64 age-group accounted for 97 per cent of locomotive engine drivers, similar to the 98 per cent in this group in 1951, but whereas the 25-44 age-group had 19 per cent in 1951, it accounted for 36 per cent in 1931. The lack of males under 25 reflects the situation in which persons training as locomotive engine drivers do so as locomotive engine firemen and running shed workers. Out of 44,760 engine drivers only 356 were returned as being over 65 compared to 4,034 in the 60-64 age-group indicating a high incidence of retirement at 65. Railway workers were more evenly distributed geographically than all persons employed in transport, etc., seven regions each having more than 8 per cent of railway workers. Among the individual counties the largest proportions were found in Lancashire (11 per cent), Yorkshire, West Riding (10 per cent), London (7 per cent) and Middlesex (5 per cent).

Male drivers of self-propelled passenger vehicles (657, 658) had increased by 12 per cent since 1931 and numbered 145,611 (the much smaller number of females had doubled since 1931). Table 63 shows age distributions separately for drivers of buses and coaches and of other passenger vehicles (mainly taxi drivers and chauffeurs). Both age distributions were concentrated into the

Table 73.—Persons employed in Transport and Communications; Commercial, Finance and Insurance Occupations (excluding Clerical Staff) — **England and Wales, Regions, Conurbations and selected areas**

XVII Persons employed in transport, etc.	XVII.1 Railway transport workers	XVII.2 Road transport workers	XVII.3 Water transport workers	XVII.5 Other workers in communications, etc.	702 Postmen, post office sorters	Area	I-XXVII All Occupations	XVIII Commercial, finance, etc. (exc. clerical)	XVIII.1 Commercial occupations	XVIII.2 Persons employed in finance and insurance
1,533,823	281,187	735,095	192,225	319,013	89,341	England and Wales—Total	20,336,418	1,985,312	1,847,815	137,497
						Percentage distribution by Area				
						Regions of England, Wales				
6·7	8·3	6·4	9·2	4·6	4·8	Northern	6·7	6·5	6·5	5·7
8·7	11·1	9·3	7·3	6·2	6·7	East and West Ridings	9·4	9·1	9·2	7·9
15·8	14·6	14·9	28·1	12·0	11·1	North Western	15·4	15·5	15·6	14·5
6·9	10·7	7·2	3·6	5·1	5·6	North Midland	7·7	7·0	7·1	5·8
7·9	8·4	9·8	0·8	7·3	7·5	Midland	10·6	9·2	9·2	8·0
6·3	6·0	6·8	5·2	6·2	6·7	Eastern	6·7	6·8	6·8	7·1
29·6	20·6	27·8	27·0	42·6	38·5	London and South Eastern	25·9	28·4	28·0	33·6
5·6	4·2	5·8	6·5	5·6	5·8	Southern	5·8	5·8	5·8	6·0
6·5	6·9	6·7	5·2	6·3	7·9	South Western	6·4	6·5	6·6	6·1
6·0	9·2	5·3	7·1	4·1	5·4	Wales (including Monmouthshire)	5·4	5·2	5·2	5·3
						Conurbations				
24·5	16·7	22·3	22·2	37·4	32·7	Greater London	20·6	21·9	21·6	25·5
5·0	5·0	5·7	2·8	4·5	4·1	South East Lancashire	6·1	6·3	6·3	5·6
4·0	3·8	5·2	0·5	3·9	3·5	West Midlands	5·5	4·9	4·9	4·2
3·2	3·4	4·0	0·3	2·7	2·9	West Yorkshire	4·1	4·1	4·1	3·5
5·7	3·2	3·4	21·6	3·7	2·8	Merseyside	3·1	3·2	3·2	3·4
2·2	2·1	1·9	4·7	1·6	1·3	Tyneside	1·8	2·0	2·0	1·8
						Counties (A.Cs. with associated C.Bs.)				
3·0	3·6	2·5	5·4	2·2	2·3	Cheshire	2·9	3·3	3·2	3·9
0·6	*0·6*	*0·3*	*2·6*	*0·3*	*0·2*	*Birkenhead C.B.*	*0·3*	*0·3*	*0·3*	*0·4*
1·6	3·2	1·7	0·1	1·1	1·2	Derbyshire	1·8	1·5	1·6	1·4
1·7	1·8	1·8	1·3	1·7	2·4	Devon	1·6	1·9	1·9	1·9
2·9	3·4	2·8	4·6	1·7	1·6	Durham	3·1	2·8	2·9	2·3
5·9	4·2	5·2	10·5	6·3	5·8	Essex	4·6	4·8	4·8	5·4
0·8	*0·5*	*0·5*	*2·3*	*0·6*	*0·4*	*West Ham C.B.*	*0·4*	*0·3*	*0·3*	*0·1*
2·3	2·4	2·3	2·4	2·1	2·4	Gloucestershire	2·1	2·0	2·1	1·9
3·5	2·6	3·3	5·0	3·8	3·8	Kent	3·3	3·8	3·8	4·6
12·7	10·7	12·2	22·6	9·7	8·7	Lancashire	12·4	12·1	12·2	10·5
0·5	*0·1*	*0·2*	*3·1*	*0·2*	*0·1*	*Bootle C.B.*	*0·2*	*0·1*	*0·1*	*0·1*
3·4	*2·0*	*2·2*	*12·2*	*2·4*	*1·7*	*Liverpool C.B.*	*1·8*	*1·7*	*1·7*	*1·5*
1·8	*1·9*	*2·1*	*0·6*	*2·0*	*1·7*	*Manchester C.B.*	*1·8*	*1·9*	*1·9*	*1·4*
1·3	1·6	1·0	3·2	0·7	0·9	Lincolnshire, Parts of Lindsey	1·0	1·1	1·1	0·8
0·5	*0·3*	*0·2*	*2·3*	*0·2*	*0·2*	*Grimsby C.B.*	*0·2*	*0·3*	*0·3*	*0·2*
11·8	7·0	10·3	11·9	19·3	16·2	London	8·8	8·2	8·3	7·3
5·5	5·0	5·5	1·4	8·0	7·4	Middlesex	5·6	6·3	6·2	7·6
1·9	1·8	1·8	2·8	1·4	1·5	Northumberland	1·7	1·9	1·9	1·8
1·7	2·6	1·9	0·2	1·2	1·3	Nottinghamshire	2·0	1·8	1·8	1·6
2·7	1·5	2·6	5·3	2·5	2·5	Southampton	2·6	2·7	2·7	2·6
0·8	*0·2*	*0·4*	*3·3*	*0·4*	*0·4*	*Southampton C.B.*	*0·4*	*0·4*	*0·4*	*0·4*
2·8	3·1	3·6	0·3	2·0	1·9	Staffordshire	3·9	3·2	3·2	2·5
3·3	2·1	3·4	1·1	5·0	5·0	Surrey	3·6	4·5	4·3	7·5
1·2	1·0	1·4	0·5	1·3	1·5	Sussex, East	1·2	1·8	1·7	2·3
3·3	3·1	4·1	0·3	3·6	3·4	Warwickshire	4·5	4·1	4·1	3·9
2·2	*1·9*	*2·7*	*0·2*	*2·5*	*2·2*	*Birmingham C.B.*	*2·8*	*2·5*	*2·5*	*2·2*
						Yorkshire—				
1·8	1·5	1·2	6·0	0·8	0·8	East Riding	1·1	1·2	1·2	0·9
1·4	*1·1*	*0·7*	*5·5*	*0·5*	*0·4*	*Kingston upon Hull C.B.*	*0·6*	*0·7*	*0·7*	*0·5*
6·9	9·6	8·1	1·3	5·3	5·9	West Riding	8·3	7·9	8·0	7·0
3·0	4·5	2·5	4·4	1·9	2·0	Glamorganshire	2·5	2·5	2·5	2·6
19·2	23·7	20·8	9·4	18·4	21·5	Remainder	21·4	20·6	20·5	19·7

ages 25-64, but whereas only 1 per cent of bus and coach drivers were aged over 65, 5 per cent of drivers of other passenger vehicles were in that age-group. Among drivers of buses and coaches 64 per cent were aged between 25 and 44 and 32 per cent 45 to 64, which contrasts with the much more even split between these two age-groups found for drivers of other passenger vehicles. For both groups there were very few males under the age of 25.

The number of retired drivers of buses and coaches only amounted to 3 per cent of the number of the occupied which, when taken with the age distribution of the occupied, reflects the expanding nature of this occupation. Among the retired, 20 per cent were under 65 years of age compared with 16 per cent of all occupied males and 12 per cent of the retired drivers of other passenger vehicles. This latter feature corresponds with the fact that 13 per cent of the drivers of other passenger vehicles were over 60 years of age compared with 10 per cent of all occupied males and 4 per cent of bus and coach drivers.

The number of male dock labourers (681) was 72,326 compared with 108,785 in 1931, a decrease of 34 per cent, and accounted for 5 per thousand of the occupied male population compared with 8 per thousand in 1931. The geographical distribution of all water transport workers shows that the Greater London and Merseyside conurbations together accounted for 44 per cent of all water transport workers. Among the individual counties those which accounted for 5 per cent or more are Lancashire (23 per cent—12 per cent in Liverpool C.B.), London (12 per cent), Essex (11 per cent), Yorkshire, East Riding (6 per cent, practically all in Kingston upon Hull C.B.) and Cheshire, Kent and Southampton (all with 5 per cent). Among dock labourers, 88 per cent were between 25 and 64 years of age compared with 86 per cent in 1931, while the proportion under the age of 25 had decreased from 9 to 6 per cent—a fall which can be accounted for by the general ageing of the occupied male population. At the higher ages 15 per cent of dock labourers were aged 60 and over and of the retired only 6 per cent were under 60 compared with 9 per cent among all retired males, features which point to a tendency to later retirement. The retired dock labourers amounted to 13 per cent of the occupied—a reflection of the reduction in numbers in this occupation.

The number of male postmen and post office sorters (702) had increased by 19 per cent from 69,906 to 83,351 since 1931 and the main change in their age distribution is a reduction in the proportion under age 45 from 62 per cent to 54 per cent. Of the retired who amounted to 19 per cent of the occupied, 23 per cent were under 65 years of age while of the occupied only 6 per cent were 60 or older compared with 10 per cent for all occupations, features which point to fairly widespread retirement from this occupation around the age of 60. At the younger working ages only 7 per cent were younger than 25 compared with 18 per cent among all occupied males—only 2 per cent being under 20 compared with 8 per cent for all occupied males.

Commercial, Finance and Insurance Occupations (excluding Clerical staff) (Order XVIII)

The number of persons in commercial and financial occupations had decreased by 4 per cent since 1931, from 2,074,471 to 1,985,312, and accounted for 10 per cent of the total occupied population, compared with 11 per cent in 1931.

The number of persons owning, managing or supervising retail businesses (720-729) was 546,161 which represents a decrease of 4 per cent on the 569,127 in this occupation group in 1931. Of the owners, etc., of retail businesses 71 per cent were males. The age distributions of male and female owners of retail businesses in 1931 and 1951 are set out in Table 63 which shows that there had been little change in the age distribution of either sex since 1931, and that at both censuses males had a younger age distribution than females; thus, in 1951, 46 per cent of the males were under age 45 compared with 40 per cent of the females, of whom 12 per cent were over 65 years of age compared with 9 per cent of the males. At both censuses the proportion of males in this occupation group classified as employers and managers was noticeably higher than among females—for 1951 52 per cent of the males were thus classified compared with 37 per cent of the females, while 45 per cent of the males were classified as working on their own account compared with 60 per cent of the females. The proportions of this occupation group in the younger working ages were small, there being few younger than 25 and under 20 the numbers were negligible. The ratio of retired to occupied was higher than average for males and females owning, etc., all types of retail businesses. The age distribution of retired males in this occupation group is similar to that for all retired males, but for females only 30 per cent were under age 65 compared with 39 per cent of all retired females.

The number of persons occupied as shop assistants and sales staff (730-739) had decreased by 6 per cent since 1931, from 865,305 to 811,216 which represented 4 per cent of the total occupied population. This overall decrease is made up of a 42 per cent fall in the number of males, and 33 per cent increase in the number of females, who accounted in 1951 for two thirds of those in this occupation group compared with less than half in 1931. For males there is little difference in

age distribution between those occupied in food and non-food shops, both classes having younger than average percentage age distributions, over three quarters of male shop assistants and salesmen being younger than 45. Among female shop assistants, 49 per cent of those in non-food shops were younger than 25 compared with 40 per cent of those in food shops. Of all occupied males aged 15, 6 per cent were classed as shop assistants and salesmen, as were 6 per cent of those aged 16, and 5 per cent of those aged 17. Out of all male shop assistants, etc., 4 per cent were aged 15, 5 per cent aged 16, and 4 per cent aged 17. Of all occupied females aged 15, 20 per cent were shop assistants, etc., as were 15 per cent of those aged 16 and 17, 11 per cent of those aged 18 and 19 and 10 per cent of those aged 20 to 24. For both males and females retired shop assistants form a smaller than average ratio to the occupied; for both categories of shop, retired males were only 6 per cent of the occupied and for females the ratio of retired to occupied was less than half that for all retired to all occupied. This is mainly due in the case of females to their young age distribution, resulting from most females leaving this occupation group when they are still young, and for males to a tendency for older shop assistants to enter managerial positions or in some cases to become owners of their own retail businesses. The age distribution of retired male shop assistants does not differ greatly from that of all retired males, but among females 24 per cent of retired food and 23 per cent of retired non-food shop assistants were under 60 years old compared with 17 per cent for all retired females. The 1,445 retired female food shop assistants accounted for only 5 per thousand of all retired females in contrast to those occupied as food shop assistants who accounted for 31 per thousand of all occupied females.

The number of males occupied as roundsmen, van salesmen, coal carmen and coal hawkers (741, 742) had increased by 28 per cent since 1931 from 83,214 to 106,350. There had been an ageing of this occupation group since 1931. The under 25 age-group contained in 1951 22 per cent of those in this occupation group compared with 44 per cent in 1931, while the proportion in the 25-44 age-group had increased from 43 to 55 per cent, and that in the 45-64 age-group from 12 to 22 per cent. Of the retired in this occupation group 18 per cent were under 65 and the age distribution of the occupied shows only 4 per cent to be over 60 compared with 10 per cent among all occupied males.

The geographical distribution of those in commercial occupations, of which owners, etc., of retail businesses, shop assistants, etc., and roundsmen, etc., constitute nearly 80 per cent, is shown in Table 73 to differ only slightly from the geographical distribution of the total occupied population.

Males employed in finance and insurance (750-759) had increased by 4 per cent since 1931 and numbered 130,386, accounting for 9 per thousand of all occupied males. Females in this occupation group had increased by 65 per cent from 4,313 to 7,111. This occupation group includes occupations such as company directors, bankers, bank managers, stockbrokers, insurance managers, brokers and agents, auctioneers, estate agents and money lenders. Its geographical distribution shows a concentration in the London and South Eastern Region which accounted for 34 per cent. The Greater London conurbation accounted for 26 per cent, Middlesex and Surrey each for 8 per cent, London for 7 per cent, Essex and Kent each for 5 per cent. Since 1931 there had been a movement away from London A.C. (which then accounted for 11 per cent) to the surrounding counties. Away from the London area concentrations were found in Lancashire (10 per cent) and Yorkshire, West Riding (7 per cent). Among bankers, bank managers and inspectors, 99 per cent were between the ages of 25 and 64, and 72 per cent between 45 and 64, whereas in 1931, although there was a similar concentration between 25 and 64 the constituent age-groups were more evenly represented, there being 43 per cent in the 25-44 group and 54 per cent between 45 and 64. Insurance managers and underwriters showed a more even age distribution, having 51 per cent of their number aged 25 to 44 and 45 per cent aged 45 to 64, the 96 per cent in the age span 25 to 64 comparing with 91 per cent in 1931, the 6 per cent then younger than 25 having decreased to 2 per cent. The main change in the percentage age distribution of insurance brokers, agents, and canvassers is the reduction in the proportion of males younger than 25 from 13 per cent in 1931 to 4 per cent. The number of males in financial and insurance occupations was very small at ages below 20 and there were only 4,625 between 20 and 24, that is 35 per thousand of all males in this occupation group, compared with 96 per thousand for all occupied males, indicating a late age of entry into these occupations. Few males retired from financial and insurance occupations were aged under 60 but there were higher than average proportions aged between 60 and 64; compared with an all retired figure of 7 per cent aged between 60 and 64, 11 per cent of retired insurance brokers, agents, and canvassers, 18 per cent of retired insurance managers and underwriters, and 26 per cent of retired bankers, bank managers and inspectors are in the 60-64 age-group. This appears to indicate widespread retirement from these occupations around the age of 60, which seems to be partly confirmed by the fact that there were 2,513 bankers aged 55 to 59 but only 338

aged 60 to 64 and 2,304 insurance managers and underwriters aged 55 to 59 but only 1,040 aged 60 to 64

Professional and Technical Occupations (excluding Clerical staff) (Order XIX)

The number of persons enumerated in professional and technical occupations had increased by 55 per cent since 1931—from 798,691 to 1,237,254—and accounted for 6 per cent of the occupied population compared with 4 per cent in 1931.

The number of male registered medical practitioners (766, 767) had risen by 37 per cent from 26,490 to 36,190. Generally speaking the doctors enumerated in 1951 were a younger group than those of 1931; 58 per cent of medical practitioners were under the age of 45 compared with 52 per cent in 1931. This is to be expected as an increase in the number of medical practitioners can generally only be effected by increased entry at the younger ages, that is the 20-24 age-group. At the upper working ages there is little indication of a uniform retirement age and this is reflected in the age distribution of the retired which rose with age up to 46 per cent in the 75 and over age-group.

The number of females occupied as nurses, assistant nurses, student nurses and nursery nurses (770-773) had increased by 51 per cent from the 1931 figure of 138,670 to 209,870 and accounted for 33 per thousand of all occupied females, compared with 25 per thousand in 1931. The geographical distribution of nurses shows that, apart from some concentration in the London and South Eastern Region, the distribution of nurses was similar to that of all the occupied population. The age distribution of trained nurses, midwives and assistant nurses (770, 771) was rather older

Table 74.—Professional and Technical Occupations (excluding Clerical Staff); Persons engaged in Personal Service (including Institutions, Clubs, Hotels, etc.); Clerks, Typists, etc. — **England and Wales, Regions, Conurbations and selected areas**

XIX Professional and technical (exc. clerical)	770-773 Nursing professions	780, 785 Teaching professions	786-792 Professional engineers, architects	794, 799 Industrial designers, draughtsmen	Area	I-XXVII All Occupations	XXII Persons engaged in personal service	882-885 Domestic servants (indoors)	XXIII Clerks, typists, etc.	890, 894, 895 Costing, estimating, other clerks	891, 8 Typist secretar
1,237,254	235,397	313,235	114,681	123,912	England and Wales—Total	20,336,418	1,929,761	789,821	2,132,135	1,621,798	510,
					Percentage distribution by Area						
					Regions of England, Wales						
6·0	6·1	7·2	4·9	6·0	Northern	6·7	5·9	5·7	5·1	5·4	4·2
7·6	7·8	8·7	6·3	7·3	East and West Ridings	9·4	8·0	7·4	7·5	7·6	7·1
13·6	13·2	13·8	12·4	15·1	North Western	15·4	13·8	11·6	14·6	15·1	13·0
6·1	5·8	7·2	5·6	6·7	North Midland	7·7	5·9	5·9	5·9	6·0	5·4
9·2	8·3	8·9	9·5	14·4	Midland	10·6	8·5	8·1	9·4	9·4	9·6
7·1	7·1	7·4	7·7	6·4	Eastern	6·7	6·7	7·5	6·3	6·3	6·5
31·4	31·6	24·8	36·8	29·6	London and South Eastern	25·9	32·6	33·0	37·1	35·9	41·0
6·7	6·9	6·8	6·2	6·3	Southern	5·8	7·0	8·1	4·8	4·8	4·9
6·8	7·6	7·5	6·3	5·8	South Western	6·4	7·1	8·0	5·4	5·4	5·1
5·5	5·6	7·7	4·3	2·4	Wales (including Monmouthshire)	5·4	4·5	4·7	3·9	4·1	3·2
					Conurbations						
24·4	23·0	18·1	30·1	25·5	Greater London	20·6	24·9	23·7	32·4	31·3	36·0
5·4	4·4	4·9	5·4	8·1	South East Lancashire	6·1	5·1	4·2	5·9	5·9	6·1
4·6	3·9	4·0	4·5	8·3	West Midlands	5·5	4·2	3·5	5·6	5·5	5·9
3·3	3·3	3·3	2·8	3·8	West Yorkshire	4·1	3·5	3·0	3·4	3·4	3·3
2·8	3·1	3·0	2·2	2·0	Merseyside	3·1	3·0	2·3	3·9	4·2	3·1
1·8	1·5	1·8	1·7	2·5	Tyneside	1·8	1·6	1·3	2·0	2·1	1·7
					Counties (A.Cs. with associated C.Bs.)						
3·3	2·7	3·2	3·8	3·7	Cheshire	2·9	2·5	2·6	3·0	3·1	2·9
1·6	1·3	1·8	1·6	2·2	Derbyshire	1·8	1·4	1·3	1·4	1·5	1·2
1·7	2·1	2·0	1·5	0·7	Devon	1·6	2·1	2·4	1·2	1·2	1·1
2·6	2·8	3·3	1·8	2·9	Durham	3·1	2·3	2·1	2·2	2·3	1·7
4·3	4·4	4·2	4·8	4·5	Essex	4·6	4·1	3·9	6·3	6·2	6·4
2·4	2·4	2·4	2·4	2·9	Gloucestershire	2·1	2·1	2·2	2·2	2·2	2·2
2·1	2·0	1·7	2·7	2·0	Hertfordshire	1·4	1·4	1·7	1·7	1·7	1·9
4·0	4·4	3·8	4·7	3·7	Kent	3·3	3·7	4·0	3·9	3·8	4·0
10·2	10·5	12·0	8·3	11·3	Lancashire	12·4	11·1	8·8	11·4	11·8	10·0
1·4	*1·9*	*1·5*	*0·9*	*1·0*	*Liverpool C.B.*	*1·8*	*1·8*	*1·3*	*2·2*	*2·3*	*1·7*
1·5	*1·4*	*1·3*	*1·1*	*1·9*	*Manchester C.B.*	*1·8*	*1·8*	*1·3*	*2·0*	*2·0*	*2·0*
9·3	10·9	6·0	8·4	7·6	London	8·8	13·9	12·6	12·4	11·7	14·5
7·1	4·9	5·6	10·0	8·9	Middlesex	5·6	5·3	5·3	9·3	9·0	10·1
2·8	3·2	2·7	2·5	3·4	Southampton	2·6	3·1	3·3	2·1	2·1	2·0
2·9	2·6	3·0	2·7	4·6	Staffordshire	3·9	2·7	2·4	2·9	3·0	2·9
5·9	6·0	4·5	8·6	5·6	Surrey	3·6	4·1	4·9	5·8	5·6	6·3
1·7	2·2	1·9	1·5	0·7	Sussex, East	1·2	2·3	2·7	1·2	1·2	1·2
4·4	3·8	3·5	5·2	7·8	Warwickshire	4·5	3·7	3·3	4·8	4·7	5·1
2·4	*2·4*	*1·8*	*2·2*	*3·9*	*Birmingham C.B.*	*2·8*	*2·3*	*1·9*	*3·1*	*3·0*	*3·3*
6·8	6·8	7·6	5·6	6·7	Yorkshire, West Riding	8·3	7·0	6·4	6·6	6·7	6·1
2·5	2·6	3·4	2·3	1·3	Glamorganshire	2·5	1·9	1·7	2·1	2·2	1·8
24·4	24·4	27·4	21·6	19·5	Remainder	25·8	25·3	28·4	19·5	20·0	18·6

than that of all occupied females; 53 per cent were 25 to 44 years old compared with 39 per cent of all occupied females, only 17 per cent being younger than 25 compared with 33 per cent of all occupied females, due to the fact that when training these nurses are classed as student nurses (772), of whom 85 per cent are younger than 25. Among all nurses (including student nurses) 76,141 were younger than 25, but of these only 1,444 were aged 15 and 13,040 (17 per cent) were under 18 years old. Among retired trained nurses 8 per cent were under 55 years of age, compared with 11 per cent of all retired females and 8 per cent aged 55 to 59 compared with 6 per cent of all retired females, otherwise their age distribution is similar to that for all retired females. Retired assistant nurses (though few in number) had a much younger age distribution, 32 per cent being under 60 years of age.

The number of teachers, other than music teachers, had increased by 15 per cent since 1931, to 301,679 from 261,271. While the number of male teachers had increased by 50 per cent from 79,465 to 119,270, the number of female teachers had only risen by 3 per thousand from 181,806 to 182,409, and accounted for 60 per cent of all teachers compared with 70 per cent in 1931. There are clear differences between the age distributions of male and female teachers; 62 per cent of male teachers were aged from 25 to 44 compared with 45 per cent of the females, who had 17 per cent of their number under the age of 25 compared with only 6 per cent of male teachers. The proportions of both males and females younger than 25 had decreased since 1931 when 12 per cent of the males and 19 per cent of the females were in this age-group, the males having decreased much more than the females. The percentage age distribution of retired male teachers shows only 4 per cent under the age of 60 but 17 per cent in the 60-64 age-group which indicates considerable retirement at the age of 60, and a similar effect is found for retired female teachers of whom 9 per cent were under the age of 60 compared with 17 per cent of all retired females while the proportion rose to 23 per cent in the 60-64 age-group. For female teachers the ratio of retired to occupied was very high at 24 per cent.

The number of males in scientific professions (including laboratory assistants) (800-9) had increased since 1931 from 25,612 to 88,452—an increase of 245 per cent, while the proportionate rise in the number of females had been much greater, the number having increased from 2,679 to 21,021. The age distributions for males and females in this occupation group were:—

	Under 25	25-44	45-64	65 and over
Males	35	47	17	1
Females	62	30	8	0

Compared with all occupied males, the males showed a high proportion in the under 25 age-group and 82 per cent of the males in this occupation group were under 45 years of age, as is to be expected with an occupation group which has expanded so rapidly. The percentage age distribution for females is also much younger than that for all females. For both males and females the largest occupation unit within this group is laboratory assistants and technicians (804) which shows higher proportions in the under 25 age-group than do all other scientific workers. Whereas among all occupied males 13 per thousand were aged 15, 16 per thousand aged 16, and 17 per thousand aged 17, among male laboratory assistants and technicians the proportions were 11 per thousand aged 15, 36 per thousand aged 16, and 60 per thousand aged 17; for females the all occupation proportions of 26 per thousand aged 15, 33 per thousand aged 16 and 36 per thousand aged 17 may be compared with 15, 49, and 87 per thousand respectively, figures which for males and females indicate entry at ages 16 or 17 rather than 15. There were only 656 retired male laboratory assistants or technicians or 14 per thousand of the occupied, which reflects again the rapid expansion of the occupation; of that number 26 per cent were aged 60-64 compared with 7 per cent of all retired males.

Persons employed in Defence Services (Order XX)

The number of males occupied in defence services had increased by 143 per cent since 1931 from 282,118 to 685,813 and accounted for 49 per thousand of all occupied males compared with 21 per thousand in 1931. In addition to the armed forces who formed 77per cent of this orderthose in civilian defence services are included, that is policemen, firemen, watchmen, etc. Among commissioned officers in the armed forces 68 per cent were aged between 25 and 45, compared with 58 per cent in 1931, in contrast to other ranks of whom 78 per cent were younger than 25 and of whom only 13 per cent were aged 30 or over and 7 per cent aged 35 or over. 23 per cent of males retired from the armed forces were younger than 55 compared with 6 per cent among all retired males while of retired commissioned officers 35 per cent were under 60 years of age. The ratio of the retired to those occupied as commissioned officers of the armed forces was high at about one third. In considering the age distribution of those retired from the armed forces it should be remembered that considerable numbers leaving them take up other occupations and do not enter

into these distributions. The age distribution of males under 25 years of age in defence services shows that 203,611 were aged 18 or 19 which represents 30 per cent of males in that order, and 43 per cent of all occupied males at these ages.

Persons engaged in Personal Service (including institutions, clubs, hotels, etc.) (Order XXII)

The number of persons engaged in personal service had decreased by 20 per cent since 1931 and was 1,929,761 compared with 2,406,800. Of this number 76 per cent were females mainly occupied as indoor domestic servants numbering 723,574, a reduction of 46 per cent from the 1931 total of 1,333,222. Persons in domestic service accounted for 95 per thousand of the occupied population compared with 128 per thousand in 1931, females in this order forming 234 per thousand of all occupied females compared with 347 per thousand in 1931. The percentage age distributions of a number of the occupations making up this order are shown in Table 63, illustrating the wide variety of occupations which makes any generalisation concerning the whole order of little value. Among female indoor domestic servants (882-5) there was considerable heterogeneity of age distribution; 87 per cent of female cooks were in the 25-64 age-group, as were 86 per cent of the female kitchen hands, while chambermaids, housemaids, etc., had a younger age distribution, a third of them being under 25 and a further 37 per cent aged between 25 and 44 and of other domestic servants (indoor) (885) 16 per cent were younger than 25, 76 per cent between 25 and 64 and 8 per cent were 65 and over. Among female kitchen hands 30 per cent were part-time workers, as were 21 per cent of other domestic servants (indoor). The 14,267 females occupied in domestic service and aged 15 formed 9 per cent of all occupied females aged 15 and the similar proportions for the other age-groups under 25 rose with age to 13 per cent for the 20-24 age-group. For all females retired from personal service the age distribution differs little from that of all retired females, but there is considerable variety among the several former occupations identified in Table 65; among retired female kitchen hands 22 per cent were under 60 compared with only 9 per cent of retired female cooks and 9 per cent of retired charwomen and office cleaners—occupations in which females continue working to high ages. The geographical distribution of persons employed in personal service indicates a distribution similar to that for all occupied persons, apart from some concentration in the areas around London.

Clerks, Typists, etc. (Order XXIII)

The number of clerks, typists, etc., was 2,132,135 of whom 1,270,456 (60 per cent) were females. The number of male clerks and typists (861,679) represents an increase of 21 per cent since 1931, while the number of female clerks and typists had increased by 123 per cent and accounted for 20 per cent of all occupied females compared with only 10 per cent in 1931. Almost all the males in this order were clerks of some description as were 62 per cent of the females, the remainder being typists or secretaries. The geographical distribution of persons occupied as clerks and typists shows 37 per cent to be in the London and South Eastern Region, 32 per cent being in the Greater London conurbation. The next largest concentrations were in the North Western Region with 15 per cent and the Midland Region with 9 per cent. Among the individual counties London (12 per cent), Lancashire (11 per cent), Middlesex (9 per cent), Yorkshire, West Riding (7 per cent), Essex and Surrey (each 6 per cent) accounted for the greatest proportions. In 1931 London accounted for 19 per cent, Middlesex 9 per cent, Lancashire 12 per cent, Essex 7 per cent, Yorkshire, West Riding, 6 per cent and Surrey 5 per cent. In 1951 the age distribution of male clerks was similar to that for all occupied males but female clerks showed a younger than average age distribution, having 45 per cent younger than 25 compared with 33 per cent of all occupied females. The age distribution of male clerks was older than in 1931 even after allowing for the overall ageing of the occupied population and the same was true for female clerks. 63 per cent of female typists were under 25 compared with 51 per cent of shorthand typists and secretaries, of whom 13 per cent were aged between 45 and 64 compared with 7 per cent of typists. There were 24,642 male clerks aged 17 compared with 10,814 aged 15 and 18,361 aged 16, indicating entry at all these ages. Table 64 shows that a similar effect occurs for the females, and that it applies to all the individual occupation groups within this order, apart from clerks (n.e.s.). The most noticeable feature of the age distribution of retired male clerks is that 13 per cent were aged 60-64, compared with only 7 per cent among all retired males, indicating a tendency towards earlier retirement. The number of retired female clerks, typists, etc., only amounted to 2 per cent of the occupied compared with 4 per cent for all occupied and retired females, and of these 31 per cent were under the age of 60 compared with 17 per cent of all retired females and 27 per cent were aged 60 to 64 compared with 22 per cent of all retired females, again indicating earlier retirement.

Warehousemen, Storekeepers, Packers, Bottlers (Order XXIV)

The number of persons occupied as warehousemen, packers, etc., had increased by 35 per cent since 1931 from 391,698 to 529,501 of whom 348,305 (66 per cent) were males and accounted for

25 per thousand of all occupied males compared with 18 per thousand in 1931. Male warehousemen, storekeepers, packers and bottlers had older age distributions than that for all occupied males, while warehouse and storekeepers' assistants tended as expected to be younger than average, as were female bottlers and packers who had 38 per cent of their number under the age of 25, which contrasts with 1931 when 75 per cent were under 25 and only 3 per cent aged between 45 and 64, compared with 22 per cent in 1951. Among female bottlers and packers 14 per cent were part-time workers. The age distribution of retired warehousemen, storekeepers and packers shows 12 per cent younger than 65 compared with 16 per cent of all retired males, while among the occupied 13 per cent were aged 60 and over compared with 10 per cent among all occupied males.

Workers in Unskilled occupations (not elsewhere specified) (Order XXVI)

The number of male workers in this order had decreased by 13 per cent since 1931 and was 1,118,942, of whom 414,434 were labourers and other unskilled workers in metal manufacture and engineering. Their percentage age distribution was slightly older than that for all occupied males, 44 per cent being over 45 compared with 37 per cent for all occupied males. Among labourers and unskilled workers in chemical and allied trades, metal manufacture and engineering and textiles there was a greater concentration of the retired in the 65-74 age-group than there was for all retired males. To take an example, retired labourers in metal manufacture and engineering numbered 36,582 of whom 64 per cent were aged 65 to 74 compared with 53 per cent of all retired males, while among the occupied 16 per cent were 60 and over compared with 10 per cent of all occupied males, indicating retirement at a later age than usual.

The One per cent Sample Tabulations

Males

The numbers shown in the One per cent Sample in each occupation for males have been compared with the main census tabulations as a test of the reliability of the former.

For this purpose it has been assumed that if p_j is the proportion of the total occupied population in occupation j and n is the total occupied population in the sample then the number expected in the sample will be $n\ p_j$ with standard error $\sqrt{n\ p_j\ (1-p_j)\ (\cdot 99)}$. The difference between the sample figure and 1/100th of the main census figure was standardised by reference to this standard error. In practice it was considered a sufficiently close approximation to divide the difference by $\sqrt{P_j/100}$ where P_j was the main census figure for occupation j.

The results of this investigation show that the distribution of standardised sample discrepancies is fairly symmetrical and close to a Normal distribution with 56 per cent of the discrepancies less than one standard error and 87 per cent less than two.

There were, however, 11 occupations where the discrepancies in the males exceeded four standard errors. These are listed below:—

Occupation	Final Census Total	1% Sample	$b-\left(\frac{a}{100}\right)$	$\frac{c}{\sqrt{\frac{a}{100}}}$
	a	b	c	d
114 Foremen (fitting and erecting)	30,055	22,0	− 81	−4·7
171 Press tool setters	5,236	10,0	48	6·7
183 Machine erectors, etc.	268,605	239,5	−291	−5·6
188 Other fitters	62,871	78,8	159	6·3
241 Electrical fitters	71,986	88,3	163	6·1
252 Inspectors, viewers (machine shop)	2,551	4,8	22	4·3
268 Edge tool grinders	5,204	8,4	32	4·4
582 Builders' labourers	89,357	102,5	131	4·4
599 Other workers (mainly navvies)	288,899	254,3	−346	−6·4
624 Proprietors and managers (building and contracting)	38,484	46,6	81	4·1
979 All other and undefined workers	54,756	34,9	−199	−8·5

Most of these occupation groups present difficulties to inexperienced coders such as were necessarily employed on coding the sample, and the discrepancies shown are partly due to this; the lower level of accuracy generally to be expected from newly recruited staff also played a part. It is not so much the sample as the comparability between sample and main processes that must be suspect, owing to the operation of the inevitable training factor associated with occupation coding.

No detailed investigation of the source of these extreme discrepancies has been possible but the following comments may be helpful.

582 Builders' labourers. } The distinction between these two groups is difficult to
599 Other workers (mainly navvies). } make and undoubtedly the excess in code 582 is at the expense of code 599. The large residual deficiency in code 599 is probably due in part to a failure to pay adequate attention to Industry while coding relatively unskilled occupations, leading to the excess use of code 950 "Other labourers and unskilled workers".

624 Proprietors and managers (building and contracting). Inexperienced coders tend to make two mistakes in using this code;

(a) the inclusion of small employers correctly coded 597 Builders

(b) the exclusion of "Builders' general foremen" and their inclusion in code 580 Foremen.

979 All other and undefined workers. This code should include all the "out of work" who failed to state a previous occupation. A considerable portion of the deficiency is among those with the "out of work" status and it is probable that there was a tendency among inexperienced coders to assume a previous occupation, on the basis of the industry shown, where none was stated.

Females

No complete distribution of discrepancies for females has been constructed but the following are the larger occupations with a discrepancy greater than four standard errors:—

Occupation	Final Census Total	1% Sample	$b-\left(\frac{a}{100}\right)$	$\sqrt{\frac{c}{\frac{a}{100}}}$
	a	b	c	d
241 Electrical fitters	1,305	2,8	15	4·2
539 Other skilled workers (printing, bookbinding)	3,578	6,1	25	4·2
736 Shop assistants (confectionery, tobacco, newspapers)	35,715	45,4	97	5·1
761 Roman Catholic nuns	10,998	6,3	−47	−4·5
773 Nursery nurses	19,055	24,7	56	4·1
870 Matrons (not hospital)	15,395	21,5	61	4·9
888 Others in personal service	66,496	55,4	−111	−4·3
940 Labourers and other unskilled workers (engineering)	57,667	41,5	−162	−6·7
950 Other labourers and unskilled workers	113,723	85,7	−280	−8·3
979 All other and undefined occupations	25,837	15,5	−103	−6·4

736 Shop assistants (confectionery, tobacco, newspapers). The title of this group is misleading to some extent as in the north of England the term "confectioners" is used for "flour confectioners" and assistants in these shops should be coded 734, shop assistants (other food goods). The excess of 97 in code 736 is partially balanced by a deficiency of 56 in code 734.

761 Roman Catholic nuns. These were largely enumerated in institutions and as stated on p. 70 the sample was not designed to give a correct representation of the population in non-private households.

870 Matrons (not hospitals). The excess here is due to an error in the 1950 edition of the Classification of Occupations which placed Supervisor (school meals) in this group instead of 888. The discrepancy is largely concentrated in "part-time" workers.

888 Others in personal service. The excess in code 870 accounts for about a half of the discrepancy in code 888.

940, 950 Labourers and other unskilled workers. No explanation can be given for the very large discrepancies in these codes which were not found in the figures for males.

979 All other and undefined occupations. The same explanation applies here as to the similar discrepancy in the figure for males.

CHAPTER IX

INDUSTRIES

General

The *Census 1951, England and Wales, Industry Tables* give statistics for the total occupied population in the full detail of the *Census 1951 Classification of Industries** for England and Wales as a whole, for the Standard Regions of England, and for Wales. For England and Wales these are cross classified by industrial status and by age, while the numbers of occupied married women are also specified. Data for the minimum list headings are given for the conurbations, counties and large urban areas, while for smaller urban areas and rural districts figures are given for a condensed list of broader industrial headings. The Industry Tables also include a cross classification of persons assigned to the minimum list headings according to their gainful occupation in terms of the *Classification of Occupations*; figures were prepared for the full range of occupation unit groups but the scope of the published table has been limited to save space.

The 1951 Census Industry statistics for local areas are based on place of work, as returned on the census schedule. This follows 1921 practice, but in 1931, in the absence of information on place of work, local statistics were based on area of enumeration.

In this section the general features of the industrial distribution of the occupied population are considered, after which the major industries are dealt with in turn.

Occupied population in principal industries and comparison with 1931

Table 75 shows the numbers of persons, males, and females in the main industries in 1931 and 1951, together with the increase or decrease per thousand which occurred between those dates, and distributions per thousand total occupied by industry.

The general principle of selection used in constructing Table 75 was to include minimum list headings or groups of headings for which reasonable comparison with 1931 is possible, if the number of males was more than 60,000 or females more than 30,000. In addition a few groups were included because the changes between 1931 and 1951 were abnormal.

The total population in all industries increased by 20 per cent from 16,655,200 in 1931 to 19,940,000 in 1951. These figures exclude the unemployed, accounting for the differences between these totals and the corresponding totals for all occupations; about half the increase shown between 1931 and 1951 was due to the fall in the number of the unemployed.

Attention is restricted here to those industry orders which showed considerable changes between 1931 and 1951. Orders whose numbers increased considerably between 1931 and 1951 included:—

Industry	Occupied Persons (*thousands*)		Increase per thousand
	1931	1951	
IV. Chemicals and allied trades	202·9	397·3	958
V. Metal manufacture	288·0	507·9	764
VI. Engineering, shipbuilding and electrical goods	712·7	1,564·8	1,195
VII. Vehicles	462·4	931·3	1,014
XVII. Building and contracting	886·1	1,237·0	396
XVIII. Gas, electricity and water	209·1	330·7	582
XXII. Public administration and defence	825·5	1,573·9	907
XXIII. Professional services	926·7	1,359·2	467

The above industry orders may be contrasted with the following whose numbers fell noticeably

*See pp. 124 to 128 for a discussion of the development of industrial classification.

Table 75.—Total occupied population in principal industries, and comparison with 1931

Industry	Persons			Males			Females			Distribution per thousand total occupied by industry					
										Persons		Males		Females	
	Numbers (*thousands*)		Increase per 1,000	Numbers (*thousands*)		Increase per 1,000	Numbers (*thousands*)		Increase per 1,000						
	1931	1951		1931	1951		1931	1951		1931	1951	1931	1951	1931	1951
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p
Occupied population aged 15 and over	**16,655·2**	**19,940·0***	**197**	**11,538·7**	**13,782·3***	**194**	**5,116·5**	**6,157·8***	**204**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**	**1,000**
I. Agriculture, forestry, fishing	**996·8**	**963·7**	**− 33**	**939·3**	**863·7**	**− 80**	**57·5**	**100·0**	**739**	**60**	**48**	**81**	**63**	**11**	**16**
1. Agriculture, horticulture	952·2	920·9	− 33	896·1	822·3	− 82	56·0	98·6	760	57	46	77	60	11	16
2. Forestry	9·1	21·9	1,398	9·0	21·0	1,325	0·1	0·9	9,116	1	1	1	2	0	0
3. Fishing	35·5	21·0	−410	34·1	20·4	−402	1·4	0·6	−606	2	1	3	1	0	0
II. Mining and quarrying	**929·7**	**741·5**	**−202**	**923·4**	**729·4**	**−210**	**6·3**	**12·2**	**921**	**56**	**37**	**80**	**53**	**1**	**2**
10. Coal mining	845·3	675·5	−201	841·1	666·6	−208	4·2	9·0	1,151	51	34	73	48	1	1
III. Ceramics, glass, cement, etc.	**230·2**	**291·8**	**267**	**178·3**	**221·3**	**241**	**51·9**	**70·5**	**358**	**14**	**15**	**15**	**16**	**10**	**11**
20. Bricks, and fireclay goods	71·2	69·5	− 24	67·2	64·1	− 46	4·0	5·4	342	4	3	5	4	1	1
21. China and earthenware (incl. glazed tiles)	73·7	74·5	11	36·1	34·7	− 38	37·7	39·8	58	5	4	3	3	7	5
22, 23. Glass	39·1	66·1	690	32·0	50·2	566	7·1	16·0	1,251	2	3	3	4	1	3
24, 29. Cement, etc.	46·1	81·6	769	43·0	72·3	683	3·2	9·3	1,937	3	5	4	5	1	2
IV. Chemicals and allied trades	**202·9**	**397·3**	**958**	**152·9**	**290·6**	**901**	**50·0**	**106·7**	**1,133**	**12**	**20**	**13**	**21**	**10**	**17**
30-33. Coke ovens, chemicals, explosives and pharmaceuticals	109·0	268·2	1,459	83·4	197·4	1,367	25·7	70·8	1,760	7	13	7	14	5	11
36. Mineral oil refining	5·2	22·1	3,228	4·9	19·3	2,912	0·3	2·8	8,786	0	1	0	1	0	0
V. Metal manufacture	**288·0**	**507·9**	**764**	**270·5**	**451·0**	**667**	**17·4**	**56·9**	**2,264**	**17**	**25**	**23**	**33**	**3**	**9**
40, 41. Blast furnaces, steel melting, rolling	130·8	221·1	690	127·0	204·6	612	3·9	16·4	3,245	8	11	11	15	1	3
42. Iron foundries	69·7	113·9	634	64·6	100·3	551	5·1	13·6	1,696	4	6	6	7	1	2
49. Non-ferrous metals smelting, rolling, etc.	35·8	102·6	1,862	31·9	85·2	1,666	3·9	17·5	3,473	2	5	3	6	1	3
VI. Engineering, shipbuilding and electrical goods	**717·0**	**1,564·8**	**1,183**	**614·6**	**1,241·4**	**1,020**	**102·4**	**323·5**	**2,159**	**43**	**78**	**53**	**90**	**20**	**53**
50, 51. Shipbuilding, marine engineering	118·1	199·9	693	115·3	192·8	673	2·8	7·1	1,509	7	10	10	14	1	1
56. Textile machinery and accessories	40·8	67·1	647	37·0	58·2	573	3·7	8·9	1,385	2	3	3	4	1	1
53, 55, 57, 58, 69. Other mechanical engineering	324·6	635·1	957	292·8	538·9	841	31·8	96·2	2,025	19	32	25	39	6	16
73, 103. Wireless apparatus, musical instruments	47·5	108·4	1,283	34·0	65·9	939	13·5	42·5	2,151	3	5	3	5	3	7
70-72, 74-79. Other electrical engineering	171·7	441·1	1,569	121·4	289·1	1,381	50·3	152·0	2,020	10	22	11	21	10	25
VII. Vehicles	**462·4**	**931·3**	**1,014**	**421·6**	**814·5**	**932**	**40·7**	**116·8**	**1,868**	**28**	**47**	**37**	**59**	**8**	**19**
52, 80, 81, 222. Agricultural engineering, vehicles, garages, taxi service, car hire	316·5	606·4	916	292·0	541·2	853	24·5	65·2	1,659	19	30	25	39	5	11
82. Manufacture and repair of aircraft	19·0	157·2	7,268	17·2	135·5	6,896	1·9	21·7	10,712	1	8	1	10	0	4
83. Manufacture of parts for vehicles, etc.	26·9	110·2	3,101	16·1	82·0	4,100	10·8	28·2	1,612	2	6	1	6	2	5
84, 85. Locomotives, etc. manufacture	55·6	62·7	128	54·3	59·8	102	1·3	2·9	1,203	3	3	5	4	0	0
86. Manufacture and repair of wagons, etc.	52·4	68·0	297	50·6	65·3	291	1·8	2·7	474	3	3	4	5	0	0
VIII. Metal goods not elsewhere specified	**293·9**	**445·1**	**515**	**207·4**	**295·2**	**423**	**86·4**	**149·9**	**735**	**18**	**22**	**18**	**21**	**17**	**24**
54, 90. Tools, cutlery, machine tools	51·1	140·3	1,749	40·0	106·6	1,667	11·1	33·7	2,044	3	7	3	8	2	5
IX. Precision instruments, jewellery, etc.	**92·4**	**142·9**	**546**	**66·7**	**98·3**	**473**	**25·7**	**44·6**	**734**	**6**	**7**	**6**	**7**	**5**	**7**
100. Scientific, etc. instruments, etc.	31·5	81·0	1,571	22·1	55·4	1,505	9·4	25·5	1,727	2	4	2	4	2	4
X. Textiles	**948·6**	**868·0**	**− 85**	**405·3**	**393·3**	**− 29**	**543·3**	**474·7**	**−126**	**57**	**44**	**35**	**29**	**106**	**77**
110. Cotton spinning, doubling, etc.	172·1	170·2	− 11	73·5	66·2	− 99	98·6	104·0	55	10	9	6	5	19	17
111. Cotton weaving, etc.	249·3	122·8	−507	88·1	42·4	−518	161·2	80·4	−502	15	6	8	3	32	13
112. Woollen and worsted	196·9	179·8	− 87	84·8	86·3	18	112·1	93·5	−167	12	9	7	6	22	15
113-4. Rayon, etc. production, weaving; silk	58·4	95·0	627	25·6	54·4	1,122	32·7	40·6	239	4	5	2	4	6	7
118. Hosiery and other knitted goods	100·1	109·3	92	26·5	32·6	230	73·6	76·8	43	6	5	2	2	14	12
123. Textile finishing, etc.	91·3	81·8	−104	70·2	58·2	−172	21·1	23·7	123	5	4	6	4	4	4
XI. Leather, leather goods and fur	**72·9**	**72·6**	**− 4**	**49·6**	**46·8**	**− 56**	**23·3**	**25·8**	**107**	**4**	**4**	**4**	**3**	**5**	**4**
XII. Clothing	**778·1**	**673·5**	**−134**	**289·4**	**225·1**	**−222**	**488·6**	**448·4**	**− 82**	**47**	**34**	**25**	**16**	**96**	**73**
140. Tailoring	265·4	271·1	21	111·5	88·7	−205	153·9	182·4	185	16	14	10	6	30	29
141, 142. Dressmaking, overalls, shirts, underwear	213·5	175·3	−179	15·1	17·7	178	198·4	157·5	−206	13	9	1	1	40	26
143. Hats, caps and millinery	64·2	21·6	−663	17·4	8·4	−519	46·8	13·2	−717	4	1	2	1	9	2
147. Dress industries not elsewhere specified	48·1	44·0	− 85	11·6	9·8	−157	36·5	34·2	− 62	3	2	1	1	7	6
148, 149. Boot and shoe making and repairing	186·9	161·5	−136	133·8	100·5	−249	53·1	61·0	150	11	8	11	7	10	10

XIII. Food, drink and tobacco	559·0	645·9	156	352·6	407·2	155	206·4	238·8	157	34	32	31	30	40	39
151, 152. Bread, flour confectionery, biscuits	196·6	181·4	− 78	127·3	113·3	−109	69·4	68·0	− 19	12	9	11	8	14	11
153. Meat and meat products	13·5	29·2	1,163	8·5	20·1	1,363	5·0	9·1	822	1	1	1	1	1	1
154. Milk products	9·2	60·7	5,614	6·0	43·1	6,199	3·2	17·6	4,518	1	3	1	3	1	3
156. Cocoa, chocolate and sugar confectionery	72·0	66·6	− 75	26·1	27·5	51	45·9	39·1	−147	4	3	2	2	9	6
157, 162. Other food industries	64·5	96·7	499	36·5	51·1	401	28·0	45·5	626	4	5	3	4	5	7
163. Brewing and malting	74·4	80·0	76	64·4	66·7	36	10·0	13·4	333	4	4	6	5	2	2
XIV. Manufactures of wood and cork	254·3	286·7	127	214·2	239·3	118	40·1	47·3	180	15	14	19	17	8	8
XV. Paper and printing	390·0	463·2	188	260·7	302·8	162	129·3	160·5	241	23	23	23	22	25	26
180, 181. Paper, board, wallpaper	50·5	71·7	420	38·6	54·9	423	11·9	16·8	411	3	4	3	4	2	3
182, 183. Manufactures of paper and board	62·0	83·8	351	20·0	33·5	673	42·0	50·4	198	4	4	2	2	8	8
186. Printing, publishing, papers, periodicals	73·9	84·4	142	64·0	69·7	90	9·9	14·7	480	4	4	6	5	2	2
189. Other printing, publishing, etc.	203·5	223·4	97	138·1	144·7	48	65·5	78·6	202	12	11	12	11	13	13
XVI. Other manufacturing industries	139·1	241·8	738	83·4	143·9	726	55·7	97·9	757	8	12	7	10	11	16
190. Rubber	46·8	94·6	1,021	30·6	65·1	1,130	16·3	29·5	817	3	5	3	5	3	5
XVII. Building and contracting	886·1	1,237·0	396	872·8	1,203·3	379	13·3	33·7	1,525	53	62	76	87	3	5
201. Electric wiring and contracting	43·1	66·3	538	40·0	62·3	558	3·2	4·0	283	3	3	3	5	1	1
XVIII. Gas, electricity and water	209·1	330·7	582	202·3	301·6	491	6·8	29·1	3,285	13	17	18	22	1	5
210. Gas	109·7	132·2	205	106·3	121·9	146	3·4	10·3	2,066	7	7	10	9	1	2
211. Electricity	72·0	166·2	1,308	69·2	148·8	1,151	2·8	17·4	5,173	4	8	6	11	0	3
212. Water	27·4	32·3	181	26·8	30·9	155	0·6	1·4	1,310	2	2	2	2	0	0
XIX. Transport and communication	1,276·2	1,523·6	194	1,187·6	1,337·1	126	88·6	186·6	1,106	77	76	103	97	17	30
220. Railways	478·0	463·1	− 31	464·1	432·2	− 69	13·9	30·9	1,227	29	23	40	31	3	5
221. Tramway and omnibus service	180·1	240·6	336	174·1	212·2	219	6·0	28·4	3,711	11	12	15	15	1	5
223. Goods transport by road	145·1	173·2	194	141·9	162·8	147	3·1	10·4	2,326	9	9	12	12	1	2
224. Sea transport	109·7	82·4	−249	103·3	76·8	−257	6·4	5·6	−129	7	4	9	6	1	1
225-6. Port, canal transport and service	126·4	150·2	188	124·0	146·7	183	2·4	3·5	460	8	8	11	11	0	1
227. Air transport	1·4	22·8	15,353	1·2	18·1	13,723	0·2	4·7	27,503	0	1	0	1	0	1
228. Postal, telegraph, wireless communication	210·1	301·6	435	156·0	212·8	364	54·1	88·8	641	13	15	14	15	11	14
XX. Distributive trades	2,400·5	2,401·3	0	1,651·0	1,379·3	−165	749·5	1,022·0	364	144	121	142	101	146	166
XXI. Insurance, banking and finance	336·6	402·5	196	262·9	263·7	3	73·7	138·8	883	20	20	23	19	14	23
XXII. Public administration and defence	825·5	1,573·9	907	762·2	1,326·3	740	63·3	247·6	2,909	50	79	66	96	12	40
260. National government service	347·3	1,027·4	1,958	316·3	866·2	1,738	31·0	161·2	4,199	21	52	27	63	6	26
265. Local government service	478·2	546·5	143	445·9	460·1	32	32·3	86·4	1,672	29	27	39	33	6	14
XXIII. Professional services	926·7	1,359·2	467	414·2	568·3	372	512·4	790·9	543	56	68	36	41	100	128
271. Education	363·9	461·0	267	120·2	175·7	461	243·7	285·3	171	22	23	10	13	48	46
272. Law	63·7	72·4	136	46·5	38·9	−165	17·1	33·5	956	4	4	4	3	3	5
273. Medical and dental services	294·3	562·4	911	97·5	179·4	840	196·8	383·0	946	18	28	8	13	38	62
XXIV. Miscellaneous services	2,439·7	1,856·7	−239	756·0	627·7	−170	1,683·8	1,229·0	−270	145	94	66	46	331	201
280, 281. Entertainment and sport	143·8	197·6	375	97·4	106·9	98	46·4	90·8	956	9	10	8	8	9	15
285. Catering, hotels, etc.	561·7	807·2	437	236·2	244·8	37	325·5	562·4	728	34	40	20	18	64	91
286, 287. Laundries, dry cleaning	155·1	157·4	15	34·7	39·6	140	120·3	117·8	− 21	9	8	3	3	24	19
288. Hairdressing and manicure	79·4	81·8	30	46·1	34·6	−249	33·3	47·2	416	5	4	4	3	7	8
290, 291. Private domestic service	1,381·0	453·8	−671	261·9	94·3	−640	1,119·1	359·4	−679	83	23	23	7	219	58

*Includes 17·0 thousand persons (11·2 males and 5·8 females) with not stated or ill-defined industry.

Table 76.—Status distribution of persons in selected industries, and comparison with 1931

Industry	1931							1951																			
	Total occupied (including out of work) (*thousands*)	Out of work		Occupied (excluding out of work)				Total occupied (including out of work) (*thousands*)	Out of work		Occupied (excluding out of work)				Percentage distribution of occupied (excluding out of work) by status and sex											
		Numbers (*thousands*)	Percentage	Total numbers (*thousands*)	Percentage distribution by status				Numbers (*thousands*)	Percentage	Total numbers (*thousands*)	Percentage distribution by status			Employers and managers		Part-time workers		Articled clerks and apprentices		Unpaid assistants		Other operatives		Working on own account	
					Employers and managers	Operatives	Working on own account					Employers and managers	Operatives	Working on own account	M	F	M	F	M	F	M	F	M	F	M	F
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	aa
I. Agriculture, forestry, fishing	1,059·1	62·2	5·9	996·8	17·0	67·9	15·1	976·6	12·9	1·3	963·7	12·6	67·0	20·4	11·8	0·8	0·5	1·0	0·2	0·0	0·7	1·3	57·4	5·9	19·1	1·3
1. Agriculture and horticulture	1,007·8	55·6	5·5	952·2	17·7	67·2	15·1	931·8	10·9	1·2	920·9	13·0	66·1	20·9	12·2	0·8	0·5	1·0	0·2	0·0	0·7	1·4	56·3	6·0	19·5	1·4
II. Mining and quarrying	1,131·6	201·9	17·8	929·7	0·7	99·3	0·0	757·9	16·4	2·2	741·5	0·8	99·2	0·0	0·8	0·0	0·0	0·1	0·9	0·0	0·0	0·0	96·7	1·5	0·0	—
10. Coal mining	1,030·2	185·0	18·0	845·3	0·5	99·5	—	690·8	15·2	2·2	675·5	0·5	99·5	0·0	0·5	0·0	0·0	0·1	0·9	0·0	0·0	—	97·3	1·2	0·0	—
III. Ceramics, glass, cement, etc.	268·8	38·6	14·4	230·2	2·8	96·9	0·3	296·0	4·2	1·4	291·8	3·5	95·6	0·9	3·4	0·1	0·1	1·5	1·4	0·2	0·0	0·0	70·1	22·3	0·8	0·1
20. Bricks and fireclay goods	81·4	10·3	12·6	71·2	2·7	97·2	0·1	70·4	0·9	1·3	69·5	3·2	96·7	0·1	3·1	0·1	0·1	0·5	0·6	0·0	0·0	0·0	88·4	7·1	0·1	0·0
21. China and earthenware (incl. glazed tiles)	86·2	12·5	14·5	73·7	2·2	97·7	0·1	75·7	1·2	1·5	74·5	3·3	96·4	0·3	3·1	0·2	0·1	2·2	1·4	0·8	0·0	0·0	41·8	50·1	0·2	0·1
IV. Chemicals and allied trades	230·5	27·6	12·0	202·9	4·7	95·0	0·3	402·2	4·9	1·2	397·3	4·3	95·6	0·1	4·1	0·2	0·1	2·3	0·8	0·0	0·0	0·0	68·1	24·3	0·1	0·0
30, 31, 33. Coke ovens, chemicals and explosives								231·9	2·7	1·2	229·2	3·4	96·5	0·1	3·3	0·1	0·1	1·6	1·0	0·0	0·0	0·0	74·6	19·2	0·1	0·0
V. Metal manufacture	376·8	88·8	23·6	288·0	2·2	97·8	0·0	514·3	6·4	1·2	507·9	2·3	97·7	0·0	2·3	0·0	0·1	1·0	1·9	0·0	0·0	0·0	84·5	10·2	0·0	0·0
40, 41. Blast furnaces, steel melting, rolling	177·3	46·4	26·2	130·8	1·7	98·3	—	223·9	2·8	1·2	221·1	1·7	98·3	—	1·7	0·0	0·0	0·4	2·0	0·0	—	—	88·9	7·0	—	—
42. Iron foundries	87·8	18·1	20·6	69·7	3·1	96·8	0·1	115·5	1·6	1·4	113·9	2·7	97·2	0·1	2·6	0·1	0·1	1·1	3·0	0·0	0·0	0·0	82·2	10·8	0·1	0·0
49. Non-ferrous metals smelting, rolling, etc.	44·9	9·0	20·1	35·8	3·3	96·6	0·1	103·8	1·2	1·1	102·6	3·3	96·6	0·1	3·2	0·1	0·1	1·9	1·2	0·0	0·0	0·0	78·4	15·0	0·1	0·0
VI. Engineering, shipbuilding and electrical goods	919·7	202·7	22·0	717·0	3·3	96·0	0·7	1,590·8	26·0	1·6	1,564·8	3·5	95·9	0·6	3·4	0·1	0·1	2·2	4·8	0·0	0·0	0·0	70·5	18·3	0·6	0·0
50, 51. Shipbuilding, marine engineering	200·8	82·7	41·2	118·1	1·5	98·2	0·3	207·9	8·0	3·8	199·9	1·2	98·5	0·3	1·2	0·0	0·1	0·3	8·6	0·1	0·0	0·0	86·2	3·2	0·3	0·0
54. Machine tools and engineers' small tools								86·6	0·9	1·0	85·7	4·5	95·1	0·4	4·4	0·1	0·1	1·7	5·6	0·0	0·0	0·0	72·7	15·0	0·4	0·0
56. Textile machinery and accessories	57·0	16·2	28·4	40·8	3·0	96·5	0·5	67·8	0·7	1·0	67·1	2·9	96·8	0·3	2·8	0·1	0·1	1·1	4·8	0·0	0·0	—	78·7	12·1	0·3	0·0
58. Constructional engineering								72·2	1·4	1·9	70·8	3·2	96·5	0·3	3·1	0·1	0·1	0·6	4·1	0·0	0·0	0·0	85·7	6·0	0·3	—
52, 53, 55, 57, 69. Other mechanical engineering								611·8	9·2	1·5	602·6	4·3	94·8	0·9	4·2	0·1	0·1	1·3	5·0	0·0	0·0	0·0	74·1	14·3	0·9	0·0
70. Electrical machinery								145·7	1·4	1·0	144·3	3·0	96·9	0·1	3·0	0·0	0·1	2·7	6·1	0·1	0·0	0·0	65·6	22·3	0·1	0·0
73, 74. Wireless apparatus; valves and lamps								133·8	1·6	1·2	132·2	3·3	95·1	1·6	3·2	0·1	0·1	6·5	2·2	0·0	0·0	0·0	47·8	38·5	1·6	0·0
71, 72, 75, 79. Other electrical engineering								265·0	3·0	1·1	262·0	3·3	96·5	0·2	3·2	0·1	0·1	4·3	2·1	0·0	0·0	0·0	57·5	32·5	0·2	0·0
VII. Vehicles	537·8	75·4	14·0	462·4	5·6	89·4	5·0	941·7	10·4	1·1	931·3	4·0	93·8	2·2	3·9	0·1	0·1	1·0	4·8	0·0	0·0	0·0	76·6	11·3	2·2	0·0
80. Manufacture of motor vehicles and cycles								293·6	3·1	1·1	290·5	2·4	96·9	0·7	2·4	0·0	0·1	0·9	3·2	0·0	0·0	0·0	80·5	12·2	0·7	0·0
81. Motor repairers and garages								236·5	3·1	1·3	233·4	9·3	83·1	7·6	9·0	0·3	0·2	1·0	8·6	0·0	0·0	0·1	66·1	7·1	7·4	0·2
82. Manufacture and repair of aircraft	21·9	2·8	13·0	19·0	1·2	98·7	0·1	159·2	2·0	1·3	157·2	1·9	98·1	0·0	1·9	0·0	0·1	0·7	3·8	0·0	—	—	80·4	13·1	0·0	—
83. Manufacture of parts for vehicles, etc.	31·7	4·8	15·1	26·9	3·0	96·6	0·4	111·4	1·2	1·1	110·2	3·1	96·8	0·1	3·0	0·1	0·0	2·3	1·4	0·0	0·0	—	69·9	23·2	0·1	0·0
84, 85. Locomotive, etc. manufacture	66·9	11·2	16·8	55·6	0·6	99·4	0·0	63·1	0·4	0·6	62·7	0·6	99·4	—	0·6	0·0	0·0	0·3	7·6	0·1	—	—	87·2	4·2	—	—
86. Manufacture and repair of wagons, etc.	63·2	10·8	17·1	52·4	0·8	99·2	0·0	68·4	0·4	0·6	68·0	0·6	99·4	—	0·6	0·0	0·0	0·2	4·7	0·0	—	—	90·8	3·7	—	—
VIII. Metal goods not elsewhere specified	348·2	54·3	15·6	293·9	5·3	90·3	4·4	451·2	6·1	1·4	445·1	4·5	93·7	1·8	4·3	0·2	0·1	4·5	1·9	0·0	0·0	0·0	58·2	29·0	1·8	0·0
90. Tools and cutlery								55·4	0·7	1·3	54·6	5·1	93·2	1·7	4·8	0·3	0·2	4·1	2·0	0·0	0·0	0·0	56·2	30·7	1·7	0·0
91-99. Other metal goods, n.e.s.	302·5	45·4	15·0	257·1	5·2	90·1	4·7	395·9	5·4	1·4	390·5	4·4	93·7	1·9	4·2	0·2	0·1	4·5	1·9	0·0	0·0	0·0	58·5	28·7	1·9	0·0
IX. Precision instruments, jewellery, etc.	103·9	11·5	11·0	92·4	7·8	80·5	11·7	144·9	2·0	1·4	142·9	6·1	87·3	6·6	5·8	0·3	0·2	3·2	4·0	0·1	0·0	0·0	52·5	27·3	6·3	0·3
100. Scientific, etc. instruments, etc.	33·6	2·1	6·3	31·5	7·9	87·4	4·7	82·1	1·1	1·4	81·0	6·1	91·8	2·1	5·8	0·3	0·1	3·3	4·5	0·1	0·0	0·0	56·1	27·7	1·9	0·2
X. Textiles	1,169·1	220·6	18·9	948·6	2·0	97·8	0·2	877·0	9·0	1·0	868·0	2·7	97·0	0·3	2·5	0·2	0·1	5·7	0·7	0·1	0·0	0·0	42·0	48·4	0·1	0·2
110. Cotton spinning, doubling, etc.	221·9	49·8	22·4	172·1	1·1	98·9	0·0	172·4	2·2	1·3	170·2	1·3	98·7	0·0	1·2	0·1	0·1	5·5	0·5	0·0	0·0	0·0	37·2	55·4	0·0	0·0
111. Cotton weaving, etc.	346·0	96·8	28·0	249·3	1·4	98·6	0·0	124·2	1·4	1·1	122·8	2·1	97·9	0·0	2·0	0·1	0·2	6·4	0·5	0·1	0·0	0·0	31·8	58·9	0·0	0·0
112. Woollen and worsted	223·2	26·3	11·8	196·9	2·2	97·7	0·1	181·6	1·8	1·0	179·8	2·8	97·0	0·2	2·7	0·1	0·2	6·4	0·7	0·1	0·0	0·0	44·4	45·2	0·1	0·1
113, 114. Rayon, etc. production, weaving; silk	70·4	12·0	17·1	58·4	1·7	98·3	0·0	95·8	0·8	0·8	95·0	2·3	97·7	0·0	2·2	0·1	0·1	3·0	1·1	0·1	0·0	0·0	53·8	39·6	0·0	0·0
118. Hosiery, and other knitted goods	109·9	9·8	8·9	100·1	2·9	96·3	0·8	110·0	0·7	0·6	109·3	3·3	95·7	1·0	2·9	0·4	0·1	8·4	0·3	0·0	0·0	0·0	26·4	60·5	0·1	0·9
123. Textile finishing, etc.	106·5	15·2	14·3	91·3	2·5	97·4	0·1	82·6	0·8	0·9	81·8	3·0	96·7	0·3	2·8	0·2	0·1	3·1	1·2	0·0	0·0	0·0	66·9	25·4	0·1	0·2

XI. Leather, leather goods and fur	84·0	11·1	13·3	72·9	7·3	87·6	5·1	73·6	1·0	1·4	72·6	6·3	90·4	3·3	5·8	0·5	0·2	4·1	0·8	0·2	0·0	0·0	54·8	30·3	2·8	0·5
XII. Clothing	833·6	55·5	6·7	778·1	5·4	81·9	12·7	682·8	9·3	1·4	673·5	4·7	88·2	7·1	3·9	0·8	0·1	6·3	0·7	0·7	0·0	0·1	24·6	55·7	4·1	3·0
140. Tailoring	284·9	19·5	6·8	265·4	7·0	87·2	5·8	275·1	4·0	1·5	271·1	4·9	91·1	4·0	4·4	0·5	0·1	5·9	1·0	1·1	0·0	0·1	24·0	58·9	3·2	0·8
141-147. Other clothing	343·9	18·1	5·3	325·8	4·5	80·2	15·3	244·2	3·2	1·3	240·9	4·7	87·6	7·7	3·2	1·5	0·1	7·9	0·2	0·6	0·0	0·0	10·9	67·9	0·5	7·2
148, 149. Boot and shoe making and repairing	204·8	17·9	8·8	186·9	4·5	77·6	17·9	163·5	2·0	1·2	161·5	4·2	84·4	11·4	4·0	0·2	0·2	4·7	0·8	0·0	0·0	0·1	46·2	32·4	11·1	0·3
XIII. Food, drink and tobacco	616·5	57·6	9·3	559·0	6·8	90·8	2·4	656·9	11·0	1·7	645·9	5·7	92·4	1·9	5·1	0·6	0·2	4·6	0·7	0·3	0·0	0·1	55·6	30·9	1·5	0·4
151, 152. Bread, flour confectionery, biscuits	214·1	17·5	8·2	196·6	11·4	83·0	5·6	184·9	3·5	1·9	181·4	8·6	86·2	5·2	7·0	1·6	0·3	5·6	1·6	1·0	0·1	0·2	49·7	27·7	3·9	1·3
153, 154, 157, 162. Other food industries	97·8	10·6	10·9	87·2	4·7	93·9	1·4	190·2	3·6	1·9	186·6	5·8	93·0	1·2	5·4	0·4	0·1	5·0	0·3	0·0	0·0	0·1	54·4	33·1	1·1	0·1
163. Brewing and malting	81·9	7·5	9·2	74·4	4·5	95·3	0·2	81·1	1·1	1·4	80·0	3·5	96·5	0·0	3·4	0·1	0·1	1·4	0·8	0·0	0·0	0·0	79·0	15·2	0·0	0·0
XIV. Manufactures of wood and cork	292·4	38·2	13·1	254·3	7·8	80·5	11·7	292·1	5·5	1·9	286·7	5·4	88·1	6·5	5·2	0·2	0·2	1·7	5·8	0·1	0·0	0·0	66·1	14·2	6·3	0·2
171. Furniture and upholstery								140·1	2·2	1·6	137·9	5·1	89·6	5·3	4·8	0·3	0·2	2·1	5·7	0·2	0·0	0·0	64·2	17·2	5·0	0·3
XV. Paper and printing	421·0	31·1	7·4	390·0	5·1	94·0	0·9	467·5	4·3	0·9	463·2	5·0	94·0	1·0	4·7	0·3	0·2	3·4	3·7	0·3	0·0	0·0	55·9	30·5	0·9	0·1
180, 181. Paper, board, wallpaper	55·3	4·8	8·7	50·5	2·2	97·7	0·1	72·3	0·7	1·0	71·7	2·6	97·4	0·0	2·5	0·1	0·1	1·9	1·1	0·0	0·0	0·0	72·9	21·4	0·0	0·0
186, 189. Printing and publishing	299·0	21·5	7·2	277·5	6·0	92·8	1·2	310·5	2·8	0·9	307·8	5·9	92·7	1·4	5·5	0·4	0·3	2·8	5·1	0·4	0·0	0·0	57·5	26·6	1·3	0·1
XVI. Other manufacturing industries	158·5	19·4	12·2	139·1	4·8	93·8	1·4	246·1	4·3	1·8	241·8	4·6	94·3	1·1	4·3	0·3	0·1	5·2	0·7	0·0	0·0	0·0	53·7	34·6	0·8	0·3
190. Rubber	55·4	8·5	15·4	46·8	3·3	96·3	0·4	95·8	1·1	1·2	94·6	3·2	96·7	0·1	3·1	0·1	0·1	4·4	0·5	0·0	0·0	0·0	65·1	26·6	0·1	0·0
XVII. Building and contracting	1,066·0	179·9	16·9	886·1	7·9	86·8	5·3	1,272·3	35·4	2·8	1,237·0	6·1	87·2	6·7	6·0	0·1	0·1	0·4	7·1	0·0	0·0	0·0	77·4	2·2	6·7	0·0
200. Building								1,075·6	30·2	2·8	1,045·4	6·2	86·4	7·4	6·1	0·1	0·1	0·3	7·1	0·0	0·0	0·0	77·0	1·9	7·4	0·0
201. Electric wiring and contracting	49·4	6·3	12·7	43·1	10·8	79·8	9·4	67·8	1·4	2·1	66·3	7·2	84·2	8·6	7·0	0·2	0·1	0·9	19·1	0·0	0·0	0·1	59·1	4·9	8·5	0·1
202. Civil engineering contracting								129·0	3·7	2·9	125·3	4·3	95·1	0·6	4·2	0·1	0·1	0·3	1·4	0·0	0·0	—	90·2	3·1	0·6	—
XVIII. Gas, electricity and water	227·2	18·2	8·0	209·1	1·4	98·6	0·0	333·4	2·7	0·8	330·7	1·1	98·9	—	1·1	0·0	0·1	0·6	2·6	0·0	—	—	87·4	8·2	—	—
210. Gas	117·7	8·0	6·8	109·7	1·7	98·3	—	133·5	1·3	1·0	132·2	1·4	98·6	—	1·4	0·0	0·1	0·6	2·5	0·0	—	—	88·3	7·1	—	—
211. Electricity	78·9	6·9	8·8	72·0	1·2	98·8	0·0	167·3	1·1	0·7	166·2	0·7	99·3	—	0·7	0·0	0·1	0·6	3·1	0·0	—	—	85·6	9·9	—	—
212. Water	30·6	3·2	10·4	27·4	1·2	98·8	—	32·7	0·3	1·0	32·3	1·5	98·5	—	1·5	0·0	0·1	0·4	0·7	—	—	—	93·3	4·0	—	—
XIX. Transport and communication	1,410·4	134·2	9·5	1,276·2	2·8	94·9	2·3	1,548·1	24·5	1·6	1,523·6	3·1	94·6	2·3	2·7	0·4	0·2	0·8	0·4	0·0	0·0	0·0	82·3	10·9	2·1	0·2
220. Railways	496·2	18·3	3·7	478·0	0·7	99·3	—	466·4	3·2	0·7	463·1	0·9	99·1	—	0·9	0·0	0·0	0·3	0·3	0·0	—	—	92·1	6·4	—	—
221, 222. Road passenger transport								288·1	3·4	1·2	284·8	2·1	92·8	5·1	2·0	0·1	0·1	0·4	0·3	0·0	0·0	0·0	81·8	10·2	5·0	0·1
223. Goods transport by road	168·4	23·4	13·9	145·1	10·1	73·6	16·3	177·0	3·7	2·1	173·2	6·8	85·1	8·1	6·5	0·3	0·1	0·6	0·4	0·0	0·0	0·0	79·1	4·9	8·0	0·1
224. Sea transport	160·2	50·5	31·5	109·7	4·2	95·1	0·7	88·5	6·1	6·9	82·4	5·6	93·9	0·5	5·5	0·1	0·1	0·4	1·1	—	0·0	0·0	85·9	6·4	0·5	0·0
225, 226. Port, canal transport and service	149·4	22·9	15·4	126·4	1·7	96·6	1·7	153·3	3·1	2·0	150·2	2·3	97·3	0·4	2·3	0·0	0·1	0·2	0·7	—	0·0	0·0	94·2	2·1	0·4	0·0
228. Postal, telegraph, wireless communication	216·3	6·1	2·8	210·1	3·3	96·7	0·0	305·0	3·4	1·1	301·6	4·0	94·7	1·3	2·5	1·5	0·5	2·5	0·1	0·0	0·0	0·1	66·8	24·7	0·7	0·6
XX. Distributive trades	2,586·3	185·8	7·2	2,400·5	12·9	69·6	17·5	2,434·2	32·9	1·4	2,401·3	14·5	71·4	14·1	12·1	2·4	0·3	5·1	0·5	0·2	0·1	0·6	34·4	30·2	10·0	4·1
240. Dealing in coal, builders' materials, etc.								162·6	2·3	1·4	160·3	14·0	77·4	8·6	13·0	1·0	0·3	2·0	0·4	0·0	0·1	0·2	61·2	13·2	8·1	0·5
241. Dealing in other industrial materials								122·0	2·0	1·6	120·1	14·3	74·6	11·1	13·7	0·6	0·3	1·8	0·7	0·0	0·1	0·1	55·7	15·9	10·8	0·3
242. Wholesale distribution of food and drink								152·7	2·0	1·3	150·7	12·9	83·1	4·0	12·2	0·7	0·3	2·4	0·1	0·0	0·0	0·1	58·2	22·0	3·8	0·2
243. Retail distribution of food and drink								705·6	9·1	1·3	696·5	15·7	63·2	21·1	12·9	2·8	0·3	6·2	0·6	0·0	0·2	1·2	29·8	24·9	14·0	7·1
244. Wholesale distribution of non-food goods								263·8	3·6	1·4	260·2	14·7	77·7	7·6	13·6	1·1	0·3	2·6	0·3	0·0	0·0	0·1	49·6	24·8	7·2	0·4
245. Retail distribution of non-food goods								925·9	12·7	1·4	913·2	13·3	75·2	11·5	10·5	2·8	0·2	5·9	0·7	0·4	0·1	0·3	25·1	42·5	7·8	3·7
246. Retail sales of sweets, tobacco, papers								101·5	1·2	1·2	100·2	19·9	45·1	35·0	13·4	6·5	0·5	8·9	0·0	0·0	0·2	1·7	7·9	25·9	21·9	13·1
XXI. Insurance, banking and finance	350·1	13·6	3·9	336·6	11·0	86·5	2·5	405·5	3·0	0·7	402·5	9·4	89·0	1·6	9·0	0·4	0·4	3·0	0·2	0·0	0·0	0·0	54·4	31·0	1·5	0·1
XXII. Public administration and defence	912·9	87·4	9·6	825·5	0·4	99·6	—	1,592·0	18·1	1·1	1,573·9	0·3	99·7	—	0·2	0·1	0·2	1·2	0·3	0·0	—	—	83·5	14·5	—	—
260. National government service	356·6	9·3	2·6	347·3	0·3	99·7	—	1,035·9	8·5	0·8	1,027·4	0·1	99·9	—	0·1	0·0	0·1	0·8	0·1	0·0	—	—	84·0	14·9	—	—
265. Local government service	556·3	78·1	14·0	478·2	0·4	99·6	—	556·1	9·6	1·7	546·5	0·7	99·3	—	0·4	0·3	0·4	1·8	0·7	0·0	—	—	82·6	13·8	—	—
XXIII. Professional services	954·9	28·3	3·0	926·7	5·2	84·2	10·6	1,376·6	17·4	1·3	1,359·2	6·2	88·4	5·4	4·3	1·9	0·4	6·7	1·2	0·0	0·0	0·0	32·2	47·9	3·8	1·6
270. Accountancy	44·2	1·1	2·5	43·1	15·8	76·0	8·2	64·1	0·5	0·8	63·6	13·4	79·3	7·3	13·3	0·1	0·3	2·9	11·2	0·2	0·0	0·0	40·0	24·7	7·1	0·2
271. Education	370·8	6·9	1·8	363·9	1·6	91·3	7·1	465·3	4·3	0·9	461·0	6·4	91·2	2·4	2·8	3·6	0·5	8·7	0·1	0·0	0·0	0·0	34·2	47·7	0·6	1·8
272. Law	65·2	1·6	2·4	63·7	22·4	71·8	5·8	72·9	0·6	0·8	72·4	20·5	73·2	6·3	20·1	0·4	0·3	3·4	3·3	0·2	0·0	0·0	23·9	42·1	6·1	0·2
273. Medical and dental services	307·0	12·6	4·1	294·3	3·7	82·3	14·0	571·5	9·1	1·6	562·4	3·2	91·8	5·0	1·9	1·3	0·2	7·1	0·6	0·0	0·0	0·0	25·5	58·4	3·7	1·3
274. Religion	74·0	1·2	1·6	72·8	1·0	97·1	1·9	65·5	0·4	0·6	65·1	0·9	93·3	5·8	0·6	0·3	1·4	3·4	0·0	0·0	—	—	59·2	29·3	5·1	0·7
XXIV. Miscellaneous services	2,653·8	214·1	8·1	2,439·7	5·3	86·6	8·1	1,910·3	53·6	2·8	1,856·7	8·3	81·2	10·5	4·7	3·6	0·5	12·1	0·2	0·3	0·0	0·3	21·5	46·3	6·9	3·6
280, 281. Entertainment and sport	174·5	30·7	17·6	143·8	9·1	79·4	11·5	207·4	9·8	4·7	197·6	7·7	83·1	9·2	6·7	1·0	0·7	8·0	0·7	0·0	0·1	0·1	39·0	34·5	6·8	2·4
285. Catering, hotels, etc.	617·2	55·6	9·0	561·7	15·4	63·1	21·5	830·8	23·6	2·8	807·2	13·3	73·7	13·0	7·1	6·2	0·3	13·9	0·1	0·0	0·1	0·6	15·8	42·9	6·9	6·1
268-288. Laundries, dry cleaning, hairdressing	249·0	14·5	5·8	234·5	8·0	79·5	12·5	243·5	4·3	1·8	239·2	9·5	78·8	11·7	4·4	5·1	0·1	8·5	0·4	2·5	0·0	0·2	19·2	47·9	6·9	4·8
290, 291. Private domestic service	1,484·0	102·9	6·9	1,381·0	0·1	99·9	—	466·6	12·9	2·8	453·8	0·0	98·0	2·0	0·0	0·0	1·0	15·1	0·0	0·0	—	—	17·8	64·1	1·9	0·1

between 1931 and 1951 despite the increase in the total number of persons in all industry already noted:—

Industry	Occupied Persons (*thousands*)		Decrease per thousand
	1931	1951	
I. Agriculture, forestry and fishing	996·8	963·7	33
II. Mining and quarrying	929·7	741·5	202
X. Textiles	948·6	868·0	85
XI. Leather, leather goods and fur	72·9	72·6	4
XII. Clothing	778·1	673·5	134
XXIV. Miscellaneous services	2,439·7	1,856·7	239

while in addition Order XX—Distributive trades—showed only an extremely small increase in numbers.

Primary and manufacturing industries (Orders I to XVI) accounted for 49 per cent of all occupied males, but only 40 per cent of occupied females in 1951, while in 1931 the comparable percentages were 47 per cent for males and 38 per cent for females.

In 1951 there were only four industry orders in which the number of females exceeded that of males; these were textiles (475,000 females and 393,000 males), clothing (448,000 females and 225,000 males), professional services (791,000 females and 568,000 males), and miscellaneous services (1,229,000 females and 628,000 males). In seven other industry orders the proportion of all occupied females was rather higher than the proportion of all occupied males in the order; distributive trades (17 per cent of females and 10 per cent of males), food, drink and tobacco (3·9 per cent of females and 3·0 per cent of males), paper and printing (2·6 per cent of females and 2·2 per cent of males), metal goods not elsewhere specified (2·4 per cent of females and 2·1 per cent of males), insurance, banking and finance (2·3 per cent of females and 1·9 per cent of males), other manufacturing industries (1·6 per cent of females and 1·0 per cent of males). Orders in which there were few females compared with males include mining and quarrying (729,000 males and 12,000 females), metal manufacture (451,000 males and 57,000 females), building and contracting (1,203,000 males and 34,000 females) and transport and communication (1,337,000 males and 187,000 females).

The industry orders which contained the highest percentages of occupied males are transport and communication, distributive trades, and public administration and defence, each having over 1,300,000 males and between them accounting for nearly 30 per cent of all males, while nearly 50 per cent of all females were accounted for by miscellaneous services (1,229,000), distributive trades (1,022,000), and professional services (791,000).

Distribution by industrial status

The distribution of persons in selected industries by industrial status is shown in Table 76 which indicates for all industry orders and selected minimum list headings the total numbers of persons occupied, both including and excluding the out of work, the numbers out of work and their percentage of the total in each industry, and the percentage distribution of the occupied (excluding the out of work) into employers and managers, operatives, and working on own account. Figures under all these heads are shown for 1951 and, where reasonable comparison was possible, for 1931. In fact comparison figures are shown for all industry orders and most minimum list headings and groups of headings; lack of comparability was most serious in engineering, shipbuilding and electrical goods (Order VI), vehicles (Order VII) and distributive trades (Order XX). In addition, for 1951 the percentage distribution for all selected industries by sex and full industrial status classification is shown.

Changes in the status distribution of all occupied persons were discussed on p. 132, and the changes found in individual industries will be mentioned in a later section.

Table 77.—Age Distribution of Industry Orders

Industry Order	Numbers (*thousands*)			Percentage distributions by age											
				Males						Females					
	Persons	Males	Females	Under 25	25–34	35–44	45–54	55–64	65 and over	Under 25	25–34	35–44	45–54	55–64	65 and over
	a	b	c	d	e	f	g	h	j	k	l	m	n	o	p
All Industries	**19,940·0**	**13,782·3**	**6,157·8**	**17·6**	**22·0**	**23·2**	**20·0**	**12·9**	**4·3**	**32·8**	**19·2**	**19·4**	**17·4**	**8·8**	**2·4**
I. Agriculture, forestry, fishing	963·7	863·7	100·0	21·0	19·3	20·9	18·9	12·8	7·1	30·8	20·3	18.3	15.9	9·1	5·6
II. Mining and quarrying	741·5	729·4	12·2	14·2	22·5	23·9	22·3	13·8	3·3	52·3	21·2	11·9	9·8	4·2	0·6
III. Treatment of non-metalliferous mining products other than coal	291·8	221·3	70·5	16·8	25·2	25·2	18·4	10·6	3·8	35·4	22·5	21·0	14·9	5·3	0·9
IV. Chemicals and allied trades	397·3	290·6	106·7	13·0	24·5	25·0	21·9	13·1	2.5	44·0	20·2	16·1	14·1	4·9	0·7
V. Metal manufacture	507·9	451·0	56·9	13·6	24·1	24·7	21·0	12·8	3·8	39·7	23·6	17·4	13·5	5·0	0·8
VI. Engineering, shipbuilding and electrical goods	1,564·8	1,241·4	323·5	17·8	25·7	21·7	19·1	12·2	3·5	36·3	26·3	19·1	13·4	4·3	0·6
VII. Vehicles	931·3	814·5	116·8	17·4	24·6	24·4	19·3	11·5	2·8	37·8	25·7	17·8	13·2	4·7	0·8
VIII. Metal goods not elsewhere specified	445·1	295·2	149·9	17·1	25·3	23·1	18·0	11·5	5·0	34·2	23·9	19·8	15·1	5·9	1·1
IX. Precision instruments, jewellery, etc.	142·9	98·3	44·6	20·5	25·2	21·0	16·4	11·3	5·6	36·1	23·5	18·5	14·7	5·8	1·4
X. Textiles	868·0	393·3	474·7	14·0	19·5	22·4	22·3	15·9	5·9	31·4	18·4	21·3	19·1	8·4	1·4
XI. Leather, leather goods and fur	72·6	46·8	25·8	14·0	20·6	23·5	20·3	14·3	7·3	34·6	20·7	20·4	16·4	6·4	1·5
XII. Clothing	673·5	225·1	448·4	15·4	18·9	21·6	20·4	15·9	7·8	40·9	17·5	17·6	14·7	7·4	1·9
XIII. Food, drink and tobacco	645·9	407·2	238·8	15·3	21·3	25·0	21·3	13·3	3·8	41·0	18·4	18·4	15·2	5·9	1·1
XIV. Manufacture of wood and cork	286·7	239·3	47·3	23·8	21·1	24·3	15·8	10·1	4·9	37·2	22·3	20·1	13·7	5·5	1·2
XV. Paper and printing	463·2	302·8	160·5	18·7	20·6	23·5	18·5	13·6	5·1	46·4	17·3	15·5	13·6	6·0	1·2
XVI. Other manufacturing industries	241·8	143·9	97·9	15·7	26·0	25·4	18·8	10·7	3·4	37·9	21·8	19·1	14·8	5·5	0·9
XVII. Building and contracting	1,237·0	1,203·3	33·7	21·1	24·1	24·9	16·8	9·2	3·9	43·2	20·6	16·5	13·1	5·0	1·6
XVIII. Gas, electricity and water	330·7	301·6	29·1	12·5	22·4	25·4	23·8	14·2	1·7	43·5	23·4	15·5	12·1	4·8	0·7
XIX. Transport and communication	1,523·6	1,337·1	186·6	12·1	22·7	24·0	24·1	14·9	2·2	36·9	23·9	17·0	14·5	6·4	1·3
XX. Distributive trades	2,401·3	1,379·3	1,022·0	15·0	20·7	24·9	20·2	13·1	6·1	38·5	16·5	18·1	16·1	7·9	2·9
XXI. Insurance, banking and finance	402·5	263·7	138·8	12·2	19·7	26·1	24·3	13·2	4·5	48·4	17·5	13·4	13·5	5·8	1·4
XXII. Public administration and defence	1,573·9	1,326·3	247·6	33·4	18·4	17·3	16·3	12·3	2·3	29·0	24·2	18·4	18·1	9·1	1·2
XXIII. Professional services	1,359·2	568·3	790·9	11·9	22·8	25·6	19·8	13·9	6·0	27·7	20·5	21·0	18·9	9·8	2·1
XXIV. Miscellaneous services	1,856·7	627·7	1,229·0	11·7	17·1	23·3	22·6	16·8	8·5	19·2	16·0	22·4	22·8	14·6	5·0

Age distribution of workers in industry orders

Table 77 shows the grouped age distribution of males and females for all industry orders. The all industry percentage age distributions by sex in 1951 were:—

Age	Males	Females
Under 25	17·6	32·8
25–34	22·0	19·2
35–44	23·2	19·4
45–54	20·0	17·4
55–64	12·9	8·8
65 and over	4·3	2·4
	100·0	100·0

Females in all industries taken together have a noticeably younger age distribution than males, nearly a third of them being aged under 25. This is due to women leaving industry on or soon after marriage, of whom a large proportion do not return later.

There is a considerable amount of variation among the age distributions of the individual industry orders from that of all industries shown above. One noticeable feature is the concentration of a third of all the males in public administration and defence into the under 25 age-group, due to the very young age distribution of men in the armed forces. This abnormal concentration is reflected in the lower percentages of males under 25 in the other industry orders. Other industry orders having higher than average percentages at the younger ages and correspondingly lower than average percentages at the higher ages include building and contracting, in which 70 per cent of all males are under the age of 45 and, to a lesser extent, vehicles, where the proportion under 25 is only slightly below the all industry proportion, despite the armed forces influence, and engineering, shipbuilding, and electrical goods. In contrast industry orders with lower than average percentages at the younger ages and higher than average at the older ages include miscellaneous services (largely composed of personal services, catering and entertainment), distributive trades, insurance, banking and finance, and professional services—among what may be termed the service industries; and, among the manufacturing industries, textiles, leather goods and clothing, all industries which declined in relative importance between 1931 and 1951. Another group of industries tends to have males concentrated more than usual into the middle years of working life; industries where this effect is found include mining and quarrying, chemical and allied trades, treatment of non-metalliferous mining products, metal manufacture, food, drink and tobacco, gas, electricity and water and transport and communication, while agriculture, forestry and fishing shows the opposite tendency with higher than average percentages in the under 25 and over 65 age-groups and lower than average between these extremes.

The concentration of females in the younger age-groups indicated by the all industry age distribution is repeated to a varying extent in nearly all the individual industry orders, 17 of the orders having more than 35 per cent of all their females under the age of 25. In a few orders, however, the age distribution of females is rather less concentrated at the younger ages. Agriculture, forestry and fishing, public administration and defence, professional services, and miscellaneous services are examples, while the textile industry has a slight concentration of females between the ages of 35 and 55.

Geographical Distribution of industry

Tables 78-85 comprise a series of tables to show the geographical distribution of certain industries. There is one section of a table for each industry order (except Orders XVI and XXIV) and any selected minimum list headings or groups which may be included within that order.

The basic list of industries used was taken from Appendix A of the Industry Tables. The list was modified by deleting certain minimum list headings on the grounds of small numbers or a lack of a geographical distribution noticeably different from that of the occupied population. Minimum list headings excluded due to having small numbers were Cement (24), Timber (170), and Paper and Board (180). List headings excluded due to lack of a characteristic geographical distribution were; Gas (210), Electricity (211), Water (212), Retail Distribution of Sweets, Tobacco and Papers (246), Local Government Service (265), Education (271) and Medical and Dental Services (273).

The areas shown are England and Wales, Regions and Conurbations, and any Counties, County Boroughs or other urban areas over 50,000 population that contributed 2 per cent or more of the England and Wales total for any selected industry. Figures for a selected area are given for all industries within a particular table, even if only one figure exceeds the 2 per cent limit.

Selected Individual Industrial Groups

General Note

In reading the following comments on individual industries it should be borne in mind that changes in classification affecting both occupation and industry, together with the restricted nature of the 1931 tabulations of numbers following specified occupations within particular industries (where the classification changes operate in combination) and the background of extensive unemployment in 1931, render it impossible to make comparisons between 1931 and 1951 with any degree of confidence. In some cases no comparisons have even been attempted.

Table 78.—Agriculture, Forestry, Fishing; Mining and Quarrying; Treatment of Non-metalliferous Mining Products other than Coal — **England and Wales, Regions, Conurbations and selected areas**

I Agriculture, forestry, fishing	1 Agriculture and horticulture	II Mining and quarrying	10 Coal mining	11-19 Other mining and quarrying	Area	I-XXIV All Industries	III Treatment of non-metalliferous mining products other than coal	20 Bricks and fireclay goods	IV Chemicals and allied trades	30, 31, 33 Coke ovens, chemicals, and explosives
963,749	920,905	741,517	675,523	65,994	England and Wales—Total	19,940,024	291,764	69,456	397,310	229,229
					Percentage distribution by Area					
					Regions of England, Wales					
7·4	7·2	24·1	25·0	14·9	Northern	6·6	5·3	8·3	10·9	15·8
6·3	6·0	19·7	21·1	5·1	East and West Ridings	9·5	8·6	11·9	9·2	9·6
6·8	6·7	8·7	8·2	13·0	North Western	15·4	14·6	11·0	26·7	26·6
12·2	12·1	16·1	16·3	14·7	North Midland	7·7	6·8	10·4	5·3	5·8
9·2	9·4	8·9	9·2	6·6	Midland	10·7	31·7	18·8	5·0	6·0
17·0	17·4	0·3	0·0	3·3	Eastern	6·3	6·0	13·5	4·8	4·4
10·5	10·5	1·6	1·2	5·6	London and South Eastern	26·5	16·5	9·3	26·3	19·0
7·9	8·0	0·3	0·0	2·8	Southern	5·7	3·2	5·8	3·7	3·3
13·7	13·9	2·5	1·0	17·5	South Western	6·4	3·5	4·3	2·9	2·6
9·0	8·8	17·8	18·0	16·5	Wales (including Monmouthshire)	5·2	3·8	6·7	5·2	6·9
					Conurbations					
1·8	1·8	0·4	0·2	2·2	Greater London	21·5	11·3	3·5	24·1	16·7
0·7	0·7	1·3	1·4	0·5	South East Lancashire	6·2	3·6	2·9	7·4	7·4
0·4	0·4	0·6	0·6	1·1	West Midlands	5·6	5·6	8·0	3·4	3·9
0·9	0·9	1·9	1·9	1·9	West Yorkshire	4·2	2·5	5·2	3·9	4·8
0·4	0·3	0·0	0·0	0·2	Merseyside	3·0	1·1	0·9	6·9	2·0
0·2	0·1	2·2	2·4	0·2	Tyneside	1·8	1·5	1·0	1·7	0·9
					Counties (A.Cs. with associated C.Bs.)					
1·1	1·1	0·0	0·0	0·5	Bedfordshire	0·8	2·1	7·1	0·4	0·6
1·2	1·3	0·0	0·0	0·3	Buckinghamshire	0·9	1·0	2·7	1·1	0·4
2·5	2·5	0·5	0·0	5·6	Cheshire	2·6	1·0	1·9	8·9	8·1
2·8	2·7	0·7	0·0	8·3	Cornwall	0·7	0·6	0·1	0·1	0·2
1·4	1·4	1·2	1·0	3·0	Cumberland	0·6	0·3	0·3	0·9	1·3
1·6	1·6	6·7	6·6	8·0	Derbyshire	1·8	3·1	4·1	1·3	1·6
4·0	4·1	0·4	0·0	4·0	Devon	1·6	1·0	1·2	0·6	0·7
1·3	1·3	15·9	17·0	5·0	Durham	2·9	3·2	5·4	7·5	11·7
3·7	3·8	0·1	0·0	1·0	Essex	3·5	3·3	1·4	6·0	4·8
0·0	*0·0*	*0·0*	*0·0*	*0·0*	*West Ham C.B.*	*0·5*	*0·5*	*0·0*	*2·3*	*1·6*
2·0	2·0	0·7	0·6	2·0	Gloucestershire	2·1	1·0	1·3	1·7	1·1
1·5	1·5	0·1	0·0	0·7	Hertfordshire	1·3	0·7	0·2	2·1	2·0
0·7	0·7	0·0	0·0	0·1	Huntingdonshire	0·2	0·8	3·4	0·0	0·0
4·4	4·5	1·1	1·0	1·7	Kent	2·8	3·8	2·6	2·2	2·4
4·2	4·1	7·8	8·2	3·2	Lancashire	12·6	13·3	9·0	17·8	18·5
0·1	*0·1*	*0·0*	*0·0*	*0·2*	*Liverpool C.B.*	*2·0*	*0·8*	*0·0*	*2·7*	*1·2*
0·1	*0·1*	*0·2*	*0·2*	*0·1*	*Manchester C.B.*	*2·1*	*0·8*	*0·9*	*3·4*	*4·6*
0·0	*0·0*	*0·4*	*0·5*	*0·1*	*St. Helens C.B.*	*0·2*	*6·4*	*0·9*	*0·2*	*0·1*
1·4	1·4	2·0	1·9	2·9	Leicestershire	1·6	1·4	2·7	0·5	0·2
3·3	2·9	0·2	0·0	1·7	Lincolnshire, Parts of Lindsey	1·0	0·5	0·7	0·8	1·0
0·2	0·1	0·3	0·2	1·1	London	12·8	5·3	1·7	11·4	7·6
0·0	*0·0*	*0·2*	*0·2*	*0·3*	*Westminster Met. B.*	*2·3*	*0·6*	*0·1*	*2·1*	*1·9*
0·6	0·6	0·1	0·0	0·7	Middlesex	4·3	2·9	0·9	5·4	2·9
4·8	4·8	0·1	0·0	0·6	Norfolk	1·2	0·2	0·1	0·2	0·3
1·2	1·3	0·2	0·0	2·4	Northamptonshire	0·8	0·3	0·2	0·2	0·3
1·6	1·5	6·6	7·0	1·7	Northumberland	1·8	1·3	2·0	1·5	1·1
1·4	1·4	7·3	7·8	2·4	Nottinghamshire	2·0	1·5	2·3	2·4	2·6
2·3	2·4	0·6	0·5	1·2	Shropshire	0·7	0·4	1·0	0·1	0·0
2·9	3·0	0·7	0·5	2·8	Somerset	1·1	0·8	1·6	0·4	0·5
2·6	2·5	0·0	0·0	0·4	Southampton	2·6	0·6	0·8	1·2	1·0
2·1	2·2	5·9	6·2	3·1	Staffordshire	3·8	26·9	12·4	2·0	2·4
0·0	*0·0*	*1·8*	*2·0*	*0·3*	*Stoke on Trent C.B.*	*0·8*	*20·6*	*3·9*	*0·4*	*0·6*
2·1	2·0	0·0	0·0	0·1	Suffolk, East	0·7	0·2	0·1	0·8	1·0
1·6	1·6	2·3	2·4	1·0	Warwickshire	4·8	2·7	3·1	1·9	2·0
1·8	1·8	0·2	0·1	1·1	Worcestershire	1·1	1·3	2·1	1·0	1·6
					Yorkshire—					
2·4	2·1	0·0	0·0	0·5	East Riding	1·0	0·7	0·3	2·6	1·1
2·5	2·5	0·4	0·0	4·1	North Riding	1·1	0·4	0·6	1·0	1·6
3·8	4·0	19·6	21·1	4·6	West Riding	8·4	7·9	11·6	6·6	8·5
0·0	*0·0*	*0·0*	*0·0*	*0·3*	*Huddersfield C.B.*	*0·4*	*0·1*	*0·1*	*1·6*	*2·8*
0·6	0·6	0·6	0·0	6·6	Caernarvonshire	0·2	0·1	0·3	0·0	0·0
0·9	0·8	10·0	10·7	2·6	Glamorganshire	2·4	1·8	1·6	2·3	2·1
0·0	*0·0*	*1·8*	*2·0*	*0·0*	*Rhondda U.D.*	*0·2*	*0·0*	*0·0*	*0·0*	*0·0*
0·6	0·6	4·6	4·9	0·9	Monmouthshire	0·9	0·6	1·2	1·5	2·4
26·9	27·3	3·1	2·3	14·1	Remainder	11·3	7·0	12·0	5·6	6·4

Agriculture and Horticulture (Minimum List Heading 1)

In this group, which constituted in numbers of occupied persons almost the whole of Order I, the numbers of males occupied (and actually employed) had declined by 8 per cent since 1931 (from 896 to 822 thousand). There were relatively few women employed in the industry, but their numbers increased from 56 to 99 thousand between the two censuses. The industry was more concentrated in the Eastern (17 per cent of those occupied in the industry), South Western (14), North Midland (12), and London and South Eastern (11) Regions, the counties principally involved in these regions being Norfolk (4·8 per cent), Essex (3·8), Suffolk, East (2·0), Devon (4·1), Somerset (3·0), Cornwall (2·7), Lincolnshire (all Parts) (6·2) and Kent (4·5).

Of the persons occupied in the industry, 13 per cent were employers and managers, 66 per cent were operatives (including 2 per cent unpaid assistants); 21 per cent were working on their own account, a much larger proportion than in any other industry except retail food shops or retail tobacconists, confectioners and newsagents and hairdressing and manicure. The proportion of employers and managers had declined (18 per cent in 1931) and the proportion working on own account had increased (15 per cent in 1931).

Increased mechanisation is clearly indicated by the statistics. The number of male agricultural machine owners or drivers increased from rather less than 8 thousand in 1931 to 62 thousand in 1951.

Forestry and Fishing (M.L.H. 2 and 3)

It should be noted in passing that between 1931 and 1951 numbers engaged in forestry rose from 9 to 22 thousand; and numbers engaged in the fishing industry fell from 35 to 21 thousand.

Coal Mining (M.L.H. 10)

Between 1931 and 1951 the number of men employed in this industry declined from 841 to 667 thousand. The amount of female labour was negligible; 4 thousand in 1931 and 9 thousand in 1951. Geographically the industry was tied to the distribution of the working coalfields. The regions with the highest percentages of the manpower were the Northern (25·0), East and West Ridings (21·1), North Midland (16·3) and Wales (18·0); the relevant counties were Durham (17·0), Northumberland (7·0), Yorkshire, West Riding (21·1), Derbyshire (6·6), Nottinghamshire (7·8), Glamorganshire (10·7) and Monmouthshire (4·9). There were also concentrations in Lancashire (8·2) and Staffordshire (6·2).

In 1951, as in 1931, 99·5 per cent of those engaged in the industry were classed as operatives and only 0·5 per cent as managers.

In 1931, 350 thousand coal miners (excluding 89 thousand out of work) were classed as hewers and getters*; in 1951 only 193 thousand were assigned to the comparable group. Two new and important groups have been identified in the classification of occupations; in 1951 there were 21 thousand coal cutting machine men (classed with hewers and getters in 1931) and 52 thousand employed in developing workings in rock (in 1931 their counterparts would have been classed either with roadmakers or with other workers below ground). The search for coal has become more intense and the extraction more mechanised.

Treatment of Non-metalliferous Mining products other than Coal (Order III)

There had been a general increase in numbers employed in these industries but it was confined to glassworks, with an increase of persons employed from 39 thousand in 1931 to 66 thousand in 1951 and cement making and other non-metalliferous mining manufactures (abrasives, cast stone and concrete, asbestos cement goods, etc.), in which numbers increased from 46 to 82 thousand. There were relatively few women employed in the production of bricks and fireclay goods and cement, but appreciable numbers were employed in the production of china (40 out of 75 thousand) and glass (16 out of 66 thousand).

Taking the order as a whole, 26·9 per cent of the workers were employed in Staffordshire (mostly in Stoke on Trent), 13·3 per cent in Lancashire (many of them in St. Helens), 7·9 per cent in Yorkshire, West Riding, and 5·3 per cent in London A.C. This distribution is similar to that of 1931. There is an important concentration of brickmaking in Bedfordshire (7 per cent of all workers in the production of bricks and fireclay goods) which does not show up in this order distribution.

Of workers in this industrial group 3·5 per cent were employers or managers, 95·6 per cent operatives, and 0·9 per cent working on own account; this distribution, which is similar to that of

*It must be borne in mind that there is a tendency for men to claim this occupation even when for health or other reasons they have been transferred to other duties. The overstatement may have been greater in 1931 thus exaggerating the decline.

1931, is typical of an industry organised generally in large scale undertakings. The extent of part-time labour in brickmaking, etc., is negligible but in china and earthenware manufacture 2·2 per cent of all persons occupied were women part-time workers. There is relatively little formal apprenticeship.

With regard to the principal occupations involved in the brick and fireclay goods group and making allowance for those out of work in 1931 there has been a decrease in the number of moulders, pressers and cutters at work and an increase in the number of kiln oven workers, setters and placers. In china and earthenware the number of potters, pottery makers, casters, finishers and decorators actually at work has remained fairly stationary. Kiln and ovenmen, setters and placers at work numbered 7 thousand in 1931 and 5 thousand in 1951. In glass production the main feature has been the growth in the numbers of unskilled workers engaged, from about 9 thousand in 1931 to 15 thousand in 1951. Taken together with an increase in fitters and machine erectors from just over 1 thousand to about 3 thousand, this suggests increased mechanisation. Labour in cement manufacture is to a very large extent unskilled, 5 thousand out of 13 thousand workers in 1951; in other non-metalliferous mining manufactures there are also a large number of unskilled workers, 19 thousand out of 68. In 1931 the proportion appears to have been higher—roughly one half of the labour force was unskilled.

Chemicals and Allied Trades (Order IV)

This is an industrial group in which the number of persons actually at work had doubled between 1931 and 1951, increasing from 203 to 397 thousand. About one quarter of the labour force consisted of women.

Taking the order as a whole, the principal concentrations of workers were, as in 1931, in the North Western, London and South Eastern, Northern and East and West Ridings Regions which together accounted for 73 per cent of all workers, the relevant counties being Lancashire (17·8 per cent of all workers), London (11·4), Cheshire (8·9), Durham (7·5), Yorkshire, West Riding (6·6), Essex (6·0) and Middlesex (5·4).

In 1951, 4·3 per cent of the workers were employers and managers, 95·6 per cent were operatives and a trivial proportion (0·1 per cent) were working on their own account. These proportions are similar to those of 1931; if anything there had been a reduction in the proportion working on own account (0·3 per cent in 1931) and a slight increase in the ratio of operatives to employers and managers.

Taking as a group chemicals, dyes, pharmaceutical and toilet preparations, etc., the major changes in the occupational pattern were increases in numbers of professional chemists and laboratory assistants, of skilled chemical workers, of warehousemen and packers, and of clerks and typists to about three times the numbers engaged in 1931 and even greater increases in fitters and machine erectors. Commercial travellers and canvassers had increased in numbers by only about one quarter, and unskilled workers had increased to a much less extent than other types of worker.

Metal Manufacture (Order V)

Persons actually at work in this industrial group increased from 288 thousand in 1931 to 508 thousand in 1951, the largest proportional increase being in the production of non-ferrous metals (from 36 to 103 thousand). Out of 508 thousand workers in the group as a whole only 57 thousand were women; though there were relatively more women employed in the industry than in 1931.

As in 1931 the workers in this industry were concentrated in the Midland and North Midland, East and West Ridings, Northern and North Western Regions and Wales; the relevant counties being Staffordshire (13·0 per cent of all workers), Warwickshire (7·8), Worcestershire (3·9), Derbyshire (4·2), Lincolnshire (Lindsey) (3·0), Yorkshire, West Riding (17·8), North Riding (5·9), Durham (4·0), Lancashire (7·3), Glamorganshire (8·0) and Monmouthshire (4·5).

In Order V 2·3 per cent of workers were employers and managers and the remaining 97·7 per cent were operatives. This again was almost the same as in 1931.

Nearly 30 per cent of the workers in this industry were unskilled; exact comparison with 1931 is not possible but it appears that the proportion has not changed substantially. In iron, steel, melting, rolling, etc. (M.L.H. 41), while it is not possible to make precise comparisons it seems likely that furnacemen were fewer in number (17 thousand at work in 1931 and 11 thousand in 1951) but that numbers engaged as turners and machine setters had increased slightly. Fitters, both mechanical and electrical, increased in numbers as did also handling personnel, i.e., crane drivers and transport workers. In iron foundries the increases in numbers in different occupations are broadly in proportion to the expansion of the industry; it appears, however, that moulders and

Table 79.—Metal Manufacture; Engineering, Shipbuilding and Electrical Goods

England and Wales Regions, Conurbati and selected areas

V Metal manufacture	Area	I-XXIV All Industries	VI Engineering, shipbuilding and electrical goods	50, 51 Shipbuilding, marine engineering	54 Machine tools and engineers' small tools	56 Textile machinery and accessories	58 Constructional engineering	52, 53, 55, 57, 69 Other mechanical engineering	70 Electrical machinery	73, 74 Wireless apparatus, valves and lamps	71, 72, 79 Othe electri engine ing
507,893	**England and Wales—Total**	19,940,024	1,564,815	199,938	85,690	67,133	70,814	602,641	144,329	132,245	262,0
	Percentage distribution by Area										
	Regions of England, Wales										
11·3	Northern	6·6	9·0	30·1	1·9	0·4	16·2	6·6	9·5	3·7	3·
18·3	East and West Ridings	9·5	8·3	3·6	21·2	22·4	8·2	10·5	7·3	2·8	2·
8·5	North Western	15·4	18·0	18·4	10·7	60·2	14·5	14·4	25·8	8·1	19·
10·4	North Midland	7·7	6·7	1·5	5·3	13·3	4·9	11·0	3·5	3·3	3·
25·3	Midland	10·7	14·0	0·4	34·0	1·6	16·3	12·2	27·4	6·2	20·
2·5	Eastern	6·3	5·9	2·4	4·1	0·0	4·0	7·8	8·3	13·0	1·
5·2	London and South Eastern	26·5	26·2	14·2	18·3	1·5	20·0	26·1	13·4	52·1	41·
1·5	Southern	5·7	4·8	16·1	1·6	0·1	2·3	4·1	1·3	2·6	3·
1·2	South Western	6·4	4·6	10·1	2·0	0·2	7·3	5·1	1·6	5·6	1·
15·8	Wales (including Monmouthshire)	5·2	2·5	3·2	0·9	0·3	6·3	2·2	1·9	2·6	2·
	Conurbations										
4·9	Greater London	21·5	22·8	6·7	14·3	0·5	18·7	22·4	10·2	50·0	39·
4·0	South East Lancashire	6·2	9·3	0·7	9·9	34·9	8·2	8·9	18·1	3·3	8·
20·8	West Midlands	5·6	8·6	0·3	18·0	0·4	12·8	7·6	14·2	1·5	15·
2·7	West Yorkshire	4·2	4·9	0·1	10·0	19·7	4·8	6·4	4·8	1·8	1·
0·7	Merseyside	3·0	3·4	11·5	0·3	1·6	2·7	1·3	5·0	1·0	4·
1·0	Tyneside	1·8	4·9	16·3	1·5	0·0	3·6	3·8	8·0	2·0	1·
	Counties (A.Cs. with associated C.Bs.)										
0·6	Bedfordshire	0·8	1·0	0·0	0·7	0·0	0·2	1·7	2·7	0·7	0·
0·2	*Bedford M.B.*	*0·1*	*0·3*	*0·0*	*0·0*	—	*0·0*	*0·2*	*2·5*	*0·0*	*0·*
0·0	Cambridgeshire	0·4	0·3	0·0	0·0	—	0·0	0·2	0·0	2·1	0·
1·1	Cheshire	2·6	3·2	7·0	4·8	2·5	4·2	3·3	1·5	0·7	1·
0·0	*Birkenhead C.B.*	*0·3*	*0·9*	*6·5*	*0·2*	*0·0*	*0·2*	*0·2*	*0·0*	*0·0*	*0·*
4·2	Derbyshire	1·8	0·9	0·0	0·9	0·4	1·2	1·5	0·4	0·6	0·
0·2	Devon	1·6	1·4	7·6	0·3	0·0	0·6	0·7	0·1	0·9	0·
0·0	*Plymouth C.B.*	*0·5*	*1·1*	*7·0*	*0·0*	*0·0*	*0·3*	*0·3*	*0·0*	*0·7*	*0·*
4·0	Durham	2·9	5·0	16·3	1·3	0·1	7·9	3·3	5·6	2·9	2·
0·6	*Darlington C.B.*	*0·2*	*0·2*	*0·0*	*0·0*	*0·0*	*2·3*	*0·1*	*0·0*	*0·0*	*0·*
0·1	*South Shields C.B.*	*0·2*	*0·4*	*2·1*	*0·0*	*0·0*	*0·0*	*0·0*	*0·0*	*0·3*	*0·*
0·1	*Sunderland C.B.*	*0·4*	*1·2*	*6·9*	*0·0*	*0·0*	*0·3*	*0·4*	*0·6*	*1·0*	*0·*
1·2	Essex	3·5	4·0	3·5	2·3	0·0	3·5	3·4	2·7	13·2	3·
0·0	*Southend-on-Sea C.B.*	*0·2*	*0·2*	*0·1*	*0·1*	—	*0·1*	*0·1*	*0·1*	*2·0*	*0·*
0·0	*Ilford M.B.*	*0·2*	*0·6*	*0·0*	*0·5*	*0·0*	*0·2*	*0·2*	*0·0*	*4·7*	*0·*
1·0	Gloucestershire	2·1	1·7	0·8	1·4	0·2	4·7	2·7	1·2	0·3	0·
0·6	*Bristol C.B.*	*1·0*	*0·7*	*0·7*	*0·3*	*0·0*	*2·6*	*1·0*	*0·1*	*0·2*	*0·*
0·7	Hertfordshire	1·3	1·5	0·1	1·3	0·0	0·6	1·6	1·1	1·7	3·
0·3	Kent	2·8	3·1	7·2	0·5	0·1	1·0	3·2	0·8	3·9	2·
7·3	Lancashire	12·6	14·7	11·4	5·9	57·5	10·3	11·1	24·2	7·4	17·
0·5	*Barrow-in-Furness C.B.*	*0·2*	*0·7*	*5·4*	*0·0*	*0·0*	*0·1*	*0·0*	*0·0*	*0·0*	*0·*
0·0	*Blackburn C.B.*	*0·3*	*0·8*	*0·0*	*0·0*	*8·7*	*0·1*	*0·4*	*0·1*	*2·0*	*0·*
0·2	*Bolton C.B.*	*0·4*	*0·3*	*0·0*	*0·5*	*2·2*	*1·4*	*0·3*	*0·0*	*0·0*	*0·*
0·2	*Burnley C.B.*	*0·2*	*0·3*	*0·0*	*0·0*	*2·0*	*0·1*	*0·1*	*0·0*	*0·0*	*0·*
0·2	*Liverpool C.B.*	*2·0*	*2·0*	*3·1*	*0·1*	*1·6*	*1·6*	*0·8*	*4·7*	*0·8*	*3·*
0·9	*Manchester C.B.*	*2·1*	*2·1*	*0·1*	*2·9*	*3·2*	*1·1*	*2·7*	*3·2*	*1·1*	*2·*
0·1	*Oldham C.B.*	*0·3*	*0·6*	*0·0*	*0·1*	*11·4*	*0·1*	*0·3*	*0·1*	*0·0*	*0·*
0·0	*Rochdale C.B.*	*0·3*	*0·4*	*0·0*	*0·1*	*4·6*	*0·0*	*0·4*	*0·3*	*0·0*	*0·*
0·1	*Stretford M.B.*	*0·3*	*1·6*	*0·3*	*0·3*	*0·1*	*1·1*	*0·4*	*13·5*	*0·1*	*0·*
0·7	Leicestershire	1·6	2·0	0·0	2·9	9·6	0·6	2·5	2·6	1·8	0·
0·2	*Leicester C.B.*	*0·8*	*1·4*	*0·0*	*1·4*	*7·8*	*0·5*	*1·8*	*0·3*	*1·7*	*0·*
3·0	Lincolnshire, Parts of Lindsey	1·0	1·0	1·4	0·0	0·0	1·2	2·0	0·0	0·1	0·
2·9	*Scunthorpe M.B.*	*0·1*	*0·0*	*0·0*	—	—	*0·9*	*0·0*	*0·0*	*0·0*	*0·*
2·0	London	12·8	9·5	3·8	3·6	0·3	11·4	11·5	2·6	11·6	15·
0·1	*Islington Met. B.*	*0·4*	*0·6*	*0·0*	*0·3*	*0·0*	*0·2*	*0·4*	*0·3*	*2·7*	*0·*
0·0	*Woolwich Met. B.*	*0·4*	*1·8*	*1·1*	*0·1*	*0·0*	*0·1*	*2·2*	*0·0*	*0·1*	*4·*
1·7	Middlesex	4·3	7·6	0·4	6·9	0·1	2·3	6·3	4·2	22·2	13·
0·1	*Acton M.B.*	*0·3*	*1·0*	*0·0*	*1·1*	*0·0*	*0·2*	*0·5*	*0·5*	*1·5*	*3·*
0·5	*Enfield U.D.*	*0·2*	*1·0*	*0·0*	*1·1*	*0·0*	*0·5*	*0·5*	*0·1*	*4·4*	*2·*
0·0	*Hayes and Harlington U.D.*	*0·2*	*0·8*	*0·0*	*0·1*	—	*0·1*	*0·1*	*0·4*	*8·3*	*0·*
0·2	*Wembley M.B.*	*0·3*	*1·0*	*0·0*	*0·2*	*0·0*	*0·1*	*1·0*	*0·3*	*2·3*	*2·*
0·5	Northumberland	1·8	3·0	12·1	0·5	0·0	1·1	2·4	3·6	0·7	0·
0·3	*Newcastle upon Tyne C.B.*	*0·9*	*1·9*	*4·4*	*0·5*	*0·0*	*0·9*	*2·2*	*3·5*	*0·2*	*0·*
0·5	Nottinghamshire	2·0	1·6	0·1	1·1	3·4	1·3	2·4	0·3	0·7	1·
0·1	*Nottingham C.B.*	*0·9*	*0·6*	*0·0*	*0·3*	*3·0*	*0·3*	*1·1*	*0·3*	*0·1*	*0·*
0·1	Southampton	2·6	2·7	13·5	0·3	0·0	1·0	1·4	0·1	0·4	1·
0·0	*Portsmouth C.B.*	*0·5*	*1·1*	*7·8*	*0·0*	—	*0·1*	*0·1*	*0·0*	*0·0*	*0·*
0·0	*Southampton C.B.*	*0·4*	*0·8*	*4·6*	*0·2*	*0·0*	*0·3*	*0·1*	*0·0*	*0·1*	*0·*
13·0	Staffordshire	3·8	4·5	0·2	4·5	0·8	10·1	5·2	7·9	0·9	5·
0·6	Surrey	2·7	2·9	0·3	2·8	1·0	2·3	3·3	2·6	7·3	2·
0·1	Sussex, East	1·2	0·6	0·1	2·6	0·0	0·2	0·3	2·1	0·5	0·
0·0	*Brighton C.B.*	*0·3*	*0·3*	*0·0*	*1·2*	*0·0*	*0·0*	*0·1*	*2·1*	*0·1*	*0·*
7·8	Warwickshire	4·8	7·9	0·1	25·3	0·6	2·6	5·0	18·6	3·1	14·
6·7	*Birmingham C.B.*	*3·1*	*5·0*	*0·1*	*12·7*	*0·3*	*2·0*	*3·1*	*10·3*	*0·7*	*11·*
0·5	*Coventry C.B.*	*0·7*	*1·7*	*0·0*	*10·7*	*0·3*	*0·3*	*0·9*	*2·0*	*1·8*	*8·*
0·0	Wiltshire	0·9	0·4	0·0	0·1	0·0	0·1	0·3	0·0	3·4	0·
0·0	*Swindon M.B.*	*0·2*	*0·2*	*0·0*	*0·0*	—	*0·0*	*0·0*	*0·0*	*2·7*	*0·*
3·9	Worcestershire	1·1	1·1	0·1	3·7	0·2	1·5	1·2	0·9	1·9	0·
	Yorkshire—										
0·5	East Riding	1·0	0·6	2·6	0·0	0·0	0·6	0·5	0·0	0·2	0·
0·5	*Kingston upon Hull C.B.*	*0·7*	*0·5*	*2·2*	*0·0*	*0·0*	*0·5*	*0·4*	*0·0*	*0·2*	*0·*
5·9	North Riding	1·1	0·7	1·6	0·0	0·0	5·9	0·3	0·2	0·1	0·
2·2	*Middlesbrough C.B.*	*0·3*	*0·3*	*0·1*	*0·0*	*0·0*	*4·4*	*0·1*	*0·1*	*0·0*	*0·*
17·8	West Riding	8·4	7·7	1·0	21·1	22·4	7·6	9·9	7·2	2·6	2·
0·4	*Bradford C.B.*	*0·8*	*0·8*	*0·0*	*0·2*	*3·1*	*0·3*	*1·1*	*2·1*	*0·4*	*0·*
0·1	*Halifax C.B.*	*0·3*	*0·4*	*0·0*	*4·3*	*0·9*	*0·5*	*0·3*	*0·1*	*0·0*	*0·*
0·1	*Huddersfield C.B.*	*0·4*	*0·7*	*0·0*	*0·2*	*3·0*	*0·3*	*1·1*	*1·3*	*0·0*	*0·*
1·1	*Leeds C.B.*	*1·3*	*1·4*	*0·0*	*1·6*	*4·1*	*2·4*	*2·2*	*0·5*	*0·2*	*0·*
2·3	*Rotherham C.B.*	*0·2*	*0·2*	—	*0·0*	*0·0*	*0·3*	*0·3*	*0·0*	*0·0*	*0·*
9·7	*Sheffield C.B.*	*1·3*	*1·3*	*0·1*	*10·3*	*0·1*	*1·3*	*1·3*	*1·1*	*0·2*	*0·*
0·1	*Keighley M.B.*	*0·2*	*0·4*	*0·1*	*1·3*	*4·6*	*0·0*	*0·2*	*0·0*	*0·5*	*0·*
8·0	Glamorganshire	2·4	1·6	2·1	0·7	0·0	4·3	1·3	1·5	2·3	1·
4·5	Monmouthshire	0·9	0·5	0·4	0·0	0·0	1·0	0·5	0·4	0·0	0·
8·8	Remainder	13·2	7·3	6·3	4·5	0·8	10·7	11·0	4·9	5·8	3·

core makers had not increased in numbers to the same extent. There was a small decline in numbers employed in the sheets and tinplate industry, the main occupation involved being rollers and their assistants. In the trebling of numbers employed in the production of non-ferrous metals, many of the metal manufacturing or engineering occupations increased their numbers, especially moulders and core makers, furnacemen, metal machinists, fitters and maintenance engineers; numbers of males in unskilled occupations have increased.

Shipbuilding and Marine Engineering (M.L.H. 50-51)

There was an expansion in this group from 118 thousand persons at work in 1931 to 200 thousand in 1951. The number of women employed in the industry (mostly clerks, typists, office cleaners) was relatively small (7 thousand out of 200 thousand).

As in 1931 most of this industry (within England and Wales) was concentrated in the Northern, North Western, Southern, London and South Eastern, and South Western Regions; Newcastle on Tyne C.B., South Shields C.B., and Sunderland C.B. together accounted for 13·4 per cent of all workers, Birkenhead C.B. for 6·5, Barrow-in-Furness C.B. for 5·4, Liverpool C.B. for 3·1, Portsmouth C.B. for 7·8, Plymouth C.B. for 7·0, and London A.C. for 3·8.

In 1931, 1·5 per cent of workers were employers or managers, 98·2 per cent were operatives, and 0·3 were working on own account; in 1951 employers and managers formed only 1·2 per cent, a corresponding increase having taken place in the proportion of operatives (i.e., to 98·5 per cent). In 1951, 8·6 per cent of the workers were apprentices.

In the expansion of the industry there have been moderate increases in numbers of most of the important occupations, e.g., shipwrights, fitters and machine erectors, electrical fitters and electricians, plumbers, carpenters, and painters. Welders increased in number from a few hundred in 1931 to 6 thousand in 1951. There was, correspondingly, a decline in the numbers of riveters and riveters' labourers (from 13 thousand, including those out of work, in 1931 to 6 thousand in 1951).

Other Mechanical Engineering (M.L.H. 52-69)

In this group numbers of males at work increased from 344 thousand in 1931 to 703 thousand in 1951, and numbers of females at work increased from 36 thousand to 123 thousand. Females in 1951 represented less than one sixth of the labour force as compared with less than one ninth in 1931.

The production of machine tools and engineers' small tools (M.L.H. 54) was mainly concentrated in the Midland, East and West Ridings, London and South Eastern and North Western Regions; the relevant towns were Birmingham C.B. (12·7 per cent of all workers in 1951), Coventry C.B. (10·7), Sheffield C.B. (10·3), Halifax C.B. (4·3), London (A.C.) (3·6), and Manchester C.B. (2·9). Of workers in the production of textile machinery (M.L.H. 56) 60·2 per cent were in the North Western Region, mostly in the Lancashire textile towns such as Oldham C.B. (11·4 per cent), Blackburn C.B. (8·7) and Rochdale C.B. (4·6), and 22·4 per cent were in the East and West Ridings in towns such as Keighley M.B. (4·6), Leeds C.B. (4·1), Bradford C.B. (3·1) and Huddersfield C.B. (3·0); in addition 7·8 per cent of the workers were in Leicester C.B. and 3·0 per cent in Nottingham C.B. Workers in constructional engineering (M.L.H. 58) were concentrated in the London and South Eastern, Midland, Northern and North Western Regions; 11·4 per cent of the workers were in London A.C., and other important concentrations were in the counties of Lancashire (10·3), Staffordshire (10·1), Durham (7·9), Yorkshire, West Riding (7·6), Yorkshire, North Riding (5·9), Gloucestershire (4·7) and Glamorganshire (4·3). The remainder of the group (M.L.H. 52, 53, 55, 57, 69) was distributed over the country almost in the same proportions as industry as a whole.

The proportion of workers who were employers and managers varied from 2·9 per cent in textile machinery to 4·5 per cent in machine tools. The proportion working on own account in this industry group was of the order of 0·3 per cent; but in agricultural machinery (except tractors) alone it was as high as 3·7 per cent. About 5 per cent of the workers in the whole group were apprentices.

Changes in industrial classification render it almost impossible to identify changes in the occupational pattern of this group. While there are no immediately outstanding changes certain indications of changing methods are apparent—for example, the number of pattern makers increased only from about 5 thousand in 1931 to about 7 thousand in 1951 despite the doubling of the labour force in the group.

Electrical Engineering (M.L.H. 70-79)

Numbers at work in this industrial group increased from about 190 thousand to about 539

thousand between 1931 and 1951. In the production of wireless apparatus in 1951 two fifths of the workers were females; in other electrical engineering about one third were females.

The making of electrical machinery (M.L.H. 70) was mainly concentrated in the Midland, North Western and London and South Eastern Regions which together accounted for 66·6 per cent of the workers; 24·2 per cent were in Lancashire (4·7 per cent in Liverpool C.B. and 3·2 per cent in Manchester C.B.), 18·6 per cent were in Warwickshire (10·3 per cent in Birmingham C.B.) and 10·2 per cent in Greater London. Of workers in the production of wireless apparatus, gramophones and electric lamps (M.L.H. 73, 74) 52·1 per cent were in the London and South Eastern Region (50·0 per cent of all workers were in Greater London). The production of electrical wires and cables, telegraph and telephone apparatus, batteries and accumulators and other electrical goods (M.L.H. 71, 72, 75, 79) was concentrated in the London and South Eastern, Midland and North Western Regions (cf. M.L.H. 70) ; 39·0 per cent of the workers were in Greater London, 11·8 per cent in Birmingham C.B., 2·5 per cent in Coventry C.B., 3·6 per cent in Liverpool C.B. and 2·1 per cent in Manchester C.B.

In most electrical engineering (M.L.H. 70, 71, 72, 75, 79) the picture generally is of 3 per cent of workers in the status of employers and managers and the remainder operatives (6 per cent of workers in M.L.H. 70—electrical machinery—were apprentices). Only in the production of wireless apparatus, etc. (excluding valves and lamps) (M.L.H. 73) was there any appreciable element of working on own account—2·2 per cent of workers, mainly repairers. It is not possible to make any proper comparison with 1931.

In the threefold expansion of the industry as a whole there has been a disproportionate increase in professional engineers (from under 2 thousand to over 8 thousand) and in inspectors and testers (from about 6 thousand to 22 thousand).

Vehicles (Order VII)

Numbers employed in the production of vehicles of all kinds doubled between the two censuses. The increasing prevalence of motor vehicles on the roads and the extension of other forms of transport hardly requires statistical validation. The salient fact is that nearly a million workers (almost a twentieth of the total labour force in England and Wales) are employed in the production or repair of vehicles of various kinds. Numbers employed (and at work) in the manufacture or repair of aircraft increased from 19 thousand to 157 thousand between 1931 and 1951. Generally, women increased their stake in the industry as a whole; in 1931, 9 per cent of all workers were women, while in 1951 the proportion had risen to 13 per cent.

Considering Order VII as a whole, 24 per cent of all workers were in the Midland Region, 20 per cent in the London and South Eastern Region, and 11 per cent in the North Western Region. The towns most involved were Birmingham C.B. (10·1 per cent of all workers), Coventry C.B. (5·6), Dagenham M.B. (2·6), London (A.C.) (3·8), Luton M.B. (1·8) and Oxford C.B. (1·7); and Derby C.B. (2·4) must be added. (If motor vehicles and cycles are considered alone these percentages are increased to 19·6 for Birmingham, 12·5 for Coventry, 8·1 for Dagenham, and 4·8 for Luton and Oxford, while London's share falls to 2·9 per cent and that of Derby to 0·1 per cent.) Comparison with 1931 is not completely possible, but the only noteworthy change for the order as a whole has been a decrease in the proportion of workers who were employed in London A.C. (from 8·7 to 3·8 per cent), partly as a result of the movement of industry away from the inner part of the Greater London conurbation, and partly as a result of greater intercensal expansion in other areas.

In the manufacture of motor vehicles and cycles (M.L.H. 80) 2·4 per cent of all workers were employers or managers, 96·9 per cent were operatives (including 3·2 per cent apprentices) and only 0·7 per cent were working on own account. In the group of motor repairers and garages (M.L.H. 81) 9·3 per cent were employers and managers, and 7·6 per cent were working on own account. In locomotive, etc., manufacture and the manufacture and repair of wagons, etc., (M.L.H. 84-86) there were no workers on own account and employers and managers formed only 0·6 per cent of the total. In the manufacture and repair of aircraft (M.L.H. 82) 1·9 per cent of workers were employers and managers and the number of own account workers was trivial. The latter also formed a trivial element in the manufacture of parts for vehicles and aircraft (M.L.H. 83) but employers and managers formed a higher proportion—3·1 per cent. Direct comparison with 1931 can only be made for M.L.H. 82-86 where there are no significant changes apart from a slight increase in the managerial element in the aircraft industry.

In M.L.H. 80-81, manufacture of motor vehicles and cycles, motor repairers and garages, where the total labour force had been doubled, the number of sheet metal workers had been

Table 80.—Vehicles; Metal Goods (not elsewhere specified); Precision Instruments, Jewellery, etc. — **England and Wales, Regions, Conurbations and selected areas**

VII Vehicles	80 Manufacture of motor vehicles and cycles	81 Motor repairers and garages	82, 83 Manufacture of aircraft; vehicle parts	Area	I-XXIV All Industries	VIII Metal goods not elsewhere specified	IX Precision instruments, jewellery, etc.
931,347	290,492	233,360	267,425	England and Wales—Total	19,940,024	445,100	142 905
				Percentage distribution by Area			
				Regions of England, Wales			
3·3	0·6	5·5	1·6	Northern	6·6	3·0	1·9
6·5	3·9	8·9	4·4	East and West Ridings	9·5	14·6	8·3
11·3	9·6	12·3	8·6	North Western	15·4	11·3	6·1
7·8	5·9	7·6	7·8	North Midland	7·7	3·9	2·7
24·4	39·8	9·2	27·5	Midland	10·7	38·5	11·7
6·2	7·6	7·7	5·8	Eastern	6·3	2·5	5·3
19·8	21·7	25·1	16·5	London and South Eastern	26·5	18·2	52·6
8·5	7·9	8·8	10·0	Southern	5·7	1·9	4·2
8·8	1·8	10·1	13·5	South Western	6·4	1·9	3·9
3·4	1·2	4·8	4·3	Wales (including Monmouthshire)	5·2	4·2	3·3
				Conurbations			
15·4	19·1	17·8	12·8	Greater London	21·5	16·6	49·0
4·4	2·6	4·6	4·7	South East Lancashire	6·2	4·5	2·6
14·2	24·2	4·3	14·7	West Midlands	5·6	33·4	10·3
2·6	2·7	3·9	1·1	West Yorkshire	4·2	3·7	2·2
1·0	0·8	2·2	0·1	Merseyside	3·0	2·1	1·3
0·7	0·2	1·6	0·0	Tyneside	1·8	1·1	0·7
				Counties (A.Cs. with associated C.Bs.)			
2·3	5·1	0·7	1·6	Bedfordshire	0·8	0·2	1·6
1·8	*4·8*	*0·2*	*0·8*	*Luton M.B.*	*0·3*	*0·1*	*1·5*
2·7	2·4	2·6	1·5	Cheshire	2·6	1·8	0·8
3·0	0·2	1·4	4·7	Derbyshire	1·8	0·9	0·5
2·4	*0·1*	*0·5*	*4·5*	*Derby C.B.*	*0·5*	*0·2*	*0·2*
0·9	0·2	2·7	0·1	Devon	1·6	0·2	0·5
4·1	8·8	3·4	0·5	Essex	3·5	2·5	3·6
2·6	*8·1*	*0·1*	*0·3*	*Dagenham M.B.*	*0·3*	*0·1*	*0·3*
4·4	1·3	2·8	10·7	Gloucestershire	2·1	1·2	2·4
1·9	1·2	1·2	4·0	Hertfordshire	1·3	0·7	2·5
1·8	1·0	3·7	1·0	Kent	2·8	0·8	1·2
8·5	7·1	9·6	7·1	Lancashire	12·6	9·4	5·3
0·8	*0·1*	*0·3*	*2·4*	*Preston C.B.*	*0·3*	*0·1*	*0·2*
3·8	2·9	7·2	2·2	London	12·8	7·7	24·1
0·0	*0·0*	*0·0*	*0·0*	*Finsbury Met. B.*	*0·4*	*0·5*	*2·3*
0·0	*0·0*	*0·1*	*0·1*	*Holborn Met. B.*	*0·5*	*0·2*	*3·2*
0·2	*0·1*	*0·4*	*0·2*	*St. Pancras Met. B.*	*0·6*	*0·4*	*2·5*
0·3	*0·3*	*0·5*	*0·2*	*Westminster Met. B.*	*2·3*	*0·4*	*2·8*
6·2	6·3	6·1	7·8	Middlesex	4·3	5·8	15·1
0·7	*1·2*	*0·4*	*0·7*	*Willesden M.B.*	*0·4*	*0·7*	*3·7*
1·8	2·6	2·0	1·0	Nottinghamshire	2·0	1·7	0·8
1·1	*2·6*	*1·0*	*0·1*	*Nottingham C.B.*	*0·9*	*0·2*	*0·6*
2·0	4·9	0·8	0·8	Oxfordshire	0·7	0·1	0·3
1·7	*4·8*	*0·4*	*0·5*	*Oxford C.B.*	*0·3*	*0·0*	*0·1*
0·9	0·1	2·1	1·0	Somerset	1·1	0·3	0·4
3·9	1·9	4·4	6·2	Southampton	2·6	0·4	1·4
4·0	3·6	2·7	4·8	Staffordshire	3·8	16·6	0·9
1·0	*1·7*	*0·4*	*1·1*	*Wolverhampton C.B.*	*0·4*	*2·4*	*0·1*
3·2	2·5	3·9	4·7	Surrey	2·7	1·9	7·2
0·4	*0·4*	*0·6*	*0·2*	*Croydon C.B.*	*0·4*	*0·4*	*2·7*
18·2	35·3	3·8	19·0	Warwickshire	4·8	16·8	10·2
10·1	*19·6*	*2·5*	*9·7*	*Birmingham C.B.*	*3·1*	*15·2*	*9·4*
5·6	*12·5*	*0·5*	*5·3*	*Coventry C.B.*	*0·7*	*0·7*	*0·4*
2·3	0·1	1·3	1·8	Wiltshire	0·9	0·1	0·4
1·2	0·9	1·2	1·9	Worcestershire	1·1	4·8	0·4
5·8	3·6	7·8	3·1	Yorkshire, West Riding	8·4	13·6	7·9
0·8	*0·2*	*1·1*	*0·8*	*Sheffield C.B.*	*1·3*	*8·1*	*5·3*
1·4	0·4	2·0	1·5	Glamorganshire	2·4	2·8	1·3
15·7	7·6	26·6	13·0	Remainder	23·3	9·7	11·2

trebled, the number of welders had increased eightfold and the number of paint sprayers had increased sixfold, but coach and body builders had barely increased their numbers.

In the manufacture and repair of aircraft (M.L.H. 82), which in terms of numbers is an industry that has mainly developed since 1931, the occupations involving the largest numbers were metal machinists (9·5 thousand), and fitters and machine erectors (35·7 thousand) and in relation to the total numbers of workers there is a greater demand for professional engineers, draughtsmen and laboratory technicians than in many other industries. There are relatively few unskilled jobs.

Scientific, Surgical and Photographic Instruments, etc. (M.L.H. 100)

Between 1931 and 1951 the numbers working in this industry increased from 31 thousand to 81 thousand. About one third of the workers were females. The industry was mainly concentrated in Greater London, Birmingham and Sheffield, as it was also in 1931.

Of those at work in 1931, 7·9 per cent were employers and managers, 87·4 per cent were operatives and 4·7 per cent working on own account. In 1951 the proportion of employers and

managers had declined to 6·1 per cent and the proportion working on own account had fallen to 2·1 per cent—an indication of the formation of larger units. Apprentices in 1951 constituted 4·6 per cent of the total labour force.

Within this industrial group numbers of lens and prism grinders, blockers out and pitchers and other skilled glass workers, and scientific instrument makers have increased, broadly, in proportion to the growth of the labour force as a whole, but there has been an inordinate increase in numbers of metal machinists, fitters and machine erectors, and of dental mechanics.

Table 81.—Textiles; Leather, Leather Goods and Fur — **England and Wales, Regions, Conurbations and selected areas**

X Textiles	110 Cotton spinning, doubling, etc.	111 Cotton weaving, etc.	112 Woollen and worsted	113, 114 Rayon, nylon, etc. production, weaving; silk	118 Hosiery and other knitted goods	123 Textile finishing, etc.	Area	I-XXIV All Industries	XI Leather, leather goods and fur
867,998	170,211	122,801	179,804	94,976	109,341	81,818	**England and Wales—Total**	19,940,024	72,603
							Percentage distribution by Area		
							Regions of England, Wales		
1·7	0·3	0·2	2·9	2·1	2·1	1·0	Northern	6·6	4·2
25·0	4·5	9·2	83·5	11·3	2·2	22·0	East and West Ridings	9·5	10·9
45·3	92·1	82·8	5·9	43·0	9·0	56·9	North Western	15·4	19·5
14·9	2·4	2·1	2·1	13·6	69·8	13·2	North Midland	7·7	9·2
4·6	0·5	2·8	0·9	11·9	4·3	2·7	Midland	10·7	10·7
1·2	0·0	0·2	0·1	3·1	2·6	1·1	Eastern	6·3	4·0
3·5	0·2	1·8	0·7	2·3	7·4	2·2	London and South Eastern	26·5	31·8
0·7	0·0	0·3	0·8	0·3	0·7	0·2	Southern	5·7	1·9
1·4	0·0	0·1	2·7	1·0	0·7	0·2	South Western	6·4	5·2
1·8	0·0	0·5	0·4	11·4	1·2	0·5	Wales (including Monmouthshire)	5·2	2·6
							Conurbations		
3·1	0·2	1·8	0·6	2·2	6·3	2·0	Greater London	21·5	29·4
24·2	71·6	24·3	3·6	5·8	3·2	34·0	South East Lancashire	6·2	8·4
0·9	0·1	2·6	0·1	2·2	0·6	0·1	West Midlands	5·6	9·2
21·5	3·1	0·6	79·8	5·2	1·0	19·8	West Yorkshire	4·2	7·3
0·8	0·1	0·1	0·1	0·3	2·1	0·0	Merseyside	3·0	3·3
0·3	0·0	0·1	0·1	0·1	0·4	0·0	Tyneside	1·8	1·5
							Counties (A.Cs. with associated C.Bs.)		
4·3	0·0	2·9	0·3	4·2	2·3	7·5	Cheshire	2·6	3·4
1·1	*4·1*	*0·2*	*0·1*	*0·0*	*0·1*	*1·3*	*Stockport C.B.*	*0·3*	*0·5*
5·2	11·7	2·6	0·8	14·0	9·0	5·5	Derbyshire	1·8	0·5
1·9	*0·0*	*0·0*	*0·0*	*12·4*	*1·4*	*0·2*	*Derby C.B.*	*0·5*	*0·3*
0·7	0·1	0·2	0·0	1·5	0·8	0·8	Essex	3·5	2·9
0·4	0·0	0·4	0·0	0·0	2·3	0·1	Hertfordshire	1·3	0·8
39·8	1·5	79·2	5·4	37·5	6·7	44·9	Lancashire	12·6	16·1
1·7	*1·6*	*7·2*	*0·2*	*1·9*	*0·0*	*0·6*	*Blackburn C.B.*	*0·3*	*0·6*
3·4	*82·2*	*3·3*	*0·2*	*1·0*	*0·9*	*2·0*	*Bolton C.B.*	*0·4*	*2·1*
1·3	*0·2*	*7·8*	*0·0*	*0·6*	*0·1*	*0·7*	*Burnley C.B.*	*0·2*	*0·4*
0·9	*11·7*	*1·4*	*0·8*	*0·1*	*0·0*	*2·2*	*Bury C.B.*	*0·2*	*0·4*
3·0	*3·4*	*2·6*	*0·2*	*0·6*	*1·0*	*11·8*	*Manchester C.B.*	*2·1*	*1·4*
1·9	*8·1*	*1·4*	*0·0*	*0·0*	*0·1*	*0·1*	*Oldham C.B.*	*0·3*	*0·5*
1·5	*1·2*	*5·3*	*0·0*	*3·9*	*0·1*	*0·1*	*Preston C.B.*	*0·3*	*0·2*
2·4	*7·4*	*1·9*	*0·7*	*0·4*	*0·0*	*1·3*	*Rochdale C.B.*	*0·3*	*0·6*
0·8	*1·4*	*1·0*	*0·0*	*0·0*	*0·0*	*2·5*	*Salford C.B.*	*0·4*	*0·4*
0·1	*0·3*	*0·3*	—	*0·0*	*0·0*	*0·3*	*Warrington C.B.*	*0·2*	*2·1*
0·7	*2·9*	*0·7*	*0·0*	*0·4*	*0·1*	*0·0*	*Wigan C.B.*	*0·2*	*0·8*
0·5	*0·3*	*0·4*	*0·0*	*2·6*	*0·2*	*0·8*	*Lancaster M.B.*	*0·1*	*0·0*
6·0	0·2	0·0	1·1	0·2	38·9	4·0	Leicestershire	1·6	1·0
3·6	*0·2*	*0·0*	*1·0*	*0·2*	*23·2*	*2·5*	*Leicester C.B.*	*0·8*	*0·8*
1·6	0·1	0·9	0·5	1·8	1·8	1·0	London	12·8	22·1
0·1	—	*0·0*	*0·0*	*0·0*	*0·0*	*0·0*	*Bermondsey Met. B.*	*0·3*	*3·4*
0·1	*0·0*	*0·0*	*0·1*	*0·3*	*0·2*	*0·1*	*St. Marylebone Met. B.*	*0·7*	*2·1*
0·3	*0·0*	*0·1*	*0·2*	*0·7*	*0·3*	*0·2*	*Westminster Met. B.*	*2·3*	*2·9*
0·7	0·0	0·3	0·1	0·3	3·0	0·1	Middlesex	4·3	2·7
0·3	—	*0·0*	*0·0*	*0·0*	*2·2*	*0·0*	*Edmonton M.B.*	*0·2*	*0·3*
0·1	0·0	0·0	0·0	0·0	0·1	0·0	Northamptonshire	0·8	5·8
0·0	*0·0*	*0·0*	*0·0*	*0·0*	*0·0*	*0·0*	*Northampton C.B.*	*0·3*	*2·0*
4·5	1·1	0·2	0·2	0·7	21·3	8·2	Nottinghamshire	2·0	1·1
2·7	*0·3*	*0·2*	*0·1*	*0·5*	*10·0*	*7·4*	*Nottingham C.B.*	*0·9*	*0·8*
0·4	*0·4*	*0·0*	*0·0*	*0·0*	*2·5*	*0·0*	*Mansfield M.B.*	*0·1*	*0·0*
0·3	0·0	0·0	0·7	0·3	0·0	0·0	Somerset	1·1	2·1
1·6	0·4	0·1	0·0	4·4	3·2	2·6	Staffordshire	3·8	6·4
0·0	*0·0*	*0·0*	*0·0*		*0·0*	*0·0*	*Walsall C.B.*	*0·2*	*5·8*
0·3	—	*0·0*	*0·0*	*2·2*	*0·3*	*0·0*	*Wolverhampton C.B.*	*0·4*	*0·1*
0·3	0·0	0·0	0·0	0·0	0·7	0·2	Surrey	2·7	2·6
1·7	0·1	1·9	0·5	7·5	1·0	0·1	Warwickshire	4·8	2·6
0·4	*0·1*	*1·9*	*0·1*	*0·0*	*0·1*	*0·0*	*Birmingham C.B.*	*3·1*	*2·3*
0·9	*0·0*	*0·0*	*0·1*	*6·2*	*0·1*	*0·1*	*Coventry C.B.*	*0·7*	*0·1*
0·3	0·0	1·4	0·0	0·0	0·1	0·1	Yorkshire—		
24·7	4·5	7·7	83·5	11·2	2·1	21·9	East Riding	1·0	2·1
5·8	*0·1*	*0·2*	*21·9*	*2·6*	*0·1*	*7·9*	West Riding	8·4	8·9
0·9	*0·0*	*0·0*	*3·4*	*0·1*	*0·0*	*0·3*	*Bradford C.B.*	*0·8*	*0·2*
1·3	*0·5*	*0·1*	*4·2*	*0·4*	*0·3*	*0·7*	*Dewsbury C.B.*	*0·1*	*0·2*
2·3	*0·5*	*0·0*	*9·5*	*0·0*	*0·1*	*1·3*	*Halifax C.B.*	*0·3*	*0·5*
1·0	*0·0*	*0·0*	*3·6*	*0·0*	*0·1*	*1·3*	*Huddersfield C.B.*	*0·4*	*0·1*
1·1	*0·0*	*0·1*	*4·4*	*0·6*	*0·2*	*0·7*	*Leeds C.B.*	*1·3*	*3·8*
							Keighley M.B.	*0·2*	*0·5*
0·8	0·0	0·0	0·1	6·8	0·0	0·0	Flintshire	0·3	0·0
0·4	—	0·0	0·0	3·6	0·1	0·0	Monmouthshire	0·9	0·1
6·6	0·3	2·2	6·8	6·0	6·6	3·0	Remainder	33·7	18·8

Textiles (Order X)

In this industrial group as a whole, numbers at work decreased slightly from 949 thousand in 1931 to 868 thousand in 1951 but this was the net effect of a sharp reduction in numbers employed in cotton weaving (from 249 thousand to 123 thousand), a substantial decline in numbers employed in the production of woollen and worsted material and in textile finishing (in total from 288 thousand to 262 thousand), a small increase in numbers employed in the production of hosiery and other knitted goods (from 100 thousand to 109 thousand), and a large proportional increase in the numbers in rayon, nylon, etc., production and weaving (from 58 thousand to 95 thousand). In every branch of the industry separated in Table 75, except rayon, nylon, etc., production and textile finishing, women outnumbered men. The proportions in 1951 were:

	Women workers per cent of all workers
Cotton spinning and doubling, etc.	61
Cotton weaving, etc.	65
Woollen and worsted	52
Rayon, nylon, etc., production, weaving; silk	43
Hosiery and other knitted goods	70
Textile finishing, etc.	29

The cotton industry (M.L.H. 110, 111) was concentrated in the North Western Region, 81 per cent of the labour force being employed in the cotton towns of Lancashire (Bolton, Oldham, Rochdale and Wigan particularly for spinning, and Blackburn, Burnley and Preston for weaving, among the larger towns). The wool and worsted industry (M.L.H. 112) was concentrated in the East and West Ridings where 84 per cent of the total manpower was employed (22 per cent in Bradford, 10 per cent in Huddersfield, 4 per cent in each of Leeds, Halifax and Keighley and 3 per cent in Dewsbury). The production and weaving of rayon, nylon and silk (M.L.H. 113, 114) was less concentrated and spread over the North Western Region (43 per cent of all workers), the North Midland (14), Midland (12), East and West Ridings (11) and Wales (11) ; among the larger towns involved were Derby, Blackburn, Bolton, Preston, Lancaster, Wolverhampton, Coventry and Bradford. Of all workers in the production of hosiery and other knitted goods, 70 per cent were in the North Midland Region (23 per cent in Leicester C.B., 10 per cent in Nottingham C.B.). Textile finishing is conducted mainly in the North Western Region (57 per cent of all workers), the East and West Ridings (22) and the North Midland Region (13); 11·8 per cent of workers were in Manchester and 2·5 per cent in Salford, 7·9 per cent in Bradford, 7·4 per cent in Nottingham C.B.

In Order X as a whole, in 1951, 2·7 per cent of workers were employers and managers, 97·0 per cent were operatives and 0·3 per cent were working on own account. This represents very little change compared with 1931, nor is there very much departure from this pattern in the member industries—in cotton spinning and weaving there is a somewhat lower, and in hosiery and textile finishing a slightly higher, proportion of employers and managers, reflecting differences in the size of establishment structure of these industries.

Numbers of openers, sorters, blenders and carders decreased by about 25 per cent between the two censuses. Numbers of spinners and doublers and of weavers were halved, but numbers of winders, warpers, sizers and drawers-in and of knitters were well maintained.

Clothing (Order XII)

Taking Order XII as a whole there was a decline of 13 per cent in numbers at work in the industry from 778 thousand in 1931 to 673 thousand in 1951. This is somewhat larger than the decline in the numbers employed in textile production (8 per cent). This decline has not been evenly spread over the constituent industries; numbers at work in tailoring increased very slightly while at the other extreme numbers employed in the making of hats, caps and millinery were in 1951 only one third of their number in 1931. In the order as a whole two thirds of the workers were women. In dressmaking, overalls, shirts and underwear, the proportion of women workers was much higher at 90 per cent; in boot and shoe making and repairing it was much lower at 38 per cent.

Of all workers employed in tailoring (M.L.H. 140), 31·5 per cent were employed in the London and South Eastern Region, 20·7 per cent in the North Western Region and 19·8 per cent in the East and West Ridings. With regard to specific towns, 30·2 per cent were employed in Greater London (especially Stepney Met. B. (5·2 per cent), Hackney Met. B. (3·8), Westminster Met. B. (3·7), St. Marylebone Met. B. (2·5)), 15·0 per cent in the South East Lancashire conurbation

(including Manchester C.B. (8·9) and Salford C.B. (2·8)), and 16·5 per cent in the West Yorkshire conurbation (including Leeds C.B. (14·8)). The geographical pattern had not changed materially since 1931.

In 1931, 5·4 per cent of workers in the clothing industry were employers and managers, 81·9 per cent were operatives and 12·7 were recorded as working on own account. In 1951 the proportion recorded as employers and managers was virtually unchanged at 4·7 per cent, but the proportion of workers on own account was reduced to 7·1 per cent. There is reason to believe that a large number of those classed as workers on own account in 1951 (mostly employed in dressmaking and boot and shoe-making or repairing) were in fact outworkers. At any rate this is so in the Greater London area where, for example, of 13 thousand workers on own account in the clothing industry, at least 3 thousand were outworkers. Apprentices formed less than 1 per cent of all workers.

Table 82.—Clothing; Food, Drink and Tobacco; Manufactures of Wood and Cork

England and Wales, Regions, Conurbations and selected areas

XII Clothing	140 Tailoring	141 Dress-making	148, 149 Boot and shoe making and repairing	Area	I-XXIV All Industries	XIII Food, drink and tobacco	150–162 Food	163–168 Drink	XIV Manu-factures of wood and cork	171 Furniture and upholstery
673,492	271,055	114,827	161,504	**England and Wales—Total**	19,940,024	645,941	485,449	119,323	286,655	137,903
				Percentage distribution by Area						
				Regions of England, Wales						
5·2	7·4	4·5	3·5	Northern	6·6	5·6	5·7	5·7	5·4	5·5
11·2	19·8	6·0	4·1	East and West Ridings	9·5	9·9	10·8	9·3	9·0	7·2
19·0	20·7	16·3	12·4	North Western	15·4	17·8	19·1	12·8	13·5	13·1
14·9	4·3	8·4	41·5	North Midland	7·7	7·1	6·3	6·5	6·0	4·6
4·7	4·6	4·5	5·6	Midland	10·7	9·4	9·0	13·9	7·7	6·7
6·5	4·1	3·3	10·2	Eastern	6·3	7·3	7·3	8·4	5·6	4·4
29·1	31·5	50·1	13·0	London and South Eastern	26·5	25·9	25·5	27·5	35·1	40·4
2·3	2·1	1·9	1·9	Southern	5·7	5·1	5·1	5·3	8·1	9·6
4·5	2·7	2·7	5·7	South Western	6·4	8·2	7·4	6·4	6·4	5·3
2·6	2·8	2·3	2·1	Wales (including Monmouthshire)	5·2	3·7	3·8		3·2	3·2
				Conurbations						
27·5	30·2	47·6	11·5	Greater London	21·5	22·6	22·4	23·4	31·4	37·8
11·5	15·0	9·5	2·6	South East Lancashire	6·2	6·0	6·3	5·4	6·3	6·5
2·4	3·0	3·1	2·1	West Midlands	5·6	5·4	5·8	5·7	5·0	4·9
8·9	16·5	4·5	2·6	West Yorkshire	4·2	3·5	3·5	4·1	4·2	3·9
1·7	2·0	1·8	0·9	Merseyside	3·0	6·4	6·7	3·0	2·7	3·0
1·6	2·3	1·8	0·8	Tyneside	1·8	2·2	2·0	2·2	2·1	2·7
				Counties (A.Cs. with associated C.Bs.)						
0·5	0·5	0·4	0·5	Buckinghamshire	0·9	0·9	1·2	0·3	4·4	6·9
2·9	2·5	3·0	1·1	Cheshire	2·6	2·8	3·3	1·3	1·3	1·1
2·8	4·9	2·1	0·9	Durham	2·9	2·1	2·2	2·4	2·4	2·9
3·8	2·7	5·1	3·9	Essex	3·5	4·0	4·7	2·3	5·2	5·5
0·4	*0·2*	*0·7*	*0·1*	*West Ham C.B.*	*0·5*	*1·6*	*2·0*	*0·2*	*0·7*	*0·8*
1·4	1·3	0·5	2·3	Gloucestershire	2·1	3·6	2·5	2·6	2·8	2·1
0·8	*0·9*	*0·2*	*0·9*	*Bristol C.B.*	*1·0*	*2·7*	*1·5*	*1·5*	*1·5*	*1·3*
0·9	0·7	1·1	0·9	Kent	2·8	1·8	1·8	2·5	1·8	1·1
16·0	18·2	13·2	11·3	Lancashire	12·6	14·9	15·7	11·5	12·1	11·9
1·4	*1·5*	*1·6*	*0·5*	*Liverpool C.B.*	*2·0*	*5·0*	*5·0*	*2·4*	*1·9*	*2·6*
6·6	*8·9*	*6·8*	*0·7*	*Manchester C.B.*	*2·1*	*1·8*	*1·7*	*2·4*	*2·1*	*2·3*
1·3	*2·8*	*0·3*	*0·1*	*Salford C.B.*	*0·4*	*0·4*	*0·4*	*0·7*	*0·7*	*0·5*
5·0	0·9	1·1	16·6	Leicestershire	1·6	0·9	1·0	0·7	1·1	0·7
3·1	*0·8*	*0·8*	*10·1*	*Leicester C.B.*	*0·8*	*0·5*	*0·5*	*0·5*	*0·7*	*0·4*
21·6	25·9	37·9	6·1	London	12·8	12·9	11·1	16·7	17·0	20·9
0·6	*0·8*	*0·4*	*0·4*	*Bethnal Green Met. B.*	*0·1*	*0·2*	*0·1*	*0·5*	*1·7*	*2·9*
2·6	*3·8*	*2·8*	*1·6*	*Hackney Met. B.*	*0·4*	*0·3*	*0·3*	*0·1*	*1·9*	*3·0*
2·7	*2·5*	*7·9*	*0·2*	*St. Marylebone Met. B.*	*0·7*	*0·2*	*0·2*	*0·2*	*0·4*	*0·5*
0·9	*1·4*	*1·0*	*0·1*	*Shoreditch Met. B.*	*0·2*	*0·3*	*0·1*	*0·3*	*2·2*	*3·6*
3·4	*5·2*	*5·9*	*0·3*	*Stepney Met. B.*	*0·5*	*1·3*	*0·5*	*3·7*	*0·8*	*0·9*
3·4	*3·7*	*6·8*	*0·5*	*Westminster Met. B.*	*2·3*	*0·8*	*0·5*	*1·6*	*0·6*	*0·6*
2·8	2·4	4·6	2·9	Middlesex	4·3	5·3	6·1	4·0	8·4	10·5
0·6	*0·8*	*0·6*	*0·6*	*Edmonton M.B.*	*0·2*	*0·1*	*0·1*	*0·1*	*1·5*	*2·5*
0·6	*0·4*	*0·7*	*1·1*	*Tottenham M.B.*	*0·3*	*0·2*	*0·2*	*0·4*	*2·2*	*3·4*
1·9	0·7	0·3	6·4	Norfolk	1·2	1·8	1·8	2·3	1·3	0·8
1·6	*0·5*	*0·1*	*5·8*	*Norwich C.B.*	*0·3*	*0·7*	*0·6*	*1·0*	*0·4*	*0·3*
6·3	1·5	1·7	21·9	Northamptonshire	0·8	0·6	0·6	1·0	0·6	0·4
2·3	*0·2*	*1·6*	*7·9*	*Northampton C.B.*	*0·3*	*0·2*	*0·2*	*0·7*	*0·3*	*0·3*
0·9	0·9	1·5	0·6	Northumberland	1·8	1·9	1·6	2·0	1·7	1·8
2·3	1·1	4·9	1·3	Nottinghamshire	2·0	2·6	1·2	2·5	1·9	1·8
1·7	*0·9*	*4·0*	*0·2*	*Nottingham C.B.*	*0·9*	*1·7*	*0·5*	*0·8*	*1·0*	*0·9*
1·8	0·3	0·4	2·5	Somerset	1·1	1·6	1·9	1·1	1·4	1·7
1·0	0·9	0·7	0·8	Southampton	2·6	1·8	1·6	2·2	1·8	1·3
2·0	2·1	1·4	3·3	Staffordshire	3·8	3·5	2·6	8·4	2·6	2·0
0·1	*0·0*	*0·0*	*0·3*	*Burton upon Trent C.B.*	*0·1*	*1·0*	*0·2*	*4·8*	*0·4*	*0·0*
1·0	0·6	1·7	1·0	Surrey	2·7	2·0	1·9	2·3	2·6	2·4
1·8	1·5	2·5	1·5	Warwickshire	4·8	4·2	4·8	3·2	3·9	3·8
1·2	*1·1*	*2·3*	*0·9*	*Birmingham C.B.*	*3·1*	*3·6*	*4·1*	*2·5*	*3·2*	*3·1*
10·9	19·5	5·7	3·8	Yorkshire, West Riding	8·4	8·3	8·8	8·5	7·2	6·5
6·9	*14·8*	*2·3*	*1·4*	*Leeds C.B.*	*1·3*	*1·3*	*1·2*	*1·9*	*1·7*	*2·0*
1·7	1·9	1·3	1·2	Glamorganshire	2·4	1·9	1·9	2·3	1·9	2·4
10·7	9·0	8·9	9·2	Remainder	22·3	20·6	21·7	19·9	16·6	11·5

In tailoring and dressmaking, etc. (M.L.H. 140-142), the largest occupational group was that of machinists which constituted 35 per cent of all workers. Other important groups were tailors (17 per cent) and dressmakers (10 per cent). It is not possible to separate these three groups in the same way as in 1931 but the general impression is that the decline in manpower in the industry has affected tailors and dressmakers so called much more than machinists, whose numbers may even have increased. Skilled cutters (at work) increased from about 13 to 16 thousand and knife or machine cutters from about 7 thousand to 9 thousand. In the boot and shoe industry (M.L.H. 148-9) one fifth of the workers were makers and repairers; their numbers (actually at work) declined from between 50 and 60 thousand in 1931 to 35 thousand in 1951. Clickers and pattern cutters declined from rather less than 19 thousand in 1931 to 12 thousand in 1951.

Food, Drink and Tobacco (Order XIII)

Numbers at work in this industrial group increased from 559 thousand in 1931 to 646 thousand in 1951. The largest relative expansion was in what might be described as the production of processed foods—numbers engaged in meat and meat products (M.L.H. 153) increased from 13 to 29 thousand, those in milk products (M.L.H. 154) from 9 to 61 thousand (but the 1931 figure does not include ice cream which accounted for 11 thousand workers in 1951), and those in the preserving of fruit and vegetables (M.L.H. 157) from 17 to 45 thousand. Workers in bread, flour confectionery and biscuit production (M.L.H. 151, 152) actually declined from 197 to 181 thousand; there was also a decline, from 72 to 67 thousand, in numbers of workers engaged in the production of cocoa, chocolate and sugar confectionery (M.L.H. 156). Workers in brewing and malting (M.L.H. 163) increased only slightly from 74 to 80 thousand. In the industry order as a whole women constituted about one third of all workers; in some branches the proportion was much higher, e.g., biscuits (61 per cent), preserving of fruit and vegetables (60) and sugar confectionery (59); and in brewing and malting it was much lower (17 per cent).

Workers in food production (M.L.H. 150-162) were, broadly, distributed over the country in proportion to the industrial population as a whole, with a slight excess in the North Western Region and a slight deficiency in Wales. A similar general proportionality applies also to workers in the drink industry (M.L.H. 163-8) with a slight excess above expectation in the Midland Region (associated with Burton upon Trent where 4·8 per cent of all workers in the drink industry were employed in contrast to 0·1 per cent of all workers). There was virtually no change between 1931 and 1951 in the geographical distribution of either of these two main groups.

In Order XIII as a whole 5·7 per cent of all workers were employers and managers, 92·4 per cent were operatives and 1·9 per cent were working on own account. These proportions are not very different from those of 1931. In bread, flour confectionery and biscuits the proportion working on own account was as high as 5·2 per cent (5·6 in 1931) while in brewing and malting only 31 out of 80 thousand workers (115 out of 74 thousand in 1931) were employed on own account. In 1951 apprentices formed 2·6 per cent of all workers in bread, flour confectionery and biscuit production, and 0·8 per cent of all workers in brewing and malting.

In the production of bread, flour confectionery and biscuits (M.L.H. 151 and 152) the major occupational group was bakers and pastrycooks who constituted just less than one half of all workers; numbers actually at work changed very little between 1931 (about 85 thousand) and 1951 (88 thousand). In the production of cocoa, chocolate and sugar confectionery there were a wide variety of occupations and one quarter of the workers were unskilled; sugar and sweet boilers (2·6 thousand in 1951) decreased slightly in numbers as also did sugar confectionery and chocolate makers (10·0 thousand in 1951). In brewing and malting (M.L.H. 163), out of 80 thousand workers 11 thousand were clerks, typists, etc., and 12 thousand were drivers (or mates) of goods vehicles; only 3 thousand were maltsters and there were 4 thousand bottlers and 1 thousand other skilled workers in brewing, etc. Professional chemists numbered 139. There were over 1 thousand sales representatives. There had been very little change in the occupational distribution of the industry since 1931.

Manufactures of Wood and Cork (Order XIV)

There was an increase in numbers at work in this industry from 254 thousand in 1931 to 287 thousand in 1951. Women represented one sixth of the labour force, as in 1931.

Of all workers in this order, 35·1 per cent were employed in the London and South Eastern Region (31·4 per cent in Greater London). If furniture and upholstery (M.L.H. 171) are considered alone these percentages rise to 40·4 and 37·8. There is no evidence of any substantial change in geographical distribution since 1931.

Employers and managers formed 5·4 per cent of all those occupied, 6·5 per cent were working

on own account and 88·1 per cent were operatives. The ratio of operatives to employers and managers had increased since 1931 when the latter formed 7·8 per cent of workers and workers on own account constituted 11·7 per cent. In 1951 apprentices accounted for 5·9 per cent of all workers.

The largest occupational groups were carpenters and joiners (14 per cent of all workers), upholsterers and bedding makers (12 per cent), woodcutting machinists (12 per cent), cabinet makers (9 per cent) and french polishers (4 per cent). Numbers of cabinet makers, carpenters and joiners, and french polishers have declined since 1931 but woodcutting machinists have doubled their numbers.

Table 83.—Paper and Printing; Building and Contracting; Gas, Electricity and Water; Transport and Communication — **England and Wales, Regions, Conurbations and selected areas**

XV Paper and printing	186, 189 Printing and publishing	XVII Building and contracting	XVIII Gas, electricity and water	Area	I-XXIV All Industries	XIX Transport and communication	220 Railways	221–223 Road transport	224–226 Sea transport, port service, etc.	228 Postal, telegraph and wireless communication
463,241	307,754	1,236,988	330,693	England and Wales—Total	19,940,024	1,523,633	463,120	457,963	232,577	301,627
				Percentage distribution by Area						
				Regions of England, Wales						
3·1	3·0	6·3	5·5	Northern	6·6	6·4	6·8	6·7	8·5	4·4
6·6	7·3	7·5	8·8	East and West Ridings	9·5	8·6	10·6	9·6	6·9	6·5
15·4	12·3	13·3	13·9	North Western	15·4	16·5	14·6	15·4	30·0	10·9
4·9	5·2	7·1	6·0	North Midland	7·7	6·5	9·4	6·8	2·8	5·4
5·8	6·2	8·5	9·4	Midland	10·7	7·1	8·0	9·3	0·9	7·9
7·5	7·4	8·0	6·6	Eastern	6·3	5·3	5·5	5·7	4·2	6·0
43·8	47·5	29·5	31·8	London and South Eastern	26·5	32·1	26·1	30·0	30·3	40·3
4·5	4·6	6·8	6·0	Southern	5·7	5·1	4·2	5·4	5·3	6·0
6·7	4·9	7·4	6·9	South Western	6·4	6·4	7·1	6·0	4·4	7·6
1·7	1·6	5·6	5·1	Wales (including Monmouthshire)	5·2	6·0	7·7	5·1	6·7	5·0
				Conurbations						
37·4	43·9	22·9	25·8	Greater London	21·5	27·6	21·9	24·7	27·4	34·6
8·3	7·0	4·9	5·8	South East Lancashire	6·2	4·9	5·4	5·8	3·4	4·1
4·0	4·2	4·2	4·9	West Midlands	5·6	3·7	3·8	5·3	0·5	4·1
4·0	4·7	3·1	4·1	West Yorkshire	4·2	3·0	3·4	4·3	0·3	3·0
2·5	2·5	3·1	2·5	Merseyside	3·0	6·7	3·0	3·7	24·0	3·0
1·4	1·5	1·7	2·1	Tyneside	1·8	2·3	2·0	2·2	4·3	1·4
				Counties (A.Cs. with associated C.Bs.)						
2·0	1·3	3·0	2·8	Cheshire	2·6	2·7	3·2	2·2	4·4	1·8
0·2	*0·2*	*0·3*	*0·4*	*Birkenhead C.B.*	*0·3*	*0·7*	*0·6*	*0·4*	*2·7*	*0·2*
1·0	0·9	1·6	1·5	Derbyshire	1·8	1·6	2·8	1·7	0·0	0·9
0·8	0·8	2·2	1·9	Devon	1·6	1·6	1·7	1·6	0·6	2·2
1·3	1·0	2·6	2·2	Durham	2·9	2·6	2·7	3·0	4·0	1·2
3·1	2·5	4·7	5·8	Essex	3·5	4·4	3·2	4·3	9·6	3·0
0·1	*0·1*	*0·2*	*0·3*	*East Ham C.B.*	*0·2*	*0·6*	*0·1*	*0·3*	*2·9*	*0·2*
0·7	*0·8*	*0·5*	*0·6*	*West Ham C.B.*	*0·5*	*1·1*	*1·2*	*0·8*	*3·1*	*0·2*
0·6	*0·0*	*0·4*	*0·2*	*Thurrock U.D.*	*0·2*	*0·4*	*0·1*	*0·2*	*2·1*	*0·1*
4·0	2·4	2·2	2·2	Gloucestershire	2·1	2·4	2·4	2·1	2·7	2·5
3·3	*1·7*	*1·1*	*1·2*	*Bristol C.B.*	*1·0*	*1·5*	*1·4*	*1·3*	*2·3*	*1·5*
3·7	3·4	1·6	1·5	Hertfordshire	1·3	0·9	0·9	1·0	0·1	1·1
5·6	2·4	3·5	3·3	Kent	2·8	2·6	2·1	3·0	2·7	2·8
13·1	11·0	10·1	10·9	Lancashire	12·6	13·7	11·1	13·0	25·6	9·1
0·1	*0·1*	*0·1*	*0·2*	*Bootle C.B.*	*0·2*	*0·6*	*0·1*	*0·3*	*2·9*	*0·1*
2·0	*2·1*	*1·7*	*1·6*	*Liverpool C.B.*	*2·0*	*4·8*	*2·2*	*2·6*	*16·6*	*2·4*
3·9	*4·5*	*1·6*	*1·8*	*Manchester C.B.*	*2·1*	*2·2*	*3·0*	*2·4*	*0·6*	*1·7*
0·4	*0·2*	*0·4*	*0·3*	*Salford C.B.*	*0·4*	*0·8*	*0·3*	*0·5*	*2·4*	*1·0*
0·4	0·4	1·1	0·7	Lincolnshire (Parts of Lindsey)	1·0	1·2	1·2	0·8	2·3	0·9
27·9	35·3	12·4	13·3	London	12·8	18·3	14·8	13·9	19·6	25·4
7·6	*10·8*	*0·5*	*0·4*	*City of London*	*1·7*	*3·5*	*1·3*	*0·3*	*6·8*	*6·9*
0·4	*0·4*	*0·2*	*0·2*	*Bermondsey Met. B.*	*0·3*	*1·1*	*0·8*	*0·6*	*3·8*	*0·4*
1·8	*2·4*	*0·2*	*0·6*	*Finsbury Met. B.*	*0·4*	*0·5*	*0·0*	*0·6*	*0·1*	*1·2*
1·7	*2·3*	*0·4*	*0·1*	*Holborn Met. B.*	*0·5*	*0·5*	*0·0*	*0·1*	*0·0*	*2·2*
0·3	*0·1*	*0·4*	*0·6*	*Poplar Met. B.*	*0·3*	*0·8*	*0·3*	*0·7*	*2·8*	*0·3*
1·2	*1·6*	*0·5*	*0·3*	*St. Pancras Met. B.*	*0·6*	*1·6*	*4·0*	*0·5*	*0·0*	*1·0*
1·9	*2·4*	*0·3*	*0·2*	*Southwark Met. B.*	*0·3*	*0·4*	*0·2*	*0·4*	*0·3*	*0·8*
0·4	*0·4*	*0·3*	*0·4*	*Stepney Met. B.*	*0·5*	*0·8*	*0·2*	*0·5*	*2·8*	*0·5*
4·8	*7·0*	*2·0*	*1·1*	*Westminster Met. B.*	*2·3*	*2·1*	*1·1*	*1·3*	*0·9*	*3·6*
5·2	4·4	4·6	5·2	Middlesex	4·3	4·8	3·6	5·7	0·8	5·1
1·0	1·2	1·7	1·7	Northumberland	1·8	2·0	1·8	2·1	2·8	1·6
1·4	1·6	1·7	1·4	Nottinghamshire	2·0	1·6	2·3	1·9	0·2	1·3
1·4	1·5	2·9	2·7	Southampton	2·6	2·6	1·6	2·6	4·5	2·8
0·2	*0·3*	*0·4*	*0·6*	*Southampton C.B.*	*0·4*	*1·0*	*0·3*	*0·6*	*3·8*	*0·6*
2·0	2·2	3·1	3·4	Staffordshire	3·8	2·4	2·8	3·5	0·4	1·8
2·5	2·8	3·7	3·6	Surrey	2·7	2·3	2·0	2·7	0·3	3·4
3·2	3·2	3·6	3·8	Warwickshire	4·8	3·2	3·2	4·0	0·4	4·2
2·6	*2·6*	*2·2*	*2·4*	*Birmingham C.B.*	*3·1*	*2·2*	*2·2*	*2·9*	*0·3*	*3·1*
				Yorkshire						
0·6	0·8	1·1	0·9	East Riding	1·0	1·8	1·4	1·1	5·5	0·8
0·6	*0·7*	*0·7*	*0·7*	*Kingston upon Hull C.B.*	*0·7*	*1·5*	*1·1*	*0·8*	*5·4*	*0·5*
6·0	6·5	6·5	7·9	West Riding	8·4	6·8	9·2	8·5	1·4	5·7
2·1	*2·9*	*1·0*	*1·4*	*Leeds C.B.*	*1·3*	*1·2*	*1·3*	*1·5*	*0·2*	*1·4*
1·1	0·9	2·6	2·5	Glamorganshire	2·4	3·1	3·7	2·5	4·5	2·3
12·7	13·5	23·5	20·8	Remainder	21·2	17·4	22·3	18·8	7·6	20·1

Paper and Board; Manufactures of Paper and Board (M.L.H. 180-183)

An increase occurred in the number of workers engaged in the production of paper and board and manufactures of paper and board, from 112 thousand in 1931 to 155 thousand in 1951. Women formed more than two fifths of the total number occupied; they had slightly reduced their representation since 1931.

The production of paper and board was mainly concentrated in the London and South Eastern Region (over one third of all workers), the North Western Region (one fifth) and the South Western Region (one tenth).

In 1931 in paper, board, and wallpaper production (M.L.H. 180, 181) employers and managers formed 2·2 per cent of all those at work, operatives accounted for 97·7 per cent and only a mere 0·1 per cent were assigned as working on own account. In 1951 these proportions remained virtually unchanged, except for a slight increase in the proportion of employers and managers to 2·6 per cent.

Generally speaking the numbers of persons engaged in skilled occupations actually classed to making or working in paper and board (one third of all workers in the industry in 1951) had not increased since 1931, certainly not to the same extent as other occupations in the industry. In keeping with the general trend of mechanisation, fitters and machine erectors more than doubled their numbers, from 2 thousand in 1931 to 5 thousand in 1951.

Printing and Publishing (M.L.H. 186, 189)

Numbers at work in this group, which covers newspapers and periodicals as well as other printing and publishing, increased from 279 thousand in 1931 to 308 thousand in 1951. Nearly one third of the workers were females; in 1931 the proportion was only a quarter.

Of all workers 48 per cent were in the London and South Eastern Region (44 per cent in Greater London, 35 per cent within London A.C.) and 12 per cent were in the North Western Region.

In 1931, 6·0 per cent of workers were employers and managers, 92·8 per cent were operatives and 1·2 per cent were working on own account. In 1951 the corresponding proportions were almost the same: 5·9, 92·7 and 1·4 per cent. Apprentices in 1951 constituted 5·5 per cent of all workers.

There had not been any substantial expansion in the industry. Numbers of compositors at work (33 thousand in 1951) had declined slightly since 1931, but there had been an increase in numbers of machine minders or setters from about 21 thousand to 27 thousand.

Rubber Manufacture (M.L.H. 190)

Workers in this group amounted in 1951 to 95 thousand, double the number employed in 1931. Females accounted for roughly one third of workers at both censuses. Of all workers 3·2 per cent were employers and managers, 96·7 were operatives and 0·1 per cent workers on own account. Apart from some reduction in the proportion of workers on own account (0·4 per cent in 1931) there has been no change in the distribution since the previous census.

Building and Contracting (Order XVII)

In 1951 there were 1,236,988 persons engaged in building and contracting, representing an increase of 40 per cent since 1931. Of this total nearly all were males, but the relatively small number of females showed an increase of more than 150 per cent. The proportion of all occupied males engaged in building and contracting increased from 76 to 87 per thousand between 1931 and 1951.

Among those in building and contracting, 87·2 per cent were classified as operatives, 6·1 per cent as employers and managers, and the remaining 6·7 per cent as working on own account. Since 1931 the proportion of employers and managers had decreased from 7·9 per cent while that of workers on their own account rose from 5·3 per cent, the proportion of operatives having risen only slightly. The more detailed status distribution for 1951 shows that, compared with an all industry proportion of 1·8 per cent, 7·1 per cent of the total were male apprentices, reflecting considerable formal training in building and contracting, this being particularly marked in the electrical wiring and contracting section where the proportion was 19·1 per cent. The civil engineering and contracting section of this industry order had a smaller proportion of employers and managers and of workers on own account, with a correspondingly higher proportion of operatives than in the remainder of the order, reflecting the larger scale of organisation often found in this section.

A regional distribution of persons in the building and contracting industry shows that the

London and South Eastern Region accounted for 29·5 per cent of the total (the Greater London conurbation having 22·9 per cent) and the North Western Region for 13·3 per cent. When compared with the all industry regional distribution that for building and contracting shows that the proportions in the five regions comprising the northern and midland areas of England were lower than for all industries, and correspondingly higher in the rest of England and also Wales.

The largest occupation group was "other" painters and decorators, accounting for 14 per cent of the total. "Other" building and contracting workers (mainly navvies) accounted for 13 per cent and carpenters and joiners 10 per cent, while other occupations with more than 5 per cent of the total included bricklayers, builders' labourers, and plumbers.

Gas (M.L.H. 210)

The number of persons in the gas industry increased from 110 thousand in 1931 to 132 thousand in 1951, an increase of 21 per cent compared with an increase of 20 per cent for all industry. Of this total 92 per cent were males compared with 97 per cent in 1931, the relatively small number of females having increased by more than 200 per cent compared with an increase of 15 per cent in the number of males.

Nearly all in this industry were classified as operatives apart from the 1·4 per cent who were employers and managers as compared with the 1·7 per cent so classified in 1931. The relatively large scale of gas undertakings precludes the appearance of workers on their own account, and is reflected in the high proportion classified as operatives.

The London and South Eastern Region accounted for 35·6 per cent of those working in the gas industry compared with only 26·5 per cent of workers in all industry, the next largest number being in the North Western Region which had 13·7 per cent compared, however, with 15·4 per cent of those in all industry. Apart from the London and South Eastern Region, the Southern and South Western Regions were the only ones to account for a higher proportion of those in the gas industry than in all industry.

Unskilled workers formed the largest occupation group among persons working in the gas industry and accounted for 24 per cent of the total, 49 per cent of them were labourers in gas works and coke ovens. Clerks, typists, etc., who included over two thirds of the females in this industry amounted to 13 per cent of workers, while other important occupations included gas fitters (12 per cent), skilled workers in gas works and coke ovens (10 per cent), inspectors in gas distribution (3 per cent) and other workers in gas distribution (5 per cent). Most of the principal occupations had grown in numbers since 1931 along with the expansion of the industry but there had been more marked increases in the number of drivers of goods vehicles (1,900 to 3,400) and clerks and typists (from 10 to 18 thousand). On the other hand since 1931 the number of labourers fell from 32 thousand to 26 thousand and there was a small fall in the number of gas fitters.

Electricity (M.L.H. 211)

In contrast to the gas industry, the number of persons in the electricity industry increased by 131 per cent from the 1931 total of 72 thousand to 166 thousand in 1951. This industry accounted for 8 out of every thousand occupied persons compared with 4 per thousand in 1931, reflecting considerable relative expansion. Males comprised 90 per cent of the total persons in 1951, their share having been reduced from 96 per cent in 1931. The number of females increased during the same period from 3 thousand to 17 thousand, while the number of males rose by 115 per cent.

Among those in the electricity industry all were operatives with the exception of the 0·7 per cent classified as employers and managers, which compares with the 1·2 per cent so classified in 1931. This concentration in the operative status was even more marked than that found in the gas industry and is again attributable to the large units into which this industry is organised. As in the gas industry, the females were concentrated among the "other" operatives and the part-time workers.

The regional distribution of workers in the electricity industry shows that the London and South Eastern Region accounted for the largest proportion of those in this industry, having 29·4 per cent of the total compared with 26·5 per cent of workers in all industry, and was followed by the North Western Region (14·0 per cent), the Midland Region (9·3 per cent) and the East and West Ridings Region (9·0 per cent). Smaller proportions for the electricity industry than for all industry occurred in the five regions which comprise midland and northern England and correspondingly larger ones for the rest of England and Wales.

The most numerous occupation groups were unskilled labourers (20 per cent of all workers),

clerks, typists, etc. (18 per cent), electricians and electrical fitters (14 per cent), stationary engine and crane drivers (6 per cent), linemen, cable jointers and other skilled electrical workers (4 per cent), mechanical and electrical engineers (3 per cent) and inspectors and other workers in distribution who here accounted for 5 per cent compared with 8 per cent in the gas industry. Nearly all the important occupation groups in this industry shared in the increase in numbers in the industry between 1931 and 1951, but particularly large increases occurred among clerks and typists, and engineers, while the main exception to the general increase was the fall in the number of navvies.

Railways (M.L.H. 220)

Between 1931 and 1951 there was a decline of 3 per cent in the number of persons working on the railways, the number falling from 478 thousand to 463 thousand. Males, who in 1951 accounted for 93 per cent of the total, declined by 7 per cent, while the proportionately small number of females increased by 123 per cent to 31 thousand. In 1931 males working on the railways accounted for 40 per thousand males in all industries but by 1951 this had fallen to 31 per thousand. The small percentage decline in numbers engaged on the railways contrasted with the 19 per cent increase among transport workers as a whole.

Among railway workers 99·1 per cent were operatives, the remainder being employers and managers, the status distribution having changed little since 1931. In the more detailed classification used in 1951 practically all the operatives were classified as other operatives, there being only 0·3 per cent who were articled clerks and apprentices and a similar proportion of part-time workers.

The London and South Eastern Region accounted for 26·1 per cent of persons employed on the railways (the Greater London conurbation having 21·9 per cent), the North Western Region 14·6 per cent (Lancashire having 11·1 per cent) and the East and West Ridings 10·6 per cent. The Northern, East and West Ridings, North Midland and South Western Regions and Wales had a proportionately larger share of railway workers than of all workers, all except the South Western Region being important coal mining areas. There was little change in the geographical distribution between 1931 and 1951.

As expected, the majority of persons working on the railways had occupations in the corresponding occupation sub-order. Porters (14 per cent) formed the largest occupation group followed by clerks, typists, etc. (13 per cent) and locomotive engine drivers, firemen, platelayers, running shed and other railway workers, signalmen, and guards, all groups which accounted for more than 5 per cent of the total. The numbers of railway officials, locomotive drivers and firemen, guards and shunters showed increases of less than 20 per cent between 1931 and 1951, and the relatively small number of motormen (both diesel and electric) represented an increase of 68 per cent since 1931. The largest increase was among drivers of goods vehicles whose numbers rose from 5 to 13 thousand while during the same period the number of drivers of horse drawn vehicles fell from 13 thousand to 3 thousand. Decreases also occurred in the numbers of platelayers, running shed and other railway workers, signalmen, porters, and clerks, typists, etc.—the decrease in this last group being in contrast to many other industries where the number of clerks had risen very considerably.

Tramway and Omnibus service (M.L.H. 221)

The number of persons in tramway and omnibus service was 241 thousand or 12 per thousand of the total occupied population. This represented an increase of 34 per cent since 1931 made up of an increase in the number of males of 22 per cent while the number of females more than quadrupled. In 1951 they accounted for 5 per thousand of all occupied females in contrast to 1 per thousand in 1931. In 1951 males comprised 88 per cent of the total in this industry compared with 97 per cent in 1931.

The distribution by industrial status of those in tramway and omnibus service shows that 98·8 per cent were classified as operatives, 1·1 per cent as managers and employers and 0·1 per cent as working on own account. Between 1931 and 1951 the proportion classified as operatives increased from 98·2 per cent and in 1931, 1·5 per cent were managers and employers and 0·3 per cent were working on own account.

The regional distribution shows that the London and South Eastern Region accounted for 29·8 per cent compared with 26·5 per cent for all industries; the regions accounting for the next highest proportions were the North Western (15·7 per cent) and the East and West Ridings (10·0 per cent). These three regions together with the Northern Region and Wales contained higher proportions of tramway and omnibus service workers than of those in all industry.

Workers in tramway and omnibus service were largely concentrated in a few occupations, a third being bus and coach drivers and another third bus and tram conductors; clerks, typists, etc., accounted for 6 per cent, unskilled workers for 7 per cent and tram and trolleybus drivers for 4 per cent. Comparison with 1931 is not possible.

Goods Transport by Road (M.L.H. 223)

Between 1931 and 1951 the numbers employed in goods transport by road increased from 145 thousand to 173 thousand, that is at a similar rate to persons working in all industries. Males, who in 1951 formed 94 per cent of the total, had increased their numbers by 15 per cent while the number of females, though proportionately small, represented a more than three fold increase since 1931. This industry accounted for 9 per thousand of the occupied population and 12 per thousand of all occupied males.

Among workers in goods transport by road, 85 per cent were classified as operatives, 6·8 per cent as employers and managers and 8·1 per cent as workers on their own account. This distribution with its relatively low proportion of operatives, reflects the number of small firms found in this industry, but since 1931 the proportion of operatives had increased at the expense of both managers and employers and of workers on their own account. The more detailed status classification used in 1951 shows that 0·7 per cent of the total were part-time workers of whom four out of every five were females, while practically all those working on their own account were males.

The regional distribution of workers in goods transport by road was similar to that for all industry. The London and South Eastern Region accounted for 28·0 per cent of the total, compared with 26·5 per cent of persons in all industry, and the North Western Region 15·8 per cent compared with 15·4 per cent of all industry. Other regions which had a larger share of the workers in goods transport by road than of all workers were the East and West Ridings, Midland and Eastern.

Among those working in goods transport by road, 60 per cent were occupied as drivers of goods vehicles, this occupation having increased its numbers by two thirds since 1931. The next largest occupation group was clerks, typists, etc., accounting for 10 per cent of the total, their numbers having increased by about 165 per cent from their 1931 level; haulage contractors and managers amounted to 6 per cent of the total, having decreased by 28 per cent between 1931 and 1951. The fact that the horse drawn vehicle has tended to disappear is a commonplace, but the decline in the number of drivers of horse drawn vehicles in goods transport from 43 thousand to 2 thousand provides a graphic illustration of the change.

Sea Transport (M.L.H. 224)

No attempt is made here to comment on the figures for sea transport because the population census covers, in the main, only ships in port and does not extend to the whole industry. Furthermore, comparison with 1931 would be vitiated by the exceptionally high level of unemployment then obtaining.

Port and Canal transport and service (M.L.H. 225, 226)

Port and canal transport and service accounted for 11 per thousand of all occupied males in 1951. The number of persons so engaged had risen by 19 per cent since 1931 to 150 thousand. Males, who predominate in this industry group (98 per cent being males in 1951), increased in numbers by 18 per cent and the small number of females by 46 per cent.

The distribution by industrial status shows that 97·3 per cent of the total were operatives, 2·3 per cent employers and managers and the remaining 0·4 per cent were workers on their own account. The comparable proportions in 1931 were 96·6 per cent as operatives, 1·7 per cent as employers and managers and 1·7 per cent working on their own account. In 1951, 94·2 per cent were classified as male other operatives, an exceptionally high proportion when compared with 57·8 per cent for all industry and 82·3 per cent for all transport and communication.

The regional distribution of those engaged in port and canal transport and service, shows the London and South Eastern and the North Western Regions to be predominant, each having 30 per cent of the total, the Greater London conurbation accounting for 28 per cent and the Merseyside conurbation for 23 per cent. The East and West Ridings Region had 8 per cent of the total (East Riding 7 per cent) and Wales 7 per cent (Glamorganshire 5 per cent).

Nearly half of those in this industry group were dock labourers, whose numbers increased by 5 per cent between 1931 and 1951; the next largest groups were clerks, typists, etc. (8 per cent) whose numbers had risen by 28 per cent, bargemen, boatmen and tugmen (also 8) who had fallen by 20 per cent and wharfingers and stevedores (6 per cent) whose numbers had more than trebled since 1931.

Air Transport (M.L.H. 227)

There were 22,800 persons in the air transport industry in 1951 compared with only 1,400 in 1931, the increase per thousand persons being by far the largest shown in Table 75. Males, who comprised nearly 80 per cent of the total, showed a fourteen fold increase between 1931 and 1951, while the number of females represents a twentyeight fold increase on the 1931 number.

Those classified as operatives accounted for 96·9 per cent of the total, a further 3·0 per cent were employers and managers, and only 0·1 per cent were workers on their own account. Out of the total 0·4 per cent were male apprentices or articled clerks, 0·7 per cent were female part-time workers, 76·0 per cent were male other operatives and 19·8 per cent female other operatives. Between 1931 and 1951 the proportion of operatives increased from 91·4 per cent, that of employers and managers having fallen from 4·7 per cent and of workers on their own account from 3·9 per cent.

The London and South Eastern Region contained 72·4 per cent of those engaged in air transport, the Greater London conurbation accounting for 69·3 per cent. Both the Southern (6·4 per cent) and the South Western (8·1 per cent) also had a higher proportion of those engaged in air transport than of workers in all industry. The Eastern and North Western Regions each accounted for 4 per cent of the total, the five regions mentioned accounting together for 95 per cent of all workers in air transport.

The most numerous occupation groups among those working in the air transport industry were clerks, typists, etc. (25 per cent), aircrew (11 per cent), precision fitters (9 per cent), aerodrome technical staff (5 per cent), labourers (4 per cent), aircraft traffic staff and storekeepers (each 3 per cent).

Postal, Telegraph and Wireless communication (M.L.H. 228)

The number of persons in this industry, 302 thousand, represented 15 per thousand occupied persons. Compared with 1931 there was an increase in numbers of 44 per cent; males, who in 1951 comprised 71 per cent of the total, increased their numbers by 36 per cent while females increased by 64 per cent and accounted for 14 per thousand occupied females, compared with 11 per thousand in 1931.

When those engaged in postal, telegraph and wireless communication are distributed by industrial status it is seen that 94·7 per cent were operatives, 4·0 per cent employers and managers and 1.3 per cent workers on own account. Among the employers and managers three out of eight were females as were five in six of the part-time workers, the workers on own account being fairly evenly divided. Two thirds of the total were male other operatives, and a quarter female other operatives.

The London and South Eastern Region accounted for 40·3 per cent of those in this industry, 34·6 per cent being in the Greater London conurbation and 6·9 per cent in the City of London. The only other regions to have a higher proportion of persons in this industry than in all industry were the Southern and South Western Regions.

Postmen and sorters accounted for 29 per cent of the total number in this industry, clerks for 16 per cent, telephone operators 14 per cent, and workers in electrical communication, skilled electrical workers, linemen, cable jointers, and radio and radar mechanics for 15 per cent, this last group having increased their numbers by more than 180 per cent since 1931. The number of telephone operators more than doubled between 1931 and 1951 while postmen, sorters, and managers, directors, foremen and supervisors in communications all showed considerable increases. Telegraphists (not radio) on the other hand were reduced by half since 1931.

Distributive Trades (Order XX)

The number of persons engaged in the distributive trades in 1951 was little different from that in 1931, at a little over 2,400,000. The proportion of all occupied persons in this industry consequently fell from 14 per cent in 1931 to 12 per cent in 1951. This stability in the number of persons is not reflected in the numbers of males and females, the number of males having decreased by 16 per cent and the number of females having increased by 36 per cent. Females now comprise 43 per cent of those engaged in the distributive trades compared with 31 per cent in 1931.

Compared with the geographical distribution for all industries that for the distributive trades shows a concentration in the London and South Eastern Region and smaller than average percentages in the Midland and North Midland Regions, the percentages in the other regions differing only slightly from those for all industries. Among the counties, London (16·0 per cent), Lancashire (13.2 per cent), Yorkshire, West Riding (7·9 per cent), Warwickshire (4·1 per cent) and Middlesex (4·1 per cent) had the largest numbers.

Table 84.—Distributive Trades

England and Wales, Regions, Conurbations and selected areas

Area	I-XXIV All Industries	XX Distributive trades	240 Dealing in coal, builders' materials, etc.	241 Dealing in other industrial materials	242 Wholesale distribution of food and drink	243 Retail distribution of food and drink	244 Wholesale distribution of non-food goods	245 Retail distribution of non-food goods
England and Wales—Total	**19,940,024**	**2,401,289**	**160,346**	**120,059**	**150,726**	**696,497**	**260,199**	**913,217**
Percentage distribution by Area								
Regions of England, Wales								
Northern	6·6	6·2	5·4	4·3	5·1	7·0	3·7	7·0
East and West Ridings	9·5	9·1	8·8	12·4	9·0	9·4	7·5	9·0
North Western	15·4	15·6	14·8	16·5	16·0	15·3	18·0	14·9
North Midland	7·7	6·8	7·3	5·7	7·7	7·5	4·8	6·9
Midland	10·7	8·8	9·1	8·7	7·2	9·7	8·1	8·7
Eastern	6·3	6·1	8·5	5·0	5·4	6·9	3·6	6·1
London and South Eastern	26·5	30·5	26·4	35·4	35·6	25·3	43·5	30·0
Southern	5·7	5·5	6·7	3·7	3·9	6·2	3·3	5·9
South Western	6·4	6·4	7·8	4·8	5·8	6·9	4·6	6·8
Wales (including Monmouthshire)	5·2	5·0	5·2	3·5	4·3	5·8	2·9	4·7
Conurbations								
Greater London	21·5	25·0	19·9	31·6	31·7	18·6	40·7	24·3
South East Lancashire	6·2	6·8	5·6	7·8	6·1	5·9	12·3	6·0
West Midlands	5·6	4·9	4·6	6·0	4·2	5·1	5·6	4·7
West Yorkshire	4·2	4·2	3·8	8·2	3·4	3·9	4·7	4·1
Merseyside	3·0	3·6	3·2	5·0	5·0	3·3	3·0	3·5
Tyneside	1·8	2·2	1·9	1·7	2·5	2·1	2·0	2·4
Counties (A.Cs. with associated C.Bs.)								
Cheshire	2·6	2·3	2·7	1·6	1·3	2·8	1·5	2·3
Devon	1·6	1·8	2·2	1·0	1·4	1·9	1·1	2·0
Durham	2·9	2·5	1·9	1·8	1·5	3·1	1·0	2·9
Essex	3·5	3·8	4·8	3·9	2·1	4·3	2·5	3·8
Gloucestershire	2·1	2·2	2·6	2·3	2·4	2·1	2·3	2·1
Kent	2·8	3·1	3·4	2·0	2·1	3·7	1·6	3·2
Lancashire	12·6	13·2	12·0	14·9	14·7	12·4	16·5	12·5
Liverpool C.B.	*2·0*	*2·5*	*2·3*	*3·6*	*4·5*	*2·0*	*2·3*	*2·5*
Manchester C.B.	*2·1*	*3·4*	*2·1*	*3·6*	*3·7*	*1·9*	*9·8*	*2·9*
Lincolnshire (Parts of Lindsey)	1·0	1·1	1·3	0·6	2·8	1·1	0·5	1·0
Grimsby C.B.	*0·2*	*0·4*	*0·4*	*0·3*	*2·1*	*0·3*	*0·2*	*0·3*
London	12·8	16·0	10·7	24·0	26·9	8·4	34·9	14·9
City of London	*1·7*	*2·5*	*1·7*	*6·6*	*8·3*	*0·3*	*10·8*	*0·5*
St. Marylebone Met. B.	*0·7*	*1·3*	*0·2*	*0·5*	*0·7*	*0·3*	*2·8*	*2·1*
Stepney Met. B.	*0·5*	*0·7*	*0·7*	*1·0*	*3·1*	*0·3*	*1·5*	*0·4*
Westminster Met. B.	*2·3*	*2·5*	*0·9*	*2·4*	*4·0*	*0·5*	*7·1*	*2·9*
Middlesex	4·3	4·1	3·7	3·5	2·6	4·7	3·0	4·0
Northumberland	1·8	2·1	1·8	1·5	2·4	2·0	1·9	2·4
Southampton	2·6	2·7	3·0	1·6	1·9	2·9	1·6	3·0
Staffordshire	3·8	2·9	3·2	3·1	2·1	3·6	1·6	2·9
Surrey	2·7	3·1	3·6	2·2	1·6	3·5	1·5	3·4
Warwickshire	4·8	4·1	3·6	4·0	3·7	4·1	5·3	4·0
Birmingham C.B.	*3·1*	*2·9*	*2·3*	*3·1*	*3·0*	*2·6*	*4·4*	*2·7*
Yorkshire—								
East Riding	1·0	1·2	1·4	1·2	3·0	1·3	0·9	1·0
Kingston upon Hull C.B.	*0·7*	*0·9*	*0·9*	*1·0*	*2·7*	*0·8*	*0·6*	*0·8*
West Riding	8 4	7·9	7·4	11·1	5·9	8·2	6·7	8·0
Bradford C.B.	*0·8*	*1·0*	*0·7*	*4·1*	*0·7*	*0·7*	*1·2*	*0·9*
Leeds C.B.	*1·3*	*1·5*	*1·4*	*1·4*	*1·4*	*1·2*	*2·5*	*1·6*
Glamorganshire	2·4	2·4	2·4	1·8	2·1	2·8	1·9	2·4
Remainder	26·3	23·5	28·3	17·9	19·5	27·1	13·7	24·2

Among persons engaged in the distributive trades 14·5 per cent were classified as employers and managers, 71·4 per cent as operatives, and 14·1 per cent as working on their own account. Since 1931 the percentage working on their own account had fallen while the percentages of operatives, employers and managers had increased, reflecting a reduction in the number of one person businesses. Among the employers and managers, males accounted for five out of every six, and five out of every seven working on their own account were males; on the other hand nearly all the 5·4 per cent part-time workers were females as were nearly all the unpaid assistants.

The principal occupation groups found in the distributive trades are shop assistants and sales staff who account for 32 per cent of all those occupied, owners of retail businesses (22 per cent), clerks, typists, etc. (12 per cent), roundsmen, van salesmen and coal carmen (4 per cent), owners of wholesale businesses (4 per cent) and drivers of goods vehicles and their mates (4 per cent). A comparison of the occupation structure of the distributive trades in 1931 and 1951 does not show any large changes. The number of drivers of goods vehicles has risen from around 60 thousand to 75 thousand, owners, etc., of wholesale businesses from 71 thousand to 94 thousand and of roundsmen, van salesmen and coal carmen from under 60 thousand to 97 thousand, the last reflecting the increase of sales, particularly of food goods, from delivery vans. The replacement of the horse drawn van by the motor driven vehicle is reflected in the decrease in numbers of drivers of horse drawn vehicles, in this industrial order, from 33 to 1 thousand. There have been decreases in

the numbers of commercial travellers and canvassers (whose numbers have fallen by 10 thousand to 57 thousand), owners of retail businesses and shop assistants (both these latter groups showing proportionately small decreases), and a proportionately larger fall in the number of costermongers and hawkers who in 1951 numbered 31 thousand which was only half the number enumerated in 1931.

Insurance, Banking and Finance (Order XXI)

The number of persons engaged in insurance, banking and finance was 402,504, which represented an increase of 20 per cent since 1931, that is the same percentage increase as occurred among those engaged in all industries. Most of this increase was due to the growth in the number of females by 88 per cent from 74 thousand to 139 thousand, while the number of males increased by less than a thousand. Females in insurance, banking and finance accounted for 23 per thousand of all occupied women compared with 14 per thousand in 1931.

The geographical distribution of this industry indicates the predominant position of London; the London and South Eastern Region having over half the total number in this industry, London A.C. alone accounting for 40 per cent. Apart from the London area there were concentrations in Lancashire (10·6 per cent) and Yorkshire, West Riding (5·7 per cent).

Of those engaged in insurance, banking and finance 89·0 per cent were classified as operatives, 9·4 per cent as employers and managers, and 1·6 per cent as working on their own account. These proportions represent a decrease since 1931 in the percentage of employers and managers (then 11·0 per cent) and of those working on their own account (then 2·5 per cent) and a corresponding increase in the percentage of operatives (then 86·5 per cent). Almost all the employers

Table 85.—Insurance, Banking and Finance; Public Administration and Defence; Professional Services — **England and Wales, Regions, Conurbations and selected areas**

XXI Insurance, banking and finance	Area	I-XXIV All Industries	XXII Public administration and defence	260 National government service	XXIII Professional services
402,504	**England and Wales—Total**	19,940,024	1,573,871	1,027,372	1,359,214
	Percentage distribution by Area				
	Regions of England, Wales				
4·1	Northern	6·6	6·5	6·4	5·7
6·4	East and West Ridings	9·5	5·7	3·8	7·9
12·1	North Western	15·4	10·5	8·4	12·9
4·1	North Midland	7·7	6·5	6·3	5·9
6·3	Midland	10·7	8·0	7·8	8·4
4·2	Eastern	6·3	7·4	7·6	6·8
50·8	London and South Eastern	26·5	26·9	25·7	34·0
4·0	Southern	5·7	12·9	16·8	6·4
4·6	South Western	6·4	10·8	13·0	6·9
3·4	Wales (including Monmouthshire)	5·2	4·8	4·2	5·1
	Conurbations				
46·4	Greater London	21·5	20·1	18·9	26·9
5·5	South East Lancashire	6·2	3·1	2·2	5·0
3·7	West Midlands	5·6	2·1	1·2	4·2
3·2	West Yorkshire	4·2	2·0	1·0	3·5
3·4	Merseyside	3·0	2·2	1·5	3·0
1·6	Tyneside	1·8	1·7	1·6	1·8
	Counties (A.Cs. with associated C.Bs.)				
0·7	Berkshire	0·9	1·8	2·4	1·1
1·4	Cheshire	2·6	2·3	2·1	2·1
1·4	Devon	1·6	2·9	3·5	1·8
0·4	*Plymouth C.B.*	*0·5*	*1·7*	*2·3*	*0·4*
1·3	Durham	2·9	1·8	1·1	2·4
2·0	Essex	3·5	3·1	2·3	3·7
1·7	Gloucestershire	2·1	2·1	2·1	2·3
2·0	Kent	2·8	4·1	4·5	3·5
10·6	Lancashire	12·6	8·1	6·2	10·7
2·8	*Liverpool C.B.*	*2·0*	*1·3*	*0·8*	*2·1*
3·7	*Manchester C.B.*	*2·1*	*1·1*	*0·8*	*2·3*
39·9	London	12·8	12·9	13·4	17·3
23·4	*City of London*	*1·7*	*0·5*	*0·5*	*2·4*
5·4	*Westminster Met. B.*	*2·3*	*5·2*	*7·1*	*3·4*
2·9	Middlesex	4·3	3·8	3·5	4·2
1·2	Nottinghamshire	2·0	2·0	2·2	1·5
0·4	Shropshire	0·7	1·9	2·5	0·6
2·0	Southampton	2·6	7·4	9·9	2·5
0·4	*Portsmouth C.B.*	*0·5*	*1·9*	*2·6*	*0·5*
1·6	Staffordshire	3·8	2·3	2·0	2·6
2·9	Surrey	2·7	3·0	2·7	4·3
3·6	Warwickshire	4·8	2·5	1·9	3·9
2·8	*Birmingham C.B.*	*3·1*	*1·3*	*0·8*	*2·6*
0·4	Wiltshire	0·9	3·3	4·6	0·7
	Yorkshire—				
0·6	North Riding	1·1	2·3	2·9	0·9
5·7	West Riding	8·4	4·8	3·1	6·9
1·7	Glamorganshire	2·4	2·2	1·8	2·4
16·0	Remainder	24·5	25·4	25·3	24·6

and managers were males, who also formed 64 per cent of other operatives, of the part-time workers only 12 per cent were males.

Of the main occupations the most numerous is the group of clerks (including costing and accounting clerks) and office machine operators who accounted for 42 per cent, other important occupations being insurance brokers, agents and canvassers who formed 15 per cent of the total, typists, shorthand typists and secretaries (11 per cent), insurance managers and underwriters (6 per cent), bankers, bank managers and inspectors (4 per cent) and auctioneers, estate agents and valuers (3 per cent). Apart from the considerable increases in the numbers of clerks, typists, caretakers and office cleaners, which accounted for most of the numerical increase in this order, there were small increases in the numbers of bankers, bank managers and inspectors and also in numbers of insurance agents, brokers and canvassers. This compares with decreases, also small, among stockbrokers and jobbers, and auctioneers, estate agents and valuers. Precise comparison between 1951 and 1931 is not possible.

National Government Service (M.L.H. 260)

The number of persons engaged in national government service, 1,027,372, was nearly three times the number so engaged in 1931 and accounted for 5 per cent of all persons in industry compared with 2 per cent in 1931. During this interval the number of males increased from 316 thousand to 866 thousand, accounting for 6 per cent of all occupied males, while the number of females increased from 31 thousand to 161 thousand, that is 26 per thousand of all occupied females compared with 6 per thousand in 1931.

The geographical distribution shows concentrations in the London and South Eastern Region (25·7 per cent), Southern Region (16·8 per cent) and South Western Region (13·0 per cent). The relatively large percentages in the Southern and South Western Regions were mainly due to concentrations of armed forces in those areas. Among the counties, London with 13·4 per cent (Westminster Met. B. accounting for 7·1 per cent), Southampton (9·9 per cent), Lancashire (6·2 per cent), Kent (4·5 per cent) and Wiltshire (4·6 per cent) had the largest numbers.

As this industry consists almost entirely of the armed forces and the civil service to which it was decided to assign operative status as in 1931, practically all the persons in the industry were classified as operatives, in 1951 as in 1931.

Those in national government service are in two main groups, the armed forces and the civil service. The number in the armed forces, 522 thousand, amounted to just over half of those in this industry. Of this number the Royal Navy had 91 thousand, the Army 244 thousand and the Royal Air Force 188 thousand. All the armed forces show large increases since 1931, numbers in the Royal Navy having increased by 59 per cent, and in the Army by 140 per cent, while the Royal Air Force had grown to nearly eight and a half times its size in 1931. The other main group is composed of civil servants. Included in this group were 10 thousand civil service higher officers, 56 thousand executive officers, 180 thousand clerks (including costing and accounting clerks) and office machine operators and 26 thousand typists. Although exact comparison is not possible with 1931 figures the number of civil service higher and executive officers appears to have rather more than trebled since 1931.

Local Government Service (M.L.H. 265)

The number of persons engaged in local government service increased from 478 thousand to 546 thousand between 1931 and 1951, an increase of 14 per cent. Males, forming 84 per cent of those engaged, only increased their numbers by 3 per cent and the proportion of all occupied males engaged in local government service consequently fell from 39 to 33 per thousand. In contrast, the number of females increased by 167 per cent, from 32 thousand in 1931 to 86 thousand in 1951.

Nearly all those in this industry were classified as operatives, the only exceptions being the 0·7 per cent classified as employers and managers compared with the 0·4 per cent so classified in 1931.

Numerically the most important occupation group in local government service was "other" workers in building and contracting (mainly occupations such as navvies, local authority labourers and highway and road making labourers) who accounted for 15 per cent of the total; other numerically important occupations included clerks (including costing and accounting clerks) and office machine operators (11 per cent), policemen of all ranks (12 per cent), local authority executive and administrative officers (4 per cent), drivers of goods vehicles (3 per cent), typists (3 per cent), gardeners (3 per cent), office cleaners (2 per cent), librarians (2 per cent), and unskilled workers (9 per cent). Comparisons with 1931 are not possible.

Education (M.L.H. 271)

There was an increase of 27 per cent between 1931 and 1951 in the number of persons engaged in education, an increase which was more pronounced among the males whose numbers rose by 46 per cent than among the females whose numbers increased by only 17 per cent. Of the total of 461 thousand, 62 per cent were females compared with 67 per cent in 1931 and they accounted for 46 of every thousand females in all occupations, compared with 48 per thousand in 1931.

The status distribution of persons engaged in education shows that 91·2 per cent were classified as operatives, 6·4 per cent as employers or managers, and 2·4 per cent as working on their own account, and a comparison with 1931 indicates that while the proportion of operatives has remained practically unchanged, the proportion of employers and managers has risen from 1·6 per cent (mainly as the result of classifying headmasters as managers in 1951 though they were not so classified in 1931), while that of those working on their own account has fallen from 7·1 per cent. The more detailed status classification used in 1951 shows that 9·2 per cent of persons engaged in education were part-time workers, of whom nearly all were females, and also that three out of every four working on their own account were females.

The regional distribution of those engaged in education is partly determined by urbanisation and partly by the location of the larger centres, e.g. public schools and universities. The number of workers engaged in education per thousand resident population was highest in the Southern Region (12·8) and Eastern Region (11·9). High rates were shown also for London and South Eastern (11·1), South Western (11·0) and Wales (10·9). Lower values were given for the Midland (10·1), Northern (9·8), East and West Ridings (9·7) Regions, and the North Midland and North Western Regions gave ratios of 9·6. It will be seen that apart from the two highest values the range of variation is not wide.

As expected, the main occupation among those engaged in education was teaching, which accounted for two thirds of the total, most of the remainder being in ancillary occupations such as caretakers, cleaners, domestic servants and clerks and typists. The number of teachers rose by only 10 per cent between 1931 and 1951, but this is the net effect of a decline in numbers of music teachers from 22 thousand to 11 thousand (largely accounting for the fall in the proportion of own account workers noted above) and an increase from 255 thousand to 294 thousand in other teachers.

Medical and Dental services (M.L.H. 273)

Between 1931 and 1951 there was an increase of 91 per cent in the number of persons engaged in medical and dental services, who numbered 562 thousand compared with 294 thousand in 1931. The number of males increased by 84 per cent to 179 thousand and comprised 32 per cent of all persons engaged in medical and dental services in 1951. The number of females was 383 thousand, accounting for 62 of every thousand occupied females compared with 38 per thousand in 1931.

The classification according to industrial status shows 91·8 per cent to be operatives compared with 82·3 per cent in 1931. The proportion of workers on their own account was 5·0 per cent compared with 14·0 per cent in 1931 and there was a slight decrease in the percentage classified as employers and managers from 3·7 per cent in 1931 to 3·2 per cent. Nearly 60 per cent of the employers and managers were males as were three quarters of those working on their own account, but on the other hand practically all the part-time workers were females as were 70 per cent of those classified as other operatives.

When compared with the regional distribution for all industries that for those engaged in medical and dental services had a rather higher percentage in the London and South Eastern Region (33·0 per cent compared with 26·5 per cent) and slightly higher percentages in the Eastern, Southern, and South Western Regions, with correspondingly lower percentages in the regions comprising the northern and midland areas of England, and for Wales.

Among the occupations found among those engaged in medical and dental services the most numerous were nurses of all kinds forming 37 per cent of the total, of whom 65 per cent were trained nurses and midwives and 23 per cent were student nurses. The number of nurses shows an increase of 61 per cent since 1931. Medical practitioners, who comprised 7 per cent of the total, increased by 51 per cent between 1931 and 1951 while during the same period the number of dental practitioners increased by less than 2 per cent. Medical auxiliaries of all kinds, accounting for rather over 5 per cent of the total, more than doubled their numbers between 1931 and 1951. Other important occupations included cooks, kitchen workers and other domestic servants (12 per cent), hospital or ward orderlies (7 per cent) and dental mechanics, clerks, typists and secretaries, and others in personal service (including doctors' and dentists' receptionists).

Entertainment and Sport (M.L.H. 280, 281)

The number of persons engaged in entertainment and sport was 198 thousand representing an increase of 37 per cent since 1931. Of this total 54 per cent were males, whose numbers had increased by 10 per cent since 1931, while the number of females rose by 96 per cent during the same period so that in 1951 they accounted for 15 out of every thousand occupied females compared with 9 per thousand in 1931.

Among persons in entertainment and sport, 83·1 per cent were classified as operatives, 7·7 per cent as employers and managers, and 9·2 per cent as workers on their own account. Since 1931 there had been a reduction in the percentage of employers and managers from 9·1 per cent and of those working on their own account from 11·5 per cent, together with a corresponding increase in the proportion of operatives from 79·4 per cent. Nearly 90 per cent of the employers and managers and three quarters of those working on their own account were males who also outnumbered females by 6 per cent among the 73·5 per cent classified as "other" operatives; on the other hand more than 90 per cent of the part-time workers were females.

The regional distribution of persons in entertainment and sport shows 36·4 per cent in the London and South Eastern Region and 20·6 per cent in the North Western Region, these two regions accounting for 57 per cent of the persons in entertainment and sport compared with 42 per cent in all industries. All the other regions, and Wales, had proportionately fewer persons in entertainment and sport than in all industries.

There were a large number of occupations among those in entertainment and sport. The largest occupation groups included clerks (including costing and accounting clerks) who accounted for 14 per cent of the total, others in personal service (such as cinema and theatre attendants and usherettes) accounting for 12 per cent, charwomen (7 per cent), cinematograph operators (6 per cent) and actors and actresses, musicians, and bookmakers, each of these groups containing 5 per cent of the total. One of the features shown up by the comparison of the occupation distribution of persons in entertainment and sport with its counterpart in 1931 is the decline in some of the live entertainments. The number of musicians had fallen by 48 per cent since 1931 to under 11 thousand, and the number of actors, variety artists, etc., decreased by 38 per cent to almost the same number. The number of cinematograph operators changed little but bookmakers increased in number by 6 per cent, while the number of fairmen and showmen rose by 84 per cent. Most of the numerical increase among persons engaged in entertainment and sport was due to the large increases in the numbers in occupations such as clerks, whose numbers rose from 7 thousand in 1931 to 27 thousand in 1951, typists, whose numbers rose from 3 thousand to nearly 8 thousand, cleaners, who increased from 6 thousand to 14 thousand, and to a lesser extent the increase among others in personal service from under 20 thousand to 23 thousand.

Catering, Hotels, etc. (M.L.H. 285)

The number of persons engaged in catering and hotels increased by 44 per cent between 1931 and 1951 to 807 thousand. This increase was concentrated among females whose numbers rose by 73 per cent and who accounted for 70 per cent of all persons in catering and hotels compared with 58 per cent in 1931. Of every thousand females occupied in all industries 91 were in catering and hotels against 64 per thousand in 1931, but the proportion of all occupied males who were engaged in catering and hotels decreased from 20 per thousand to 18.

Among persons in catering and hotels 73·7 per cent were classified as operatives, 13·3 per cent as employers and managers and the remaining 13·0 per cent were working on their own account. These proportions showed an increase in the percentage of operatives from 63·1 per cent in 1931, most of this increase apparently coming from those working on their own account who then accounted for 21·5 per cent and the remainder from employers and managers with 15·4 per cent in 1931. A little over half of both employers and managers and those working on their own account were males, but nearly three quarters of operatives and practically all the 14·2 per cent part-time workers were females.

The regional distribution of persons engaged in catering and hotels shows that 33·0 per cent were in the London and South Eastern Region, compared with 26·5 per cent of the persons engaged in all industries. The Southern and South Western Regions also had higher percentages of those in catering and hotels than of persons in all industries. After the London and South Eastern Region, the North Western Region (14·2 per cent) and the Midland Region (8·8 per cent) accounted for the largest numbers in this industry.

A comparison of the distributions by occupation in 1931 and 1951 shows that 10 per cent of the total were managers and proprietors of restaurants, their number having risen by over 80 per cent since 1931, while the number of proprietors and managers of hotels, publicans, innkeepers and

beersellers combined had remained practically unchanged at 87 thousand. In contrast, lodging and boarding house keepers, with 5 per cent of the total, showed a decrease in numbers of 45 per cent since 1931. This reduction was partly due to the change in the definition of a boarding house, which in 1951 limited this description to households of more than 10 persons, there being no such limit in 1931. It is noticeable that the number of males occupied as lodging and boarding house keepers actually increased between the two census dates. Waiters and waitresses, comprising 11 per cent of the total, showed an increase in numbers of 9 per cent between 1931 and 1951, but the number of barmen and barmaids was less than three quarters of the number so occupied in 1931, while counter hands in restaurants increased by 92 per cent. The most numerous occupations among those in catering and hotels were kitchen hands who numbered 170 thousand (21 per cent) and chefs and cooks at 94 thousand who together made up most of the 307 thousand indoor domestic servants in catering and hotels in 1951, compared with the 133 thousand so engaged in 1931.

Laundries, Dry Cleaning (M.L.H. 286, 287)

There was a slight increase in the number of persons in laundries and dry cleaning between 1931, when they numbered 155 thousand, and 1951, when the total stood at 157 thousand of whom three quarters were females. The number of females decreased slightly during this period while the number of males rose by 14 per cent.

Among persons working in laundries and dry cleaning 89·8 per cent were operatives, 8·6 per cent were employers or managers, and only 1·6 per cent were workers on their own account compared with 4·5 per cent so classified in 1931. During the period 1931 to 1951 the percentage of employers and managers had risen from 5·2 per cent and that of operatives had fallen a little from 90·3 per cent. Females were in a majority in all the status groups apart from those working on their own account, in which group there were 1,479 males and 1,095 females; otherwise 74 per cent of the "other" operatives, 63 per cent of the employers and managers and nearly all the part-time workers were females.

Rather more than half those engaged in laundries and dry cleaning were laundry workers and a further 11 per cent were dry cleaners or carpet cleaners. These two occupations together contained 107 thousand persons, which represented a decrease of 13 per cent compared with 1931.

Hairdressing and Manicure (M.L.H. 288)

There was between 1931 and 1951 an increase of 3 per cent in the number of persons engaged in hairdressing and manicure. This small increase in the number of persons was the residual of much larger changes in the numbers of males and females, the number of males decreasing by 25 per cent to 35 thousand while the number of females increased by 42 per cent to 47 thousand. Whereas in 1931 males accounted for 58 per cent of the total engaged in hairdressing and manicure, in 1951 it was the females who comprised 58 per cent of the total.

There was a relatively high proportion of persons working on their own account, who comprised 31·0 per cent of all persons, while operatives accounted for 57·8 per cent and employers and managers for the remaining 11·2 per cent, a distribution reflecting the usually small establishments found in this trade. Between 1931 and 1951 the proportion of employers and managers decreased as did the proportion of operatives while the proportion working on their own account rose from 28·2 per cent. In 1951, nearly 60 per cent of both employers and managers and of those working on their own account were males, whereas 70 per cent of the operatives were females, a difference accounted for by women's hairdressing establishments being in general larger than those for men. All but 4 per cent of those in this industry group were barbers, hairdressers or manicurists.

Private Domestic service (M.L.H. 290, 291)

There was a marked fall in the number of persons engaged in private domestic service from 1,381,047 to 453,753, that is by 67 per cent. The decline was a little greater among the females than the males, there being a 68 per cent decrease among females compared with a 64 per cent decrease for males. The proportion of the total occupied population engaged in private domestic service declined from 8 per cent in 1931 to 2 per cent in 1951 and whereas 22 per cent of all occupied females were thus engaged in 1931, by 1951 the proportion had fallen to 6 per cent. Females accounted for 79 per cent of the total in this industry in 1951 compared with 81 per cent in 1931.

As would be expected 98 per cent of those in private domestic service were classified as operatives, the remaining 2 per cent being mainly workers on their own account; there were only 82 persons working in the industry with the status of employer. Part-time workers, nearly all of them females, comprised 16·1 per cent of the total.

The largest occupation groups among those engaged in private domestic service were "other" indoor domestic servants (including occupations such as butler, companion, home help, housekeeper, and footman) who accounted for 63 per cent of the total, gardeners (15 per cent) and chefs and cooks (8 per cent). Between 1931 and 1951 the number of indoor domestic servants had decreased from 1,178 thousand to 345 thousand, a fall of 71 per cent, while the number classified as gardeners had been reduced by nearly 50 per cent.

The One per cent Sample Tabulations

As in the case of the occupational distribution (see p. 169) a comparison was made between the numbers of persons shown in the One per cent Sample in each industry group (Minimum List Heading) and 1/100th of the corresponding main census figure. The deviations were standardised in the same way as described on p. 169 substituting the word "industry" for "occupation".

The results were not as satisfactory as in the case of occupations. The distribution of the standardised differences proved to be flatter than a Normal distribution and more extended. In 25 per cent of groups the differences exceeded twice the standard error and in 11 per cent they exceeded three standard errors. In the 10 industries named below the differences were in excess of 4 standard errors.

M.L.H.	Industry	Final Census Total	1% Sample	$b-\left(\frac{a}{100}\right)$	$\frac{c}{\sqrt{\frac{a}{100}}}$
		a	b	c	d
36	Mineral oil refining	22,099	31,6	95	6·4
40	Blast furnaces	14,493	24,8	103	8·6
80	Manufacture of motor vehicles and cycles	290,492	321,8	313	5·8
81	Motor repairers and garages	233,360	194,2	−392	—8·3
82	Manufacture and repair of aircraft	157,223	140,8	−164	−4·1
170	Timber	60,365	50,0	−104	−4·2
202	Civil engineering contracting	125,295	142,5	172	4·9
241	Dealing in other industrial materials	120,059	145,0	249	7·2
265	Local government service	546,499	587,2	407	5·5
285	Catering, hotels, etc.	807,213	746,4	−608	−6·8

Many possible sources of these discrepancies have been tested, including the improvement factor referred to on p. 169 in respect of coding, but only partial explanation can be offered. With regard to mineral oil refining it can be said that employment in the production and distribution sectors, the former only being in M.L.H. 36, cannot be clearly distinguished in the census records and assignments in the sample and final coding processes were in fact different. There is a similar difficulty in relation to timber; employees of timber dealers should be assigned to M.L.H. 241 and not M.L.H. 170. In motor engineering there is the difficulty of separating manufacture from repair and the discrepancies for M.L.Hs. 80 and 81 are almost compensating in absolute numbers. The aircraft industry is a relatively new and expanding one covering many occupations common to other industries and attachment to it may not have always been clear at the sample stage. As a result of experience it is probable that at the main coding stage there was a more complete exclusion from local government of workers directly employed by a local authority in some production process more properly assigned to another industry. The sample deficiency for the catering industry may possibly be due to the exclusion of the staff of industrial and office canteens; an exclusion which was reversed at the main coding stage. The remaining differences remain as unexplained as they were unexpected.

It will, of course, be borne in mind that many differences though large in relation to expected sampling error are unimportant in relation to the practical use of the sample figures. Moreover, coding processes of this degree of complexity are not wholly infallible and reproducible and there is therefore no clear distinction between the main and sample figures as between "right" and "wrong" though the former must be regarded as the more reliable. The sample figures did not on the whole give a seriously distorted picture of the industrial distribution of labour.

CHAPTER X

USUAL RESIDENCE AND WORKPLACE

Tabulations derived from the census question as to the usual residence of persons not enumerated at their homes and tabulations of the location of workplaces in relation to usual residence are published in the *Census 1951, England and Wales, Report on Usual Residence and Workplace*. The Report contains a full commentary on the figures.

Usual Residence

The census question on usual residence asked the householder or other person completing the schedule to describe as a visitor anyone who had a more usual residence elsewhere, and also stated that persons enumerated at a hotel, club, hostel, boarding-house etc., at which they had a settled residence, without a more usual place of residence elsewhere should be described as Residents or Boarders, but not as Visitors. The census question in 1951 was in similar terms to those used in 1931.

Just over 1,000,000 persons in England and Wales stated that their usual residence was outside the borough, urban or rural district in which they were enumerated, and they comprised 2·3 per cent of the total enumerated population compared with 2·1 per cent in 1931. Visitors from outside England and Wales numbered 108,000, which was 0·25 per cent of the enumerated population, compared with 0·19 per cent in 1931. Of these visitors from outside England and Wales, 24,000 were enumerated in the County of London and smaller concentrations were found in some ports and business centres. Just over a quarter of the visitors to England and Wales came from Scotland, one tenth from Ireland, and nearly a quarter from Europe (the greatest proportions being from France and Germany). The United States of America accounted for 7 per cent, and Canada for 5 per cent; 10 per cent came from Africa, 8 per cent from Asia and 8 per cent from Australasia.

Visitors from other parts of the British Isles formed the greatest proportion of all visitors in the regions closer to those areas and the influence of passenger shipping and seamen in determining the visitor content in port areas was reflected by the high proportion of Indians in the North Western Region, of other Asians in the London and South Eastern and Eastern Regions, and of visitors from Australasia in the London and South Eastern and South Western Regions. The age and sex distribution of visitors to England and Wales shows that 56·2 per cent were males, and that 63·1 per cent were between the ages of 15 and 44.

The tables on usual residence also show the extent to which the persons enumerated and persons resident differed in various areas. Over large areas the differences tend naturally to be rather small because so much movement is within the larger unit even though it crosses the boundaries of smaller constituent areas. Among local authority areas, the differences between the number enumerated and those resident were relatively very small for the great majority of areas. Among areas with relatively large deficiencies in the resident as compared with enumerated populations were the administrative counties of the Isle of Wight, Merionethshire, Cornwall, Norfolk and Devon which include holiday resorts favoured in the spring, as well as institutions and hospitals with patients resident elsewhere and coastal ports with visiting seamen. Apart from these areas, many other resorts had relatively large numbers of visitors, notably Bournemouth, Hastings, Blackpool, Southport and Eastbourne county boroughs. Generally the more important deficiencies found in resident as compared with enumerated population were due to the presence of hospitals and institutions, defence or communal establishments where many persons were present on census night though claiming a usual residence elsewhere.

Areas where resident population exceeded the enumerated population by relatively large numbers included those with residential schools and colleges from which large numbers of students were absent on vacation at census day. There were also a large number of areas with defence establishments from which persons were absent at sea, or on leave, on census night.

On the whole, apart from the towns with very large service establishments, it was only areas with comparatively small populations having schools, institutions, hotels, or camps, which showed relatively large differences between resident and enumerated populations.

Workplace

The 1951 census question on the location of place of work of the gainfully employed was similar to that asked at the 1921 Census, although in 1951 the information was related to the area of usual residence and not, as in 1921, to the area of enumeration.

The published tables show for every borough and county district how many persons resident in that area had a workplace in another area, and vice versa. This enables comparisons to be made between the day and night population in each area. The tables also give some indication of journey to work in so far as this involves crossing local authority boundaries. Differences between place of residence and place of work within the same local authority area are not revealed; the larger the extent of the local authority area, the greater the possibilities for such concealed movement. On the other hand in large built up areas comprising several local authorities or for small towns surrounded by rural areas a considerable quantity of very short distance movement was included due to the crossing of local authority boundaries. Nevertheless the workplace statistics, while misleading in some instances, do illustrate the extent to which local authority boundaries enclose populations whose economic activity is identified with that area.

Generally speaking, the towns had more jobs than resident workers and the more open areas had more resident workers than jobs; i.e. on balance the towns import labour during the day from surrounding rural areas. In those regions which are divided into conurbations and areas outside the conurbations, there was an inward balance of workers in all the conurbations apart from Merseyside, and outward balances in all the remainder areas. In the aggregates of areas outside conurbations the larger towns as a group had inward balances while some smaller urban areas and many of the rural districts had outward balances of workers.

There was however considerable movement to work within the conurbations. In Greater London, the City and six central metropolitan boroughs had a day population of 1,500,000 against a resident population of 500,000, or nearly three times as great, whereas in 1921 the day population of this area was only twice as great as the resident population. The City itself had a day population of 340,000 compared with a resident total of only 5,000. In Manchester, at the centre of the South East Lancashire conurbation, the day population exceeded the resident population by 74,000 (11 per cent).

Areas outside the conurbations showing considerable differences between working population and resident population include Derby C.B. with 33,000 excess (23 per cent), Oxford C.B. with nearly 15,000 and Doncaster C.B. with nearly 10,000. These three areas, together with Chester, were the only county boroughs outside the conurbations with a day population exceeding the night population by more than 10 per cent of the latter. These movements were much greater when related to the enumerated occupied population; the data show that Derby, for example, provided 148 jobs for every 100 resident workers.

Among the smaller authorities outside conurbations there are 24 areas where the day population was more than 20 per cent greater than the night population, and the total of inward and outward movements exceeded 1,000. There are 102 local authority areas where day population exceeded the night population by more than 10 per cent, and others where the inward balance was considerable, though not amounting to 10 per cent of the resident population.

Among county boroughs outside conurbations there was none with its day population less than its night population by as much as 10 per cent. Among the county districts there were 41 whose net outward movement was more than 20 per cent of the night population and whose total movement exceeded 1,000; of these 19 were adjacent to county boroughs. The concentrated day population in any industrial or commercial centre is at night distributed over a large number of dormitory areas so that the number of local authorities with outward balances of workplace movement greatly exceeded the number of areas with inward balances.

CHAPTER XI

CONURBATIONS

The term "conurbation" is used in the 1951 Census Reports as a convenient description of a large urban community produced when the areas of towns have spread beyond their administrative boundaries and merged into a large urban agglomeration. Greater London has been recognised as such an area for statistical purposes for nearly a century, but only in 1950 were steps taken to

agree on the boundaries of five other such areas, in order to facilitate the presentation of official statistics; these areas were South East Lancashire, West Midlands, West Yorkshire, Merseyside and Tyneside.

To enable useful statistical analyses to be made, arrangements were made to split up each of the areas into a number of divisions and sub-divisions which were designed to be as far as possible homogeneous in respect of age of housing and type of development.

Tabulations for these six conurbations and their divisions and sub-divisions are presented in the *Census 1951, England and Wales, Report on Greater London and Five Other Conurbations.* Each conurbation is treated in the main tables of the Report in much the same way as are the counties in the County Reports. The more detailed treatment of the whole conurbation compared with its divisions and sub-divisions is similar to the greater detail given in the County Reports for the whole county compared with its larger constituent local authority areas.

There is, however, a fundamental distinction between the conurbations and the counties, in that the boundaries of a conurbation, its divisions, and in some cases the sub-divisions, were determined with the object of securing a degree of homogeneity in the social and industrial character of the population and type of housing, administrative boundaries being in this context of less importance. The result is that some of the differences between areas portrayed by the census statistics are more sharply defined in the conurbation tables than in those of the County Reports. As the principal area distinctions made in the conurbations were between densely populated central areas at one extreme and low density development on the other, the main interest in the areal differences to be seen in many of the tables lies in the gradients which they indicate.

In the commentary to the conurbation report, each conurbation is taken in turn and described briefly, after which the relevant tables are discussed, attention being concentrated on features peculiar to the conurbations.

At the date of the 1951 Census 39 per cent of the population of England and Wales was contained in these six conurbations whose area amounted to only 4 per cent of the total acreage. In 1871 the estimated population of the conurbations represented a similar proportion of the total population of England and Wales although it amounted to only about one half of the 1951 figure. During the first part of the eighty year period between 1871 and 1951 the population of the areas which constitute the conurbations rose more rapidly than did that of all England and Wales, but this was in general balanced by a slower increase during the later part of that interval. In 1931-1951 only the West Midlands (15·7 per cent) showed a percentage population increase greater than that of England and Wales as a whole, while in South East Lancashire the population decreased slightly.

The conurbations include not only the most important of the older industrial towns and commercial centres but also considerable areas of the more recently developed residential areas which often fringe older urban centres as well as some areas destined for future residential development. There was consequently a large measure of similarity in the population and housing characteristics of the conurbations and the country as a whole. Also, while the conurbations have basic similarities in building, industrial development and cohesion of communities, these do not imply similarities in all demographic characteristics, since they differ in their geography, in their basic industries and in their economic organisation.

The most striking differences between the conurbations were in housing. Small dwellings were rather more common in the northern conurbations than in those further south. The percentage of dwellings with three or fewer rooms was 41 in Tyneside and 35 in West Yorkshire, but only 19 in Greater London and 13 or less in the other conurbations. Greater London had, however, a proportion of households occupying three or fewer rooms nearly as great as that of Tyneside, due to its exceptionally high proportion of sub-divided dwellings. Greater London and West Yorkshire had exceptionally high proportions of one person households, 14 and 13 per cent respectively compared with England and Wales (11 per cent), and the West Midlands (8 per cent). West Yorkshire also had a comparatively high proportion of two person households, while both Merseyside and West Midlands had comparatively high proportions of larger households. There were considerable differences between the crude overall ratios of persons to rooms and also the ratios standardised to eliminate the effect of variations between the conurbations in the proportions of persons in households of different sizes. In terms of the standardised ratios, Tyneside, West Yorkshire and Greater London show much higher densities than the other three conurbations, which had densities similar to that for England and Wales. Greater London showed a particularly high density for households of one person, 0·40 persons per room compared with 0·34 for Tyneside which was the next highest.

There were considerable differences between the conurbations in respect of ages of leaving

school, these being appreciably higher in Greater London and lower in the West Midlands than for England and Wales. This was demonstrated both by the proportions attending full-time after the minimum school leaving age, and by the proportions of the occupied populations who had left school at specified ages.

In Greater London the proportion of men in Social Classes I and II (professional and other similar occupations), was considerably higher than that for England and Wales, but for all the other conurbations the proportion was lower than for England and Wales. For Social Class V (unskilled workers) the highest proportion was shown by Merseyside and the lowest by West Yorkshire.

It is a measure of the success of identification of industrial communities that the conurbations were alike in having little movement between place of work and place of residence across their boundaries. The gross number of persons entering a conurbation to work reached 7 per cent of the total occupied persons resident in the conurbation for Tyneside, but was no higher than 5 per cent for the other conurbations. In Greater London the net inward movement of 170,000 was only 4 per cent of the number of persons working in the conurbation. All the other conurbations showed a relatively smaller inward balance, apart from Merseyside with a small outward balance. Movements from outer parts of the conurbations to their centres were, in contrast, very large. More than a million persons travelled into the central area of Greater London, more than three times the number of workers living there. There were also considerable movements within the other conurbations.

The variations between the divisions and sub-divisions of each conurbation illustrated the differing conditions of life in their older central parts containing comparatively high proportions of older and larger houses, compared with conditions in the more modern suburban residential areas on their outskirts, together with the gradations between these two extremes. As well as differences relating directly to housing there were differences in certain demographic characteristics. Examples were the decline or slow rise in population of inner areas contrasted with some of the outer areas which expanded rapidly; the larger proportion of children in some outer areas and the disproportionately large numbers of young adults in some central areas (particularly Central London); and ages of leaving school were higher in some of the outer residential areas where there was a higher proportion of the residents in professional and managerial occupations. The birthplace tables indicate that persons born in a region other than that in which the conurbation is situated were more commonly found in outer than central areas, while persons born in foreign countries and colonial territories were in general more commonly found in the central division.

The two series of maps at the end of the Conurbation Report indicate the boundaries of the divisions and sub-divisions of the conurbations and the distribution of population density. The density maps indicate consistency between the conurbations in that all had densely populated central areas and generally descending density gradients moving outwards from these areas. They also illustrate, however, the inherent geographical differences between the conurbations, and the fact that while some of them developed from a single main centre, others were the result of the joining up of a number of originally separate centres.

CHAPTER XII

WELSH SPEAKING POPULATION

The tabulations derived from the census question about speaking the Welsh language, which was asked only of persons enumerated in Wales and Monmouthshire, are published in the *Census 1951, Wales (including Monmouthshire), Report on Welsh Speaking Population*. The Report contains a full commentary on the figures.

In 1951, 715,000 persons aged 3 years or over were recorded as speaking Welsh compared with 909,000 in 1931, representing a decline of 21 per cent, the total population aged 3 years or over being just under two and a half million at both dates. Nearly all those able to speak Welsh were also able to speak English, only 41,000 persons being recorded as able to speak only Welsh compared with 98,000 in 1931, a decline of 58 per cent. Between 1901 and 1951 the proportion of persons speaking Welsh fell from 50 per cent to 29 per cent, two thirds of this fall taking place between 1901 and 1921. During the same 50 years, the proportion of persons speaking only Welsh

fell from 15 per cent to 2 per cent and accounted for the main part of the decrease in the proportion of the population speaking Welsh.

The tabulations by age showed that in 1951 6 per cent of children aged 3 and 4 could speak only Welsh and 8 per cent could speak both English and Welsh. The proportion of persons speaking only Welsh fell to 4 per cent at ages 5 to 9, 2 per cent at ages 10 to 14 and 1 per cent at ages 15 to 24. The proportion of persons able to speak both English and Welsh rose to 16 per cent at ages 5 to 9, 21 per cent at ages 10 to 14 and 22 per cent at ages 15 to 24. The decline in the proportion of persons speaking only Welsh between 1931 and 1951 affected all age-groups but the decrease was greater for the higher ages than the lower; at ages 10 to 14 there was a decline of 45 per cent between 1931 and 1951 in the proportion speaking only Welsh; at ages 25 to 44 a decline of 62 per cent, and a decline of 74 per cent for ages 65 and over. On the other hand the decline in the proportion speaking both English and Welsh was greater at younger ages, and became smaller with each successive age-group above age 25. Age distributions of the Welsh speakers are given for all areas with a population of 20,000 or over.

The report gives figures for the Welsh speaking population in all Local Authority areas and Civil Parishes. Factors influencing the local distribution of persons speaking Welsh were the physical characteristics of Wales, the fact that the eastern parts are adjacent to England, and the concentration of nearly 60 per cent of the total population in Glamorganshire and Monmouthshire.

Glamorganshire, which contained 46 per cent of the total population of Wales aged 3 or over, accounted for nearly a third of the total number of persons speaking Welsh but only 8 per cent of those speaking only Welsh. The group consisting of the counties of Anglesey, Caernarvonshire, Cardiganshire, Carmarthenshire and Merionethshire, which contained 17 per cent of the population of Wales aged 3 or over, accounted for 45 per cent of the total persons speaking Welsh and nearly three quarters of those speaking only Welsh. The local distribution of those able to speak Welsh differed little between 1931 and 1951. Those counties with the highest proportion of their population speaking Welsh were on the western side of Wales; Anglesey, Caernarvonshire, Cardiganshire, Carmarthenshire and Merionethshire all showed more than 70 per cent of their population aged 3 or over speaking Welsh in 1951.

CHAPTER XIII

FERTILITY

At the 1951 Census questions on fertility of marriage were asked for the first time since that of 1911. The only comprehensive enquiry on the subject during the intervening forty years was the sample Family Census taken early in 1946 by the Royal Commission on Population. Detailed current information has, however, been collected at the registration of births since 1938 under the Population (Statistics) Act of that year.

The data obtained in 1951, as well as some derived from the other sources mentioned, will be presented in the *Census 1951, England and Wales, Fertility Report*. The Report contains a full commentary on the figures.

In 1951 married women were asked for the date of their marriage (both of their current and of their first marriage in the case of women who had been married more than once), the total number of children born alive to them and whether they had given birth to a live-born child during the year ending on census date.* These questions were confined to women under the age of 50 at the time of the census, in order to reduce the burden of response on the public as well as that of tabulation. Data on the older women were available from the Family Census of 1946.

The questions on marriage date and total number of children are usual at fertility censuses. The question on children born during the year ending on census date was asked for the purpose of analysing the differential fertility of sections of the population. It obviated the difficulty which arises when statements on, e.g. father's occupation, made at the registration of a birth are not strictly comparable with those made at the census. Such discrepancies damage the quality of differential fertility rates the numerators and denominators of which are, respectively, derived from registration and census material.

Many of the data had to be adjusted for the bias resulting from failure to indicate that a woman

*The questions on children were confined to those born in marriage.

had been married more than once. (This happened with about a sixth of such women, and inflated the apparent mean familysizes particularly of women married for the first time at ages over 30 and relatively few years before the census.) The first part of the tables, relating to women of all ages under 50 at census, is mostly based on a one-fifth sample. Another part, relating to women aged 45-49 at census, whose fertility was more or less completed by then, is based on a four-fifths sample.

The census tables contain figures about the total number of children born to a woman (family size for short), including details of women who had not yet had a child by census date (infertility), and about women who had a child in the year ending on census date (current fertility). These data are presented for women classified by age either at marriage or at census date, by duration of marriage at census date and by a number of other characteristics. Among the latter are whether the woman was married once or more often, the difference between her age and that of her husband, whether she was enumerated in an urban or rural area and in which region or conurbation, and the social class, socio-economic group, industry group and terminal education age of her husband. The socio-economic groups have also been cross-classified by some of the other characteristics.

Among all married women under the age of 50, that is, including those whose families were not yet complete, a little over 20 per cent had not yet had a child, about 30 per cent had had one child by census date, 26 per cent two children, 12 per cent three and 10 per cent four or more. Their mean family size was 1·68 children. Among women aged 45-49 these proportions were, respectively, about 20, 26, 24, 13 and 16 per cent, and the mean family size 2·03. Family size naturally increased with duration of marriage, and decreased with rising age at marriage.

Women married more than once, considered by age at and duration of current marriage, mostly had much larger families than other women of the same marriage ages and durations, owing to the inclusion of their children of previous marriages. Considered by age at and time since **first** marriage their families were smaller than those of other women. Their current fertility rates tended to be lower than those of other women in the same marriage age and duration groups when considered by current marriage, and higher when considered by first marriage. Owing to the concentration of remarried women at relatively old ages at, and short durations of, current marriage, and relatively young ages at, and long periods since, first marriage, their mean family size for all women under age 50 combined was 18 per cent higher than the general average, and their current fertility rate 4 per cent lower.

Differential Fertility

The tables for sections of the population are confined to women married once only and (with the exception of that for gainfully occupied married women) to those among them enumerated with their husbands. They show the long-established fertility gradient among the social classes, Class V (unskilled occupations) having the largest mean family size (2·64 on average for women aged 45-49 at census) and Class I (professional, etc., occupations) the smallest (1·51). But there are indications that the family size of this last group may be rising relatively to the others. The more detailed classification into thirteen socio-economic groups shows the smallest mean family size (1·49) for clerical workers (Group 6), with the professional and managerial workers of Groups 3 and 4 sharing the next place; unskilled workers (Group 12) had again the largest families.

Mean family size varied more, and more consistently, with socio-economic group than with type of area. Families were largest in rural districts and smallest in the conurbations; among the individual conurbations and remainders of regions, however, much the largest mean family size was found on Merseyside, and the smallest in Greater London. The Northern Region, including Tyneside, and Wales II (northern and central Wales) also had relatively large families.

The effect of socio-economic group was also more consistent than that of industry group. The excess above average family size of the mining and quarrying group was rather less than half due to the larger families of the skilled and semi-skilled manual workers (these workers in mining occupations form a homogeneous group of high fertility); and rather more than half due to the higher than average proportion of semi-skilled workers, and correspondingly lower than average proportions of many other socio-economic groups. Standardisation for socio-economic group composition removes the second part of this excess. The differential of some of the low fertility groups such as professional services and distributive trades was also much reduced by this kind of standardisation. Nevertheless there remained a broad division into groups of relatively high, medium and low fertility. Apart from mining and quarrying the first included building and contracting, metal manufacture, and agriculture and forestry. Families tended to be small in clothing, textiles and miscellaneous services, as well as in professional services and distributive trades, mentioned above.

The variation with terminal education age was if anything even more consistent than that with

socio-economic group. Generally speaking the wives of men who had left school before their fifteenth birthday tended to have the largest families (2·11 children on average), followed by those men with a university or equivalent education (1·58), while the wives of husbands with a limited amount of full-time further education tended to have the smallest families (1·48 for terminal education ages 15-16 and 1·44 for 17-19).

Women who were gainfully occupied naturally tended to be found among those with smaller family responsibilities; taking all those under age 50 together their mean family size was about 70 per cent of that of all women, and their current fertility rates between a fifth and a sixth of the general level. The pattern of staying at work for a while immediately after marriage, leaving paid employment when the children were born and in some cases returning when they became older, is clearly visible in the figures for women classified by duration of marriage.

The fertility differentials between women classified by the difference between their own and their husbands' ages were largely accounted for by the exceptional marriage age distributions of those with large age differences.

Cohort Analysis

A true appreciation of fertility trends needs more than the examination of the position reached at one census or of annual fertility rates. It is necessary to take a group of people, such as those born or married in a particular period, and to follow them through their reproductive lives. Such a group is generally called a cohort, and the study of fertility records in this form, cohort analysis. In this country the two types of group mentioned are often distinguished by referring to those born in the same period as a generation, and reserving the term cohort for those married in the same time interval.

Analysis of the births of any one period such as a year can give misleading results when either family size or the timing of births is changing. This is true both of long-run changes in the pattern of family building and of the short-term distortions caused by such events as wars and economic depressions and reflected in the violent fluctuations in the fertility rates of the last twenty years. Cohort analysis avoids these dangers, and also makes it possible to see the changes in birth timing in perspective.

To this end the Report includes tables computed by linking the data from the 1946 sample Family Census of the Royal Commission on Population, the 1951 Census of England and Wales and the annual vital registration records. (Some data from the Census of 1911 have also been used.) They show for each marriage cohort since 1920 the mean family size reached after each single year of marriage duration and the corresponding fertility rates, i.e., the average annual additions by which family size has been built up. There are tables for all women married under the age of 45 combined and for the separate marriage age groups.

They provide a striking demonstration of the changes which have occurred in the size of the family during the last three generations. In the middle of the nineteenth century, before the spread of deliberate family limitation, the average number of children in a completed family was about six. The decline which followed gathered momentum quickly and continued at the rate of about 2 per cent per annum, on average, for about fifty years. By the early nineteen-twenties mean family size had been reduced to little more than two children. And at that point the decline slowed down and finally stopped, almost as rapidly as it had begun. Since then there has been little change, although there is in the figures some suggestion of recovery from the level of the cohorts married in the nineteen-thirties, whose first ten years of marriage largely coincided with economic depression and war. (The ultimate mean family size of women married in 1945-50 is likely to be about 2·2 children.) The stability of family size contrasts sharply with the violent fluctuations in annual fertility rates.

The changes in the individual marriage age-groups have on the whole been similar. Their effect on the general average has been influenced by the tendency for marriage age to decline slowly. This would make for larger families, but it must not be taken for granted that (even on average) women who now marry at a younger age than their predecessors automatically adopt the fertility which previously characterised the younger marriage age-group. In fact the relative differences in the average size of completed family between different marriage age-groups have become smaller than they were twenty-five years ago, and that would limit the effect of younger marriage in increasing the mean family size.

The relation between the mean family sizes reached at different durations as well as the detailed fertility rates reflect the time-pattern of family building. Among the features which stand out may be mentioned the cycle of postponing and making up births which was induced by the war. Different cohorts passed through it at different stages of their married life, so that they experienced the same

distortions to the normal fertility pattern at different marriage durations. But the general result was a temporary shift in family building in the group of cohorts most affected, from the first to the second five years of married life. The distortions thus largely compensated for each other, with little effect on ultimate family size. Before the war couples had, on average, a little over half their children during the first five years of marriage, about a quarter in the second five and about an eighth in the third five years; after ten years of marriage just under 80 per cent had been born. The family building of couples married after the war disturbance is, of course, still incomplete; present prospects are that the pre-war pattern will be largely re-established, with a very slight shift towards the earlier years of marriage, i.e., towards earlier completion of the family.

Another remarkable point, which has also been observed in other countries, is that the making up of postponed births began at the height of the war, in sharp contrast to the experience of the first world war.

Generation Replacement Rates.—The conventional net reproduction rates are a convenient summary of the events of a year, but an unsatisfactory guide to long-term prospects. Theymay be improved by taking explicit account, in their calculation, of marriage as well as of fertility and mortality. But even reproduction rates refined in this way, if they relate to a year or similar period, are subject to distortions and fluctuations when the time-pattern of family building is changing, though ultimate family size may be constant.

It is a different matter if cohort analysis has indicated that certain sets of fertility and marriage rates represent a stable pattern which may reasonably be taken to summarise the habits of the generations and marriage cohorts now passing through the reproductive period. Such seems to be the case at present, and a replacement rate has therefore been calculated on the basis of the age-duration fertility rates and the marriage rates of 1951-55, and the mortality experience of 1950-52, which probably represents a fair estimate of the ultimate implications, for the replacement of the population, of the persistence of current habits. It comes to 1·01 for females. The male rate, at about 1·06, is not appreciably different. In short, in a population which consistently experienced the present high proportions marrying and low mortality, the family size indicated by current trends would be sufficient for replacement, perhaps with a slight margin to spare.

It should be noted, however, that these figures result from a hypothetical calculation summarising current rates which, though probably stable enough, have not yet been experienced throughout the lifetime of any single generation and represent a more favourable experience than that of the generations now nearing completion of their families. This is particularly true of mortality.

When replacement rates of actual generations in the past and projected values for generations whose family building has not yet been completed are brought together the following picture emerges. Before the spread of family limitation the number of female births was about 40 per cent above replacement level. Then it declined until, for the generations born in the early years of this century, it was 30 per cent short of the number needed for replacement. Since then it has been rising vigorously and, if present trends continue, will reach replacement level with the generation now about to enter the reproductive period. But the rise has been slowing down, and there are no clear indications at present that it will carry the rate very much higher than unity.

The reason is that, of the rise of 51 per cent between the generation replacement rate of women born in 1903-08 (0·672) and the projected rate of those born in 1948-53 (1·014), about half (24 per cent of the earlier rate) is due to improved mortality (mainly in infancy) and between a third and a quarter (15 per cent of 0·672) to higher proportions marrying. Only the remaining quarter (12 per cent of 0·672, or about 8 per cent of replacement level) is due to an increase in ultimate family size. The proportions dying young or remaining unmarried have now become so small that little further increase in replacement rates can be looked for from this source. Of course it is much too early to predict with any confidence the experience of generations recently born. But cohort analysis has revealed considerable stability in family size. Unless there are great changes in economic and social conditions or another revolution in people's attitude to marriage and the raising of children, of which there is no clear sign at present, the population will probably continue to replace itself, perhaps with a little to spare.

Appendix A.—Citizens of the United Kingdom and Colonies registered with British Consulates, 1951 and 1956

Countries in which Registered	1951						1956					
	Persons born in the United Kingdom and the Irish Republic			Persons born outside the United Kingdom and the Irish Republic			Persons born in the United Kingdom and the Irish Republic			Persons born outside the United Kingdom and the Irish Republic		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
Total	**74,747**	**39,399**	**35,348**	**82,129**	**35,877**	**46,252**	**114,153**	**53,728**	**60,425**	**102,815**	**44,829**	**57,986**
EUROPE	**30,324**	**14,833**	**15,491**	**28,237**	**10,270**	**17,967**	**34,878**	**15,914**	**18,964**	**33,878**	**12,042**	**21,836**
Austria	433	215	218	584	170	414	564	268	296	878	238	640
Belgium	3,465	2,265	1,200	3,154	887	2,267	4,942	3,031	1,911	5,310	1,884	3,426
Czecho-Slovakia	118	36	82	70	23	47	145	42	103	57	17	40
Denmark	687	376	311	441	83	358	974	422	552	573	129	444
Finland	132	59	73	117	40	77	171	59	112	102	32	70
France	10,496	5,244	5,252	10,444	4,306	6,138	8,435	4,011	4,424	8,241	2,760	5,481
Germany	2,120	700	1,420	1,341	307	1,034	2,439	971	1,468	2,201	566	1,635
Greece	572	304	268	2,296	1,109	1,187	769	391	378	3,805	1,830	1,975
Italy	1,850	964	886	1,647	548	1,099	2,656	1,231	1,425	2,287	745	1,542
Luxemburg	51	32	19	15	4	11	52	33	19	23	7	16
Netherlands	2,421	1,073	1,348	1,349	409	940	3,045	1,096	1,949	2,697	1,088	1,609
Norway	914	282	632	296	66	230	1,315	361	954	307	67	240
Poland	253	75	178	37	8	29	417	95	322	53	9	44
Portugal	1,291	722	569	1,316	516	800	1,318	668	650	1,383	546	837
Spain	1,544	730	814	2,623	1,034	1,589	2,005	926	1,079	2,867	1,120	1,747
Sweden	861	393	468	474	147	327	916	398	518	362	116	246
Switzerland	2,969	1,279	1,690	1,841	563	1,278	4,476	1,794	2,682	2,486	812	1,674
Other Countries in Europe	147	84	63	192	50	142	239	117	122	246	76	170
ASIA	**9,144**	**5,998**	**3,146**	**9,692**	**4,520**	**5,172**	**12,173**	**7,297**	**4,876**	**11,251**	**5,163**	**6,088**
Bahrein	1,302	936	366	*	*	*	*	*	*	*	*	*
Burma	615	410	205	1,231	600	631	695	421	274	1,133	601	532
China	405	276	129	767	342	425	89	51	38	184	92	92
Indonesia	402	281	121	455	223	232	379	254	125	832	409	423
Indochina	62	35	27	71	36	35	33	24	9	89	50	39
Iran	412	262	150	140	71	69	508	349	159	98	52	46
Iraq	1,508	1,013	495	382	171	211	2,601	1,666	935	483	223	260
Israel	1,230	664	566	2,255	1,072	1,183	1,848	977	871	2,766	1,197	1,569
Japan	541	321	220	538	221	317	507	303	204	599	274	325
Jerusalem	126	60	66	175	82	93	233	131	102	408	168	240
Jordan	112	63	49	104	54	50	278	158	120	150	91	59
Kuwait	580	389	191	70	45	25	1,867	1,106	761	412	211	201
Lebanon	247	136	111	938	447	491	566	296	270	1,323	618	705
Philippines	225	171	54	209	91	118	248	164	84	288	139	149
Qatar (Doha)	126	98	28	25	18	7	462	327	135	71	39	32
Siam	349	249	100	430	286	144	593	374	219	333	167	166
Syria	412	302	110	211	96	115	195	102	93	244	104	140
Turkey	385	243	142	1,658	643	1,015	903	483	420	1,800	705	1,095
Trucial States	48	43	5	5	5	—	22	20	2	2	1	1
Other Countries in Asia	57	46	11	28	17	11	146	91	55	36	22	14
AFRICA	**3,983**	**2,121**	**1,862**	**24,014**	**11,641**	**12,373**	**6,314**	**3,421**	**2,893**	**25,878**	**13,119**	**12,759**
Egypt	3,220	1,731	1,489	16,901	8,015	8,886	2,757	1,490	1,267	12,450	5,726	6,724
Ethiopia	101	62	39	216	127	89	324	201	123	385	219	166
Libya							1,032	559	473	2,384	1,191	1,193
Morocco	558	270	288	2,978	1,405	1,573	735	336	399	2,952	1,326	1,626
Sudan							811	487	324	556	287	269
Tunisia	61	31	30	3,898	2,081	1,817	90	30	60	3,327	2,055	1,272
Other Countries in Africa	43	27	16	21	13	8	565	318	247	3,824	2,315	1,509
AMERICA	**31,296**	**16,447**	**14,849**	**20,186**	**9,446**	**10,740**	**60,788**	**27,096**	**33,692**	**31,808**	**14,505**	**17,303**
Argentine	10,462	6,438	4,024	6,989	3,079	3,910	11,233	6,651	4,582	8,559	3,652	4,907
Bolivia	105	75	30	119	54	65	92	53	39	96	47	49
Brazil	4,535	2,803	1,732	3,135	1,488	1,647	4,640	2,831	1,809	2,965	1,373	1,592
Chile	2,228	1,338	890	2,465	1,109	1,356	2,164	1,266	898	3,000	1,307	1,693
Colombia	647	433	214	488	223	265	586	339	247	377	206	171
Costa Rica	126	88	38	168	82	86	55	35	20	293	146	147
Cuba	154	110	44	154	82	72	177	115	62	184	68	116
Ecuador	169	106	63	118	50	68	192	139	53	145	79	66
Guatemala	113	63	50	357	212	145	68	40	28	393	241	152
Hayti	26	8	18	339	198	141	24	15	9	424	236	188
Honduras (not British)	52	39	13	180	117	63	62	42	20	389	233	156
Mexico	594	357	237	830	345	485	785	462	323	1,054	471	583
Panama	124	61	63	104	45	59	78	46	32	436	241	195
Paraguay	141	87	54	102	51	51	194	118	76	207	108	99
Peru	1,087	661	426	1,095	476	619	1,336	803	533	1,249	561	688
Salvador	50	32	18	88	35	53	40	27	13	81	39	42
United States	9,238	2,903	6,335	2,063	1,103	960	36,813	12,845	23,968	9,657	4,384	5,273
Uruguay	379	217	162	483	192	291	604	340	264	806	350	456
Venezuela	998	581	417	876	487	389	1,549	865	684	1,353	683	670
Other Countries in America	68	47	21	33	18	15	96	64	32	140	80	60

*Details not available.

Appendix B.—Constitutions of Standard Regions and Conurbations

Standard Regions. The geographical regions into which England was divided for purposes of statistical analysis in the 1931 Census Reports (see *Census of England and Wales 1931, General Report*, page 10) have been superseded by the Standard Regions; these were the areas standardised in 1946 for various administrative purposes.

The constitution of the English Standard Regions identified in the 1951 Census Reports is as follows:—

Northern
- Cumberland
- Durham
- Northumberland
- Westmorland
- Yorkshire, North Riding

East and West Ridings [1]
- Yorkshire, East Riding
- Yorkshire, West Riding

North Western
- Cheshire
- Derbyshire, Part of [2]
- Lancashire

North Midland
- Derbyshire, Part of [3]
- Leicestershire
- Lincolnshire
  - Parts of Holland
  - Parts of Kesteven
  - Parts of Lindsey
- Northamptonshire
- Peterborough, Soke of
- Nottinghamshire
- Rutland

Midland
- Herefordshire
- Shropsire
- Staffordshire
- Warwickshire
- Worcestershire

Eastern
- Bedfordshire
- Cambridgeshire
- Ely, Isle of
- Essex, Part of [4]
- Hertfordshire, Part of [5]
- Huntingdonshire
- Norfolk
- Suffolk, East
- Suffolk, West

London and South Eastern
- Essex, Part of [6]
- Hertfordshire, Part of [7]
- Kent
- London
- Middlesex
- Surrey
- Sussex, East
- Sussex, West

Southern
- Berkshire
- Buckinghamshire
- Dorset
- Oxfordshire
- Southampton
- Wight, Isle of

South Western
- Cornwall
- Devon
- Gloucestershire
- Somerset
- Wiltshire

[1] Includes York C.B.
[2] Buxton M.B., Glossop M.B., New Mills U.D., Whaley Bridge U.D. and Chapel en le Frith R.D.
[3] All except the areas stated in [2] above.
[4] All except East Ham C.B., West Ham C.B., Barking M.B., Chingford M.B., Dagenham M.B., Ilford M.B., Leyton M.B., Walthamstow M.B., Wanstead and Woodford M.B., Chigwell U.D. and Waltham Holy Cross U.D.
[5] All except Barnet U.D., Bushey U.D., Cheshunt U.D., East Barnet U.D. and Elstree R.D.
[6] All areas stated in [4] above.
[7] All areas stated in [5] above.

Conurbations. The conurbation areas used in this volume are those which were agreed in 1950, under the aegis of the Interdepartmental Committee on Social and Economic Research and the Central Statistical Office, for the presentation of official statistics generally.* They each consist of an aggregation of entire local authority areas and are constituted as follows:—

Greater London:

London A.C.
Middlesex A.C.

Surrey (pt.)
Croydon C.B.
Banstead U.D.
Barnes M.B.
Beddington and Wallington M.B.
Carshalton U.D.
Coulsdon and Purley U.D.
Epsom and Ewell M.B.
Esher U.D.

Surrey (pt.)—contd.
Kingston upon Thames M.B.
Malden and Coombe M.B.
Merton and Morden U.D.
Mitcham M.B.
Richmond M.B.
Surbiton M.B.
Sutton and Cheam M.B.
Wimbledon M.B.

Kent (pt.)
Beckenham M.B.
Bexley M.B.

Kent (pt.)—contd.
Bromley M.B.
Chislehurst and Sidcup U.D.
Crayford U.D.
Erith M.B.
Orpington U.D.
Penge U.D.

Herts. (pt.)
Barnet U.D.
Bushey U.D.
Cheshunt U.D.
East Barnet U.D.
Elstree R.D.

Essex (pt.)
East Ham C.B.

Essex (pt.)—contd.
West Ham C.B.
Barking M.B.
Chigwell U.D.
Chingford M.B.
Dagenham M.B.
Ilford M.B.
Leyton M.B.
Waltham Holy Cross U.D.
Walthamstow M.B.
Wanstead and Woodford M.B.

* See *Census 1951, England and Wales, Preliminary Report*, p. xxii; also *Census 1951, England and Wales, Report on Greater London and Five Other Conurbations*, p. xv.

South East Lancashire:

Cheshire (pt.)
Stockport C.B.

Alderley Edge U.D.
Altrincham M.B.
Bowden U.D.
Bredbury and Romiley U.D.
Cheadle and Gatley U.D.

Dukinfield M.B.
Hale U.D.
Hazel Grove and Bramhall U.D.
Hyde M.B.
Marple U.D.

Sale M.B.
Stalybridge M.B.
Wilmslow U.D.
Disley R.D.

Lancashire (pt.)
Bolton C.B.
Bury C.B.
Manchester C.B.
Oldham C.B.
Rochdale C.B.
Salford C.B.

Ashton under Lyne M.B.
Audenshaw U.D.
Chadderton U.D.
Crompton U.D.
Denton U.D.

Droylsden U.D.
Eccles M.B.
Failsworth U.D.
Farnworth M.B.
Heywood M.B.
Horwich U.D.

Irlam U.D.
Kearsley U.D.
Lees U.D.
Littleborough U.D.
Little Lever U.D.
Middleton M.B.

Lancashire (pt.)—contd.
Milnrow U.D.
Mossley M.B.
Prestwich M.B.
Radcliffe M.B.
Royton U.D.

Stretford M.B.
Swinton and Pendlebury M.B.
Tottington U.D.
Urmston U.D.
Wardle U.D.

Westhoughton U.D.
Whitefield U.D.
Whitworth U.D.
Worsley U.D.
Limehurst R.D.

West Midlands:

Staffordshire (pt.)
Smethwick C.B.
Walsall C.B.
West Bromwich C.B.
Wolverhampton C.B.

Aldridge U.D.
Amblecote U.D.
Bilston M.B.
Brierley Hill U.D.
Coseley U.D.

Darlaston U.D.
Rowley Regis M.B.
Sedgley U.D.
Tettenhall U.D.
Tipton M.B.

Wednesbury M.B.
Wednesfield U.D.
Willenhall U.D.

Warwickshire (pt.)
Birmingham C.B.

Solihull U.D.
Sutton Coldfield M.B.

Worcestershire (pt.)
Dudley C.B.

Halesowen M.B.
Oldbury M.B.
Stourbridge M.B.

West Yorkshire:

Yorkshire, West Riding (pt.)
Bradford C.B.
Dewsbury C.B.
Halifax C.B.
Huddersfield C.B.
Leeds C.B.
Wakefield C.B.

Aireborough U.D.
Baildon U.D.
Batley M.B.
Bingley U.D.
Brighouse M.B.

Colne Valley U.D.
Denby Dale U.D.
Denholme U.D.
Elland U.D.
Heckmondwike U.D.

Holmfirth U.D.
Horbury U.D.
Horsforth U.D.
Keighley M.B.

Kirkburton U.D.
Meltham U.D.
Mirfield U.D.
Morley M.B.

Ossett M.B.
Pudsey M.B.
Queensbury and Shelf U.D.
Ripponden U.D.

Rothwell U.D.
Shipley U.D.
Sowerby Bridge U.D.
Spenborough U.D.
Stanley U.D.

Merseyside:

Cheshire (pt.)
Birkenhead C.B.
Wallasey C.B.

Bebington M.B.
Ellesmere Port U.D.
Hoylake U.D.
Neston U.D.
Wirral U.D.

Lancashire (pt.)
Bootle C.B.
Liverpool C.B.

Crosby M.B.
Huyton with Roby U.D.
Litherland U.D.

Tyneside:

Durham (pt.)
Gateshead C.B.
South Shields C.B.

Felling U.D.
Hebburn U.D.
Jarrow M.B.
Whickham U.D.

Northumberland (pt.)
Newcastle upon Tyne C.B.
Tynemouth C.B.

Gosforth U.D.
Longbenton U.D.
Newburn U.D.
Wallsend M.B.
Whitley Bay U.D.

Appendix C.—Constitutions of the Socio-economic Groups and Social Classes

Socio-economic Group	Social Class	Occupation Code Number	Occupation
1.	II	010	Farmers, farm managers
		011	Farm bailiffs, farm foremen
		020	Land agents, estate managers
2.	III	013/4	Market gardeners, nurserymen, seedsmen, flower-growers and their foremen
		022	Agricultural machine, tractor—proprietors, foremen, drivers, attendants
		030	Foresters and woodmen
	IV	012	Shepherds
		015	Other gardeners
		019	Other agricultural workers
		029	Other occupations ancillary to agriculture
	V	021	Estate labourers
3.	I	610	Civil Service administrative and other higher officers
		614	Secretaries and registrars of companies, institutions and charities
		650	Bus and tramway managers and superintendents
		670	Ship-owners, managers, brokers and agents
		750	Company directors (so returned)
		751	Bankers, bank managers, inspectors, etc.
		752	Stock brokers, stock jobbers
		753	Insurance managers, underwriters
		760–762	Ministers of religion, monks, nuns
		764	Judges, stipendiary magistrates, barristers
		765	Solicitors
		766	Physicians, surgeons, registered medical practitioners
		767	Radiologists
		768	Dental practitioners
		786–793	Professional engineers, surveyors, architects
		800	Chemists (not pharmaceutical)
		801	Metallurgists
		802	Biological scientists
		803	Physicists
		805	Mathematicians, statisticians, actuaries, economists
		809	Other scientists
		810	Qualified accountants
		811	Authors, editors, journalists, publicists
		820/2/4	Armed forces—commissioned officers (effective)
		976	Officials (not clerks) of foreign governments
4.	II	581	Clerks of works
		611	Civil Service executive and higher clerical officers
		612	Local Authority administrative and executive officers
		615	Heads or managers of commercial and industrial office departments
		620–629	Managers in industrial undertakings
		630	Railway officials, station masters, yard masters, passenger and goods agents
		651	Car and coach hire proprietors and managers
		671	Harbour, dock, canal officials; piermasters
		672	Wharfingers and stevedores
		673	Navigating officers and pilots
		690	Directors and managerial staffs (air transport)
		700	Managers and directors (other transport and communications)

Socio-economic Group	Social Class	Occupation Code Number	Occupation
4. *cont.*	II *cont.*	711	Brokers, agents, factors (miscellaneous, not elsewhere specified)
		712	Buyers (not manufacturers')
		713	Sales managers (manufacturers')
		714	Advertising agents and managers
		756	Auctioneers, estate agents, appraisers, valuers
		757	Money lenders, pawnbrokers
		759	Other finance occupations
		763	Itinerant preachers, scripture readers, mission workers, etc.
		769	Veterinary surgeons and practitioners
		770	Trained nurses, midwives
		774–777	Pharmacists, physiotherapists, masseurs, radiographers and assistants, opticians
		779	Other medical auxiliaries
		780/5	Teachers
		794	Industrial designers
		799	Draughtsmen (not elsewhere specified)
		812	Librarians (not booksellers)
		813	Officials of political, industrial and trade associations
		814	Social welfare workers
		815	Painters, sculptors, engravers (artists)
		819	Other professional and technical occupations
		830	Chief constables, inspectors, superintendents
		840	Business managers, lessees of theatres, cinemas, concert halls, etc.
		841	Producers and stage managers in film studios, theatres, etc.
		843	Proprietors, managers of other entertainments and sports
		862–865	Proprietors, and managers of restaurants, licensed premises, boarding houses
		870	Matrons (not hospital) and stewards in schools and other institutions
		895	Costing, estimating and accounting clerks (including book-keepers)
		970	Other managers
	III	691	Aircrew
		749	Other commercial occupations
		754	Insurance brokers
		778	Chiropodists
		974/5	Other Civil Service and Local Authority officials (not clerks)
5.	II	663	Garage proprietors and managers
		710, 720–729	Proprietors, managers of wholesale and retail businesses
6.	III	676	Radio officers (on vessels)
		693	Airport traffic staff
		703	Radio operators (not elsewhere specified)
		704	Other telegraph operators
		755	Insurance agents and canvassers
		849	Bookmakers
		890–894	Clerks (not elsewhere specified), shorthand typists, secretaries (not company secretaries), typists, other office machine operators
7.	III	715	Commercial travellers, canvassers (not dock, insurance or railway)
		730–741	Salesmen, shop assistants, roundsmen, van salesmen

Socio-economic Group	Social Class	Occupation Code Number	Occupation
8.	III	678	Pursers, stewards and domestic staff (on vessels)
		861	Game keepers, game watchers
		867	Waiters, waitresses, still room hands
		872	Managers, attendants of baths and wash-houses
		873	Barbers, hairdressers, manicurists
		874	Photographers (not printing trades)
		881	Funeral directors and assistants
		882	Chefs, cooks
	IV	866	Barmen, barmaids
		868	Restaurant and refreshment room counter hands
		869	Hall and hotel porters; doorkeepers and carriage attendants
		871	Hospital or ward orderlies, attendants
		875	Caretakers, office keepers
		884	Chambermaids, housemaids, parlourmaids
		885	Other domestic servants (indoor)
		888	Others in personal service
	V	876	Charwomen, office cleaners
		883	Kitchen hands
9.	III	040, 050	Subordinate superintending staff (mines and quarries)
		060, 070, 080, 090, 100, 110–119, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 440, 450, 460, 470, 500, 510, 520, 540, 550, 560, 570, 580, 600	Foremen, overlookers (production and construction)
		653	Inspectors and foremen (not horse foremen) (road transport)
		674	Engineering officers, electricians (on board ships, boats, etc.)
		701	Foremen, supervisors (other transport and communications)
		900	Warehousemen
		961	Inspectors, etc. (distribution of gas, water, electricity)
		971	Foremen, overlookers (not elsewhere specified)
10.	III	041	Coal cutting and power loading machine men
		042	Hewers and getters (by hand) (coal)
		051	Underground getters (mines, not coal)
		062	Refractory goods makers
		064–066	Potters, pottery makers, casters, finishers, decorators, kiln and ovenmen
		071/2, 074/5, 079	Makers of glass and glass ware (excluding bench glass workers and blockers-out and pitchers)
		101–103	Mixers, blenders, stillmen, furnacemen, kilnmen (chemicals)
		121–125	Furnacemen (metal) (not annealing or foundry)
		126, 128–130	Rolling and tube mill workers, wire drawers (excluding other assistants to rollers)
		131–132	Metal moulders, core makers
		137	Non-ferrous foundry furnacemen
		145–149	Smiths, forgemen
		150	Annealers, hardeners, temperers

Socio-economic Group	Social Class	Occupation Code Number	Occupation
10. *cont.*	III *cont.*	155–157	Coppersmiths, sheet metal workers, metal spinners
		160/2/4	Platers, riveters, caulkers, shipwrights
		171–173	Press tool setters; turners
		176–177	Machine setters, setter operators (metal working); shipyard metal machinists
		181–188	Fitters, machine erectors
		193	Electro platers, nickel platers
		200	Plumbers (not chemical plumbers)
		202–204	Gas and pipe fitters, lead burners and chemical plumbers
		205–209	Vehicle makers and repairers (not elsewhere specified)
		210–219	Watch, clock and scientific and surgical instrument makers (not elsewhere specified)
		221–229	Workers in precious metals; gem setters
		231	Armature winders
		232	Accumulator makers and pasters
		233	Electric cable and wire machine drivers and setters-up
		235	Electric lamp and valve machine setters
		237	Radio and radar mechanics
		239	Other workers in electric communications and signalling systems
		241–249	Electrical fitters, electricians, linemen and cable jointers; other skilled electrical workers
		251–259	Inspectors, viewers, testers (engineering and allied trades)
		261	Oxy-acetylene or electric welders and cutters
		262	Textile machinery fitting and accessories makers (not elsewhere specified)
		263	Constructional engineers (not professional), steel erectors, structural iron workers
		264	Cutlers
		265	Die sinkers and engravers (not precious metals)
		266	File cutters (machine or hand)
		269	Lock, latch and keymakers; locksmiths
		273	Wire weavers, wire rope makers
		279	Other skilled workers (engineering and allied trades)
		281/2	Wool sorters; rag and wool carbonisers and washers
		291	Spinners, piecers
		301–304	Winders, warpers, sizers, drawers-in
		311/2	Weavers
		321	Knitters
		331	Lookers, examiners, burlers, menders
		342	Lace makers
		343	Strippers, grinders, card grinders, jobbers, tacklers
		346	Textile printers (including oil or floor cloth printers)
		349	Other skilled workers (textiles)
		351–359	Leather tanners and dressers, fellmongers, fur dressers
		361–369	Boot and shoe makers
		371–379	Leather or substitute goods (not clothing) makers
		381–385	Cutters, tailors, corset makers, dressmakers and other light clothing makers
		389	Other skilled workers (garments)
		391–399	Hat and cap makers, milliners (makers)
		401/2	Upholsterers, coach trimmers, bedding and mattress makers
		411	Furriers, fur sewers and machinists
		412	Glove makers (not knitted or rubber)
		413	Artificial flower and feather workers
		414	Embroiderers, embroidery machinists
		419	Other skilled workers (textile goods)
		421	Grain millers
		422/3	Bakers, pastry cooks; dough mixers, makers (bread, biscuits, cakes, etc.)

Socio-economic Group	Social Class	Occupation Code Number	Occupation
10. *cont.*	III *cont.*	425	Milk processors, makers of dairy products
		427	Sugar confectionery makers, moulders, coverers
		428	Cocoa and chocolate makers
		429	Meat and fish curers and smokers
		430	Slaughterhouse workers
		439/59	Other skilled workers (food, non-alcoholic drink)
		465	Cigar makers
		471–474, 476–480, 489	Workers in wood and cane (excluding packing case makers)
		501–503, 509	Makers of paper, paperboard (excluding finishers)
		511–513, 519	Makers of stationery, bags and boxes; other workers in paper (excluding machine assistants, layers-on)
		521–526, 528–539	Printers, bookbinders
		541–549	Rubber workers
		551–559	Plastics workers
		561–569	Musical instrument makers
		571–579	Makers of other products (not elsewhere specified)
		583	Bricklayers
		585	Plasterers
		587–589	Glaziers, slaters, tilers, masons, stone cutters
		592	Slate workers (not elsewhere specified) and slate masons
		595	Well and mine sinkers and borers
		597/8	Builders; other skilled building workers
		602	French polishers
		603	Sign writers
		609	Other painters and decorators
		631/2	Locomotive engine drivers and motormen
		635–637	Guards; signalmen; shunters, pointsmen and level crossing men
		652	Haulage and cartage contractors and managers; master carmen
		655–659	Drivers of self-propelled road vehicles
		675	Petty officers, seamen and deckhands
		692	Aerodrome technical staff
		699	Other air transport staff
		702	Postmen, post office sorters
		705	Telephone operators
		771–773	Assistant nurses, student nurses, probationer assistant nurses, nursery nurses
		804	Laboratory assistants, technicians (not elsewhere specified)
		831	Police–other ranks
		832	Fire brigade officers and men
		839	Other occupations (civilian defence)
		842	Showmen; fair and roundabout workers
		844/5	Actors, actresses, variety artists, entertainers; musicians
		847	Cinematograph operators
		848	Race horse and greyhound trainers, jockeys, stable lads, kennel attendants
		850	Cricketers, footballers, golfers, etc.
		855	Other occupations (entertainments, sport)
		880	Chimney sweeps
		901	Storekeepers
		910/1	Stationary engine drivers
		912	Crane drivers
		913	Drivers of civil engineering plant
		918/9	Switchboard attendants; battery chargers
11.	IV	000	Fishermen
		043–049	Coal mining occupations (excluding coal face acol getters; loaders)

Socio-economic Group	Social Class	Occupation Code Number	Occupation
11. *cont.*	IV *cont.*	052–059	Mining occupations (not coal) (excluding underground getters)
		061	Brick and unglazed tile-makers, moulders, pressers, cutters
		063	Potters' mill workers, slip makers, arkmen
		069	Other skilled workers (bricks, pottery, etc.)
		073	Bench glass workers
		076	Blockers-out, pitchers
		081–089	Makers of other non-metalliferous mining products
		099	Other skilled workers (coal gas, coke)
		104	Fillers of explosives
		109	Other skilled workers (chemicals)
		134–136	Iron or steel foundry furnace and cupola men; labourers
		138	Non-ferrous foundry labourers
		151	Picklers
		161	Platers' labourers
		163	Riveters' labourers
		174	Drillers (hand or machine)
		189	Machine erectors', fitters', mechanics' mates
		191–192, 194–198	Metal finishers (excluding electroplaters, nickel platers)
		201	Plumbers' labourers
		234	Electric cable and wire machine assistants
		236	Electric lamp and valve machine minders
		267	Filers
		268	Edge tool grinders
		271	Press workers and stampers (not hot or hydraulic), drawers (not wire or tube)
		272	Solderers, brazers
		283	Openers, blenders, rag grinders
		284	Carders, combers, other skilled preparing room workers
		292	Doublers, twisters, silk throwsters
		332	Dye house workers
		333	Hookers, lappers, makers-up, plaiters
		339	Other workers in bleaching, dyeing and finishing
		341	Rope, twine and net makers
		345	Pattern card preparers
		386/7	Machinists, pressers (garments)
		415/6	Canvas goods and sack makers
		424	Ovenmen (bread, biscuits, cakes, etc.)
		426	Sugar and sweet boilers
		441–449	Makers of alcoholic drinks
		461–464	Tobacco openers, strippers, cutters; cigarette machine operators
		469	Other workers (tobacco)
		475	Packing case makers
		481	Workers in cork
		504	Paper, paperboard finishers
		514	Machine assistants, layers-on (stationery etc.)
		527	Letterpress or litho printing machine assistants
		593	Platelayers
		594	Paviors, street masons, asphalters
		596	Tunnel miners
		601	Aerographers, paint sprayers
		633–634	Locomotive engine firemen, running shed workers
		638	Ticket collectors, examiners
		649	Other railway transport workers
		654	Drivers of horse-drawn vehicles
		660	Lorry drivers' mates, van guards, etc.
		661	Bus and tram conductors
		662	Horse foremen, grooms and horse keepers
		669	Other road transport workers

Socio-economic Group	Social Class	Occupation Code Number	Occupation
11. *cont.*	IV *cont.*	677	Firemen, trimmers, greasers and donkeymen
		679	Bargemen, boatmen, tugmen
		680	Lock keepers; bridge, stage and pier men
		689	Other water transport workers
		709	Other workers (transport and communications)
		742	Coal carmen, coal hawkers
		846	Stage hands
		877–879	Laundry workers; dry cleaners, carpet cleaners; window cleaners
		903–909	Packers
		914	Slingers and riggers
		915	Boiler firemen and stokers
		916	Boiler scalers
		917	Gas producer men
		920/1	Oilers and greasers of engines and machinery
		930	Assemblers (not elsewhere specified)
		931/2	Machine minders
		965	Other workers (distribution of gas, water, electricity)
		972	Sand blasters
		979	All other and undefined occupations
12.	V	127	Other assistants to rollers
		582/4/6, 591/9	Builders', bricklayers', plasterers', masons', other building and contracting labourers
		639	Railway porters (including lampmen)
		681	Dock labourers
		706–708	Messengers, lift attendants, porters (not elsewhere specified)
		743/4	Costermongers, hawkers, newspaper sellers
		833	Watchmen
		902	Warehouse and storekeepers' assistants (so returned—not lace warehouse hands)
		935–950	Labourers and other unskilled workers
		973	Rag, bone, bottle, etc., sorters
13.	III	821/3/5	Armed forces—other ranks and ratings

Appendix D.—The Census Order in Council

STATUTORY INSTRUMENTS

1950 No. 1269

CENSUS

The Census Order, 1950

Made - - - - 28*th July*, 1950

At the Court at Buckingham Palace, the 28th day of July, 1950

Present

The King's Most Excellent Majesty in Council

Whereas it is provided by subsection (1) of section 1 of the Census Act, 1920(**a**) (hereinafter referred to as "the Act of 1920"), that, subject to the provisions of that Act, His Majesty may by Order in Council from time to time direct that a Census shall be taken for Great Britain, and any Order so made may prescribe the date of such Census, the persons by whom and in respect to whom the returns for the purpose of such Census are to be made and the particulars to be stated in the returns:

Now, therefore, His Majesty is pleased, by and with the advice of His Privy Council, to order, and it is hereby ordered, as follows:—

1.—(1) This Order may be cited as the Census Order, 1950.

(2) The Interpretation Act, 1889(**b**), applies to the interpretation of this Order as it applies to the interpretation of an Act of Parliament.

(3) In this Order "prescribed" means prescribed by regulations made under the Act of 1920.

2. A Census shall be taken for Great Britain on the 8th day of April, 1951, in respect of—

(*a*) all persons in Great Britain; and

(*b*) all other persons (being persons normally resident in Great Britain) mentioned in paragraph 5 of the first column of the first schedule to this Order;

who are alive at midnight ending that day.

3. The returns for the purpose of the Census shall be made with respect to the classes of persons mentioned in the first column of the first schedule to this Order by the persons mentioned opposite each such class in the second column of that schedule:

Provided that any person claiming in the prescribed manner to make a confidential return shall, subject to the prescribed conditions, be deemed to be the person by whom the return is to be made with respect to himself.

4. The returns shall state—

(*a*) in the case of all persons with respect to whom returns are to be made, the particulars specified in part I of the second schedule to this Order;

(*b*) in the case of all persons with respect to whom returns are to be made in Scotland, the additional particulars specified in part II of that schedule; and

(*c*) in the case of all persons with respect to whom returns are to be made in Wales (including Monmouth), the additional particulars specified in part III of that schedule.

E. C. E. Leadbitter.

FIRST SCHEDULE

Persons with respect to whom returns are to be made	*Persons by whom returns are to be made*
1. Persons present at midnight ending the Census day in a dwelling, lodgings or rooms, separately occupied by any private household of which they are members, guests (including paying guests or boarders), or employees.	1. The head, or person for the time being acting as the head, of the household.

(a) 10 & 11 Geo. 5. c. 41.

(b) 52 & 53 Vict. c. 63.

Persons with respect to whom returns are to be made	*Persons by whom returns are to be made*
2. Persons present at midnight ending the Census day on the premises of any hotel, club, boarding-house, or common or other lodging-house.	2. The manager or other person for the time being in charge of the premises.
3. Persons present at midnight ending the Census day on the premises of (*a*) any hospital within the meaning of section 79 of the National Health Service Act, 1946(**c**), or section 80 of the National Health Service (Scotland) Act, 1947(**d**), (*b*) any certified house or approved home within the meaning of section 71 of the Mental Deficiency Act, 1913(**e**), or any certified house within the meaning of section 39 of the Mental Deficiency and Lunacy (Scotland) Act, 1913(**f**), (*c*) any nursing home, religious or charitable community, residential school or college, or (*d*) any residential institution whatsoever not being an institution mentioned elsewhere in this schedule.	3. The chief resident officer or other person for the time being in charge of the hospital, house, home, community, school, college or institution.
4. Persons belonging to the naval, military, or air forces of the Crown, and any other persons, present at midnight ending the Census day on any vessel or in any barracks, station, or other premises under naval, military, or air force discipline or on any premises in respect of which the Registrar General is satisfied that on grounds of security special arrangements ought to be made.	4. The officer or other person appointed for the purpose in pursuance of arrangements made by the Admiralty, Army Council, Air Council or the Department concerned.
5. Persons present at midnight ending the Census day (*a*) on any ship, boat, barge, or other vessel in any inland waters or engaged in any coast-wise or fishing voyage, or lying moored or anchored in any place, or (*b*) on any British ship voyaging between Great Britain and Northern Ireland or the Isle of Man or the Channel Islands if those persons are normally resident in Great Britain.	5. The captain, master, or other person for the time being in charge of the vessel.
6. Persons present at midnight ending the Census day on the premises of a remand home or approved school.	6. The chief resident officer or other person for the time being in charge of the home or school.
7. Persons present at midnight ending the Census day on the premises of any civil prison, lock-up or other place of detention.	7. The governor or other person for the time being in charge of the premises.
8. Persons who, not having been enumerated elsewhere for the purpose of the Census, arrive at any of the places or premises above mentioned after midnight ending the Census day and before the returns in respect of persons present on or in such premises or places are required to be delivered up.	8. The persons specified above as the person by whom the returns are to be made with respect to the persons present at midnight ending the Census day on or in any of the premises or places above mentioned.
9. Persons not included among any of the classes of persons above mentioned.	9. The person with respect to whom the return is to be made.

(c) 9 & 10 Geo. 6. c. 81.
(d) 10 & 11 Geo. 6. c. 27.
(e) 3 & 4 Geo. 5. c. 28.
(f) 3 & 4 Geo. 5. c. 38.

SECOND SCHEDULE

PART I

Particulars to be stated in all returns

1. Full name.

2. Relation to head of family or other person by whom the return is to be made.

3. Sex.

4. Age in years and months.

5. (*a*) In respect of each person aged 16 years or over, whether single, married, widowed or divorced.

(*b*) In respect of each married woman under the age of 50—

(i) the month and year of her present marriage;

(ii) whether married more than once;

(iii) If married more than once, the month and year of her first marriage.

6. Children born in marriage to each married woman under the age of 50—

(*a*) the number of such children; and

(*b*) whether she has given birth to such a child since 9th April, 1950.

7. Usual residence.

8. Place of birth, stating,—

(*a*) if born in the United Kingdom, the name of the county and town or parish;

(*b*) if born outside the United Kingdom, the name of the country and the state, province or district or whether born at sea.

9. If born outside the United Kingdom and—

(*a*) of British nationality, stating whether British by birth or descent, by naturalisation, through marriage or otherwise;

(*b*) not of British nationality, stating nationality.

10. In respect of persons aged 15 years or over,—

(*a*) profession, trade, manufacture, service or other occupation, stating precise branch, and if occupied in trade or manufacture stating the particular kind of work done, of material worked in and of article, if any, made or dealt in;

(*b*) (i) whether out of work, retired, apprentice or articled pupil, employed part time or helping unpaid in a business carried on by the head of family or other relative;

(ii) if ordinarily occupied as employee, stating name and business of present employer or, if out of work or retired, of last employer;

(iii) whether ordinarily occupied as employer, stating nature of business conducted, or whether ordinarily occupied neither as employer nor employee;

(*c*) if not retired, stating the address of the place of work, or whether working at no regular place of work or whether the work is carried on mainly at home.

11. (*a*) Whether occupied in (i) full time or (ii) part time attendance at an educational establishment.

(*b*) In respect of every person following or seeking to follow an occupation for payment or profit, and who is not retired, the age at which full time education in an educational establishment finally ceased.

12. (*a*) Number of living rooms dwelt in by the persons in respect of whom particulars are included in the return.

(*b*) In respect of such persons, whether the household has exclusive or shared use of a piped water supply within the house, a kitchen sink, a cooking stove or range, a watercloset and a fixed bath.

PART II

Additional particulars to be stated in returns made in Scotland

1. In respect of persons aged 3 years or over, whether speaking Gaelic only or able to speak both Gaelic and English.

PART III

Additional particulars to be stated in returns made in Wales (including Monmouth)

1. In respect of persons aged 3 years or over, whether speaking Welsh only or able to speak both Welsh and English.

Appendix E


ENGLAND AND WALES
SHOWING
STANDARD REGIONS
COUNTY BOUNDARIES
AND
CONURBATIONS
NORTH
TYNESIDE
CUMB
DURHAM
NORTHERN
WEST
YORKS N.R.
YORKS W.R.
YORKS E.R.
EAST & WEST RIDINGS
NORTH WESTERN
LANCS
W. YKS
S.E. LAN
MERSEYSIDE
CHESHIRE
LINDSEY
NORTH MIDLAND
AN
DEN
FL
CAER
DERBY
NOTT
LINCS
KES
STAFF
MER
HOLL
MIDLAND
LEICS
RUT
NORFOLK
I. O. ELY
EASTERN
MONT
WALES
SHROPS
W. M.
NORTH-ANTS
HUNT
W. SUFFOLK
E.
CARD
RAD
WOR
WAR
CAM
HER
BED
BRECK
PEM
CARM
GLOUCS
OX
BUCKS
HERT
ESSEX
MON
GLAM
MID
LON
BERKS
WILTS
SURREY
KENT
SOMERSET
SOUTH
W. SUSSEX
E.
SC. IS.
DEVON
DORSET
I.O.W.
LONDON & SOUTH EASTERN
CORN
SOUTHERN
SOUTH WESTERN