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THE TAKING OF THE CENSUS, 1801-1951*

BY

A. J. TAYLOR, M.A.

Lecturer in History, University College, London

Though not as old as the formation of the State itself, the taking of a census is one of the earliest manifestations of an organized society. A Government preparing to make war or levy taxation found it useful to know the numbers of at least certain classes in its population, and in the early democratic communities electoral lists had to be compiled. The Sumerians of the third millennium B.C., the Egyptians, Jews, Greeks, and Romans, all conducted surveys which merit the broad designation of census. In England the Domesday survey, though based on land rather than population, falls into the same category. The distinctive characteristic of the modern census, however, lies not in its comprehensiveness or its relative accuracy but in the regularity with which the enumeration is undertaken. Every 10 years since 1801 in Great Britain—with one notable recent exception—a census has been held, and in other countries it is an even more frequent but equally regular event.

History

The history of the modern census in England may be said to begin with the "Bill for taking account of the Number of People and of the total Number of Marriages, Births and Deaths; and also of the total Number of Poor receiving Alms from every Parish and extra-parochial Place in Great Britain," which was introduced into the House of Commons in March, 1753, apparently with ministerial support. Reports of eighteenth-century debates are somewhat unreliable in detail, but there is no doubt about the spirited discussion which accompanied this measure through all its stages in the Commons.

Its principal opponent was William Thornton, M.P. for York, who viewed the institution of an annual enumeration as "totally subversive of the last remains of English liberty." "An annual register of our people," he is reported to have said, "will acquaint our enemies abroad with our weakness, and a return of the poor's rate, our enemies at home with our wealth. Our enemies abroad are the Spaniards and the French, and our enemies at home are place-men and tax-masters. . . ." A census, he maintained, was the first step on the way to the establishment of a police State ("a government *en police*"). "We are to entrust petty tyrants with the power of oppression, in confidence that this power shall not be executed; to subject every house to a search; to register every name, age, sex, and state upon oath; to record the pox as a national distemper and spend annually £50,000 of the public money—for what? To decide a wager at White's!" Any enumerator who came his way would receive "the discipline of the horse-pond."

Other critics quoted David's self-confessed sin in numbering the Children of Israel and its consequences (2 Samuel, xxiv) to demonstrate the inadvisability as well as the impiety of the project—perhaps a shrewd thrust at the Archbishop of Canterbury's son, Thomas Potter, who was the Bill's chief sponsor. Yet, in spite of this strongly worded opposition and other more moderate objections, an amended Bill passed the Commons only to be rejected by the Lords.

Census Act of 1800

In the light of this experience, the easy passage of the Census Bill of 1800 may appear surprising, especially as for nearly half a century parliamentary advocates of an enumeration had allowed the question to lie dormant. But circumstances and ideas had changed since 1753. England in 1800 was a country already seven years at war and, standing virtually alone against Napoleon, was threatened by possible blockade and invasion. Population was growing—though some contemporary observers denied the fact—and industry was making increasing demands on labour: the days of self-sufficiency were passing and there was understandable anxiety about food supplies. The operation of the Speenhamland System, tending as it did to force down rural living standards towards a mere subsistence level, reinforced such misgivings.

Here was fertile soil for the ideas which Thomas Malthus propounded in the *Essay on the Principles of Population*, published in 1798. If population growth would always tend to outstrip food supply, as Malthus contended and as contemporary evidence increasingly confirmed, a nation at war must suit its policies to the situation, and the foundation of such policies was an accurate statistical assessment of the factors involved in the case. Though the name of Malthus does not appear to have been mentioned in the debate of 1800 there is little doubt that his work had paved the way for the favourable reception of the Bill. The serious harvest failure of 1800, however, proved the most forcible argument for the measure. The Bill was introduced on November 19, 1800, and received the Royal Assent on the last day of the year; 10 weeks later a census was being held in Great Britain—11 years after the first decennial enumeration in the United States.

The Census Act of 1800 was the first of a series of 12 such enactments made at the end of each decade and providing for the taking of a census in the succeeding year. It was not until 1920 that Parliament decided to entrust to the Government the power to hold censuses without the formality of the presentation of a Bill. Under present legislation the Government must lay before

*A lecture delivered in University College, London, on March 1, 1951.

Parliament an Order in Council for the census setting out the questions which it is proposed to ask, but criticism of these detailed provisions is the limit of parliamentary interference. The Act of 1920 further empowered the Government to take enumerations at intervals of not less than five years if it so wished—a step long advocated, and already taken in America.

In spite of the existence of this greater opportunity, the last 30 years have seen the holding of only two censuses, preoccupation with other matters precluding an enumeration in 1941—an odd fate for an institution which had its birth and justification in a time of war. This hiatus in the census returns provides a commentary both on the totality of modern warfare and on the omniscience of the State, which can largely* use the Registrar's quarterly returns, the ration book, and the labour exchange to supply information which formerly only the census provided.

The Machinery of Administration

The legislation of 1800 not only conceded the principle of holding a census but determined the machinery by which it should be undertaken. Through the county courts in England and Wales access could be obtained to the two overseers of the poor in each parish, who were at once the most appropriate and easily available local officials to undertake the work of enumeration. At the same time the local incumbent could be expected to furnish certain additional information from the parish registers. In Scotland the absence of a class of overseers made it necessary to find some alternative enumerator, and the choice normally fell on the local schoolmaster.

The overseers were instructed to prepare a return to the questions asked in the census schedule "by proceeding together or separately from House to House, or otherwise, as they shall judge expedient for the better Execution of this Act." Subsequently the returns were to be laid before the Justices of the Peace, who were empowered to examine the overseers upon oath about their contents. In their turn the justices were required to deliver the schedules to the High Constables, from whom they were to pass to London through the hands of the clerks of the peace or the town clerks. The incumbent, meanwhile, was required to transmit the parish register return through his bishop and archbishop to the Privy Council, whose responsibility was to lay an abstract before Parliament. The final responsibility for "digesting and reducing to order" the entire census material lay with one of the Clerks of the House of Commons.

The machinery of enumeration did not prove ineffective, but it was not without its drawbacks. Between John Rickman, who was responsible for the central organization, and the overseers in the parishes there stood a multitude of officers, but they were channels of communication rather than active participants and guides in the operation. At the parish level, in spite of the fact that the Act enabled the overseers to call upon the services of "churchwardens or chapelwardens, sidesmen, parish clerks, vestry clerks, constables, tythingmen, headboroughs or other peace officers," there is no doubt that the main burden fell on the overseers themselves. These were men of greatly varying ability. As Rickman himself said: "These Overseers, who seem to have put

themselves in motion with much alacrity since the first Enumeration of 1801, must not be deemed an educated class of men; the great majority of them are occupiers of land who fill the office by turns in their respective Parishes; who answer plain questions with much sincerity, but to whom difficult Questions cannot be propounded without incurring the risk of retrograding instead of advancing in knowledge; that is, of arriving at misinformation instead of resting in acknowledged ignorance."

From the outset the overseers had been paid for undertaking this added responsibility, and any disposition to resent the new burden had been thereby minimized, but their task had not been made easier by the circumstances in which they worked. Parishes varied greatly in population, and the achievement of an accurate enumeration was particularly difficult in the growing urban areas. Householders did not receive schedules, and the overseer made all his returns on a single sheet. There was no record of names, only of numbers, and this made a check of the accuracy of the returns virtually impossible. The conscientiousness and disinterestedness of the overseers apparently largely offset these difficulties, but there was much room for the entry of error.

Reform in Census Procedure

Until 1841 this form of procedure remained unchanged, but during the 'thirties the spirit of Bentham and the energy of his disciple, Edwin Chadwick, were reshaping the fabric of English civil administration. The census was one beneficiary of this period of reform. The Poor Law Amendment Act of 1834 created the Union as the general unit of Poor Law administration, and this new subdivision was adopted first for registration and then for census purposes. The Municipal Corporations Act of 1835 paved the way for the creation of a new order of local government officers who were to become the backbone of the enumerating class. Finally, the General Registry Act of 1836, providing for the compulsory civil registration of births, marriages, and deaths, not only ultimately furnished a check on the overall accuracy of the census figures but created a hierarchy of officials in daily contact with vital statistics through whom the census could be conducted. The year 1834 also saw the establishment of the Statistical Society of London (later to become the Royal Statistical Society), whose criticism and advice from 1840 onwards largely influenced the form and scope of the census.

The newly created body of registration officials was brought into service for the census of 1841. To the local registrar—responsible for a district which on the average contained upwards of 7,000 persons—fell the task of selecting enumerators whose range of operations was to extend at the most to 200 households and on average to about half that amount. The burden of form-filling was now shifted from the overseer to the householder, a step making for greater accuracy in the returns and enabling more detailed information to be obtained. The new system, however, was not without its teething troubles. Papers were lost or incorrectly filled up, and in some instances householders refused to make returns. In certain parts of London "inhabited by the lower orders," said *The Times*, "it was deemed necessary that the enumerators should be accompanied by a policeman," while at Brighton a certain captain, obviously in the direct line of William Thornton, dispatched both the census form and the summons which followed it into the street. Nevertheless the machinery

*Largely, but not wholly even where the most orthodox census information is required: the National Registration undertaken in September, 1939, sought information about sex, age, and occupation of the entire civilian population—a virtual census.

had come to stay. In 1851 the census forms were passed down through 624 superintendent registrars, 2,190 registrars, and 30,610 enumerators to some 4,300,000 householders, from whom they made the same return journey to the Registrar-General.*

Reliability of Enumerators

The machinery thus established in 1841 has remained essentially unchanged to the present day; but its longevity is not proof that it has been free from problems and weaknesses. As recently as 1931, for example, a suggestion from the Registrar-General that a proportion of the enumerators might be recruited from among the unemployed led some well-meaning but misguided local authorities to refuse facilities for their officers to undertake census duties. In consequence large numbers of unemployed persons were enlisted, many of whom were wholly unsuited to the work.

The result in its more unfortunate aspects was described by the Registrar-General himself in his subsequent report. "During the actual course of their duties a small number of unemployed persons defaulted in order to take up regular employment, while in a few cases the local census officer was obliged to supersede the enumerator and to make emergency arrangements for the completion of his work. One enumerator disappeared in the course of enumeration with his enumeration book and partially collected schedules: in a small number of cases information came to hand that substantial omissions had occurred in the enumeration. In one of the latter instances it was discovered that the enumerator (who stated subsequently that he had been under treatment in a mental hospital) had been preparing fictitious returns to avoid the difficulty of obtaining them from the public. The enumerators concerned in all these instances were unemployed men." Nevertheless the Registrar-General was able to make good these deficiencies and confidently claim that the enumeration had been fully and exhaustively completed.

Form of the Inquiry

The census of 1801 attempted to give the answer to three problems—the size and distribution of the population, the number of houses inhabited and uninhabited, and the number of persons engaged in the three broad categories of agriculture, commerce, and manufacture or handicraft. The return under the third head was vitiated by a confusion about whether a return of families or individuals was required; on the accuracy of the other returns it will be more appropriate to speak later. The same simple information was sought in the three succeeding censuses, with the addition of a question about age in that of 1821. In 1811 the occupational query was clarified: a return of the occupations of families was asked for—evidence that the onset of the Industrial Revolution had not yet dealt widespread blows at the economic unity of the family.

The census of 1841, with its new machinery and personnel, however, provided the opportunity for a great forward step. Not only was a detailed occupational survey successfully attempted, but a question on place of birth was also included. This enumeration paved the way for the even more ambitious mid-century survey, which afforded evidence on marital status and the incidence of physical disabilities, included a more detailed

survey of age groups and birthplaces, and presented, together with a systematic census of occupations, information about the size of businesses and the area of farms. To these were added a census of church buildings and attendances and an educational survey, significant not only for the information which they contained and the interests which they reflected but also as the first venture of the census department into fields wholly unrelated to its initial inquiries.

The wedding of the Census Returns and the annual returns of births, marriages, and deaths forthcoming from the Registrar-General was one of the most fruitful results of the reforms of the eighteen-thirties. Once a large measure of accuracy had been introduced into these returns, their union opened up new fields of social investigation. It was now possible to observe more closely the trend of vital statistics, to trace the connexion between housing, sanitary and industrial conditions and the incidence of disease, and to focus attention on those districts where the need for the combined action of the local authority and medical practitioners was most acute. An early example of this new use of census material is to be seen in the provision of the Public Health Act of 1848 that the central Board of Health might compel the institution of local boards where the death rate of an area exceeded 23 per thousand—a standard of relative need which could not have been established in days when the Abstract of Parish Registers and Bills of Mortality furnished the only crude measure of varying death rates.

From 1851 the field of investigation has steadily widened. Under the influence of William Farr (1807-83), an early student of University College, London, with a medical training, who was appointed Compiler of Abstracts in the General Register Office in 1839, the census was increasingly used to furnish evidence about social problems. This new interest was reflected not only in the reports accompanying the census, for many of which Farr was directly responsible, but also in the nature of the questions asked. Farr, a prodigious and precise worker, rose steadily through the stages of the hierarchy of census and registration officials, but to his unconcealed disappointment the crowning office of Registrar-General eluded him, and he resigned from the department in 1879.

The census of 1911 was notable for the introduction of a section covering fertility, a line of inquiry not subsequently pursued in the census, but about to be taken up again in 1951; that of 1921 had questions on dependency, also not repeated in the somewhat unambitious 1931 census; while, in addition to the fertility inquiry, the census-schedule of 1951 will contain questions about the age at which full-time education is completed, and about household amenities. In spite of this steady broadening of the scope of inquiry, the British census has fallen well behind that of the United States in the range of its investigations, but it seems probable that the extension of range in the United States has produced greater inaccuracy of returns, especially where the questions bear least relation to the orthodox purposes of census-taking.

Accuracy of the Census

Accuracy is the first essential of a successful census. How has the British census stood up to this test? About the accuracy of the early censuses one contemporary at least had strong opinions. William Cobbett wrote in 1822: "I do not believe one word of what is said about

*Scotland, with no system of registration, continued to conduct its census through the old machinery until 1861.

the increase of the population. All observation and reason is against the fact; and, as to the *parliamentary returns*, what need we [say] more than this: that *they* assert that the population of Great Britain has increased from ten to fourteen millions in the last *twenty years*! That is enough! A man that can suck that in will believe, literally believe, that the moon is made of green cheese." But Cobbett was scarcely an impartial judge where the repercussions of the new economic order were concerned, and his opinion is a curiosity worthy of remark but not of more serious consideration.

Errors in the census may be traced to two main sources—to failures at the centre and to human weaknesses in the actual filling in of forms. Defects in the machinery of administration and ambiguities in the form of questions will tend to produce general errors; more specific local inaccuracies arise out of negligence on the part of enumerators, the ignorance of householders and their failure—conscious or otherwise—to furnish correct information. Before the long and varied tables of the British census are submitted to scrutiny two general points are worthy of notice. First, that in the early part of the nineteenth century typographical errors were not infrequent in Government publications and that statistical tables were also subject occasionally to this defect. There is no evidence, however, that the census was peculiarly liable to this failing—rather, indeed, the contrary. Secondly, caution and experience suggest that the first of a series of tables should be held under more suspicion of possible inaccuracy than those which follow. The first Factory Census in 1835 was incomplete and defective; the earliest return of collieries (in 1854) similarly suggests incompleteness; and among census documents the fertility statistics of 1911 contain patent errors. Experience has its benefits here as elsewhere, and the accuracy of a second survey is often the product of the failings of the first.

These two considerations are obviously relevant when the results of the 1801 census are considered. The overseers might well have proved unequal even to the simple task of counting heads; but their conscientiousness and their intimate knowledge of their own localities seem to have carried them through. There was also, from the outset, a legal penalty for false returns. All the same, the ideal of a survey completed in a single day can hardly have been realized, and mistakes almost certainly occurred on this account. Errors of omission are likely to have been more frequent than those of commission. There was no parallel in Britain to the Irish situation of 1831, where enumerators in many districts acted under the not altogether unjustified impression that they were to be paid by results and in consequence swelled the total of their returns. There is no way of establishing the possible extent of inaccuracy in the general return of 1801, but a retrospective glance from the surer ground of the second half of the century, taken in the light of the evidence of Parish Registers and Bills of Mortality, would suggest the substantial accuracy of this first return. Caution might dictate the assumption of a possible maximum overall inaccuracy of 5%, but this would probably do less than justice to the enumerators of 1801.

The three succeeding censuses almost certainly contained deficiencies of a similar kind, though possibly of a less degree. The machinery, however, seems to have broken down completely at Newport, Mon., in 1821, for no return whatsoever was forthcoming from the rapidly growing Welsh borough. The advent of compulsory civil registration not only made possible a rough check

of the accuracy of the returns but threw light on what was to prove a chronic problem of census-taking—the failure to secure a full return of young children. Even as late as 1911 the deficiency in the census records of children under 2 years of age would appear to have been over 6% of those of that age actually alive, and, although time has continued its remedial work, some 13,000 children (about 1%) failed to make their expected appearance on the census forms of 1931. Apart from this dwindling source of error, however, there would seem to be no reason to suspect the general accuracy of the population return.

Difficulties

The inquiries into housing and occupational status have been particularly provocative of problems of interpretation. Not until 1861 was it possible in the census return to make any distinction between the two-roomed cottage of rural England and the many-storied tenements of the great Scottish towns. There was consequent difficulty in making even a preliminary assessment of relative housing needs. Even to-day the census is too crude an instrument to give fully satisfactory information about this problem. Somewhat similar difficulties have been met in framing the questions on occupation. Since 1841 there has been an increasing refinement of the occupational schedule, bringing with it a more detailed and accurate return but tending to inhibit the making of some of those long-term comparisons on which the census can often throw great light.

No returns, however, have been more notoriously subject to error than those of the age distribution of the population. Old people tend to exaggerate their age; domestic servants hoping for a rise in remuneration have been said to practise a similar but more conscious deception: but these falsifications are trivial both in their manner and in their extent. More serious in its statistical consequences is the desire of young women to move too rapidly out of their teens or to linger too long in the twenties. Exhortation through the media of Press, radio, and cinema may do something to limit this type of inaccuracy; but human frailty is perhaps the most stubborn of all problems with which the statistician has to deal.

It would, of course, be possible to add to this list of sources of inaccuracy. The returns relating to marital status, for example, present problems similar to those arising out of the age question; and specialized inquiries such as the fertility census have their own difficulties. But the cases given should serve to illustrate the main sources of error as they reveal themselves in relation to the more general census inquiries. It would, however, be unjust to the Registrar's department to leave any impression that inaccuracy abounds. All the evidence points to a contrary verdict and suggests that, with each succeeding census, pockets of unreliability are being eliminated. The high standards established by Rickman and Farr have been more than maintained.

One further problem which has attended the taking of the census may here be noted—namely, the selection of the most suitable time of year for the inquiry. The criterion adopted has been that the day of the census should be that on which the maximum number of persons are in their normal place of habitation. Holiday periods and times of seasonal labour migration are therefore inappropriate: the early months of the year are also considered inadvisable because of weather

conditions. In practice, therefore, the census has always been taken at a date between the beginning of March and the end of June—and only twice in the latter month—and, of course, not at the Easter week-end. In 1801 the focal point of the census was made the midnight lying between Monday and Tuesday, March 9 and 10: since then it has without exception been the midnight between a Sunday and Monday. Even this careful selection of the most appropriate date has not satisfied the Registrar's department, however, and in recent censuses attempts have been made to determine the normal place of habitation and also the place of work of each person recorded in the schedule.

Uses of the Census

The forms of census inquiry have been largely determined by the uses to which census information has been put. The Defence Departments, the Ministries of Food and Agriculture, and the Ministry of National Insurance have fallen heir to those problems whose pressure gave rise to the taking of the first census; but every Government department must now look to the census as an essential part of the statistical foundation of its work. Especially perhaps is this true of the Ministries of Health and Labour—and of the Treasury. But the importance of the census extends far beyond governmental needs. Doctors, architects, actuaries, and insurance companies, among many varied professional groups, have their own particular interest in what each census reveals. No other body of statistical data will fully meet the needs which the census attempts to satisfy. Although inquiries through other agencies and methods have supplemented and in part superseded certain types of census inquiry, the regular decennial stock-taking, far from diminishing in importance, must grow in significance as the horizon of public concern and the duties of Government extend.

The person most generally interested in the results of census-taking is the demographer, the servant of all who come to make use of the enumeration and the examiner of the broad currents of population change: but equally catholic in his interests is the historian, the residuary legatee of all the material of the census and in many respects the richest and most permanent beneficiary of all.

For the economic and social historian there is no single source of evidence that throws so much light on the material conditions of a decade as does the census. The fullest of censuses, of course, covers only a sector of the economic life of a decade, but within its broad limits its richness of detail is unsurpassed.

Take, for example, the census of 1851, the year of the Great Exhibition, when Britain was at last becoming fully conscious of her economic strength and sought to assess the human roots of that power in statistical terms. In this census, with its recapitulatory tables of the five which preceded it, can be seen the growth of an agricultural into an industrial nation, its population doubled, and its new urban population increasingly concentrated on the coalfields.

Here can be seen the development of market towns and villages into industrial strongholds—first the increasing density of population in the old town as factories and back-to-back houses replaced cottage workshops and market squares; then, as building sites became exhausted, the steady encroachment of factory industry into the adjacent countryside; and, finally, the decline in population of the old central area as the answered

need for warehouses, offices, and shops restored to it its old commercial character. Here, too, it is possible to trace how far house-building kept pace with the growth of population and to see the development of the nineteenth-century slum, more especially in London's crowded East End. In the Return from the country districts is seen the reverse side of the picture—decline in population, noted by the enumerators as due to the closing of a water-powered mill as the water-wheel gave way before the steam-engine or to the migration of handloom weavers driven out of employment by the competition of factory-woven cloth. In the farming areas, the growing dependence of Britain on foreign food supplies is indicated by a stagnant or declining population in many parishes. Elsewhere the rapid rise and fall of population marks the winning and exhaustion of the shallow coal-seams as the mining frontier was pushed steadily onward.

The table of birthplaces shows clearly the sources of labour supply for the new towns—the short-distance migration from countryside to town and the steady stream of the Irish into western industrial areas, a stream swollen by the famine of 1845. The occupational tables, with their list of some 540 occupations divided into 17 categories headed by the single entry "THE QUEEN," show both the wide persistence of handicraft industry and the quantitative importance of the small number of large-scale industries, an impression confirmed by the—unfortunately defective—tables of size of businesses which follow. Here also may be noted the still small number of black-coated workers and the vast army of domestic servants (almost 1 in 20 of the entire population of England and Wales).

There are tables—never reliable—of the permanently incapacitated, of age distribution, and of the size of farms; and information also about the problems of vagrancy and poverty which had bulked so large in discussions about the census a century before. Finally, for the study of this age of great literature and widespread illiteracy, of religious enthusiasm and frequent primitive violence, the educational and religious censuses are of particular interest. Here the curious may find that more children attended Sunday school than day school, that after the "three Rs" the most popular subject was geography, that there was no teaching of natural science or history and, for the boys, little of what would to-day be termed vocational subjects: here, too, the investigator will discover in terms of church-building how far the Anglican Church lagged behind its Nonconformist offshoots in supplying the spiritual needs of the new urban communities, but also how far those new town-dwellers fell behind their rural brethren in the duties of church attendance. But these are only scratchings from the top soil of the fertile territory which is open to the economic historian in the census.

The 1951 Census

The coming census has a peculiar interest because of the time gap by which it is separated from its predecessor. Particularly interesting will be the information it furnishes about the extent to which the war of 1939-45 has stimulated or retarded trends in the occupational and geographical mobility of labour and the influence which a greater expectation of life and a declining birth rate are exerting on the age-structure of the population. These are problems which must affect the nation's economic and social policies. There is, of course, already much

statistical information available about them, but precision will be given to the material on which social scientists are already working.

It is perhaps not possible to look to the results of the 1951 census with that same degree of uncertainty which must have whetted the appetite of the curious in 1801 and 1811, but to all who are interested in the material problems of our society the coming census will clearly have much to offer; and, if a conclusion may be made on a note of paradox, it is interesting to observe that, whereas the Britain of 1801 with its population of 11 millions sought statistical information on what it deemed to be its problems of over-population and an excessive birth rate, to-day, with a population more than four times as numerous, it is a low birth rate and a consequent reduction in population growth that causes most general concern.

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MEDICAL SIGNIFICANCE OF THE CENSUS

BY

W. P. D. LOGAN, M.D., B.Sc., D.P.H.

Medical Statistician, General Register Office

Although Moses, Joshua, Saul, Solomon, and Jehoram each succeeded uneventfully in numbering some or all of the people of Israel, King David was less fortunate, and his Satan-inspired venture in 1017 B.C. provoked Divine wrath and drew on Israel a three-day pestilence, "and there died of the people from Dan even to Beer-sheba seventy thousand men."¹

Credit is claimed by Canada for the first census of modern times, a census of the Colony of New France in 1666.² The first complete census of a European country was held in Iceland in 1703,³ followed by Sweden in 1749.⁴ After a considerable amount of religious opposition had finally been overcome the first census in England was held in 1801. Since then there has been a census in this country every 10 years, with the exception of 1941. Despite the forebodings of our eighteenth-century legislators, no pestilences have resulted that can be attributed to these enumerations. On the contrary, by its contributions towards knowledge of the numbers of people and of the conditions under which they live, the census has played an important part in the prevention of disease.

Death and Sickness Rates

The first contribution that the census makes to workers in the medical field is to provide denominators for the various arithmetic indices—the sanitary indices—that

measure the state of the public health. Often it is not enough to know the number of cases of illness or of deaths occurring in a community unless the number at risk is also known—usually the number of persons living in the community at the given time. This is not all, however; of almost equal importance to knowing the total numbers at risk is to know their sex and age distribution. Sickness and death rates of males differ from those of females, and rates for the young differ from those for the old. To compare the death rates, say in two towns, it is necessary to use some method of standardization to make allowance for sex and age differences in the two populations, and for this to be done it is necessary to know what these sex and age differences are.

Similarly, comparison of death rates between one year and another must involve some form of standardization if fallacious conclusions about the trends of health and sickness are to be avoided. It is well known that the population of this country has been ageing for some time past—that is to say, the proportion of young persons has been becoming less and the proportion of old persons more. This change has been the result partly of a more or less progressive fall in birth rates during the course of this century and partly because people live, on the average, several years longer now than ever before. Since old people, whatever their state of health, are normally more liable to die than young people, it follows that the more old people there are in the population the higher will be the crude—that is, unstandardized—death rate. As a result the crude death rate for England and Wales, which averaged 23.3 per 1,000 per annum in 1846-50 and had fallen to 12.1 by 1921-5, was still 11.8 in 1949. This does not indicate a slowing down of improvement in the nation's health, but just the opposite. When allowance is made for ageing of the population, the death rate in 1949 is found to have fallen by almost 30% compared with 1921-5.

The accompanying Chart shows the proportions of the population at

different ages as revealed by the censuses of 1841, 1901, and 1931, and the estimated proportions in 1950. This year's census will show whether or not the estimates of proportions for 1950 have been good ones.

Since sickness rates as well as death rates tend to increase with advancing age,^{5,6} it must also be expected that in an ageing population the crude sickness rate may be slow to fall or may even tend to increase despite a real improvement in health.

Proportionate distribution of the population of England and Wales at ages 0-14, 15-44, 45-64, and 65 and over in 1841, 1901, 1931, and 1950. (The percentage of persons at each age is indicated within the Chart.)