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THE CENSUS OF CANADA

(Based on a booklet issued by Statistics Canada, Ottawa.)

The modern census originated in Canada. And Canada is still regarded as a world leader in many aspects of census-taking.

The word "census" comes from the Latin *censere* ("to assess"). In ancient days the word was apt, because the primary purpose was to collect taxes.

The Roman Empire made regular and frequent use of censuses for this purpose, as well as to list the names of men eligible for military service, to raise forced labour and to marshal the resources to finance the Empire.

Censuses today have nothing to do with assessment or taxation. A modern census is the complete listing or cataloguing of a people and many of the things that affect their lives. Censuses are taken to provide information about people so that governments, business and industry, social organizations and many other agencies can know more about the basic structure of our society as it is -- not as we hope or guess it might be.

The modern idea of a census originated in the middle of the seventeenth century. The year was 1666. The place was New France. The man who organized it was Jean Talon, the Great Intendant.

Talon's first census listed 3,215 persons, with details of age, sex, marital status and occupation. Two years later his census asked additional questions about livestock and cultivated property. In 1671 he took a census in Acadia. By 1754, 15 censuses had been taken in New France and Acadia. With each new census, questions were added about crops, buildings, churches, grist-mills, saw-mills, firearms and swords.

Upper Canada took its first census in 1824 -- and then conducted a census *annually* until 1842, the year of union with Lower Canada. The Act of Union required a census every five years. Meanwhile, censuses had been taken in New Brunswick in 1824, Assiniboia (later Manitoba) in 1831, and Prince Edward Island in 1841.

Under the British North America Act of 1867, a census was to be taken in 1871 and "every tenth year thereafter". This decennial census was extended to the territories and to new provinces as they joined Confederation.

In addition to the decennial census, a special agriculture and population census was taken in Manitoba in 1896 and extended to all three Prairie Provinces in 1906 to keep up with the rapid settlement of the West. This "mini" census continued every tenth year until 1956, when it was extended to the whole country. It has proved invaluable in updating population and agriculture statistics between major census periods and plans indicate it will be continued in 1976.

Thus the 1971 census crowned 100 years of national census-taking in Canada. And it was really threefold: A combined population and housing census; an agriculture census; a merchandising census.

The People and How They Live

The population and housing census is designed to tell how many people live in Canada, where they live and the kinds of homes they live in.

In 1971, every household received a questionnaire. Two out of three got a short form, requesting basic population data. They were asked to record the name, birth date, relationship, sex, marital status and mother tongue of each household member and to answer nine housing questions.

A longer questionnaire went to every third household. In addition to the basic questions, it asks for further information about housing and such matters as education, employment, migration and income.

This is known as "sampling" -- a technique that permits accurate conclusions about a whole society to be drawn from the replies of some of its members. For example, if the employed adults in the sample have an average income of $5,000, it is highly probable that the average for all adult Canadian workers will be very close to this figure, too.

The self-census and the sampling method applied to about 97 per cent of the population. The only exceptions were those living in remote parts of Canada, where geographical and other problems made it necessary to use traditional methods of door-to-door enumeration. All households in these localities were asked the full range of census questions.

Census Goes to the Farm

The farmer has a special responsibility in the census. He is asked not only to account for all the members of his household but also for his livestock, machinery and other aspects of his business.

It is a big and important job for the farmer. Canadian agriculture has been undergoing rapid change during the past 20 years or so. And in 1971 farm problems were more urgent and complex than ever.

Farm associations, co-operatives, marketing boards, businesses serving the farmer and local communities need good, up-to-the-minute statistics to do their job on the farmer's behalf. Provincial and federal government agencies use farm facts to assess the rapid changes in Canadian agriculture and to develop new programs to meet new needs.

The statistics compiled from the thousands of farms in Canada add up to a rich storehouse of information.

To collect these important facts, the census representative must get the forms to the farmer. Watch-dogs and unfriendly bulls -- to say nothing of mud up to the hub-caps -- do not deter the census staff from getting through.

Census Goes to the Businessman

Census representatives compiled a list of businesses in the retail, wholesale and service trades. Early the following year, each business received a detailed questionnaire for completion and return.

The information required is the kind readily available in business records covering financial activities in the census year. When the data have been compiled and analyzed, a lot more will be known about business -- the number and sales (or receipts) of business outlets, inventory, employment, salaries and wages -- and about business trends.

Is the corner store holding its own against the inroads being made by chains? Do department stores account for a greater share of the market for various commodities than do specialty stores? In what lines of goods are the markets increasing, decreasing or disappearing?

The answers to these questions provided a definitive picture of the value and trends of Canada's channels of distribution, from wholesaler to the final user -- the Canadian consumer.

Why Do You Ask That?

The intent and purpose of some census questions occasionally baffle people and cause comment. But there's a good reason for every one.

A special eyebrow-raiser is Question H9 on the 1971 questionnaire, which asks: "At what telephone number can this household be reached?"

Obviously, this is not a statistical question. But, with self-census procedures, where householders complete their own questionnaires and, in urban areas, post them back to the census office, it sometimes becomes necessary during processing to contact the householder to obtain missing information or clarify answers on the census form. A follow-up telephone call is quick, economical and more convenient to the householder than a personal visit. The telephone number is not retained as part of census information.

There are also questions as to whether plumbing facilities are used by one or more households. This information is important to housing authorities. It helps to indicate the standard of housing and thus assist in identifying areas that require urban renewal or redevelopment.

But why should the census-takers want to know whether a household owns a dishwasher, clothes dryer, deep-freezer, electric refrigerator, or a black or colour television set? There is more to this than giving an indication of living standards. These appliances use electricity or fuels. Energy producers need to know the likely trends of energy consumption. Manufacturers, distributors and retailers also require such statistics as a guide to production and marketing.

Census figures need to be carefully analyzed to produce meaningful information, as one Canadian salesman discovered back in the Thirties. Census figures for 1931 indicated that only a tiny percentage of homes in Northern Ontario communities were equipped with radios, compared to the rest of the province. It looked like a good territory in which to launch a sales campaign. He did and it failed miserably.

It didn't take him long to discover the reason. There were no radio stations that provided good reception in the area. Being an enterprising man, he quickly established one. Soon his radios were selling like hotcakes.

And that was the beginning of an amazingly successful career in the communications industry for the man who is now Lord Thomson of Fleet.

Selecting the Questions

Census information is so useful that individuals and organizations constantly suggest questions that they believe should be included.

One manufacturer thought it would be helpful if the questionnaire were to ask how many of the company's appliances were in each home. Such special-interest questions are always rejected. Only questions that will yield information useful to many Canadians are included.

Long before each census is taken, working groups and committees intensively discuss the questions to be recommended for inclusion. Representations are made by federal and provincial government agencies, businesses, universities, town-planning experts, financial institutions and many others.

Much time and thought goes into these recommendations. The final selection, which must be submitted to the federal Cabinet for ratification and approval, is made on the basis of the usefulness of a question, the cost involved in asking it, the relative difficulty of getting reliable answers, and the amount of effort it will take for the householder to provide the information.

Because of the recent emphasis on manpower-training programs, new questions were asked in 1971 about the time people devoted to vocational and occupational courses. Town-planners have long wanted to know where people lived in relation to where they worked, so this time the address of the place of work was included.

Other new questions included one on ownership of vacation homes. Forest industries, forest-product companies and agencies concerned with recreation will be greatly interested in the answers.

However, most of the questions for 1971 had been asked in the 1961 and earlier censuses. Indeed, some had been included in Canadian censuses since 1871.

At one time it was important to know the number of illiterates in Canada. With the coming of universal education, the illiteracy question asked in the earlier censuses was dropped after the 1931 census.

FOSDIC Goes to Work

A lot of work went into making the 1971 questionnaires as easy as possible to answer.

For example, apart from names, addresses, and phone numbers, most questions could be answered by using a black pencil (and even the pencil was supplied) to fill in a circle, like this -- "•".

Besides making it easier to fill in the questionnaire, this method made it easier to process the returns.

The first result of the 1971 census was paper -- millions of questionnaires, tons of paper. If it had not been for some amazing new machines, the Dominion Bureau of Statistics (now Statistics Canada) would have been smothered by paper work.

Instead, the paper was quickly processed into compact rolls of film. Every questionnaire was microfilmed by high-speed automatic cameras. Each roll of film recorded about 1,800 questionnaires.

The microfilm was then fed to FOSDIC (Film Optical Sensing Device for Input to Computers). This machine -- developed especially for census work -- can "read" the filled-in dots, which now are only tiny transparent specks on the negative microfilm.

At the rate of up to 500 questionnaire pages a minute, FOSDIC converts the census facts into electronic impulses on magnetic tape.

Using the Computer

The magnetic tapes produced by FOSDIC then feed into the computer's memory bank. Here the millions of facts about Canadians and how they live and work are tallied in large aggregate statistics.

Because of the advance of computer technology, this stored information can be organized and retrieved in a great variety of different tabulations.

For instance, try to stump the computer by asking it how many families with three children under five years of age rent six-room duplexes. If it has been programmed for such a tabulation, it can tell you the answer in an instant. Not actually "tell". Attached to the computer is a high-speed printer that reels off the required statistics at a furious pace.

Since the value of statistics depends on their being up to date, these speedy operations are invaluable for censuses. No longer is it necessary to wait years for some of the more vital pieces of census information to be tabulated, as was once the case. Timely statistics begin to flow soon after the census data have been processed.

Confidentiality Observed

People from other countries who study Canadian census methods frequently comment on the high degree of co-operation of Canadians with the census officials.

This helpfulness is not too surprising. Over the years the census has established thoroughly that it benefits Canadians in many ways. And it has also demonstrated that the answers given are kept in complete confidence.

This statement is included in a letter from Walter E. Duffett, Dominion Statistician, that accompanies census questionnaires:

The census of Canada is taken under the authority of the Statistics Act, which requires everyone to provide the information requested. The same Act guarantees that information you provide about yourself in your census questionnaire will be kept secret and used only to produce statistics. It ensures that no one will know what answers you gave except for DBS employees and they are subject to legal penalties if they disclose personal census information to anyone else.

All permanent and temporary census employees are required to take oaths of secrecy. The penalty for breaking the oath is a fine of up to $300, a jail sentence of up to six months, or both.

Behind this is the fact that the census is not interested in individuals as persons. It is interested in the facts they supply, but only in order that accurate data from families and individuals can be combined to produce statistics that can be obtained in no other way. Names, addresses and phone numbers are included on the questionnaire so that census field workers can make sure that everyone is included in the census, or can contact individuals in case any information has been missed.

When FOSDIC scans the microfilm of the questionnaires, it can "read" only the filled circles that indicate the answers. Where "write-in" answers are required, these are coded manually so that FOSDIC can read them too. But names are never coded into the information fed into the computer.

The original questionnaires are shredded and burned. Names and addresses remain on the microfilm record, to which only Statistics Canada employees have access.

People have occasionally expressed concern that the information they gave to the census could find its way to other government departments. Then it might be used to their disadvantage.

But here, as well, census secrecy applies. No other government department or agency and no police force is ever allowed to have census information concerning individuals. This information is kept on microfilm in Statistics Canada vaults under strict security.

Indeed, individual census information may not even be used in legal proceedings. This fact is so firmly established that courts no longer even try to get census information.

There is only one exception to all this. Where he has good reason, a Canadian resident may ask for date-of-birth information he has provided about himself in a past census.

When old-age pensions were introduced more than 20 years ago, the Dominion Bureau of Statistics was deluged with tens of thousands of requests for confirmation of age. These came from elderly citizens whose parents had either neglected to register their births or whose birth records had subsequently been lost.

For a person who asks in writing for census information about himself, Statistics Canada can provide a statement showing, for example, that when he was enumerated in 1931 he reported his age as 26. This is acceptable proof that he was 65 in 1970. But SC will not provide such information to anyone other than the person who gave it or his legal representative.

Rounding up Strays

There is a big job in trying to ensure that everyone has been counted. And Canadians are not the easiest people in the world to find and count.

Some live, work or operate a business in extremely isolated places -- in forests, on mountains and along isolated coasts. There are trappers, prospectors, Indians and Eskimos, as well as stores providing them with goods and services in remote areas.

Surprisingly, some of those who are hardest to count live in the centres of the biggest cities. These are people with no permanent address and transients who will be one place today and another tomorrow. The census officials try to account for them all by visiting rooming-houses and hotels.

Problems also exist in some city districts where people may have a limited knowledge of English or French. And sick and elderly people in hospitals and other institutions may need help in replying to census questions.

In these and other special cases, the "do-it-yourself" feature of the 1971 census was set aside in favour of the traditional system of enumeration.

The Census Goes to School

A voluntary student-classroom project was introduced in 1971 to support the population census. Students in Grades 6 to 13 in 21 cities were asked to fill out a questionnaire relating to student interests and activities. To insure anonymity, no student's name or other identifying information appeared anywhere on the questionnaire.

The purpose of the project was to acquaint students with the importance of the census and its procedures. At the same time, it resulted in some statistics about students and their interests.

The questionnaire asked a few questions about time spent watching television, number of books read, newspaper reading, part-time jobs and students' views about why they should attend school.

Having used the self-census methods in this project, a student could give assistance at home if it was needed in completing the general population census. And when he faces the 1981 or 1991 census as a householder, he will at least know what this national quiz game is all about. As a future educator, businessman, politician or whatever, he will also know how the census can aid his plans and goals.

Why Self-Census?

Some years ago the search began for more efficient ways of collecting information.

Traditional door-to-door canvassing in 1971 would have involved calling on some six million households, staying at each long enough to record the answers to all the questions.

To complicate matters, both husbands and wives in hundreds of thousands of households are absent from home during the day because of the large increase in the number of working women. The number of "call-backs" to households that would have been necessary under the old method threatened to prolong the information-gathering process by many weeks, or even months.

The self-census technique not only helped meet this problem but produced other distinct advantages.

Under the old system, questions were sometimes misunderstood by the householder and answers misinterpreted by the enumerator. The result, in both cases: incorrect information.

The self-census also avoids any embarrassment some people might feel when answering personal questions -- such as those relating to age, income and employment -- in the presence of a census representative.

Women in particular seem to be bashful about birthdays. And, despite reassurances about the complete secrecy of all census information, some men are reluctant to answer the question about income.

In 1961 a man phoned the census office in Vancouver to confess that he had made a false statement about his income. He explained that he had said his salary was smaller than it really was, because his wife had been listening.

Trying It on for Size

The extent of the planning that goes into the taking of a census almost defies description.

Football coaches plan for days or weeks before a championship game. Generals may spend months on the plans for a battle. But the census requires years of preparation. Even before one census has been completed, planning for the next one is under way.

There is more to the census than agreeing on the questions to be asked, although this takes much consideration. There are also decisions to be made on the techniques to be used, such as self-enumeration.

The new procedures for the 1971 census had to be worked out in detail, tested "in the field", reworked, and tested again.

A first small field test for the 1971 census was held in Ottawa in December 1966. Then London, Ontario, had a complete test of self-enumeration in September 1967. This was followed by a test of 6,000 households in Toronto in June 1968, and another in four rural localities in October 1968.

The census officials were trying to discover which plans worked best under the actual conditions to be faced. Was it better to post questionnaires to each household and pick them up later or have the enumerator call with the questionnaires and have them mailed back?

And how should a particular question be phrased? Would it be better understood if it was worded one way or another? How to find out? Try both to test the results.

Based on the outcome of the earlier trials, "dress rehearsals" were held in September 1969, in Sherbrooke, Quebec, St. Catharines, Ontario, and Souris, Manitoba. These provided the experience from which the final plans were made.

Never before had such comprehensive advance testing been used. As early as the London test in 1967, it became clear that the great majority of Canadian householders could complete the census questionnaires without the assistance of enumerators.

Thus the scene was set for June 1, 1971.

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