

POPULATION

1950 Is Census Year

Next April is set for the taking of the regular 10-year count of the population. Latin American representatives are being sent here for training.

By **MARJORIE VAN DE WATER**

► YOUR Uncle Sam is now completing plans for making his regular decennial count of all his many nephews and nieces.

Some time next April the census taker will knock on your door and will ask you a series of questions. You and your husband or wife (if you have one) will be counted and so will all the children down to the youngest infant in arms.

Better ask him to come in and sit down when he arrives at your house, because he will come armed with lots of large sheets of paper in a portfolio. And it is pretty hard to stand on a porch or in a field in the wind and fill out all the places on those big forms. They can and will do it, but it is much nicer for the census taker if he can spread things out on your dining table or living-room sofa.

The papers are much more formidable than are the questions themselves. You will probably be surprised at how quickly he gets his information and the interview is over. The average is about 15 minutes to take down all the information about your name, age, sex, race, whether you are married, single, widowed, divorced or separated, place of birth and whether you are working or unemployed.

Districts Assigned

Uncle Sam is sending an army of these census takers into the field. Each is assigned a certain district and is supplied with a map showing the boundaries of his assignment. He has instructions to count every man, woman, and child within those limits. The size of the district is arranged so that he can make his complete count and be done in about two weeks. Experience has shown that he will be able to count about 1000 persons in that time. Since the total population is estimated to be about 150,000,000, between 140,000 and 150,000 enumerators will be required for the job.

Your enumerator will have been specially trained for his work before he calls on you. If you live in a city, he has gone to school for one day, and then has gone out for a day of practice in census taking. And then, having faced a sample of the problems he will encounter, he goes back for another day of training. The enumerator who will work in the country will have a second day of counting, followed by a third day of training. That is because his work is complicated with the agricultural census

that is being taken at the same time as the population census.

In addition to the information that is gathered for every man, woman and child in the nation, additional questions will be put to a sample of the population. This sampling is done in a different way from that used by the election pollsters, and a way that is believed by Census officials to be more accurate.

Election polling is done by the quota system, which works like this. The interviewer is instructed to start from a certain corner and talk to people until he has interviewed a certain number having the required age, sex, and other important characteristics. Unconsciously, he may pick a biased group because of the fact that certain people are not at home, or at work, at the time the interviews are conducted or because the interviewer selects people he thinks he would like to talk to and so gets a group somewhat like himself in social or economic class.

The Census instructs the enumerators to ask questions about housing, for example,

in every fifth house or of every fifth person seen, covering his entire district in this way. If he is asking in every fifth house and they are not at home, he goes back until he finds someone. Thus, it is believed a fair cross-section of the nation is reached.

If you are that "fifth" person, you will be asked where you lived a year ago; the country of birth of your parents; what language, other than English, was spoken in your home when you were a child; and, if you were born outside the United States, about your citizenship.

Housing Questions

Housing questions to be asked of every fifth occupied house include the following: Do you have electric lighting? Do you have a radio? What kind of refrigerator do you have—electric, gas, or ice box? What kind of stove? What fuel do you use for cooking? For heating?

When the census taker has completed his task, then the real work begins in Washington. The information must all be translated into a code and cards must be punched with holes corresponding to the coded information, a card for each person. At the peak of production more than 1,000,000 cards will be punched and verified each day.



YOU'LL BE COUNTED NEXT APRIL—Information about your name, age, sex, race, whether you are married, single, widowed, divorced or separated, are among some of the things you will have to answer when the census taker comes your way.



SORTING INFORMATION—Facts obtained from you will be punched according to a code onto a card, which will be run through machines like this to sort them.

At one time it was hoped that a "document sensing machine" could be used to punch the cards automatically. Under this plan the census enumerators would make use of a special metal pencil to fill out the questionnaires. These metallic marks would later be "sensed" by the machine which would punch the cards to correspond.

Flaw in Trial Censuses

First flaw was detected in trial censuses. The special pencils turned out to be a nuisance. In the first place, the ink leaked on the enumerator's shirt pockets and got on the dresses of the ladies interviewed. But more important, when the enumerator had asked his questions and was all ready to take down the answers, the pencil would go on strike and refuse to write. But that was not all. To go through the machine properly, the questionnaires must all line up perfectly, and paper of the size used in the questionnaires shrinks and stretches with changes of weather in Washington so that it cannot be kept perfectly aligned.

Thus, the main reliance will still be on the army of key punch operators to make the cards that will go through the tabulators.

The cards are sorted and resorted and totals are made for each age, sex, race and other item of information collected. The information is then printed in big tables, ready to go to the printer. All this work is done automatically by machine.

Principal new thing about the 1950 census will be a change in the definition of rural and urban population. In 1940 persons were listed as city dwellers only if

they lived in places of 2500 inhabitants or more that were regularly incorporated. But around each of our large cities there is a suburban fringe that is not within the city limits. Those living in this suburban fringe were listed in the 1940 census as non-farm rural population. In 1950, boundaries will be established for the suburban fringe around the cities of 50,000 or more inhabitants and all the people living in this area will be classified as urban population. In addition, those towns of 2500 population or more, but which, for one reason or another, have never been incorporated will be counted in with the incorporated cities as urban population.

Definition of "Family"

The definition of a "family" will also be slightly different for the 1950 census. In 1950, all the related persons living in the same home will be considered as a single family, even though there may be more than one married couple living together in the household.

Some of the information that is to be obtained from only a sample 3 1/3 per cent of the population is that pertaining to length of marriage and fertility. The selected married persons will be asked if they have been married more than once and how many years they have been married. Women will be asked the total number of children they have ever borne.

To the Census, all people who have children are married. There is no tabulation of unmarried people with children.

In 1950, for the first time, Uncle Sam will have the company of all his Latin American neighbors in making the census. Agreement has been reached on what information to record for each person and how to tabulate it, so that for the first time, comparable figures will be available for all the Americas. Argentina is the only country not making a census in 1950, and that is because she just made one in 1947 and is still busy with the tabulation work.

Latin American countries are sending their statistical experts to this country for training in our National Office of Vital Statistics, Bureau of Agricultural Economics and Bureau of Labor Statistics, all bureaus concerned with the census. In addition all these trainees will receive a four-month course of training in the Census Bureau. By next Jan. 1, 200 persons will have received this training. In addition, consultants are going from the United States to visit Latin American countries and advise them. For some of our neighbors, the 1950 census will be their first experience with an enumeration of their population.

In counting the indigenous people living in the almost inaccessible regions of the Amazon valley in Brazil or the unexplored wilds of the Paraguayan chaco, the census taker will face unparalleled difficulties.

In many parts, there are no towns, no

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The Philosophical Library deems it a privilege to announce the forthcoming publication of Dr. Langmuir's work PHENOMENA, ATOMS AND MOLECULES. The eminent scholar, winner of the Nobel Prize and one of the country's pioneers in atomic research, has set down in this volume many of his thoughts, observations and conclusions.

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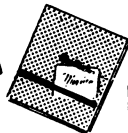
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roads, no houses. He must find the people, one by one, traveling afoot, on horseback or in canoe. He must carry his questionnaires in one hand and defend himself against wild animals, snakes or unfriendly humans with the other.

Cooperation of the people must be won

so that they will be willing to disclose information to the census taker. This is a problem in the United States; it will be even greater in those countries unfamiliar with censuses and where the people look with suspicion on anyone coming around asking questions.

Science News Letter, November 5, 1949

PUBLIC HEALTH

Reduce TB Germs in Air

➤ **DANGER** of getting tuberculosis by breathing the air-borne germs can now be greatly reduced with ultra-violet germicidal lamps, H. M. Vandiviere, director of bacteriology and parasitology research, State Department of Public Health, Atlanta, Ga., and his co-workers discovered.

The air was tested by a device called an impinger concentrator which breathes in one cubic foot of air per minute. The TB germs collected were exposed to direct irradiation under ultraviolet lights. It was found that the droplets ejected into the air by an infected person could be killed after 22 hours exposure at a distance of six and eight feet, he told the American Public Health Association in New York.

These germicidal lamps also kill about 70% of all other air-borne bacteria usually found in a room, Mr. Vandiviere pointed out.

This is a promising way of protecting workers exposed to TB, he said.

The experiments were made at the Battey State Tuberculosis Hospital with the cooperation of C. Edwin Smith, director, Battey State Hospital Laboratory, Rome, Ga., and Earl J. Sunkes, director of Laboratories, State Department of Public Health, Atlanta, Ga.

Food spoilage by molds, which cause destruction running into millions of dollars every year, can also be reduced with the use of ultraviolet lamps. Spores of various molds are destroyed or made inactive in the air with ultraviolet, experiments conducted at Lighting Research Laboratory of the General Electric Company in Cleveland, showed. The work was reported to

the meeting by Matthew Luckiesh, A. H. Taylor, Thomas Knowles, and E. T. Lempelmeier of GE.

Aerial disinfection with the chemical, triethylene glycol vapor, is another effective method of ridding the air of both bacteria and viruses. But it requires that the relative humidity be within a range of 20% to 50%, otherwise the killing action of the chemical is reduced. This was pointed out by Dr. William J. Lester, Dr. O. H. Roberston, Saul Kaye and Edward W. Dunklin, all of the University of Chicago.

Science News Letter, November 5, 1949

Three "church boats," which were put into service after the war as a temporary measure for the benefit of northern Norway villages whose churches were burned by Nazi invaders, will probably be retained indefinitely.

Words in Science—

TRANSPARENT-TRANSLUCENT

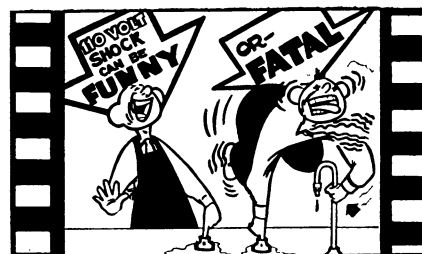
➤ **TRANSPARENT** is from two Latin words, *trans* which means "through" and *pareo* which means "appears." This word is applied to materials through which you can see objects clearly.

Translucent, from the same word *trans* and another Latin word *luceo*, "shine," describes material which lets light through but is not transparent.

If a substance is neither translucent nor transparent, it is said to be opaque.

Science News Letter, November 5, 1949

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