

ANNUAL REPORT

647

OF THE

DIRECTOR OF THE CENSUS

TO THE

SECRETARY OF COMMERCE

FOR THE

FISCAL YEAR ENDED JUNE 30, 1916



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

	Page.
Introduction.....	5
Current and completed work on statutory inquiries.....	5
Census of manufactures: 1914.....	5
Vital statistics.....	7
Mortality statistics.....	7
Birth statistics.....	7
International list of causes of death.....	8
Financial statistics of cities.....	8
General statistics of cities.....	9
Cotton and tobacco statistics.....	9
Cotton and cottonseed.....	9
Stocks of leaf tobacco held by manufacturers and dealers.....	10
Creation of new division; quarterly tobacco reports.....	10
Negroes in the United States.....	10
The blind and the deaf.....	11
Prisoners and juvenile delinquents.....	11
Estimates of population.....	11
Special and miscellaneous lines of work.....	12
Vital statistics.....	12
United States life tables.....	12
Monograph on cancer.....	12
The Federal registration service.....	13
Financial statistics of States.....	13
Financial statistics for cities under council and commission government.....	13
Supplementary occupation statistics.....	13
Special censuses of population.....	14
Report of the United States Geographic Board.....	14
Pamphlets giving information relating to the work of the Bureau.....	14
Statistical Directory of State Institutions.....	15
The Census exhibit.....	15
Assistance rendered other departments.....	15
Publications issued.....	16
Plans for future work.....	17
Transportation by water.....	17
Religious bodies.....	18
Marriage and divorce.....	18
Monograph on tuberculosis.....	19
Electrical industries.....	19
Forest products.....	19
Executive civil service.....	19
Census of city distribution.....	20
Machine shop.....	20
Development of integrating tabulator.....	21
Office accommodations, furniture, and storage space.....	21
Office accommodations.....	21
Furniture.....	22
Storage space.....	22
Office force.....	22
Method of distributing the Bureau's statistics.....	26
Reports and bulletins.....	26
Information furnished by correspondence.....	27
Legislation needed.....	27
Marriage and divorce.....	27
Forest products.....	28
Financial statistics of States.....	28
Official Register of the United States.....	28
Express business.....	29
Special statistical compilations.....	29
Intermediate census of manufactures.....	30
Appropriations and expenditures.....	30
Financial statement, fiscal year 1916.....	30
Appropriations, fiscal year 1917.....	31

1916

REPORT
OF THE
DIRECTOR OF THE CENSUS.

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, October 2, 1916.

SIR: There is submitted herewith the following report upon the operations of the Bureau of the Census during the fiscal year ended June 30, 1916, and upon the work now in progress.

INTRODUCTION.

During the fiscal year the Bureau of the Census compiled and published a considerable part of the primary or fundamental statistics based on its latest canvass of manufacturing industries and carried on the compilation of more detailed statistics for later publications; conducted its regular annual inquiries relating to mortality, to municipalities, and to cotton and cottonseed; prepared and published the Official Register of the United States; completed the preparation of a report on the blind and brought well toward completion one on the deaf; made semiannual collections of statistics relating to stocks of leaf tobacco; prepared and published a pamphlet giving comparative financial statistics for cities operating under the council and commission forms of government; issued a set of tables showing expectation of life for various classes of the population; carried on the compilation of a monograph giving detailed statistics relative to deaths from cancer; prepared estimates of population for States and municipalities; took special censuses of four cities and towns; and complied with many requests for information contained in its records.

Since the close of the fiscal year the Bureau has completed the compilation and publication of the primary statistics of manufactures and has been engaged in the preparation of the analytical tables and text for the final reports on that subject, in the conduct of the usual annual inquiries, and in preparatory work on the forthcoming censuses of religious bodies, transportation by water, and electrical industries.

CURRENT AND COMPLETED WORK ON STATUTORY INQUIRIES.

CENSUS OF MANUFACTURES: 1914.

The canvass for this census was completed early in the fiscal year, reports being secured from all manufacturing establishments in the United States which were in operation at any time within the calen-

dar year 1914, and, during that period, made products at the rate of \$500 worth per annum. It has been the endeavor of the Bureau to complete this canvass and to publish the results at earlier dates, relatively to the period covered, than the corresponding ones for any preceding similar census. To accomplish this, many changes and improvements were made in the methods employed, and I am pleased to report that not only was the canvass brought to completion more expeditiously than at preceding censuses, but the results were published more promptly than heretofore. The work was so arranged as to permit the publication of the "general tables"—that is, those giving the principal statistics relating to all manufacturing industries combined—for individual States and cities as soon as they could be compiled.

The first of these general tables, with text discussion, was published in June, 1915, in the form of a preliminary statement or press summary; and since July 1, 1915, there have been issued 751 similar preliminary statements, of which 1 related to all manufacturing industries combined, for the United States as a whole; 48 to all manufacturing industries combined, for individual States; 652 to all manufacturing industries combined, for individual cities of 10,000 inhabitants or more; and 50 to power laundries, for individual States, the District of Columbia, and the United States as a whole. In addition, 63 press summaries, each giving the principal statistics for a single important industry and covering the United States as a whole, were published, the last of which was sent to the printer on August 15, 1916.

The aggregate number of these summaries (including the one issued in June, 1915) is thus 815. The statistics relating to all manufacturing industries combined, for the entire United States, were sent to the printer on July 24, 1916—an earlier date, relatively to the period covered by the inquiry, than that at which the comparable figures for any preceding similar census had gone to press, and fully two months earlier than the corresponding date in the case of the last preceding census, that of 1909. The results of this census show that, notwithstanding the abnormal conditions existing in the latter part of 1914, the industrial activities of the country during that year were materially greater than in 1909.

The primary or fundamental figures having thus been published, the clerical force of the Bureau has been concentrated, so far as possible, upon the preparation of the analytical tables and text for the final reports. It is the intention to publish an abstract in a convenient-sized octavo volume of about 500 pages which will present all the essential statistical facts collected at the census. This will be in some respects, a new departure in census work, and it is my belief that it will be a very popular publication. It will differ from the octavo abstracts of the decennial censuses of 1890 and 1900 in that it will contain analytical tables, comparative figures for earlier years, and text discussion; it will differ from the abstract of the Thirteenth (1910) Decennial Census in that it will present the statistics in considerably greater detail and at the same time will be of octavo instead of quarto size and therefore much more convenient for handling; and it will differ from all former abstracts in that it will pertain to manufactures alone. Since the abstract will supply the needs of the great majority of those using the statistics of manu-

factures, it will be the first volume issued. The final reports will be published first in the form of a series of State bulletins, each presenting detailed statistics for a State and its cities; a series of bulletins or monographs, each giving detailed statistics for a single important industry and covering the United States as a whole; and a bulletin presenting statistics for all industries combined and for important industries separately, for the United States as a whole; and these bulletins will later be bound together in the form of three or four quarto volumes of about 1,000 pages each.

(See recommendation for legislation authorizing an intermediate census of manufactures, under "Legislation needed.")

VITAL STATISTICS.

Mortality statistics.—The compilation of the annual report, Mortality Statistics, 1914, was completed during the fiscal year, the last of the copy being sent to the printer on April 8, 1916. In this report there were included for the first time statistics for the State of Kansas, which had been added to the death-registration area for 1914.

The work on the report, Mortality Statistics, 1915, is progressing satisfactorily, and the copy will probably be in the hands of the printer by December 1, 1916. A preliminary statement, in the form of a press summary, giving the number of deaths and death rate for each registration State and each city having a population of more than 100,000 in 1910, has already been issued. This was sent to the printer on August 29, 1916—about three months earlier, relatively, than the corresponding summary for 1914.

The mortality statistics issued by the Census Bureau are, from year to year, being brought to a higher standard of usefulness. The registration of deaths—which, under the Constitution of the United States, is necessarily a function of the State and municipal authorities—is constantly becoming more nearly complete; and the registration area has been extended until it now contains about 70 per cent of the total population of the country. Separate statistics are shown for the white and colored races for that part of the registration area which lies in the South, and for all States, counties, and municipalities elsewhere in the area, in which the colored population forms 5 per cent of the total or numbers 10,000 or more; and data for deaths of nonresidents are shown separately, so far as it is possible to do so, thus avoiding the injustice that has heretofore been suffered by certain cities for which high death rates, due in considerable part to deaths of nonresidents, have been shown. This is a matter of especial importance to cities having unusually healthful climates, by reason of which consumptives and other invalids are attracted thither, and also to cities as compared with rural localities, since an appreciable percentage of the deaths in city hospitals are of persons resident in near-by small towns and rural territory.

Birth statistics.—Toward the close of the calendar year 1915 the Bureau established a birth-registration area comprising the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Michigan, and Minnesota, and the District of Columbia. This area, although it represents barely 10 per cent of the territorial extent of continental United States, has an estimated population of about 32,000,000, or more than 31 per cent of the total for the country.

The collection of birth statistics, as well as those of deaths, was authorized by the permanent census act, approved March 6, 1902. This act, however, provided that the statistics should be obtained only from the registration records of such States as in the judgment of the Director of the Census possessed records affording satisfactory data in the necessary detail. Ever since the passage of the permanent census act the Bureau has made annual collections of mortality statistics from a steadily increasing area which now contains about 70 per cent of the total population of the United States; but until recently very few of the States have maintained reliable birth-registration systems. A beginning has now been made, however, and the statistics will relate to an area having a population of such size and heterogeneity as to render them of great value and significance. The data now being gathered are being compiled so as to show births and birth rates for the population as a whole and for the white and colored races. Separate figures will also be given for urban and rural localities.

The work on the report for 1915 is progressing in a satisfactory manner, and the copy will be sent to the printer about December 1, 1916.

International List of Causes of Death.—A second edition of the Manual of the International List of Causes of Death was printed. Except for the appendix, which was rearranged alphabetically because of many changes, the original plates were used.

The third edition of the Physicians' Pocket Reference to the International List of Causes of Death was published and a copy was mailed to every physician in the United States.

Transcripts of birth and death certificates for 1916 are being received and edited, and the vital-statistics work of the Bureau is now well up to date.

FINANCIAL STATISTICS OF CITIES.

The annual report presenting financial statistics for cities of more than 30,000 population, relating, in the case of each city, to its latest fiscal year terminated prior to July 1, 1915, was completed and sent to the printer in January, 1916, less than seven months after the close of the period covered. This report, which fills 338 pages, gives detailed statistics relating to (1) total and per capita receipts from revenues and from the principal classes thereof; (2) total and per capita payments for current expenses, for interest, and for outlays for permanent improvements, and for each of the principal classes of expenses and outlays; (3) total value of municipal properties; (4) total and per capita municipal indebtedness; and (5) total and per capita assessed valuation of property subject to taxation. In addition, a number of pages are devoted to accounting terminology as used in the collection of the statistics. The Bureau's classification of municipal financial statistics has received the endorsement of the leading civic organizations of the country, and is now followed to a greater or less extent by many of the cities having more than 30,000 inhabitants.

An abstract containing the principal tables in this report has been prepared and will be used to meet the constantly growing demands

made upon the Bureau by persons who desire its primary or fundamental statistics in relation to municipal finance but do not care for the more detailed information given in the full report.

The field work on the current investigation pertaining to municipal finance, which covers the 213 American cities estimated to have more than 30,000 inhabitants on the medial dates of their fiscal years, and relates, in the case of each city, to its latest fiscal period terminated prior to July 1, 1916, was begun early in the present calendar year and is being rapidly brought toward completion. It is the intention to have the results of this inquiry in the hands of the printer in November of this year, or less than five months after the close of the period covered.

GENERAL STATISTICS OF CITIES.

The report on this inquiry, which also referred, in the case of each municipality, to its latest fiscal period ended prior to July 1, 1915, related to the subjects of governmental organization, police departments, water-supply systems, and liquor licenses and taxes. It was completed and sent to the printer in November, 1915, five months after the close of the period covered. The demand for this report has been so great as to necessitate a reprint.

The 1916 report on general statistics of cities will present detailed data in reference to recreation facilities, such as park areas and buildings, organization of park administration, playgrounds and athletics, baths and bathing beaches, zoological parks and collections, music and entertainment provided by the city, art galleries, museums, etc. Practically all the data for these subjects have already been collected, and their compilation is well under way. The report will probably go to the printer in October, 1916.

COTTON AND TOBACCO STATISTICS.

Cotton and cottonseed.—Ten reports giving statistics as to quantities of cotton ginned to fixed dates and four presenting data as to cottonseed crushed and linters obtained were published, in the form of postal cards, at the usual intervals during the ginning season of 1915-16; and monthly reports on consumption, stocks, and imports and exports of cotton, and number of active cotton spindles, also in the form of postal cards, were issued. In addition, an annual bulletin covering the year ended July 31, 1915, was prepared and published, in which was presented, in amplified form, with text discussion, the statistical material contained in the postal-card reports for that year, together with other information not given in those reports.

For some time past there has been a great demand for authoritative statistics as to the quantity of cotton fiber consumed in the manufacture of explosives, which culminated in the passage of the act approved August 7, 1916, authorizing the Director of the Census to collect and publish, at quarterly intervals, statistics of raw and prepared cotton and linters, cotton waste, and hull fiber consumed in the manufacture of guncotton and explosives of all kinds and of absorbent and medicated cotton. The first publication of these statistics will cover the calendar year 1915.

There also has been a demand for more frequent and more detailed statistics in relation to cottonseed and its products. Heretofore, although there has been no definitive provision of law authorizing the collection of such statistics, they have been gathered on the theory that cottonseed and linters properly formed a part of the cotton crop, but the Bureau has not felt justified in publishing them in any great detail nor so frequently as they were desired by cotton growers and by those interested in the industries using material derived from cottonseed and its products. Legislation authorizing an extension of the Bureau's work along this line was recommended in the last annual reports of the Secretary of Commerce and the Director of the Census; and such legislation is included in the act of August 7, 1916 (referred to in the foregoing paragraph), which provides for the collection and publication monthly of statistics concerning the quantities of cottonseed received at oil mills, of seed crushed in such mills, and of crude cottonseed products and refined oil produced; the quantities of these products shipped out of the mills and the quantities of these products and of cottonseed on hand; and the quantities of crude and refined cottonseed oil held by refiners, by manufacturers of compound lard, butterine, oleomargarine, and soap, and by brokers, exporters, and warehousemen. Arrangements have been made to carry into effect these provisions of the law, and it is believed that the statistics to be published during the coming year will be of great value to all interests concerned in the production, merchandising, or manufacture of cotton and its various products.

Stocks of leaf tobacco held by manufacturers and dealers.—During the fiscal year the Bureau issued, in the form of postal cards, its regular semiannual reports—the first relating to October 1, 1915, and the second to April 1, 1916—giving statistics in regard to the quantities of leaf tobacco held by manufacturers and dealers. This work has been carried on in accordance with the provisions of the act of April 30, 1912.

Creation of new division; quarterly tobacco reports.—The legislative, executive, and judicial appropriation act for the current fiscal year, approved May 19, 1916, contains the following provisions:

For securing information for census reports, provided for by law, * * * quarterly reports of tobacco; * * * including \$15,000 for collecting tobacco statistics authorized by law in addition to any other fund available therefor: *Provided*, That hereafter there shall be in the official organization of the bureau a separate, distinct, and independent division called the Division of Cotton and Tobacco Statistics: *Provided further*, That hereafter the Director of the Census may procure the information for the tobacco reports required by this Act and the Act approved April thirtieth, nineteen hundred and twelve, by mail or by special agents or by other employees of the Bureau of the Census.

Arrangements have been made for putting into effect the above-quoted provisions of law. The quarterly series of tobacco reports will begin with that for October 1, 1916.

NEGROES IN THE UNITED STATES.

In the reports of the Thirteenth Census, as in those of preceding ones, the statistics relating to the Negro population were scattered through a number of volumes in which the primary classifications were other than racial. After the publication of the reports of that census a bulletin entitled "Negroes in the United States" was pre-

pared, in which were brought together and assembled in a systematic form all the principal statistics relating to the Negro race. This bulletin, which was issued in April, 1915, has been a very popular publication, and already more than 15,000 copies have been distributed.

A report, in considerably greater detail, is now nearing completion, which will cover, among other things, such subjects as geographical distribution of the Negro population; nativity; rate of increase; school attendance; illiteracy; occupations; marital condition; death rates; ownership of homes; farm ownership, farm tenure, size of farms operated, and value of the various classes of farm property; religious organizations; and inmates of institutions for the dependent, defective, and delinquent classes.

THE BLIND AND THE DEAF.

At the Thirteenth Census, as at the preceding one, the enumerators were required to make an appropriate entry opposite the name of each person who was blind or deaf and dumb. To persons thus reported special schedules were afterwards mailed requesting data as to cause, degree, and duration of the defect; existence of blindness or deafness among relatives; education, occupation, etc. The schedules which were returned furnish data for significant and interesting tabulations. Bulletins presenting the fundamental figures derived from these tabulations have already been published, and the final reports are now in the hands of the printer.

PRISONERS AND JUVENILE DELINQUENTS.

The last census of prisoners was taken at the same time as the Thirteenth Decennial Census, but was entirely separate and distinct from it. This inquiry covered (1) sentenced prisoners in penal institutions on January 1, 1910, and (2) those committed to such institutions during the year 1910. A bulletin (121) giving in detail the statistics relating to the prisoners enumerated on January 1, together with the number committed during the year, classified by race and nativity, has already been published. The details relating to prisoners committed have since been tabulated, and the final report, presenting an analysis and discussion of all the statistics, with ratios and percentages, is nearly completed and will soon be ready for publication.

ESTIMATES OF POPULATION.

The preparation of a bulletin presenting midyear estimates of the population of States and cities for the years 1910 to 1916, inclusive, was practically completed during the fiscal year, and the copy has since been sent to the printer. These "intercensal" estimates of population, which are based upon the returns of the last census and the increase between the last two censuses—changes in area, if any, being also taken into consideration—are needed as a basis for the calculation of birth and death rates and per capita figures of various kinds; and in several States they are also used as bases for fixing the compensation of county officials and for establishing the number of liquor licenses to be granted.

SPECIAL AND MISCELLANEOUS LINES OF WORK.

VITAL STATISTICS.

United States life tables.—One of the most important of the special lines of work undertaken by the Census Bureau was the preparation of a series of "life tables," relating to the population of the six New England States, New York, New Jersey, Indiana, Michigan, and the District of Columbia. These States and District—sometimes referred to as the "original registration States"—had formed a part of the death-registration area since and including the year 1900.

The Census Bureau's life tables, which are the first of their kind ever compiled by the United States Government, are similar to those prepared by life insurance companies, but differ from the latter in that they relate to the entire population of the area covered instead of being limited to risks selected through medical examination and otherwise. One table gives data for all elements of the population combined, of both sexes; and other tables relate to whites, to Negroes, to native whites, and to foreign-born whites. Still other tables present separate figures for the States of Indiana, Massachusetts, Michigan, New York, and New Jersey, and for the urban and rural populations of the entire area. In all the tables except the first the information is given separately for males and for females. Each table shows, for each year of age, among other things, rate of mortality among persons at that age, rate of mortality among persons at that and all higher ages, and complete expectation of life. A special infant-mortality table appearing at the head of each main table shows rate of mortality, expectation of life, and other data for each month of age throughout the first year of life.

The tables published are based on the population in 1910 and the mortality in the three years 1909, 1910, and 1911. A similar set of tables exhibiting mortality conditions in 1890 and 1901 and during the decennium 1901 to 1910, inclusive, will be prepared and sent to the printer before the end of the current fiscal year. In the report presenting these tables will be given the original data on which they are based, together with an explanation of the methods employed in computing them.

The Bureau's tables are intended primarily to be of service as a source of information to the public; but they will be particularly useful to scientific men, mathematicians, teachers, public-health officials, physicians, students of vital statistics, sociologists, economists, actuaries, statisticians, sanitary engineers, and others interested in the conservation and betterment of the public health. They will also be useful to lawyers in connection with the valuation of reversions, annuities, retirement funds, and old-age pensions.

Monograph on cancer.—A monograph has been prepared and will soon be published, in which will be presented, in much greater detail than in the annual mortality reports issued by the Bureau, statistics in relation to deaths from cancer and other malignant tumors throughout the registration area in the year 1914. The deaths will be classified under 7 general headings and 27 subdivisions, each indicating the particular organ or part of the body affected, whereas in the annual mortality reports only seven classes of cancer are distinguished.

This work was undertaken at the request of the American Society for the Control of Cancer. Both this society and the American Public Health Association are especially interested in the monograph and have been active in cooperating with the Census Bureau in its compilation.

The Federal registration service.—A paper entitled "The Federal registration service of the United States: Its development, problems, and defects," prepared at the request of the Director of the Census by Cressy L. Wilbur, M. D., formerly chief statistician for vital statistics, Bureau of the Census, and now director of vital statistics, New York State Department of Health, for presentation at the last annual meeting of the American Statistical Association, held in Washington in December, 1915, was published by the Bureau of the Census. The statistical appendixes for this paper were prepared by the Bureau.

FINANCIAL STATISTICS OF STATES.

A report on this subject, similar in scope to the Bureau's annual reports giving financial statistics of cities (see section on financial statistics of cities, under "Current and completed work on statutory inquiries"), was prepared and published by order of the Secretary of Commerce. This report, which relates, in the case of each State, to its latest fiscal year ended prior to July 1, 1915, is the first ever compiled in which the statistics pertaining to revenues, expenditures, indebtedness, assessed valuation, and State properties have been given in so great detail. It has aroused much interest among State officials, who have cooperated actively with the Bureau in its preparation and who are desirous that the investigation be made an annual one. (See recommendation relating to financial statistics of States, under "Legislation needed.")

FINANCIAL STATISTICS FOR CITIES UNDER COUNCIL AND COMMISSION GOVERNMENT.

A pamphlet giving comparative financial statistics, reduced to a per capita basis, for (1) eight cities operating under the mayor and council form of government during the fiscal years 1913 and 1915, (2) eight cities operating under the commission form during both years, and (3) eight cities having the mayor and council form during 1913 and the commission form during 1915, was prepared early in the calendar year and issued March 13, 1916.

SUPPLEMENTARY OCCUPATION STATISTICS.

The Thirteenth Census report on occupations shows, for the United States as a whole, for each State and Territory, and for each principal city, the numbers of males and females 10 years of age and over engaged in each specified occupation, and, for the most part, their distribution according to broad age groups and according to color or race, nativity, and parentage. At the time this report was in course of preparation, and for some time after it was published, the pressure of other work, and particularly that on the 1914 census

of manufactures, was such as to render it impossible for the Bureau to make further analytical studies of the occupation data. The subjects of (1) occupations of women, (2) occupations of children, (3) occupations of the foreign born, and (4) unemployment are, however, of such importance, both as bases for legislation and as matters of general information, that the Bureau later (in October, 1915) began the preparation of a set of bulletins on these subjects, based on the Thirteenth Census data. The compilation is being carried on as rapidly as the condition of the work on the current inquiries will permit. The first bulletin to be issued will relate to occupations of children and will show sex, color or race, nativity, and parentage of child workers in conjunction with single years of age.

SPECIAL CENSUSES OF POPULATION.

During the fiscal year the Bureau took special population censuses of Highland Park, Mich., St. Clair Heights, Mich., Hastings, Nebr., and El Paso, Tex. Each of these censuses was taken at the request of the municipality, the actual work of enumeration being done by local employees under the supervision of a representative of the Census Bureau. The expense of the enumeration, except the salaries of the supervisor and his assistant (also an employee of the Census Bureau), was borne by the municipality. The Bureau is in receipt of a number of other requests for similar "intercensal" counts of population.

REPORT OF THE UNITED STATES GEOGRAPHIC BOARD.

The Fourth Report of the United States Geographic Board, of which the geographer of the Census Bureau is secretary, was compiled during the year. This report contained about 12,000 names.

PAMPHLETS GIVING INFORMATION RELATING TO THE WORK OF THE BUREAU.

Under the titles, "Information concerning Federal estimates of population and Federal supervision of local censuses" and "Tentative program of the Bureau of the Census: 1916-1919," respectively, the Bureau issued, during the fiscal year, two pamphlets giving information of the character indicated by their titles.

In all, the Bureau has published six such pamphlets since the beginning of the fiscal year 1913-1914, of which the first four were entitled, "Circular of information concerning tentative program of the Bureau of the Census: 1914-1916," "Circular of information concerning Census publications: 1790-1914," "Circular of information concerning the work of the permanent Census Bureau: 1902-1913," and "The story of the Census: 1790-1915," respectively. The Circular of Information Concerning Census Publications presents descriptive and chronological lists of all the publications issued by the Bureau. The Story of the Census gives a brief historical sketch of the inception and growth of the census work from 1790 until the present time, together with an outline of the statistical field now covered. Both these pamphlets have recently been revised and brought down to date.

STATISTICAL DIRECTORY OF STATE INSTITUTIONS.

The Bureau is compiling a statistical directory of State institutions for the care and custody of the dependent, defective, and delinquent classes. This directory will show for each institution the number of inmates; cost of maintenance; number of officials, assistants, or employees; acreage of grounds or land; and other data, all of which have been supplied by the officials of the institutions and will be published with their knowledge and consent. It will show the cost of maintenance per inmate and the total cost of maintaining such institutions in each State computed as a per capita of the total population of the State and also as a ratio of the total wealth of the State.

THE CENSUS EXHIBIT.

The Panama-Pacific International Exposition, San Francisco, Cal., in 1915, awarded the Census Bureau the Grand Prize and Gold Medal "For an exhibit of methods and machines employed in the collection and tabulation of statistics," and also a Diploma of Honorable Mention "For the illustrations contained in the Census report" (the maps, cartograms, charts, and diagrams in the Statistical Atlas).

At the close of the exposition the exhibit was returned to the Bureau and has been made a permanent one. A number of new charts and maps have recently been added, and the exhibit now comprises an automatic tabulating machine, a sorting machine, a punching machine, and a large number of charts and maps, the latter showing graphically some of the results of the Thirteenth Census and of important inquiries that have been made since that census.

The maps and charts were on display at the last annual meeting of the National Chamber of Commerce, in Washington; the entire exhibit is now at the Western Pennsylvania Exposition, in Pittsburgh; and it is later to be taken to the New York Electrical Exposition, in New York City. Requests for the use of this exhibit at other expositions have been received, but it has been necessary to decline them because of conflicting dates.

Two or three persons are always sent with the exhibit to demonstrate the machines, explain the maps and charts, take orders for Census publications, etc. All expenses, except the salaries of these persons, are paid by the exposition.

When not in use elsewhere this exhibit is installed in room 511, the fifth floor of the Commerce Building, and is always open to the public.

ASSISTANCE RENDERED OTHER DEPARTMENTS.

Lists of names and addresses of large manufacturing establishments (about 30,000 in number) were furnished the Secretary of the Navy, to be used by him in organizing the industries of the country in furtherance of the plans for military and naval preparedness. Lists of this character were also furnished the Federal Trade Commission and the Department of Agriculture, for use in connection with the activities of those offices.

Four thousand two hundred letters from the Pension Bureau, requesting data from the enumerators' returns for use in establishing the ages of pensioners and applicants for pensions and increases of pensions, were received and answered during the year.

The Census Bureau has two photostats (devices for making photographic copies of letters, documents, etc.), installed primarily for its own use, on which it has done and is doing considerable work for other Federal bureaus and offices, both in and outside the Department of Commerce. This work is done at actual cost. Only a few photostats are owned by the Government, and the Census Bureau's equipment in this respect is probably the best in the Federal service.

By crowding its own employees to a greater extent than is desirable, the Census Bureau has provided space on the fourth floor of the Commerce Building for some 25 or 30 employees of the Federal Trade Commission.

The census schedules containing agricultural data are of value to the Department of Agriculture in connection with its work; and employees of that department are given access to the schedules and provided with facilities for examining them and transcribing therefrom such information as is needed.

Employees of the Forest Service, of the Department of Agriculture, have been given access to the schedules returned at the recent census of manufactures from establishments engaged in the lumber and timber industry, for use in the preparation of the Forest Service's series of statistical bulletins relating to forest products. The Census Bureau also has lent the Forest Service some of its adding machines for use in the compilation of the statistics contained in these bulletins. (See section relating to forest products, under "Plans for future work.")

This Bureau has supplied the Bureau of Animal Industry, of the Department of Agriculture, for use in connection with its work, the names and addresses of slaughtering and meat-packing establishments, together with certain preliminary statistics in reference to the slaughtering and meat-packing industry, derived from the 1914 census of manufactures.

As explained in the section, "Executive civil service," under "Plans for future work," the Census Bureau is cooperating with the Bureau of Efficiency in the collection of data in reference to Federal employees. This Bureau has assigned five of its clerks to the work at the Bureau of Efficiency, where they will "edit" the returns from the various departments and independent offices in respect to their personnel.

One census clerk has been detailed to the General Supply Committee.

PUBLICATIONS ISSUED.

Following is a list showing the publications issued during the fiscal year and since its close. In addition to these, the Bureau has published a large number of press summaries, of which more than 800 were based on the manufactures census of 1914. (See subsection relating to census of manufactures, under "Current and completed work on statutory inquiries"; also subsection headed "Press summaries," under "Method of distributing the Bureau's statistics.")

REPORT OF THE DIRECTOR OF THE CENSUS. 17

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1915, TO JUNE 30, 1916.			
Bound volumes (quarto):			
Indians in the United States and Alaska: 1910.....	July 3, 1915	285	5,000
Wealth, debt, and taxation, 1913—Vol. I.....	July 9, 1915	886	2,500
Wealth, debt, and taxation, 1913—Vol. II.....	July 20, 1915	750	2,500
Official Register of the United States, 1915. Directory.....	Dec. 6, 1915	610	25
General statistics of cities, 1915.....	Apr. 18, 1916	135	10,000
United States life tables, 1910.....	June 7, 1916	65	7,500
Total.....		3,087	27,525
Bulletin (quarto): No. 131—Cotton production and distribution, season of 1914-15.....	Dec. 11, 1915	102	45,000
Reports of special censuses (octavo):			
Population of Tulsa, Okla. (enumerated Apr. 15, 1915).....	Aug. 3, 1915	15	2,000
Population of Hamtramck, Mich. (enumerated June 25, 1915).....	Oct. 10, 1915	10	1,000
Population of St. Clair Heights, Mich. (enumerated Nov. 18, 1915).....	Jan. 17, 1916	4	500
Population of Highland Park, Mich. (enumerated Nov. 15, 1915).....	Feb. 1, 1916	8	500
Population of Hastings, Nebr. (enumerated Dec. 13, 1915).....	Feb. 23, 1916	7	500
Population of El Paso, Tex. (enumerated Jan. 15, 1916).....	Mar. 25, 1916	8	500
Total.....		58	5,000
Miscellaneous publications:			
Leaf tobacco held by manufacturers and dealers, Apr. 1, 1915 (octavo).....	July 1, 1915	22	12,500
Advance tables of cotton ginned from crop of 1914 (quarto).....	July 10, 1915	30	42,500
Census of the deaf and dumb, 1910 (quarto).....	Sept. 3, 1915	8	2,500
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1915 (octavo).....	Oct. 25, 1915	29	2,500
Comparative financial statistics of cities under council and commission government, 1913 and 1915 (octavo).....	Mar. 13, 1916	10	15,000
Circular No. 4—Federal estimates of population and Federal supervision of local censuses (octavo).....	May 11, 1916	15	5,000
The Federal registration service of the United States: Its development, problems, and defects (octavo).....	June 9, 1916	85	5,000
Advance tables of cotton production in the United States—crop of 1915 (quarto).....	June 13, 1916	28	41,000
26 reports, in card form, relating to cotton and cotton seed.....	July 31, 1915 June 30, 1916	20	1,040,000
2 reports, in card form, relating to stocks of leaf tobacco.....	Nov. 2, 1915 May 1, 1916	2	50,000
Total.....		261	1,216,000
Grand total, July 1, 1915, to June 30, 1916.....		3,508	1,293,525
JULY 1, 1916, TO SEPT. 15, 1916.			
Bound volume (quarto): Financial statistics of cities: 1915.....	Aug. 7, 1916	338	7,500
Bulletin (quarto): Power laundries—census of manufactures: 1914.....	July 31, 1916	28	6,500
Miscellaneous publications:			
Manual of the international list of causes of death (second reprint; revised) (octavo).....	July 25, 1916	307	500
Circular No. 5—Tentative program of the Bureau of the Census: 1916-1919 (octavo).....	Aug. 14, 1916	14	5,000
Financial statistics of states: 1915 (quarto).....	Sept. 5, 1916	125	5,000
Total.....		446	10,500
Grand total, July 1, 1916, to Sept. 15, 1916.....		812	24,500

PLANS FOR FUTURE WORK.

TRANSPORTATION BY WATER.

The act creating the permanent Census Bureau authorizes the Director of the Census to make an inquiry in regard to water transportation at decennial intervals. The last such inquiry covered the calendar year 1906, and the next will therefore relate to 1916.

Since the census of 1906 there has been a great increase in the number and tonnage of American-owned craft engaged in foreign and domestic commerce, and material changes have been made in the

methods of conducting the shipping business. It is necessary that the great interests concerned be properly represented in the coming report, and to this end their cooperation must be secured. The importance of this matter was submitted to you, and, acting in conformity with your suggestions, I have arranged to obtain the cooperation of the Bureau of Navigation, the Steamboat Inspection Service, and the Bureau of Fisheries, all of which gather information concerning the shipping interests of the country that will be of more or less assistance in conducting the census. In addition, I have been able to obtain the sympathy and cooperation of the American Steamship Association and other associations and individuals that represent a large proportion of the shipping interests of the United States. The names and addresses of operators of documented craft are being secured from the Bureau of Navigation, and the collectors of customs and postmasters throughout the country are assisting in the preparation of lists giving similar information in regard to such of the undocumented craft as will be covered by the census. The blank schedules to be used in gathering the data have been formulated and printed, and will be distributed before the close of the year in the hope that the shipowners will prepare the reports and send them to the Bureau soon thereafter.

Arrangements have also been made to obtain statistics relating to the operations of shipbuilding yards and of fishing vessels. Neither of these important branches of the shipping industry was covered by the census of 1906.

RELIGIOUS BODIES.

The census of religious bodies, like the water-transportation inquiry, is, under the law, made at decennial intervals, and the forthcoming one will relate to the calendar year 1916. The report will present, for each religious denomination, detailed statistics in regard to church membership, church property, number and salaries of ministers, Sunday schools, etc.

MARRIAGE AND DIVORCE.

A joint resolution is now pending in Congress which, if adopted, will authorize the Bureau of the Census to collect and publish statistics in relation to marriage and divorce, covering the period from 1907 to 1915, inclusive, and at annual intervals thereafter. In case this investigation is thus authorized, the field work will begin within a short time after the adoption of the resolution.

The first Federal investigation of marriage and divorce as a distinct subject was made in 1887 by the Department of Labor and covered the twenty years from 1867 to 1886, inclusive. The next was made twenty years later by the Bureau of the Census and covered the period from 1887 to 1906, inclusive. If another investigation is made in the near future, there will be available, when the report is prepared, statistics on this subject covering a half century. The report will show, among other things, marriage and divorce rates; duration of marriage; causes of divorce; party to which granted, and whether contested; number of children; whether alimony was asked, and whether granted; and statutory regulations covering marriage and divorce in the various States. Comparative figures will be given for

important foreign countries. It is the purpose, if the investigation is made, to present for certain States detailed statistics of marriage, such as number of marriages, age at marriage, color, nativity, etc., so far as these statistics are available in published reports for any or all of the years included in the decade to be covered. (See recommendation relating to marriage and divorce, under "Legislation needed.")

MONOGRAPH ON TUBERCULOSIS.

A statistical monograph on deaths from tuberculosis, covering the calendar year 1916, will be prepared and published. This monograph, like that relating to cancer (see Monograph on Cancer, under "Special and miscellaneous lines of work"), will present much more detailed statistics than are given in the Bureau's annual reports on mortality.

ELECTRICAL INDUSTRIES.

The next quinquennial census of electrical industries, at which will be collected statistics in regard to the operations of central electric light and power stations, electric railways, and telephones and telegraphs, will cover the year 1917. The preliminary work for this census, therefore, must be begun in the latter part of that year, in order that the actual canvas may commence promptly after the first of January, 1918.

The census reports contain a complete history of the development of electrical industries, which has been so important a factor in the industrial advance of the United States. They are not made up entirely of statistical material, but include also sections describing the changes and improvements which have been made in electrical machinery and apparatus during the period covered. These sections are similar in style to articles in technical and scientific periodicals, and are accompanied by illustrations.

The next census will be the fourth regular quinquennial enumeration that has been made in compliance with the requirements of the permanent census act.

FOREST PRODUCTS.

A bill providing for the annual collection of statistics of forest products is now pending in Congress. In the event of its enactment into law the Bureau will collect and publish annually, probably in cooperation with the Forest Service of the Department of Agriculture, statistics showing kinds, quantities, and values of products made by lumber mills, quantity of each species of timber consumed, number of mills, etc. (See recommendation relating to forest products, under "Legislation needed.")

EXECUTIVE CIVIL SERVICE.

A bulletin presenting statistics relating to the employees in the executive civil service on July 1, 1916, will be compiled and published. The data will be supplied, on individual cards, by the various departments and other governmental establishments. The Bureau of Efficiency will have charge of the distribution and collection

of these cards, and after making use of the data on them as a basis for estimating the cost of civil-service pensions, will turn them over to the Census Bureau for the purposes of the statistical compilations required for the proposed bulletin.

Two similar bulletins have already been published, one relating to the year 1903 and the other to the year 1907. In these bulletins the employees in the executive civil service are classified by departments and bureaus and by sex, age, race, nativity, marital condition, compensation, length of service, etc. In 1907 the total number of employees, both in and outside the District of Columbia, was 185,874; and it is estimated that the number at the present time is not far from 320,000.

CENSUS OF CITY DISTRIBUTION.

Under your direction the Bureau is now planning an inquiry in one or more of the representative cities of the United States into that portion of the cost of distribution which arises from cartage and hauling. There has never been any complete authoritative inquiry on this subject, and the few attempts that have been made by outside investigators to obtain this information have not been continuous and conclusive and have only demonstrated that the problem is a very large one. It is known that the cost of distribution is one of the principal factors in the high cost of living to-day. Any inquiry concerning so extensive a subject to be of value necessarily would have to be undertaken by the Federal Government. It is hoped that the facts to be developed by the preliminary inquiry will lead to a thorough knowledge of this almost unknown but vital phase of the cost of living and to some adequate treatment of it in the future. The Bureau plans to begin this investigation as soon as the condition of its current work will permit—probably shortly after the the first of the coming calendar year.

MACHINE SHOP.

The machine shop was engaged during the year in the maintenance of machines in use in the Census Bureau and in the Bureau of Immigration; in making repairs to computing machines and to tabulating equipment damaged in transit; and in preliminary work in connection with new construction, rebuilding, and overhauling. In this preliminary work the shop has been somewhat handicapped by delayed deliveries and by difficulty in securing special materials.

In order that the Bureau may be properly equipped with machinery for tabulating the results of the Fourteenth Census, a great deal of work is necessary during the coming three years. If the appropriations for the machine shop continue adequate, it is planned to have the entire machine equipment completed and thoroughly tested by July 1, 1919—the beginning of the Fourteenth Census period. With this end in view, a progressive plan of work has already been begun. This includes the construction of 25 new-model tabulating machines, complete, and of 5 extra tabulator bases and 114 extra counting units of 10 counters each; the rebuilding of 286 automatic card-punching machines and of 2 card-sorting machines; and the overhauling of 17 card-sorting machines and of 5 card-count-

ing machines. This work, together with the maintenance of the machinery in daily use, will tax the capacity of the machine shop, as now organized, between the present time and July 1, 1919.

The force of the machine shop has been enlarged since July 1, 1916, by the employment of three temporary mechanics; and a register of eligibles for the position of "tabulating mechanic" in the Census Bureau has been established by the Civil Service Commission, through an open competitive examination held September 5.

Development of integrating tabulator.—During the last two years the officials of the Bureau have given considerable thought to the development of an "integrating" counter—that is, a counter which will not merely record and add *units* but will record and add *numbers*, thus performing automatically the work done by the operator of an adding machine—for use on certain lines of current work in connection with the mechanical-tabulation system of the Bureau, and some experimental work in this direction has been done in the machine shop. The tabulator already developed by the Bureau, which is a "unit-counting" machine, is successfully operating in connection with the compilation of the data returned for the population and other inquiries involving the assembling of single units only; but the development of an integrating counter would provide mechanism whereby the statistics of the agricultural and manufactures censuses could be similarly tabulated, and it is the opinion of those familiar with the work of the Bureau that the use of such a machine on the compilation of the data obtained at these inquiries would result not only in a great saving of time and money but also in greater accuracy than is now possible.

In order that the Bureau may immediately take up this work it is necessary, and is urgent at this time because of the approaching Fourteenth Census, to have an additional appropriation. It is highly important that the present work of the machine shop be not interfered with because both the appropriation and the force employed are barely sufficient to take care of the current work of the Bureau and prepare properly for the next decennial census. An estimate of \$50,000 has therefore been submitted for the purpose of meeting the expense incident to developing the integrating counter. It is believed that the expenditure of this sum will be repaid many fold through the saving, not merely on the census work alone, but on the statistical work of other governmental bureaus and offices, for the integrating tabulator will be adapted for use on all classes of statistical work.

OFFICE ACCOMMODATIONS, FURNITURE, AND STORAGE SPACE.

Office accommodations.—Although the increase in the Bureau's office force incident to the next decennial census will not take place until 1919, the compilation of the results of the recent census of manufactures—a very large piece of work—is now under way, and several other important investigations, such as the censuses of religious bodies and water transportation, as well as the inquiry relating to marriage and divorce, in case that inquiry is authorized by law, will begin in the near future; in fact, preliminary work on these investi-

gations is already in progress. It becomes necessary, therefore, to give immediate and serious attention to the matter of an increase in office accommodations. The Census Bureau already occupies four entire floors and parts of three floors of the Commerce Building, and it needs still another entire floor. Furthermore, a portion of its force is not disposed to the best advantage; for example, the division of vital statistics occupies parts of three floors, whereas it should be located entirely on one floor. It is obvious that the highest degree of efficiency can not be attained when a section of the force engaged in a single line or in closely related lines of work is scattered on several floors.

Furniture.—Although the Bureau's supply of desks, chairs, and filing cases has been increased somewhat during the past year, a still further increase is necessary in order to meet properly the needs of the daily work.

Storage space.—The matter of storage space for the Bureau's old records is steadily becoming more serious. These records consist in large part of population, agricultural, and manufactures schedules—that is, the returns made by the enumerators—of past censuses. The population schedules constitute substantially complete lists of the inhabitants of the United States at decennial intervals from 1790 to 1910. These schedules—which show not only names and addresses but various other items of information, such as sex, age, marital condition, etc.—are thus of great value to genealogists, applicants for pensions or increases of pensions, litigants in connection with the settlement of estates, and others; and their destruction would mean irreparable loss. At present these schedules are stored in four places: the eighth floor of the Commerce Building; the fireproof vault in the basement; a portion of the basement outside the vault; and the old Armory Building at the corner of Fifteenth and E Streets NW.

One end of the vault is next to the boiler room, and all the steam pipes for one side of the building pass through it. For this reason, the temperature—although the windows are left open and the steam kept shut off from the radiators—can not be brought below 90° F. while the heating plant is in operation. It is, therefore, almost impossible for a clerk to work in the vault, and particularly in the end next to the boiler room, for more than a few minutes at a time; and the records are rapidly deteriorating because of the heat, in spite of the fact that a large number of buckets of water are kept standing in the vault in order to moisten the atmosphere.

The roof and walls of the old Armory Building are leaky, and some of the records there have already been so badly injured by the rain that portions of them are obliterated.

The Census Bureau is, therefore, in immediate need of additional storage space for its records; and this need will be very greatly increased soon after the beginning of the Fourteenth Census period. It is highly important that steps be taken at once to remedy this condition.

OFFICE FORCE.

The appropriation act for the fiscal year 1916 provided for 569 permanent officials and employees of the Census Bureau. The number provided by the act of 1917, under which the Bureau is now oper-

ating, is 562, seven employees having been transferred by that act to the roll of the Department.

The Census Bureau labors under a serious handicap by reason of its low average salary scale, which is driving many members of its force, including some of the most capable ones, to leave for more lucrative employment elsewhere, both in and outside the Government service. Although the appropriation act for the current year afforded some slight measure of relief by providing for 13 additional positions in the salary classes above \$1,200 per annum, the number of \$1,200 places being correspondingly reduced, the scale of compensation still remains very low when comparison is made with other Federal offices. Of the Bureau's entire force, including officials, clerks, and subclerical employees, those in the clerical salary classes above \$1,200—that is, in the \$1,400, \$1,600, and \$1,800 classes—form only 14.2 per cent, and the officials and clerks above \$1,200 together constitute only 17.2 per cent, leaving 82.8 per cent—a very large proportion indeed—in the salary classes of \$1,200 and below. The percentage for officials and clerks above \$1,200 combined (17.2) is less than half as large as the corresponding one (36.1) for all the executive departments combined, exclusive of the Census Bureau, in February, 1912, the latest date for which this percentage has been computed. It is safe to say that in no other Federal office of equal or greater size is the salary scale for the official and clerical forces so low as in the Census Bureau.

During the past fiscal year 11 clerks—8 men and 3 women—were transferred to other Federal offices, and 20—7 men and 13 women—resigned. All the clerks transferred and all but one of those who resigned were receiving \$1,200 or less.

During the fiscal year 1914-15, 34 clerks were lost by transfer and 1 official and 15 clerks by resignation. Of the clerks transferred, all but 5, and of those who resigned, all but 1, were receiving \$1,200 per annum or less.

The loss during the year 1915-16, therefore, was somewhat less than during the preceding one, and it is probable that the difference was due in some measure to the fact that the promotions made at the beginning of the present fiscal year had been in prospect for several months. It is obvious, however, that the drain upon the Bureau's personnel remains altogether too large.

I here quote, from my last report, a passage which applies with equal force to present conditions:

It is impossible to lay too great stress on the injustice, both to the Bureau as an office and to its personnel as individuals, which results from this state of affairs. On the one hand, the Bureau has lost a considerable number of its experienced employees, and has thus become, to that extent, a training school for governmental bureaus and commercial institutions with more liberal salary scales. Many of these employees had become especially valuable and efficient as a result of their long service, and their places can not be adequately filled by the simple process of promotion or appointment. Months, and even years, of training will be necessary to fit their successors to discharge their duties with the desired degree of efficiency. On the other hand, the employees who remain are, in many cases, drawing far less pay than is given for comparable service in other bureaus in this and other departments. From the standpoint of the employees, this is unjust; and from the standpoint of the Bureau, it is a disadvantage, in that it tends to engender a spirit of discontent and indifference. Most employees will not develop their maximum possible efficiency when they believe themselves to be illtreated.

The Bureau also suffers by reason of the inadequate size of its statutory force, which now numbers 562, whereas 10 years ago it was 649, or 87 more than the present number. A portion of this reduction (39 employees) was due to the removal of the Census Bureau to the Department of Commerce Building and the resultant consolidation of part of its force with that of the Department. Making allowance for this consolidation, the Bureau is now operating with 48 fewer employees than it had 10 years ago. Its work, however, is materially greater at present than it was at that time, to some extent by reason of the addition, in 1912, of the semiannual (now quarterly) tobacco inquiry to the investigations regularly carried on by the Bureau, but more especially because of the general increase in the work along all lines, due to the growth of the country during the past decade.

The increase in the vital-statistics work is worthy of particular mention. This work is rapidly becoming greater from year to year, not merely by reason of the normal increase in the population of the country, but also because of the extension of the "registration areas" for births and deaths. The collection of birth statistics has recently been begun; and the death statistics, which 10 years ago related to less than one-half, now refer to approximately 70 per cent, of the population of the United States. As a result of this growth in the work on vital statistics it was necessary, in the latter part of the past fiscal year and the early part of the current one, to employ 30 temporary machine operators in the division of vital statistics for a period of about four months. Some of these operators had been formerly in the employ of the Census Bureau, and the remainder were obtained from the registers of the Civil Service Commission.

The Bureau of the Census, therefore, is doing more work to-day with a smaller force than it did years ago. It has been able, by improvements in methods and mechanism, to neutralize in part the effects of this condition, but the handicap under which it labors is still a serious one.

With the view of remedying, in some measure, the unfortunate condition existing in the Census Bureau as a result of its low salary scale, Congress will be asked, in making appropriations for the forthcoming fiscal year, to provide for an increase of 33 in the number of places above \$1,200 and for a corresponding reduction in the number of \$1,200 positions, the total number of places thus being left the same as at present. The changes for which provision is made in the estimates submitted to Congress will necessitate an increase of only \$9,600, or less than 1½ per cent, in the total appropriation for salaries, but will make possible a considerable number of sorely needed promotions. When once the compensation paid in the Bureau of the Census is on a par with that paid elsewhere for comparable work, the Bureau will be able to retain the services of its ablest employees—or at least of most of them—instead of losing them to other branches of the Federal service and to the commercial world.

The present and proposed classifications are shown on the pages following.

Grade.	Office force, 1917.			Estimates, 1918.		
	Number.	Salary.	Amount.	Number.	Salary.	Amount.
Director.....	1	\$6,000	\$6,000	1	\$6,000	\$6,000
Chief statisticians.....	4	3,000	12,000	4	3,000	12,000
Chief clerk.....	1	2,500	2,500	1	3,000	3,000
Geographer.....	1	2,000	2,000	1	2,000	2,000
Stenographer.....	1	1,500	1,500	1	1,600	1,500
Expert chiefs of division.....	9	2,000	18,000	10	2,000	20,000
Clerks:						
Class 4.....	15	1,800	27,000	17	1,800	30,600
Class 3.....	25	1,600	40,000	30	1,600	48,000
Class 2.....	40	1,400	56,000	65	1,400	91,000
Class 1.....	283	1,200	339,600	250	1,200	300,000
\$1,000.....	83	1,000	83,000	83	1,000	83,000
\$900.....	81	900	72,900	81	900	72,900
Expert map mounter.....				1	1,000	1,000
Skilled laborers:						
\$900.....	2	900	1,800	1	900	900
\$720.....	1	720	720	1	720	720
Messengers.....	3	840	2,520	3	840	2,520
Assistant messengers.....	5	720	3,600	5	720	3,600
Unskilled laborers.....	4	720	2,880	4	720	2,880
Messenger boys.....	3	480	1,440	3	480	1,440
Total.....	562		673,460	562		683,060

The following statement shows the nature and distribution of the office and field employees on September 30, 1916:

OFFICIALS.

Director.....	SAM. L. ROGERS.
Chief clerk.....	WILLIAM L. AUSTIN.
Chief statisticians:	
Population.....	WILLIAM C. HUNT.
Statistics of cities.....	STARKE M. GROGAN.
Manufactures.....	WILLIAM M. STEUART.
Vital statistics.....	WILLIAM H. DAVIS, M. D.
Expert special agent in charge of revision and results.....	JOSEPH A. HILL.
Geographer.....	CHARLES S. SLOANE.
Expert chiefs of division:	
Administrative.....	EUGENE F. HARTLEY.
Population.....	WILLIAM H. JARVIS.
Manufactures.....	EDWARD W. KOCH.
	FRANK L. SANFORD.
	GEORGE E. OLLEN.
Statistics of cities.....	ARTHUR J. HIRSCH.
Vital statistics.....	RICHARD C. LAPPIN.
Revision and results.....	HARRY H. PIERCE.
Cotton and tobacco.....	
Chief, mechanical laboratory.....	J. M. LABOITEAUX.

CLERICAL FORCE.

Stenographer, \$1,500.....	1	Clerks—Continued.	
Clerks:		\$1,000.....	83
Class 4.....	15	\$900.....	81
Class 3.....	25		
Class 2.....	40	Total.....	528
Class 1.....	283		

SUBCLERICAL FORCE.

Skilled laborers:		Assistant messengers, \$720.....	5
\$900.....	2	Messenger boys, \$480.....	3
\$720.....	1		
Unskilled laborers, \$720.....	4	Total.....	18
Messengers, \$840.....	3		

MECHANICAL LABORATORY FORCE.

Expert, \$1,800.....	1	Mechanician, \$1,200.....	1
Electrical expert, \$1,800.....	1	General mechanic, \$1,000.....	1
Mechanical expert, \$1,400.....	1	Machinists, \$1,200 (temporary).....	3
Mechanician, \$1,400.....	1		
Toolmaker, \$1,400.....	1	Total.....	11
Electrician, \$1,200.....	1		

SPECIAL AGENT FORCE.

Expert agents for general field work, etc.----- 19

SUMMARY.

Officials-----	18	Special agents-----	19
Clerical force-----	528		
Subclerical force-----	18	Total-----	594
Mechanical laboratory force-----	11		

In addition, there are employed throughout the cotton belt 725 local special agents to collect statistics of cotton. These agents perform their work only at intervals and are paid on a piece-price basis.

METHOD OF DISTRIBUTING THE BUREAU'S STATISTICS.

The usefulness of the statistical work done by the Census Bureau depends to a considerable extent upon the manner in which its results are disseminated. The method employed is to place the preliminary or fundamental statistics derived from a census inquiry before the public through the medium of preliminary announcements or "press summaries," and later to issue the complete report in the form of a paper-bound bulletin or series of bulletins, or in the form of one or more bound volumes. In the case of the more comprehensive reports, separate sections are published in bulletin form, and sometimes an abstract or summary of the entire report is issued. (See section relating to census of manufactures, under "Current and completed work on statutory inquiries.")

By means of its preliminary announcements or press summaries, the Bureau is able to place the salient features of its statistical reports in the hands of millions of readers—not only of newspapers, but also of trade journals, technical and scientific publications, etc.—whereas the reports themselves reach only thousands. These preliminary announcements in some cases summarize entire reports and in other cases only single sections of reports. An example of the latter class is supplied by the press summaries giving statistics from the recent census of manufactures.

These summaries range in length from half an ordinary newspaper column to a column or more, and many of them are given a very wide circulation. They are often printed in full, but when a paper or periodical can not spare sufficient space for the entire summary it usually omits portions and prints all or the greater part of the remainder verbatim. In this way the Bureau minimizes the danger that garbled and misleading statements based on its statistics, hastily prepared by persons unfamiliar with the subjects covered, will be placed before the public.

REPORTS AND BULLETINS.

In distributing its reports and bulletins the Bureau employs a number of mailing lists. One of these contains names of municipal libraries, libraries of educational institutions, statisticians, economists, and others who have requested that they be supplied with all publications issued by the Bureau; others are made up of names of associations, boards of trade, chambers of commerce, institutions, State and city officials, special students, etc., who desire the Bureau's

reports and bulletins relating to the particular subjects in which they are interested, but do not desire all its publications. In the case of the more important reports, a printed mailing card with franked return card attached is sent to each name on the appropriate list or lists, informing the recipient that the report is about to be issued and requesting him, if he desires to receive it, to notify the Bureau to that effect by detaching the return part of the card, signing his name, and mailing it.

In some cases a multigraphed circular letter is sent to members of associations, etc., who are presumed to be interested in the subjects with which the report deals. In the letter is given a brief description of the report, and the recipient is requested to notify the Bureau in case he wishes to receive it. This plan has been employed, with highly satisfactory results, in the distribution of a number of the publications recently issued.

The periodical reports on cotton, of which 26 are issued annually, are printed upon postal cards and mailed to large numbers of growers, ginnerers, dealers, and manufacturers. They are also printed upon sheets of suitable size and sent to all post offices in the cotton-growing region, for posting therein. In addition, mimeographed statements showing county totals are sent to cotton ginnerers, dealers, and others specially interested in statistics of this character. The annual cotton bulletin, containing in amplified form, with text discussion, the statistical material sent out during the year in the periodical reports just mentioned, is sent to all those who receive the postal-card reports. The mailing list for these reports comprises about 45,000 names.

The quarterly reports on tobacco, like the periodical reports on cotton, are distributed by means of postal cards and printed sheets for display in post offices.

INFORMATION FURNISHED BY CORRESPONDENCE.

One phase of the Census Bureau's work is the furnishing of information by correspondence. The Bureau is in daily receipt of scores of letters requesting information contained in its records. Many of these requests are for genealogical data and for information in regard to ages of soldiers, for use in connection with applications for pensions and increases of pensions. Each such request receives a courteous reply, and in the great majority of cases it is possible to supply the information desired.

LEGISLATION NEEDED.

MARRIAGE AND DIVORCE.

Senate joint resolution 107, authorizing the Bureau of the Census to collect and publish statistics of marriage and divorce covering the nine-year period 1907 to 1915, inclusive, and at annual intervals thereafter, is now pending in the House of Representatives.

In 1906, the last year covered by the previous census report, more than 72,000 divorces were granted in the United States. The annual divorce rate per 100,000 married population advanced from 81 in the year 1870 to 200 in the year 1900. Another compilation of the

data is necessary to show what the present conditions are and whether the increase in the frequency of divorce has continued or has been checked or in any degree retarded within the last 10 years. These and other questions relating to the causes of divorce, its relative prevalence in different States or sections of the country, etc., can be accurately answered only by the aid of statistics. It is obvious that an inquiry of such vital importance as this should be conducted at regular and frequent intervals, especially as the success of the undertaking depends upon the preservation and accessibility of local records, which after the lapse of time are liable to be destroyed or to be stored in inconvenient or inaccessible places. Nearly every important country except the United States makes annual compilations of statistics of marriage and divorce. In this country, however, such statistics have thus far been compiled on two occasions only, each compilation covering retrospectively a period of 20 years. (See section relating to marriage and divorce, under "Plans for future work.")

For these reasons the adoption of Senate joint resolution 107 is strongly recommended.

FOREST PRODUCTS.

In my last report I recommended the enactment of legislation providing for the annual collection of statistics of forest products. Bills having this purpose have been introduced in Congress (S. 4589 and H. R. 12417), but neither has become law. Statistics of this character should be collected and published regularly, since they indicate very closely the extent to which the forests of the country are being depleted for commercial purposes. (See section relating to forest products, under "Plans for future work.")

FINANCIAL STATISTICS OF STATES.

A report presenting, for the fiscal year 1915, financial statistics of States, similar in scope to the financial statistics of cities now issued annually by the Bureau, has been published. The preparation of this report—the first of its kind which the Bureau has compiled—was undertaken by order of the Secretary of Commerce, issued under authority contained in the act to establish the Department of Commerce and Labor, approved February 14, 1903. State officials and others interested in the investigation are desirous that it be made annually hereafter. Authority for the continuance of the work, however, can be provided only by legislation, and the enactment of such legislation was recommended in my last annual report. Bills to confer the needed authority upon the Director of the Census (S. 4589 and H. R. 12417, also referred to under "Forest products") are now pending in Congress, and the enactment of one of them into law is recommended.

OFFICIAL REGISTER OF THE UNITED STATES.

In the annual reports of the Director of the Census for the fiscal years 1913, 1914, and 1915, attention has been called to the need of a revision of the law relating to the publication of the Official Register

of the United States. Under the subhead, "Official Register of the United States," in the section entitled "Progress of routine work," in my annual report for the fiscal year 1915, I set forth my reasons for recommending certain changes in the scope of the Register; and under the subhead, "Official Register of the United States," in the section entitled "Legislation needed," in the same report, are outlined the changes recommended. These changes comprise:

(1) The establishment of a card directory, prepared and maintained by the Civil Service Commission from information furnished by the executive departments and independent offices, showing the name and status of every person in the Government service except the officers and enlisted men of the Army, Navy, Marine Corps, and Coast Guard. (Lists of officers of the Army, Navy, and Marine Corps are already published annually in the Army Register and Navy Register, issued by the War and Navy Departments, respectively.)

(2) The elimination from the Official Register of detailed lists of all employees, by name.

(3) The publication annually by the Bureau of the Census of an Official Register containing—

(a) A list of all employees of the Government (except officers and enlisted men in the Army, Navy, Marine Corps, and Coast Guard) whose duties are of an executive, supervisory, technical, or professional character, and whose compensation is \$2,000 or more per annum.

(b) Statistics relating to the Government service, to be prepared from the Civil Service Commission's card directory.

The adoption of the proposed plan would result in a very considerable reduction in the expense of preparing the Official Register, while at the same time preserving all its valuable features, and in addition would provide for a complete and up-to-date record of the entire personnel of the Government in one central office (the Civil Service Commission), in such form that the Census Bureau would be able, by the aid of its tabulating machinery, quickly and accurately to compile statistics relating to Federal employees when called upon to do so by the President or by Congress.

For these reasons, and for those given in my last report, I renew my recommendation that the proposed changes be authorized by law.

EXPRESS BUSINESS.

I renew the recommendation contained in my last annual report, for the repeal of the requirement of the decennial collection of statistics relating to the business of express companies, now contained in the act of June 7, 1906. Annual statistics of this character are collected and published by the Interstate Commerce Commission, and the decennial conduct of a similar investigation by the Census Bureau is wholly unnecessary.

SPECIAL STATISTICAL COMPILATIONS.

I also renew the recommendation contained in my last report, to the effect that express, rather than implied, authority be given the Director of the Census to furnish transcripts of tables and other records and to prepare special statistical compilations for State and local officials and for private concerns and individuals, and that the provision of law conferring this authority be so drawn as to make the amounts received for work of this character actually serviceable to the Bureau, instead of only nominally so as at present. The

authority under which the Bureau now performs this work is found in section 32 of the Thirteenth Census act.

INTERMEDIATE CENSUS OF MANUFACTURES.

Under the existing law, a census of manufactures in the United States is taken every fifth year. The last inquiry covered 1914, but conditions have changed so materially that the statistics from that inquiry provide no reliable indication of the production in 1916. There is constant demand for information as to the annual output of our domestic manufactures at more frequent intervals than every fifth year. A census covering only the gross values of the products of the various industries and the quantities and values of some of the principal products could be taken very expeditiously and at a comparatively small cost, and the statistics obtained would be of great value. Such a census would not cover such matters as capital, persons employed, quantity of power used, or various other details for which data are obtained at the regular quinquennial censuses of manufactures. The purpose would be to confine the inquiry to the gross values of the products of each industry and the quantities and values of the principal products, and to compile and publish the statistics in time so that they would be of current interest and value.

I recommend, therefore, that legislation be enacted authorizing the Director of the Census to take an intermediate census of the quantities and values of domestic manufactures for 1916 and for every fifth year thereafter.

APPROPRIATIONS AND EXPENDITURES.

FINANCIAL STATEMENT, FISCAL YEAR 1916.

The following financial statement covers the operations of the Census Bureau during the fiscal year ended June 30, 1916:

Administrative:			
Salaries for administrative places.....	\$36,394.60		
Salaries for division of correspondence and mail.....	10,176.40		
Salaries for labor force.....	3,497.78		
Contingent expenses ^a	13,730.78		
			\$63,799.56
Machine shop:			
Salaries.....	10,450.02		
Materials, supplies, etc.....	439.89		
			10,889.91
Division of revision and results:			
Supervision.....	7,048.00		
Publications.....	3,286.08		
Dependent, defective, and delinquent classes.....	12,567.93		
Negroes in the United States.....	16,687.05		
Official Register of the United States.....	5,112.49		
Directory of institutions.....	794.43		
Editorial and result work.....	1,740.55		
Miscellaneous.....	1,340.84		
			48,577.37
Division of population:			
Supervision.....	7,543.21		
Occupations.....	11,355.15		
Miscellaneous.....	1,378.89		
			20,277.25
Division of manufactures:			
Supervision.....	7,987.61		
Quinquennial census of manufactures.....	443,748.01		
Cotton statistics.....	260,018.21		
Tobacco statistics.....	4,225.73		
			715,979.56

^a Paid from appropriation for Department of Commerce; no separate appropriation for Bureau of the Census.

Division of vital statistics:		
Supervision	-----	\$6,819.81
Mortality statistics	-----	110,224.07
Life tables	-----	9,871.53
		\$126,915.21
Division of statistics of cities:		
Supervision	-----	8,029.72
Financial and general statistics	-----	88,821.79
State statistics	-----	14,752.80
		111,104.31
Geographer's division: Salaries	-----	30,545.05
Special population censuses	-----	2,259.94
Salaries of employees detailed to Department of Commerce	-----	11,365.29
Printing and binding ^a	-----	84,766.94
Grand total	-----	1,226,480.99

Title of appropriation.	Appropriation.	Expenditures during fiscal year.
Salaries, Bureau of the Census, 1916	\$674,740.00	\$664,496.89
Collecting statistics, Bureau of the Census, 1916	362,000.00	365,180.64
Collecting statistics, Bureau of the Census, 1915-16	^b 150,000.00	97,415.83
Tabulating machines, Bureau of the Census, 1916	12,000.00	10,889.91
Contingent expenses, Department of Commerce, 1916 ^a	13,730.78	13,730.78
Printing and binding ^a	84,766.94	84,766.94
Total	1,207,237.72	1,226,480.99

^a Paid from appropriation for Department of Commerce; no separate appropriation for Bureau of the Census.

^b There was also paid from this appropriation \$51,173.83 for liabilities incurred during the fiscal year 1915

APPROPRIATIONS, FISCAL YEAR 1917.

The appropriations for the fiscal year 1917 amounted to \$1,210,460. The item for salaries was decreased from \$674,740 to \$673,460. The change was due to the transfer of 7 employees to the roll of the Department, with a resultant decrease of \$7,080, and to an increase of \$5,800 in the amount appropriated for the salaries of the remaining employees. The net decrease, therefore, was \$1,280.

The appropriation for collecting statistics remained unchanged, at \$512,000.

The item for tabulating machines was increased to \$25,000, to provide for new construction, rebuilding, and overhauling, in preparation for the work of the Fourteenth Census.

Respectfully,

SAM. L. ROGERS,
Director of the Census.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

