

REPORT

138

OF THE

DIRECTOR OF THE TWELFTH CENSUS

TO THE

SECRETARY OF THE INTERIOR

FOR THE

FISCAL YEAR ENDED JUNE 30, 1900.



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REPORT
OF THE
DIRECTOR OF THE TWELFTH CENSUS.

DEPARTMENT OF THE INTERIOR,
CENSUS OFFICE,
Washington, D. C., November 1, 1900.

SIR: I have the honor to offer the following relative to the operations of this office from November 1, 1899, to the above date. In submitting this statement the better plan seems to be to present the work with reference to its various subdivisions.

SUPERVISION AND FIELD WORK.

The preliminary work incidental to the taking of the Twelfth Census, referred to in my former report, was continued with great activity up to June 1, 1900. In that report the statement was made that 297 supervisors were to be appointed and commissioned by the President. The list of names was submitted to and confirmed by the Senate during the months of December, 1899, and January, 1900.

As soon as the supervisors were confirmed active measures were taken to instruct them with reference to the duties imposed by section 10 of the act, particularly in regard to securing competent enumerators. At the time of forwarding the applications of enumerators to this office the supervisors were requested to transmit evidence of the capacity of such persons to perform the duties contemplated by the submission of a test schedule, which each applicant was required to write out in full. This test device was simply the regular form of a population schedule filled out in hypothetical manner. Some 300,000 applications for positions as enumerators were received. After an examination of the applications and test schedules, 53,173 enumerators were finally selected from the number mentioned above and assigned as follows:

Regular enumeration districts	52,100
Institutions (penitentiaries and asylums).....	627
Military posts and naval stations	155
Assistants on Indian reservations	147
Territory of Alaska (special agents)	37
Hawaii (special agents).....	107
Total	53,173

The candidates were duly commissioned, sworn in, and were ready for duty on the day set by law for the commencement of the enumeration.

It is proper to remark at this point that one great difficulty encountered by the officials in charge was in obtaining properly trained men

to assume the duties incident to the field work. It is to be borne in mind that almost the entire success of the census depends upon the efficiency of the supervisors and enumerators. With the exception of certain cities, placed in the hands of special agents for the purpose of gathering manufacturing statistics, all of the information relative to population, agriculture, vital statistics, and manufactures, is obtained through the medium of the enumerators; hence the practical results of the entire undertaking are dependent largely on the character and efficiency of those engaged in collecting the basic facts.

The officials of the Bureau, of course, have very little means of knowing the character or fitness of the supervisors, as necessarily the office must rely upon the representations, in the selection of these officials, of those in the various States and Territories who are familiar with local affairs. The supervisors, as a rule, have been most efficient and capable. Their success depends, however, largely upon securing capable assistants. As necessarily the period of employment of the enumerators was of very short duration, varying from fifteen to thirty days, it was in some parts of the country quite difficult to obtain competent men to serve.

It can be stated that the results of the field work of the Twelfth Census have been, in the main, satisfactory in view of the system. It is possible that some suggestions may be made later on to you, and through you to Congress, whereby a more thorough and accurate enumeration of the country can be obtained. It may not be improper to call attention to the fact that, could a complete system of registration areas be established in all parts of the country and the same enforced, a plan might be devised for the collection of statistics which would be far preferable to the one now in use.

At this writing all of the data collected by the supervisors and enumerators in the different parts of the country has been received and is now in process of tabulation. The enumerators have been paid for their services at a higher rate than heretofore. There was considerable complaint in the last census on the part of enumerators, owing to dissatisfaction with the compensation received. In this census, in order to avoid a similar criticism, the officials endeavored to adjust the rates, so that each enumerator would receive at least an average of \$3 for each day employed. The average sum paid the enumerators in the Twelfth Census was about \$65, while in the last it was \$55.28.

The disbursing clerk discharged the liabilities to the enumerators this year with more promptness than heretofore, owing to the method of handling the accounts established by the act of March 3, 1899. Section 10 of the act referred to prescribes that each supervisor shall make up and forward to the Director the account required for ascertaining the amount of compensation due each enumerator. The section further provides that the account shall be duly sworn to by the enumerator as correct, and if so found by the supervisor, he is required to certify said account to the Director, who must accept the same and make payment thereon. The law requires the Director to accept these accounts as certified, but the general responsibility conferred upon the Director by the census act, as well as proper business methods, demanded that the vouchers forwarded by each supervisor should be carefully examined, in order to determine their correctness before payments were made. The law, as observed, provides that these accounts shall be

“duly sworn to,” and it is this particular phraseology of the act which caused some delay in paying the enumerators. In order to facilitate payment, it was deemed advisable to secure an opinion from the Comptroller of the Treasury as to what would be acceptable to the accounting officers of that Department. The Comptroller held:

In the absence of any express authority, it is evident that the words “duly sworn to” must be given their most natural and obvious meaning, and must be held to mean that the accounts shall be sworn to before an officer duly authorized to administer an oath or affirmation.

Under this decision the Census Office required that the seal of the officer administering the oath be affixed to each account, and in the absence of a seal that a certificate be attached to the document to the effect that the right to administer oaths was vested in such official. In most communities these requirements did not seriously affect the work of the office, but in sparsely settled districts, particularly in the West, the only officer within perhaps a radius of 50 miles empowered to administer an oath would be a justice of the peace who had no seal, in consequence of which the enumerator was not only compelled to pay for subscribing to the oath before that officer, but was compelled to obtain a certificate, at considerable trouble and expense, showing the authority of the justice of the peace. In many cases accounts were received evidenced by an oath, but with no certificate attached. Hence arose delay and more or less dissatisfaction among enumerators, who, in many instances, did not appreciate the fact that the census officials were obliged to comply with all the formalities of the law.

In districts where the enumerators are paid per capita it seems unnecessary that the accounts should be sworn to, inasmuch as they are carefully checked by each supervisor and by the members of the office force. In per diem districts the object is to compel the enumerator to affirm that he has worked at least ten hours per day, in accordance with the terms of the census act.

Experience seems to indicate that prior to the next decade the law should be amended so as to confer upon the head of the Bureau the power to make such rules as he may deem proper and necessary in regard to the adjustment of these accounts to insure their prompt settlement. If this power were lodged in the Director he could determine in which of the districts or States the accounts should be sworn to, and thus save confusion, correspondence, and unnecessary delay in compensating the enumerators for the services performed.

Section 16 of the act of March 3, 1899, prescribes that no claim for mileage or traveling expenses shall be allowed any enumerator, except in extreme cases, and then only when authority has been previously granted by the Director of the Census.

In previous censuses, as well as the twelfth, the short time allowed for the organization of the Bureau made it impossible to ascertain all the conditions as to topography and density of population in each subdivision known as an enumerator's district. In consequence of this certain contingencies arose during the progress of the enumeration making it necessary for the enumerators to incur traveling expenses to hasten their work. The law requires that the enumeration in cities of 8,000 and over shall be completed within fifteen days and in country districts in thirty days. The enumerators working in the field miles from a post-office have not the time to communicate with

the supervisor and thus obtain authority from Washington, as required by law. In many instances enumerators, impressed with the importance of their work, have not hesitated to proceed without authority, but as the allowance can not be made legally their compensation in some instances has been far too low and evidently not in accordance with the spirit of the act that all enumerators shall be fairly paid. Under existing circumstances it is impossible to carry out the intention of this portion of the law, and I would respectfully recommend that the act, before the work of the next census begins, be so amended as to confer authority upon the Director to grant enumerators the right to travel should exigencies arise making it necessary for them to do so, or that additional power be granted the supervisors of census to authorize expenses of this nature without reference to the Washington office, under such regulations as may be prescribed by the Director of the Census.

COTTON GINS—PAYMENT FOR INFORMATION.

For statistical purposes, considered important, it was deemed advisable to secure, apart from the regular manufacturing schedules, certain facts regarding cotton gins. In the preparation of the blanks used by the enumerators for this purpose, a sentence was inadvertently included promising compensation to the enumerators making returns, at a rate of 5 cents for each gin reported. In order to make the inquiry of any value, it was essential that each cotton gin should be included. The fact that the language of the sixteenth section of the census act reads—
not less than twenty (20) nor more than thirty (30) cents for each establishment of productive industry enumerated—

was overlooked until the distribution of the schedules and when too late to recall the same. Under this section of the act, the Comptroller held that these accounts could not be paid. In consequence of the representations made to the enumerators and the prompt and efficient manner in which the returns have been made, I would respectfully recommend that Congress be requested to pass additional legislation authorizing the Director of the Census to pay all additional enumerators' accounts submitted specifically for the collection of these statistics at the rate of 5 cents for each gin reported.

Up to the present time returns have been made for 26,173 gins at a cost of \$1,308.65, and the total cost of the work will not exceed \$1,500. In view of the fact that these accounts will only average 20 cents, and the present law requires the accounts to be sworn to, which at a minimum expense of 25 cents would absorb the enumerator's earnings, I further recommend that the jurat to the accounts be waived and that they be paid on the certificate of the chief statistician for manufactures, as to the correctness of the same.

STREET BOOK AN INNOVATION IN CENSUS ENUMERATIONS.

In the enumeration of the larger municipalities of the country every precaution was taken to insure a thorough canvass of each city in order to avoid, so far as possible, any reasonable ground of complaint as to the correctness of the population returns. As a means to this end the supervisors were allowed to employ special agents to assist

them in supervising the work of the enumerators in large cities; and in addition there was used what has been termed a "street book." The use of such a book is an innovation in census work. This street book was compiled by the use of insurance maps for the larger cities in which the book was used.

The object was to enable the enumerator in each city district to make a record of the houses and buildings visited by him each day, the number of families and persons found in each house or building, and the date visited; and, on the other hand, if no persons were found in any house or building, to enable him to indicate the same. By means of the street book, therefore, the enumerator was required to account for each and every house, building, or place of abode, of whatever kind, within the limits of his enumeration district, the record being made in such form as to permit of easy verification of the completeness of the house-to-house canvass.

The enumerator was directed to canvass his district by blocks, starting at one corner of the block and, before leaving it, going around and through the entire block, keeping always to the right, and going in and out of any court or alley that might be included in said block, until the point of starting was again reached.

The portfolio for each city district also contained a map of the enumeration district, and each block in the district was designated by a letter or a number on said map. Each block was canvassed in its order as lettered or numbered, and the work was completed in each instance as far as possible before work in the next block was commenced. The enumerator was also instructed to indicate on the population schedules the beginning and end of his work in each and every block comprised within his enumeration district.

By the use of this device a complete check was had upon the work of the enumerators in city districts, and the census supervisor, as well as this office, was in a position to determine, without undue labor, whether or not the work in each city district had been properly done, inasmuch as the street book, when correctly made, furnished in itself all the evidence that is necessary to establish the completeness and the correctness of the work of the enumerators in the larger cities of the country. By its use in the present census a most effective agent was provided to secure a much more thorough canvass of city districts than has been possible heretofore, and as a result thereof there has been to date no case where it has been proven that the work of the enumerators in city districts, taken as a whole, had been so faulty or incomplete as to warrant the reenumeration of any city, either in whole or in part.

While the street book may seem to duplicate certain facts reported on the population schedule, the information derived from it showing the vacant lots, character of buildings, etc., tended to aid this office, as suggested above, in ascertaining the correctness of the work done by the enumerators in the great cities. I give below an itemized statement of the cost of these books, including the additional amount of one-half a cent per name allowed the enumerators for making the entries. The insurance maps will be sold in the manner prescribed by law, and will probably reduce the total sum named below in the neighborhood of \$1,500.

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COST OF STREET BOOKS.

Amount expended for clerks to make up books:

Baltimore.....	\$1,755.65
Boston.....	768.28
Brooklyn.....	377.67
Chicago.....	2,437.47
New York.....	3,902.08
Philadelphia.....	1,195.35
St. Louis.....	658.32
Total.....	11,094.82
Total cost of insurance maps.....	4,895.00
Total population of cities, 18,432,418—on basis of one-half cent per name.....	92,162.09
Cost of printing street books.....	2,721.64
Total cost.....	110,873.55

Before leaving this subject it seems eminently proper to call attention to the views of Dr. F. H. Wines, assistant director, who has had long experience in census work, concerning the value of the use of the book. In a letter to the Director, under date of October 13, 1900, Dr. Wines writes as follows:

1. The preparation of these books by the supervisors was a great assistance to them in making themselves thoroughly familiar with the cities they had to enumerate.
2. The placing of these books in the hands of the enumerators had the necessary tendency to make them far more careful and thorough in their work, since they knew that the supervisor would thereby be enabled to detect any voluntary errors on their part, either by way of omission or commission; and it also placed in the hands of the office the necessary proof with which to convict them criminally in case of deliberate fraud on the part of any of them.
3. At the proper time, by the aid of these books, a census of houses in the larger cities of the United States can be made, which will show to what extent the tenement-house evil prevails in each of them; also whether the supply of houses meets the actual demand or falls below it.
4. The possession of these books was an immense protection to the office against charges of negligence in taking the census.

EXAMINATIONS AND CLERICAL WORK.

The organization of the office, so far as the clerical force is concerned, was not completed until July 1, 1900, examinations beginning May 3, 1899, and continuing until the above date. A series of examinations for clerical positions was held in Washington, D. C.; Boston, Mass.; Lansing, Mich.; Cincinnati, Ohio; Chicago, Ill.; St. Paul, Minn.; Omaha, Nebr.; Topeka, Kans.; St. Louis, Mo.; New Orleans, La.; Atlanta, Ga.; Portland, Oreg.; San Francisco, Cal., and New York City. These examinations covered a period of about fifteen months, and practically closed July 1, 1900. Up to July 1 the whole number examined was 6,336, from which an eligible list of 3,530 was secured; that is, 3,530 attained the required average of 75 per cent, while 2,806, or 44.29 per cent of the whole number examined, failed to pass. During July and August a total of 103 applicants were examined to make up quotas not already filled, of whom 43 passed and 60 failed. This makes the total number examined 6,439, of whom 3,573 passed and 2,866 failed.

The total cost of the series of examinations, including the salary of the chief examiner and his assistants, traveling expenses, subsistence, rent, stationery, etc., was \$8,611.08. This amount represents an expense

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of \$1.36 for each person examined, or \$2.44 for each person now on the list eligible to appointment.

The plan was adopted by the office of examining applicants in accordance with the law for positions including and above the grade of skilled laborer, and has resulted in procuring a superior order of clerical assistance. The examination was insisted upon, save in cases where the persons desired to act as laborers, watchmen, charwomen, folders in the printing division, or experts in certain branches of the work.

The clerical force was selected from the various States and Territories on a basis of population. It is very gratifying to state that those immediately in charge of the several divisions of the office are thoroughly satisfied with the proficiency and ability of the clerks in their respective divisions. About 1,000 of the clerks were chosen to do temporary work and will be dropped from the rolls between now and the 1st of January. The balance of the force, some 2,400 or 2,500 people, will be retained until the middle or latter part of next year. The work is progressing so rapidly, however, that it is quite evident the services of a large number of the clerks will have to be dispensed with from time to time as various portions are completed.

The examinations were confined principally to questions in arithmetic, English, tests in writing, and a few incidental questions of a general nature. It was not deemed necessary to examine applicants upon any subject which would not be of use in the census work.

DIVISION OF METHODS AND RESULTS.

For the first time in the history of census work a division of methods and results was created soon after the preliminary organization was effected. The object of the division was to bring to the work the point of view and experience of a teacher of statistics and writer upon census topics, and to strengthen the confidence in the Census Office on the part of scientific organizations dealing with census results.

Immediately upon the creation of the division it undertook to gather a library of books relating to census work in this country and abroad. The remains of the library of the last census were examined, and the books likely to prove of value were catalogued and arranged on shelves. Correspondence with State officials, municipal authorities, and foreign statistical offices was opened, and many valuable documents were obtained without cost. Later the aid of the State Department was obtained in an effort to secure the census volumes of foreign countries and now the Census Office has probably the fullest American collection of foreign censuses, and a complete set of the censuses taken by American States since 1890. In all, it has on its shelves at present about 6,000 volumes and pamphlets.

As this material accumulated an effort was made to gather clerks who might interpret it by comparing the methods of tabulation and interpretation employed elsewhere with those practiced in the United States, and, as a result, offering suggestions for the modification of American practice where it seemed capable of improvement. In order to obtain the end desired, it was necessary to secure clerks who were able to read the modern languages in which the most important documents were written, and had some acquaintance with statistics and economics.

In order to obtain clerks of the ability desired, a letter was addressed by me, on October 20, 1899, to the presidents of a number of the leading American universities, asking them to recommend suitable persons to be employed as indicated above. About eight of the universities responded to the request. These specially trained students were appointed clerks in this division, and six of them are still engaged in the work. Under the direction of the chief statistician for methods and results, these clerks have prepared valuable reports upon certain census topics, and the results are now in the office files.

The future work of the division will consist largely in extending these reports, including the figures of the Twelfth Census and an interpretation of the same, establishing the best topical arrangement and sequence, supplementing these studies as may be necessary by reports from outside experts on topics which can be so handled to advantage, and preparing the whole for publication as a special report.

DIVISION OF VITAL STATISTICS.

This division is provided for in the act of March 3, 1899, and it is hoped that the plan adopted will give more accurate information than heretofore obtained. A statement is herewith submitted showing the conditions of the various branches of this important work.

REGISTRATION RECORDS.

The correspondence with local registration officials for the purpose of securing modifications in the forms of returns used so as to embrace the essential items required for the compilation of uniform statistics was concluded, with the result that the forms in use, so far as controlled by the State authorities, were satisfactorily amended in the following States:

California, Colorado, Connecticut, District of Columbia, Kansas, Maine, Michigan, Minnesota, New Hampshire, New York, North Dakota, Pennsylvania, and South Carolina.

In Arkansas, Iowa, Missouri, and Ohio the State boards of health approved the suggestions made, and recommended that forms in local use in cities be changed as desired. Other State boards have also accepted the recommendations of this office, and announced their intention to put them into effect as soon as circumstances permit.

The forms in use under local ordinances in 71 of the principal cities in other States than those first mentioned were also either amended as desired or the form recommended by this office adopted in entirety and put into use.

Local reasons operated, unfortunately, in many places to prevent the introduction of the new forms in time to give us the full benefit of the change in the statistics for the census year, but through the efforts made the registration data recorded throughout the country have been rendered much more uniform, and therefore more valuable, than heretofore.

In case of the States and cities where the local authorities reported themselves unable to effect the desired changes the efforts mentioned have been repeated in order to bring them into harmony with the others, although this action will not inure to the benefit of the statistics now projected.

SANITARY DISTRICTS.

In Boston, New York, Philadelphia, Baltimore, Washington, Buffalo, Cleveland, Chicago, St. Louis, Louisville, and Cincinnati the cities were divided into "sanitary districts" according to conditions affecting the healthfulness of different localities, for which districts statistics will be presented in the reports. This work was done by local people, approved by the health officials, and has been concluded.

RECEIPT OF RETURNS.

The receipt of schedules from the enumerators has been substantially concluded, the number of deaths reported being 686,488; at the same time transcripts of registration records aggregating 545,131 deaths have been received. Transcripts arranged for but not yet in hand will raise this number to about 610,000.

These returns were counted, arranged, and filed, and the necessary check lists prepared ready for the subsequent operations.

COMPARISONS.

The bulk of the work to be performed before the data can be transferred to the cards consists in comparing the two classes of returns for the elimination of duplicates, and to secure the most complete information concerning the cases reported. This represents about two-thirds of the preliminary work necessary to be done before the actual compilation can be commenced.

This work is now well under way and is proceeding as rapidly as possible. The delay in receipt of the registration transcripts for certain States and cities has not affected the progress of the work.

In connection with the comparison to eliminate duplicates the omission of certain details concerning deaths reported in the registration records has been supplied in the following cases from the enumerator's returns:

Color, 47; sex, 50; age, 33; conjugal conditions, 2,337; birthplace of person, 4,773; birthplace of father, 12,759; birthplace of mother, 13,897; occupation, 5,303; and cause of death, 293.

EDITING.

In adapting the written return to the punching of the data every detail which requires a different symbol is edited by supplying the appropriate symbol so that the punch operator will have nothing to construe, and will lose no time in referring to instructions. There have been thus edited 425,000 from the enumerator's returns (except as to occupation, and partially, cause of death) and 201,000 from the registration records. This work is being kept closely behind the comparisons which must first be completed.

GENERAL WORK.

A summary of the laws governing registration in different States and cities, and the practice thereunder, is in preparation, which will afford a complete view of the subject, particularly in those phases which affect the work of this office in endeavoring to utilize the data available from these places.

The forms of result slips to be used in reducing the readings from the electrical-counting machines to tabular form have all been worked out and printed, and the rough drafts of the tabulation blanks which will carry "copy" for the printer have been prepared.

The preliminary work required to collect and complete the data, and to adapt them to the system of tabulation employed has been complex and difficult, but is now nearly finished. With the actual work of compilation the work assumes an entirely new phase, and the compiling of the tables will be comparatively simple and easy.

DIVISION OF MANUFACTURES.

The work of the division of manufactures has been organized on lines intended to insure compliance with the provision of the census act which requires the results of the census in this division to be completed and published by July 1, 1902.

In accordance with the methods employed at two previous censuses, 1,346 cities and towns were withdrawn from the enumerators to be canvassed by special agents appointed for that purpose. The number of special agents thus employed was 2,106; and they were assigned to the several cities in proportion to their importance as manufacturing centers, one agent being often assigned to collect the statistics in two or more smaller towns immediately contiguous to each other. The work of these agents has returned to the office something over 300,000 schedules, at a cost which will approximate \$400,000, and which compares very favorably with the cost of field work ten years ago. An equal number of manufacturing schedules has been received from the enumerators, making a total of some 600,000 schedules as against 355,415 tabulated ten years ago, and showing that the canvass has been much more closely made than was then the case. Taking an advantage of the fact that the census act does not fix a definite date for the commencement of the census of the manufacturing and productive industries, but allows the business year of the establishments reporting to be taken as the census year, the Director ordered that the canvass in twelve of the largest cities should begin on May 1, instead of June 1, when the field work of the other divisions of the census was inaugurated. By the gain of this month it has been possible to substantially complete the canvass throughout the entire country by the first of November—a record altogether without precedent in census history. All that now remains in the way of field work is the gathering of returns from delinquent establishments missed by the enumerators or special agents in their rounds, and securing corrections in defective returns. In the meanwhile the work of preparing the manufacturing schedules for tabulation has been progressing rapidly during the progress of field work, and the classification and revision have already reached a stage which indicates that this work may be completed by October 1, 1901.

The office force of the division of manufactures consists of about 300 clerks, 50 of whom are assigned to service with the expert special agents intrusted with the preparation of the statistics of certain selected industries of sufficient importance to entitle them to specially detailed treatment. The work of all these expert special agents is abreast of the general work in the Census Office proper, and it is hoped that the special reports they are to prepare will be ready for publication simultaneously with the general report at the date fixed by Congress.

The list of these special agents and the several industries committed to their charge is as follows:

- Cotton manufactures, and flax, hemp, and jute manufactures, Edward Stanwood, 201 Columbus avenue, Boston, Mass.
- Wool manufactures, and hosiery and knit goods, William J. Battison, 70 Kilby street, Boston, Mass.
- Silk manufactures, Franklin Allen, Silk Exchange Building, New York, N. Y.
- Iron and steel manufactures, William G. Gray, 261 South Fourth street, Philadelphia, Pa.
- Leather manufactures, George C. Houghton, 116 Bedford street, Boston, Mass.
- Glass manufactures, Shirley P. Austin, 417 Wood street, Pittsburg, Pa.
- Brick and clay products, Jefferson Middleton, U. S. Geological Survey, Washington, D. C.
- Smelting and refining metals, Charles Kirchoff, 232 William street, New York, N. Y.
- Machinery and electrical apparatus, Edward H. Sanborn, The Bourse, Philadelphia, Pa.
- Coke, salt, and clay products, Edward W. Parker, U. S. Geological Survey, Washington, D. C.
- Chemicals, Dr. Charles E. Munroe, Columbian University, Washington, D. C.; assistant, Dr. Thomas M. Chatard, Columbian University, Washington, D. C.
- Paper manufactures, Charles W. Rantoul, jr., Times Building, New York, N. Y.
- Lumber and its manufactures, William L. Wallace, 315 Dearborn street, Chicago, Ill.
- Shipbuilding, Alexander R. Smith, 700 Fourteenth street, Washington, D. C.
- Food and kindred products, Henry E. Alvord, Department of Agriculture, Washington, D. C.
- Flour and grist mills, Dr. H. W. Wiley, Department of Agriculture, Washington, D. C.
- Beet-sugar industry, Dr. G. L. Spencer, Washington, D. C.

AGRICULTURAL DIVISION.

The reports of this division of the Census Office are on a subject in which a large portion of our people take a deep interest. It is anticipated that the general plan adopted for the tabulation and publication of the statistics of the agricultural division will, if carried into execution, involve a greater expenditure of money than was made by the same division in the Eleventh Census.

In the census of 1890 less than one volume was devoted to the presentation of the statistics of agriculture, while three volumes were published relating to manufactures, two to transportation, two to defective and delinquent classes, and two to insurance, etc. The small relative position assigned to the statistics of agriculture can be noted by the consideration of the following facts:

The capital invested in agriculture, according to the census returns of 1890, aggregated about \$16,000,000,000, while that in manufactures was only \$6,500,000,000, and in transportation less than \$11,000,000,000. The number of persons employed in agriculture in 1890 was over 8,000,000, while in manufactures and mechanical industries there were only 5,000,000, and in trade and transportation 3,330,000. The people supported by agriculture constitute in the neighborhood of 40 per cent of the total population, while the defective and delinquent classes make up only a small part of our people.

It will be noted that there were two volumes of reports concerning the defective and delinquent classes, while the report concerning agriculture was so small as to fill only about one-half a volume. It is submitted that agriculture always has been and will be the most important industry of the Republic. It is the one upon which the prosperity of the nation and welfare of the people quite largely depend. If any statistics are of value, they must be those which relate to agriculture and the condition of the people employed therein.

The statistics of agriculture in the last census consisted quite largely of an exhibit of the acreage and value of farms, the number and value of live stock, and the acreage and quantities of the leading crops raised. A few pages were devoted to an exhibit of farm tenure, but nothing was published in the volume on agriculture to show the comparative position of white and colored farmers—nothing concerning the relative value of production of the owned and leased farms or those of large and small area. The published statistics did not assist the student of social and economic conditions or the legislator to any definite conclusion with reference to the trend of society. They left uncertain whether the farmers as a whole are becoming more independent or are drifting to a position of increasing dependence upon the lessors of farms. Those statistics did not give the least information concerning the number of persons who own the land now operated by tenants, and thus threw no light upon the controverted question of the relative concentration of farm wealth in the hands of the few.

The students of economic and social conditions anxious to promote the common weal have not, therefore, been fully satisfied with the statistics of past censuses concerning agriculture. They know and appreciate fully the value of those agricultural statistics. They make use of the published facts concerning crops, animals, and farm values, but they desire statistics of the people who cultivate the farms and create farm values, crops, and animals. They desire to know all the facts that can be gathered concerning our small population of defectives and delinquents, but facts concerning the 40 per cent of our population engaged in agriculture are confessedly more important.

Our social students and legislators are aware that there is a large amount of tenancy in our land. They desire to know definitely whether tenancy is operating so as to improve the condition of the tenant as well as the owner, or whether it has a tendency to enhance the condition of the owner and reduce the tenant to a lower plane of existence.

The act of Congress authorizing the Twelfth Census reflected this popular desire. It directs that the agricultural schedules shall include inquiries relating to the race of farm occupants and to tenure as well as to the acreage and value of farms, the acreage, quantities, and value of crops, and the number and value of animals. The plans of the agricultural division of the Census contemplate the fulfillment of the act of Congress and a presentation of the statistics of agriculture that will be fully commensurate with the importance of the industry and the number of people engaged therein.

The volumes devoted to agricultural statistics will present the facts about land, value, animals, and crops by counties and States, as has been done for preceding decennial periods. In addition they will present those facts tabulated by race and color of farmer. Tabulated in this way they will exhibit the progress, if any, which the colored race has made since the era of emancipation, and show the opportunity of the humblest and poorest of our farmers to attain a higher level in the social scale.

It is contemplated not only to present all the leading facts of agriculture by race of farmer, but also by tenure, size of farms, and general character of farms. There will thus be a fivefold presentation of the leading facts of farm economics as compared with the single presentation of most of those facts in the census of 1890. To have such presentation of facts in the volumes of our report will require an

expenditure for tabulation of nearly twice that paid out in connection with the census of ten years ago, but only by such a presentation can the statistics of agriculture be given a relative importance equal to that assigned in the past to manufactures, transportation, and kindred subjects.

The plans of the division not only include making these important changes in the general treatment of the statistics of this industry, but they involve other changes that call for additional labor and cost in their preparation. Those changes, like the others already mentioned, are required to make the statistics of agriculture commensurate with the importance of the industry.

The main facts hitherto gathered by the census are made the basis by the Agricultural Department for its annual estimate concerning crops and animals. In those estimates vast numbers of people are deeply interested, and by them they are vitally affected. To comply with the popular demand and to assist the Agricultural Department, the Twelfth Census has adopted a new classification of farm animals. It is one that it is hoped will make a new basis for the estimates of the Department of Agriculture and prove of greater value than before. The proper presentation of the statistics of animals now gathered will add somewhat to the number of pages in the volume of our report. The tabulation of the facts relating to domestic animals in cities and towns which will appear in the report for 1900, but have never hitherto been taken, will also require some additional pages.

Congress in this, as in preceding decades, has directed the census to secure statistics of the value of products. By the methods adopted heretofore that value has been imperfectly reported. A method for securing the information demanded by Congress has been adopted in this census which, it is hoped, will result satisfactorily. It seeks to obtain the information called for by securing and tabulating the value of the several crops and farm products in detail. The proper presentation of these facts add somewhat to the bulk of the report. Its justification will rest upon whether or not the values reported are more or less trustworthy than those obtained in previous decades.

There are a number of other minor details in which the presentation of the statistics of agriculture for 1900 will differ somewhat from those of earlier decades. The methods which have been introduced have proved valuable in the experience of other governments. This new method of presentation will not interfere with the comparability of the figures of this census and preceding ones. The changes are all in the nature of additions to exhibits hitherto published. They have all been adopted because they were needed to make a proper presentation of what the people and Congress want to know concerning the condition of the tillers of the soil, their wealth, and their social and economic condition.

It is estimated that it will require in the neighborhood of \$1,250,000 to prepare and tabulate the agricultural statistics in accordance with the plan outlined above. The information concerning agriculture in the Eleventh Census cost in the neighborhood of \$498,000. The explanation which has been given shows why the expense will be so much greater as compared with the sum expended in the Eleventh Census.

It seems proper at this time to call attention to the fact that a contract has been entered into with the Hollerith Tabulating Machine Company for the use of the machines of that company in tabulating

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the returns of the agricultural schedules. The following table shows the estimated cost of the two methods of doing this work, namely, by hand and by the use of the Hollerith machines:

By hand:		
950 clerks, at \$900 each per annum		\$855,000
By Hollerith machines:		
350 punching clerks, at \$900 each per annum	\$315,000	
80 tabulating-machine clerks, at \$900 each per annum.....	72,000	
350 punching machines, at \$30 each.....	10,500	
66 tabulating machines, at \$1,500 each per annum	99,000	
100,000,000 cards, at 35 cents per thousand.....	35,000	
		531,500

Estimated saving by use of the Hollerith tabulating machines..... 323,500

It is to be observed that the saving effected by the use of the tabulating machines is estimated at \$323,500 and clearly vindicates their use.

It is sincerely hoped that the expenditure of the large sum named, by this census, will result in giving to the public the information which seems to be so much demanded. The relative importance of agriculture in our industrial system has been amply set forth by the figures quoted herein, and seems to justify completely the apparent large expenditure to secure information in regard to the same.

POPULATION OF THE UNITED STATES.

I am very much pleased that the opportunity is afforded me of inserting, as a part of this report, the population of the United States, including the Territories of Hawaii and Alaska. The final figures have been ascertained through the means of the use of the Hollerith tabulating machines instead of the usual preliminary count ascertained from a computation of the names upon the various schedules. The result by States and Territories is shown by a statement attached hereto.

DISBURSING OFFICE.

A statement is submitted showing the operations of the disbursing division since the organization of the office, on March 5, 1899, up to and including October 31, 1900. An estimate is also submitted of the appropriations required for the fiscal year beginning July 1, 1901, and ending June 30, 1902. This estimate was forwarded to you with my letter of October 3, 1900.

Respectfully submitted.

WILLIAM R. MERRIAM, *Director.*

The SECRETARY OF THE INTERIOR.