DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
SAM. L. ROGERS, DIRECTOR

UNITED STATES LIFE TABLES

1890, 1901, 1910, and 1901-1910

Explanatory Text, Mathematical Theory, Computations,
Graphs, and Original Statistics

ALSO

Tables of United States Life Annuities
Life Tables of Foreign Countries
Mortality Tables of Life Insurance Companies

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LETTER OF TRANSMITTAL.

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, D. C., May 1, 1920.

SIR:

I transmit herewith the United States Life Tables, 1890, 1901, 1910, and 1901–1910, prepared by James W. Glover, expert special agent of the Bureau of the Census and professor of mathematics and insurance in the University of Michigan.

These life tables exhibit the rates of mortality and expectations of life at each age among persons living in the United States and are the finished product derived from the statistics on births, deaths, and populations in the Bureau of the Census. They show that during the two decades from 1890 to 1910 mortality conditions have greatly improved among men and women under age 50, but that after this age they have remained about stationary. They also show wide variations in the rates of mortality in different classes of the population. For example, the rates of mortality and expectations of life are much more favorable for women than for men, for persons residing in the country than for persons residing in the cities, for whites than for Negroes, and, for most ages, for the native born than for the foreign born.

All the original statistics used in the construction of the United States Life Tables are given, and the mathematical theory of the construction of the life tables is explained and the numerical processes are described.

In addition to the United States Life Tables, a number of life tables showing mortality conditions in foreign countries are included. They may be used to compare the rates of mortality and expectations of life in the United States with those in Europe, Japan, India, and Australia. Important mortality tables, based on the experience of life insurance companies in the United States and foreign countries on insured lives, are also given.

This volume is intended to be of service primarily as a source of information to the public. It should be particularly useful to public health officials, students of vital statistics, physicians, sociologists, actuaries, statisticians, and others interested in the improvement of public health. Tables of life annuities and reversions are often required in connection with the settlement of estates, valuation of reversions, retirement funds, and old-age pensions. Such tables are included at various rates of interest based on the life tables for white males and for white females in the original registration states in 1910. These life tables undoubtedly reflect more closely than any others the rates of mortality existing at the present time among white men and white women in the general population of the United States.

The Bureau has had the advice and cooperation of a special census committee representing the Actuarial Society of America, composed of John K. Gore, chairman, Robert Henderson, Arthur Hunter, William A. Hutcheson, and Henry Moir. The tables have been prepared along lines approved by this committee.

Acknowledgment is made to Miss Elbertie Foudray, who had charge of the computations and rendered valuable aid in the preparation of the tables and text; to Mr. C. S. Sloane, the geographer of the Census, for the estimates of population and the drawing of the graphs; and to Dr. William H. Davis, chief statistician for vital statistics, for assistance rendered by his division, where the major portion of the work was done.

Respectfully,

SAM. L. ROGERS,
Director of the Census.

Hon. JOSHUA W. ALEXANDER,
Secretary of Commerce.

UNITED STATES LIFE TABLES

1890, 1901, 1910, AND 1901-1910

UNITED STATES LIFE TABLES: 1890, 1901, 1910, AND 1901-1910.

INTRODUCTION.

DIVISION OF TEXT WITH REFERENCE TO USE OF LIFE TABLES.

1. This volume is the second official publication issued by the Bureau of the Census on life tables prepared from the population and death statistics of the original registration states.[1] It is divided into eight parts, of which the first five are nontechnical and designed for the general reader. The remaining three parts are for students and actuaries who wish to know the formulas used in the construction of the life tables, the methods employed in the numerical calculations, and the original statistics from which the tables were derived. The average reader desires to learn how to consult the tables but does not care about the methods of construction. A careful reading of Part I of this text, pages 23 to 49, will enable him to extract all the information which ordinarily will be required. In particular, it will suffice to give him a working knowledge of how to obtain the rates of mortality, expectations of life, values of annuities, and other data from the tables, and to make intelligent use of the graphs.

EXTENT OF LIFE TABLES.

2. It is believed that the population and mortality statistics upon which the values in these life tables are based warrant confidence in the results. In practically all the tables the large numbers involved, in both the population and death statistics, tend to insure reliable averages. The smallest population for which a life table was calculated included 40,725 lives, with 13,484 reported deaths, and the largest, 24,131,759 lives, with 1,098,678 reported deaths.

These tables exhibit at each age the number of lives surviving at the beginning of the age interval out of 100,000 born alive, the number dying in the age interval, the rate of mortality per thousand, and the complete expectation of life. For the stationary population there are four more columns based on the calculated mortality rates; they show the population in current age interval, the population per death in current age interval, the population in current and all older age intervals, and the average annual death rate per thousand of population in current and all older age intervals.

Most of the tables are for populations residing in the area referred to as the original registration states—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia. In addition to life tables for males and females in the original registration states, other tables are given for certain broad subdivisions of this population. These are white, Negro, native white, foreign-born white, white in cities, and white in rural districts. A second class of life tables is given for five of the large registration states, Indiana, Massachusetts, Michigan, New Jersey, and New York, and a third class is comprised of tables for the four cities, Boston, Chicago, New York, and Philadelphia. There are two tables including both sexes based on the total population of the original registration states; all other life tables are given separately for males and for females.

The United States Life Tables, 1910, published in 1916, included those for 1910 only, but the life tables in the present volume are for 1890, 1901, 1910, and 1901–1910. Most of the tables are based upon the populations of 1901 and 1910, and deaths for the three-year periods 1900–1902 and 1909–1911, respectively. Two life tables for males and females in the state of Massachusetts are the only ones based on the populations and deaths for the census year 1890. This range in the period covered by the life tables makes it possible to compare the changes in mortality rates and expectations of life which took place during two decades in Massachusetts, namely, 1890 to 1901 and 1901 to 1910, and during one decade, 1901 to 1910, in the other classes for which tables have been prepared. Several life tables covering a range of ten years have been prepared for certain important classes of the population. They are based on the reported deaths and the mean population for the entire ten-year period 1901 to 1910.

INFANT MORTALITY TABLES.

3. In recent years much attention has been given to the lowering of infant mortality. Owing to the lack of reliable statistics on birth registration in most communities during the period for which these life tables were calculated, it was difficult to determine the rate of mortality during the first year of life. It changes very rapidly, decreasing from a monthly rate of 40 or 50 per thousand in the first month of life to 4 or 5 per thousand in the twelfth month of life. On account of the importance of this subject a separate

[1] So called because they were the states whose registration of deaths was accepted by the bureau in 1900 when it began to publish mortality reports for each calendar year.

infant mortality table, appearing at the head of the life table, has been constructed where statistics were available, which shows the rate of mortality and other derived values in each column by age intervals of one month. An examination of the infant mortality tables reveals significant differences in mortality conditions in different classes of the general population in 1901 and in 1910, and also important changes which took place from 1901 to 1910. In most cases the calculations have been based upon the enumerated populations and reported deaths rather than on the birth registration statistics, as the numbers of reported births usually have been found too small.

POLICY ADOPTED IN CONSTRUCTION OF TABLES.

4. In constructing life tables it is necessary to make some adjustments of the original data. For example, it is well known that the enumerated populations and reported deaths are exaggerated at such ages as 25, 30, and 35, in other words, at multiples of 5. Also at advanced ages the numbers become so small that the calculated rates of mortality are quite irregular. While adjustments in such cases are necessary, all irregularities in the figures in these life tables have not been removed by smoothing processes. This policy was adopted in order to avoid the possible elimination of small but characteristic variations in mortality. In spite of this fact some of the tables, notably those derived from a large number of lives and reported deaths, proceed with remarkable smoothness and regularity throughout the entire range of life. On the other hand, the Negro tables and some others exhibit considerable roughness at some points. The general trend of the rate of mortality, however, is clearly apparent in every case.

PURPOSE OF LIFE TABLES.

5. The main purpose in presenting and explaining the tables is to make them useful to the general public. The facts set forth in figures and graphs concerning rates of mortality and expectations of life at every age for this and other countries are in themselves of interest to most persons. Copious table headings are employed and detailed explanations made to simplify the subject and to assist the reader. Too frequently questions relating to probabilities of life and death have been answered by a procession of dreary and forbidding columns of unexplained figures or in terms of unrecognizable technical symbols. It is important and highly desirable that this information be presented in such form as to attract the attention and hold the interest of the average reader.

In order to accomplish this end several pages in this volume are devoted to a detailed explanation of each of the nine columns appearing in most of the life tables. The headings of these columns, the symbols employed, and the portions of the table relating to infant mortality and to general mortality are fully explained in nontechnical language. It is believed that a perusal of these pages will make it easy for the average reader to gain a great deal of useful information from the various life tables.

QUESTIONS AND ANSWERS.

6. While the explanation of the different columns is helpful, it is quite certain that the illustrative examples on the question and answer plan are of still more assistance. Each question stated in the text relates to some kind of information which can be obtained from the tables, and the answer is given by referring to the page upon which the particular life table appears and the column in which the desired item is found.

The section on questions and answers is divided into a number of parts corresponding somewhat to the different columns which appear in the life tables. There is one section which relates to questions and answers on the expectation of life, another on the rate of mortality per thousand, another on the stationary population, and so on. The reader is instructed not only in the use of the numbers in the life tables, but also in the use of the graphs or curves which appear in another part of this text. For certain kinds of information it is more satisfactory to refer to a graph or a combination of graphs than to columns of figures, and the questions and answers are designed to lead the reader to the discovery of this fact.

THE UNITED STATES LIFE TABLES.

7. Part II contains the seventy-four life tables based on populations and reported deaths in this country.

A few facts exhibited by these life tables are so important and striking as to deserve special mention. It is shown very clearly that, in general, mortality at practically all ages is higher among males than among females. In 1901 the expectation of life among white females at birth was about 2.85 years greater than that among white males, and in 1910 the excess in favor of the females had increased to 3.39 years. Another important situation revealed by the tables is that the mortality is very much lower for practically the entire range of life in the rural part of the country. In particular it appears that the most favorable mortality in this country is found among women living in the rural part. The rate of mortality among men aged 15 to 45 living in the rural part in 1901 was more favorable than that among women of the same age, but in 1910 this condition was reversed. Accordingly, without exception, at that time the lowest rates of mortality and highest expectations of life in this country were found among women living in the rural part. It would be interesting to know what conditions led to the lowering in mortality rates among rural women from ages 15 to 45 during the period 1901–1910.

There seems to have been a general improvement in mortality for all classes for the younger ages, that is, to about age 40 for men and age 50 for women, except for the Negro population. Above these ages there is no improvement, and in some cases the mortality in 1910 was actually less favorable than it was in 1901. It would therefore appear from the life tables in a general way that the efforts to improve mortality have been successful for the younger ages and up to ages 40 or 50, depending upon the sex, but for the higher ages, that is, beyond age 50, the tables indicate no signs of improvement.

Some of the tables exhibit irregularities in the rate of mortality between ages 15 and 30. They appear most strikingly in the graphs on pages 244 to 249, where the mortality curves seem to rise too rapidly for a period of years after age 15 and then to remain almost stationary for some years between ages 20 and 30, after which they start up again. Precisely the opposite is observed at the same ages in the graphs for the measure of vitality, pages 284 to 289. There is undoubtedly some cause or combination of causes tending to produce unduly high rates of mortality between ages 15 and 25, particularly in certain classes of the population. If the cause could be discovered it might be possible to effect a considerable reduction in the rates of mortality in this important age group.

GRAPHIC REPRESENTATION OF LIFE TABLES.

8. Part IV of this volume, pages 241 to 293, is devoted to graphs or curves plotted to scale of various mortality functions appearing in the life tables. The plotted curves are rate of mortality per thousand, number of survivors, number of deaths, complete expectation of life, and measure of vitality. The graphs are frequently drawn to several different scales on the same plate or page when it is found necessary to separate the curves. The general plan has been to choose the horizontal and vertical scales so that the different curves can be clearly distinguished on the plate. The scales were also chosen so large that the values of the functions plotted can be read without difficulty, in some cases even to the nearest tenth.

The graphs will be found particularly useful when it is desired to compare the rate of mortality, the expectation of life, or some other function for one area or class with the corresponding graphs for another area or class. For example, the differences between the rates of mortality among whites and Negroes are much more readily grasped by examining the graphs on page 248 than would be possible from an examination of the corresponding columns of figures in the life tables. In general, it may be stated that the graphs should be used where one desires to obtain a comprehensive grasp of the fluctuations or variations of one or more of the mortality functions for a group of ages or for the entire range of life. While it would be quite impossible to hold clearly in mind a long series or column of figures, they can readily be grasped in their entirety by means of a graph or curve. The typical plate contains four graphs or curves exhibiting the ordinates of some mortality function for males and females in 1901 and 1910. Other classes and areas compared by means of graphs include whites and Negroes, cities and rural, United States and foreign countries, and the mortality experience of life insurance companies in this and other countries. The distinction between the direct use of life tables and graphs is easily made. The former are to be preferred when two or three values of a function are desired at specified ages; the latter are to be employed when it is desired to obtain a general knowledge of the variation of a function for an extended series of values or to compare the variations of a given function for different classes of the population.

MORTALITY IN OTHER COUNTRIES.

9. How do the probabilities of life and death in the United States compare with those of peoples living in other countries? This is one of the first questions which is likely to occur to the reader after an examination of the life tables for this country. In order to make this comparison life tables have been included for representative countries in different parts of Europe. The Orient is represented by life tables for Japan and India and the Southern Hemisphere by tables for Australia. They have been selected, so far as possible, for about the same epoch or period of time as the United States Life Tables. All the important values, including the rate of mortality per thousand and the expectation of life at each age, both for males and for females, are shown for these countries.

The rates of mortality for the general population in this country probably approach more nearly those of England than those of any other country, although they are generally less favorable in this country than in England. It may be stated in a general way that the rates of mortality among white persons in this country are less favorable than those of most of the foreign countries from age 20 to between ages 60 and 70. The rates of mortality in the rural part of this country approach more nearly those of the general population of Australia than those of any other foreign country. It is quite impossible to make any sweeping statement, except for India, about the mortality of any one country as compared with that of any other. An examination of the graphs on pages 250 and 251 shows that there are numerous crossings and recrossings of these curves, so that while the mortality in a certain country may be very favorable for a definite range of ages as compared with that of the other countries, the reverse is likely to be true for some other range of ages. For example, the rate of

mortality in Sweden after age 35 is easily below that of all other countries, but under age 35 it is not as favorable as in Australia, under age 30 not as favorable as in England and Germany, and not as favorable as in this country under age 25 down to about age 5, where the curves again begin to cross and recross. The failure of Sweden to maintain its favorable position from ages 5 to 35 is largely due to the causes producing the irregularity mentioned in section 7, this irregularity being most pronounced in the graphs of Sweden and Italy. The mortality in India is shown by the graphs to be so much higher than that of all the other countries that it is in a class by itself.

MORTALITY TABLES OF INSURANCE COMPANIES.

10. Several tables are included which are derived from experience on insured lives and used in this and other countries by insurance companies. Tables of this character differ materially from census life tables chiefly on account of what is known as "medical selection." The insurance company does not issue the policy and accept the risk until after the applicant has passed a satisfactory medical examination. This means that the aggregate of policyholders in an insurance company is healthier than the general unselected census population, and explains why the rate of mortality is lower in this group than in the census group, particularly in the earlier years of insurance, within five or ten years after date of policy and medical examination. Among the insurance mortality tables included are those employed in this country by the legal reserve, industrial, and fraternal companies, and a number of those employed in other countries by old line companies.

LIFE ANNUITIES, PREMIUMS, AND COMMUTATION COLUMNS.

11. There are many occasions in legal practice when information afforded by life tables is required. This is particularly the case in valuing or estimating the measure of damages in the event of death by accident. It is also frequently necessary in dividing estates to be able to determine the values of annuities and reversions based upon life tables. Tables of life annuities and reversions at various rates of interest are included, and in order to facilitate the calculation of other values which may be required in practice, commutation columns, including the usual functions, have been prepared. In the absence of mortality tables based upon census statistics of this country, the courts have been obliged until recently to employ a variety of tables, such as the Northampton, Carlisle, and American Experience, which do not accurately represent mortality conditions in the general population in this country. The life tables which have been chosen for this purpose are those for white males in the original registration states, 1910, and white females in the original registration states, 1910. Each of these tables is based upon a population of about 12,000,000 and reported deaths of about 500,000, and may be regarded as furnishing a very reliable measure of the rates of mortality and the expectation of life now prevailing among white persons in this country. The annuities, premiums, and other monetary values derived with the aid of the commutation columns may likewise be regarded as closely conforming to present mortality conditions.

THEORY OF LIFE TABLE CONSTRUCTION.

12. A considerable portion of the text is devoted to a description of the methods employed in preparing these tables. The formulas are demonstrated in detail and accompanied by numerous explanatory diagrams and illustrations. This part is designed chiefly for the information of students and actuaries who desire to know about the methods employed and who are able to make suggestions for improvement in the construction of future tables. The United States Life Tables in this volume are based upon the census enumerations of 1890, 1900, and 1910 as to populations, and the reported deaths for the census year of 1890 and the twelve calendar years 1900 to 1911. With these original statistics the life tables were constructed from ages 5 to about 85 by the method of osculatory interpolation, employing fifth differences. Natural numbers instead of logarithms were used, and the populations and deaths were interpolated separately. Where the original statistics were given in single ages, these were grouped in quinquennial sets of 4 to 8, 9 to 13, 14 to 18, and so on.

The rates of mortality for the first five years of life were calculated, with some modifications, by the method employed in constructing the German life tables for the decennium 1891–1900, and the interval from age 5 to age 13 was bridged over by ordinary fourth difference interpolation formulas. The birth registration statistics employed were those for Massachusetts and Boston in 1901 and 1910, and the cities of New York and Philadelphia in 1910. At the advanced ages a modification of Wittstein's formula was employed, the rate of mortality being taken as unity at age 115. In order to join the osculatory interpolation with the Wittstein graduation, Spencer's 21-term formula was employed over a range, usually small, sufficient to insure a smooth junction. In all cases great care was exercised to disturb the original data as little as possible.

On account of this practice some of the tables are irregular at points. It would not be difficult to iron out these irregularities in all cases by the employment of powerful smoothing formulas. Since, however, it is not always easy to distinguish the irregularities which are characteristic of the population from those which are due merely to defective enumeration and mortality returns, it was deemed better to present these life tables in an approximately unadjusted form.

DETAILED CONSTRUCTION OF ONE LIFE TABLE.

13. The theory of construction of life tables has to do largely with the development of formulas and general methods and is chiefly of interest to actuaries and students of actuarial mathematics. To meet the requirements of students who would like to reproduce any life table in this volume from the original data or apply the same processes to other data, the numerical work, step by step, in the construction of a typical life table is given in Part VII of this text. The table chosen for this purpose is that for males in the state of New York, 1910. In the construction of this life table there are more than a hundred steps, each of which is described in the text and illustrated by a series of photographs of the actual calculations made upon the adding machine and otherwise. These calculations are set forth in definite order, in accordance with the plan finally adopted after considerable experience and experimentation with the numerical work of life table construction. This portion of the text will be of great assistance to those who desire to learn the processes of construction without going into the mathematical theory. No attempt has been made to describe abridged methods of constructing life tables.

VARIATIONS FROM STANDARD CONSTRUCTION.

14. The construction of the life tables for males in the state of New York, 1910, referred to in the preceding section, proceeds along certain lines which may be regarded as typical, or standard. When it is remembered, however, that there are seventy-four different life tables, and that the original statistics for the various areas, classes, and periods are not homogeneous, it is easy to understand why it would be quite impossible to apply one and only one process to obtain them all. For example, when bridging processes are employed to connect the curve of infant mortality rates with that determined by fifth difference osculatory interpolation, and again, at the older ages, to join the end of the latter curve to the Wittstein old age curve, it is evident that the points of junction will vary from table to table. In order to meet this situation, several pages of the text are devoted to an outline of construction of all the life tables. This outline gives the additional information about each table needed to enable actuaries and students to reproduce it.

ORIGINAL STATISTICS.

15. The original statistics from which all the United States Life Tables were derived are population and mortality statistics furnished by the Census Bureau. These statistics are reproduced in this volume. They include enumerated and estimated populations, reported deaths, and birth registration statistics so far as employed. They are presented in order that the life tables which are based upon them may be verified by those interested in the subject. A more important reason, however, for presenting them is to stimulate further investigation in life table construction, with the thought that many suggestions may be made which will be useful in the construction of future life tables.

PART I

NONTECHNICAL DESCRIPTION AND EXPLANATION OF LIFE TABLE FUNCTIONS, GRAPHS, AND OTHER PARTS OF TEXT AND TABLES

PART I.—NONTECHNICAL DESCRIPTION AND EXPLANATION OF LIFE TABLE FUNCTIONS, GRAPHS, AND OTHER PARTS OF TEXT AND TABLES.

EXPLANATION OF LIFE TABLE FUNCTIONS.

LIFE TABLE HEADINGS.

16. In order to assist the reader to understand and make intelligent use of the life tables, an explanation is made of the nine columns appearing in each life table. For purposes of illustration, the life table for white males in the original registration states, 1910, pages 68 and 69, is selected.

In general, the heading of each column is made up of four parts. The first part is a brief descriptive heading, the second part explains in greater detail the meaning of the figures in the column, the third part gives the algebraic symbol usually employed by actuaries to represent the function whose values appear in the column, and the fourth part gives the number of the column for convenience of reference.

AGE INTERVAL, x to $x+1$, COLUMN 1.

17. This column indicates the *age interval* to which the figures set forth in the other columns refer. An age interval may be defined as the period of lifetime between two exact ages. For example, the age interval 35–36 is the year of lifetime between *exact* age 35 and *exact* age 36. The beginning of this age interval is at exact age 35, and the interval covers all intervening fractional ages, such as 35 years, 3 months, 17 days. The age interval ends with exact age 36. An age interval is different from an age because it covers an interval or period of time. A person is at a given exact age, say 40, only an instant; one day later his age is 40 years, 1 day.

The *current* age interval is the age interval in the same line or row with the value of the function in the body of the table. Of two age intervals, the one farther down in the table including older ages is said to be the *older* age interval.

The first year of life is subdivided into age intervals of one month to show in greater detail the rapid changes in infant mortality. The life table then begins anew and proceeds by age intervals of one year over the entire range of life.

GENERATION OF 100,000 BORN ALIVE.

NUMBER OF SURVIVORS, l_x, COLUMN 2.

18. This column exhibits the number of persons alive at the beginning of each age interval out of a generation of 100,000 males born alive. The words "born alive" are used advisedly and are intended to call attention to the fact that stillbirths are excluded and the column refers only to survivors of living births. Particular attention is called to the fact that the number alive means those alive at the *beginning* of the age interval. For example, there are 77,047 alive at exact age 25, which is the beginning of the age interval 25–26. Similarly, there are 89,453 alive at exact age 8 months, which is the beginning of the age interval 8–9 months.

The 100,000 is a hypothetical number assumed for convenience. It may also be added that the generation of 100,000 males under observation from birth need not necessarily be assumed as born at the same time; the main point is that each one is kept under observation from the date of birth, whatever time that may have been, and it is noted how many are alive at exact age 1 month, at exact age 2 months, and so on to exact age 1 year, exact age 2 years, and so on to the end of life.

If infants in the hypothetical generation of 100,000, instead of being born simultaneously, are assumed as born uniformly throughout the calendar year, approximately 8,333 would be born in January and the same number in February, March, and so on to the end of the year. If this number of births continued each year and there were no emigration and immigration, a living population would eventually arise which would contain persons living at all ages, integral and fractional. Column 6 shows the population alive in each age interval on this hypothesis; for example, 8,031 persons are living at all ages under 1 month, that is, in the age interval 0–1 month. Similarly, 7,878 are living in the age interval 1–2 months. Adding up the populations in the twelve monthly age intervals, it appears that a population of 91,126 white males is living in the age interval 0–1 year. 100,000 infants were born uniformly throughout the year, but, owing to the deaths which took place in accordance with the mortality rates in column 4, there are only 91,126 living in the age interval under 1 year.

Columns 1 and 2 are the fundamental columns of the life table, and the remaining columns are derived from them by means of mathematical processes. The characteristic feature of column 2 is that it shows the decrement of life from interval to interval throughout the whole range of life. For example, of the 100,000 born alive 78,729, or little more than three-fourths, attain exact age 21. Not until age 59 is the original number, 100,000, reduced about one-half, namely, to 50,435. The allotted threescore and ten years is attained by 31,527, and a little over one-tenth, 10,509, of the original number live to be 81 years of age. Less than one-twentieth, 4,162, live to be 86; less than one one-hundredth, 829, live to be 92; and less than one one-thousandth, 82, attain age 98. Only 31 of the original 100,000 attain age 100.

NUMBER DYING, d_x, COLUMN 3.

19. This column shows the number dying in the corresponding or current age interval out of a generation of 100,000 males born alive. It is merely the decrement in column 2 and is obtained by taking the difference between the successive numbers in column 2. For example, column 2 shows that there were 79,116 persons alive at exact age 20 and 78,729 persons alive at exact age 21. Accordingly, the difference, 387, must be the number of persons dying in the age interval 20–21.

Referring first to the infant mortality table, the greatest number of deaths occurs in the first month of life, 4,844 dying in the age interval under 1 month. There is a rapid decrease in the number of deaths, only about one-fourth of this number, namely, 1,242, dying in the second month of age. After this the decrease is not so rapid, but by the twelfth month the number of deaths has decreased to 399. It is evident that about one-half of the 12,326 deaths under 1 year occur in the first two months of life, and that the number of deaths occurring in the twelfth month is less than one-twelfth of the number of deaths occurring in the first month.

Passing to the general life table, proceeding by age intervals of 1 year, it is seen that 12,326 of the 100,000 born during the year die under 1 year of age; in other words, about one-eighth of all the males born alive die under 1 year. There is a great improvement in the second year of life, as only 2,473 die in the age interval 1–2 years, that is, between exact ages 1 and 2. The number of deaths decreases rapidly until age interval 11–12 years, the most favorable period in life, when only 185 deaths take place. The number of deaths gradually increases from this point, reaching a maximum of 2,005 in the age intervals 73–74 and 74–75, and decreasing from that time until the last survivor of the hypothetical group of 100,000 dies in age interval 105–106.

The deaths shown in column 3 are those which take place in the succeeding age intervals in a constantly diminishing group of persons living in the corresponding age intervals. For example, 494 deaths occur in the age interval 30–31 among 74,810 who are alive at exact age 30, whereas 1,959 deaths occur in the age interval 70–71 among 31,527 alive at exact age 70, and 94 deaths occur in the age interval 95–96 among 289 alive at exact age 95. Since column 3 shows the number of deaths occurring in each age interval among a diminishing number of persons living at the beginning of the respective age intervals, these figures can not give an adequate idea of the rate of mortality. In order to compare the rate of mortality for different age intervals, the number of deaths which would occur in each interval among the *same number* of persons alive at the beginning of the age interval must be known. The next column gives this information.

RATE OF MORTALITY, $1000q_x$, COLUMN 4.

20. This column shows the rate of mortality per thousand, in other words, the number dying in each age interval among 1,000 alive at the beginning of the age interval. For example, in the age interval under 1 month the rate of mortality is 48.44, indicating that of 1,000 living births 48 die under 1 month. The rate of mortality for the second month of life is about one-fourth of what it is for the first month of life and diminishes rapidly, being only 4.53 for the twelfth month of life. It should be noted carefully that these are *monthly* rates.

Passing to the life table proceeding by age intervals of 1 year, it is seen that the rate of mortality for the first year of life is 123.26, or, expressing it in another way, for every 1,000 living births 123 deaths occur under 1 year of age. Similarly, out of 1,000 alive at exact age 1 year, 28 die in the second year of life. The rate of mortality decreases rapidly, reaching its most favorable point at age 11, when it is 2.28, indicating that among 1,000 boys alive at exact age 11 only about two deaths occur in the succeeding year of life. From this point on the rate of mortality gradually increases to age 22, where there is a characteristic slowing up of the increase for a few years until about age 26, when it advances again more rapidly. At age 45 the rate of mortality has increased to 12.64, about the same that it was at age 2. At age 59 it is 28.71, or about the same as at age 1. At age 79 it is 124.98, as much as it was in the first year of life. From this point on it increases rapidly, and in the age interval 105 there are about 583 deaths among 1,000 alive at exact age 105. The tables are so constructed that the rate of mortality reaches its maximum value at age 115, so that of 1,000 males alive at exact age 115 there would be 1,000 deaths during the succeeding age interval. The columns 2 and 3 are not carried beyond age 105, because it would involve introducing fractional lives, and at best the figures at these advanced ages are to be considered as only approximate.

EXPECTATION OF LIFE, $\mathring{e}_x$, COLUMN 5.

21. This column expresses the value in years of the complete expectation of life, or the average length of life remaining to each person alive at the beginning of the age interval. For example, the complete expectation of life at birth is 50.23 years. The future years of lifetime which will be lived by the 100,000 persons alive at the beginning of age interval 0–1 are shown in column 8 and are 5,023,371. If the total number of years to be lived is divided by the number of persons, 100,000, the quotient will be the average number of future years to be lived by each person. Column 2 shows 72,108 persons are alive at exact age 35. Column 8 shows that these persons still have 2,241,174 years to live. Dividing the latter number by the former, the average future lifetime of each one

of the 72,108 persons alive at exact age 35 is found to be 31.08 years. This does not mean that each person will live 31.08 years beyond age 35, but that the average number of years still to be lived by all persons who have attained age 35 is 31.08 years. Some will live more than 31 years, some less, but the number shown as the complete expectation of life is the average.

An examination of column 5 reveals the fact that the expectation of life increases about six years in the first year of life, jumping from 50.23 years at birth to 56.26 years at age 1. This rapid increase in the expectation of life is due to the rapid decrease in mortality during the first year of life. The expectation of life increases to 56.88 years at exact age 2 and from this point on steadily decreases throughout life. The expectation of life is given as about 50 years at age 12, 25 years at age 43, 10 years at age 67, 5 years at age 80, and 2 years at age 97.

STATIONARY POPULATION.

POPULATION IN CURRENT AGE INTERVAL, L_x, COLUMN 6.

22. Columns 6, 7, 8, and 9 refer more particularly to a *population*. There is a sharp distinction between column 2 and column 6, which has already been brought out to some extent in the discussion of column 2. Column 2, as has been pointed out, indicates the number alive at the *beginning* of each age interval, or at each exact age, among 100,000 living births under observation throughout the range of life. No assumption is made necessarily as to whether these births take place simultaneously or at different times. Column 6, however, represents the population which would eventually arise if 100,000 living births were distributed uniformly throughout each year, for example, through each calendar year. It is further assumed that this population is subject to the mortality rates set forth in column 4, also that it is free from emigration and immigration, or that if there is any emigration and immigration it takes place in such manner that its effect upon the population is canceled at each age. On this assumption a population would come into existence and persons *at all fractional ages* would be living in each age interval. For example, the 81,422 persons living in the age interval 10–11 are the survivors of the 100,000 persons who were born between 10 and 11 years ago uniformly distributed throughout the year. Eventually a maximum population would be evolved and the number of persons living in each age interval would be as set forth in column 6. This population is not affected by emigration and immigration, and will eventually become stationary or constant as to the number of persons contained in it. Since it is a stationary or constant population, the number of deaths in each year must be the same as the number of births, that is, 100,000 deaths take place each year in the complete population. The 100,000 deaths take place in this population in the age intervals as recorded in column 3, and the rate of mortality in this population is in accordance with the figures shown in column 4. The above remarks amplify the general heading over columns 6, 7, 8, and 9.

Another way of looking at column 6 is to regard the population set forth as a hypothetical population arbitrarily set up or established. It would remain stationary as to numbers and composition if 100,000 males were born alive uniformly throughout each year, provided it were unaffected by emigration and immigration and it were subjected to the rates of mortality appearing in column 4. From this point of view it may be regarded as the standardized stationary population supported by a fixed or constant number, 100,000 of living births, and subject to the particular rates of mortality now in effect in the community on which the life table is based. With this understanding, the standardized population of different communities may be compared. The comparison is one in which the effects of emigration and immigration are eliminated and involves only the actual mortality rates in effect in the communities compared.

Column 6 shows that there are only 8,031 living simultaneously at all fractional ages in the age interval 0–1 month among the 8,333 persons born during the month preceding the date of the enumeration. Similarly, there are only 7,878 living simultaneously at all fractional ages in the age interval 1–2 months. Adding up the population by months in column 6, it is found that the population under 1 year of age is 91,126. The population living in the age interval 1–2 years is 86,215, and so on throughout the range of life. The figures in column 6 would result from taking a census of this hypothetical community at any time. For example, if a census were taken on *any* fixed date it would be found that there were 78,922 persons living in the age interval 20–21, 60,270 persons living in the age interval 50–51, 1,329 persons living in the age interval 90–91, and so on.

MEASURE OF VITALITY, $\lambda_x = L_x/d_x$, COLUMN 7.

23. This column is found, except for infant mortality, by dividing the figures in column 6 by the corresponding figures in column 3. Since column 6 gives the population living in the current age interval and column 3 gives the number of deaths occurring annually in the current age interval, the quotient will be the population per death per year in the current age interval. For example, in the age interval under 1 year the living population is 91,126 and the number of deaths per year is 12,326; the ratio of the former to the latter is 7.39, indicating that to every 7.39 persons in the population living in age interval under 1 year there is one death per year in this age interval. In the age interval 1–2 years there is one death per year to about every 35 persons living between exact ages 1 and 2. It is evident that

the larger the number in this column the more favorable is the mortality. Passing down the column, it is observed that the maximum value of the population per death per year is 439.09 at age 11, indicating that among boys between ages 11 and 12 there is one death per year to about every 439 in the population. This favorable condition is more than cut in half by age 20, because in the age interval 20–21 one death occurs each year to about every 204 persons. This figure is again cut in two by the time age 39 is reached. In this age interval one death occurs each year to every 101 persons in the population. It is halved again at age interval 54–55, again at age interval 63–64, and so on throughout the remaining range of life. It is interesting to note that at one point column 7 shows a decided slowing up in this decrease of what may be called the *measure of vitality*. For example, in passing from age interval 22–23 to age interval 25–26 the measure of vitality diminishes only by one or two between each age interval, but before and after these ages it diminishes much more rapidly.

Special attention is directed to the meaning of column 7 in the introductory table on infant mortality. Referring to the first age interval, 0–1 month, there are 8,031 in the population. There would not be 4,844 deaths in this population in one month. The 4,844 deaths would occur in one year, because this is the number of deaths occurring among 100,000 living births and the 100,000 living births do not occur simultaneously but are uniformly distributed throughout the year. Consequently, only one-twelfth of 4,844, namely, 404, deaths occur in *one month* corresponding to the population of 8,031. The 404 deaths occur in part among the 8,031 living at the beginning of the month and in part among those born during the month. The result is that, corresponding to a constant or stationary living population of 8,031 persons under 1 month, the number of deaths *per month* of persons under 1 month is 404.

Interpreting the infant mortality column 7 in accordance with this explanation, it appears that to every 19.92 in the population under 1 month of age there is one death per month in this age interval, or, to put it in another way, the population per death *per month* is 19.92 in the age interval under 1 month. This condition rapidly improves as the first year of life advances. There is one death per month to about every 76 in the population in age interval 1–2 months; one death per month to about every 148 in the age interval 6–7 months; and one death per month to about every 220 in the age interval 11–12 months. If it should be preferred to indicate in the infant mortality table of column 7 for each monthly age interval the population per death *per year* in the same age interval, the figures now appearing should be divided by 12.

POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS, T_x, COLUMN 8.

24. This column represents the total population alive in current and all older age intervals, and is found by adding the population in column 6 from the current age interval to the end of the table. For example, referring for convenience to age intervals near the end of the table, it is noted that in the age interval 100–101, column 6, the living population is 24 and in the succeeding or older age intervals 14, 7, 4, 2, and 1, respectively. These figures add to 52, which is the number appearing in the corresponding age interval, 100–101, in column 8. Similarly, beginning with 11,335 in age interval 80–81, column 6, and adding to it the populations in the succeeding or older age intervals to the end of the table, it is found that there are 61,915 persons, as shown in column 8, living in the population in the current age interval 80–81 and all older age intervals.

Column 8, therefore, represents the sum of the populations at ages above the *beginning* of the current age interval. For example, the *total population* is 5,023,371, because it is the sum of populations at all ages after birth. The population aged 20 years and older is 3,378,969. It is evident from an examination of column 8 that about half the population is under 31 and half over 31 years of age; that about one-fourth of the population is over age 50 and about one-tenth of the population over age 64.

Column 8 not only represents the total population at a given age and older, but also represents the total number of years of future lifetime which will be lived by those alive at the beginning of the current age interval represented in column 2. For example, the 79,116 persons alive at exact age 20, column 2, will live a total of 3,378,969 more years. Consequently, as explained before in section 21, the average future lifetime of each one of these individuals at exact age 20, found by dividing column 8 by the corresponding number in column 2, is 42.71 years, and is called the complete expectation of life.

DEATH RATE PER THOUSAND, $1000l_x/T_x$, COLUMN 9.

25. This column, the last one appearing in the table, exhibits the average annual death rate per thousand of the population living in current and all older age intervals. In other words, it shows the average annual death rate in the population exhibited in column 8. For example, the average annual death rate in the total population of 5,023,371 is 19.91. It is found by dividing the number in column 2 by the corresponding number in column 8 and multiplying the quotient by 1,000. Column 2 also represents the annual number of deaths in the population living in current and all older age intervals. For example, there are 80,549 deaths each year in the population of 3,778,442 persons of age 15 and over. Dividing the

former by the latter and multiplying by 1,000, the average annual death rate of the population living in the age interval 15–16 and all older age intervals is found to be 21.32 per thousand. This column enables one to compare the average annual death rate per thousand in various portions of the populations in different communities. In the life table for white males of the original registration states the average annual death rate for the entire population is 19.91. It decreases to 17.58 in age interval 2–3 and from that point increases steadily to the end of the table. At age 32 it has advanced to 30 per thousand, at age 60 to about 71 per thousand, and at age 70 to 113 per thousand.

TO DETERMINE AVERAGE ANNUAL DEATH RATE PER THOUSAND.

26. By means of columns 8 and 2 the average annual death rate for particular sections of the population can easily be obtained for purposes of comparison. For example, to determine the average annual death rate per thousand of the population living between ages 50 and 60, add the number of deaths between ages 50 and 60 in column 3, the population living in the age intervals 50 to 60 in column 6, divide the former by the latter, and multiply by 1,000. The number of deaths in column 3, age intervals 50–51 to 59–60, inclusive, is 11,754; the number living in the population in age intervals 50–51 to 59–60, inclusive, is 553,517. Performing the indicated division and multiplication, 21.24 is found as the average annual death rate per thousand in the population living between exact ages 50 and 60.

The same result might have been obtained more easily by applying the formula:

$$1000\left(\frac{l_{50}-l_{60}}{T_{50}-T_{60}}\right).$$

QUESTIONS AND ANSWERS ILLUSTRATING USE OF TABLES AND GRAPHS.

SCOPE AND PURPOSE OF THESE QUESTIONS AND ANSWERS.

27. In order to illustrate the kinds of information which may be obtained from these life tables, twenty-one pages of questions and answers are given in this part. The questions are answered in detail to instruct the reader in the necessary steps to be taken to secure the information. The table is named and the number of the page and the number of the column where the value of the required mortality function can be found are given.

Almost every part of this volume after Part I is covered by these questions and answers. Although most of the questions are about the United States Life Tables and the graphs of life table functions, some attention is given to the life tables of foreign countries and the mortality tables of insurance companies. Questions are also proposed which illustrate the use of the tables of annuities and the commutation columns based on the United States Life Tables.

Considerable care has been given to the selection of the questions so as to distinguish between the direct use of the life tables and the graphs of the functions. They have also been chosen so as to require the consultation of many different tables in order to familiarize the reader with them.

Any conclusion arrived at by the use of these tables is necessarily predicated on the rates of mortality existing at the epochs or during the periods for which they were constructed, in particular, for the United States Life Tables, for 1890, 1901, 1910, and the ten-year period 1901–1910.

RATES OF MORTALITY.

ANNUAL RATES OF MORTALITY.

28. Q. What was the annual rate of mortality per thousand among young people aged 21 in the original registration states in 1910?—A. Turning to Table 2 on page 54, the life table for both sexes in the original registration states in 1910, it is found in column 4 that the annual rate of mortality per thousand at age 21 is 5.00. In other words, on the average there were 5.00 deaths between exact ages 21 and 22 among each thousand persons alive at exact age 21.

Q. At what older age was the annual rate of mortality per thousand among persons in 1910 twice the rate at age 21?—A. Age 42, the rate of mortality being 10.09 per thousand. See column 4 of Table 2, page 54.

Q. At what ages were the annual rates of mortality per thousand among persons in 1910 four times, twenty times, fifty times, and one hundred times, respectively, the rate at age 21?—A. At age 55 the annual rate of mortality per thousand was 20.03; at age 77 the rate was 101.74; at age 90 the rate was 249.62; at age 105 the rate was 500.22. See column 4 of Table 2, page 55.

Q. What was the lowest annual rate of mortality per thousand in the original registration states in 1910?—A. 2.19, the rate at age 11, as shown in column 4 of Table 2, page 54.

Q. What was the annual rate of mortality per thousand among children aged 5 in the original registration states in 1910?—A. 4.66 was the rate at age 5 according to column 4 of Table 2, page 54. The annual rate of mortality at age 5 was about double that at age 10; it was also about the same as that at age 20, which was 4.68.

GRAPHIC REPRESENTATION OF RATES OF MORTALITY.

29. Q. What would be the appearance of the curve plotted from these values according to ages?—A. This curve is shown in Graph 1, page 243, from birth to age 100. It is roughly U-shaped, with the

base of the U extending from about age 2 to about age 50 and the left arm only about one-fourth the height of the right arm but much steeper.

Q. Could the first five questions be answered from Graph 1 on page 243? In other words, is it possible to read the rates of mortality from this graph?—A. Only approximately from age 3 to age 50; before and after these ages the rates can be read fairly accurately to the nearest integer.

Q. If the rates of mortality of any of the other life tables were also plotted on this page, would their curves generally be higher or lower than this one?—A. With the exception of those for Negroes, India, Massachusetts in 1890, and some of the cities, the curves for any of the life tables shown in this volume would practically coincide with this curve between ages 3 and 50.

Q. Is it possible to draw these curves on a page of this size so that the curves for different tables do not coincide and so that the values of the rates of mortality can be read from the graphs to a fair degree of accuracy?—A. In Graphs 2 to 11, pages 244 to 253, showing the rates of mortality per thousand, this has been accomplished by drawing different parts of the curve to different scales, so that each graph contains at least three diagrams, A, B, and C. Since corresponding diagrams on all these graphs have exactly the same scales, it will suffice to explain one graph.

Turning to Graph 2 on page 244 as a sample, it will be seen that there are four diagrams, three of which, A, B, and C, show the *annual* rate of mortality per thousand, while D shows the *monthly* rate of mortality per thousand. Diagram C, on the extreme right, has almost the same scale as that to which the rates of mortality per thousand of both sexes in the original registration states is drawn in Graph 1, page 243. The curves in Diagram C bear a strong resemblance between ages 50 and 100 to the curve in Graph 1.

In Diagram A, the one on the extreme left, the vertical scale is twice that in Diagram C, as can be seen by comparing their values at the top of the page, 300 and 600, respectively. However, the horizontal or age scale in Diagram A is nearly eight times that in Diagram C, but extends only from birth to age 3: The large horizontal scale in Diagram A permits the separation of the curves between ages 0 and 1 year and the indication of *approximate annual* rates of mortality per thousand at each month of age under 1 year.

Q. What is the advantage of showing several curves or graphs on the same diagram when the values from which they were plotted are shown in column 4 of the different life tables?—A. In order to compare several tables without the aid of their graphs it would be necessary to turn from page to page and look up hundreds of different values and at the same time hold them all in mind. The graphs show at a glance all the variations and differences for the entire range of life.

ANNUAL RATES OF MORTALITY UNDER 1 YEAR.

30. Q. What were the annual rates of mortality among males in the original registration states in 1901 at birth, 3 months, 6 months, 9 months, and 1 year of age?—A. In Graph 2, page 244, it will be noted that the curve for males in 1901 is a line of short dashes, -----. Since the curves immediately after birth are so steep that their initial values are hard to read, the values at birth, on the vertical line 0 at the extreme left of Diagram A, are printed on the graph, together with the name of the table and an arrowhead at the beginning of the curve. About 136 out of 1,000 male children born alive in 1901 died during the first year of life. Following this ----- line to about one-fourth the distance between the vertical lines 0 and 1, it will be seen that out of 1,000 male children 3 months of age in 1901 about 87 died before they were 15 months of age. About midway between the vertical lines 0 and 1 the ----- line is opposite 66 on the vertical scale; hence this is approximately the annual rate of mortality per thousand among male children 6 months of age in 1901. The reading is 47 on the vertical scale at the point where the ----- line is about three-fourths the distance between 0 and 1 year of age, and the reading is 35 where it crosses the vertical line 1.

Q. How were these annual rates of mortality under 1 year determined?—A. See section 132, page 364.

COMPARATIVE RATES OF MORTALITY.

31. Q. What were the rates of mortality at age 25 among males in 1901 and 1910 and among females in 1901 and 1910?—A. In Diagram B of Graph 2, page 244, the ----- line, males 1901, crosses the vertical or age line 25 at a point opposite 7.2 on the vertical scale immediately to the left of Diagram B; the -·-·-·- line, females 1901, crosses this line at a point opposite 6.9 on the vertical scale; the ——— line, males 1910, at 5.7; and the — — — line, females 1910, at 5.4. It will be noted that the values on the curves in Diagram B can be read easily to one-tenth, for they are on a large scale, the top value in Diagram B being 40, while those in Diagrams A and C are 300 and 600, respectively. Thus the vertical scale in Diagram B is 7.5 times that in Diagram A and 15 times that in Diagram C. It begins at age 3, repeating on its larger scale the last value in Diagram A, and extends until the rates of mortality are 40 per thousand. In Graph 2 this is between ages 63 and 67. Then Diagram C begins at age 50, repeating on its smaller scale the last ten to fifteen values shown in Diagram B, and extends to age 100.

Q. How did the rates of mortality among males in New York City vary between 1901 and 1910?—A. The rates in 1910 were lower than those in 1901 for all ages except between ages 61 and 64, where the 1910 rates were slightly higher than those for 1901. See column 4 of Tables 67 and 68, pages 184 to 187.

Q. Was there much change between 1901 and 1910 in the annual rate of mortality per thousand among males in the original registration states?—A. Starting with Diagram A of Graph 2, page 244, it will be observed that the annual rate of mortality at birth among males was 135.74 in 1901 and 124.95 in 1910, so that the decrease in the nine years was 10.79 per thousand, or an average decrease of about 1.2 per thousand per year.

It will be noticed that the ----- line remains above the ——— line in Diagrams A and B up to about age 42, after which they practically coincide, or else are not far apart, up to about age 87 in Diagram C. This indicates that there was considerable decrease during the nine years in the rates of mortality from birth to about age 40, but from that age on the rates of mortality either remained practically the same or else slightly increased.

The rates of mortality beyond age 85 were influenced to a slight extent by the hypothesis that the limit of life was the same for all tables, namely, age 116. For example, if the rates in table *a* were lower than those in table *b* before age 85, they would have to increase more rapidly after age 85 than those in table *b* in order to reach the same limit of life as those in table *b*.

CHARACTERISTIC CHANGES IN RATES AMONG MALES.

32. Q. Was this change in the rate of mortality among males characteristic of all sections of the country, or did it occur only in certain groups?—A. Turning to Graph 4 on page 246, on which are shown the rates of mortality per thousand among whites in cities of the original registration states in 1901 and in 1910, it will be noted that the decrease in the annual rate of mortality at birth during the nine years is 150.97 − 133.80 = 17.17, or nearly 2 per thousand per year. After this the ----- line remains above the ——— line until about age 58, after which the lines either coincide or else remain very close together.

Turning to Graph 5, page 247, showing the rates of mortality per thousand among whites in rural parts of the original registration states in 1901 and in 1910, it will be seen that the decrease in the annual rate of mortality at birth between 1901 and 1910 is 109.00 − 103.26 = 5.74 per thousand, or only about one-third of the decrease among white males in cities. Also the ----- line remains above the ——— line only up to about age 34, and after that the two lines practically coincide, or the ----- line is lower than the ——— line up to extreme old age.

Turning to Graph 3, page 245, on which are shown the rates of mortality per thousand among Negroes in the original registration states, it is seen that during the nine-year period the decrease in the annual rate of mortality at birth is 253.26 − 219.35 = 33.91. This is a great drop, being nearly 4 per thousand per year. However, the rates among Negroes are about twice as high as among whites. The ----- line remains above the ——— line only up to age 20, after which it is generally considerably lower than the ——— line up to old age.

Turning to Graph 10, page 252, showing the rates of mortality per thousand in Massachusetts in 1890, 1901, and 1910, it appears that the annual rate of mortality at birth drops from 158.78 in 1901 to 137.06 in 1910, or 21.72. Except among Negroes, this is the greatest improvement found so far, but the rate in 1901 was very high and was still high in 1910. The males, 1901, line -----, remains above the males, 1910, line ———, up to about age 50 and then either coincides with it or is only a little below it up to old age. Thus it seems that the decrease in the annual rate of mortality among males at birth was greater in Massachusetts than in any of the other tables investigated, except those for Negroes.

No graphs were drawn of the native whites in the original registration states, but by comparing the values in column 4 of Tables 19 to 22 (the four life tables for native whites, males and females in 1901 and in 1910, pages 88 to 95) with those in column 4 of Tables 7, 9, 10, and 12 (the four corresponding aggregate white populations, pages 64, 68 to 71, and 74) it will be found that while the rates for native whites are generally a little lower than those for the aggregate white population, there is so little difference that their curves would practically coincide even on the large scale in Diagram B.

What has been said just above concerning the tables of mortality for native whites in the original registration states applies also to those for foreign whites in the original registration states, except that where the rates for native whites are a little lower than those for the aggregate white population, those for the foreign whites are generally a little higher, and *vice versa*.

MONTHLY RATES OF MORTALITY.

33. Q. In section 30 it was shown that the approximate values of the *annual* rates of mortality by months under 1 year of age could be read from the graphs in Diagram A. Why, then, is it necessary to show the *monthly* rates of mortality in Diagram D?—A. The rate of mortality changes so rapidly during the first year of life that it is necessary to choose a smaller unit interval of time, as the month, in order to satisfactorily measure the variations.

Q. Is the *annual* rate of mortality at any given age under 1 year equal to twelve times the *monthly* rate at this age?—A. No; because the *monthly* rate is based upon the number of deaths during only the first *month* following the given age, while the *annual* rate is based upon the deaths during the first *year* following the given age. If there is a rapid decrease from month to month in the number of deaths, it is evident that the annual rate of mortality would be much

lower than twelve times the monthly rate, and this is the case in the first year of life.

An illustration of this can be seen by turning to Table 48 on page 146, the life table for males in the state of Michigan, 1910. At the top of column 4 it will be noted that the *monthly* rate of mortality at birth is 51.77 per thousand, so that twelve times this rate would be over 600 per thousand, while lower down in column 4 it appears that the *annual* rate of mortality at birth is only 113.68 per thousand.

Q. What is the meaning of the monthly rate of mortality at birth, 51.77 per thousand, mentioned just above?—A. It means that out of 1,000 infants born alive 51.77 will fail to survive to the end of the first month of life. In other words, 51.77 of this group of 1,000 infants born alive will die within one month after birth.

Q. What was the monthly rate of mortality in the first month of life among white females living in the rural part of the original registration states in 1910?—A. Referring to Table 34, page 118, column 4 of the infant mortality section of the table shows that at birth the monthly rate of mortality per thousand was 35.86. This means that on the average there were 35.86 deaths between birth and exact age 1 month among 1,000 females born alive.

Q. What changes occur in the monthly rate of mortality during the first year of life?—A. Turning to Graph 2, page 244, showing the rates of mortality among males and among females in 1901 and in 1910, it will be noted that the curves in Diagram D fall very rapidly, especially during the first month, where the decrease is about three-fourths the height of the ordinates at birth.

Q. Why is the age interval for the first month, that is, the space between the vertical lines marked 0 and 1, about two and one-half times that of any other month?—A. As noted just above, the decrease in the rate of mortality is very great during the first month, so that there is the same difficulty about separating the graphs as during the first year of life. The latter difficulty was overcome by using two diagrams, A and B, where the age interval in A is nearly eight times that in B, but there was not enough room on the page for two diagrams for the monthly curves, so the age interval for the first month only was made longer than for the other months.

Q. How did the monthly rates of mortality under 1 year of age change between 1901 and 1910 in the original registration states?—A. Diagram D of Graph 2, page 244, shows that during the first month of life the monthly rate of mortality was higher in 1910 than in 1901, but beginning with the second month of life this condition was reversed, and by the end of the third month of life the rate for females in 1901 was above that for males in 1910.

COMPARISON OF CHANGE IN RATES OF MORTALITY AMONG MALES AND FEMALES.

34. Q. How does the change in the annual rate of mortality per thousand between 1901 and 1910 among females compare with that among males in the original registration states?—A. In Diagram A of Graph 2, page 244, the rate of mortality at birth among females is 112.67 in 1901 and 103.77 in 1910, a decrease of 8.90 per thousand in the nine-year period, but the -·-·-·- line, females 1901, remains above the — — — line, females 1910, until age 56, after which the two lines practically coincide for several years, and then their positions are reversed up to old age. Comparing this with the answer to the last question in section 31, it will be seen that the decrease in the annual rate of mortality between 1901 and 1910 was in general greater among females than among males, although not at birth.

Q. In the different sections of the original registration states was the decrease in the rate of mortality between 1901 and 1910 always greater among females than among males?—A. Consulting Graph 4, page 246, showing the rates of mortality per thousand among whites in cities of the original registration states, it will be seen that, while the decrease in the annual rate of mortality at birth is less among females than among males, the - - - - - line remains above the ——— line several years longer than the -·-·-·- line remains above the — — — line.

A glance at the beginning of Diagram A of Graph 5, page 247, which gives the rates of mortality among whites in the rural districts of the original registration states, shows that the decrease in the rate of mortality at birth is less among females than among males, but the -·-·-·- line remains above the — — — line over twenty years longer than the - - - - - line remains above the ——— line.

Again, in Graph 3, page 245, showing the rates of mortality among Negroes in the original registration states, the decrease in the annual rate of mortality at birth is seen to be less among females than among males, but the -·-·-·- line remains above the — — — line nine years longer than the - - - - - line remains above the ——— line.

In Massachusetts, Graph 10 on page 252, the curves for females show a smaller decrease in the annual rates of mortality at birth than do the curves for males, but the -·-·-·- line remains above the — — — line about ten years longer than the - - - - - line remains above the ——— line.

Hence it seems that generally the decrease between 1901 and 1910 in the annual rate of mortality at birth was smaller among females than among males, but the 1910 rates remained lower than the 1901 rates to an older age among females than among males.

Q. From the preceding question it appears that there was always a *decrease* in the *annual* rate of mor-

tality at birth between 1901 and 1910. Was this also true of the monthly rates of mortality at birth?—A. A glance at Diagram D of Graphs 2 to 5 on pages 244 to 247, respectively, shows that there was an *increase* in the *monthly* rate of mortality at birth among the aggregate population, the Negro females, the whites in cities, and the whites in rural districts of the original registration states.

Q. In which division of the population is the increase in the monthly rate of mortality at birth between 1901 and 1910 greatest?—A. Among whites in the rural part of the original registration states. See preceding questions.

URBAN AND RURAL RATES OF MORTALITY.

35. Q. What were the rates of mortality per thousand for white males at birth and at ages 10, 20, 40, and 60 in 1901 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white males in 1901

	at birth	age 10	age 20	age 40	age 60
in cities were	150.97	2.97	6.29	13 54	38.15
and in rural part were	109.00	2 29	5.04	7.13	21.68
the differences being	41.97	0.68	1 25	6.41	16.47

See column 4 of Tables 27 and 31, pages 104 and 112.

Q. What were the rates of mortality per thousand for white females at birth and at ages 10, 20, 40, and 60 in 1901 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white females in 1901

	at birth	age 10	age 20	age 40	age 60
in cities were	125.45	2.55	5.40	10.72	31.35
and in rural part were	89.79	2.12	5.50	7.47	20.14
the differences being	35.66	0.43	−0.10	3.25	11.21

See column 4 of Tables 29 and 33, pages 108 and 116.

Q. What were the rates of mortality per thousand for white males at birth and at ages 10, 20, 40, and 60 in 1910 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white males in 1910

	at birth	age 10	age 20	age 40	age 60
in cities were	133.80	2.59	4.93	12.10	38.51
and in rural part were	103.26	2.07	4.83	7.06	22.91
the differences being	30.54	0.52	0.10	5.04	15.60

See column 4 of Tables 28 and 32, pages 106 and 114.

Q. What were the rates of mortality per thousand for white females at birth and at ages 10, 20, 40, and 60 in 1910 in cities of the original registration states and in the rural part, and what are the differences?—A. Rates of mortality per thousand among white females in 1910

	at birth	age 10	age 20	age 40	age 60
in cities were	111.23	2.23	4.10	8.83	30.65
and in rural part were	84.97	1.80	4.41	6.65	20.06
the differences being	26.26	0.43	−0.31	2.18	10.59

See column 4 of Tables 30 and 34, pages 110 and 118.

Q. Were the differences between the rates of mortality for persons residing in the cities and in the rural parts greater or less in 1910 than in 1901?—A. Less; compare the differences in the answers to the four preceding questions.

Q. Is the rate of mortality higher in the urban or rural part of the original registration states?—A. Turning to Graph 7 on page 249, showing the rates of mortality among whites in cities and in rural part of the original registration states in 1910, it will be noted that the ——— line, city males, and the — — — line, city females, are generally above and far above the ----- line, rural males, and the -·-·-·- line, rural females, respectively.

SIGNIFICANT IRREGULARITIES IN RATES OF MORTALITY.

36. Q. At what ages are the exceptions to the rule given in the preceding question and answer?—A. Around age 20 the ----- line approaches very near the ——— line and between ages 17 and 25 the -·-·-·- line rises above the — — — line. See Graph 7, page 249.

Q. In thus approaching and crossing one another which curves appear to be irregular?—A. Those in the rural part of the original registration states, for their curves rise very rapidly between ages 15 and 22, then scarcely increase at all for the next 10 years; the ----- line, rural males, slopes down between ages 22 and 26.

Q. Do any other tables show this apparent irregularity?—A. Practically all those for males show an irregularity something like this somewhere between the ages 10 and 35. It is also seen in some tables for females, the most striking examples of which are those for females in the rural part of the original registration states in Graph 5, page 247; those for Negro females in Graph 3, page 245; and those for females in Italy, line ·····, and Sweden, line ——·——, in Graph 9 on page 251. See fourth question in section 39.

Q. What life tables for males exhibit this irregularity only in a small degree?—A. Those for England, line -·-·-·-, and Australia, line — — —, in Graph 8, page 250.

Q. What causes this irregularity?—A. Possibly much of it may be due to tuberculosis, which is peculiarly fatal in youth and early adult life.

MORTALITY LOWER AMONG WOMEN THAN AMONG MEN.

37. Q. Which rates of mortality are generally lower, those for males or females?—A. Column 4 in most of the life tables and the corresponding graphs show the rates of mortality to be lower for females for practically the entire range of life.

This can easily be verified by comparing the ——— lines, males, 1910, with the — — — lines, females, 1910, and the ----- lines, males, 1901, with the -·-·-·- lines, females, 1901, of Graphs 2 to 5 and 10 on pages 244 to 247 and 252. On

this last page the ····· line and the —··—·· line, males and females in 1890, respectively, may also be compared. Also by noting corresponding curves in Graphs 8 and 9 on pages 250 and 251 the rates of mortality for males and females in foreign countries during the period 1901–1910 may be compared.

Q. Where do the exceptions to the rule stated in the preceding question and answer occur?—A. Generally between ages 10 and 45. This is well illustrated in Graph 5, page 247, by white males, - - - - -, and white females, -·-·-·-, in rural districts of the original registration states in 1901. Among Negroes of the original registration states, 1901, Graph 3 on page 245, and in Massachusetts, 1890, Graph 10 on page 252, the curves for the rate of mortality among females are above those among males between ages 1 and 20.

VARIATION OF RATES OF MORTALITY WITH AGE.

38. Q. At what period in life do the rates of mortality change the least?—A. Generally between 20 and 40, but in tables which do not show the irregularity mentioned in the third question of section 36 this slow change in the rate of mortality is from about age 10 to age 40. See white females, 1910, line — — —, in Graph 6 on page 248; white females in cities, 1910, line — — —, Graph 4 on page 246; males and females, 1901–1910, in Australia, line — — —, and in England, line -·-·-·-, in Graphs 8 and 9, pages 250 and 251.

Q. At what age does the rate of mortality change most rapidly?—A. During the first few days of life. This can be seen from Diagram D of Graphs 2 to 7, pages 244 to 249.

COMPARISON OF MORTALITY AMONG WHITES AND NEGROES.

39. Q. How do the rates of mortality among Negroes compare with those among white people?—A. The curves representing the rates of mortality among Negroes in 1910 are almost twice as high in Graph 6 on page 248 as those among white people, and they are much more irregular. The greater irregularity in the curves for Negroes is probably partly due to the fact that the tables for white people are based upon a population over fifty times as large as that upon which the Negro tables are based and upon over thirty times as many deaths. See population and mortality statistics upon which the life tables are based at the top of Tables 9, 12, 15, and 18, pages 68, 74, 80, and 86.

Q. Is the general outline of the curves of rates of mortality among Negroes the same as among whites?—A. The curves in Graph 6, page 248, show that the general outline is the same in both cases, but in Diagrams A, B, and D the curves for Negroes are much higher than those for whites, while in Diagram C after age 80 they are lower than those for whites.

Q. Why are the curves of rates of mortality among Negroes lower than those among whites after age 80?—A. This is due in part to the fact that 116 years was assumed to be the limit of life for both whites and Negroes. See last paragraph in section 31, page 31.

Q. Do the curves for rates of mortality among Negroes show the irregularity mentioned in the third question of section 36 in a greater or less degree than do those for the whites?—A. In a greater degree than those for the aggregate whites, according to Graph 6, page 248, but about the same as do those for whites in the rural part of the original registration states, according to Graphs 3 and 5, pages 245 and 247. However, this period of irregularity begins earlier and is ended by age 27 in the case of the curves for Negroes.

Q. Is the rate of mortality among Negroes in the original registration states increasing or decreasing?—A. Graph 3 on page 245 shows that between 1901 and 1910 there was a marked decrease in the rates of mortality from birth to between ages 20 and 30, but after that age there was a marked increase.

CHANGES IN RATES OF MORTALITY IN 1890-1901 COMPARED WITH THOSE IN 1901-1910.

40. Q. Was the change in the rate of mortality as great between 1890 and 1901 as between 1901 and 1910?—A. Death statistics of 1890 are believed to be as reliable for Massachusetts as for any part of the United States. Accordingly, the six curves for Massachusetts are plotted in Graph 10 on page 252. In Diagrams A and B, to between ages 45 and 50, the ····· and —··—·· lines, males and females in 1890, respectively, are farther above the - - - - - and -·-·-·- lines, males and females in 1901, respectively, than the latter are above the ——— and the — — — lines, males and females in 1910, respectively. However, in Diagram C they are below the other curves for the same sex until old age. Thus it would seem that the change in the rate of mortality between 1890 and 1901, if Massachusetts be considered a fair sample, was even a greater decrease than between 1901 and 1910 up to about age 50, and after that there was an increase, just as between 1901 and 1910.

Q. Are there any populations that show as high rates of mortality in 1910 as Massachusetts did in 1890?—A. Except the life tables for Negroes, none of the life tables in the United States, either in 1901 or in 1910, show as high rates of mortality as do the life tables for Massachusetts in 1890.

RATES OF MORTALITY IN UNITED STATES COMPARED WITH THOSE IN OTHER COUNTRIES.

41. Q. What other countries have published life tables?—A. Australia, Japan, and most of the countries of Europe have published life tables.

Q. Are there any for a period of time corresponding to the United States Life Tables for 1910?—A. English Life Tables No. 8.

Q. For what period are most of the recent life tables made?—A. 1901 to 1910. Hence, life tables for the white population in the original registration states, male and female, separately, were constructed for the period

1901–1910, and their rates of mortality, the ——— lines, are plotted together with those for six foreign countries in Graphs 8 and 9 on pages 250 and 251.

Q. What are these six foreign countries?—A. In Graphs 8 and 9 the rates of mortality for males and females, respectively, of four European countries are shown: England, line -·-·-·-·; Germany, line - - - - -; Italy, line ·····; and Sweden, line —·—·—·. These represent roughly western, central, southern, and northern Europe. There is no published life table for France for this period. There are also graphs for Australia, line — — —, and India, line — - — -.

Q. Which of these seven countries has the highest rate of mortality?—A. India, both for males, Graph 8, and for females, Graph 9, pages 250 and 251.

Q. Which of these countries has the lowest rate of mortality?—A. From shortly after birth to between ages 35 and 40, Australia, line — — —, is lowest in both Graphs 8 and 9 except between ages 20 and 35 on Graph 9, where England, line -·-·-·-·, is lowest. Then from between ages 35 and 40 to between 80 and 85 Sweden, line —·—·—·, is lowest, both for males and for females.

Q. How do the rates of mortality among *white males* in the original registration states compare with those among males in the six foreign countries?—A. In Graph 8, page 250, the ——— line, white males in the original registration states, is third from the bottom from birth through age 7; after that it rises more rapidly than the other curves, and from age 27 to about age 47 it is much higher than the others, except that for India. From age 47 through age 67 it is some distance beneath the curves for Germany, line - - - - -, and England, line -·-·-·-·, after which it rises less rapidly than other curves and gradually sinks beneath them.

Q. How do the rates of mortality among *white females* in the original registration states compare with those among females in the six foreign countries?—A. In Graph 9, page 251, the ——— line, white females in the original registration states, is third from the bottom from birth through age 13, after which it rises rapidly, so that by age 25 it is above all but Italy, line ·····, and India, line — - — -. After age 40 it is above all save India, although it practically coincides with the curve for England, line -·-·-·-·, from age 50 through age 62. From age 62 it rises less rapidly than the others and becomes the lowest curve after age 92.

Q. What is the most noticeable difference in the rates of mortality of whites in the original registration states and those in the foreign countries?—A. The rate of mortality among whites in the original registration states is less favorable than that of most of the foreign countries from age 20 to between ages 60 and 70. See the two preceding questions and answers.

Q. What class in this country approaches most nearly to the rates of mortality in Australia?—A. White in the rural part of the original registration states in 1910. See Graphs 5, 8, and 9 on pages 247, 250, and 251.

Q. What class in this country approaches most nearly to the rates of mortality in England?—A. White in the original registration states in 1910. See Graphs 6, 8, and 9 on pages 248, 250, and 251.

Q. How do the rates of mortality in India compare with those of Negroes in the original registration states?—A. In Graphs 3, 8, and 9 on pages 245, 250, and 251, it will be seen that the rates of mortality in India, the — - — - line, are much higher than those for Negroes.

Q. Apart from the general form of the curve, do the rates of mortality for different countries have other features in common?—A. The lowest value is generally at ages 10 or 11, and in only very rare cases is it outside of ages 9 to 13. Also the annual rate of mortality at birth is repeated in practically all life tables between ages 75 and 85. In most of them it is repeated between the ages 77 and 82. The most notable exceptions to this are in the life tables for Negroes.

NUMBER OF SURVIVORS.

NUMBER OF SURVIVORS OF A GENERATION OF 100,000 BORN ALIVE.

42. Q. If a generation of 100,000 children born alive lived and died exactly in accordance with the rates of mortality for males in the original registration states in 1910, how many of them would live to attain age 50?—A. In column 2 of Table 4, page 59, the number of this generation surviving to age 50 is seen to be 60,118. The curve of the survivors of this generation, the ——— line in Graph 12, page 254, shows that the number of survivors at age 50 is a little over 60,000.

Q. How closely can the values of these curves of survivors in Graphs 12 to 21, pages 254 to 263, be read?—A. To about one-tenth of the space between the horizontal lines, and this represents 500 survivors.

Q. Between what ages is this generation of 100,000 born alive reduced by one-half?—A. The ——— line in Graph 12, page 254, and column 2 in Table 4, page 58, show that the generation is reduced to 50,000 between ages 58 and 59.

Q. At what ages are the generations of most life tables reduced by one-half?—A. Graphs 12 to 21, pages 254 to 263, Tables 77, 78, and 86, pages 209, 211, and 229, and the columns 2 in Tables 1 to 74 show that the original generation among white races is generally reduced by one-half between ages 55 and 70, and among Negroes between ages 25 and 40, while in India the original generation is reduced by one-half between ages 10 and 13.

Q. Out of 79,116 young white men in the original registration states in 1910 alive at age 20, how many

will be living at age 62?—A. 45,916. See column 2 of Table 9, page 69. In other words, 58.04 per cent will survive to age 62.

Q. Out of 82,275 young white men in the rural part of the original registration states in 1910 alive at age 21, how many will be alive at age 70?—A. 40,897. See column 2 of Table 32, page 115. That is, 49.71 per cent will attain age 70.

Q. Out of 76,741 white men in cities of the original registration states in 1910 aged 21, how many will be alive at age 70?—A. 25,269, or 32.93 per cent, will be alive at age 70. See column 2 of Table 28, page 107.

Q. Out of 60,772 native white men in the original registration states in 1910 aged 50, how many will be alive at age 75?—A. 23,669. See column 2 of Table 20, page 91. Thus, 38.95 per cent will reach age 75.

VARIATION OF NUMBER OF SURVIVORS WITH RATE OF MORTALITY.

43. Q. Upon what does the number of survivors at any given age depend?—A. Upon the sum of all the deaths which have occurred in that generation from birth up to the given age. The number of deaths in turn in each age interval depends on the rate of mortality and the number of survivors for that age interval. See first question in section 48.

Q. In Graph 2 it is seen that the rate of mortality among males in the original registration states is higher in 1901 than in 1910 only from birth to age 42. Yet, in Graph 12, page 254, the curve of survivors for males in 1910 remains above that for males in 1901 until age 75. Why is this?—A. At age 42 there are so many more survivors in the male 1910 generation than in the male 1901 generation that it requires 33 years of equal or higher rates of mortality among males in 1910 to make the number of survivors in the two generations equal.

Q. At what time of life does a high rate of mortality have the greatest effect upon the number of survivors?—A. Evidently from the two preceding questions and answers a higher rate of mortality at the younger ages has the greatest effect upon the number of survivors.

DIAGRAM OF SURVIVORS UNDER 1 YEAR.

44. Q. At what age does the curve of survivors change most rapidly?—A. During the first year. Diagram A of Graphs 12 to 20, pages 254 to 262, shows that the curve of survivors generally falls from 10,000 to 15,000 during this year. The drop is so abrupt that the lines can not be separated in Diagram A. This separation is shown in Diagram D where mortality statistics by months under 1 year were available.

Q. What increase in scale was necessary to separate the lines as shown in Diagram D of Graphs 12 to 17, pages 254 to 259?—A. The vertical scale in Diagram D is twice that in A and the horizontal scale is sixty times that in A. Even then the curves are not separated during the first few days of life.

Q. When the curves separate in Diagram D of Graph 12, those for 1901 are higher than those for the corresponding sex in 1910 and remain above them to between the ages 4 and 5 months. How does this happen?—A. In Diagram D of Graph 2, showing rates of mortality in the original registration states, page 244, it will be seen that the monthly rate of mortality at birth was lower in 1901 than in 1910. This condition is reversed after the first month, but the effect is shown in the curve of survivors for several months later. See section 43.

Q. At what age has the total number of deaths since birth in the original registration states become twice what they were during the first year of life?—A. Between ages 25 and 30. From Diagram D of Graph 12, page 254, it appears that the number of survivors at the end of the first year of life was between 90,000 and 85,000; in other words, there were between 10,000 and 15,000 deaths during the first year of life. In Diagram A the curves of survivors are from 80,000 to 70,000 between ages 25 to 30, so that the total deaths to that age must have been between 20,000 and 30,000, or twice that during the first year of life.

DIAGRAM SHOWING DEVIATION FROM THE MEAN.

45. Q. The curves in Graph 12, page 254, for males in the original registration states in 1910 and 1901, practically coincide after age 75 and those for females after age 85. Are there no differences after these ages?—A. Yes; but the scale of Diagram A is too small to show them. It is not possible in the space available here to separate these curves by drawing them in the regular way, because the drop in the curves between ages 75 and 100 is between 20,000 and 25,000, while the distance between two curves of the same sex is rarely more than 100. Therefore these four curves were transformed *without changing their relative* positions by plotting on a larger vertical scale their respective distances from their mean or average value taken as the BASE LINE in Diagram C, and the distances of the curves from it are called the DEVIATIONS FROM THE MEAN. It will be noted that the 1901 curves are slightly above those for the same sex in 1910.

Q. Does the change in mortality between 1901 and 1910 generally produce no effect upon the curve of survivors at the older ages?—A. Among whites in cities of the original registration states, Graph 14, page 256, it will be seen that the curves do not coincide until after age 95, while among whites in the rural part in Graph 15, page 257, they coincide for a few years around ages 70 and 80, and then the 1901 curves appear on top. This is more strikingly true of the Negroes in the original registration states in Graph 13 on page 255, where the curves cross near ages 55 and 65. In Massachusetts, Graph 20, page 262, the three curves for the same sex in 1890, 1901, and 1910 practically coincide after ages 80 and 85.

Q. Is there any regularity in the curves in Diagram C in Graphs 12 to 17, pages 254 to 259?—A. No, except that in the same division of population those for females are always shown above the BASE LINE, while those for males are below.

VARIATIONS IN FORM OF CURVE OF SURVIVORS.

46. Q. Do the curves of survivors differ much in form?—A. Not among white races, but there is a marked difference between the curves for the white and colored races. See Graphs 13 and 16 for Negroes and Graphs 18 and 19 for India, pages 255, 258, 260, and 261.

Q. Is this difference in form of the curves due to the heavy mortality under 5 years among Negroes?—A. No. Comparing the curves for Negro females in 1910, line -·-·-·- in Graph 16 on page 258, with those for males in Italy, line ----------, and Germany, line -----, in Graph 18 on page 260, it will be noted that the form of all three curves from birth to age 10 is practically the same, but after that age the curve for Negro females in 1910 is almost a straight line. This is true of all the curves for Negroes and those for India.

Q. Among the curves of the six foreign countries in Graphs 18 and 19, pages 260 and 261, are there any which bear resemblance to those for whites in the rural part, Graph 15 on page 257, and those for whites in the original registration states in 1910, Graph 16 on page 258?—A. The curves for Australia, line — — —, in Graphs 18 and 19, approach most nearly to those for whites in the rural part of the original registration states; while those for England, line -·-·-·-, approach most nearly the curves for whites in the original registration states in 1910.

NUMBER OF DEATHS.

INCIDENCE OF DEATHS IN A GENERATION OF 100,000 BORN ALIVE.

47. Q. If a generation of 100,000 children born alive lived and died in exact accordance with the rates of mortality among males in the original registration states in 1910, how many of them would die in each age interval?—A. The number of deaths in each age interval is shown in column 3 of Table 4 on page 58. See line ——— in Graph 22, page 264.

Q. In which age interval is there the greatest number of deaths?—A. During the first year of life. See Graphs 22 to 31, pages 264 to 273.

Q. What proportion of deaths during the first year of life occurs during the first month of life?—A. From one-third to one-half, generally about two-fifths among white races and about one-third among Negroes. Compare numbers in column 3 for age intervals 0–1 month and 0–1 year in Tables 1 to 36, excluding 23 to 26, and in Tables 38, 40, 43, 46, 48, 50, 52, 54, 56, and 58, which are the only ones showing infant mortality or the first year of life by age intervals of 1 month.

Q. After the first year of life, in what age intervals do the greatest numbers of deaths occur?—A. In age interval 1–2 years among white races, and there is also a maximum number of deaths generally somewhere between ages 67 and 77; among Negroes, in age intervals 1–2, 2–3, and 3–4, and then there is also a maximum number of deaths generally somewhere between ages 55 and 65. See Graphs 22 to 31, pages 264 to 273, and Tables 1 to 74, 79, 80, and 87, pages 52 to 199, 212, 214, and 230.

VARIATION OF NUMBER OF DEATHS WITH NUMBER OF SURVIVORS AND RATE OF MORTALITY.

48. Q. Upon what does the number of deaths in any age interval depend?—A. The number of deaths is equal to the product of the number of survivors at the beginning of the age interval and the rate of mortality during the age interval.

Q. What similarity exists between the curves of number of deaths, number of survivors, and rate of mortality?—A. In Graphs 22 to 31, pages 264 to 273, it will be noted that from birth to some age between 50 and 60 curves of the number of deaths bear a strong resemblance to the rate of mortality curves in Graphs 1 to 11, pages 243 to 253, while from some age between 70 and 80 to the end of life these curves bear a marked resemblance to the curves of the number of survivors in Graphs 12 to 21, pages 254 to 263.

Q. Does the apparent irregularity mentioned in section 36, page 33, appear in the curve of the number of deaths?—A. Yes. It is manifested by a decided rise in the curve, usually between ages 15 and 25, sometimes accompanied by a maximum point near age 20. See Graphs 22 to 31, pages 264 to 273.

Q. What is the total number of deaths in column 3 of Tables 1 to 74, pages 52 to 199, and in any column in Tables 79 and 80, pages 212 and 214?—A. 100,000, since all the generation have died by the end of the life table.

Q. How many deaths are there of persons aged 75 years and over in the life table for males in the original registration states in 1910?—A. In column 2 of Table 4, page 59, it will be noted that there are 21,213 survivors at age 75, and as all these die after age 75 the number of deaths of persons aged 75 and over is 21,213. In other words, column 2 represents not only the survivors to each age but also the number of persons who die in current and all older age intervals. See also the last question and answer in section 44.

COMPLETE EXPECTATION OF LIFE.

COMPLETE EXPECTATION OF LIFE AT BIRTH.

49. Q. If a generation of 100,000 children born alive lived and died in exact accordance with the table of mortality for males in the original registration states in 1910, what would be their average lifetime? In other words, what would be the expectation of life at birth?—A. In Table 4, page 58, at the beginning of column 5, it will be seen that at birth the expectation

of life among males in the original registration states in 1910 was 49.86 years. In other words, the total number of years lived by all these 100,000 children born alive, when divided by 100,000, gives an average lifetime of nearly 50 years. This is also shown on Graph 32, page 274, which shows the expectation of life in the original registration states.

Q. Compared with other populations, is this a long or short average length of life?—A. From Graphs 32 and 34 to 40 on pages 274 and 276 to 282, and in column 5 of Tables 1 to 12, 19 to 22, 27 to 34, 37 to 74, pages 52 to 75, 88 to 95, 104 to 119, and 124 to 199, and in Tables 81 and 82, pages 216 and 218, it will be seen that at birth the expectations of life among white races range from about 40 to 59 years. Hence 49.86 is about the average.

Q. What white populations shown in this volume have the highest and lowest expectations of life at birth?—A. Females in Australia, 1901–1910, had an expectation of life at birth of 58.84 years, while males in New York City in 1901 had an expectation of life at birth of 40.65 years. See line — — — in Graph 39, page 281; column 2 of Table 82, page 218; and column 5 of Table 67, page 184.

MAXIMUM EXPECTATION OF LIFE.

50. Q. Is the greatest expectation of life at birth?—A. No. According to Diagrams A and D of Graphs 32 to 40, pages 274 to 282, and column 5 of Tables 1 to 74 (except Tables 23 to 26), pages 52 to 199, and Tables 81 and 82, pages 216 and 218, the maximum value of the expectation of life occurs at or near age 2.

Q. What was the expectation of life at age 2 among males in the original registration states in 1910?—A. The ——— line in Diagram D of Graph 32, page 274, is a little over 56½ years at age 2, and in column 5 of Table 4, page 58, the exact figures are seen to be 56.59 years. In other words, if the sum of all the future years to be lived after age 2 by the children who survive to age 2 in this generation of 100,000 children born alive were divided by the number of survivors at age 2, the quotient would be 56.59.

Q. How does the greatest expectation of life among males in the original registration states in 1910 compare with that of other white races?—A. Diagrams A and D in Graphs 32 and 34 to 40, pages 274 and 276 to 282, and column 5 in Tables 1 to 74 on pages 52 to 199 (except Tables 13 to 18, 23 to 26, 35, and 36), and Tables 81 and 82, pages 216 and 218, show that the greatest expectation of life among white races generally comes to those who survive to age 2 and ranges from about 49 to 63 years. Sometimes the greatest expectation of life is shown for those who survive to age 3, but in those life tables the rates of mortality are generally quite high.

Q. At what age is the expectation of life greatest among Negroes and among the people of India?—A. At age 3 among Negroes, and among the people of India at age 5. See column 5 of Tables 13 to 18, 35, and 36, pages 76 to 87 and 120 to 123, and line — - — - in Graphs 8 and 9, pages 250 and 251.

Q. What is the range of the maximum expectation of life among Negroes and in India according to the tables and graphs just mentioned?—A. 41 to 47 years among Negroes and from 35 to 36 years in India. The graphs for the expectation of life for India, pages 280 and 281, from birth to age 50 were so low that they had to be drawn in Diagram B, and the ages and values for the first half of the graph should be read from the top and the right side, respectively, instead of from the bottom and the left side.

Q. In Graph 33 for Negroes, page 275, why is Diagram B above Diagram A?—A. In order to compare the curves in Diagram A of Graphs 32 to 41 they were not only drawn to the same scale but the limits of the vertical scale of Diagram A are the same in each case, so that the top of any graph is always 62 years and the bottom 16 years according to Diagram A. At the beginning of Diagram A in Graph 33 the curves lie so low on the page that Diagram B could not be drawn beneath it; hence Diagram B was put at the top.

VARIATION OF EXPECTATION OF LIFE.

51. Q. What determines the expectation of life at any age?—A. The rate of mortality at that age and all older ages.

Q. What is the range of the increase in expectation of life between birth and ages 2 or 3?—A. Among white races from 4½ to 10 years and among Negroes and the people of India from 10 to 13 years. See Graphs 32 to 40, pages 274 to 282, and column 5 of Tables 1 to 74 (except Tables 23 to 26), pages 52 to 199, and Tables 81 and 82, pages 216 and 218.

Q. Is this increase uniform?—A. No. Diagram D, in the upper right-hand corner of Graphs 32 to 35 and 37, pages 274 to 277 and 279, shows this increase according to months under 1 year of age on a vertical scale the same as in Diagram A, but on a horizontal scale seven times as large. From these diagrams it appears that the greater part of the increase occurs during the first year of life, and about one-third of that occurs during the first month of life.

CHANGE IN EXPECTATION OF LIFE BETWEEN 1901 AND 1910.

52. Q. What change in the expectation of life occurred in the original registration states between 1901 and 1910?—A. Graph 32 on page 274 shows that the expectation of life at birth was raised two years among males and two and one-half years among females. Also the 1910 curves remain above those for the same sex in 1901 until about age 30 among the males and age 40 among the females. After that the 1910 curves are lower than those of the same sex in 1901 until old age.

Q. What was the change in the expectation of life between 1901 and 1910 among Negroes of the original registration states?—A. Graph 33 on page 275 shows that the expectation of life was lower among Negro males in 1910 than in 1901 between ages 1 and 75 and among Negro females between ages 8 and 85.

Q. Was the increase in the expectation of life greater in cities or in the rural part of the original registration states between 1901 and 1910?—A. Graphs 34 and 35, pages 276 and 277, show that there was a much greater increase among whites in cities than among whites in the rural part of the original registration states.

Q. In which interval was the increase in expectation of life in Massachusetts greater, between 1890 and 1901 or between 1901 and 1910?—A. Between 1890 and 1901 according to Graph 40 on page 282.

COMPARISON OF EXPECTATION OF LIFE IN DIFFERENT CLASSES.

53. Q. Was the expectation of life in 1910 greater in the cities or in the rural part of the original registration states?—A. Graph 37 on page 279 shows that it was much greater in the rural part of the original registration states.

Q. How does the expectation of life among Negroes compare with that among whites?—A. According to Graph 36 on page 278, the expectation of life at birth among Negroes is 16 years less than among whites. After this the curves gradually approach one another, until between ages 75 and 80 in Diagram B the curves for Negroes rise above those for whites. Diagram B had to be divided into two parts, B_1 in the lower left corner and B_2 in the upper right corner, because the curves for Negroes in Diagram A are so low on page 278. See last question and answer in section 50.

Q. How does the expectation of life among whites in the rural part of the original registration states in 1910 compare with those in foreign countries?—A. Graphs 35 and 38, pages 277 and 280, show that the expectation of life among white males, line ———, in the rural part of the original registration states in 1910 between birth and age 5 is very near to that among males in Australia, line — — —, and after age 5 it is near to that among males in Sweden, line —·—·—. On the other hand, Graphs 35 and 39, pages 277 and 281, show that the expectation of life among white females, line — — —, in the rural part of the original registration states in 1910 between birth and age 20 is near to that among females in Sweden, line —·—·—, but after that age it is very near that of females in Australia, line — — —.

Q. How does the expectation of life among whites in the cities of the original registration states in 1910 compare with those in foreign countries?—A. Graphs 34 and 38, pages 276 and 280, show that while the expectation of life at birth among white males, line ———, in cities of the original registration states in 1910 is only a little lower than that among males in England, line - - - - - -, at birth, from that age up to age 65 it is lower and considerably lower than that among males in the foreign countries shown here except India. Graphs 34 and 39, pages 276 and 281, show that while the expectation of life at birth among white females, line — — —, in cities of the original registration states in 1910 is only a little lower than that among females in England, line - - - - - -, at birth, after that age to age 20 it is only a little above that of Italy, line ·····, the lowest among the foreign nations except India; then between ages 20 and 60 it is lower than any of the foreign countries except India.

Q. According to the life tables in this volume, which have the higher expectation of life, males or females?—A. Females. See column 5 in Tables 1 to 74, 81, and 82, pages 52 to 199, 216, and 218 and Graphs 32 to 40, pages 274 to 282.

Q. Is this true even to the older ages?—A. Yes. In Diagram C of Graphs 32, 34, 35, and 37, pages 274, 276, 277, and 279, it will be noted that the graphs for females are generally above the base line, while those for males are generally below. In Diagram C the separation of the curves at the older ages is shown in the same way as in the curves for survivors. See first question and answer in section 45, page 36. The horizontal scale is greatly reduced while the vertical scale is ten times as large as that in Diagram B, except in Graph 34 on page 276, where it is only five times that in Diagram B.

Q. Why is there no Diagram C in Graphs 33 and 36 for Negroes?—A. For Negroes the curves for expectation of life for the same sex in 1901 and 1910 cross at age 75 for males and age 85 for females and are rather widely separated after those ages, and Diagram C is not necessary.

STATIONARY POPULATION.

ITS PRODUCTION AND THE GENERAL CONDITIONS EXISTING IN IT.

54. Q. If instead of one generation of 100,000 children a new generation of 100,000 children were born alive uniformly throughout each year and lived and died in exact accordance with the rates of mortality among males in the original registration states in 1910, what would be the total number in the stationary population that would ultimately be formed?—A. At the head of column 8 in Table 4, page 58, this total is seen to be 4,986,495.

Q. How many years, or, in other words, how many annual generations of 100,000 births, would be required to form this stationary population of 4,986,495?—A. 107 years, or one generation for each age in the life table.

Q. What would be the annual number of deaths in this stationary population?—A. The number of deaths each year would equal the number of births, or 100,000, since neither the total number nor the number in any age interval in a stationary population would change with time.

Q. In this stationary population how many would survive to each age each year?—A. As many as are shown in each age interval in column 2 of Table 4, page 58, since there would be one generation at each age.

Q. How many years of life would be lived each year by this total stationary population?—A. As many as would be lived by any one of the generations during its entire lifetime.

Q. To how many generations do the annual deaths occurring in any age interval belong?—A. To two successive generations.

Q. What proportion of the annual deaths in any age interval belongs to the older generation and what to the younger one?—A. Except for ages under 5 years and very old ages it is found that the annual deaths in any age interval are about equally divided between the two generations. See sections 107 to 109, pages 339 and 340.

AGE DISTRIBUTION OF STATIONARY POPULATION.

55. Q. In the stationary populations of the life tables shown in this volume, what are the numbers living in each age interval?—A. These numbers are shown in column 6 of Tables 1 to 74, pages 52 to 199.

Q. How many in the stationary population for males of the original registration states in 1910 are 75 years of age and over?—A. 143,130, or less than one-thirtieth of the whole population, according to column 8 in Table 4, page 59.

Q. How are the stationary populations among white races divided according to age?—A. An examination of the stationary populations, column 8 of Tables 1 to 74, pages 52 to 199 (except Tables 13 to 18, 35, and 36), shows that one-fourth of the stationary population is under 14 to 17 years of age, and most of them have one-fourth of the population under ages 15 and 16; one-half of the population is under ages 28 to 35 years of age, and most of the tables have one-half the population under ages 32 and 33; three-fourths of the population is under ages 46 to 53, generally under ages 51 and 52.

Q. How are the stationary populations among Negroes divided as to age?—A. One-fourth is under 12 to 13 years of age, one-half is under 24 to 28 years of age, and three-fourths is under 40 to 46 years of age. See column 8 of Tables 13 to 18, 35, and 36, pages 76 to 87, 120, and 122.

Q. In what age intervals do the generations and stationary populations generally end?—A. The life tables for white people end in age intervals 101–102 to 107–108, while those for Negroes end in age intervals 103–104 to 109–110.

EXPECTATION OF LIFE AT ANY AGE AND POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.

56. Q. How do the totals of stationary populations vary?—A. Just as do the expectations of life at birth, since the expectation of life at birth equals the total of the stationary population divided by the number of births, or 100,000 in these life tables.

Q. Why does the expectation of life at birth in Tables 1 to 74, pages 52 to 199, equal the total of the stationary population divided by 100,000?—A. Because the total of the stationary population equals the total number of years lived by any one of the generations of 100,000 born alive. See following question and answer.

Q. Why does the total of the stationary population equal the total number of years lived by any one of the generations of 100,000 born alive?—A. According to the fifth question and answer in section 54, the number of years lived by any one of the generations during its whole lifetime equals the number of years lived each year by the stationary population, and this, of course, equals the total of the stationary population.

Q. How many more years to live have the 22,000 survivors at age 78 among white males in the rural part of the original registration states in 1910?—A. In column 8 of Table 32, page 115, it will be seen that they still have 129,257 years to live, or an average of 5.88 years. See value in column 5 opposite age 78 in Table 32.

TOTAL WHITE POPULATION AND TOTAL NEGRO POPULATION COMPARED.

57. Q. What total population would eventually be generated and kept constant or stationary as to numbers by 100,000 annual white male living births distributed uniformly throughout each calendar year if the rates of mortality were those shown in column 4 of Table 9 for white males in the original registration states in 1910?—A. Referring to column 8 of this life table, page 68, it appears that the total population would eventually contain 5,023,371 white males.

Q. What total population would eventually be generated and kept constant or stationary as to numbers by 100,000 annual Negro female births distributed uniformly throughout each calendar year if the rates of mortality were those shown in column 4 of Table 18 for Negro females in the original registration states in 1910?—A. Referring to column 8 of this life table, page 86, it appears that the total population would eventually contain 3,766,879 Negro females.

Comparing this with the preceding question, it appears that although the two populations are generated and maintained constant as to numbers by the same number, 100,000, of annual births, the first would eventually exceed the second by 1,256,492 lives, owing to the difference in mortality rates. To put it in another way, the total stationary Negro female population is only about 75 per cent of the total stationary white male population.

MEASURE OF VITALITY.

MEANING OF MEASURE OF VITALITY.

58. Q. What is the population per death per year in each yearly age interval for males in the original registration states in 1910?—A. These numbers are

shown for yearly age intervals in column 7 of Table 4 on page 58 and by the line ——— in Graph 42 on page 284.

Q. What is the name given to the ratio defined in column 7?—A. The measure of vitality.

Q. At what age is there the greatest chance to live according to this graph for males in the original registration states in 1910?—A. Age 11. See first question and answer in this section.

Q. Does this agree with the rates of mortality for males in the original registration states in 1910 as shown in column 4 of Table 4 on page 58 and in line ——— of Graph 2 on page 244?—A. Yes.

RELATION BETWEEN MEASURE OF VITALITY AND RATE OF MORTALITY.

59. Q. How is the measure of vitality related to the rate of mortality at any age?—A. The measure of vitality is almost the reciprocal of the rate of mortality.

Q. How do these two curves compare?—A. Where one is high, the other is low; where one changes rapidly, the other changes slowly. Hence the measure of vitality curve shows on a much larger scale the variations in the rate of mortality between ages 5 and 40.

Q. How do the scales in Diagram A of Graphs 42 to 51 compare with those of Graphs 1 to 11?—A. The horizontal scale is the same and the vertical scale very nearly the same as in Graph 1, which has practically the same scales as Diagram C in Graphs 2 to 11.

MAXIMUM VALUES AND IRREGULARITIES.

60. Q. Among the life tables shown in this volume, which stationary population shows the greatest maximum measure of vitality between ages 9 and 13 and which the least?—A. The greatest maximum measure of vitality is found among females in Australia; at age 10 there is one death each year to every 630.89 living. See line — — — of Graph 49, page 291, and column 2 of Table 84, page 222. The least is found among females in India; at age 12 there is one death each year to every 80 living. See line — - — - of Graph 49 and column 8 of Table 84.

Q. Do the apparent irregularities in the rate of mortality, Graphs 2 to 11 on pages 244 to 253, mentioned in section 36, page 33, appear in the measure of vitality, Graphs 42 to 51 on pages 284 to 293?—A. Yes. These irregularities generally begin by an apparently rapid decrease from about age 15 to age 20, and then there follows a very decided slowing up of the decrease for the next 10 or 15 years. Sometimes this slowing up is followed by an increase, as in line ——— of Graph 45, page 287, for white males in the rural part of the original registration states, 1910, and in Graph 43 for Negroes, page 285, and for males in Sweden, line —·—·—·, and Italy, line ·····, of Graph 48, page 290.

Q. What are the highest and lowest maximum values of the measure of vitality among whites in the United States Life Tables, 1901?—A. Graphs 44, 45, and 47 to 50, pages 286, 287, and 289 to 292, and column 7 of the Tables 1 to 74, pages 52 to 199, which are 1901 life tables, show that the highest maximum value for 1901 is 473.24 among females in Michigan, while the lowest is 318.70 among females in Boston.

Q. What are the highest and lowest maximum values of the measure of vitality among whites in the United States Life Tables, 1910?—A. The highest maximum value of the measure of vitality is 555.13 among white females in the rural part of the original registration states, while the lowest, 389.58, is among females in Boston. See Graphs 44, 45, and 47 to 50, pages 286, 287, and 289 to 292, and column 7 of the Tables 1 to 74, pages 52 to 199, which are 1910 life tables.

CHANGES IN MAXIMA.

61. Q. Among white people in the United States, which division experienced the greatest change in the maximum value of the measure of vitality between 1901 and 1910 and which experienced the least?—A. Among males in Philadelphia the increase in this maximum value was from 327.93 in 1901 to 413.29 in 1910, or an increase of over 85, while among males in Michigan the increase was from 403.57 in 1901 to 423.42 in 1910, or an increase of less than 20. See column 7 of Tables 71 and 72, pages 192 to 195, and of Tables 47 and 48, pages 144 to 147.

Q. What were the changes in the maximum values of the measure of vitality in Massachusetts between 1890 and 1901 and between 1901 and 1910?—A. From Graph 50 on page 292 it will be noted that the increase in maximum measure of vitality among males between 1890 and 1901, lines ····· and - - - - -, respectively, was about 120, while among females, lines —·—·— and - - - - - -, respectively, it was about 150. Then between 1901 and 1910 the increase was about 50 among males, lines - - - - - and ———, and about 80 among females, lines - - - - - - and — — —.

Q. What is the range of the maximum measure of vitality among Negroes?—A. Graph 43 on page 285 and column 7 of Tables 13 to 18, 35, and 36, pages 76 to 87, and 120 to 123, show that among Negro females in the original registration states the maximum measure of vitality was 199.11 in 1910 and 129.43 in 1901, both at age 9.

Q. What is the lowest maximum measure of vitality among whites in the original registration states?—A. 261.21 among females in Massachusetts in 1890. See column 7 of Tables 7 to 12, 19 to 34, 37 to 74, pages 64 to 75, 88 to 119, and 124 to 199, and Graphs 44 to 47 and 50, pages 286 to 289 and 292.

Q. What was the increase in the maximum measure of vitality between 1901 and 1910 among Negroes?—

A. Diagram A of Graph 43 on page 285 shows that the increase among females was about 70, while that among males was about 39.

MONTHLY MEASURE OF VITALITY.

62. Q. In each monthly age interval what was the stationary population per death per month?—A. These numbers appear in column 7 of the infant mortality section of Tables 1 to 36 (except Tables 23 to 26) and Tables 38, 40, 43, 46, 48, 50, 52, 54, 56, and 58; and Diagram D of Graphs 42 to 47, pages 284 to 289, shows measure of vitality by months under 1 year.

Q. In the age interval from birth to 1 month, what was the stationary population per death per month for white females living in the original registration states in 1910?—A. 25.68. See column 7 of Table 12, page 74.

Q. In the age interval 10–11 months, what was the stationary population per death per month for white males in cities in 1901?—A. 137.04. See column 7 of Table 27, page 104.

Q. How does the measure of vitality in the infant mortality section of the life tables for females compare with that for males?—A. It is higher, that is, more favorable for females. See Diagram D of Graphs 42 to 47, pages 284 to 289.

Q. How does the monthly measure of vitality for infants living in the rural part in 1910 compare with that for urban infants?—A. It is higher for the rural infants. See Diagram D of Graph 47, page 289.

Q. How does the monthly measure of vitality for Negro infants in 1910 compare with that for white infants?—A. The measure of vitality for Negro infants is about one-half that for white infants. See Diagram D of Graph 46, page 288.

Q. How does the monthly measure of vitality for 1910 infants compare with that for 1901 infants?—A. It is more favorable for the 1910 infants. See Diagram D of Graphs 42 to 45, pages 284 to 287.

DEATH RATE PER THOUSAND.

AVERAGE DEATH RATE OF THE TOTAL POPULATION AT BIRTH.

63. Q. What was the average death rate per thousand in the total male population at birth in the original registration states in 1910?—A. 20.06, according to column 9 of Table 4 on page 58.

Q. What was the range of the average death rate of the totals of other stationary populations among white people in the United States?—A. From 17.44 among white females in the rural part of the original registration states in 1910, Table 34 on page 118, to 24.60 among males in New York City in 1901, Table 67 on page 184, according to column 9 of the various life tables.

Q. Which population whose life table is shown in this volume experienced the greatest decrease in average death rate at birth between 1901 and 1910, and which the least?—A. Males in New York City changed from 24.60 in 1901, column 9 of Table 67 on page 184, to 22.08 in 1910, column 9 of Table 68 on page 186, a decrease of 2.52 per thousand. Males in the city of Chicago changed from 21.59 in 1901, column 9 of Table 63 on page 176, to 21.78 in 1910, column 9 of Table 64 on page 178, an *increase* of 0.19 per thousand!

Q. Which shows the greater change in the average death rate at birth between 1901 and 1910, the states or the cities?—A. The cities. Among Boston males the change was from 24.02 in 1901, Table 59 on page 168, to 21.72 in 1910, Table 60 on page 170, a decrease of 2.30. Among females, Tables 61 and 62 on pages 172 and 174, there was a decrease of 2.26, while in Massachusetts, which experienced a greater change in average annual death rate at birth than any other state, the decrease was 1.44 for males and 1.38 for females. See column 9 of Tables 42, 43, 45, and 46, pages 134, 136, 140, and 142.

Q. How is the average death rate at any age obtained for a stationary population?—A. By dividing one thousand times the number of annual deaths in current and all older age intervals by the total population living in current and all older age intervals; in other words, by dividing one thousand times the numbers in column 2 by the corresponding ones in column 8. See the second question and answer in section 55, page 40, and the last two questions and answers in section 48, page 37.

AVERAGE DEATH RATE IN THE ACTUAL POPULATION.

64. Q. What were the average death rates per thousand in the total *actual* populations upon which the three life tables mentioned in the first two questions and answers in section 62 are based?—A. Referring to the heading of Table 4, page 58, for males in the original registration states in 1910, the estimated population as of July 1, 1910, was 12,177,315. Assuming in this calculation that the number of deaths in 1910 was equal to 195,350, the average of the reported deaths for the three years 1909, 1910, and 1911, the ratio of the deaths to the population, multiplied by 1,000, gives 16.04, which is 4.02 per 1,000 less than that of the stationary population of Table 4.

In the same way the average death rate per thousand in the total *actual* population among white females in the rural part of the original registration states in 1910, Table 34 on page 118, was 13.67, or 3.77 less than in the stationary population, and among males in New York City in 1901, Table 67 on page 184, was 21.18, or 3.42 less than that in the stationary population.

Q. Why does the average annual death rate computed on the actual population and deaths differ from that computed on the population and deaths in the hypothetical stationary population?—A. The rate of mortality at each age is the same in both populations,

but the *distribution of the population in the age intervals* may differ materially. For example, in the actual population there may be an excess of young people, the effect of which would be to decrease the average annual death rate in the total population.

COMPARISON OF DEATH RATES IN ACTUAL WITH THOSE IN STATIONARY POPULATION.

65. Q. If two different communities were subject to exactly the same rate of mortality at each age, would the average death rate in the respective stationary populations be the same at each age?—A. Yes, because the average death rates in column 9 are derived from the rates of mortality in column 4. The question is equivalent to the following: If column 4 of the life table for community A were the same as column 4 of the life table for another community B, would column 9 of the life table for community A be the same as column 9 of the life table for community B? The answer is yes.

Q. If two different communities were subject to exactly the same rates of mortality at each age, would the average death rate derived by computing the ratio of the respective reported deaths to enumerated populations be the same for the two communities?—A. Not necessarily, because the distribution of the population in the age intervals might differ greatly. For example, there might be a preponderance of young men in one community and of old men in the other. A large influx by immigration of young men in a community would tend to lower temporarily the average death rate in the total population when computed on the enumerated population and reported deaths. The question is equivalent to the following: If column 4 of the life table for community A were the same as column 4 of the life table for community B, would the computed average death rates be the same in communities A and B if taken directly as the ratio of reported deaths to enumerated populations? The answer is no, not necessarily.

Q. Are there any life tables in this volume whose *stationary* populations have a lower average death rate than the *actual* populations?—A. No.

Q. Was the death rate per thousand of the total *actual* population as much below that of the *stationary* population in 1901 as in 1910?—A. It was lower.

Q. What does this signify?—A. According to the last question and answer in section 62 and to section 63, it would seem that the populations are gradually growing older and are thus approaching the distribution of their stationary populations.

AVERAGE DEATH RATE FOR SECTIONS OF THE STATIONARY POPULATION.

66. Q. What is the average death rate per thousand in that portion of the stationary white male population of the original registration states in 1910 between ages 20 and 40?—A. Referring to columns 2 and 8 of Table 9 on page 68 and to the method of making this calculation explained in section 26 on page 29, the result is:

$$1000 \cdot \frac{(l_{20} - l_{40})}{(T_{20} - T_{40})} = 1000 \cdot \frac{79116 - 68848}{3378969 - 1888606}$$

$$= \frac{10268000}{1490363} = 6.89.$$

Q. What is the average death rate per thousand in that portion of the stationary Negro female population of the original registration states, 1910, between ages 20 and 40?—A. Referring to columns 2 and 8 of Table 18 on page 86 and to the method of making this calculation explained in section 26 on page 29, the result is:

$$1000 \cdot \frac{(l_{20} - l_{40})}{(T_{20} - T_{40})} = 1000 \cdot \frac{64764 - 50568}{2340453 - 1180253}$$

$$= \frac{14196000}{1160200} = 12.24.$$

VARIATION OF AVERAGE DEATH RATE WITH EXPECTATION OF LIFE.

67. Q. At what age is the average death rate per thousand in a stationary population the lowest?—A. Between ages 2 and 3.

Q. How does this agree with the greatest expectation of life?—A. It agrees exactly. See first and third questions and answers in section 50, page 38.

Q. What relation does the average death rate per thousand bear to the expectation of life at any age?—A. According to section 21 the expectation of life at any age is obtained by dividing the number in column 8 by that in column 2 at that age, while according to section 25 the average death rate per thousand is found by dividing the number in column 2 by the corresponding one in column 8 and multiplying by 1,000. Hence the average death rate per thousand at any age is 1,000 times the reciprocal of the expectation of life at that age.

CHANGE IN AVERAGE DEATH RATE WITH AGE.

68. Q. In what other age interval is the average death rate the same as that of the total population or that at birth?—A. Among white people between ages 8 and 17, generally between ages 10 and 12. Among Negroes between ages 17 and 29. See column 9 of Tables 1 to 74, pages 52 to 199 (except Tables 23 to 26), and Graphs 32 to 40, showing the expectation of life, pages 274 to 282. See also section 67.

Q. In what age interval is the average death rate double that of the total population?—A. In Massachusetts, 1890, this occurs in age interval 49–50, but with this exception, among white races this age interval ranges from 41 to 47, the predominating ages being 43 to 45. See Tables 41 and 44, pages 132 and 138, and the tables and graphs mentioned in preceding question and answer. Among Negroes it ranges from 47 to 54. See Tables 13 to 18, 35, and 36, pages 76 to 87 and 120 to 123.

Q. In what age interval is the average death rate three times that of the total population?—A. In Massachusetts, 1890, this occurs in age interval 61–62, but with this exception, among white races this age interval ranges from 54 to 59 and among Negroes from 60 to 65. See column 9 of the tables mentioned in preceding question and answer.

Q. In what age interval is the average death rate ten times that of total population?—A. Among white races this age interval ranges from 78 to 84, with 79 to 82 the predominating ages. Among Negroes this age interval ranges from 89 to 96, and in India it occurs at 83–84. Compare with last question and answer in section 41. See column 9 of tables mentioned in preceding questions and answers.

LIFE TABLES OF FOREIGN COUNTRIES.

COUNTRIES, PERIODS, GRAPHS, AND FUNCTIONS SHOWN.

69. Q. For what foreign countries are life tables given?—A. For Australia, Denmark, England, France, Germany, Holland, India, Italy, Japan, Norway, Sweden, and Switzerland. See Tables 75 to 84, pages 204 to 223.

Q. Are the life tables of all these countries represented by graphs in this volume?—A. No, only Australia, England, Germany, India, Italy, and Sweden. See Graphs 8, 18, 28, 38, and 48 for males, pages 250, 260, 270, 280, and 290, and Graphs 9, 19, 29, 39, and 49 for females, pages 251, 261, 271, 281, and 291.

Q. For what periods are the foreign life tables calculated?—A. Denmark, for 1906–1910; France and Japan, for 1898–1903; Holland, for 1900–1909; and the others for 1901–1910.

Q. What mortality functions are shown for these 12 foreign countries?—A. The rate of mortality per thousand, number of survivors, number of deaths, complete expectation of life, and measure of vitality. See Tables 75 to 84, pages 204 to 223.

RATE OF MORTALITY IN FOREIGN COUNTRIES.

70. Q. What is the lowest rate of mortality in any of these countries?—A. For males, 1.77 per thousand at ages 11 and 12 in Denmark; and for females, 1.59 per thousand at age 10 in Australia. See column 3 of Table 75, page 204, and column 2 of Table 76, page 206.

Q. Which of these countries shows the lowest rate of mortality at birth?—A. Norway, the rate of mortality being 81.45 for males and 66.79 for females. See column 11 of Tables 75 and 76, pages 204 and 206.

Q. How do these rates compare with those in this country?—A. The rate of mortality per thousand at birth for white males in the original registration states for 1901–1910 was 127.38, and the rate for white females was 105.51. See column 14 of Tables 75 and 76, pages 204 and 206.

Q. What is the rate of mortality per thousand at birth among males and females in Japan?—A. 156.86 for males and 140.92 for females. See column 10 of Tables 75 and 76, pages 204 and 206.

Q. Which country shows the most favorable rate of mortality for males at age 50?—A. Norway, the rate being 11.11. See column 11 of Table 75, page 205.

Q. Which country shows the most favorable rate of mortality for females at age 50?—A. Denmark, the rate being 8.97. See column 3 of Table 76, page 207.

Q. Which country after India shows the least favorable rate of mortality from ages 17 to 29 among males?—A. Norway. See Table 75, column 11, page 204.

Q. How do the mortality rates in this country among white males and females in the original registration states compare with those in other countries from age 30 to age 50?—A. Except for France, India, and Japan, they are for the most part less favorable in this country. See Tables 75 and 76, pages 204 and 206.

NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE.

71. Q. Which country shows the greatest number of survivors at age 21 out of 100,000 births?—A. Australia, with 84,180 males and 86,175 females. See column 2 of Tables 77 and 78, pages 208 and 210.

Q. Which country shows the smallest number of survivors at age 21 out of 100,000 births?—A. India, with 43,091 males and 44,067 females. See column 8 of Tables 77 and 78, pages 208 to 211.

Q. Which country shows the greatest number of survivors at age 70?—A. Norway for males, with 41,911, and Denmark for females, with 47,405 survivors. See column 11 of Table 77 and column 3 of Table 78, pages 208 and 210.

NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE.

72. Q. What is the distribution of deaths during the first five years among 100,000 males born alive in Germany?—A. 20,234 under 1 year, 3,181 in the second year of life, 1,143 in the third, 715 in the fourth, and 516 in the fifth. See column 6 of Table 79, page 212.

Q. What are the corresponding figures for Switzerland?—A. 13,840 under 1 year, 1,894 in the second year of life, 824 in the third, 544 in the fourth, and 429 in the fifth. See column 13 of Table 79, page 212.

Q. What country shows the smallest number of deaths during the first year of life in a generation of 100,000 born alive?—A. Norway. Column 11 of Tables 79 and 80, pages 212 and 214, shows that the number of deaths in Norway under 1 year of age among males is 8,145 and among females 6,679.

Q. Is there any country in which more than one-fourth of the children born fail to live 1 year?—A. Yes; in India 28,998 males and 28,460 females die under 1 year of age out of 100,000 of each sex born alive. See column 8 of Tables 79 and 80, pages 212 and 214.

Q. After the first year of life what country shows the smallest number of deaths up to age 9?—A. Denmark, closely followed by Australia. See columns 2 and 3 of Tables 79 and 80, pages 212 and 214.

Q. What country shows the lowest number of deaths during any year of life?—A. Australia, with 140 deaths among females aged 10. See column 2 of Table 80, page 214.

Q. After the second year of life, at what age does the maximum number of deaths occur in a generation of 100,000 born alive among males in France?—A. At age 74, with a maximum of 1,959 deaths. See column 5 of Table 79, page 213.

Q. Between what ages does this maximum number of deaths usually occur?—A. Except for India, between ages 70 and 78 for males and 73 and 77 for females. For India, after age 8, maxima occur at ages 38 and 39, respectively. See Tables 79 and 80, pages 212 and 214.

Q. What country shows the greatest number of deaths out of 100,000 born alive among males aged 20 and 21?—A. Norway; the number of deaths among males aged 20 and 21 in Norway exceeds even that in India.

EXPECTATION OF LIFE IN FOREIGN COUNTRIES.

73. Q. What is the maximum expectation of life shown by these tables?—A. For females, 63.20 at ages 1 and 2 in Denmark, and for males, 61.50 at ages 1 and 2 in Denmark. See column 3 of Tables 81 and 82, pages 216 and 218.

Q. What countries show the highest and lowest expectation of life at birth?—A. Australia the highest, 55.20 for males and 58.84 for females; India the lowest, 22.59 for males and 23.31 for females. See columns 2 and 8 of Tables 81 and 82, pages 216 and 218.

Q. What country shows the most favorable expectation of life from about ages 27 and 28 to extreme old age?—A. Norway. See column 11 of Tables 81 and 82, pages 216 and 218.

Q. Do any of the countries show a lower expectation of life for females than for males at the same age?—A. No. See Tables 81 and 82, pages 216 and 218.

MEASURE OF VITALITY IN FOREIGN COUNTRIES.

74. Q. At what age is the maximum population per death per year among males in Holland?—A. At age 12, when the population is 496.39 per death per year. See column 7 of Table 83, page 220.

Q. What is the maximum value of the measure of vitality among males in Italy?—A. 457.71 at age 9. See column 9 of Table 83, page 220.

Q. At what age is the measure of vitality among females in England nearest 200?—A. At age 31. See column 4 of Table 84, page 222.

Q. At what age is there one death per annum to each 100 males living in Japan?—A. Age 39. See column 10 in Table 83, page 220.

Q. At what age is there one death per year to each 50 in the female population of the countries shown in Table 84, page 222?—A. Norway and Sweden, between ages 62–63; Denmark, between ages 61–62; Australia, between ages 60–61; Holland, between ages 59–60; Italy, between ages 58–59; France and Germany, between ages 57–58; England, Japan, Switzerland, and the United States, between ages 56–57; India, between ages 24–25.

Q. Which country has the highest measure of vitality and at what age does it occur?—A. Australia, where one death occurs each year to every 630.89 in the female population aged 10. See column 2 of Table 84, page 222. Compare with the first question and answer in section 70, page 44.

MORTALITY TABLES OF INSURANCE COMPANIES.

TABLES SHOWN AND WHERE THEY ARE USED.

75. Q. What mortality tables derived from the experience of life insurance companies appear in this volume?—A. American Experience, Thirty American Offices, American-Canadian Mortality Investigation, British Offices 1863–1893, Four French Offices, Twenty-three German Offices, Three Japanese Offices, Seventeen Swedish Offices, National Fraternal Congress, and Standard Industrial. See section 90, page 224, and Tables 85 to 91, pages 226 to 239.

Q. What table is employed by most insurance companies in this country to calculate premiums and reserves?—A. The American Experience Mortality Table. See column 2 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by French insurance companies?—A. The Four French Offices Mortality Experience. See column 6 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by many fraternal societies in this country?—A. The National Fraternal Congress Table of Mortality. See column 10 of Tables 85 to 91, pages 226 to 239.

Q. What table is employed by most industrial insurance companies in this country?—A. The Standard Industrial Mortality Table. See column 11 of Tables 85 to 91, pages 226 to 239.

Q. What is the most recent mortality investigation among insured lives in this country?—A. The American-Canadian Mortality Investigation; it is based on the experience of insurance companies in this country and Canada on insured lives during the period 1900–1915. See column 4 of Tables 85 to 91, pages 226 to 239.

Q. What is the most recent investigation among insured lives in Great Britain?—A. The British Offices Life Tables, based on the experience of insurance companies in England and Scotland on insured lives during the period 1863–1893. See column 5 of Tables 85 to 91, pages 226 to 239.

DISTINCTION BETWEEN INSURANCE AND CENSUS TABLES.

76. Q. What is the chief difference between mortality tables derived from the experience of life insurance companies and those derived from census statistics?—A. The former include a larger proportion of healthy lives, because applicants for insurance are subjected to a medical examination before they are accepted as risks by the insurance companies. In the latter case no such distinction is made.

Q. What is the effect upon the rates of mortality derived by excluding those insured lives which had passed a medical examination within five years?—A. The effect is to increase the rates of mortality.

GRAPHS OF INSURANCE MORTALITY TABLES.

77. Q. What insurance mortality tables are represented by graphs in this volume?—A. American Experience, line -·-·-·-; American-Canadian Mortality Investigation, $AM^{(5)}$, line ·····; National Fraternal Congress, line — — —; British Offices, $O^{M(5)}$, line - - - - -; and Three Japanese Offices, $J^{M(5)}$, line —·—·—, in Graphs 11, 21, 31, 41, and 51 on pages 253, 263, 273, 283, and 293. The graph of the life table for white males in the original registration states, 1910, line ———, is also shown.

Q. What is the meaning of the letter M and the superscripts ^{M} and $^{(5)}$ in the symbolic designation of the American-Canadian, British Offices, and Japanese Offices Tables?—A. M and ^{M} mean that the table is based on male lives and the superscript $^{(5)}$ means that in deriving these tables all insured lives which had been insured less than five years were excluded from consideration.

Q. What mortality functions based on the experience of insurance companies are graphically represented?—A. The rate of mortality per thousand, the number of survivors out of 79,116 living at age 20, the number of deaths out of 79,116 living at age 20, the expectation of life, and the measure of vitality. See Graphs 11, 21, 31, 41, and 51, pages 253, 263, 273, 283, and 293.

Q. Why are the number of survivors and the number of deaths out of 79,116 living at age 20 instead of out of 100,000 born alive used in the insurance mortality tables?—A. See second question and answer in section 79, page 46, and section 91, page 225.

RATES OF MORTALITY AMONG INSURED LIVES.

78. Q. How do the rates of mortality in the Three Japanese Offices Life Tables compare with those in insurance tables of other countries?—A. For most ages the rates are considerably higher. See column 8 of Table 85, page 226, and line —·—·— in Graph 11, page 253.

Q. Does the irregularity mentioned in section 36, page 33, appear in the rates of mortality among the insured?—A. Yes. See columns 6, 7, and 8 of Table 85, page 226. Among French insured there is a maximum of 6.92 per thousand at age 21, this rate being higher than any of the others between ages 5 and 30. Among German insured there is a maximum of 9.34 per thousand at age 19, and this rate is not reached again until between ages 32 and 33. Among Japanese insured there is a maximum of 12.15 per thousand at age 21; the rates do not rise to this point again until between ages 42 and 43.

Q. Among the insured lives in Table 85, page 226, which show the most favorable rates of mortality?—A. Seventeen Swedish Offices, from age 15 to age 33; American-Canadian, from age 34 to age 49; National Fraternal Congress, from age 50 to age 77; Thirty American Offices, from age 78 to age 81; and United States, white males in original registration states, from age 83 to age 100, the American-Canadian having the lowest rate at age 82.

Q. Among the *graphs* for insured lives, which one shows the most favorable rates of mortality?—A. American-Canadian, line ·····, in Graph 11 on page 253. This curve is below all the others from age 15 to about age 50. From age 50 to about age 80 it rises slightly above National Fraternal Congress, line — — —, after which it is again lower than all the other curves for insured lives up to age 100.

Q. How do the rates of the American Experience Table between ages 15 and 40 compare with those of the other tables?—A. They are higher, except for the Twenty-three German Offices, the Three Japanese Offices between ages 15 and 30, and the Standard Industrial Tables between ages 15 and 22. See Table 85, page 226.

NUMBER OF SURVIVORS AMONG INSURED LIVES.

79. Q. What does the graph of survivors among insured lives show?—A. It shows the number of survivors by the various tables at each age out of 79,116 alive at age 20. See Graph 21, page 263.

Q. Why was the number of survivors chosen as 79,116 at age 20?—A. The various mortality tables for insured lives, unlike life tables, usually begin at ages 10, 15, or 20. In order to compare the survivors at each age it is necessary to begin with the same number at a common age. The lowest age common to all these tables was 20, and 79,116 was chosen as the common number of lives at age 20 because this is the number of survivors at this age in the life table for white males in the original registration states, 1910.

Q. Are the original tables, showing the number of survivors among insured lives, given?—A. Yes, they appear in Table 90 on page 236.

Q. Are tables given showing the number of survivors among insured lives out of 79,116 living at age 20?—A. Yes, these figures are given in Table 86 on page 228.

Q. At what ages are the numbers of survivors among insured lives and white males in the original registration states in Table 86, page 229, reduced to 50,000?—

A. Standard Industrial, between ages 52–53; Three Japanese Offices, between ages 54–55; Twenty-three German Offices, between ages 55–56; Four French Offices, between ages 58–59; American Experience, British Offices, and United States, white males in the original registration states, 1910, between ages 59–60; Thirty American Offices, between ages 60–61; American-Canadian, Seventeen Swedish Offices, and National Fraternal Congress, between ages 63–64. Compare with Graph 21 on page 263.

NUMBER DYING AMONG INSURED LIVES.

80. Q. What table in the *graphs* for insured lives shows the smallest number of deaths between ages 15 and 50?—A. The American-Canadian, line ----------, in Graph 31, page 273.

Q. What table among insured lives has a smaller number of deaths than the American-Canadian from age 15 to age 32?—A. The Seventeen Swedish Offices Table. See columns 4 and 9 of Table 87, page 230.

Q. Between what ages does the maximum number of deaths after age 5 occur?—A. Between ages 70 and 76, except among Japanese insured. See Table 87, page 231.

Q. What peculiarity does the Japanese table for insured lives exhibit in the *graph* of number of deaths?—A. The Japanese table shows three maxima at ages 21, 63, and 72, while each of the other tables shows only one maximum point on this curve. See column 8 of Table 87, page 230, and line —·—·— in Graph 31, page 273.

Q. Are the original tables, showing the number of deaths among insured lives, given?—A. Yes; they appear in Table 91 on page 238.

EXPECTATION OF LIFE AMONG INSURED LIVES.

81. Q. What table among the insured lives in Graph 41, page 283, shows the lowest expectation of life?—A. The Three Japanese Offices Table, line ————.

Q. What tables in Graph 41, page 283, show the most favorable expectation of life?—A. The American-Canadian, line ----------, and the National Fraternal Congress, line — — —.

Q. How do the expectations of life in the American Experience and British Offices $O^{M(5)}$ Tables compare?—A. Lines -·-·-·- and -----, respectively, in Graph 41, page 283, are very close together for almost the entire range of life and lie between the American-Canadian, line ----------, and the Three Japanese Offices Tables, line ————, between ages 10 and 60.

Q. What is the expectation of life at age 2 by the Standard Industrial Mortality Table?—A. 48.83. See column 11 of Table 88, page 232.

Q. Between what limits in the insurance tables does the expectation of life at age 35 lie?—A. Between about 27 and 34 years. See Table 88, page 232.

Q. What is the expectation of life among insured lives at age 70?—A. Between about 7 and 9 years. See Table 88, page 233.

Q. Which table among insured lives has the highest expectation of life at age 20, and which has the lowest?—A. American-Canadian, in column 4 of Table 88, has an expectation of life at age 20 of 45.93, which is slightly higher than that for the National Fraternal Congress, column 10, and the Seventeen Swedish Offices in column 9. The expectation of life at age 20 in the Standard Industrial Mortality Table, column 11, is 37.50, which is the lowest.

MEASURE OF VITALITY AMONG INSURED LIVES.

82. Q. Which of the tables for insured lives shows the lowest measure of vitality after age 30?—A. The Standard Industrial Mortality Table up to age 70, after which the Three Japanese Offices shows the lowest measure of vitality up to age 88. See columns 8 and 11 in Table 89, page 234.

Q. How does the measure of vitality for the British Offices $O^{M(5)}$ Table compare with that for the American Experience Table?—A. Line ----- in Graph 51, page 293, is higher than that for the American Experience Table, line -·-·-·-, from age 10 to age 40, and lower from age 41 to age 70, after which they practically coincide.

Q. Which table for the insured shows the highest measure of vitality between ages 15 and 33?—A. The Seventeen Swedish Offices Table. See column 9 of Table 89, page 234.

Q. Which table shows the next highest measure of vitality from ages 15 to 33?—A. The American-Canadian. See column 4 of Table 89, page 234, and line ---------- in Graph 51, page 293.

Q. Does the irregularity mentioned in the second question and answer in section 59, page 41, appear in the graphs for measure of vitality of insured lives?—A. Yes; it is most pronounced in the Three Japanese Offices Table, line ————, and the American-Canadian Mortality Investigation, line ----------, in Graph 51 on page 293.

PARTS V TO VIII.

LIFE ANNUITIES, PREMIUMS, AND COMMUTATION COLUMNS.

83. Q. For what United States life tables are values of life annuities given in this volume?—A. For white *males* in the original registration states, 1910, and white *females* in the original registration states, 1910. See Tables 92 and 99, respectively, pages 298 and 312.

Q. At what rates of interest are these annuities calculated?—A. 3, 3½, 4, 5, and 6 per cent.

Q. What are the payments of these annuities, when are they made, and how long do they continue?—A. The payments are $1 a year, payable at the *beginning* of each age interval, and continue throughout life.

Q. What is the designation of an annuity of this kind and what is its symbol?—A. It is called a life annuity due, and its symbol is a_x. See Tables 92 and 99, pages 298 and 312.

Q. What is the present value at 4 per cent of a life annuity of $100 per annum to a white male now aged 21, first payment to be made at once?—A. Referring to the 4 per cent column at age 21 in Table 92 on page 298, it appears that the present value of a similar annuity of $1 a year is $19.7245. Therefore, by proportion, the present value of an annuity of $100 per annum is $1,972.45.

Q. What is the present value of a similar annuity to a white female aged 21?—A. Turning to Table 99 on page 312 and referring to age 21 under the 4 per cent column, it is seen that the value of a life annuity of $100 per annum, first payment to be made at once, is $2,018.60.

Q. What is the present value at 6 per cent of a life annuity of $1,000 to a white man now aged 70, first payment to be made after a year when he is 71?—A. Consulting Table 92 on page 299 in the age 70 row and the 6 per cent column, it is seen that the value of the annuity, if the first payment were made at once, would be $6,821.20. Deducting $1,000, since the first payment is not made at once, the present value of the required annuity is found to be $5,821.20.

Q. What is the value of a similar life annuity to a white woman aged 70?—A. $6,113.40. See Table 99, page 313.

Q. What tables of net premiums are shown in this volume?—A. Tables of single net premiums and annual net premiums at each age for a whole life insurance of $1,000. Net premiums are calculated at 3, 3½, and 4 per cent, those for white males in the original registration states, 1910, being given in Table 93 on pages 300 and 301, and those for white females in the original registration states, 1910, in Table 100 on pages 314 and 315.

Q. What commutation columns appear in this volume?—A. Commutation columns for the functions D_x, N_x, S_x, C_x, M_x, and R_x are given for 3, 3½, 4, 5, and 6 per cent. Those for white males are given in Tables 94 to 98, pages 302 to 311, and those for white females in Tables 101 to 105, pages 316 to 325.

Q. Upon what life tables are these commutation columns based?—A. Those in Tables 94 to 98, pages 302 to 311, are based upon the life table for white males in the original registration states, 1910, and those in Tables 101 to 105, pages 316 to 325, on the life table for white females in the original registration states, 1910.

Q. What is the purpose of these commutation columns?—A. They are to assist the actuary in making calculations based upon life contingencies in accordance with mortality experience among white males and white females in this country.

MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES.

84. Q. Are the mathematical formulas used in the construction of the United States Life Tables explained in this text?—A. Yes, they are explained and demonstrated in Part VI, pages 327 to 365.

Q. Were the same formulas applied to construct the life tables for the entire range of life?—A. No; there were three main divisions in each life table to which different formulas and processes were applied. See section 95, page 329.

Q. What were these divisions?—A. The first division includes the early years of life, ranging from birth to about age 5; the second or middle division runs from about age 5 to about age 85; the third division from about age 85 to age 115.

Q. In the construction of these life tables was any assumption made as to the age limit of human life?—A. Yes, the age limit of human life was assumed to be 116 years.

Q. What formulas were applied to calculate the rates of mortality for the early years of life?—A. These formulas are explained and demonstrated in sections 106 to 112 on pages 338 to 343.

Q. What formulas were applied to obtain the rates for the middle range of life?—A. The osculatory fifth difference formula was employed for this range; the formulas and methods are given in sections 113 to 116 on pages 344 to 347.

Q. What formulas were employed in constructing the rates at the older ages?—A. A modification of Wittstein's formula and Spencer's 21-term formula; they are explained in sections 117 to 122, pages 348 to 350.

Q. Were these the only formulas employed?—A. No; many other formulas and processes were devised to meet the varying problems presented in the reduction of the original statistics. The details are fully described in Part VI.

Q. Is Part VI of the text designed for the average reader?—A. No; it is written for the information of actuaries and mathematicians.

DESCRIPTION OF CALCULATION OF ONE LIFE TABLE AND TABULAR OUTLINE FOR CONSTRUCTION OF EACH LIFE TABLE.

85. Q. Of what does Part VII in this text consist?—A. It consists of a detailed description of the actual processes used in the calculation of the life table for

males in the state of New York, 1910, accompanied by photographs of graphs, diagrams, and adding machine tapes used in connection with the numerical computations, and followed by a tabular outline of the extra information needed to construct each of the life tables.

Q. What is the purpose of this section of the text?—A. It is intended to guide and assist students and others who desire to reproduce these life tables from the original statistics or to construct other life tables in a similar manner.

Q. What plan has been adopted in the explanation in Part VII?—A. The construction of the entire life table has been broken up into natural divisions. Each of these divisions is given a section number in the descriptive text on pages 369 to 414, and the photograph of the corresponding numerical computation is given a tape number which is the same as the number of the section in the text in which the computation is described. The tape is referred to in the text by this number, and the corresponding section of the text is readily located from the tape number at the head of the computation. The photographs are interleaved with the descriptive text in such manner as to bring each tape and its corresponding section as near together as possible.

Q. Is there a description of the construction of any other life table in the text?—A. No; but Table 135 on pages 416 to 419 gives the extra information needed to construct each of the United States Life Tables in addition to that already given in the description of the calculation of one life table.

THE ORIGINAL STATISTICS.

86. Q. Are the original statistics upon which the United States Life Tables are based given?—A. Yes, they are given in Part VIII, pages 421 to 476.

Q. Of what do the original statistics consist?—A. Enumerated populations, estimates of populations, reported deaths, and birth registration statistics.

Q. In what form are they presented?—A. All the original statistics used in the construction of an individual life table are brought together on a single page. In some cases the original statistics for two or more life tables are given on one page.

Q. Are the original statistics for all the life tables uniform in character?—A. No, they are not. There are seven types, which are described in section 275, page 423.

Q. Were the registered births used in the construction of all the life tables?—A. No, only for twelve tables, Massachusetts and Boston for 1901 and 1910 and the cities of New York and Philadelphia for 1910.

Q. How was the number of births obtained for each of the other life tables?—A. The number of births was computed from the populations and deaths under 5 years. Table 136, page 425, shows the computed number of births, the number of births registered, and the difference between the two.

Q. Why was the computed number of births used instead of the number of births registered?—A. Because the birth registration statistics were too unreliable in most cases; the numbers were usually much too small.

Q. Are the reported deaths under age 5 given which were used in determining the number of births?—A. Yes, at the bottom of each page of the original statistics upon which the life tables are based, except where the registered births were used in determining the rates of mortality.

Q. Is the process of deriving the number of births from population and death statistics shown?—A. Yes, in sections 137 to 142, pages 370 and 371, and in the tapes to which they refer.

PART II

UNITED STATES LIFE TABLES: 1890, 1901, 1910, AND 1901–1910

52 54

TABLE 1 LIFE TABLE FOR BOTH SEXES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (20,408,867), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 PERSONS BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 106	41.06	49.24	8 077	23.64	4 924 000	20.31
1-2	95 894	1 126	11.75	51.26	7 944	84.72	4 915 923	19.51
2-3	94 768	1 035	10.91	51.79	7 854	91.08	4 907 979	19.31
3-4	93 733	954	10.18	52.28	7 771	97.80	4 900 125	19.13
4-5	92 779	878	9.47	52.73	7 695	105.12	4 892 354	18.96
5-6	91 901	807	8.78	53.15	7 625	113.40	4 884 659	18.81
6-7	91 094	738	8.10	53.54	7 560	122.88	4 877 034	18.68
7-8	90 356	670	7.42	53.89	7 502	134.40	4 869 474	18.56
8-9	89 686	608	6.78	54.21	7 448	147.00	4 861 972	18.45
9-10	89 078	552	6.20	54.50	7 400	160.92	4 854 524	18.35
10-11	88 526	503	5.69	54.75	7 356	175.44	4 847 124	18.26
11-12	88 023	471	5.34	54.98	7 316	186.36	4 839 768	18.19
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 448	124.48	49.24	91 548	7.35	4 924 000	20.31
1-2	87 552	2 935	33.52	55.20	85 821	29.24	4 832 452	18.12
2-3	84 617	1 325	15.67	56.10	83 915	63.33	4 746 631	17.83
3-4	83 292	846	10.16	55.98	82 852	97.93	4 662 716	17.86
4-5	82 446	642	7.79	55.55	82 112	127.90	4 579 864	18.00
5-6	81 804	496	6.05	54.98	81 556	164.43	4 497 752	18.19
6-7	81 308	406	5.00	54.31	81 105	199.77	4 416 196	18.41
7-8	80 902	334	4.13	53.58	80 735	241.72	4 335 091	18.66
8-9	80 568	278	3.45	52.80	80 429	289.31	4 254 356	18.94
9-10	80 290	238	2.97	51.99	80 171	336.85	4 173 927	19.23
10-11	80 052	214	2.67	51.14	79 945	373.57	4 093 756	19.55
11-12	79 838	204	2.56	50.27	79 736	390.86	4 013 811	19.89
12-13	79 634	207	2.59	49.40	79 530	384.20	3 934 075	20.24
13-14	79 427	220	2.77	48.53	79 317	360.53	3 854 545	20.61
14-15	79 207	244	3.07	47.66	79 085	324.12	3 775 228	20.98
15-16	78 963	274	3.47	46.81	78 826	287.69	3 696 143	21.36
16-17	78 689	309	3.93	45.97	78 534	254.16	3 617 317	21.75
17-18	78 380	345	4.39	45.15	78 208	226.69	3 538 783	22.15
18-19	78 035	379	4.86	44.35	77 846	205.40	3 460 575	22.55
19-20	77 656	417	5.36	43.56	77 448	185.73	3 382 729	22.96
20-21	77 239	454	5.89	42.79	77 012	169.63	3 305 281	23.37
21-22	76 785	485	6.31	42.04	76 542	157.82	3 228 269	23.79
22-23	76 300	502	6.58	41.31	76 049	151.49	3 151 727	24.21
23-24	75 798	511	6.74	40.58	75 543	147.83	3 075 678	24.64
24-25	75 287	519	6.90	39.85	75 028	144.56	3 000 135	25.09
25-26	74 768	527	7.05	39.12	74 504	141.37	2 925 107	25.56
26-27	74 241	535	7.20	38.40	73 974	138.27	2 850 603	26.04
27-28	73 706	543	7.38	37.67	73 434	135.24	2 776 629	26.55
28-29	73 163	555	7.58	36.95	72 885	131.32	2 703 195	27.06
29-30	72 608	565	7.78	36.23	72 326	128.01	2 630 310	27.60
30-31	72 043	574	7.97	35.51	71 756	125.01	2 557 984	28.16
31-32	71 469	584	8.18	34.79	71 177	121.88	2 486 228	28.74
32-33	70 885	594	8.38	34.07	70 588	118.84	2 415 051	29.35
33-34	70 291	602	8.57	33.35	69 990	116.26	2 344 463	29.99
34-35	69 689	611	8.77	32.64	69 383	113.56	2 274 473	30.64
35-36	69 078	620	8.98	31.92	68 768	110.92	2 205 090	31.33
36-37	68 458	629	9.18	31.21	68 143	108.34	2 136 322	32.04
37-38	67 829	637	9.40	30.49	67 510	105.98	2 068 179	32.80
38-39	67 192	647	9.62	29.78	66 868	103.35	2 000 669	33.58
39-40	66 545	655	9.85	29.06	66 217	101.09	1 933 801	34.41
40-41	65 890	666	10.10	28.34	65 557	98.43	1 867 584	35.29
41-42	65 224	677	10.37	27.63	64 886	95.84	1 802 027	36.19
42-43	64 547	688	10.67	26.91	64 203	93.32	1 737 141	37.16
43-44	63 859	703	11.01	26.20	63 507	90.34	1 672 938	38.17
44-45	63 156	720	11.39	25.48	62 796	87.22	1 609 431	39.25

ORIGINAL REGISTRATION STATES: 1901. TABLE 1

REPORTED DEATHS IN 1900 (343,217), IN 1901 (332,203), AND IN 1902 (318,636).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Persons Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	62 436	739	11.84	24.77	62 067	83.99	1 546 635	40.37
46-47	61 697	762	12.35	24.06	61 316	80.47	1 484 568	41.56
47-48	60 935	784	12.87	23.36	60 543	77.22	1 423 252	42.81
48-49	60 151	807	13.41	22.65	59 748	74.04	1 362 709	44.15
49-50	59 344	830	13.99	21.96	58 929	71.00	1 302 961	45.54
50-51	58 514	854	14.59	21.26	58 087	68.02	1 244 032	47.04
51-52	57 660	883	15.31	20.57	57 219	64.80	1 185 945	48.61
52-53	56 777	923	16.27	19.88	56 315	61.01	1 128 726	50.30
53-54	55 854	974	17.44	19.20	55 367	56.84	1 072 411	52.08
54-55	54 880	1 028	18.73	18.53	54 366	52.89	1 017 044	53.97
55-56	53 852	1 088	20.20	17.88	53 308	49.00	962 678	55.93
56-57	52 764	1 145	21.69	17.23	52 191	45.58	909 370	58.04
57-58	51 619	1 189	23.03	16.61	51 025	42.91	857 179	60.20
58-59	50 430	1 223	24.26	15.99	49 819	40.74	806 154	62.54
59-60	49 207	1 261	25.62	15.37	48 577	38.52	756 335	65.06
60-61	47 946	1 295	27.02	14.76	47 299	36.52	707 758	67.75
61-62	46 651	1 338	28.69	14.16	45 982	34.37	660 459	70.62
62-63	45 313	1 398	30.85	13.56	44 614	31.91	614 477	73.75
63-64	43 915	1 468	33.43	12.98	43 181	29.41	569 863	77.04
64-65	42 447	1 536	36.17	12.41	41 679	27.13	526 682	80.58
65-66	40 911	1 602	39.16	11.86	40 116	25.04	485 003	84.32
66-67	39 309	1 662	42.29	11.32	38 478	23.15	444 893	88.34
67-68	37 647	1 712	45.47	10.80	36 791	21.49	406 415	92.59
68-69	35 935	1 753	48.79	10.29	35 059	20.00	369 624	97.18
69-70	34 182	1 792	52.44	9.79	33 286	18.57	334 565	102.15
70-71	32 390	1 827	56.41	9.30	31 476	17.23	301 279	107.53
71-72	30 563	1 860	60.85	8.83	29 633	15.93	269 803	113.25
72-73	28 703	1 892	65.91	8.37	27 757	14.67	240 170	119.47
73-74	26 811	1 918	71.54	7.92	25 852	13.48	212 413	126.26
74-75	24 893	1 933	77.66	7.49	23 927	12.38	186 561	133.51
75-76	22 960	1 937	84.38	7.08	21 991	11.35	162 634	141.24
76-77	21 023	1 928	91.71	6.69	20 059	10.40	140 643	149.48
77-78	19 095	1 903	99.66	6.31	18 143	9.53	120 584	158.48
78-79	17 192	1 862	108.29	5.96	16 261	8.73	102 441	167.79
79-80	15 330	1 801	117.50	5.62	14 429	8.01	86 180	177.94
80-81	13 529	1 721	127.23	5.30	12 668	7.36	71 751	188.68
81-82	11 808	1 623	137.41	5.00	10 996	6.78	59 083	200.00
82-83	10 185	1 508	148.02	4.72	9 431	6.26	48 087	211.86
83-84	8 677	1 380	159.06	4.45	7 987	5.79	38 656	224.72
84-85	7 297	1 244	170.57	4.20	6 675	5.36	30 669	238.10
85-86	6 053	1 106	182.62	3.96	5 500	4.98	23 994	252.53
86-87	4 947	966	195.30	3.74	4 464	4.62	18 494	267.38
87-88	3 981	831	208.67	3.52	3 566	4.29	14 030	284.09
88-89	3 150	701	222.75	3.32	2 799	3.99	10 464	301.20
89-90	2 449	582	237.52	3.13	2 158	3.71	7 665	319.49
90-91	1 867	472	252.95	2.95	1 631	3.45	5 507	338.98
91-92	1 395	375	269.01	2.78	1 207	3.22	3 876	359.71
92-93	1 020	292	285.72	2.62	874	3.00	2 669	381.68
93-94	728	221	303.14	2.46	618	2.80	1 795	406.50
94-95	507	163	321.37	2.32	426	2.61	1 177	431.03
95-96	344	117	340.52	2.18	286	2.44	751	458.72
96-97	227	82	360.71	2.05	186	2.27	465	487.80
97-98	145	55	382.06	1.92	117	2.12	279	520.83
98-99	90	37	404.64	1.80	72	1.97	162	555.56
99-100	53	22	428.51	1.69	42	1.83	90	591.72
100-101	31	14	453.73	1.58	24	1.70	48	632.91
101-102	17	8	480.31	1.48	13	1.58	24	675.68
102-103	9	5	508.29	1.38	6	1.47	11	724.64
103-104	4	2	537.68	1.28	3	1.36	5	781.25
104-105	2	1	568.55	1.20	1	1.26	2	833.33
105-106	1	1	600.93	1.11	1	1.16	1	900.90

TABLE 2 LIFE TABLE FOR BOTH SEXES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (24,131,759), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, *tables, are given on*

AGE INTERVAL.	OF 100,000 PERSONS BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 377	43.77	51.49	8 060	22.08	5 148 536	19.42
1-2	95 623	1 131	11.83	53.76	7 921	84.00	5 140 476	18.60
2-3	94 492	943	9.98	54.32	7 835	99.72	5 132 555	18.41
3-4	93 549	801	8.57	54.78	7 762	116.28	5 124 720	18.25
4-5	92 748	705	7.60	55.17	7 700	131.04	5 116 958	18.13
5-6	92 043	635	6.90	55.51	7 644	144.48	5 109 258	18.01
6-7	91 408	579	6.33	55.81	7 593	157.32	5 101 614	17.92
7-8	90 829	533	5.87	56.08	7 547	169.92	5 094 021	17.83
8-9	90 296	492	5.45	56.33	7 504	183.00	5 086 474	17.75
9-10	89 804	456	5.08	56.56	7 465	196.44	5 078 970	17.68
10-11	89 348	421	4.72	56.76	7 428	211.68	5 071 505	17.62
11-12	88 927	389	4.38	56.95	7 394	228.12	5 064 077	17.56
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 462	114.62	51.49	91 853	8.01	5 148 536	19.42
1-2	88 538	2 446	27.62	57.11	87 095	35.61	5 056 683	17.51
2-3	86 092	1 062	12.34	57.72	85 529	80.54	4 969 588	17.33
3-4	85 030	666	7.83	57.44	84 683	127.15	4 884 059	17.41
4-5	84 364	477	5.65	56.89	84 116	176.34	4 799 376	17.58
5-6	83 887	390	4.66	56.21	83 692	214.59	4 715 260	17.79
6-7	83 497	327	3.91	55.47	83 333	254.84	4 631 568	18.03
7-8	83 170	274	3.30	54.69	83 033	303.04	4 548 235	18.28
8-9	82 896	234	2.82	53.87	82 779	353.76	4 465 202	18.56
9-10	82 662	204	2.47	53.02	82 560	404.71	4 382 423	18.86
10-11	82 458	187	2.27	52.15	82 365	440.45	4 299 863	19.18
11-12	82 271	180	2.19	51.26	82 181	456.56	4 217 498	19.51
12-13	82 091	182	2.22	50.37	82 000	450.55	4 135 317	19.85
13-14	81 909	193	2.36	49.49	81 812	423.90	4 053 317	20.21
14-15	81 716	210	2.57	48.60	81 611	388.62	3 971 505	20.58
15-16	81 506	232	2.84	47.73	81 390	350.82	3 889 894	20.95
16-17	81 274	256	3.16	46.86	81 146	316.98	3 808 504	21.34
17-18	81 018	285	3.52	46.01	80 875	283.77	3 727 358	21.73
18-19	80 733	315	3.89	45.17	80 576	255.80	3 646 483	22.14
19-20	80 418	344	4.28	44.34	80 246	233.27	3 565 907	22.55
20-21	80 074	375	4.68	43.53	79 887	213.03	3 485 661	22.97
21-22	79 699	398	5.00	42.73	79 500	199.75	3 405 774	23.40
22-23	79 301	412	5.19	41.94	79 095	191.98	3 326 274	23.84
23-24	78 889	418	5.29	41.16	78 680	188.23	3 247 179	24.30
24-25	78 471	425	5.42	40.38	78 259	184.14	3 168 499	24.76
25-26	78 046	432	5.54	39.60	77 830	180.16	3 090 240	25.25
26-27	77 614	440	5.67	38.81	77 394	175.90	3 012 410	25.77
27-28	77 174	451	5.85	38.03	76 949	170.62	2 935 016	26.30
28-29	76 723	465	6.06	37.25	76 491	164.50	2 858 067	26.85
29-30	76 258	479	6.28	36.48	76 019	158.70	2 781 576	27.41
30-31	75 779	493	6.51	35.70	75 532	153.21	2 705 557	28.01
31-32	75 286	511	6.78	34.93	75 030	146.83	2 630 025	28.63
32-33	74 775	530	7.09	34.17	74 510	140.58	2 554 995	29.27
33-34	74 245	550	7.40	33.41	73 970	134.49	2 480 485	29.93
34-35	73 695	568	7.72	32.66	73 411	129.24	2 406 515	30.62
35-36	73 127	588	8.04	31.90	72 833	123.87	2 333 104	31.35
36-37	72 539	605	8.33	31.16	72 237	119.40	2 260 271	32.09
37-38	71 934	617	8.59	30.42	71 626	116.09	2 188 034	32.87
38-39	71 317	631	8.84	29.68	71 001	112.52	2 116 408	33.69
39-40	70 686	644	9.11	28.94	70 364	109.26	2 045 407	34.55
40-41	70 042	658	9.39	28.20	69 713	105.95	1 975 043	35.46
41-42	69 384	674	9.72	27.46	69 047	102.44	1 905 330	36.42
42-43	68 710	693	10.09	26.73	68 364	98.65	1 836 283	37.41
43-44	68 017	716	10.52	25.99	67 659	94.50	1 767 919	38.48
44-45	67 301	740	10.99	25.26	66 931	90.45	1 700 260	39.59

ORIGINAL REGISTRATION STATES: 1910. TABLE 2

REPORTED DEATHS IN 1909 (353,576); IN 1910 (377,015), AND IN 1911 (368,087).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Persons Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Persons were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	66 561	766	11.52	24.54	66 178	86.39	1 633 329	40.75
46-47	65 795	795	12.08	23.82	65 397	82.26	1 567 151	41.98
47-48	65 000	821	12.63	23.10	64 589	78.67	1 501 754	43.29
48-49	64 179	846	13.18	22.39	63 756	75.36	1 437 165	44.66
49-50	63 333	873	13.77	21.69	62 897	72.05	1 373 409	46.10
50-51	62 460	897	14.37	20.98	62 012	69.13	1 310 512	47.66
51-52	61 563	929	15.08	20.28	61 098	65.77	1 248 500	49.31
52-53	60 634	970	16.01	19.58	60 149	62.01	1 187 402	51.07
53-54	59 664	1 025	17.17	18.89	59 151	57.71	1 127 253	52.94
54-55	58 639	1 084	18.49	18.21	58 097	53.60	1 068 102	54.91
55-56	57 555	1 153	20.03	17.55	56 978	49.42	1 010 005	56.98
56-57	56 402	1 225	21.72	16.90	55 790	45.54	953 027	59.17
57-58	55 177	1 289	23.37	16.26	54 532	42.31	897 237	61.50
58-59	53 888	1 346	24.97	15.64	53 215	39.54	842 705	63.94
59-60	52 542	1 404	26.73	15.03	51 840	36.92	789 490	66.53
60-61	51 138	1 462	28.58	14.42	50 407	34.48	737 650	69.35
61-62	49 676	1 521	30.62	13.83	48 915	32.16	687 243	72.31
62-63	48 155	1 587	32.96	13.26	47 361	29.84	638 328	75.41
63-64	46 568	1 656	35.55	12.69	45 740	27.62	590 967	78.80
64-65	44 912	1 718	38.25	12.14	44 053	25.64	545 227	82.37
65-66	43 194	1 773	41.06	11.60	42 308	23.86	501 174	86.21
66-67	41 421	1 826	44.08	11.08	40 508	22.18	458 866	90.25
67-68	39 595	1 877	47.41	10.57	38 657	20.60	418 358	94.61
68-69	37 718	1 928	51.12	10.07	36 754	19.06	379 701	99.30
69-70	35 790	1 974	55.14	9.58	34 803	17.63	342 947	104.38
70-71	33 816	2 013	59.52	9.11	32 810	16.30	308 144	109.77
71-72	31 803	2 044	64.29	8.66	30 781	15.06	275 334	115.47
72-73	29 759	2 065	69.38	8.22	28 726	13.91	244 553	121.65
73-74	27 694	2 072	74.82	7.79	26 658	12.87	215 827	128.37
74-75	25 622	2 070	80.78	7.38	24 587	11.88	189 169	135.50
75-76	23 552	2 057	87.37	6.99	22 523	10.95	164 582	143.06
76-77	21 495	2 028	94.35	6.61	20 481	10.10	142 059	151.29
77-78	19 467	1 981	101.74	6.25	18 476	9.33	121 578	160.00
78-79	17 486	1 920	109.78	5.90	16 526	8.61	103 102	169.49
79-80	15 566	1 854	119.10	5.56	14 639	7.90	86 576	179.86
80-81	13 712	1 786	130.28	5.25	12 819	7.18	71 937	190.48
81-82	11 926	1 696	142.17	4.96	11 078	6.53	59 118	201.61
82-83	10 230	1 565	153.06	4.70	9 448	6.03	48 040	212.77
83-84	8 665	1 409	162.58	4.45	7 960	5.65	38 592	224.72
84-85	7 256	1 255	172.97	4.22	6 628	5.28	30 632	236.97
85-86	6 001	1 103	183.80	4.00	5 449	4.94	24 004	250.00
86-87	4 898	954	194.85	3.79	4 421	4.63	18 555	263.85
87-88	3 944	816	206.84	3.58	3 536	4.33	14 134	279.33
88-89	3 128	689	220.13	3.39	2 784	4.04	10 598	294.99
89-90	2 439	571	234.31	3.20	2 154	3.77	7 814	312.50
90-91	1 868	466	249.62	3.03	1 635	3.51	5 660	330.03
91-92	1 402	371	264.66	2.87	1 216	3.28	4 025	348.43
92-93	1 031	289	279.90	2.73	886	3.07	2 809	366.30
93-94	742	219	295.12	2.59	633	2.89	1 923	386.10
94-95	523	162	310.17	2.47	442	2.72	1 290	404.86
95-96	361	117	325.02	2.35	302	2.58	848	425.53
96-97	244	83	339.74	2.24	202	2.44	546	446.43
97-98	161	57	354.55	2.14	132	2.32	344	467.29
98-99	104	39	369.73	2.04	85	2.20	212	490.20
99-100	65	25	385.46	1.95	53	2.09	127	512.82
100-101	40	16	401.91	1.85	32	1.99	74	540.54
101-102	24	10	419.14	1.76	19	1.89	42	568.18
102-103	14	6	437.37	1.67	11	1.79	23	598.80
103-104	8	4	456.77	1.59	6	1.69	12	628.93
104-105	4	2	477.48	1.50	3	1.59	6	666.67
105-106	2	1	500.22	1.41	2	1.50	3	709.22
106-107	1	1	524.82	1.33	1	1.41	1	751.88

TABLE 3 LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,222,010), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years		Per month.		Annual rate.
0-1	100 000	4 631	46.31	47.88	8 044	20.88	4 787 531	20.89
1-2	95 369	1 235	12.95	50.12	7 896	76.68	4 779 487	19.95
2-3	94 134	1 127	11.97	50.69	7 798	83.04	4 771 591	19.73
3-4	93 007	1 036	11.15	51.22	7 707	89.28	4 763 793	19.52
4-5	91 971	949	10.32	51.71	7 625	96.36	4 756 086	19.34
5-6	91 022	869	9.54	52.17	7 549	104.28	4 748 461	19.17
6-7	90 153	790	8.77	52.59	7 480	113.64	4 740 912	19.02
7-8	89 363	714	7.99	52.97	7 417	124.68	4 733 432	18.88
8-9	88 649	644	7.26	53.31	7 361	137.16	4 726 015	18.76
9-10	88 005	578	6.57	53.62	7 310	151.80	4 718 654	18.65
10-11	87 427	520	5.96	53.89	7 264	167.64	4 711 344	18.56
11-12	86 907	481	5.53	54.13	7 222	180.12	4 704 080	18.47
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years		Per year.		Annual rate.
0-1	100 000	13 574	135.74	47.88	90 673	6.68	4 787 531	20.89
1-2	86 426	3 040	35.17	54.35	84 633	27.84	4 696 858	18.40
2-3	83 386	1 345	16.13	55.31	82 673	61.47	4 612 225	18.08
3-4	82 041	852	10.39	55.21	81 598	95.77	4 529 552	18.11
4-5	81 189	641	7.89	54.79	80 856	126.14	4 447 954	18.25
5-6	80 548	494	6.13	54.22	80 301	162.55	4 367 098	18.44
6-7	80 054	409	5.11	53.55	79 850	195.23	4 286 797	18.67
7-8	79 645	339	4.26	52.82	79 475	234.44	4 206 947	18.93
8-9	79 306	285	3.60	52.04	79 163	277.76	4 127 472	19.22
9-10	79 021	246	3.11	51.23	78 898	320.72	4 048 309	19.52
10-11	78 775	220	2.80	50.39	78 665	357.57	3 969 411	19.85
11-12	78 555	208	2.65	49.53	78 451	377.17	3 890 746	20.19
12-13	78 347	209	2.66	48.66	78 243	374.37	3 812 295	20.55
13-14	78 138	218	2.80	47.79	78 029	357.93	3 734 052	20.92
14-15	77 920	239	3.07	46.92	77 800	325.52	3 656 023	21.31
15-16	77 681	266	3.42	46.06	77 548	291.53	3 578 223	21.71
16-17	77 415	299	3.86	45.22	77 265	258.41	3 500 675	22.11
17-18	77 116	337	4.37	44.39	76 947	228.33	3 423 410	22.53
18-19	76 779	377	4.90	43.59	76 591	203.16	3 346 463	22.94
19-20	76 402	418	5.47	42.80	76 193	182.28	3 269 872	23.36
20-21	75 984	462	6.09	42.03	75 753	163.97	3 193 679	23.79
21-22	75 522	496	6.57	41.29	75 274	151.76	3 117 926	24.22
22-23	75 026	513	6.83	40.55	74 770	145.75	3 042 652	24.66
23-24	74 513	517	6.95	39.83	74 255	143.63	2 967 882	25.11
24-25	73 996	524	7.08	39.11	73 734	140.71	2 893 627	25.57
25-26	73 472	528	7.19	38.38	73 208	138.65	2 819 893	26.06
26-27	72 944	535	7.32	37.65	72 677	135.84	2 746 685	26.56
27-28	72 409	543	7.50	36.93	72 138	132.85	2 674 008	27.08
28-29	71 866	554	7.72	36.20	71 589	129.22	2 601 870	27.62
29-30	71 312	565	7.92	35.48	71 030	125.72	2 530 281	28.18
30-31	70 747	574	8.12	34.76	70 460	122.75	2 459 251	28.77
31-32	70 173	586	8.34	34.04	69 880	119.25	2 388 791	29.38
32-33	69 587	598	8.60	33.32	69 288	115.87	2 318 911	30.01
33-34	68 989	612	8.87	32.61	68 683	112.23	2 249 623	30.67
34-35	68 377	625	9.14	31.90	68 065	108.90	2 180 940	31.35
35-36	67 752	639	9.44	31.19	67 433	105.53	2 112 875	32.06
36-37	67 113	652	9.71	30.48	66 787	102.43	2 045 442	32.81
37-38	66 461	662	9.97	29.77	66 130	99.89	1 978 655	33.59
38-39	65 799	672	10.20	29.07	65 463	97.42	1 912 525	34.40
39-40	65 127	680	10.45	28.36	64 787	95.28	1 847 062	35.26
40-41	64 447	691	10.72	27.65	64 101	92.77	1 782 275	36.17
41-42	63 756	702	11.01	26.95	63 405	90.32	1 718 174	37.11
42-43	63 054	716	11.36	26.24	62 696	87.56	1 654 769	38.11
43-44	62 338	735	11.78	25.54	61 971	84.31	1 592 073	39.15
44-45	61 603	754	12.25	24.84	61 226	81.20	1 530 102	40.26

ORIGINAL REGISTRATION STATES: 1901. TABLE 3

REPORTED DEATHS IN 1900 (179,016), IN 1901 (174,867), AND IN 1902 (168,639).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years		Per year.		Annual rate.
45-46	60 849	778	12.79	24.14	60 460	77.71	1 468 876	41.43
46-47	60 071	803	13.37	23.45	59 669	74.31	1 408 416	42.64
47-48	59 268	825	13.91	22.76	58 855	71.34	1 348 747	43.94
48-49	58 443	843	14.43	22.07	58 021	68.83	1 289 892	45.31
49-50	57 600	864	15.00	21.39	57 168	66.17	1 231 871	46.75
50-51	56 736	883	15.56	20.70	56 294	63.75	1 174 703	48.31
51-52	55 853	910	16.28	20.02	55 398	60.88	1 118 409	49.95
52-53	54 943	949	17.27	19.35	54 469	57.40	1 063 011	51.68
53-54	53 994	1 000	18.53	18.68	53 494	53.49	1 008 542	53.53
54-55	52 994	1 055	19.90	18.02	52 466	49.73	955 048	55.49
55-56	51 939	1 116	21.48	17.38	51 381	46.04	902 582	57.54
56-57	50 823	1 172	23.08	16.75	50 237	42.86	851 201	59.70
57-58	49 651	1 217	24.51	16.13	49 042	40.30	800 964	62.00
58-59	48 434	1 252	25.84	15.52	47 808	38.19	751 922	64.43
59-60	47 182	1 287	27.29	14.92	46 538	36.16	704 114	67.02
60-61	45 895	1 323	28.81	14.33	45 233	34.19	657 576	69.78
61-62	44 572	1 364	30.62	13.74	43 890	32.18	612 343	72.78
62-63	43 208	1 423	32.94	13.16	42 496	29.86	568 453	75.99
63-64	41 785	1 492	35.70	12.59	41 039	27.51	525 957	79.43
64-65	40 293	1 557	38.63	12.03	39 515	25.38	484 918	83.13
65-66	38 736	1 620	41.83	11.50	37 926	23.41	445 403	86.96
66-67	37 116	1 674	45.12	10.98	36 279	21.67	407 477	91.07
67-68	35 442	1 715	48.37	10.47	34 584	20.17	371 198	95.51
68-69	33 727	1 742	51.67	9.98	32 856	18.86	336 614	100.20
69-70	31 985	1 768	55.27	9.50	31 101	17.59	303 758	105.26
70-71	30 217	1 786	59.11	9.02	29 324	16.42	272 657	110.86
71-72	28 431	1 806	63.52	8.56	27 528	15.24	243 333	116.82
72-73	26 625	1 831	68.75	8.11	25 710	14.04	215 805	123.30
73-74	24 794	1 853	74.76	7.67	23 868	12.88	190 095	130.38
74-75	22 941	1 865	81.28	7.25	22 008	11.80	166 227	137.93
75-76	21 076	1 865	88.47	6.84	20 144	10.80	144 219	146.20
76-77	19 211	1 846	96.10	6.46	18 288	9.91	124 075	154.80
77-78	17 365	1 814	104.48	6.09	16 458	9.07	105 787	164.20
78-79	15 551	1 767	113.62	5.74	14 668	8.30	89 329	174.22
79-80	13 784	1 700	123.35	5.42	12 934	7.61	74 661	184.50
80-81	12 084	1 614	133.57	5.11	11 277	6.99	61 727	195.69
81-82	10 470	1 510	144.23	4.82	9 715	6.43	50 450	207.47
82-83	8 960	1 392	155.30	4.55	8 264	5.94	40 735	219.78
83-84	7 568	1 262	166.79	4.29	6 937	5.50	32 471	233.10
84-85	6 306	1 127	178.74	4.05	5 743	5.09	25 534	246.91
85-86	5 179	990	191.20	3.82	4 684	4.73	19 791	261.78
86-87	4 189	856	204.22	3.61	3 761	4.40	15 107	277.01
87-88	3 333	726	217.82	3.40	2 970	4.09	11 346	294.12
88-89	2 607	605	232.00	3.21	2 305	3.81	8 376	311.53
89-90	2 002	494	246.73	3.03	1 755	3.55	6 071	330.03
90-91	1 508	395	262.01	2.86	1 311	3.32	4 316	349.65
91-92	1 113	309	277.87	2.70	958	3.10	3 005	370.37
92-93	804	237	294.39	2.55	686	2.90	2 047	392.16
93-94	567	177	311.66	2.40	479	2.71	1 361	416.67
94-95	390	128	329.82	2.26	326	2.53	882	442.48
95-96	262	92	348.98	2.13	216	2.37	556	469.48
96-97	170	63	369.22	2.00	139	2.21	340	500.00
97-98	107	42	390.59	1.88	86	2.06	201	531.91
98-99	65	27	413.13	1.76	52	1.92	115	568.18
99-100	38	16	436.86	1.65	30	1.79	63	606.06
100-101	22	10	461.83	1.55	17	1.67	33	645.16
101-102	12	6	488.09	1.45	9	1.55	16	689.66
102-103	6	3	515.68	1.35	4	1.44	7	740.74
103-104	3	2	544.65	1.26	2	1.34	3	793.65
104-105	1	1	575.06	1.18	1	1.24	1	847.46

TABLE 4 LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (12,177,315), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 894	48.94	49.86	8 027	19.68	4 986 495	20.06
1-2	95 106	1 253	13.17	52.35	7 873	75.36	4 978 468	19.10
2-3	93 853	1 023	10.91	52.96	7 778	91.20	4 970 595	18.88
3-4	92 830	863	9.29	53.46	7 700	107.04	4 962 817	18.71
4-5	91 967	755	8.21	53.88	7 632	121.32	4 955 117	18.56
5-6	91 212	676	7.41	54.24	7 573	134.40	4 947 485	18.44
6-7	90 536	612	6.76	54.56	7 519	147.48	4 939 912	18.33
7-8	89 924	562	6.25	54.85	7 470	159.48	4 932 393	18.23
8-9	89 362	519	5.81	55.11	7 425	171.72	4 924 923	18.15
9-10	88 843	480	5.40	55.35	7 384	184.56	4 917 498	18.07
10-11	88 363	444	5.03	55.57	7 345	198.48	4 910 114	18.00
11-12	87 919	414	4.70	55.76	7 309	211.80	4 902 769	17.93
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 495	124.95	49.86	91 035	7.29	4 986 495	20.06
1-2	87 505	2 521	28.82	55.94	86 017	34.12	4 895 460	17.88
2-3	84 984	1 108	13.03	56.59	84 397	76.17	4 809 443	17.67
3-4	83 876	676	8.07	56.33	83 525	123.56	4 725 046	17.75
4-5	83 200	482	5.79	55.79	82 949	172.09	4 641 521	17.92
5-6	82 718	395	4.77	55.11	82 520	208.91	4 558 572	18.15
6-7	82 323	333	4.05	54.37	82 156	246.71	4 476 052	18.39
7-8	81 990	283	3.45	53.59	81 848	289.22	4 393 896	18.66
8-9	81 707	243	2.98	52.77	81 585	335.74	4 312 048	18.95
9-10	81 464	215	2.63	51.93	81 356	378.40	4 230 463	19.26
10-11	81 249	196	2.42	51.07	81 151	414.04	4 149 107	19.58
11-12	81 053	189	2.33	50.19	80 958	428.35	4 067 956	19.92
12-13	80 864	190	2.35	49.30	80 769	425.10	3 986 998	20.28
13-14	80 674	199	2.47	48.42	80 575	404.90	3 906 229	20.65
14-15	80 475	214	2.66	47.54	80 368	375.55	3 825 654	21.03
15-16	80 261	233	2.91	46.66	80 144	343.97	3 745 286	21.43
16-17	80 028	260	3.24	45.80	79 898	307.30	3 665 142	21.83
17-18	79 768	291	3.65	44.95	79 623	273.62	3 585 244	22.25
18-19	79 477	325	4.09	44.11	79 315	244.05	3 505 621	22.67
19-20	79 152	360	4.55	43.29	78 972	219.37	3 426 306	23.10
20-21	78 792	396	5.03	42.48	78 594	198.47	3 347 334	23.54
21-22	78 396	422	5.38	41.70	78 185	185.27	3 268 740	23.98
22-23	77 974	431	5.54	40.92	77 758	180.41	3 190 555	24.44
23-24	77 543	433	5.58	40.14	77 326	178.58	3 112 797	24.91
24-25	77 110	435	5.65	39.37	76 892	176.76	3 035 471	25.40
25-26	76 675	438	5.71	38.59	76 456	174.56	2 958 579	25.91
26-27	76 237	443	5.81	37.80	76 015	171.59	2 882 123	26.46
27-28	75 794	455	6.00	37.02	75 567	166.08	2 806 108	27.01
28-29	75 339	472	6.26	36.24	75 103	159.12	2 730 541	27.59
29-30	74 867	489	6.53	35.47	74 623	152.60	2 655 438	28.19
30-31	74 378	506	6.81	34.70	74 125	146.49	2 580 815	28.82
31-32	73 872	528	7.15	33.93	73 608	139.41	2 506 690	29.47
32-33	73 344	552	7.53	33.17	73 068	132.37	2 433 082	30.15
33-34	72 792	577	7.93	32.42	72 503	125.66	2 360 014	30.85
34-35	72 215	601	8.33	31.68	71 914	119.66	2 287 511	31.57
35-36	71 614	626	8.74	30.94	71 301	113.90	2 215 597	32.32
36-37	70 988	647	9.12	30.21	70 664	109.22	2 144 296	33.10
37-38	70 341	665	9.45	29.48	70 008	105.28	2 073 632	33.92
38-39	69 676	681	9.77	28.76	69 335	101.81	2 003 624	34.77
39-40	68 995	698	10.11	28.04	68 646	98.35	1 934 289	35.66
40-41	68 297	714	10.46	27.32	67 940	95.15	1 865 643	36.60
41-42	67 583	733	10.85	26.60	67 216	91.70	1 797 703	37.59
42-43	66 850	754	11.27	25.89	66 473	88.16	1 730 487	38.62
43-44	66 096	777	11.75	25.18	65 708	84.57	1 664 014	39.71
44-45	65 319	801	12.27	24.47	64 919	81.05	1 598 306	40.87

ORIGINAL REGISTRATION STATES: 1910. TABLE 4

REPORTED DEATHS IN 1909 (188,197), IN 1910 (201,173), AND IN 1911 (196,681).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 518	829	12.84	23.77	64 104	77.33	1 533 387	42.07
46-47	63 689	856	13.45	23.07	63 261	73.90	1 469 283	43.35
47-48	62 833	882	14.04	22.38	62 392	70.74	1 406 022	44.68
48-49	61 951	905	14.61	21.69	61 498	67.95	1 343 630	46.10
49-50	61 046	928	15.21	21.00	60 582	65.28	1 282 132	47.62
50-51	60 118	951	15.81	20.32	59 642	62.72	1 221 550	49.21
51-52	59 167	978	16.54	19.64	58 678	60.00	1 161 908	50.92
52-53	58 189	1 019	17.50	18.96	57 680	56.60	1 103 230	52.74
53-54	57 170	1 071	18.74	18.29	56 635	52.88	1 045 550	54.67
54-55	56 099	1 129	20.14	17.63	55 535	49.19	988 915	56.72
55-56	54 970	1 197	21.78	16.98	54 371	45.42	933 380	58.89
56-57	53 773	1 268	23.58	16.35	53 139	41.91	879 009	61.16
57-58	52 505	1 332	25.36	15.73	51 839	38.92	825 870	63.57
58-59	51 173	1 386	27.10	15.13	50 480	36.42	774 031	66.09
59-60	49 787	1 444	29.00	14.53	49 065	33.98	723 551	68.82
60-61	48 343	1 501	31.04	13.95	47 593	31.71	674 486	71.68
61-62	46 842	1 557	33.24	13.38	46 064	29.59	626 893	74.74
62-63	45 285	1 616	35.70	12.83	44 477	27.52	580 829	77.94
63-64	43 669	1 676	38.38	12.28	42 831	25.56	536 352	81.43
64-65	41 993	1 729	41.16	11.75	41 128	23.79	493 521	85.11
65-66	40 264	1 774	44.06	11.24	39 377	22.20	452 393	88.97
66-67	38 490	1 814	47.14	10.73	37 583	20.72	413 016	93.20
67-68	36 676	1 852	50.49	10.24	35 750	19.30	375 433	97.66
68-69	34 824	1 886	54.17	9.75	33 881	17.96	339 683	102.56
69-70	32 938	1 915	58.14	9.28	31 980	16.70	305 802	107.76
70-71	31 023	1 936	62.40	8.83	30 055	15.52	273 822	113.25
71-72	29 087	1 953	67.16	8.38	28 110	14.39	243 767	119.33
72-73	27 134	1 969	72.55	7.95	26 149	13.28	215 657	125.79
73-74	25 165	1 977	78.55	7.53	24 177	12.23	189 508	132.80
74-75	23 188	1 975	85.20	7.13	22 201	11.24	165 331	140.25
75-76	21 213	1 967	92.72	6.75	20 229	10.28	143 130	148.15
76-77	19 246	1 935	100.53	6.39	18 279	9.45	122 901	156.49
77-78	17 311	1 873	108.19	6.04	16 375	8.74	104 622	165.56
78-79	15 438	1 790	115.97	5.72	14 543	8.12	88 247	174.83
79-80	13 648	1 706	124.99	5.40	12 795	7.50	73 704	185.19
80-81	11 942	1 620	135.64	5.10	11 132	6.87	60 909	196.08
81-82	10 322	1 518	147.05	4.82	9 563	6.30	49 777	207.47
82-83	8 804	1 391	158.05	4.57	8 108	5.83	40 214	218.82
83-84	7 413	1 248	168.29	4.33	6 789	5.44	32 106	230.95
84-85	6 165	1 106	179.38	4.11	5 612	5.07	25 317	243.31
85-86	5 059	966	190.94	3.90	4 576	4.74	19 705	256.41
86-87	4 093	830	202.80	3.70	3 678	4.43	15 129	270.27
87-88	3 263	701	215.02	3.51	2 912	4.15	11 451	284.90
88-89	2 562	584	227.64	3.33	2 270	3.89	8 539	300.30
89-90	1 978	476	240.61	3.17	1 740	3.66	6 269	315.46
90-91	1 502	381	253.85	3.01	1 312	3.44	4 529	332.23
91-92	1 121	300	267.21	2.87	971	3.24	3 217	348.43
92-93	821	230	280.62	2.73	706	3.06	2 246	366.30
93-94	591	174	294.09	2.61	504	2.90	1 540	383.14
94-95	417	128	307.73	2.48	353	2.75	1 036	403.23
95-96	289	93	321.76	2.36	242	2.61	683	423.73
96-97	196	66	336.49	2.25	163	2.47	441	444.44
97-98	130	46	352.21	2.13	107	2.34	278	469.48
98-99	84	31	369.18	2.02	69	2.21	171	495.05
99-100	53	20	387.49	1.91	43	2.08	102	523.56
100-101	33	14	407.20	1.81	26	1.96	59	552.49
101-102	19	8	428.09	1.70	15	1.84	33	588.24
102-103	11	5	450.30	1.60	9	1.72	18	625.00
103-104	6	3	473.98	1.51	5	1.61	9	662.25
104-105	3	1	499.26	1.41	2	1.50	4	709.22
105-106	2	1	526.33	1.32	1	1.40	2	757.58
106-107	1	1	555.37	1.23	1	1.30	1	813.01

TABLE 5 — LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,186,857), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 556	35.56	50.70	8 111	27.36	5 069 984	19.72
1-2	96 444	1 012	10.50	52.49	7 995	94.80	5 061 873	19.05
2-3	95 432	937	9.82	52.96	7 914	101.40	5 053 878	18.88
3-4	94 495	869	9.19	53.40	7 838	108.24	5 045 964	18.73
4-5	93 626	804	8.59	53.81	7 769	115.92	5 038 126	18.58
5-6	92 822	742	8.00	54.19	7 704	124.56	5 030 357	18.45
6-7	92 080	682	7.41	54.55	7 645	134.52	5 022 653	18.33
7-8	91 398	625	6.83	54.87	7 590	145.68	5 015 008	18.22
8-9	90 773	570	6.29	55.16	7 541	158.76	5 007 418	18.13
9-10	90 203	525	5.82	55.43	7 495	171.36	4 999 877	18.04
10-11	89 678	486	5.42	55.67	7 453	184.08	4 992 382	17.96
11-12	89 192	459	5.15	55.89	7 414	193.80	4 984 929	17.89
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 267	112.67	50.70	92 469	8.21	5 069 984	19.72
1-2	88 733	2 825	31.84	56.10	87 066	30.82	4 977 515	17.82
2-3	85 908	1 305	15.19	56.93	85 216	65.30	4 890 449	17.57
3-4	84 603	840	9.93	56.80	84 166	100.20	4 805 233	17.61
4-5	83 763	644	7.69	56.36	83 428	129.55	4 721 067	17.74
5-6	83 119	496	5.97	55.80	82 871	167.08	4 637 639	17.92
6-7	82 623	404	4.88	55.13	82 421	204.01	4 554 768	18.14
7-8	82 219	328	3.99	54.40	82 055	250.17	4 472 347	18.38
8-9	81 891	270	3.31	53.61	81 756	302.80	4 390 292	18.65
9-10	81 621	231	2.83	52.79	81 505	352.84	4 308 536	18.94
10-11	81 390	208	2.55	51.94	81 286	390.80	4 227 031	19.25
11-12	81 182	200	2.46	51.07	81 082	405.41	4 145 745	19.58
12-13	80 982	205	2.53	50.19	80 880	394.54	4 064 663	19.92
13-14	80 777	221	2.75	49.32	80 667	365.01	3 983 783	20.28
14-15	80 556	249	3.08	48.45	80 431	323.02	3 903 116	20.64
15-16	80 307	283	3.52	47.60	80 166	283.27	3 822 685	21.01
16-17	80 024	319	3.99	46.77	79 865	250.36	3 742 519	21.38
17-18	79 705	352	4.42	45.95	79 529	225.93	3 662 654	21.76
18-19	79 353	383	4.83	45.15	79 161	206.69	3 583 125	22.15
19-20	78 970	415	5.26	44.37	78 762	189.79	3 503 964	22.54
20-21	78 555	449	5.71	43.60	78 331	174.46	3 425 202	22.94
21-22	78 106	474	6.08	42.85	77 869	164.28	3 346 871	23.34
22-23	77 632	493	6.34	42.11	77 385	156.97	3 269 002	23.75
23-24	77 139	504	6.54	41.37	76 887	152.55	3 191 617	24.17
24-25	76 635	516	6.73	40.64	76 377	148.02	3 114 730	24.61
25-26	76 119	526	6.91	39.92	75 856	144.21	3 038 353	25.05
26-27	75 593	535	7.08	39.19	75 326	140.80	2 962 497	25.52
27-28	75 058	545	7.26	38.47	74 786	137.22	2 887 171	25.99
28-29	74 513	555	7.44	37.74	74 236	133.76	2 812 385	26.50
29-30	73 958	564	7.63	37.02	73 676	130.63	2 738 149	27.01
30-31	73 394	574	7.82	36.30	73 107	127.36	2 664 473	27.55
31-32	72 820	582	8.00	35.59	72 529	124.62	2 591 366	28.10
32-33	72 238	588	8.14	34.87	71 944	122.35	2 518 837	28.68
33-34	71 650	592	8.26	34.15	71 354	120.53	2 446 893	29.28
34-35	71 058	595	8.38	33.43	70 761	118.93	2 375 539	29.91
35-36	70 463	599	8.49	32.71	70 164	117.14	2 304 778	30.57
36-37	69 864	602	8.63	31.99	69 563	115.55	2 234 614	31.26
37-38	69 262	610	8.80	31.26	68 957	113.04	2 165 051	31.99
38-39	68 652	618	9.00	30.53	68 343	110.59	2 096 094	32.75
39-40	68 034	627	9.21	29.80	67 721	108.01	2 027 751	33.56
40-41	67 407	636	9.45	29.08	67 089	105.49	1 960 030	34.39
41-42	66 771	647	9.69	28.35	66 447	102.70	1 892 941	35.27
42-43	66 124	656	9.92	27.62	65 796	100.30	1 826 494	36.21
43-44	65 468	667	10.18	26.89	65 134	97.65	1 760 698	37.19
44-45	64 801	680	10.49	26.17	64 461	94.80	1 695 564	38.21

ORIGINAL REGISTRATION STATES: 1901. TABLE 5

REPORTED DEATHS IN 1900 (164,201), IN 1901 (157,336), AND IN 1902 (149,997).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 121	695	10.85	25.44	63 774	91.76	1 631 103	39.31
46-47	63 426	715	11.28	24.71	63 068	88.21	1 567 329	40.47
47-48	62 711	739	11.78	23.99	62 341	84.36	1 504 261	41.68
48-49	61 972	765	12.35	23.27	61 589	80.51	1 441 920	42.97
49-50	61 207	792	12.94	22.55	60 811	76.78	1 380 331	44.35
50-51	60 415	820	13.57	21.84	60 005	73.18	1 319 520	45.79
51-52	59 595	852	14.30	21.13	59 169	69.45	1 259 515	47.33
52-53	58 743	894	15.21	20.43	58 296	65.21	1 200 346	48.95
53-54	57 849	944	16.32	19.74	57 377	60.78	1 142 050	50.66
54-55	56 905	997	17.53	19.06	56 407	56.58	1 084 673	52.47
55-56	55 908	1 057	18.91	18.39	55 379	52.39	1 028 266	54.38
56-57	54 851	1 113	20.30	17.74	54 294	48.78	972 887	56.37
57-58	53 738	1 158	21.54	17.09	53 159	45.91	918 593	58.51
58-59	52 580	1 194	22.70	16.46	51 983	43.54	865 434	60.75
59-60	51 386	1 231	23.96	15.83	50 771	41.24	813 451	63.17
60-61	50 155	1 267	25.27	15.21	49 521	39.09	762 680	65.75
61-62	48 888	1 312	26.83	14.59	48 232	36.76	713 159	68.54
62-63	47 576	1 372	28.84	13.98	46 890	34.18	664 927	71.53
63-64	46 204	1 444	31.26	13.38	45 482	31.50	618 037	74.74
64-65	44 760	1 514	33.83	12.79	44 003	29.06	572 555	78.19
65-66	43 246	1 584	36.62	12.22	42 454	26.80	528 552	81.83
66-67	41 662	1 649	39.59	11.67	40 837	24.76	486 098	85.69
67-68	40 013	1 710	42.72	11.13	39 158	22.90	445 261	89.85
68-69	38 303	1 764	46.06	10.60	37 421	21.21	406 103	94.34
69-70	36 539	1 818	49.75	10.09	35 630	19.60	368 682	99.11
70-71	34 721	1 868	53.82	9.59	33 787	18.09	333 052	104.28
71-72	32 853	1 916	58.30	9.11	31 895	16.65	299 265	109.77
72-73	30 937	1 955	63.19	8.64	29 960	15.32	267 370	115.74
73-74	28 982	1 984	68.48	8.19	27 990	14.11	237 410	122.10
74-75	26 998	2 004	74.23	7.76	25 996	12.97	209 420	128.87
75-76	24 994	2 013	80.52	7.34	23 987	11.92	183 424	136.24
76-77	22 981	2 007	87.33	6.94	21 978	10.95	159 437	144.09
77-78	20 974	1 989	94.83	6.55	19 980	10.05	137 459	152.67
78-79	18 985	1 954	102.96	6.19	18 008	9.22	117 479	161.55
79-80	17 031	1 902	111.66	5.84	16 080	8.45	99 471	171.23
80-81	15 129	1 829	120.89	5.51	14 215	7.77	83 391	181.49
81-82	13 300	1 737	130.60	5.20	12 432	7.16	69 176	192.31
82-83	11 563	1 627	140.75	4.91	10 749	6.60	56 744	203.67
83-84	9 936	1 504	151.33	4.63	9 184	6.11	45 995	215.98
84-85	8 432	1 369	162.40	4.37	7 747	5.66	36 811	228.83
85-86	7 063	1 230	174.04	4.12	6 448	5.25	29 064	242.72
86-87	5 833	1 087	186.38	3.88	5 290	4.87	22 616	257.73
87-88	4 746	947	199.52	3.65	4 273	4.51	17 326	273.97
88-89	3 799	811	213.50	3.44	3 394	4.18	13 053	290.70
89-90	2 988	682	228.31	3.23	2 647	3.88	9 659	309.60
90-91	2 306	562	243.88	3.04	2 025	3.60	7 012	328.95
91-92	1 744	454	260.14	2.86	1 517	3.34	4 987	349.65
92-93	1 290	357	277.05	2.69	1 111	3.11	3 470	371.75
93-94	933	275	294.62	2.53	795	2.89	2 359	395.26
94-95	658	206	312.91	2.38	555	2.70	1 564	420.17
95-96	452	150	332.06	2.24	377	2.51	1 009	446.43
96-97	302	106	352.21	2.10	249	2.34	632	476.19
97-98	196	73	373.52	1.97	159	2.18	383	507.61
98-99	123	49	396.15	1.84	98	2.02	224	543.48
99-100	74	31	420.16	1.72	58	1.88	126	581.40
100-101	43	19	445.62	1.61	33	1.74	68	621.12
101-102	24	11	472.54	1.50	18	1.62	35	666.67
102-103	13	7	500.91	1.40	9	1.50	17	714.29
103-104	6	3	530.71	1.30	5	1.38	8	769.23
104-105	3	2	562.03	1.21	2	1.28	3	826.45
105-106	1	1	594.93	1.13	1	1.18	1	884.96

TABLE 6 — LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,954,444), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 833	38.33	53.24	8 094	25.32	5 324 150	18.78
1-2	96 167	1 004	10.44	55.28	7 972	95.28	5 316 056	18.09
2-3	95 163	858	9.01	55.78	7 895	110.40	5 308 084	17.93
3-4	94 305	737	7.82	56.20	7 828	127.44	5 300 189	17.79
4-5	93 568	651	6.96	56.56	7 770	143.28	5 292 361	17.68
5-6	92 917	591	6.36	56.87	7 718	156.72	5 284 591	17.58
6-7	92 326	545	5.90	57.15	7 671	168.96	5 276 873	17.50
7-8	91 781	502	5.47	57.41	7 628	182.40	5 269 202	17.42
8-9	91 279	465	5.09	57.64	7 587	195.84	5 261 574	17.35
9-10	90 814	430	4.74	57.85	7 550	210.72	5 253 987	17.29
10-11	90 384	398	4.39	58.05	7 515	226.56	5 246 437	17.23
11-12	89 986	363	4.04	58.22	7 484	247.44	5 238 922	17.18
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 377	103.77	53.24	92 712	8.93	5 324 150	18.78
1-2	89 623	2 366	26.40	58.37	88 227	37.29	5 231 438	17.13
2-3	87 257	1 015	11.64	58.94	86 719	85.44	5 143 211	16.97
3-4	86 242	655	7.59	58.63	85 901	131.15	5 056 492	17.06
4-5	85 587	470	5.50	58.08	85 342	181.58	4 970 591	17.22
5-6	85 117	387	4.54	57.39	84 923	219.44	4 885 249	17.42
6-7	84 730	320	3.77	56.65	84 570	264.28	4 800 326	17.65
7-8	84 410	265	3.14	55.87	84 278	318.03	4 715 756	17.90
8-9	84 145	223	2.65	55.04	84 034	376.83	4 631 478	18.17
9-10	83 922	194	2.31	54.19	83 825	432.09	4 547 444	18.45
10-11	83 728	177	2.11	53.31	83 640	472.54	4 463 619	18.76
11-12	83 551	171	2.05	52.42	83 466	488.11	4 379 979	19.08
12-13	83 380	175	2.10	51.53	83 293	475.96	4 296 513	19.41
13-14	83 205	187	2.25	50.64	83 112	444.45	4 213 220	19.75
14-15	83 018	205	2.48	49.75	82 915	404.46	4 130 108	20.10
15-16	82 813	229	2.77	48.87	82 698	361.13	4 047 193	20.46
16-17	82 584	255	3.08	48.01	82 456	323.36	3 964 495	20.83
17-18	82 329	279	3.39	47.15	82 190	294.59	3 882 039	21.21
18-19	82 050	303	3.70	46.31	81 898	270.29	3 799 849	21.59
19-20	81 747	329	4.02	45.48	81 583	247.97	3 717 951	21.99
20-21	81 418	354	4.35	44.66	81 241	229.49	3 636 368	22.39
21-22	81 064	375	4.64	43.86	80 876	215.67	3 555 127	22.80
22-23	80 689	391	4.85	43.06	80 493	205.86	3 474 251	23.22
23-24	80 298	403	5.01	42.26	80 096	198.75	3 393 758	23.66
24-25	79 895	414	5.18	41.48	79 688	192.48	3 313 662	24.11
25-26	79 481	426	5.36	40.69	79 268	186.08	3 233 974	24 58
26-27	79 055	436	5.52	39.91	78 837	180.82	3 154 706	25.06
27-28	78 619	447	5.69	39.12	78 395	175.38	3 075 869	25.56
28-29	78 172	457	5.85	38.34	77 943	170.55	2 997 474	26.08
29-30	77 715	468	6.02	37.57	77 481	165.56	2 919 531	26.62
30-31	77 247	479	6.20	36.79	77 007	160.77	2 842 050	27.18
31-32	76 768	491	6.40	36.02	76 522	155.85	2 765 043	27.76
32-33	76 277	506	6.63	35.25	76 024	150.25	2 688 521	28.37
33-34	75 771	519	6.85	34.48	75 512	145.50	2 612 497	29.00
34-35	75 252	533	7.08	33.71	74 986	140.69	2 536 985	29.66
35-36	74 719	545	7.30	32.95	74 447	136.60	2 461 999	30.35
36-37	74 174	557	7.51	32.19	73 895	132.67	2 387 552	31.07
37-38	73 617	566	7.68	31.43	73 334	129.57	2 313 657	31.82
38-39	73 051	574	7.86	30.67	72 764	126.77	2 240 323	32.61
39-40	72 477	583	8.05	29.91	72 186	123.82	2 167 559	33.43
40-41	71 894	593	8.25	29.15	71 598	120.74	2 095 373	34.31
41-42	71 301	606	8.50	28.38	70 998	117.16	2 023 775	35.24
42-43	70 695	624	8.83	27.62	70 383	112.79	1 952 777	36.21
43-44	70 071	646	9.22	26.86	69 748	107.97	1 882 394	37.23
44-45	69 425	670	9.64	26.11	69 090	103.12	1 812 646	38.30

ORIGINAL REGISTRATION STATES: 1910. TABLE 6

REPORTED DEATHS IN 1909 (165,379), IN 1910 (175,842), AND IN 1911 (171,406).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	68 755	696	10.12	25.36	68 407	98.29	1 743 556	39.43
46-47	68 059	724	10.64	24.61	67 697	93.50	1 675 149	40.63
47-48	67 335	751	11.15	23.87	66 960	89.16	1 607 452	41.89
48-49	66 584	777	11.68	23.14	66 196	85.19	1 540 492	43.22
49-50	65 807	806	12.24	22.40	65 404	81.15	1 474 296	44.64
50-51	65 001	834	12.83	21.67	64 584	77.44	1 408 892	46.15
51-52	64 167	868	13.52	20.95	63 733	73.43	1 344 308	47.73
52-53	63 299	911	14.41	20.23	62 844	68.98	1 280 575	49.43
53-54	62 388	967	15.50	19.52	61 904	64.02	1 217 731	51.23
54-55	61 421	1 029	16.75	18.82	60 906	59.19	1 155 827	53.13
55-56	60 392	1 099	18.20	18.13	59 842	54.45	1 094 921	55.16
56-57	59 293	1 173	19.78	17.46	58 706	50.05	1 035 079	57.27
57-58	58 120	1 239	21.32	16.80	57 500	46.41	976 373	59.52
58-59	56 881	1 297	22.81	16.15	56 232	43.36	918 873	61.92
59-60	55 584	1 358	24.43	15.52	54 905	40.43	862 641	64.43
60-61	54 226	1 417	26.13	14.90	53 517	37.77	807 736	67.11
61-62	52 809	1 480	28.03	14.28	52 069	35.18	754 219	70.03
62-63	51 329	1 553	30.26	13.68	50 552	32.55	702 150	73.10
63-64	49 776	1 633	32.79	13.09	48 960	29.98	651 598	76.39
64-65	48 143	1 705	35.42	12.52	47 291	27.74	602 638	79.87
65-66	46 438	1 772	38.15	11.96	45 552	25.71	555 347	83.61
66-67	44 666	1 837	41.13	11.41	43 748	23.81	509 795	87.64
67-68	42 829	1 904	44.47	10.88	41 877	21.99	466 047	91.91
68-69	40 925	1 973	48.20	10.36	39 939	20.24	424 170	96.53
69-70	38 952	2 036	52.28	9.86	37 934	18.63	384 231	101.42
70-71	36 916	2 097	56.79	9.38	35 868	17.10	346 297	106.61
71-72	34 819	2 144	61.57	8.92	33 747	15.74	310 429	112.11
72-73	32 675	2 170	66.41	8.47	31 590	14.56	276 682	118.06
73-74	30 505	2 176	71.36	8.03	29 417	13.52	245 092	124.53
74-75	28 329	2 174	76.74	7.61	27 242	12.53	215 675	131.41
75-76	26 155	2 159	82.55	7.20	25 075	11.61	188 433	138.89
76-77	23 996	2 133	88.88	6.81	22 929	10.75	163 358	146.84
77-78	21 863	2 101	96.08	6.42	20 813	9.91	140 429	155.76
78-79	19 762	2 062	104.38	6.05	18 731	9.08	119 616	165.29
79-80	17 700	2 018	113.98	5.70	16 691	8.27	100 885	175.44
80-81	15 682	1 970	125.66	5.37	14 697	7.46	84 194	186.22
81-82	13 712	1 892	137.98	5.07	12 766	6.75	69 497	197.24
82-83	11 820	1 760	148.84	4.80	10 940	6.22	56 731	208.33
83-84	10 060	1 588	157.85	4.55	9 266	5.84	45 791	219.78
84-85	8 472	1 421	167.78	4.31	7 762	5.46	36 525	232.02
85-86	7 051	1 256	178.07	4.08	6 423	5.12	28 763	245.10
86-87	5 795	1 097	189.37	3.85	5 247	4.78	22 340	259.74
87-88	4 698	947	201.56	3.64	4 224	4.46	17 093	274.73
88-89	3 751	806	214.88	3.43	3 348	4.15	12 869	291.55
89-90	2 945	676	229.53	3.23	2 607	3.86	9 521	309.60
90-91	2 269	557	245.38	3.05	1 991	3.58	6 914	327.87
91-92	1 712	449	262.10	2.88	1 488	3.32	4 923	347.22
92-93	1 263	352	279.18	2.72	1 087	3.08	3 435	367.65
93-94	911	270	296.16	2.58	776	2.88	2 348	387.60
94-95	641	200	312.62	2.45	541	2.70	1 572	408.16
95-96	441	145	328.28	2.34	368	2.55	1 031	427.35
96-97	296	102	343.00	2.24	245	2.42	663	446.43
97-98	194	69	356.90	2.15	160	2.30	418	465.12
98-99	125	46	370.29	2.06	102	2.20	258	485.44
99-100	79	30	383.43	1.98	64	2.11	156	505.05
100-101	49	20	396.62	1.91	39	2.02	92	523.56
101-102	29	12	410.19	1.83	23	1.94	53	546.45
102-103	17	7	424.44	1.75	14	1.86	30	571.43
103-104	10	4	439.56	1.68	8	1.78	16	595.24
104-105	6	3	455.70	1.60	4	1.69	8	625.00
105-106	3	1	474.10	1.52	2	1.61	4	657.89
106-107	2	1	494.27	1.44	1	1.52	2	694.44
107-108	1	1	516.40	1.36	1	1.44	1	735.29

TABLE 7 LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (10,011,715), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 569	45.69	48.23	8 048	21.12	4 823 011	20.73
1-2	95 431	1 191	12.49	50.45	7 903	79.68	4 814 963	19.82
2-3	94 240	1 101	11.68	51.01	7 807	85.08	4 807 060	19.60
3-4	93 139	1 017	10.92	51.53	7 719	91.08	4 799 253	19.41
4-5	92 122	933	10.13	52.01	7 638	98.28	4 791 534	19.23
5-6	91 189	853	9.36	52.46	7 564	106.44	4 783 896	19.06
6-7	90 336	775	8.58	52.87	7 496	116.04	4 776 332	18.91
7-8	89 561	701	7.83	53.25	7 434	127.20	4 768 836	18.78
8-9	88 860	635	7.14	53.58	7 379	139.44	4 761 402	18.66
9-10	88 225	573	6.50	53.89	7 328	153.48	4 754 023	18.56
10-11	87 652	522	5.96	54.15	7 283	167.40	4 746 695	18.47
11-12	87 130	475	5.44	54.39	7 241	182.88	4 739 412	18.39
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 345	133.45	48.23	90 840	6.81	4 823 011	20.73
1-2	86 655	2 986	34.47	54.61	84 893	28.43	4 732 171	18.31
2-3	83 669	1 326	15.84	55.54	82 966	62.57	4 647 278	18.01
3-4	82 343	844	10.26	55.43	81 904	97.04	4 564 312	18.04
4-5	81 499	635	7.79	55.00	81 169	127.83	4 482 408	18.18
5-6	80 864	490	6.06	54.43	80 619	164.53	4 401 239	18.37
6-7	80 374	405	5.04	53.76	80 172	197.96	4 320 620	18.60
7-8	79 969	336	4.20	53.03	79 801	237.50	4 240 448	18.86
8-9	79 633	282	3.54	52.25	79 492	281.89	4 160 647	19.14
9 10	79 351	242	3.05	51.43	79 230	327.40	4 081 155	19.44
10-11	79 109	216	2.74	50.59	79 001	365.75	4 001 925	19.77
11-12	78 893	205	2.59	49.72	78 791	384.35	3 922 924	20.11
12-13	78 688	203	2.59	48.85	78 586	387.12	3 844 133	20.47
13-14	78 485	215	2.73	47.98	78 377	364.54	3 765 547	20.84
14-15	78 270	233	2.99	47.11	78 154	335.42	3 687 170	21.23
15-16	78 037	261	3.34	46.25	77 907	298.49	3 609 016	21.62
16-17	77 776	292	3.77	45.40	77 630	265.86	3 531 109	22.03
17-18	77 484	330	4.25	44.57	77 319	234.30	3 453 479	22.44
18-19	77 154	369	4.78	43.76	76 970	208.59	3 376 160	22.85
19-20	76 785	409	5.34	42.97	76 581	187.24	3 299 190	23.27
20-21	76 376	454	5.94	42.19	76 149	167.73	3 222 609	23.70
21-22	75 922	487	6.42	41.44	75 678	155.40	3 146 460	24.13
22-23	75 435	504	6.68	40.71	75 183	149.17	3 070 782	24.56
23-24	74 931	509	6.79	39.98	74 677	146.71	2 995 599	25.01
24-25	74 422	515	6.92	39.25	74 165	144.01	2 920 922	25.48
25-26	73 907	520	7.04	38.52	73 647	141.63	2 846 757	25.96
26-27	73 387	526	7.17	37.79	73 124	139.02	2 773 110	26.46
27-28	72 861	535	7.35	37.06	72 594	135.69	2 699 986	26.98
28-29	72 326	548	7.57	36.33	72 052	131.48	2 627 392	27.53
29-30	71 778	559	7.79	35.60	71 499	127.91	2 555 340	28.09
30-31	71 219	569	7.99	34.88	70 935	124.67	2 483 841	28.67
31-32	70 650	581	8.23	34.15	70 359	121.10	2 412 906	29.28
32-33	70 069	594	8.48	33.43	69 772	117.46	2 342 547	29.91
33-34	69 475	608	8.75	32.71	69 171	113.77	2 272 775	30.57
34-35	68 867	622	9.03	32.00	68 556	110.22	2 203 604	31.25
35-36	68 245	636	9.32	31.29	67 927	106.80	2 135 048	31.96
36-37	67 609	648	9.60	30.57	67 285	103.83	2 067 121	32.71
37-38	66 961	660	9.85	29.87	66 631	100.96	1 999 836	33.48
38-39	66 301	668	10.09	29.16	65 967	98.75	1 933 205	34.29
39-40	65 633	679	10.34	28.45	65 293	96.16	1 867 238	35.15
40-41	64 954	688	10.60	27.74	64 610	93.91	1 801 945	36.05
41-42	64 266	700	10.89	27.03	63 916	91.31	1 737 335	37.00
42-43	63 566	714	11.24	26.33	63 209	88.53	1 673 419	37.98
43-44	62 852	732	11.64	25.62	62 486	85.36	1 610 210	39.03
44-45	62 120	751	12.10	24.92	61 744	82.22	1 547 724	40.13

ORIGINAL REGISTRATION STATES: 1901. TABLE 7

REPORTED DEATHS IN 1900 (173,731), IN 1901 (169,530), AND IN 1902 (163,387).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	61 369	775	12.63	24.21	60 981	78.69	1 485 980	41.31
46-47	60 594	799	13.19	23.52	60 194	75.34	1 424 999	42.52
47-48	59 795	821	13.72	22.82	59 384	72.33	1 364 805	43.82
48-49	58 974	840	14.24	22.14	58 554	69.71	1 305 421	45.17
49-50	58 134	860	14.80	21.45	57 704	67.10	1 246 867	46.62
50-51	57 274	880	15.37	20.76	56 834	64.58	1 189 163	48.17
51-52	56 394	907	16.08	20.08	55 940	61.68	1 132 329	49.80
52-53	55 487	947	17.06	19.40	55 013	58.09	1 076 389	51.55
53-54	54 540	997	18.29	18.73	54 042	54.20	1 021 376	53.39
54-55	53 543	1 052	19.64	18.07	53 017	50.40	967 334	55.34
55-56	52 491	1 112	21.18	17.42	51 935	46.70	914 317	57.41
56-57	51 379	1 169	22.76	16.78	50 795	43.45	862 382	59.59
57-58	50 210	1 215	24.20	16.16	49 602	40.82	811 587	61.88
58-59	48 995	1 252	25.55	15.55	48 369	38.63	761 985	64.31
59-60	47 743	1 291	27.04	14.95	47 097	36.48	713 616	66.89
60-61	46 452	1 328	28.59	14.35	45 788	34.48	666 519	69.69
61-62	45 124	1 373	30.43	13.76	44 437	32.36	620 731	72.67
62-63	43 751	1 433	32.76	13.17	43 034	30.03	576 294	75.93
63-64	42 318	1 504	35.52	12.60	41 566	27.64	533 260	79.37
64-65	40 814	1 569	38.46	12.05	40 030	25.51	491 694	82.99
65-66	39 245	1 635	41.66	11.51	38 427	23.50	451 664	86.88
66-67	37 610	1 691	44.96	10.99	36 764	21.74	413 237	90.99
67-68	35 919	1 732	48.21	10.48	35 053	20.24	376 473	95.42
68-69	34 187	1 760	51.50	9.99	33 307	18.92	341 420	100.10
69-70	32 427	1 787	55.10	9.50	31 533	17.65	308 113	105.26
70-71	30 640	1 806	58.94	9.03	29 737	16.47	276 580	110.74
71-72	28 834	1 827	63.35	8.56	27 920	15.28	246 843	116.82
72-73	27 007	1 853	68.61	8.11	26 081	14.08	218 923	123.30
73-74	25 154	1 877	74.65	7.67	24 215	12.90	192 842	130.38
74-75	23 277	1 890	81.20	7.24	22 332	11.82	168 627	138.12
75-76	21 387	1 891	88.43	6.84	20 441	10.81	146 295	146.20
76-77	19 496	1 873	96.07	6.46	18 559	9.91	125 854	154.80
77-78	17 623	1 840	104.41	6.09	16 703	9.08	107 295	164.20
78-79	15 783	1 792	113.55	5.74	14 887	8.31	90 592	174.22
79-80	13 991	1 725	123.28	5.41	13 128	7.61	75 705	184.84
80-81	12 266	1 638	133.53	5.10	11 447	6.99	62 577	196.08
81-82	10 628	1 533	144.24	4.81	9 862	6.43	51 130	207.90
82-83	9 095	1 413	155.42	4.54	8 388	5.93	41 268	220.26
83-84	7 682	1 284	167.04	4.28	7 040	5.49	32 880	233.64
84-85	6 398	1 146	179.15	4.04	5 825	5.08	25 840	247.52
85-86	5 252	1 007	191.76	3.81	4 749	4.71	20 015	262.47
86-87	4 245	870	204.91	3.60	3 810	4.38	15 266	277.78
87-88	3 375	738	218.59	3.39	3 006	4.07	11 456	294.99
88-89	2 637	614	232.80	3.20	2 330	3.80	8 450	312.50
89-90	2 023	500	247.53	3.02	1 773	3.54	6 120	331.13
90-91	1 523	401	262.78	2.85	1 323	3.31	4 347	350.88
91-92	1 122	312	278.60	2.69	966	3.09	3 024	371.75
92-93	810	239	295.08	2.54	690	2.89	2 058	393.70
93-94	571	178	312.35	2.40	482	2.70	1 368	416.67
94-95	393	130	330.52	2.26	328	2.53	886	442.48
95-96	263	92	349.71	2.12	217	2.36	558	471.70
96-97	171	63	369.99	2.00	139	2.20	341	500.00
97-98	108	42	391.41	1.88	87	2.05	202	531.91
98-99	66	28	413.99	1.76	52	1.92	115	568.18
99-100	38	16	437.76	1.65	30	1.78	63	606.06
100-101	22	10	462.75	1.55	17	1.66	33	645.16
101-102	12	6	489.04	1.45	9	1.54	16	689.66
102-103	6	3	516.65	1.35	4	1.44	7	740.74
103-104	3	2	545.65	1.26	2	1.33	3	793.65
104-105	1	1	576.07	1.18	1	1.24	1	847.46

TABLE 8 LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (10,939,400), **AND ON THE** (182,520), **IN** 1907 (190,077), **IN** 1908 (180,776),

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 733	47.33	49.32	8 038	20.40	4 932 108	20 28
1-2	95 267	1 227	12.88	51.69	7 888	77.16	4 924 070	19.35
2-3	94 040	1 057	11.24	52.28	7 793	88.44	4 916 182	19.13
3-4	92 983	931	10.02	52.79	7 710	99.36	4 908 389	18.94
4-5	92 052	828	8.99	53.24	7 636	110.64	4 900 679	18.78
5-6	91 224	744	8.16	53.64	7 571	122.16	4 893 043	18.64
6-7	90 480	674	7.45	54.00	7 512	133.80	4 885 472	18.52
7-8	89 806	609	6.78	54.32	7 458	147.00	4 877 960	18.41
8-9	89 197	551	6.18	54.60	7 410	161.40	4 870 502	18.32
9-10	88 646	503	5.67	54.86	7 366	175.68	4 863 092	18.23
10-11	88 143	459	5.21	55.09	7 326	191.52	4 855 726	18.15
11-12	87 684	422	4.81	55.29	7 289	207.24	4 848 400	18.09
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 738	127.38	49.32	90 997	7.14	4 932 108	20.28
1-2	87 262	2 634	30.19	55.48	85 708	32.54	4 841 111	18.02
2-3	84 628	1 164	13.75	56.19	84 011	72.17	4 755 403	17.80
3-4	83 464	734	8.80	55.97	83 082	113.19	4 671 392	17.87
4-5	82 730	535	6.47	55.46	82 452	154.12	4 588 310	18.03
5-6	82 195	431	5.24	54.82	81 980	190.21	4 505 858	18.24
6-7	81 764	361	4.43	54.11	81 583	225.99	4 423 878	18.48
7-8	81 403	306	3.75	53.34	81 250	265.52	4 342 295	18.75
8-9	81 097	262	3.23	52.54	80 966	309.03	4 261 045	19.03
9-10	80 835	230	2.85	51.71	80 720	350.96	4 180 079	19.34
10-11	80 605	211	2.61	50.86	80 500	381.52	4 099 359	19.66
11-12	80 394	202	2.51	49.99	80 293	397.49	4 018 859	20.00
12-13	80 192	203	2.54	49.11	80 091	394.54	3 938 566	20.36
13-14	79 989	214	2.67	48.24	79 882	373.28	3 858 475	20.73
14-15	79 775	231	2.90	47.37	79 660	344.85	3 778 593	21.11
15-16	79 544	253	3.19	46.50	79 418	313.91	3 698 933	21.51
16-17	79 291	282	3.56	45.65	79 150	280.67	3 619 515	21.91
17-18	79 009	315	3.99	44.81	78 851	250.32	3 540 365	22.32
18-19	78 694	350	4.45	43.99	78 519	224.34	3 461 514	22.73
19-20	78 344	387	4.94	43.18	78 150	201.94	3 382 995	23.16
20-21	77 957	425	5.46	42.39	77 744	182.93	3 304 845	23.59
21-22	77 532	454	5.85	41.62	77 305	170.28	3 227 101	24.03
22-23	77 078	464	6.03	40.87	76 846	165.62	3 149 796	24.47
23-24	76 614	466	6.08	40.11	76 381	163.91	3 072 950	24.93
24-25	76 148	469	6.16	39.35	75 914	161.86	2 996 569	25.41
25-26	75 679	471	6.22	38.59	75 444	160.18	2 920 655	25.91
26-27	75 208	476	6.33	37.83	74 970	157.50	2 845 211	26.43
27-28	74 732	487	6.52	37.07	74 489	152.95	2 770 241	26.98
28-29	74 245	504	6.79	36.31	73 993	146.81	2 695 752	27.54
29-30	73 741	519	7.04	35.55	73 481	141.58	2 621 759	28.13
30-31	73 222	535	7.31	34.80	72 954	136.36	2 548 278	28.74
31-32	72 687	554	7.62	34.05	72 410	130.70	2 475 324	29.37
32-33	72 133	575	7.97	33.31	71 846	124.95	2 402 914	30.02
33-34	71 558	597	8.34	32.58	71 260	119.36	2 331 068	30.69
34-35	70 961	619	8.73	31.85	70 652	114.14	2 259 808	31.40
35-36	70 342	643	9.14	31.12	70 021	108.90	2 189 156	32.13
36-37	69 699	661	9.49	30.40	69 369	104.95	2 119 135	32.89
37-38	69 038	673	9.75	29.69	68 702	102.08	2 049 766	33.68
38-39	68 365	680	9.95	28.98	68 025	100.04	1 981 064	34.51
39-40	67 685	689	10.18	28.26	67 340	97.74	1 913 039	35.39
40-41	66 996	697	10.40	27.55	66 648	95.62	1 845 699	36.30
41-42	66 299	709	10.70	26.83	65 945	93.01	1 779 051	37.27
42-43	65 590	732	11.16	26.12	65 224	89.10	1 713 106	38.28
43-44	64 858	761	11.74	25.41	64 478	84.73	1 647 882	39.35
44-45	64 097	793	12.37	24.70	63 701	80.33	1 583 404	40.49

ORIGINAL REGISTRATION STATES: 1901 TO 1910. TABLE 8

REPORTED DEATHS IN 1901 (169,530), IN 1902 (163,387), IN 1903 (167,134), IN 1904 (178,963), IN 1905 (177,105), IN 1906 IN 1909 (182,373), AND IN 1910 (194,791).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	63 304	829	13.10	24.01	62 890	75.86	1 519 703	41.65
46-47	62 475	860	13.76	23.32	62 045	72.15	1 456 813	42.88
47-48	61 615	876	14.22	22.64	61 177	69.84	1 394 768	44.17
48-49	60 739	883	14.54	21.96	60 297	68.29	1 333 591	45.54
49-50	59 856	893	14.92	21.27	59 409	66.53	1 273 294	47.01
50-51	58 963	901	15.28	20.59	58 513	64.94	1 213 885	48.57
51-52	58 062	920	15.85	19.90	57 602	62.61	1 155 372	50.25
52-53	57 142	962	16.83	19.21	56 661	58.90	1 097 770	52.06
53-54	56 180	1 021	18.18	18.53	55 669	54.52	1 041 109	53.97
54-55	55 159	1 084	19.66	17.87	54 617	50.38	985 440	55.96
55-56	54 075	1 156	21.38	17.21	53 497	46.28	930 823	58.11
56-57	52 919	1 227	23.18	16.58	52 306	42.63	877 326	60.31
57-58	51 692	1 283	24.83	15.96	51 051	39.79	825 020	62.66
58-59	50 409	1 330	26.37	15.35	49 744	37.40	773 969	65.15
59-60	49 079	1 378	28.09	14.76	48 390	35.12	724 225	67.75
60-61	47 701	1 426	29.90	14.17	46 988	32.95	675 835	70.57
61-62	46 275	1 478	31.93	13.59	45 536	30.81	628 847	73.58
62-63	44 797	1 537	34.32	13.02	44 029	28.65	583 311	76.80
63-64	43 260	1 602	37.04	12.47	42 459	26.50	539 282	80.19
64-65	41 658	1 662	39.88	11.93	40 827	24.56	496 823	83.82
65-66	39 996	1 717	42.92	11.40	39 138	22.79	455 996	87.72
66-67	38 279	1 762	46.05	10.89	37 398	21.22	416 858	91.83
67-68	36 517	1 797	49.22	10.39	35 618	19.82	379 460	96.25
68-69	34 720	1 824	52.53	9.90	33 808	18.54	343 842	101.01
69-70	32 896	1 846	56.11	9.42	31 973	17.32	310 034	106.16
70-71	31 050	1 860	59.90	8.96	30 120	16.19	278 061	111.61
71-72	29 190	1 877	64.31	8.49	28 252	15.05	247 941	117.79
72-73	27 313	1 902	69.63	8.04	26 362	13.86	219 689	124.38
73-74	25 411	1 925	75.79	7.61	24 449	12.70	193 327	131.41
74-75	23 486	1 939	82.54	7.19	22 516	11.61	168 878	139.08
75-76	21 547	1 942	90.15	6.79	20 576	10.60	146 362	147.28
76-77	19 605	1 922	98.03	6.42	18 644	9.70	125 786	155.76
77-78	17 683	1 870	105.76	6.06	16 748	8.96	107 142	165.02
78-79	15 813	1 797	113.64	5.72	14 914	8.30	90 394	174.83
79-80	14 016	1 721	122.81	5.39	13 155	7.64	75 480	185.53
80-81	12 295	1 644	133.66	5.07	11 473	6.98	62 325	197.24
81-82	10 651	1 548	145.39	4.77	9 877	6.38	50 852	209.64
82-83	9 103	1 429	156.97	4.50	8 388	5.87	40 975	222.22
83-84	7 674	1 299	169.30	4.25	7 024	5.41	32 587	235.29
84-85	6 375	1 161	182.08	4.01	5 794	4.99	25 563	249.38
85-86	5 214	1 017	195.04	3.79	4 706	4.63	19 769	263.85
86-87	4 197	873	208.05	3.59	3 760	4.31	15 063	278.55
87-88	3 324	735	221.09	3.40	2 956	4.02	11 303	294.12
88-89	2 589	606	234.23	3.22	2 286	3.77	8 347	310.56
89-90	1 983	491	247.63	3.06	1 737	3.54	6 061	326.80
90-91	1 492	390	261.48	2.90	1 297	3.32	4 324	344.83
91-92	1 102	304	275.88	2.75	950	3.12	3 027	363.64
92-93	798	232	290.92	2.60	682	2.94	2 077	384.62
93-94	566	174	306.60	2.47	479	2.76	1 395	404.86
94-95	392	126	322.91	2.34	329	2.60	916	427.35
95-96	266	91	339.81	2.21	220	2.44	587	452.49
96-97	175	62	357.34	2.09	144	2.30	367	478.47
97-98	113	43	375.58	1.98	92	2.16	223	505.05
98-99	70	27	394.71	1.87	56	2.07	131	534.76
99-100	43	18	414.95	1.77	34	1.91	75	564.97
100-101	25	11	436.52	1.66	19	1.79	41	602.41
101-102	14	6	459.66	1.56	11	1.68	22	641.03
102-103	8	4	484.16	1.47	6	1.57	11	680.27
103-104	4	2	510.09	1.38	3	1.46	5	724.64
104-105	2	1	537.58	1.29	1	1.36	2	775.19
105-106	1	1	566.72	1.20	1	1.26	1	833.33

TABLE 9 — LIFE TABLE FOR WHITE MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,932,963), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 844	48.44	50.23	8 031	19.92	5 023 371	19.91
1-2	95 156	1 242	13.05	52.71	7 878	76.08	5 015 340	18.97
2-3	93 914	1 012	10.78	53.32	7 784	92.28	5 007 462	18.75
3-4	92 902	863	9.28	53.82	7 706	107.16	4 999 678	18.58
4-5	92 039	750	8.15	54.24	7 639	122.28	4 991 972	18.44
5-6	91 289	673	7.37	54.60	7 579	135.12	4 984 333	18.32
6-7	90 616	610	6.73	54.92	7 526	148.08	4 976 754	18.21
7-8	90 006	553	6.15	55.21	7 477	162.24	4 969 228	18.11
8-9	89 453	503	5.62	55.47	7 433	177.36	4 961 751	18.03
9-10	88 950	457	5.14	55.70	7 393	194.16	4 954 318	17.95
10-11	88 493	420	4.74	55.90	7 357	210.24	4 946 925	17.89
11-12	88 073	399	4.53	56.08	7 323	220.20	4 939 568	17.83
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 326	123.26	50.23	91 126	7.39	5 023 371	19.91
1-2	87 674	2 473	28.21	56.26	86 215	34.86	4 932 245	17.77
2-3	85 201	1 084	12.73	56.88	84 626	78.07	4 846 030	17.58
3-4	84 117	668	7.93	56.60	83 770	125.40	4 761 404	17.67
4-5	83 449	477	5.72	56.05	83 201	174.43	4 677 634	17.84
5-6	82 972	391	4.71	55.37	82 777	211.71	4 594 433	18.06
6-7	82 581	330	4.00	54.63	82 416	249.75	4 511 656	18.30
7-8	82 251	280	3.40	53.85	82 111	293.25	4 429 240	18.57
8-9	81 971	240	2.93	53.03	81 851	341.05	4 347 129	18.86
9-10	81 731	212	2.59	52.19	81 625	385.02	4 265 278	19.16
10-11	81 519	194	2.38	51.32	81 422	419.70	4 183 653	19.49
11-12	81 325	185	2.28	50.44	81 232	439.09	4 102 231	19.83
12-13	81 140	186	2.29	49.56	81 047	435.74	4 020 999	20.18
13-14	80 954	195	2.41	48.67	80 856	414.65	3 939 952	20.55
14-15	80 759	210	2.59	47.79	80 654	384.07	3 859 096	20.92
15-16	80 549	228	2.83	46.91	80 435	352.79	3 778 442	21.32
16-17	80 321	253	3.15	46.04	80 195	316.98	3 698 007	21.72
17-18	80 068	283	3.55	45.18	79 926	282.42	3 617 812	22.13
18-19	79 785	318	3.98	44.34	79 626	250.40	3 537 886	22.55
19-20	79 467	351	4.42	43.52	79 291	225.90	3 458 260	22.98
20-21	79 116	387	4.89	42.71	78 922	203.93	3 378 969	23.41
21-22	78 729	413	5.24	41.92	78 522	190.13	3 300 047	23.85
22-23	78 316	422	5.39	41.13	78 105	185.08	3 221 525	24.31
23-24	77 894	422	5.42	40.36	77 683	184.08	3 143 420	24.78
24-25	77 472	425	5.48	39.57	77 259	181.79	3 065 737	25.27
25-26	77 047	426	5.54	38.79	76 834	180.36	2 988 478	25.78
26-27	76 621	432	5.63	38.00	76 405	176.86	2 911 644	26.32
27-28	76 189	443	5.82	37.21	75 968	171.49	2 835 239	26.87
28-29	75 746	460	6.07	36.43	75 516	164.17	2 759 271	27.45
29-30	75 286	476	6.33	35.65	75 048	157.66	2 683 755	28.05
30-31	74 810	494	6.60	34.87	74 563	150.94	2 608 707	28.68
31-32	74 316	515	6.93	34.10	74 058	143.80	2 534 144	29.33
32-33	73 801	540	7.31	33.33	73 531	136.17	2 460 086	30.00
33-34	73 261	564	7.70	32.58	72 979	129.40	2 386 555	30.69
34-35	72 697	589	8.10	31.82	72 402	122.92	2 313 576	31.43
35-36	72 108	614	8.52	31.08	71 801	116.94	2 241 174	32.18
36-37	71 494	636	8.90	30.34	71 176	111.91	2 169 373	32.96
37-38	70 858	654	9.23	29.61	70 531	107.85	2 098 197	33.77
38-39	70 204	670	9.54	28.88	69 869	104.28	2 027 666	34.63
39-40	69 534	686	9.87	28.16	69 191	100.86	1 957 797	35.51
40-41	68 848	704	10.22	27.43	68 496	97.30	1 888 606	36.46
41-42	68 144	722	10.60	26.71	67 783	93.88	1 820 110	37.44
42-43	67 422	744	11.04	25.99	67 050	90.12	1 752 327	38.48
43-44	66 678	769	11.52	25.27	66 294	86.21	1 685 277	39.57
44-45	65 909	794	12.05	24.56	65 512	82.51	1 618 983	40.72

ORIGINAL REGISTRATION STATES: 1910. TABLE 9

REPORTED DEATHS IN 1909 (182,373), IN 1910 (194,791), AND IN 1911 (190,497).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	65 115	823	12.64	23.86	64 703	78.62	1 553 471	41.91
46-47	64 292	852	13.25	23.16	63 866	74.96	1 488 768	43.18
47-48	63 440	877	13.83	22.46	63 001	71.84	1 424 902	44.52
48-49	62 563	900	14.37	21.77	62 113	69.01	1 361 901	45.93
49-50	61 663	922	14.95	21.08	61 202	66.38	1 299 788	47.44
50-51	60 741	943	15.53	20.39	60 270	63.91	1 238 586	49.04
51-52	59 798	971	16.24	19.70	59 312	61.08	1 178 316	50.76
52-53	58 827	1 012	17.21	19.02	58 321	57.63	1 119 004	52.58
53-54	57 815	1 067	18.45	18.35	57 281	53.68	1 060 683	54.50
54-55	56 748	1 126	19.85	17.68	56 185	49.90	1 003 402	56.56
55-56	55 622	1 196	21.50	17.03	55 024	46.01	947 217	58.72
56-57	54 426	1 268	23.30	16.39	53 792	42.42	892 193	61.01
57-58	53 158	1 333	25.08	15.77	52 491	39.38	838 401	63.41
58-59	51 825	1 390	26.81	15.16	51 130	36.78	785 910	65.96
59-60	50 435	1 448	28.71	14.57	49 711	34.33	734 780	68.63
60-61	48 987	1 506	30.75	13.98	48 234	32.03	685 069	71.53
61-62	47 481	1 565	32.95	13.41	46 699	29.84	636 835	74.57
62-63	45 916	1 625	35.41	12.85	45 104	27.76	590 136	77.82
63-64	44 291	1 687	38.09	12.31	43 447	25.75	545 032	81.23
64-65	42 604	1 742	40.88	11.77	41 733	23.96	501 585	84.96
65-66	40 862	1 789	43.79	11.25	39 967	22.34	459 852	88.89
66-67	39 073	1 832	46.87	10.75	38 157	20.83	419 885	93.02
67-68	37 241	1 870	50.23	10.25	36 306	19.41	381 728	97.56
68-69	35 371	1 907	53.92	9.77	34 417	18.05	345 422	102.35
69-70	33 464	1 937	57.88	9.29	32 495	16.78	311 005	107.64
70-71	31 527	1 959	62.14	8.83	30 547	15.59	278 510	113.25
71-72	29 568	1 978	66.90	8.39	28 579	14.45	247 963	119.19
72-73	27 590	1 995	72.30	7.95	26 592	13.33	219 384	125.79
73-74	25 595	2 005	78.33	7.53	24 592	12.27	192 792	132.80
74-75	23 590	2 005	84.99	7.13	22 587	11.27	168 200	140.25
75-76	21 585	1 997	92.53	6.75	20 586	10.31	145 613	148.15
76-77	19 588	1 966	100.34	6.38	18 605	9.46	125 027	156.74
77-78	17 622	1 904	108.04	6.04	16 670	8.76	106 422	165.56
78-79	15 718	1 821	115.88	5.71	14 808	8.13	89 752	175.13
79-80	13 897	1 737	124.98	5.39	13 029	7.50	74 944	185.53
80-81	12 160	1 651	135.75	5.09	11 335	6.87	61 915	196.46
81-82	10 509	1 547	147.28	4.81	9 736	6.29	50 580	207.90
82-83	8 962	1 419	158.33	4.56	8 252	5.82	40 844	219.30
83-84	7 543	1 271	168.54	4.32	6 907	5.43	32 592	231.48
84-85	6 272	1 127	179.56	4.10	5 708	5.07	25 685	243.90
85-86	5 145	983	191.11	3.88	4 654	4.73	19 977	257.73
86-87	4 162	845	203.07	3.68	3 739	4.42	15 323	271.74
87-88	3 317	715	215.45	3.49	2 960	4.14	11 584	286.53
88-89	2 602	594	228.30	3.31	2 305	3.88	8 624	302.11
89-90	2 008	485	241.57	3.15	1 766	3.64	6 319	317.46
90-91	1 523	389	255.17	2.99	1 329	3.42	4 553	334.45
91-92	1 134	305	268.87	2.84	982	3.22	3 224	352.11
92-93	829	234	282.56	2.70	712	3.04	2 242	370.37
93-94	595	176	296.24	2.57	507	2.88	1 530	389.11
94-95	419	130	310.21	2.44	354	2.72	1 023	409.84
95-96	289	94	324.86	2.31	242	2.58	669	432.90
96-97	195	66	340.85	2.19	162	2.43	427	456.62
97-98	129	47	358.73	2.06	105	2.29	265	485.44
98-99	82	31	379.05	1.93	67	2.14	160	518.13
99-100	51	20	401.97	1.80	41	1.99	93	555.56
100-101	31	13	427.46	1.68	24	1.84	52	595.24
101-102	18	8	455.22	1.56	14	1.70	28	641.03
102-103	10	5	485.01	1.45	7	1.56	14	689.66
103-104	5	3	516.40	1.34	4	1.44	7	746.27
104-105	2	1	548.76	1.25	2	1.32	3	800.00
105-106	1	1	582.65	1.15	1	1.22	1	869.57

TABLE 10 LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (9,972,995), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 505	35.05	51.08	8 114	27.72	5 107 990	19.58
1-2	96 495	986	10.22	52.85	8 000	97.32	5 099 876	18.92
2-3	95 509	922	9.66	53.31	7 921	103.08	5 091 876	18.76
3-4	94 587	859	9.07	53.75	7 846	109.56	5 083 955	18.60
4-5	93 728	793	8.47	54.16	7 778	117.72	5 076 109	18.46
5-6	92 935	731	7.86	54.54	7 714	126.60	5 068 331	18.34
6-7	92 204	668	7.25	54.89	7 656	137.52	5 060 617	18.22
7-8	91 536	607	6.64	55.20	7 603	150.36	5 052 961	18.12
8-9	90 929	557	6.12	55.49	7 554	162.72	5 045 358	18.02
9-10	90 372	508	5.63	55.75	7 510	177.36	5 037 804	17.94
10-11	89 864	472	5.25	55.98	7 469	189.84	5 030 294	17.86
11-12	89 392	453	5.06	56.19	7 430	196.80	5 022 825	17.80
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 061	110.61	51.08	92 595	8.37	5 107 990	19.58
1-2	88 939	2 771	31.15	56.39	87 304	31.51	5 015 395	17.73
2-3	86 168	1 278	14.84	57.19	85 491	66.89	4 928 091	17.49
3-4	84 890	829	9.76	57.05	84 459	101.88	4 842 600	17.53
4-5	84 061	635	7.55	56.60	83 731	131.86	4 758 141	17.67
5-6	83 426	492	5.89	56.03	83 180	169.07	4 674 410	17.85
6-7	82 934	398	4.80	55.36	82 735	207.88	4 591 230	18.06
7-8	82 536	323	3.91	54.62	82 375	255.03	4 508 495	18.31
8-9	82 213	265	3.23	53.84	82 081	309.74	4 426 120	18.57
9-10	81 948	225	2.74	53.01	81 836	363.72	4 344 039	18.86
10-11	81 723	201	2.46	52.15	81 623	406.08	4 262 203	19.18
11-12	81 522	192	2.36	51.28	81 426	424.09	4 180 580	19.50
12-13	81 330	197	2.43	50.40	81 231	412.34	4 099 154	19.84
13-14	81 133	214	2.63	49.52	81 026	378.63	4 017 923	20.19
14-15	80 919	239	2.96	48.65	80 800	338.08	3 936 897	20.55
15-16	80 680	274	3.39	47.79	80 543	293.95	3 856 097	20.92
16-17	80 406	309	3.85	46.96	80 252	259.72	3 775 554	21.29
17-18	80 097	342	4.27	46.14	79 926	233.70	3 695 302	21.67
18-19	79 755	372	4.67	45.33	79 569	213.90	3 615 376	22.06
19-20	79 383	405	5.10	44.54	79 180	195.51	3 535 807	22.45
20-21	78 978	438	5.54	43.77	78 759	179.82	3 456 627	22.85
21-22	78 540	464	5.92	43.01	78 308	168.77	3 377 868	23.25
22-23	78 076	484	6.19	42.26	77 834	160.81	3 299 560	23.66
23-24	77 592	496	6.39	41.52	77 344	155.94	3 221 726	24.08
24-25	77 096	508	6.60	40.79	76 842	151.26	3 144 382	24.52
25-26	76 588	520	6.79	40.05	76 328	146.78	3 067 540	24.97
26-27	76 068	530	6.97	39.32	75 803	143.02	2 991 212	25.43
27-28	75 538	540	7.15	38.60	75 268	139.39	2 915 409	25.91
28-29	74 998	551	7.34	37.87	74 723	135.61	2 840 141	26.41
29-30	74 447	560	7.53	37.15	74 167	132.44	2 765 418	26.92
30-31	73 887	571	7.72	36.42	73 602	128.90	2 691 251	27.46
31-32	73 316	579	7.90	35.70	73 027	126.13	2 617 649	28.01
32-33	72 737	585	8.05	34.98	72 444	123.84	2 544 622	28.59
33-34	72 152	589	8.16	34.26	71 858	122.00	2 472 178	29.19
34-35	71 563	592	8.28	33.54	71 267	120.38	2 400 320	29.82
35-36	70 971	595	8.39	32.82	70 673	118.78	2 329 053	30.47
36-37	70 376	599	8.51	32.09	70 076	116.99	2 258 380	31.16
37-38	69 777	606	8.68	31.36	69 474	114.64	2 188 304	31.89
38-39	69 171	614	8.88	30.63	68 864	112.16	2 118 830	32.65
39-40	68 557	622	9.08	29.90	68 246	109.72	2 049 966	33.44
40-41	67 935	632	9.31	29.17	67 619	106.99	1 981 720	34.28
41-42	67 303	642	9.53	28.44	66 982	104.33	1 914 101	35.16
42-43	66 661	651	9.76	27.71	66 336	101.90	1 847 119	36.09
43-44	66 010	660	10.01	26.98	65 680	99.52	1 780 783	37.06
44-45	65 350	673	10.30	26 24	65 013	96.60	1 715 103	38.11

ORIGINAL REGISTRATION STATES: 1901. TABLE 10

REPORTED DEATHS IN 1900 (159,079), IN 1901 (152,418), AND IN 1902 (145,163).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 677	688	10.63	25.51	64 333	93.51	1 650 090	39.20
46-47	63 989	707	11.05	24.78	63 636	90.01	1 585 757	40.36
47-48	63 282	731	11.56	24.05	62 916	86.07	1 522 121	41.58
48-49	62 551	759	12.13	23.33	62 171	81.91	1 459 205	42.86
49-50	61 792	787	12.74	22.61	61 398	78.02	1 397 034	44.23
50-51	61 005	816	13.37	21.89	60 597	74.26	1 335 636	45.68
51-52	60 189	849	14.11	21.18	59 764	70.39	1 275 039	47.21
52-53	59 340	892	15.03	20.48	58 894	66.02	1 215 275	48.83
53-54	58 448	943	16.12	19.78	57 976	61.48	1 156 381	50.56
54-55	57 505	996	17.33	19.10	57 007	57.24	1 098 405	52.36
55-56	56 509	1 056	18.69	18.43	55 981	53.01	1 041 398	54.26
56-57	55 453	1 113	20.07	17.77	54 896	49.32	985 417	56.27
57-58	54 340	1 158	21.31	17.12	53 761	46.43	930 521	58.41
58-59	53 182	1 196	22.48	16.49	52 584	43.97	876 760	60.64
59-60	51 986	1 234	23.75	15.85	51 369	41.63	824 176	63.09
60-61	50 752	1 272	25.06	15.23	50 116	39.40	772 807	65.66
61-62	49 480	1 317	26.63	14.61	48 821	37.07	722 691	68.45
62-63	48 163	1 380	28.65	13.99	47 473	34.40	673 870	71.48
63-64	46 783	1 453	31.06	13.39	46 056	31.70	626 397	74.68
64-65	45 330	1 524	33.63	12.80	44 568	29.24	580 341	78.13
65-66	43 806	1 595	36.41	12.23	43 008	26.96	535 773	81.77
66-67	42 211	1 663	39.39	11.67	41 379	24.88	492 765	85.69
67-68	40 548	1 724	42.52	11.13	39 686	23.02	451 386	89.85
68-69	38 824	1 781	45.87	10.60	37 933	21.30	411 700	94.34
69-70	37 043	1 837	49.59	10.09	36 125	19.67	373 767	99.11
70-71	35 206	1 890	53.69	9.59	34 261	18.13	337 642	104.28
71-72	33 316	1 939	58.20	9.11	32 346	16.68	303 381	109.77
72-73	31 377	1 978	63.04	8.64	30 388	15.36	271 035	115.74
73-74	29 399	2 008	68.31	8.19	28 395	14.14	240 647	122.10
74-75	27 391	2 029	74.07	7.75	26 376	13.00	212 252	129.03
75-76	25 362	2 039	80.39	7.33	24 342	11.94	185 876	136.43
76-77	23 323	2 036	87.31	6.93	22 305	10.96	161 534	144.30
77-78	21 287	2 020	94.87	6.54	20 277	10.04	139 229	152.91
78-79	19 267	1 985	103.05	6.17	18 275	9.21	118 952	162.07
79-80	17 282	1 933	111.84	5.83	16 315	8.44	100 677	171.53
80-81	15 349	1 859	121.15	5.50	14 419	7.75	84 362	181.82
81-82	13 490	1 767	130.94	5.19	12 606	7.14	69 943	192.68
82-83	11 723	1 655	141.16	4.89	10 896	6.58	57 337	204.50
83-84	10 068	1 528	151.79	4.61	9 304	6.09	46 441	216.92
84-85	8 540	1 391	162.90	4.35	7 844	5.64	37 137	229.89
85-86	7 149	1 248	174.60	4.10	6 525	5.23	29 293	243.90
86-87	5 901	1 104	187.01	3.86	5 349	4.85	22 768	259.07
87-88	4 797	960	200.26	3.63	4 317	4.49	17 419	275.48
88-89	3 837	823	214.41	3.41	3 425	4.16	13 102	293.26
89-90	3 014	692	229.45	3.21	2 668	3.86	9 677	311.53
90-91	2 322	569	245.32	3.02	2 038	3.58	7 009	331.13
91-92	1 753	459	261.93	2.84	1 523	3.32	4 971	352.11
92-93	1 294	362	279.25	2.67	1 113	3.08	3 448	374.53
93-94	932	277	297.27	2.50	794	2.86	2 335	400.00
94-95	655	207	316.05	2.35	552	2.66	1 541	425.53
95-96	448	150	335.71	2.21	373	2.48	989	452.49
96-97	298	106	356.38	2.07	245	2.31	616	483.09
97-98	192	73	378.24	1.94	155	2.14	371	515.46
98-99	119	48	401.40	1.81	95	1.99	216	552.49
99-100	71	30	425.94	1.70	56	1.85	121	588.24
100-101	41	19	451.93	1.58	32	1.71	65	632.91
101-102	22	10	479.35	1.48	17	1.59	33	675.68
102-103	12	6	508.17	1.38	9	1.47	16	724.64
103-104	6	3	538.42	1.28	4	1.36	7	781.25
104-105	3	2	570.15	1.19	2	1.25	3	840.34
105-106	1	1	603.40	1.10	1	1.16	1	909.09

TABLE 11 LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (10,812,512), AND ON THE (159,942), IN 1907 (164,912), IN 1908 (159,081),

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 684	36.84	52.54	8 103	26.40	5 253 956	19.03
1-2	96 316	983	10.21	54.47	7 985	97.44	5 245 853	18.36
2-3	95 333	879	9.23	54.94	7 908	108.00	5 237 868	18.20
3-4	94 454	783	8.29	55.37	7 839	120.12	5 229 960	18.06
4-5	93 671	702	7.50	55.75	7 777	132.96	5 222 121	17.94
5-6	92 969	639	6.87	56.09	7 721	144.96	5 214 344	17.83
6-7	92 330	588	6.37	56.39	7 670	156.48	5 206 623	17.73
7-8	91 742	540	5.88	56.67	7 623	169.44	5 198 953	17.65
8-9	91 202	493	5.41	56.92	7 580	184.56	5 191 330	17.57
9-10	90 709	450	4.96	57.15	7 540	201.12	5 183 750	17.50
10-11	90 259	415	4.61	57.35	7 504	216.96	5 176 210	17.44
11-12	89 844	395	4.39	57.53	7 471	226.92	5 168 706	17.38
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 551	105.51	52.54	92 721	8.79	5 253 956	19.03
1-2	89 449	2 453	27.43	57.70	88 002	35.88	5 161 235	17.33
2-3	86 996	1 097	12.61	58.32	86 414	78.77	5 073 233	17.15
3-4	85 899	711	8.28	58.05	85 529	120.29	4 986 819	17.23
4-5	85 188	520	6.10	57.53	84 917	163.30	4 901 290	17.38
5-6	84 668	423	5.00	56.89	84 456	199.66	4 816 373	17.58
6-7	84 245	350	4.16	56.17	84 070	240.20	4 731 917	17.80
7-8	83 895	292	3.47	55.40	83 749	286.81	4 647 847	18.05
8-9	83 603	246	2.94	54.59	83 480	339.35	4 564 098	18.32
9-10	83 357	214	2.57	53.75	83 250	389.02	4 480 618	18.60
10-11	83 143	196	2.36	52.89	83 045	423.70	4 397 368	18.91
11-12	82 947	190	2.29	52.01	82 852	436.06	4 314 323	19.23
12-13	82 757	194	2.34	51.13	82 660	426.08	4 231 471	19.56
13-14	82 563	207	2.51	50.25	82 460	398.36	4 148 811	19.90
14-15	82 356	227	2.76	49.38	82 243	362.30	4 066 351	20.25
15-16	82 129	254	3.09	48.51	82 002	322.84	3 984 108	20.61
16-17	81 875	282	3.45	47.66	81 734	289.84	3 902 106	20.98
17-18	81 593	310	3.80	46.82	81 438	262.70	3 820 372	21.36
18-19	81 283	337	4.15	46.00	81 115	240.70	3 738 934	21.74
19-20	80 946	365	4.51	45.19	80 763	221.27	3 657 819	22.13
20-21	80 581	395	4.90	44.39	80 383	203.50	3 577 056	22.53
21-22	80 186	418	5.21	43.61	79 977	191.33	3 496 673	22.93
22-23	79 768	433	5.43	42.83	79 551	183.72	3 416 696	23.35
23-24	79 335	444	5.59	42.06	79 113	178.18	3 337 145	23.78
24-25	78 891	454	5.75	41.30	78 664	173.27	3 258 032	24.21
25-26	78 437	463	5.91	40.53	78 206	168.91	3 179 368	24.67
26-27	77 974	474	6.07	39.77	77 737	164.00	3 101 162	25.14
27-28	77 500	484	6.25	39.01	77 258	159.62	3 023 425	25.63
28-29	77 016	497	6.45	38.25	76 767	154.46	2 946 167	26.14
29-30	76 519	510	6.65	37.50	76 264	149.54	2 869 400	26.67
30-31	76 009	521	6.87	36.75	75 749	145.39	2 793 136	27.21
31-32	75 488	534	7.07	36.00	75 221	140.86	2 717 387	27.78
32-33	74 954	545	7.26	35.25	74 681	137.03	2 642 166	28.37
33-34	74 409	553	7.43	34.51	74 133	134.06	2 567 485	28.98
34-35	73 856	561	7.60	33.76	73 576	131.15	2 493 352	29.62
35-36	73 295	570	7.77	33.01	73 010	128.09	2 419 776	30.29
36-37	72 725	576	7.93	32.27	72 437	125.76	2 346 766	30.99
37-38	72 149	583	8.07	31.52	71 857	123.25	2 274 329	31.73
38-39	71 566	588	8.22	30.78	71 272	121.21	2 202 472	32.49
39-40	70 978	595	8.38	30.03	70 681	118.79	2 131 200	33.30
40-41	70 383	601	8.54	29.28	70 083	116.61	2 060 519	34.15
41-42	69 782	611	8.76	28.52	69 477	113.71	1 990 436	35.06
42-43	69 171	626	9.05	27.77	68 858	110.00	1 920 959	36.01
43-44	68 545	644	9.41	27.02	68 223	105.94	1 852 101	37.01
44-45	67 901	666	9.81	26.27	67 568	101.45	1 783 878	38.07

ORIGINAL REGISTRATION STATES: 1901 TO 1910. TABLE 11

REPORTED DEATHS IN 1901 (152,418), IN 1902 (145,163), IN 1903 (149,516), IN 1904 (159,338), IN 1905 (157,239), IN 1906 IN 1909 (160,227), AND IN 1910 (170,233).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	67 235	691	10.27	25.53	66 889	96.80	1 716 310	39.17
46-47	66 544	716	10.76	24.79	66 186	92.44	1 649 421	40.34
47-48	65 828	740	11.24	24.05	65 458	88.46	1 583 235	41.58
48-49	65 088	762	11.71	23.32	64 707	84.92	1 517 777	42.88
49-50	64 326	787	12.24	22.59	63 932	81.24	1 453 070	44.27
50-51	63 539	812	12.78	21.86	63 133	77.75	1 389 138	45.75
51-52	62 727	844	13.45	21.14	62 305	73.82	1 326 005	47.30
52-53	61 883	887	14.34	20.42	61 439	69.27	1 263 700	48.97
53-54	60 996	942	15.44	19.71	60 525	64.25	1 202 261	50.74
54-55	60 054	1 001	16.67	19.01	59 554	59.49	1 141 736	52.60
55-56	59 053	1 068	18.08	18.33	58 519	54.79	1 082 182	54.56
56-57	57 985	1 135	19.58	17.65	57 418	50.59	1 023 663	56.66
57-58	56 850	1 196	21.03	17.00	56 252	47.03	966 245	58.82
58-59	55 654	1 247	22.42	16.35	55 031	44.13	909 993	61.16
59-60	54 407	1 303	23.94	15.71	53 755	41.25	854 962	63.65
60-61	53 104	1 356	25.53	15.09	52 426	38.66	801 207	66.27
61-62	51 748	1 414	27.33	14.47	51 041	36.10	748 781	69.11
62-63	50 334	1 484	29.49	13.86	49 592	33.42	697 740	72.15
63-64	48 850	1 562	31.97	13.27	48 069	30.77	648 148	75.36
64-65	47 288	1 634	34.57	12.69	46 471	28.44	600 079	78.80
65-66	45 654	1 705	37.33	12.13	44 802	26.28	553 608	82.44
66-67	43 949	1 770	40.28	11.58	43 064	24.33	508 806	86.36
67-68	42 179	1 831	43.43	11.04	41 263	22.54	465 742	90.58
68-69	40 348	1 890	46.84	10.52	39 403	20.85	424 479	95.06
69-70	38 438	1 946	50.59	10.01	37 485	19.26	385 076	99.90
70-71	36 512	1 998	54.72	9.52	35 513	17.77	347 591	105.04
71-72	34 514	2 044	59.23	9.04	33 492	16.39	312 078	110.62
72-73	32 470	2 081	64.09	8.58	31 429	15.10	278 586	116.55
73-74	30 389	2 106	69.29	8.13	29 336	13.93	247 157	123.00
74-75	28 283	2 120	74.95	7.70	27 223	12.84	217 821	129.87
75-76	26 163	2 122	81.13	7.29	25 102	11.83	190 598	137.17
76-77	24 041	2 109	87.71	6.88	22 986	10.90	165 496	145.35
77-78	21 932	2 078	94.77	6.50	20 893	10.05	142 510	153.85
78-79	19 854	2 037	102.56	6.13	18 836	9.25	121 617	163.13
79-80	17 817	1 986	111.52	5.77	16 824	8.47	102 781	173.31
80-81	15 831	1 934	122.14	5.43	14 864	7.69	85 957	184.16
81-82	13 897	1 856	133.54	5.12	12 969	6.99	71 093	195.31
82-83	12 041	1 739	144.41	4.83	11 172	6.42	58 124	207.04
83-84	10 302	1 592	154.51	4.56	9 506	5.97	46 952	219.30
84-85	8 710	1 445	165.91	4.30	7 988	5.53	37 446	232.56
85-86	7 265	1 297	178.61	4.05	6 617	5.10	29 458	246.91
86-87	5 968	1 144	191.60	3.83	5 396	4.72	22 841	261.10
87-88	4 824	986	204.46	3.62	4 331	4.39	17 445	276.24
88-89	3 838	835	217.43	3.42	3 421	4.10	13 114	292.40
89-90	3 003	696	231.75	3.23	2 655	3.81	9 693	309.60
90-91	2 307	569	246.87	3.05	2 023	3.55	7 038	327.87
91-92	1 738	457	262.65	2.89	1 510	3.31	5 015	346.02
92-93	1 281	357	278.76	2.74	1 103	3.09	3 505	364.96
93-94	924	272	294.77	2.60	788	2.89	2 402	384.62
94-95	652	202	310.26	2.48	551	2.72	1 614	403.23
95-96	450	147	324.90	2.37	377	2.58	1 063	421.94
96-97	303	102	338.69	2.27	252	2.45	686	440.53
97-98	201	71	351.88	2.17	165	2.34	434	460.83
98-99	130	47	365.07	2.08	106	2.24	269	480.77
99-100	83	32	378.85	1.99	67	2.14	163	502.51
100-101	51	20	393.81	1.90	41	2.04	96	526.32
101-102	31	13	410.34	1.80	25	1.94	55	555.56
102-103	18	8	428.71	1.71	14	1.83	30	584.80
103-104	10	4	448.87	1.61	8	1.73	16	621.12
104-105	6	3	470.64	1.52	4	1.62	8	657.89
105-106	3	1	495.50	1.43	2	1.52	4	699.30
106-107	2	1	520.29	1.34	1	1.42	2	746.27
107-108	1	1	547.27	1.26	1	1.33	1	793.65

TABLE 12 LIFE TABLE FOR WHITE FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (11,706,221), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 787	37.87	53.62	8 097	25.68	5 361 770	18.65
1-2	96 213	991	10.29	55.64	7 976	96.60	5 353 673	17.97
2-3	95 222	850	8.93	56.14	7 900	111.48	5 345 697	17.81
3-4	94 372	740	7.84	56.56	7 833	127.08	5 337 797	17.68
4-5	93 632	648	6.92	56.92	7 776	144.00	5 329 964	17.57
5-6	92 984	578	6.21	57.24	7 725	160.44	5 322 188	17.47
6-7	92 406	526	5.70	57.51	7 679	175.20	5 314 463	17.39
7-8	91 880	486	5.28	57.76	7 636	188.52	5 306 784	17.31
8-9	91 394	450	4.93	57.98	7 597	202.56	5 299 148	17.25
9-10	90 944	421	4.62	58.18	7 561	215.52	5 291 551	17.19
10-11	90 523	390	4.31	58.37	7 527	231.60	5 283 990	17.13
11-12	90 133	359	3.98	58.54	7 496	250.56	5 276 463	17.08
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 226	102.26	53.62	92 803	9.08	5 361 770	18.65
1-2	89 774	2 319	25.83	58.69	88 406	38.12	5 268 967	17.04
2-3	87 455	999	11.43	59.24	86 925	87.01	5 180 561	16.88
3-4	86 456	644	7.45	58.92	86 121	133.73	5 093 636	16.97
4-5	85 812	463	5.39	58.35	85 571	184.82	5 007 515	17.14
5-6	85 349	382	4.47	57.67	85 158	222.93	4 921 944	17.34
6-7	84 967	316	3.72	56.93	84 809	268.38	4 836 786	17.57
7-8	84 651	262	3.09	56.14	84 520	322.60	4 751 977	17.81
8-9	84 389	220	2.61	55.31	84 279	383.09	4 667 457	18.08
9-10	84 169	190	2.26	54.45	84 074	442.49	4 583 178	18.37
10-11	83 979	173	2.06	53.57	83 892	484.92	4 499 104	18.67
11-12	83 806	166	1.98	52.68	83 723	504.36	4 415 212	18.98
12-13	83 640	169	2.02	51.79	83 555	494.41	4 331 489	19.31
13-14	83 471	181	2.16	50.89	83 380	460.66	4 247 934	19.65
14-15	83 290	197	2.37	50.00	83 192	422.29	4 164 554	20.00
15-16	83 093	220	2.65	49.12	82 983	377.20	4 081 362	20.36
16-17	82 873	244	2.95	48.25	82 751	339.14	3 998 379	20.73
17-18	82 629	269	3.25	47.39	82 495	306.67	3 915 628	21.10
18-19	82 360	292	3.55	46.54	82 214	281.55	3 833 133	21.49
19-20	82 068	318	3.87	45.71	81 909	257.58	3 750 919	21.88
20-21	81 750	343	4.20	44.88	81 578	237.84	3 669 010	22.28
21-22	81 407	365	4.48	44.07	81 224	222.53	3 587 432	22.69
22-23	81 042	381	4.70	43.26	80 851	212.21	3 506 208	23.12
23-24	80 661	392	4.86	42.47	80 465	205.27	3 425 357	23.55
24-25	80 269	404	5.04	41.67	80 067	198.19	3 344 892	24.00
25-26	79 865	417	5.22	40.88	79 656	191.02	3 264 825	24.46
26-27	79 448	428	5.39	40.09	79 234	185.13	3 185 169	24.94
27-28	79 020	438	5.54	39.31	78 801	179.91	3 105 935	25.44
28-29	78 582	448	5.70	38.52	78 358	174.91	3 027 134	25.96
29-30	78 134	458	5.86	37.74	77 905	170.10	2 948 776	26.50
30-31	77 676	469	6.03	36.96	77 441	165.12	2 870 871	27.06
31-32	77 207	480	6.23	36.18	76 967	160.35	2 793 430	27.64
32-33	76 727	495	6.45	35.40	76 479	154.50	2 716 463	28.25
33-34	76 232	509	6.68	34.63	75 977	149.27	2 639 984	28.88
34-35	75 723	523	6.90	33.86	75 462	144.29	2 564 007	29.53
35-36	75 200	536	7.13	33.09	74 932	139.80	2 488 545	30.22
36-37	74 664	547	7.33	32.33	74 390	136.00	2 413 613	30.93
37-38	74 117	556	7.50	31.56	73 839	132.80	2 339 223	31.69
38-39	73 561	564	7.66	30.80	73 279	129.93	2 265 384	32.47
39-40	72 997	572	7.84	30.03	72 711	127.12	2 192 105	33.30
40-41	72 425	582	8.03	29.26	72 134	123.94	2 119 394	34.18
41-42	71 843	594	8.28	28.50	71 546	120.45	2 047 260	35.09
42-43	71 249	613	8.60	27.73	70 942	115.73	1 975 714	36.06
43-44	70 636	635	8.99	26.97	70 318	110.74	1 904 772	37.08
44-45	70 001	660	9.42	26.21	69 671	105.56	1 834 454	38.15

ORIGINAL REGISTRATION STATES: 1910. TABLE 12

REPORTED DEATHS IN 1909 (160,227), IN 1910 (170,233), AND IN 1911 (165,918).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 341	687	9.91	25.45	68 998	100.43	1 764 783	39.29
46-47	68 654	716	10.43	24.70	68 296	95.39	1 695 785	40.49
47-48	67 938	743	10.94	23.96	67 567	90.94	1 627 489	41.74
48-49	67 195	769	11.45	23.21	66 811	86.88	1 559 922	43.08
49-50	66 426	797	12.01	22.48	66 027	82.84	1 493 111	44.48
50-51	65 629	827	12.59	21.74	65 216	78.86	1 427 084	46.00
51-52	64 802	860	13.28	21.02	64 372	74.85	1 361 868	47.57
52-53	63 942	905	14.15	20.29	63 490	70.15	1 297 496	49.29
53-54	63 037	961	15.24	19.58	62 557	65.10	1 234 006	51.07
54-55	62 076	1 023	16.48	18.87	61 565	60.18	1 171 449	52.99
55-56	61 053	1 094	17.93	18.18	60 506	55.31	1 109 884	55.01
56-57	59 959	1 169	19.50	17.50	59 374	50.79	1 049 378	57.14
57-58	58 790	1 236	21.03	16.84	58 172	47.06	990 004	59.38
58-59	57 554	1 296	22.51	16.19	56 906	43.91	931 832	61.77
59-60	56 258	1 358	24.13	15.55	55 579	40.93	874 926	64.31
60-61	54 900	1 418	25.83	14.92	54 191	38.22	819 347	67.02
61-62	53 482	1 483	27.74	14.31	52 740	35.56	765 156	69.88
62-63	51 999	1 559	29.97	13.70	51 219	32.85	712 416	72.99
63-64	50 440	1 640	32.51	13.11	49 620	30.26	661 197	76.28
64-65	48 800	1 714	35.13	12.53	47 943	27.97	611 577	79.81
65-66	47 086	1 783	37.86	11.97	46 194	25.91	563 634	83.54
66-67	45 303	1 850	40.84	11.42	44 378	23.99	517 440	87.57
67-68	43 453	1 920	44.19	10.89	42 493	22.13	473 062	91.83
68-69	41 533	1 992	47.96	10.37	40 537	20.35	430 569	96.43
69-70	39 541	2 059	52.07	9.86	38 511	18.70	390 032	101.42
70-71	37 482	2 123	56.63	9.38	36 420	17.15	351 521	106.61
71-72	35 359	2 173	61.45	8.91	34 273	15.77	315 101	112.23
72-73	33 186	2 201	66.33	8.46	32 086	14.58	280 828	118.20
73-74	30 985	2 209	71.29	8.03	29 881	13.53	248 742	124.53
74-75	28 776	2 207	76.70	7.61	27 673	12.54	218 861	131.41
75-76	26 569	2 192	82.52	7.20	25 473	11.62	191 188	138.89
76-77	24 377	2 167	88.88	6.80	23 293	10.75	165 715	147.06
77-78	22 210	2 134	96.09	6.41	21 143	9.91	142 422	156.01
78-79	20 076	2 096	104.42	6.04	19 028	9.08	121 279	165.56
79-80	17 980	2 051	114.06	5.69	16 954	8.27	102 251	175.75
80-81	15 929	2 004	125.79	5.35	14 927	7.45	85 297	186.92
81-82	13 925	1 924	138.19	5.05	12 963	6.74	70 370	198.02
82-83	12 001	1 789	149.10	4.78	11 106	6.21	57 407	209.21
83-84	10 212	1 615	158.11	4.53	9 404	5.82	46 301	220.75
84-85	8 597	1 445	168.04	4.29	7 875	5.45	36 897	233.10
85-86	7 152	1 275	178.32	4.06	6 515	5.11	29 022	246.31
86-87	5 877	1 115	189.67	3.83	5 320	4.77	22 507	261.10
87-88	4 762	962	202.11	3.61	4 281	4.45	17 187	277.01
88-89	3 800	820	215.85	3.40	3 390	4.13	12 906	294.12
89-90	2 980	689	231.05	3.19	2 635	3.83	9 516	313.48
90-91	2 291	567	247.59	3.00	2 008	3.54	6 881	333.33
91-92	1 724	457	265.04	2.83	1 495	3.27	4 873	353.36
92-93	1 267	358	282.82	2.67	1 088	3.04	3 378	374.53
93-94	909	273	300.44	2.52	772	2.83	2 290	396.83
94-95	636	202	317.60	2.39	535	2.65	1 518	418.41
95-96	434	145	334.23	2.27	361	2.49	983	440.53
96-97	289	101	350.48	2.15	238	2.35	622	465.12
97-98	188	69	366.82	2.05	153	2.23	384	487.80
98-99	119	46	383.80	1.94	96	2.11	231	515.46
99-100	73	29	401.79	1.84	58	1.99	135	543.48
100-101	44	19	420.99	1.74	35	1.88	77	574.71
101-102	25	11	441.52	1.65	20	1.76	42	606.06
102-103	14	6	463.45	1.55	11	1.66	22	645.16
103-104	8	4	486.68	1.46	6	1.55	11	684.93
104-105	4	2	511.19	1.37	3	1.46	5	729.93
105-106	2	1	537.06	1.29	1	1.36	2	775.19
106-107	1	1	565.19	1.21	1	1.27	1	826.45

TABLE 13 LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (189,365), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	7 824	78.24	32.54	7 844	12.00	3 253 580	30.73
1-2	92 176	2 552	27.69	35.21	7 575	35.64	3 245 736	28.40
2-3	89 624	2 328	25.98	36.13	7 372	38.04	3 238 161	27.68
3-4	87 296	2 137	24.48	37.01	7 186	40.32	3 230 789	27.02
4-5	85 159	1 946	22.84	37.85	7 016	43.32	3 223 603	26.42
5-6	83 213	1 752	21.07	38.65	6 864	47.04	3 216 587	25.87
6-7	81 461	1 567	19.23	39.40	6 723	51.48	3 209 726	25.38
7-8	79 894	1 374	17.20	40.09	6 601	57.60	3 203 003	24.94
8-9	78 520	1 194	15.20	40.71	6 494	65.28	3 196 402	24.56
9-10	77 326	1 019	13.18	41.25	6 401	75.36	3 189 908	24.24
10-11	76 307	871	11.42	41.72	6 323	87.12	3 183 507	23.97
11 12	75 436	762	10.09	42.12	6 255	98.52	3 177 184	23.74
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	25 326	253.26	32.54	82 651	3.26	3 253 580	30.73
1-2	74 674	5 772	77.31	42.46	71 268	12.35	3 170 929	23.55
2-3	68 902	2 361	34.26	44.99	67 650	28.65	3 099 661	22.23
3-4	66 541	1 216	18.28	45.57	65 908	54.20	3 032 011	21.94
4-5	65 325	940	14.39	45.41	64 836	68.97	2 966 103	22.02
5-6	64 385	700	10.87	45.06	64 035	91.48	2 901 267	22.19
6-7	63 685	591	9.29	44.55	63 389	107.26	2 837 232	22.45
7-8	63 094	509	8.05	43.96	62 840	123.46	2 773 843	22.75
8 9	62 585	447	7.15	43.32	62 362	139.51	2 711 003	23.08
9-10	62 138	408	6.56	42.63	61 934	151.80	2 648 641	23.46
10-11	61 730	387	6.28	41.90	61 536	159.01	2 586 707	23.87
11-12	61 343	386	6.29	41.16	61 150	158.42	2 525 171	24.30
12-13	60 957	400	6.55	40.42	60 757	151.89	2 464 021	24.74
13 14	60 557	426	7.05	39.69	60 344	141.65	2 403 264	25.20
14-15	60 131	464	7.71	38.96	59 899	129.09	2 342 920	25.67
15-16	59 667	508	8.51	38.26	59 413	116.95	2 283 021	26.14
16 17	59 159	553	9.36	37.59	58 883	106.48	2 223 608	26.60
17-18	58 606	595	10.14	36.94	58 308	98.00	2 164 725	27.07
18-19	58 011	626	10.79	36.31	57 698	92.17	2 106 417	27.54
19 20	57 385	652	11.37	35.70	57 059	87.51	2 048 719	28.01
20-21	56 733	675	11.89	35.11	56 396	83.55	1 991 660	28.48
21-22	56 058	687	12.27	34.52	55 714	81.10	1 935 264	28.97
22-23	55 371	694	12.53	33.94	55 024	79.29	1 879 550	29.46
23-24	54 677	696	12.72	33.37	54 329	78.06	1 824 526	29.97
24-25	53 981	696	12.89	32.79	53 633	77.06	1 770 197	30.50
25-26	53 285	696	13.07	32.21	52 937	76.06	1 716 564	31.05
26-27	52 589	693	13.18	31.63	52 243	75.39	1 663 627	31.62
27-28	51 896	686	13.22	31.05	51 553	75.15	1 611 384	32.21
28-29	51 210	676	13.21	30.46	50 872	75.25	1 559 831	32.83
29-30	50 534	667	13.20	29.86	50 200	75.26	1 508 959	33.49
30-31	49 867	657	13.17	29.25	49 539	75.40	1 458 759	34.19
31-32	49 210	652	13.26	28.64	48 884	74.98	1 409 220	34.92
32-33	48 558	659	13.58	28.01	48 228	73.18	1 360 336	35.70
33-34	47 899	673	14.04	27.39	47 562	70.67	1 312 108	36.51
34-35	47 226	685	14.51	26.78	46 883	68.44	1 264 546	37.34
35-36	46 541	701	15.05	26.16	46 190	65.89	1 217 663	38.23
36-37	45 840	711	15.51	25.56	45 485	63.97	1 171 473	39.12
37-38	45 129	714	15.82	24.95	44 772	62.71	1 125 988	40.08
38-39	44 415	713	16.05	24.34	44 059	61.79	1 081 216	41.08
39-40	43 702	713	16.32	23.73	43 346	60.79	1 037 157	42.14
40-41	42 989	713	16.58	23.12	42 633	59.79	993 811	43.25
41-42	42 276	720	17.03	22.50	41 916	58.22	951 178	44.44
42-43	41 556	741	17.84	21.88	41 186	55.58	909 262	45.70
43-44	40 815	774	18.97	21.27	40 428	52.23	868 076	47.01
44-45	40 041	811	20.25	20.67	39 635	48.87	827 648	48.38

ORIGINAL REGISTRATION STATES: 1901. TABLE 13

REPORTED DEATHS IN 1900 (4,972), IN 1901 (5,030), AND IN 1902 (4,986).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	39 230	857	21.85	20.09	38 801	45.28	788 013	49.78
46-47	38 373	896	23.34	19.52	37 925	42.33	749 212	51.23
47-48	37 477	909	24.25	18.98	37 023	40.73	711 287	52.69
48-49	36 568	903	24.70	18.44	36 117	40.00	674 264	54.23
49-50	35 665	899	25.20	17.89	35 216	39.17	638 147	55.90
50-51	34 766	887	25.53	17.34	34 323	38.70	602 931	57.67
51-52	33 879	894	26.38	16.78	33 432	37.40	568 608	59.59
52-53	32 985	933	28.29	16.22	32 519	34.85	535 176	61.65
53-54	32 052	999	31.17	15.68	31 552	31.58	502 657	63.78
54-55	31 053	1 066	34.33	15.17	30 520	28.63	471 105	65.92
55-56	29 987	1 145	38.18	14.69	29 414	25.69	440 585	68.07
56-57	28 842	1 199	41.57	14.26	28 242	23.55	411 171	70.13
57-58	27 643	1 194	43.21	13.85	27 046	22.65	382 929	72.20
58-59	26 449	1 148	43.38	13.46	25 875	22.54	355 883	74.29
59-60	25 301	1 107	43.77	13.04	24 747	22.36	330 008	76.69
60-61	24 194	1 064	43.98	12.62	23 662	22.24	305 261	79.24
61-62	23 130	1 032	44.58	12.17	22 614	21.91	281 599	82.17
62-63	22 098	1 022	46.24	11.72	21 587	21.12	258 985	85.32
63-64	21 076	1 029	48.86	11.26	20 562	19.98	237 398	88.81
64-65	20 047	1 032	51.45	10.82	19 531	18.93	216 836	92.42
65-66	19 015	1 030	54.18	10.38	18 500	17.96	197 305	96.34
66-67	17 985	1 033	57.45	9.94	17 468	16.91	178 805	100.60
67-68	16 952	1 039	61.26	9.52	16 433	15.82	161 337	105.04
68-69	15 913	1 041	65.46	9.11	15 393	14.79	144 904	109.77
69-70	14 872	1 043	70.10	8.71	14 351	13.76	129 511	114.81
70-71	13 829	1 041	75.32	8.33	13 309	12.78	115 160	120.05
71-72	12 788	1 027	80.32	7.96	12 274	11.95	101 851	125.63
72-73	11 761	997	84.71	7.62	11 262	11.30	89 577	131.23
73-74	10 764	956	88.80	7.28	10 286	10.76	78 315	137.36
74-75	9 808	916	93.43	6.94	9 350	10.21	68 029	144.09
75-76	8 892	885	99.51	6.60	8 450	9.55	58 679	151.52
76-77	8 007	852	106.41	6.27	7 581	8.90	50 229	159.49
77-78	7 155	817	114.15	5.96	6 747	8.26	42 648	167.79
78-79	6 338	776	122.54	5.66	5 950	7.67	35 901	176.68
79-80	5 562	731	131.41	5.38	5 196	7.11	29 951	185.87
80 81	4 831	679	140.53	5.12	4 491	6.62	24 755	195.31
81-82	4 152	622	149.78	4.88	3 841	6.18	20 264	204.92
82-83	3 530	561	159.08	4.65	3 249	5.79	16 423	215.05
83-84	2 969	500	168.42	4.44	2 719	5.44	13 174	225.23
84-85	2 469	439	177.82	4.24	2 249	5.12	10 455	235.85
85-86	2 030	381	187.43	4.04	1 839	4.84	8 206	247.52
86-87	1 649	325	197.26	3.86	1 487	4.57	6 367	259.07
87-88	1 324	275	207.34	3.69	1 187	4.32	4 880	271.00
88-89	1 049	228	217.64	3.52	935	4.09	3 693	284.09
89-90	821	187	228.23	3.36	727	3.88	2 758	297.62
90-91	634	152	239.16	3.21	558	3.68	2 031	311.53
91-92	482	121	250.57	3.06	422	3.49	1 473	326.80
92-93	361	95	262.57	2.91	314	3.31	1 051	343.64
93-94	266	73	275.30	2.77	230	3.13	737	361.01
94-95	193	56	288.84	2.63	165	2.96	507	380.23
95-96	137	41	303.30	2.50	116	2.80	342	400.00
96-97	96	31	318.55	2.37	80	2.64	226	421.94
97-98	65	22	334.71	2.25	54	2.49	146	444.44
98-99	43	15	351.88	2.13	36	2.34	92	469.48
99-100	28	10	370.13	2.01	23	2.20	56	497.51
100-101	18	7	389.55	1.89	14	2.07	33	529.10
101-102	11	5	410.24	1.78	9	1.94	19	561.80
102-103	6	2	432.32	1.68	5	1.81	10	595.24
103-104	4	2	455.93	1.57	3	1.69	5	636.94
104-105	2	1	481.22	1.47	1	1.58	2	680.27
105-106	1	1	508.37	1.38	1	1.47	1	724.64

TABLE 14 — LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (206,061), AND ON THE 1907 (5,903), IN 1908 (5,560), IN

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	8 116	81.16	32.57	7 826	11.52	3 256 596	30.70
1-2	91 884	2 277	24.78	35.36	7 562	39.84	3 248 770	28.28
2-3	89 607	2 023	22.57	36.17	7 383	43.80	3 241 208	27.65
3-4	87 584	1 846	21.08	36.92	7 222	46.92	3 233 825	27.09
4-5	85 738	1 689	19.71	37.63	7 074	50.28	3 226 603	26.57
5-6	84 049	1 549	18.42	38.31	6 940	53.76	3 219 529	26.10
6-7	82 500	1 408	17.07	38.94	6 816	58.08	3 212 589	25.68
7-8	81 092	1 271	15.67	39.53	6 705	63.36	3 205 773	25.30
8-9	79 821	1 141	14.30	40.08	6 604	69.48	3 199 068	24.95
9-10	78 680	1 024	13.01	40.58	6 514	76.32	3 192 464	24.64
10-11	77 656	928	11.96	41.03	6 433	83.16	3 185 950	24.37
11-12	76 728	869	11.32	41.44	6 358	87.84	3 179 517	24.13
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	24 141	241.41	32.57	83 437	3.46	3 256 596	30.70
1-2	75 859	5 649	74.47	41.83	72 526	12.84	3 173 159	23.91
2-3	70 210	2 356	33.55	44.16	68 961	29.27	3 100 633	22.64
3-4	67 854	1 288	18.99	44.68	67 184	52.16	3 031 672	22.38
4-5	66 566	850	12.76	44.53	66 124	77.79	2 964 488	22.46
5-6	65 716	638	9.72	44.10	65 397	102.50	2 898 364	22.68
6-7	65 078	544	8.35	43.53	64 806	119.13	2 832 967	22.97
7-8	64 534	470	7.29	42.89	64 299	136.81	2 768 161	23.32
8-9	64 064	418	6.52	42.21	63 855	152.76	2 703 862	23.69
9-10	63 646	385	6.05	41.48	63 454	164.82	2 640 007	24.11
10-11	63 261	370	5.85	40.73	63 076	170.48	2 576 553	24.55
11-12	62 891	372	5.92	39.97	62 705	168.56	2 513 477	25.02
12-13	62 519	390	6.24	39.20	62 324	159.81	2 450 772	25.51
13-14	62 129	422	6.79	38.44	61 918	146.73	2 388 448	26.01
14-15	61 707	462	7.49	37.70	61 476	133.06	2 326 530	26.53
15-16	61 245	509	8.31	36.98	60 991	119.83	2 265 054	27.04
16-17	60 736	561	9.25	36.29	60 455	107.76	2 204 063	27.56
17-18	60 175	616	10.23	35.62	59 867	97.19	2 143 608	28.07
18-19	59 559	661	11.10	34.99	59 228	89.60	2 083 741	28.58
19-20	58 898	700	11.88	34.37	58 548	83.64	2 024 513	29.10
20-21	58 198	734	12.61	33.78	57 831	78.79	1 965 965	29.60
21-22	57 464	752	13.09	33.21	57 088	75.91	1 908 134	30.11
22-23	56 712	754	13.29	32.64	56 335	74.71	1 851 046	30.64
23-24	55 958	746	13.34	32.07	55 585	74.51	1 794 711	31.18
24-25	55 212	740	13.41	31.50	54 842	74.11	1 739 126	31.75
25-26	54 472	733	13.46	30.92	54 105	73.81	1 684 284	32.34
26-27	53 739	729	13.56	30.34	53 374	73.22	1 630 179	32.96
27-28	53 010	729	13.76	29.75	52 645	72.22	1 576 805	33.61
28-29	52 281	735	14.06	29.15	51 913	70.63	1 524 160	34.31
29-30	51 546	741	14.37	28.56	51 175	69.06	1 472 247	35.01
30-31	50 805	746	14.69	27.97	50 432	67.60	1 421 072	35.75
31-32	50 059	757	15.12	27.38	49 681	65.63	1 370 640	36.52
32-33	49 302	772	15.66	26.79	48 916	63.36	1 320 959	37.33
33-34	48 530	788	16.24	26.21	48 136	61.09	1 272 043	38.15
34-35	47 742	804	16.84	25.64	47 340	58.88	1 223 907	39.00
35-36	46 938	820	17.49	25.07	46 528	56.74	1 176 567	39.89
36-37	46 118	830	17.99	24.50	45 703	55.06	1 130 039	40.82
37-38	45 288	827	18.25	23.94	44 875	54.26	1 084 336	41.77
38-39	44 461	817	18.38	23.38	44 053	53.92	1 039 461	42.77
39-40	43 644	808	18.53	22.81	43 240	53.51	995 408	43.84
40-41	42 836	799	18.66	22.23	42 436	53.11	952 168	44.98
41-42	42 037	798	18.98	21.64	41 638	52.18	909 732	46.21
42-43	41 239	811	19.66	21.05	40 833	50.35	868 094	47.51
43-44	40 428	837	20.69	20.46	40 010	47.80	827 261	48.88
44-45	39 591	865	21.86	19.88	39 159	45.27	787 251	50.30

ORIGINAL REGISTRATION STATES: 1901 TO 1910. TABLE 14

REPORTED DEATHS IN 1901 (5,030), IN 1902 (4,986), IN 1903 (5,231), IN 1904 (5,729), IN 1905 (5,700), IN 1906 (5,734), IN 1909 (5,531), AND IN 1910 (6,052).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of nnmbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	38 726	902	23.30	19.32	38 275	42.43	748 092	51.76
46-47	37 824	937	24.77	18.77	37 355	39.87	709 817	53.28
47-48	36 887	955	25.88	18.23	36 410	38.13	672 462	54.85
48-49	35 932	957	26.64	17.70	35 454	37.05	636 052	56.50
49-50	34 975	959	27.44	17.17	34 495	35.97	600 598	58.24
50-51	34 016	958	28.15	16.64	33 537	35.01	566 103	60.10
51-52	33 058	961	29.08	16.11	32 577	33.90	532 566	62.07
52-53	32 097	981	30.57	15.58	31 606	32.22	499 989	64.18
53-54	31 116	1 017	32.66	15.05	30 607	30.10	468 383	66.45
54-55	30 099	1 054	35.02	14.54	29 572	28.06	437 776	68.78
55-56	29 045	1 099	37.86	14.05	28 495	25.93	408 204	71.17
56-57	27 946	1 141	40.83	13.59	27 375	23.99	379 709	73.58
57-58	26 805	1 159	43.23	13.14	26 225	22.63	352 334	76.10
58-59	25 646	1 156	45.06	12.72	25 068	21.69	326 109	78.62
59-60	24 490	1 152	47.07	12.29	23 914	20.76	301 041	81.37
60-61	23 338	1 144	49.02	11.87	22 766	19.90	277 127	84.25
61-62	22 194	1 140	51.37	11.46	21 624	18.97	254 361	87.26
62-63	21 054	1 150	54.62	11.05	20 479	17.81	232 737	90.50
63-64	19 904	1 167	58.63	10.66	19 320	16.56	212 258	93.81
64-65	18 737	1 176	62.76	10.30	18 149	15.43	192 938	97.09
65-66	17 561	1 157	65.88	9.95	16 982	14.68	174 789	100.50
66-67	16 404	1 125	68.58	9.62	15 841	14.08	157 807	103.95
67-68	15 279	1 083	70.85	9.29	14 738	13.61	141 966	107.64
68-69	14 196	1 034	72.90	8.96	13 679	13.23	127 228	111.61
69-70	13 162	989	75.08	8.63	12 667	12.81	113 549	115.87
70-71	12 173	947	77.84	8.29	11 700	12.35	100 882	120.63
71-72	11 226	915	81.50	7.94	10 768	11.77	89 182	125.94
72-73	10 311	889	86.24	7.60	9 866	11.10	78 414	131.58
73-74	9 422	867	91.98	7.28	8 988	10.37	68 548	137.36
74-75	8 555	842	98.42	6.96	8 134	9.66	59 560	143.68
75-76	7 713	811	105.18	6.67	7 307	9.01	51 426	149.93
76-77	6 902	772	111.89	6.39	6 516	8.44	44 119	156.49
77-78	6 130	726	118.32	6.13	5 767	7.94	37 603	163.13
78-79	5 404	672	124.36	5.89	5 068	7.54	31 836	169.78
79-80	4 732	615	130.11	5.66	4 424	7.19	26 768	176.68
80-81	4 117	559	135.72	5.43	3 837	6.87	22 344	184.16
81-82	3 558	503	141.43	5.20	3 306	6.57	18 507	192.31
82-83	3 055	451	147.44	4.98	2 829	6.28	15 201	200.80
83-84	2 604	401	153.95	4.75	2 404	6.00	12 372	210.53
84-85	2 203	355	161.14	4.52	2 026	5.71	9 968	221.24
85-86	1 848	312	169.23	4.30	1 692	5.41	7 942	232.56
86-87	1 536	274	178.40	4.07	1 399	5.11	6 250	245.70
87-88	1 262	239	188.84	3.85	1 142	4.80	4 851	259.74
88-89	1 023	205	200.67	3.62	921	4.48	3 709	276.24
89-90	818	175	213.97	3.41	730	4.17	2 788	293.26
90-91	643	147	228.69	3.20	569	3.87	2 058	312.50
91-92	496	121	244.71	3.00	435	3.59	1 489	333.33
92-93	375	99	261.92	2.81	326	3.32	1 054	355.87
93-94	276	77	280.22	2.63	238	3.07	728	380.23
94-95	199	60	299.59	2.46	169	2.84	490	406.50
95-96	139	44	320.05	2.30	117	2.62	321	434.78
96-97	95	33	341.66	2.15	79	2.43	204	465.12
97-98	62	22	364.52	2.01	51	2.24	125	497.51
98-99	40	16	388.71	1.87	32	2.07	74	534.76
99-100	24	10	414.27	1.74	19	1.91	42	574.71
100-101	14	6	441.24	1.62	11	1.77	23	617.28
101-102	8	4	469.67	1.51	6	1.63	12	662.25
102-103	4	2	499.60	1.40	3	1.50	6	714.29
103-104	2	1	531.06	1.30	2	1.38	3	769.23
104-105	1	1	564.06	1.20	1	1.27	1	833.33

TABLE 15 LIFE TABLE FOR NEGRO MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (223,884), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	7 370	73.70	34.05	7 873	12.84	3 405 206	29.37
1-2	92 630	1 977	21.35	36.68	7 637	46.32	3 397 333	27.26
2-3	90 653	1 831	20.19	37.39	7 478	48.96	3 389 696	26.75
3-4	88 822	1 695	19.09	38.08	7 331	51.96	3 382 218	26.26
4-5	87 127	1 561	17.91	38.74	7 196	55.32	3 374 887	25.81
5-6	85 566	1 425	16.66	39.36	7 071	59.52	3 367 691	25.41
6-7	84 141	1 290	15.33	39.94	6 958	64.68	3 360 620	25.04
7-8	82 851	1 153	13.93	40.48	6 856	71.40	3 353 662	24.70
8-9	81 698	1 037	12.69	40.97	6 765	78.24	3 346 806	24.41
9-10	80 661	937	11.62	41.41	6 683	85.56	3 340 041	24.15
10-11	79 724	857	10.75	41.81	6 608	92.52	3 333 358	23.92
11-12	78 867	802	10.16	42.18	6 539	97.80	3 326 750	23.71
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	21 935	219.35	34.05	84 995	3.87	3 405 206	29.37
1-2	78 065	5 216	66.82	42.53	74 988	14.38	3 320 211	23.51
2-3	72 849	2 341	32.14	44.55	71 608	30.59	3 245 223	22.45
3-4	70 508	1 197	16.97	45.01	69 885	58.38	3 173 615	22.22
4-5	69 311	722	10.42	44.78	68 936	95.48	3 103 730	22.33
5-6	68 589	587	8.56	44.25	68 295	116.35	3 034 794	22.60
6-7	68 002	492	7.22	43.62	67 756	137.72	2 966 499	22.93
7-8	67 510	420	6.22	42.94	67 300	160.24	2 898 743	23.29
8-9	67 090	371	5.53	42.20	66 905	180.34	2 831 443	23.70
9-10	66 719	342	5.14	41.44	66 548	194.58	2 764 538	24.13
10-11	66 377	334	5.02	40.65	66 210	198.23	2 697 990	24.60
11-12	66 043	342	5.18	39.85	65 872	192.61	2 631 780	25.09
12-13	65 701	366	5.58	39.05	65 518	179.01	2 565 908	25.61
13-14	65 335	405	6.19	38.27	65 133	160.82	2 500 390	26.13
14-15	64 930	452	6.97	37.51	64 704	143.15	2 435 257	26.66
15-16	64 478	508	7.87	36.77	64 224	126.43	2 370 553	27.20
16-17	63 970	565	8.84	36.05	63 687	112.72	2 306 329	27.74
17-18	63 405	619	9.75	35.37	63 095	101.93	2 242 642	28.27
18-19	62 786	661	10.53	34.71	62 456	94.49	2 179 547	28.81
19-20	62 125	699	11.26	34.08	61 775	88.38	2 117 091	29.34
20-21	61 426	735	11.96	33.46	61 059	83.07	2 055 316	29.89
21-22	60 691	751	12.39	32.86	60 315	80.31	1 994 257	30.43
22-23	59 940	748	12.47	32.26	59 566	79.63	1 933 942	31.00
23-24	59 192	734	12.39	31.67	58 825	80.14	1 874 376	31.58
24-25	58 458	722	12.35	31.06	58 097	80.47	1 815 551	32.20
25-26	57 736	709	12.28	30.44	57 382	80.93	1 757 454	32.85
26-27	57 027	706	12.40	29.81	56 674	80.27	1 700 072	33.55
27-28	56 321	722	12.82	29.18	55 960	77.51	1 643 398	34.27
28-29	55 599	750	13.48	28.55	55 224	73.63	1 587 438	35.03
29-30	54 849	776	14.16	27.94	54 461	70.18	1 532 214	35.79
30-31	54 073	809	14.96	27.33	53 668	66.34	1 477 753	36.59
31-32	53 264	837	15.71	26.74	52 845	63.14	1 424 085	37.40
32-33	52 427	850	16.22	26.16	52 002	61.18	1 371 240	38.23
33-34	51 577	854	16.55	25.58	51 150	59.89	1 319 238	39.09
34-35	50 723	858	16.92	25.00	50 294	58.62	1 268 088	40.00
35-36	49 865	862	17.28	24.42	49 434	57.35	1 217 794	40.95
36-37	49 003	868	17.73	23.84	48 569	55.96	1 168 360	41.95
37-38	48 135	885	18.38	23.26	47 692	53.89	1 119 791	42.99
38-39	47 250	907	19.19	22.69	46 797	51.60	1 072 099	44.07
39-40	46 343	929	20.05	22.12	45 878	49.38	1 025 302	45.21
40-41	45 414	955	21.03	21.57	44 936	47.05	979 424	46.36
41-42	44 459	973	21.89	21.02	43 972	45.19	934 488	47.57
42-43	43 486	977	22.47	20.48	42 997	44.01	890 516	48.83
43-44	42 509	973	22.89	19.94	42 022	43.19	847 519	50.15
44-45	41 536	973	23.42	19.39	41 049	42.19	805 497	51.57

ORIGINAL REGISTRATION STATES: 1910. TABLE 15

REPORTED DEATHS IN 1909 (5,531), IN 1910 (6,052), AND IN 1911 (5,888).

Michigan, and the District of Columbia An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	40 563	973	23.99	18.85	40 076	41.19	764 448	53.05
46-47	39 590	988	24.96	18.30	39 096	39.57	724 372	54.64
47-48	38 602	1 023	26.49	17.75	38 090	37.23	685 276	56.34
48-49	37 579	1 061	28.24	17.22	37 048	34.92	647 186	58.07
49-50	36 518	1 091	29.86	16.71	35 972	32.97	610 138	59.84
50-51	35 427	1 113	31.42	16.21	34 871	31.33	574 166	61.69
51-52	34 314	1 126	32.81	15.72	33 751	29.97	539 295	63.61
52-53	33 188	1 133	34.16	15.23	32 622	28.79	505 544	65.66
53-54	32 055	1 144	35.68	14.75	31 483	27.52	472 922	67.80
54-55	30 911	1 157	37.43	14.28	30 333	26.22	441 439	70.03
55-56	29 754	1 175	39.50	13.82	29 167	24.82	411 106	72.36
56-57	28 579	1 196	41.85	13.36	27 981	23.40	381 939	74.85
57-58	27 383	1 210	44.17	12.93	26 778	22.13	353 958	77.34
58-59	26 173	1 211	46.30	12.50	25 567	21.11	327 180	80.00
59-60	24 962	1 212	48.53	12.08	24 356	20.10	301 613	82.78
60-61	23 750	1 206	50.79	11.67	23 147	19.19	277 257	85.69
61-62	22 544	1 198	53.14	11.27	21 945	18.32	254 110	88.73
62-63	21 346	1 190	55.76	10.88	20 751	17.44	232 165	91.91
63-64	20 156	1 182	58.65	10.49	19 565	16.55	211 414	95.33
64-65	18 974	1 168	61.52	10.11	18 390	15.74	191 849	98.91
65-66	17 806	1 145	64.33	9.74	17 234	15.05	173 459	102.67
66-67	16 661	1 123	67.40	9.38	16 099	14.34	156 225	106.61
67-68	15 538	1 102	70.93	9.02	14 987	13.60	140 126	110.86
68-69	14 436	1 082	74.96	8.67	13 895	12.84	125 139	115.34
69-70	13 354	1 059	79.27	8.33	12 824	12.11	111 244	120.05
70-71	12 295	1 032	83.98	8.00	11 779	11.41	98 420	125.00
71-72	11 263	1 002	88.92	7.69	10 762	10.74	86 641	130.04
72-73	10 261	964	93.94	7.39	9 779	10.14	75 879	135.32
73-74	9 297	922	99.17	7.11	8 836	9.58	66 100	140.65
74-75	8 375	881	105.27	6.84	7 934	9.01	57 264	146.20
75-76	7 494	846	112.77	6.58	7 071	8.36	49 330	151.98
76-77	6 648	797	119.97	6.36	6 250	7.84	42 259	157.23
77-78	5 851	730	124.82	6.15	5 486	7.52	36 009	162.60
78-79	5 121	651	127.14	5.96	4 795	7.37	30 523	167.79
79-80	4 470	576	128.82	5.76	4 182	7.26	25 728	173.61
80-81	3 894	511	131.27	5.53	3 638	7.12	21 546	180.83
81-82	3 383	466	137.57	5.29	3 150	6.77	17 908	189.04
82-83	2 917	426	146.08	5.06	2 704	6.35	14 758	197.63
83-84	2 491	390	156.61	4.84	2 296	5.89	12 054	206.61
84-85	2 101	354	168.31	4.64	1 924	5.44	9 758	215.52
85-86	1 747	314	179.82	4.48	1 590	5.06	7 834	223.21
86-87	1 433	272	189.67	4.36	1 297	4.77	6 244	229.36
87-88	1 161	228	196.74	4.26	1 047	4.58	4 947	234.74
88-89	933	187	200.57	4.18	839	4.49	3 900	239.23
89-90	746	151	201.59	4.10	671	4.46	3 061	243.90
90-91	595	119	201.01	4.01	536	4.47	2 390	249.38
91-92	476	96	200.52	3.89	428	4.49	1 854	257.07
92-93	380	76	201.86	3.75	342	4.45	1 426	266.67
93-94	304	63	206.44	3.57	272	4.34	1 084	280.11
94-95	241	52	215.03	3.37	215	4.15	812	296.74
95-96	189	43	227.76	3.15	168	3.89	597	317.46
96-97	146	36	244.29	2.93	128	3.59	429	341.30
97-98	110	29	263.98	2.72	96	3.29	301	367.65
98-99	81	23	286.16	2.51	70	2.99	205	398.41
99-100	58	18	310.34	2.32	49	2.72	135	431.03
100-101	40	13	336.29	2.14	33	2.47	86	467.29
101-102	27	10	363.98	1.97	22	2.25	53	507.61
102-103	17	7	393.51	1.81	14	2.04	31	552.49
103-104	10	4	425.09	1.66	8	1.85	17	602.41
104-105	6	3	458.83	1.53	5	1.68	9	653.59
105-106	3	1	495.02	1.40	2	1.52	4	714.29
106-107	2	1	533.75	1.27	1	1.37	2	787.40
107-108	1	1	575.15	1.16	1	1.24	1	862.07

TABLE 16 LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (206,944), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	6 072	60.72	35.04	7 954	15.72	3 504 421	28.54
1-2	93 928	2 108	22.44	37.22	7 740	44.04	3 496 467	26.87
2-3	91 820	1 933	21.05	38.00	7 571	47.04	3 488 727	26.32
3-4	89 887	1 777	19.77	38.73	7 417	50.04	3 481 156	25.82
4-5	88 110	1 635	18.55	39.43	7 274	53.40	3 473 739	25.36
5-6	86 475	1 492	17.25	40.09	7 144	57.48	3 466 465	24.94
6-7	84 983	1 355	15.95	40.71	7 025	62.16	3 459 321	24.56
7-8	83 628	1 232	14.73	41.28	6 918	67.44	3 452 296	24.22
8-9	82 396	1 107	13.45	41.81	6 820	73.92	3 445 378	23.92
9-10	81 289	1 004	12.35	42.30	6 732	80.52	3 438 558	23.64
10-11	80 285	913	11.37	42.75	6 652	87.48	3 431 826	23.39
11-12	79 372	847	10.68	43.15	6 579	93.24	3 425 174	23.17
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	21 475	214.75	35.04	85 826	4.00	3 504 421	28.54
1-2	78 525	5 515	70.24	43.54	75 271	13.65	3 418 595	22.97
2-3	73 010	2 578	35.30	45.79	71 644	27.79	3 343 324	21.84
3-4	70 432	1 353	19.21	46.45	69 729	51.54	3 271 680	21.53
4-5	69 079	1 023	14.82	46.35	68 547	67.01	3 201 951	21.57
5-6	68 056	718	10.54	46.04	67 697	94.29	3 133 404	21.72
6-7	67 338	630	9.36	45.53	67 023	106.39	3 065 707	21.96
7-8	66 708	567	8.50	44.95	66 425	117.15	2 998 684	22.25
8-9	66 141	525	7.95	44.33	65 879	125.48	2 932 259	22.56
9-10	65 616	505	7.70	43.68	65 363	129.43	2 866 380	22.89
10-11	65 111	503	7.72	43.02	64 859	128.94	2 801 017	23.25
11-12	64 608	515	7.97	42.35	64 351	124.95	2 736 158	23.61
12-13	64 093	538	8.39	41.69	63 824	118.63	2 671 807	23.99
13-14	63 555	568	8.94	41.04	63 271	111.39	2 607 983	24.37
14-15	62 987	603	9.57	40.40	62 686	103.96	2 544 712	24.75
15-16	62 384	640	10.26	39.79	62 064	96.98	2 482 026	25.13
16-17	61 744	667	10.80	39.19	61 411	92.07	2 419 962	25.52
17-18	61 077	676	11.08	38.62	60 739	89.85	2 358 551	25.89
18-19	60 401	675	11.17	38.04	60 064	88.98	2 297 812	26.29
19-20	59 726	673	11.28	37.47	59 390	88.25	2 237 748	26.69
20-21	59 053	673	11.39	36.89	58 717	87.25	2 178 358	27.11
21-22	58 380	666	11.42	36.31	58 047	87.16	2 119 641	27.54
22-23	57 714	655	11.34	35.72	57 386	87.61	2 061 594	28.00
23-24	57 059	639	11.20	35.13	56 740	88.79	2 004 208	28.47
24-25	56 420	625	11.07	34.52	56 108	89.77	1 947 468	28.97
25-26	55 795	609	10.92	33.90	55 491	91.12	1 891 360	29.50
26-27	55 186	599	10.86	33.27	54 886	91.63	1 835 869	30.06
27-28	54 587	598	10.96	32.63	54 288	90.78	1 780 983	30.65
28-29	53 989	605	11.19	31.98	53 687	88.74	1 726 695	31.27
29-30	53 384	611	11.46	31.34	53 079	86.87	1 673 008	31.91
30-31	52 773	623	11.80	30.70	52 461	84.21	1 619 929	32.57
31-32	52 150	636	12.19	30.06	51 832	81.50	1 567 468	33.27
32-33	51 514	644	12.50	29.42	51 192	79.49	1 515 636	33.99
33-34	50 870	648	12.75	28.79	50 546	78.00	1 464 444	34.73
34-35	50 222	655	13.05	28.15	49 894	76.17	1 413 898	35.52
35-36	49 567	663	13.38	27.52	49 235	74.26	1 364 004	36.34
36-37	48 904	672	13.74	26.88	48 568	72.27	1 314 769	37.20
37-38	48 232	683	14.16	26.25	47 890	70.12	1 266 201	38 10
38-39	47 549	696	14.63	25.62	47 201	67.82	1 218 311	39.03
39-40	46 853	707	15.11	25.00	46 499	65.77	1 171 110	40.00
40-41	46 146	719	15.56	24.37	45 786	63.68	1 124 611	41.03
41-42	45 427	734	16.18	23.75	45 060	61.39	1 078 825	42.11
42-43	44 693	764	17.09	23.13	44 311	58.00	1 033 765	43.23
43-44	43 929	804	18.29	22.52	43 527	54.14	989 454	44.40
44-45	43 125	846	19.63	21.93	42 702	50.48	945 927	45.60

ORIGINAL REGISTRATION STATES: 1901. TABLE 16

REPORTED DEATHS IN 1900 (4,982), IN 1901 (4,804), AND IN 1902 (4,732).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	42 279	901	21.30	21.36	41 828	46.42	903 225	46.82
46-47	41 378	939	22.70	20.82	40 908	43.57	861 397	48.03
47-48	40 439	942	23.28	20.29	39 968	42.43	820 489	49.29
48-49	39 497	918	23.25	19.76	39 038	42.53	780 521	50.61
49-50	38 579	898	23.28	19.22	38 130	42.46	741 483	52.03
50-51	37 681	873	23.18	18.67	37 244	42.66	703 353	53.56
51-52	36 808	865	23.50	18.10	36 375	42.05	666 109	55.25
52-53	35 943	888	24.69	17.52	35 499	39.98	629 734	57.08
53-54	35 055	937	26.74	16.95	34 587	36.91	594 235	59.00
54-55	34 118	994	29.12	16.40	33 621	33.82	559 648	60.98
55-56	33 124	1 068	32.25	15.88	32 590	30.51	526 027	62.97
56-57	32 056	1 135	35.42	15.39	31 489	27.74	493 437	64.98
57-58	30 921	1 154	37.32	14.94	30 344	26.29	461 948	66.93
58-59	29 767	1 130	37.98	14.50	29 202	25.84	431 604	68.97
59-60	28 637	1 113	38.84	14.05	28 080	25.23	402 402	71.17
60-61	27 524	1 087	39.51	13.60	26 981	24.82	374 322	73.53
61-62	26 437	1 074	40.64	13.14	25 900	24.12	347 341	76.10
62-63	25 363	1 089	42.91	12.67	24 818	22.79	321 441	78.93
63-64	24 274	1 124	46.30	12.22	23 712	21.10	296 623	81.83
64-65	23 150	1 155	49.89	11.79	22 573	19.54	272 911	84.82
65-66	21 995	1 189	54.07	11.38	21 401	18.00	250 338	87.87
66-67	20 806	1 209	58.10	11.00	20 202	16.71	228 937	90.91
67-68	19 597	1 194	60.92	10.65	19 000	15.91	208 735	93.90
68-69	18 403	1 152	62.61	10.31	17 827	15.47	189 735	96.99
69-70	17 251	1 111	64.44	9.97	16 695	15.03	171 908	100.30
70-71	16 140	1 066	66.00	9.62	15 607	14.64	155 213	103.95
71-72	15 074	1 026	68.07	9.26	14 561	14.19	139 606	107.99
72-73	14 048	1 004	71.49	8.90	13 546	13.49	125 045	112.36
73-74	13 044	996	76.31	8.55	12 546	12.60	111 499	116.96
74-75	12 048	982	81.53	8.21	11 557	11.77	98 953	121.80
75-76	11 066	961	86.86	7.90	10 586	11.02	87 396	126.58
76-77	10 105	923	91.38	7.60	9 643	10.45	76 810	131.58
77-78	9 182	878	95.54	7.32	8 743	9.96	67 167	136.61
78-79	8 304	825	99.37	7.04	7 892	9.57	58 424	142.05
79-80	7 479	771	103.07	6.76	7 094	9.20	50 532	147.93
80-81	6 708	718	107.04	6.48	6 349	8.84	43 438	154.32
81-82	5 990	669	111.70	6.19	5 656	8.45	37 089	161.55
82-83	5 321	625	117.44	5.91	5 009	8.01	31 433	169.20
83-84	4 696	584	124.40	5.63	4 404	7.54	26 424	177.62
84-85	4 112	545	132.48	5.36	3 840	7.05	22 020	186.57
85-86	3 567	504	141.35	5.10	3 315	6.57	18 180	196.08
86-87	3 063	461	150.61	4.85	2 832	6.14	14 865	206.19
87-88	2 602	416	159.93	4.63	2 391	5.75	12 033	215.98
88-89	2 186	370	169.16	4.41	2 001	5.41	9 639	226.76
89-90	1 816	324	178.38	4.21	1 654	5.11	7 638	237.53
90-91	1 492	280	187.80	4.01	1 352	4.82	5 984	249.38
91-92	1 212	240	197.72	3.82	1 092	4.56	4 632	261.78
92-93	972	202	208.31	3.64	871	4.30	3 540	274.73
93-94	770	169	219.62	3.47	685	4.05	2 669	288.18
94-95	601	139	231.52	3.31	531	3.82	1 984	302.11
95-96	462	113	243.76	3.15	405	3.60	1 453	317.46
96-97	349	89	256.13	3.00	304	3.40	1 048	333.33
97-98	260	70	268.49	2.87	225	3.22	744	348.43
98-99	190	53	280.84	2.74	163	3.06	519	364.96
99-100	137	40	293.38	2.61	117	2.91	356	383.14
100-101	97	30	306.41	2.49	82	2.76	239	401.61
101-102	67	21	320.25	2.36	56	2.62	157	423.73
102-103	46	16	335.55	2.24	38	2.48	101	446.43
103-104	30	10	352.15	2.12	25	2.34	63	471.70
104-105	20	8	370.24	2.00	16	2.20	38	500.00
105-106	12	4	390.04	1.88	10	2.06	22	531.91
106-107	8	4	411.86	1.76	6	1.93	12	568.18
107-108	4	2	436.07	1.64	3	1.79	6	609.76
108-109	2	1	463.19	1.52	2	1.66	3	657.89
109-110	1	1	493.91	1.40	1	1.52	1	714.29

TABLE 17 LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (222,906), AND ON THE 1907 (5,413), IN 1908 (5,333), IN

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables. are given on

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	6 417	64.17	35.65	7 932	14.88	3 564 820	28.05
1-2	93 583	1 935	20.68	38.01	7 718	47.88	3 556 888	26.31
2-3	91 648	1 784	19.47	38.73	7 563	50.88	3 549 170	25.82
3-4	89 864	1 644	18.29	39.41	7 420	54.12	3 541 607	25.37
4-5	88 220	1 504	17.05	40.06	7 289	58.20	3 534 187	24.96
5-6	86 716	1 375	15.85	40.67	7 169	62.52	3 526 898	24.59
6-7	85 341	1 253	14.69	41.24	7 060	67.56	3 519 729	24.25
7-8	84 088	1 139	13.54	41.77	6 960	73.32	3 512 669	23.94
8-9	82 949	1 028	12.40	42.26	6 870	80.16	3 505 709	23.66
9-10	81 921	929	11.34	42.71	6 788	87.72	3 498 839	23.41
10-11	80 992	842	10.39	43.12	6 714	95.64	3 492 051	23.19
11-12	80 150	774	9.65	43.49	6 647	103.08	3 485 337	22.99
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	20 624	206.24	35.65	86 130	4.18	3 564 820	28.05
1-2	79 376	5 175	65.20	43.83	76 323	14.75	3 478 690	22.82
2-3	74 201	2 314	31.19	45.85	72 974	31.54	3 402 367	21.81
3-4	71 887	1 313	18.26	46.31	71 204	54.23	3 329 393	21.59
4-5	70 574	917	12.99	46.17	70 097	76.44	3 258 189	21.66
5-6	69 657	725	10.42	45.77	69 294	95.58	3 188 092	21.85
6-7	68 932	596	8.64	45.24	68 634	115.16	3 118 798	22.10
7-8	68 336	503	7.36	44.63	68 084	135.36	3 050 164	22.41
8-9	67 833	445	6.56	43.96	67 611	151.93	2 982 080	22.75
9-10	67 388	419	6.21	43.25	67 179	160.33	2 914 469	23.12
10-11	66 969	420	6.27	42.52	66 759	158.95	2 847 290	23.52
11-12	66 549	444	6.68	41.78	66 327	149.39	2 780 531	23.93
12 13	66 105	487	7.36	41.06	65 862	135.24	2 714 204	24.35
13-14	65 618	538	8.21	40.36	65 349	121.47	2 648 342	24.78
14-15	65 080	599	9.21	39.69	64 780	108.15	2 582 993	25.20
15-16	64 481	667	10.34	39.05	64 148	96.17	2 518 213	25.61
16-17	63 814	712	11.17	38.46	63 458	89.13	2 454 065	26.00
17-18	63 102	724	11.47	37.88	62 740	86.66	2 390 607	26.40
18-19	62 378	715	11.47	37.32	62 020	86.74	2 327 867	26.80
19-20	61 663	711	11.52	36.75	61 307	86.23	2 265 847	27.21
20-21	60 952	706	11.58	36.17	60 599	85.83	2 204 540	27.65
21-22	60 246	699	11.62	35.59	59 896	85.69	2 143 941	28.10
22-23	59 547	694	11.65	35.00	59 200	85.30	2 084 045	28.57
23-24	58 853	688	11.68	34.41	58 509	85.04	2 024 845	29.06
24-25	58 165	680	11.70	33.81	57 825	85.04	1 966 336	29.58
25-26	57 485	673	11.70	33.20	57 148	84.92	1 908 511	30.12
26-27	56 812	667	11.74	32.59	56 479	84.68	1 851 363	30.68
27-28	56 145	664	11.83	31.97	55 813	84.06	1 794 884	31.28
28-29	55 481	665	11.98	31.35	55 149	82.93	1 739 071	31.90
29-30	54 816	666	12.15	30.72	54 483	81.81	1 683 922	32.55
30-31	54 150	669	12.37	30.09	53 815	80.44	1 629 439	33.23
31-32	53 481	676	12.63	29.46	53 143	78.61	1 575 624	33.94
32-33	52 805	680	12.89	28.83	52 465	77.15	1 522 481	34.69
33-34	52 125	686	13.15	28.20	51 782	75.48	1 470 016	35.46
34-35	51 439	691	13.43	27.57	51 094	73.94	1 418 234	36.27
35-36	50 748	697	13.73	26.94	50 400	72.31	1 367 140	37.12
36-37	50 051	705	14.10	26.31	49 698	70.49	1 316 740	38.01
37-38	49 346	719	14.57	25.68	48 986	68.13	1 267 042	38.94
38-39	48 627	736	15.13	25.05	48 259	65.57	1 218 056	39.92
39-40	47 891	754	15.74	24.43	47 514	63.02	1 169 797	40.93
40 41	47 137	772	16.39	23.81	46 751	60.56	1 122 283	42.00
41-42	46 365	793	17.09	23.20	45 969	57.97	1 075 532	43.10
42-43	45 572	815	17.89	22.59	45 165	55.42	1 029 563	44.27
43-44	44 757	841	18.79	21.99	44 337	52.72	984 398	45.48
44-45	43 916	871	19.84	21.41	43 481	49.92	940 061	46.71

ORIGINAL REGISTRATION STATES: 1901 TO 1910. TABLE 17

REPORTED DEATHS IN 1901 (4,804), IN 1902 (4,732), IN 1903 (5,042), IN 1904 (5,400), IN 1905 (5,403), IN 1906 (5,284), IN 1909 (5,025), AND IN 1910 (5,481).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	43 045	909	21.11	20.83	42 591	46.85	896 580	48.01
46-47	42 136	940	22.33	20.27	41 666	44.33	853 989	49.33
47-48	41 196	955	23.18	19.72	40 718	42.64	812 323	50.71
48-49	40 241	955	23.72	19.17	39 763	41.64	771 605	52.16
49-50	39 286	953	24.27	18.63	38 809	40.72	731 842	53.68
50-51	38 333	947	24.70	18.08	37 859	39.98	693 033	55.31
51-52	37 386	950	25.40	17.52	36 911	38.85	655 174	57.08
52-53	36 436	974	26.72	16.97	35 949	36.91	618 263	58.93
53-54	35 462	1 018	28.72	16.42	34 953	34.33	582 314	60.90
54-55	34 444	1 068	31.02	15.89	33 910	31.75	547 361	62.93
55-56	33 376	1 134	33.97	15.38	32 809	28.93	513 451	65.02
56-57	32 242	1 194	37.02	14.91	31 645	26.50	480 642	67.07
57-58	31 048	1 216	39.18	14.46	30 440	25.03	448 997	69.16
58-59	29 832	1 205	40.39	14.03	29 229	24.26	418 557	71.28
59-60	28 627	1 194	41.73	13.60	28 030	23.48	389 328	73.53
60-61	27 433	1 177	42.89	13.17	26 844	22.81	361 298	75.93
61-62	26 256	1 166	44.40	12.74	25 673	22.02	334 454	78.49
62-63	25 090	1 176	46.87	12.31	24 502	20.84	308 781	81.23
63-64	23 914	1 203	50.31	11.89	23 313	19.38	284 279	84.10
64-65	22 711	1 225	53.93	11.49	22 099	18.04	260 966	87.03
65-66	21 486	1 247	58.08	11.12	20 862	16.73	238 867	89.93
66-67	20 239	1 256	62.06	10.77	19 611	15.61	218 005	92.85
67-68	18 983	1 233	64.91	10.45	18 367	14.90	198 394	95.69
68-69	17 750	1 183	66.70	10.14	17 159	14.50	180 027	98.62
69-70	16 567	1 136	68.57	9.83	15 999	14.08	162 868	101.73
70-71	15 431	1 084	70.23	9.52	14 889	13.74	146 869	105.04
71-72	14 347	1 035	72.15	9.20	13 829	13.36	131 980	108.70
72-73	13 312	998	74.97	8.88	12 813	12.84	118 151	112.61
73-74	12 314	970	78.75	8.55	11 829	12.19	105 338	116.96
74-75	11 344	938	82.71	8.24	10 875	11.59	93 509	121.36
75-76	10 406	901	86.60	7.94	9 955	11.05	82 634	125.94
76-77	9 505	859	90.35	7.65	9 075	10.56	72 679	130.72
77-78	8 646	815	94.19	7.36	8 239	10.11	63 604	135.87
78-79	7 831	769	98.23	7.07	7 447	9.68	55 365	141.44
79-80	7 062	724	102.61	6.79	6 700	9.25	47 918	147.28
80-81	6 338	682	107.53	6.50	5 997	8.80	41 218	153.85
81-82	5 656	640	113.09	6.23	5 336	8.34	35 221	160.51
82-83	5 016	598	119.31	5.96	4 717	7.88	29 885	167.79
83-84	4 418	557	126.11	5.70	4 139	7.43	25 168	175.44
84-85	3 861	515	133.36	5.45	3 603	7.00	21 029	183.49
85-86	3 346	471	140.88	5.21	3 110	6.60	17 426	191.94
86-87	2 875	427	148.54	4.98	2 661	6.23	14 316	200.80
87-88	2 448	383	156.30	4.76	2 256	5.90	11 655	210.08
88-89	2 065	339	164.21	4.55	1 895	5.59	9 399	219.78
89-90	1 726	298	172.39	4.35	1 577	5.30	7 504	229.89
90-91	1 428	258	181.00	4.15	1 299	5.03	5 927	240.96
91-92	1 170	223	190.13	3.95	1 059	4.76	4 628	253.16
92-93	947	189	199.90	3.76	853	4.50	3 569	265.96
93-94	758	159	210.35	3.58	678	4.25	2 716	279.33
94-95	599	133	221.60	3.40	532	4.01	2 038	294.12
95-96	466	109	233.52	3.23	412	3.78	1 506	309.60
96-97	357	88	246.26	3.06	313	3.56	1 094	326.80
97-98	269	70	259.90	2.89	234	3.35	781	346.02
98-99	199	54	274.52	2.73	172	3.14	547	366.30
99-100	145	42	290.22	2.58	124	2.95	375	387.60
100-101	103	32	307.11	2.42	87	2.76	251	413.22
101-102	71	23	325.33	2.28	60	2.57	164	438.60
102-103	48	17	345.02	2.14	40	2.40	104	467.29
103-104	31	11	366.37	2.00	26	2.23	64	500.00
104-105	20	8	389.57	1.86	16	2.07	38	537.63
105-106	12	5	414.90	1.73	10	1.91	22	578.03
106-107	7	3	442.64	1.60	6	1.76	12	625.00
107-108	4	2	473.19	1.48	3	1.61	6	675.68
108-109	2	1	507.03	1.36	2	1.47	3	735.29
109-110	1	1	544.80	1.24	1	1.34	1	806.45

TABLE 18 LIFE TABLE FOR NEGRO FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (239,814), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	6 380	63.80	37.67	7 935	14.88	3 766 879	26.55
1-2	93 620	1 746	18.66	40.15	7 729	53.16	3 758 944	24.91
2-3	91 874	1 555	16.93	40.83	7 591	58.56	3 751 215	24.49
3-4	90 319	1 394	15.44	41.45	7 468	64.32	3 743 624	24.13
4-5	88 925	1 252	14.08	42.01	7 358	70.56	3 736 156	23.80
5-6	87 673	1 134	12.94	42.53	7 259	76.80	3 728 798	23.51
6-7	86 539	1 036	11.96	43.00	7 168	83.04	3 721 539	23.26
7-8	85 503	948	11.09	43.44	7 086	89.64	3 714 371	23.02
8-9	84 555	874	10.34	43.84	7 010	96.24	3 707 285	22.81
9-10	83 681	800	9.56	44.22	6 940	104.16	3 700 275	22.61
10-11	82 881	725	8.75	44.56	6 877	113.88	3 693 335	22.44
11-12	82 156	663	8.07	44.87	6 819	123.48	3 686 458	22.29
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	18 507	185.07	37.67	87 240	4.71	3 766 879	26.55
1-2	81 493	4 796	58.84	45.15	78 664	16.40	3 679 639	22.15
2-3	76 697	1 878	24.50	46.95	75 702	40.31	3 600 975	21.30
3-4	74 819	1 187	15.85	47.12	74 202	62.51	3 525 273	21.22
4-5	73 632	864	11.74	46.87	73 183	84.70	3 451 071	21.34
5-6	72 768	617	8.47	46.42	72 459	117.44	3 377 888	21.54
6-7	72 151	499	6.92	45.81	71 902	144.09	3 305 429	21.83
7-8	71 652	418	5.84	45.13	71 443	170.92	3 233 527	22.16
8-9	71 234	371	5.21	44.39	71 048	191.50	3 162 084	22.53
9-10	70 863	355	5.01	43.62	70 685	199.11	3 091 036	22.93
10-11	70 508	365	5.18	42.84	70 325	192.67	3 020 351	23.34
11-12	70 143	398	5.67	42.06	69 944	175.74	2 950 026	23.78
12-13	69 745	447	6.41	41.29	69 521	155.53	2 880 082	24.22
13-14	69 298	506	7.31	40.56	69 045	136.45	2 810 561	24.65
14-15	68 792	574	8.34	39.85	68 505	119.35	2 741 516	25.09
15-16	68 218	647	9.49	39.18	67 894	104.94	2 673 011	25.52
16-17	67 571	698	10.32	38.55	67 222	96.31	2 605 117	25.94
17-18	66 873	710	10.62	37.95	66 518	93.69	2 537 895	26.35
18-19	66 163	702	10.61	37.35	65 812	93.75	2 471 377	26.77
19-20	65 461	697	10.66	36.75	65 112	93.42	2 405 565	27.21
20-21	64 764	696	10.74	36.14	64 416	92.55	2 340 453	27.67
21-22	64 068	687	10.71	35.53	63 725	92.76	2 276 037	28.15
22-23	63 381	669	10.56	34.90	63 047	94.24	2 212 312	28.65
23-24	62 712	650	10.36	34.27	62 387	95.98	2 149 265	29.18
24-25	62 062	632	10.19	33.63	61 746	97.70	2 086 878	29.74
25-26	61 430	614	9.99	32.97	61 123	99.55	2 025 132	30.33
26-27	60 816	607	9.98	32.29	60 513	99.69	1 964 009	30.97
27-28	60 209	618	10.26	31.61	59 900	96.93	1 903 496	31.64
28-29	59 591	642	10.77	30.94	59 270	92.32	1 843 596	32.32
29-30	58 949	668	11.33	30.27	58 615	87.75	1 784 326	33.04
30-31	58 281	700	12.02	29.61	57 931	82.76	1 725 711	33.77
31-32	57 581	730	12.68	28.96	57 216	78.38	1 667 780	34.53
32-33	56 851	746	13.12	28.33	56 478	75.71	1 610 564	35.30
33-34	56 105	751	13.39	27.70	55 729	74.21	1 554 086	36.10
34-35	55 354	759	13.72	27.07	54 974	72.43	1 498 357	36.94
35-36	54 595	767	14.05	26.44	54 211	70.68	1 443 383	37.82
36-37	53 828	779	14.47	25.81	53 439	68.60	1 389 172	38.74
37-38	53 049	799	15.07	25.18	52 649	65.89	1 335 733	39.71
38-39	52 250	827	15.83	24.56	51 836	62.68	1 283 084	40.72
39-40	51 423	855	16.62	23.94	50 995	59.64	1 231 248	41.77
40-41	50 568	885	17.50	23.34	50 126	56.64	1 180 253	42.84
41-42	49 683	911	18.33	22.75	49 228	54.04	1 130 127	43.96
42-43	48 772	928	19.03	22.16	48 308	52.06	1 080 899	45.13
43-44	47 844	940	19.65	21.58	47 374	50.40	1 032 591	46.34
44-45	46 904	957	20.39	21.00	46 426	48.51	985 217	47.62

ORIGINAL REGISTRATION STATES: 1910. TABLE 18

REPORTED DEATHS IN 1909 (5,025), IN 1910 (5,481), AND IN 1911 (5,347).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	45 947	976	21.25	20.43	45 459	46.58	938 791	48.95
46-47	44 971	998	22.19	19.86	44 472	44.56	893 332	50.35
47-48	43 973	1 017	23.13	19.30	43 465	42.74	848 860	51.81
48-49	42 956	1 030	23.99	18.75	42 441	41.20	805 395	53.33
49-50	41 926	1 040	24.80	18.20	41 406	39.81	762 954	54.95
50-51	40 886	1 044	25.52	17.65	40 364	38.66	721 548	56.66
51-52	39 842	1 053	26.43	17.10	39 316	37.34	681 184	58.48
52-53	38 789	1 079	27.82	16.55	38 250	35.45	641 868	60.42
53-54	37 710	1 123	29.78	16.01	37 149	33.08	603 618	62.46
54-55	36 587	1 172	32.04	15.48	36 001	30.72	566 469	64.60
55-56	35 415	1 234	34.85	14.98	34 798	28.20	530 468	66.76
56-57	34 181	1 294	37.87	14.50	33 534	25.91	495 670	68.97
57-58	32 887	1 326	40.30	14.05	32 224	24.30	462 136	71.17
58-59	31 561	1 326	42.04	13.62	30 898	23.30	429 912	73.42
59-60	30 235	1 327	43.88	13.20	29 571	22.28	399 014	75.76
60-61	28 908	1 318	45.58	12.78	28 249	21.43	369 443	78.25
61-62	27 590	1 309	47.46	12.37	26 936	20.58	341 194	80.84
62-63	26 281	1 313	49.98	11.96	25 624	19.52	314 258	83.61
63-64	24 968	1 329	53.19	11.56	24 303	18.29	288 634	86.51
64-65	23 639	1 337	56.57	11.18	22 971	17.18	264 331	89.45
65-66	22 302	1 346	60.37	10.82	21 629	16.07	241 360	92.42
66-67	20 956	1 340	63.96	10.49	20 286	15.14	219 731	95.33
67-68	19 616	1 306	66.54	10.17	18 963	14.52	199 445	98.33
68-69	18 310	1 248	68.16	9.86	17 686	14.17	180 482	101.42
69-70	17 062	1 191	69.83	9.54	16 467	13.83	162 796	104.82
70-71	15 871	1 131	71.27	9.22	15 305	13.53	146 329	108.46
71-72	14 740	1 077	73.03	8.89	14 202	13.19	131 024	112.49
72-73	13 663	1 034	75.74	8.55	13 146	12.71	116 822	116.96
73-74	12 629	1 004	79.45	8.21	12 127	12.08	103 676	121.80
74-75	11 625	968	83.30	7.88	11 141	11.51	91 549	126.90
75-76	10 657	932	87.47	7.55	10 191	10.93	80 408	132.45
76-77	9 725	900	92.52	7.22	9 275	10.31	70 217	138.50
77-78	8 825	869	98.44	6.91	8 391	9.66	60 942	144.72
78-79	7 956	834	104.91	6.61	7 539	9.04	52 551	151.29
79-80	7 122	798	111.96	6.32	6 723	8.42	45 012	158.23
80-81	6 324	757	119.68	6.05	5 946	7.86	38 289	165.29
81-82	5 567	712	128.03	5.81	5 211	7.31	32 343	172.12
82-83	4 855	665	136.81	5.59	4 522	6.81	27 132	178.89
83-84	4 190	610	145.64	5.40	3 885	6.37	22 610	185.19
84-85	3 580	551	153.94	5.23	3 305	6.00	18 725	191.20
85-86	3 029	488	161.05	5.09	2 785	5.71	15 420	196.46
86-87	2 541	423	166.48	4.97	2 330	5.51	12 635	201.21
87-88	2 118	360	169.98	4.86	1 938	5.38	10 305	205.76
88-89	1 758	302	171.67	4.76	1 607	5.33	3 367	210.08
89-90	1 456	250	172.13	4.64	1 331	5.31	6 760	215.52
90-91	1 206	208	172.34	4.50	1 102	5.30	5 429	222.22
91-92	998	173	173.52	4.34	911	5.26	4 327	230.41
92-93	825	146	176.82	4.14	752	5.16	3 416	241.55
93-94	679	124	183.14	3.92	617	4.96	2 664	255.10
94-95	555	107	192.85	3.69	501	4.69	2 047	271.00
95-96	448	93	205.91	3.45	402	4.36	1 546	289.86
96-97	355	78	221.84	3.22	316	4.01	1 144	310.56
97-98	277	67	240.02	2.99	243	3.67	828	334.45
98-99	210	54	259.87	2.78	183	3.35	585	359.71
99-100	156	44	281.03	2.58	134	3.06	402	387.60
100-101	112	34	303.35	2.39	95	2.80	268	418.41
101-102	78	26	326.96	2.21	65	2.56	173	452.49
102-103	52	18	352.15	2.05	43	2.34	108	487.80
103-104	34	13	379.35	1.89	28	2.14	65	529.10
104-105	21	9	409.20	1.73	17	1.94	37	578.03
105-106	12	5	441.90	1.59	10	1.76	20	628.93
106-107	7	3	477.43	1.45	5	1.59	10	689.66
107-108	4	2	516.06	1.32	3	1.44	5	757.58
108-109	2	1	558.12	1.20	1	1.29	2	833.33
109-110	1	1	604.00	1.08	1	1.16	1	925.93

TABLE 19 LIFE TABLE FOR NATIVE WHITE MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (7,643,914), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 660	46.60	48.95	8 042	20.76	4 894 699	20.43
1-2	95 340	1 231	12.91	51.26	7 894	76.92	4 886 657	19.51
2-3	94 109	1 127	11.97	51.84	7 795	83.04	4 878 763	19.29
3-4	92 982	1 033	11.12	52.39	7 705	89.52	4 870 968	19.09
4-5	91 949	944	10.26	52.89	7 623	96.96	4 863 263	18.91
5-6	91 005	858	9.43	53.36	7 548	105.60	4 855 640	18.74
6-7	90 147	777	8.62	53.78	7 480	115.56	4 848 092	18.59
7-8	89 370	704	7.87	54.16	7 418	126.48	4 840 612	18.46
8-9	88 666	637	7.19	54.51	7 362	138.72	4 833 194	18.35
9-10	88 029	576	6.55	54.82	7 312	152.28	4 825 832	18.24
10-11	87 453	523	5.98	55.10	7 266	166.68	4 818 520	18.15
11-12	86 930	482	5.54	55.35	7 224	179.88	4 811 254	18.07
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 552	135.52	48.95	90 669	6.69	4 894 699	20.43
1-2	86 448	2 983	34.51	55.57	84 688	28.39	4 804 030	18.00
2-3	83 465	1 314	15.73	56.54	82 769	62.99	4 719 342	17.69
3-4	82 151	826	10.05	56.44	81 722	98.94	4 636 573	17.72
4-5	81 325	624	7.67	56.01	81 001	129.81	4 554 851	17.85
5-6	80 701	481	5.96	55.44	80 461	167.28	4 473 850	18.04
6-7	80 220	400	5.00	54.77	80 020	200.05	4 393 389	18.26
7-8	79 820	335	4.19	54.04	79 652	237.77	4 313 369	18.50
8-9	79 485	282	3.55	53.26	79 344	281.36	4 233 717	18.78
9-10	79 203	243	3.07	52.45	79 081	325.44	4 154 373	19.07
10-11	78 960	217	2.75	51.61	78 851	363.37	4 075 292	19.38
11-12	78 743	205	2.59	50.75	78 641	383.61	3 996 441	19.70
12-13	78 538	202	2.58	49.88	78 437	388.30	3 917 800	20.05
13-14	78 336	212	2.71	49.01	78 230	369.01	3 839 363	20.40
14-15	78 124	231	2.95	48.14	78 008	337.70	3 761 133	20.77
15-16	77 893	257	3.30	47.28	77 765	302.59	3 683 125	21.15
16-17	77 636	289	3.72	46.44	77 492	268.14	3 605 360	21.53
17-18	77 347	325	4.20	45.61	77 185	237.49	3 527 868	21.93
18-19	77 022	364	4.73	44.80	76 840	211.10	3 450 683	22.32
19-20	76 658	408	5.32	44.01	76 454	187.39	3 373 843	22.72
20-21	76 250	457	5.99	43.24	76 022	166.35	3 297 389	23.13
21-22	75 793	495	6.54	42.50	75 546	152.62	3 221 367	23.53
22-23	75 298	515	6.84	41.78	75 040	145.71	3 145 821	23.93
23-24	74 783	522	6.97	41.06	74 522	142.76	3 070 781	24.35
24-25	74 261	528	7.12	40.35	73 997	140.15	2 996 259	24.78
25-26	73 733	534	7.24	39.63	73 466	137.58	2 922 262	25.23
26-27	73 199	540	7.38	38.92	72 929	135.05	2 848 796	25.69
27-28	72 659	551	7.59	38.20	72 383	131.37	2 775 867	26.18
28-29	72 108	566	7.85	37.49	71 825	126.90	2 703 484	26.67
29-30	71 542	579	8.09	36.78	71 252	123.06	2 631 659	27.19
30-31	70 963	591	8.33	36.08	70 668	119.57	2 560 407	27.72
31-32	70 372	600	8.53	35.38	70 072	116.79	2 489 739	28.26
32-33	69 772	606	8.69	34.68	69 469	114.64	2 419 667	28.84
33-34	69 166	609	8.80	33.98	68 861	113.07	2 350 198	29.43
34-35	68 557	611	8.92	33.28	68 251	111.70	2 281 337	30.05
35-36	67 946	614	9.03	32.57	67 639	110.16	2 213 086	30.70
36-37	67 332	618	9.17	31.86	67 023	108.45	2 145 447	31.39
37-38	66 714	622	9.33	31.15	66 403	106.76	2 078 424	32.10
38-39	66 092	629	9.52	30.44	65 777	104.57	2 012 021	32.85
39-40	65 463	635	9.69	29.73	65 146	102.59	1 946 244	33.64
40-41	64 828	639	9.87	29.02	64 509	100.95	1 881 098	34.46
41-42	64 189	646	10.07	28.30	63 866	98.86	1 816 589	35.34
42-43	63 543	656	10.32	27.58	63 215	96.36	1 752 723	36.26
43-44	62 887	668	10.63	26.87	62 553	93.64	1 689 508	37.22
44-45	62 219	683	10.97	26.15	61 877	90.60	1 626 955	38.24

THE ORIGINAL REGISTRATION STATES: 1901. TABLE 19

REPORTED DEATHS IN 1900 (129,797), IN 1901 (124,250), AND IN 1902 (120,134).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	61 536	700	11.38	25.43	61 186	87.41	1 565 078	39.32
46-47	60 836	718	11.80	24.72	60 477	84.23	1 503 892	40.45
47-48	60 118	731	12.16	24.01	59 752	81.74	1 443 415	41.65
48-49	59 387	742	12.49	23.30	59 016	79.54	1 383 663	42.92
49-50	58 645	754	12.86	22.59	58 268	77.28	1 324 647	44.27
50-51	57 891	768	13.27	21.88	57 507	74.88	1 266 379	45.70
51-52	57 123	787	13.78	21.16	56 729	72.08	1 208 872	47.26
52-53	56 336	816	14.47	20.45	55 928	68.54	1 152 143	48.90
53-54	55 520	851	15.33	19.74	55 095	64.74	1 096 215	50.66
54-55	54 669	891	16.29	19.04	54 224	60.86	1 041 120	52.52
55-56	53 778	935	17.39	18.35	53 311	57.02	986 896	54.50
56-57	52 843	982	18.59	17.67	52 352	53.31	933 585	56.59
57-58	51 861	1 029	19.83	16.99	51 346	49.90	881 233	58.86
58-59	50 832	1 073	21.12	16.33	50 295	46.87	829 887	61.24
59-60	49 759	1 123	22.55	15.67	49 197	43.81	779 592	63.82
60-61	48 636	1 171	24.09	15.02	48 051	41.03	730 395	66.58
61-62	47 465	1 230	25.90	14.38	46 850	38.09	682 344	69.54
62-63	46 235	1 301	28.14	13.74	45 585	35.04	635 494	72.78
63-64	44 934	1 382	30.76	13.13	44 243	32.01	589 909	76.16
64-65	43 552	1 462	33.57	12.53	42 821	29.29	545 666	79.81
65-66	42 090	1 541	36.62	11.95	41 319	26.81	502 845	83.68
66-67	40 549	1 616	39.84	11.38	39 741	24.59	461 526	87.87
67-68	38 933	1 681	43.17	10.83	38 093	22.66	421 785	92.34
68-69	37 252	1 739	46.70	10.30	36 382	20.92	383 692	97.09
69-70	35 513	1 796	50.57	9.78	34 615	19.27	347 310	102.25
70-71	33 717	1 847	54.78	9.27	32 793	17.75	312 695	107.87
71-72	31 870	1 896	59.49	8.78	30 922	16.31	279 902	113.90
72-73	29 974	1 943	64.82	8.31	29 002	14.93	248 980	120.34
73-74	28 031	1 977	70.54	7.85	27 042	13.68	219 978	127.39
74-75	26 054	2 004	76.89	7.41	25 052	12.50	192 936	134.95
75-76	24 050	2 018	83.94	6.98	23 041	11.42	167 884	143.27
76-77	22 032	2 022	91.77	6.57	21 021	10.40	144 843	152.21
77-78	20 010	2 009	100.39	6.19	19 005	9.46	123 822	161.55
78-79	18 001	1 975	109.74	5.82	17 013	8.61	104 817	171.82
79-80	16 026	1 920	119.76	5.48	15 066	7.85	87 804	182.48
80-81	14 106	1 838	130.34	5.16	13 187	7.17	72 738	193.80
81-82	12 268	1 735	141.40	4.85	11 400	6.57	59 551	206.19
82-83	10 533	1 611	152.90	4.57	9 728	6.04	48 151	218.82
83-84	8 922	1 470	164.84	4.31	8 187	5.57	38 423	232.02
84-85	7 452	1 321	177.25	4.06	6 791	5.14	30 236	246.31
85-86	6 131	1 166	190.18	3.82	5 548	4.76	23 445	261.78
86-87	4 965	1 011	203.66	3.60	4 459	4.41	17 897	277.78
87-88	3 954	861	217.72	3.40	3 523	4.09	13 438	294.12
88-89	3 093	719	232.30	3.21	2 734	3.80	9 915	311.53
89-90	2 374	587	247.38	3.02	2 081	3.54	7 181	331.13
90-91	1 787	470	262.90	2.85	1 552	3.30	5 100	350.88
91-92	1 317	367	278.89	2.69	1 134	3.09	3 548	371.75
92-93	950	281	295.32	2.54	810	2.89	2 414	393.70
93-94	669	209	312.32	2.40	565	2.70	1 604	416.67
94-95	460	152	330.26	2.26	384	2.53	1 039	442.48
95-96	308	107	349.17	2.13	254	2.36	655	469.48
96-97	201	74	369.10	2.00	164	2.21	401	500.00
97-98	127	50	390.11	1.88	102	2.06	237	531.91
98-99	77	32	412.24	1.77	61	1.93	135	564.97
99-100	45	19	435.55	1.66	35	1.80	74	602.41
100-101	26	12	460.09	1.56	20	1.67	39	641.03
101-102	14	7	485.90	1.46	10	1.56	19	684.93
102-103	7	4	513.05	1.36	5	1.45	9	735.29
103-104	3	1	541.59	1.27	3	1.35	4	787.40
104-105	2	1	571.58	1.19	1	1.25	1	840.34
105-106	1	1	603.05	1.11	.....	1.16	.....	900.90

TABLE 20 LIFE TABLE FOR NATIVE WHITE MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (8,753,112), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 975	49.75	50.58	8 022	19.32	5 058 272	19.77
1-2	95 025	1 274	13.41	53.15	7 866	74.04	5 050 250	18.81
2-3	93 751	1 031	10.99	53.78	7 770	90.48	5 042 384	18.59
3-4	92 720	878	9.48	54.30	7 690	105.12	5 034 614	18.42
4-5	91 842	766	8.34	54.73	7 622	119.40	5 026 924	18.27
5-6	91 076	679	7.45	55.11	7 561	133.68	5 019 302	18.15
6-7	90 397	618	6.84	55.44	7 507	145.80	5 011 741	18.04
7-8	89 779	563	6.27	55.74	7 458	159.00	5 004 234	17.94
8-9	89 216	513	5.75	56.01	7 413	173.40	4 996 776	17.85
9-10	88 703	468	5.27	56.25	7 372	189.00	4 989 363	17.78
10-11	88 235	431	4.88	56.46	7 335	204.24	4 981 991	17.71
11-12	87 804	406	4.63	56.66	7 300	215.76	4 974 656	17.65
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 602	126.02	50.58	90 916	7.21	5 058 272	19.77
1-2	87 398	2 483	28.41	56.84	85 933	34.61	4 967 356	17.59
2-3	84 915	1 075	12.66	57.49	84 345	78.46	4 881 423	17.39
3-4	83 840	655	7.81	57.22	83 500	127.48	4 797 078	17.48
4-5	83 185	463	5.57	56.66	82 945	179.15	4 713 578	17.65
5-6	82 722	385	4.66	55.98	82 530	214.36	4 630 633	17.86
6-7	82 337	326	3.96	55.24	82 174	252.07	4 548 103	18.10
7-8	82 011	277	3.38	54.46	81 873	295.57	4 465 929	18.36
8-9	81 734	238	2.91	53.64	81 615	342.92	4 384 056	18.64
9-10	81 496	210	2.58	52.79	81 391	387.58	4 302 441	18.94
10-11	81 286	192	2.37	51.93	81 190	422.86	4 221 050	19.26
11-12	81 094	185	2.28	51.05	81 001	437.84	4 139 860	19.59
12-13	80 909	185	2.29	50.17	80 817	436.85	4 058 859	19.93
13-14	80 724	193	2.40	49.28	80 627	417.76	3 978 042	20.29
14-15	80 531	208	2.58	48.40	80 427	386.67	3 897 415	20.66
15-16	80 323	227	2.82	47.52	80 210	353.35	3 816 988	21.04
16-17	80 096	250	3.12	46.65	79 971	319.88	3 736 778	21.44
17-18	79 846	276	3.46	45.80	79 708	288.80	3 656 807	21.83
18-19	79 570	307	3.85	44.96	79 417	258.69	3 577 099	22.24
19-20	79 263	340	4.30	44.13	79 093	232.63	3 497 682	22.66
20-21	78 923	380	4.82	43.32	78 733	207.19	3 418 589	23.08
21-22	78 543	413	5.25	42.52	78 337	189.68	3 339 856	23.52
22-23	78 130	428	5.48	41.74	77 916	182.05	3 261 519	23.96
23-24	77 702	433	5.58	40.97	77 485	178.95	3 183 603	24.41
24-25	77 269	441	5.71	40.20	77 048	174.71	3 106 118	24.88
25-26	76 828	448	5.83	39.43	76 604	170.99	3 029 070	25.36
26-27	76 380	458	5.99	38.65	76 151	166.27	2 952 466	25.87
27-28	75 922	473	6.23	37.89	75 685	160.01	2 876 315	26.39
28-29	75 449	494	6.54	37.12	75 202	152.23	2 800 630	26.94
29-30	74 955	513	6.84	36.36	74 699	145.61	2 725 428	27.50
30-31	74 442	531	7.14	35.61	74 177	139.69	2 650 729	28.08
31-32	73 911	552	7.46	34.86	73 635	133.40	2 576 552	28.69
32-33	73 359	572	7.80	34.12	73 073	127.75	2 502 917	29.31
33-34	72 787	592	8.14	33.38	72 491	122.45	2 429 844	29.96
34-35	72 195	611	8.46	32.65	71 889	117.66	2 357 353	30.63
35-36	71 584	628	8.78	31.93	71 270	113.49	2 285 464	31.32
36-37	70 956	643	9.06	31.21	70 634	109.85	2 214 194	32.04
37-38	70 313	654	9.30	30.49	69 986	107.01	2 143 560	32.80
38-39	69 659	663	9.52	29.77	69 328	104.57	2 073 574	33.59
39-40	68 996	674	9.77	29.05	68 659	101.87	2 004 246	34.42
40-41	68 322	685	10.02	28.33	67 980	99.24	1 935 587	35.30
41-42	67 637	696	10.29	27.61	67 289	96.68	1 867 607	36.22
42-43	66 941	708	10.58	26.89	66 587	94.05	1 800 318	37.19
43-44	66 233	722	10.90	26.18	65 872	91.24	1 733 731	38.20
44-45	65 511	738	11.27	25.46	65 142	88.27	1 667 859	39.28

THE ORIGINAL REGISTRATION STATES: 1910. TABLE 20

REPORTED DEATHS IN 1909 (132,091), IN 1910 (140,845), AND IN 1911 (135,722).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 773	757	11.68	24.74	64 395	85.07	1 602 717	40.42
46-47	64 016	778	12.16	24.03	63 627	81.78	1 538 322	41.61
47-48	63 238	801	12.67	23.32	62 837	78.45	1 474 695	42.88
48-49	62 437	823	13.17	22.61	62 026	75.37	1 411 858	44.23
49-50	61 614	842	13.68	21.91	61 193	72.68	1 349 832	45.64
50-51	60 772	861	14.17	21.20	60 341	70.08	1 288 639	47.17
51-52	59 911	885	14.77	20.50	59 468	67.20	1 228 298	48.78
52-53	59 026	922	15.62	19.80	58 565	63.52	1 168 830	50.51
53-54	58 104	972	16.73	19.11	57 618	59.28	1 110 265	52.33
54-55	57 132	1 027	17.98	18.42	56 618	55.13	1 052 647	54.29
55-56	56 105	1 092	19.47	17.75	55 559	50.88	996 029	56.34
56-57	55 013	1 157	21.03	17.10	54 434	47.05	940 470	58.48
57-58	53 856	1 211	22.49	16.45	53 250	43.97	886 036	60.79
58-59	52 645	1 257	23.86	15.82	52 016	41.38	832 786	63.21
59-60	51 388	1 307	25.45	15.19	50 735	38.82	780 770	65.83
60-61	50 081	1 363	27.21	14.58	49 400	36.24	730 035	68.59
61-62	48 718	1 422	29.19	13.97	48 007	33.76	680 635	71.58
62-63	47 296	1 488	31.47	13.38	46 552	31.28	632 628	74.74
63-64	45 808	1 557	33.99	12.79	45 029	28.92	586 076	78.19
64-65	44 251	1 621	36.62	12.23	43 441	26.80	541 047	81.77
65-66	42 630	1 678	39.38	11.67	41 791	24.91	497 606	85.69
66-67	40 952	1 735	42.35	11.13	40 084	23.10	455 815	89.85
67-68	39 217	1 789	45.63	10.60	38 322	21.42	415 731	94.34
68-69	37 428	1 844	49.26	10.08	36 506	19.80	377 409	99.21
69-70	35 584	1 890	53.12	9.58	34 639	18.33	340 903	104.38
70-71	33 694	1 928	57.20	9.09	32 730	16.98	306 264	110.01
71-72	31 766	1 964	61.84	8.61	30 784	15.67	273 534	116.14
72-73	29 802	2 007	67.33	8.15	28 799	14.35	242 750	122.70
73-74	27 795	2 047	73.67	7.70	26 772	13.08	213 951	129.87
74-75	25 748	2 079	80.72	7.27	24 709	11.89	187 179	137.55
75-76	23 669	2 102	88.83	6.86	22 618	10.76	162 470	145.77
76-77	21 567	2 096	97.18	6.48	20 519	9.79	139 852	154.32
77-78	19 471	2 046	105.09	6.13	18 448	9.02	119 333	163.13
78-79	17 425	1 966	112.83	5.79	16 442	8.36	100 885	172.71
79-80	15 459	1 884	121.84	5.46	14 517	7.71	84 443	183.15
80-81	13 575	1 797	132.43	5.15	12 676	7.05	69 926	194.17
81-82	11 778	1 694	143.82	4.86	10 931	6.45	57 250	205.76
82-83	10 084	1 564	155.08	4.59	9 302	5.95	46 319	217.86
83-84	8 520	1 415	166.10	4.34	7 812	5.52	37 017	230.41
84-85	7 105	1 264	177.88	4.11	6 473	5.12	29 205	243.31
85-86	5 841	1 109	189.87	3.89	5 287	4.77	22 732	257.07
86-87	4 732	956	202.04	3.69	4 254	4.45	17 445	271.00
87-88	3 776	810	214.39	3.49	3 371	4.16	13 191	286.53
88-89	2 966	673	227.01	3.31	2 630	3.91	9 820	302.11
89-90	2 293	550	239.98	3.14	2 018	3.67	7 190	318.47
90-91	1 743	442	253.33	2.97	1 522	3.45	5 172	336.70
91-92	1 301	347	267.12	2.81	1 127	3.24	3 650	355.87
92-93	954	269	281.56	2.65	819	3.05	2 523	377.36
93-94	685	203	297.06	2.49	583	2.87	1 704	401.61
94-95	482	152	314.28	2.33	406	2.68	1 121	429.18
95-96	330	110	334.13	2.16	275	2.49	715	462.96
96-97	220	79	357.67	2.00	181	2.30	440	500.00
97-98	141	54	385.87	1.83	114	2.09	259	546.45
98-99	87	37	419.32	1.66	69	1.88	145	602.41
99-100	50	23	458.11	1.51	39	1.68	76	662.25
100-101	27	13	501.78	1.36	20	1.49	37	735.29
101-102	14	8	549.32	1.22	10	1.32	17	819.67
102-103	6	4	599.32	1.10	4	1.17	7	909.09
103-104	2	1	650.20	.99	2	1.04	3	.....
104-105	1	1	700.48	.89	1	.93	1	.....

TABLE 21 LIFE TABLE FOR NATIVE WHITE FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (7,715,692), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 578	35.78	51.93	8 110	27.24	5 192 843	19.26
1-2	96 422	1 013	10.51	53.77	7 993	94.68	5 184 733	18.60
2-3	95 409	939	9.84	54.26	7 912	101.16	5 176 740	18.43
3-4	94 470	872	9.23	54.71	7 836	107.88	5 168 828	18.28
4-5	93 598	805	8.61	55.14	7 766	115.80	5 160 992	18.14
5-6	92 793	741	7.99	55.53	7 702	124.68	5 153 226	18.01
6-7	92 052	677	7.35	55.90	7 643	135.48	5 145 524	17.89
7-8	91 375	616	6.74	56.23	7 589	147.84	5 137 881	17.78
8-9	90 759	561	6.18	56.53	7 540	161.28	5 130 292	17.69
9-10	90 198	512	5.68	56.79	7 495	175.68	5 122 752	17.61
10-11	89 686	474	5.29	57.04	7 454	188.76	5 115 257	17.53
11-12	89 212	455	5.10	57.25	7 415	195.60	5 107 803	17.47
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 243	112.43	51.93	92 455	8.22	5 192 843	19.26
1-2	88 757	2 771	31.22	57.46	87 122	31.44	5 100 388	17.40
2-3	85 986	1 268	14.75	58.30	85 314	67.28	5 013 266	17.15
3-4	84 718	817	9.64	58.17	84 293	103.17	4 927 952	17.19
4-5	83 901	624	7.44	57.73	83 576	133.94	4 843 659	17.32
5-6	83 277	486	5.84	57.16	83 034	170.85	4 760 083	17.49
6-7	82 791	395	4.77	56.49	82 593	209.10	4 677 049	17.70
7-8	82 396	321	3.89	55.76	82 236	256.19	4 594 456	17.93
8-9	82 075	264	3.22	54.98	81 943	310.39	4 512 220	18.19
9-10	81 811	224	2.74	54.15	81 699	364.73	4 430 277	18.47
10-11	81 587	200	2.46	53.30	81 487	407.44	4 348 578	18.76
11-12	81 387	192	2.36	52.43	81 291	423.39	4 267 091	19.07
12-13	81 195	196	2.42	51.55	81 097	413.76	4 185 800	19.40
13-14	80 999	213	2.63	50.68	80 892	379.77	4 104 703	19.73
14-15	80 786	240	2.97	49.81	80 666	336.11	4 023 811	20.08
15-16	80 546	277	3.44	48.96	80 408	290.28	3 943 145	20.42
16-17	80 269	314	3.92	48.12	80 112	255.13	3 862 737	20.78
17-18	79 955	349	4.36	47.31	79 781	228.60	3 782 625	21.14
18-19	79 606	379	4.76	46.51	79 417	209.54	3 702 844	21.50
19-20	79 227	414	5.23	45.73	79 020	190.87	3 623 427	21.87
20-21	78 813	453	5.75	44.97	78 586	173.48	3 544 407	22.24
21-22	78 360	484	6.18	44.23	78 118	161.40	3 465 821	22.61
22-23	77 876	505	6.48	43.50	77 623	153.71	3 387 703	22.99
23-24	77 371	516	6.67	42.78	77 113	149.44	3 310 080	23.38
24-25	76 855	528	6.86	42.07	76 591	145.06	3 232 967	23.77
25-26	76 327	537	7.04	41.35	76 059	141.64	3 156 376	24.18
26-27	75 790	545	7.19	40.64	75 518	138.57	3 080 317	24.61
27-28	75 245	553	7.35	39.93	74 969	135.57	3 004 799	25.04
28-29	74 692	562	7.52	39.23	74 411	132.40	2 929 830	25.49
29-30	74 130	569	7.67	38.52	73 846	129.78	2 855 419	25.96
30-31	73 561	575	7.83	37.81	73 273	127.43	2 781 573	26.45
31-32	72 986	580	7.94	37.11	72 696	125.34	2 708 300	26.95
32-33	72 406	578	7.98	36.40	72 117	124.77	2 635 604	27.47
33-34	71 828	573	7.99	35.69	71 541	124.85	2 563 487	28.02
34-35	71 255	569	7.99	34.97	70 970	124.73	2 491 946	28.60
35-36	70 686	564	7.97	34.25	70 404	124.83	2 420 976	29.20
36-37	70 122	560	8.00	33.52	69 842	124.72	2 350 572	29.83
37-38	69 562	565	8.11	32.79	69 279	122.62	2 280 730	30.50
38-39	68 997	572	8.29	32.05	68 711	120.12	2 211 451	31.20
39-40	68 425	579	8.46	31.32	68 136	117.68	2 142 740	31.93
40-41	67 846	586	8.64	30.58	67 553	115.28	2 074 604	32.70
41-42	67 260	595	8.84	29.84	66 962	112.54	2 007 051	33.51
42-43	66 665	604	9.06	29.10	66 363	109.87	1 940 089	34.36
43-44	66 061	615	9.32	28.36	65 753	106.92	1 873 726	35.26
44-45	65 446	630	9.62	27.63	65 131	103.38	1 807 973	36.19

THE ORIGINAL REGISTRATION STATES: 1901. TABLE 21

REPORTED DEATHS IN 1900 (118,340), IN 1901 (111,495), AND IN 1902 (107,132).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 816	647	9.98	26.89	64 493	99.68	1 742 842	37.19
46-47	64 169	664	10.35	26.16	63 837	96.14	1 678 349	38.23
47-48	63 505	678	10.69	25.42	63 166	93.17	1 614 512	39.34
48-49	62 827	692	11.00	24.69	62 481	90.29	1 551 346	40.50
49-50	62 135	705	11.36	23.96	61 782	87.63	1 488 865	41.74
50-51	61 430	721	11.74	23.23	61 069	84.70	1 427 083	43.05
51-52	60 709	743	12.22	22.50	60 337	81.21	1 366 014	44.44
52-53	59 966	772	12.88	21.77	59 580	77.18	1 305 677	45.93
53-54	59 194	811	13.70	21.05	58 788	72.49	1 246 097	47.51
54-55	58 383	852	14.59	20.34	57 957	68.02	1 187 309	49.16
55-56	57 531	896	15.59	19.63	57 083	63.71	1 129 352	50.94
56-57	56 635	941	16.60	18.93	56 164	59.69	1 072 269	52.83
57-58	55 694	976	17.53	18.24	55 206	56.56	1 016 105	54.82
58-59	54 718	1 008	18.43	17.56	54 214	53.78	960 899	56.95
59-60	53 710	1 044	19.44	16.88	53 188	50.95	906 685	59.24
60-61	52 666	1 080	20.51	16.21	52 126	48.26	853 497	61.69
61-62	51 586	1 128	21.86	15.53	51 022	45.23	801 371	64.39
62-63	50 458	1 194	23.67	14.87	49 861	41.76	750 349	67.25
63-64	49 264	1 274	25.87	14.22	48 627	38.17	700 488	70.32
64-65	47 990	1 355	28.22	13.58	47 312	34.92	651 861	73.64
65-66	46 635	1 437	30.82	12.96	45 917	31.95	604 549	77.16
66-67	45 198	1 517	33.55	12.36	44 440	29.29	558 632	80.91
67-68	43 681	1 588	36.37	11.77	42 887	27.01	514 192	84.96
68-69	42 093	1 657	39.37	11.20	41 264	24.90	471 305	89.29
69-70	40 436	1 728	42.72	10.64	39 572	22.90	430 041	93.98
70-71	38 708	1 796	46.41	10.09	37 810	21.05	390 469	99.11
71-72	36 912	1 870	50.65	9.55	35 977	19.24	352 659	104.71
72-73	35 042	1 947	55.57	9.04	34 069	17.50	316 682	110.62
73-74	33 095	2 014	60.84	8.54	32 088	15.93	282 613	117.10
74-75	31 081	2 072	66.68	8.06	30 045	14.50	250 525	124.07
75-76	29 009	2 123	73.19	7.60	27 947	13.16	220 480	131.58
76-77	26 886	2 162	80.41	7.16	25 805	11.94	192 533	139.66
77-78	24 724	2 184	88.34	6.74	23 632	10.82	166 728	148.37
78-79	22 540	2 186	96.95	6.35	21 447	9.81	143 096	157.48
79-80	20 354	2 161	106.17	5.98	19 274	8.92	121 649	167.22
80-81	18 193	2 108	115.87	5.63	17 139	8.13	102 375	177.62
81-82	16 085	2 026	125.96	5.30	15 072	7.44	85 236	188.68
82-83	14 059	1 917	136.37	4.99	13 101	6.83	70 164	200.40
83-84	12 142	1 786	147.08	4.70	11 249	6.30	57 063	212.77
84-85	10 356	1 638	158.17	4.42	9 537	5.82	45 814	226.24
85-86	8 718	1 480	169.78	4.16	7 978	5.39	36 277	240.38
86-87	7 238	1 318	182.13	3.91	6 579	4.99	28 299	255.75
87-88	5 920	1 157	195.42	3.67	5 341	4.62	21 720	272.48
88-89	4 763	999	209.82	3.44	4 263	4.27	16 379	290.70
89-90	3 764	849	225.43	3.22	3 339	3.94	12 116	310.56
90-91	2 915	706	242.26	3.01	2 562	3.63	8 777	332.23
91-92	2 209	575	260.31	2.81	1 921	3.34	6 215	355.87
92-93	1 634	457	279.51	2.63	1 406	3.08	4 294	380.23
93-94	1 177	353	299.82	2.45	1 001	2.84	2 888	408.16
94-95	824	265	321.24	2.29	692	2.61	1 887	436.68
95-96	559	192	343.78	2.13	463	2.41	1 195	469.48
96-97	367	135	367.50	1.99	300	2.22	732	502.51
97-98	232	91	392.46	1.85	187	2.05	432	540.54
98-99	141	59	418.75	1.72	112	1.89	245	581.40
99-100	82	37	446.42	1.60	64	1.74	133	625.00
100-101	45	21	475.37	1.49	35	1.60	69	671.14
101-102	24	12	505.79	1.38	18	1.48	34	724.64
102-103	12	7	537.55	1.28	9	1.36	16	781.25
103-104	5	3	570.60	1.19	4	1.25	7	840.34
104-105	2	1	604.90	1.10	2	1.15	3	909.09
105-106	1	1	640.38	1.02	1	1.06	1	980.39

TABLE 22 LIFE TABLE FOR NATIVE WHITE FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (8,872,897), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 894	38.94	54.19	8 090	24.96	5 419 272	18.45
1-2	96 106	1 017	10.58	56.30	7 966	93.96	5 411 182	17.76
2-3	95 089	848	8.92	56.82	7 889	111.60	5 403 216	17.60
3-4	94 241	741	7.87	57.25	7 823	126.72	5 395 327	17.47
4-5	93 500	658	7.04	57.62	7 764	141.60	5 387 504	17.36
5-6	92 842	597	6.43	57.95	7 712	155.04	5 379 740	17.26
6-7	92 245	544	5.90	58.24	7 664	169.08	5 372 028	17.17
7-8	91 701	497	5.41	58.50	7 621	183.96	5 364 364	17.09
8-9	91 204	457	5.02	58.73	7 581	199.08	5 356 743	17.03
9-10	90 747	427	4.70	58.95	7 544	212.04	5 349 162	16.96
10-11	90 320	401	4.45	59.14	7 510	224.76	5 341 618	16.91
11-12	89 919	379	4.21	59.32	7 477	236.76	5 334 108	16.86
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 460	104.60	54.19	92 641	8.86	5 419 272	18.45
1-2	89 540	2 337	26.10	59.49	88 161	37.72	5 326 631	16.81
2-3	87 203	998	11.44	60.07	86 674	86.85	5 238 470	16.65
3-4	86 205	635	7.38	59.76	85 875	135.24	5 151 796	16.73
4-5	85 570	449	5.24	59.20	85 336	190.06	5 065 921	16.89
5-6	85 121	378	4.45	58.51	84 932	224.69	4 980 585	17.09
6-7	84 743	314	3.70	57.77	84 586	269.38	4 895 653	17.31
7-8	84 429	261	3.09	56.98	84 298	322.98	4 811 067	17.55
8-9	84 168	219	2.60	56.16	84 059	383.83	4 726 769	17.81
9-10	83 949	189	2.26	55.30	83 854	443.67	4 642 710	18.08
10-11	83 760	173	2.06	54.43	83 673	483.66	4 558 856	18.37
11-12	83 587	165	1.98	53.54	83 505	506.09	4 475 183	18.68
12-13	83 422	168	2.02	52.64	83 338	496.06	4 391 678	19.00
13-14	83 254	179	2.15	51.75	83 164	464.60	4 308 340	19.32
14-15	83 075	197	2.36	50.86	82 977	421.20	4 225 176	19.66
15-16	82 878	219	2.64	49.98	82 769	377.94	4 142 199	20.01
16-17	82 659	243	2.95	49.11	82 537	339.66	4 059 430	20.36
17-18	82 416	269	3.26	48.25	82 281	305.88	3 976 893	20.73
18-19	82 147	296	3.60	47.41	81 999	277.02	3 894 612	21.09
19-20	81 851	325	3.97	46.58	81 689	251.35	3 812 613	21.47
20-21	81 526	358	4.40	45.76	81 347	227.23	3 730 924	21.85
21-22	81 168	386	4.76	44.96	80 975	209.78	3 649 577	22.24
22-23	80 782	403	4.99	44.18	80 581	199.95	3 568 602	22.63
23-24	80 379	412	5.12	43.39	80 173	194.59	3 488 021	23.05
24-25	79 967	421	5.28	42.62	79 756	189.44	3 407 848	23.46
25-26	79 546	432	5.43	41.84	79 330	183.63	3 328 092	23.90
26-27	79 114	441	5.57	41.06	78 893	178.90	3 248 762	24.35
27-28	78 673	450	5.72	40.29	78 448	174.33	3 169 869	24.82
28-29	78 223	458	5.86	39.52	77 994	170.29	3 091 421	25.30
29-30	77 765	467	6.00	38.75	77 531	166.02	3 013 427	25.81
30-31	77 298	473	6.13	37.98	77 062	162.92	2 935 896	26.33
31-32	76 825	482	6.27	37.21	76 584	158.89	2 858 834	26.87
32-33	76 343	493	6.45	36.44	76 097	154.35	2 782 250	27.44
33-34	75 850	503	6.64	35.68	75 598	150.29	2 706 153	28.03
34-35	75 347	514	6.82	34.91	75 090	146.09	2 630 555	28.65
35-36	74 833	524	7.00	34.15	74 571	142.31	2 555 465	29.28
36-37	74 309	532	7.16	33.39	74 043	139.18	2 480 894	29.95
37-38	73 777	538	7.30	32.62	73 508	136.63	2 406 851	30.66
38-39	73 239	545	7.44	31.86	72 966	133.88	2 333 343	31.39
39-40	72 694	552	7.59	31.09	72 418	131.19	2 260 377	32.16
40-41	72 142	560	7.76	30.33	71 862	128.33	2 187 959	32.97
41-42	71 582	570	7.97	29.56	71 297	125.08	2 116 097	33.83
42-43	71 012	585	8.24	28.80	70 720	120.89	2 044 800	34.72
43-44	70 427	603	8.56	28.03	70 126	116.30	1 974 080	35.68
44-45	69 824	623	8.92	27.27	69 513	111.58	1 903 954	36.67

THE ORIGINAL REGISTRATION STATES: 1910. TABLE 22

REPORTED DEATHS IN 1909 (116,471), IN 1910 (123,551), AND IN 1911 (119,064).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 201	645	9.33	26.51	68 879	106.79	1 834 441	37.72
46-47	68 556	671	9.79	25.75	68 220	101.67	1 765 562	38.83
47-48	67 885	697	10.26	25.00	67 536	96.90	1 697 342	40.00
48-49	67 188	720	10.72	24.26	66 828	92.82	1 629 806	41.22
49-50	66 468	745	11.20	23.51	66 095	88.72	1 562 978	42.54
50-51	65 723	767	11.68	22.78	65 339	85.19	1 496 883	43.90
51-52	64 956	795	12.24	22.04	64 558	81.21	1 431 544	45.37
52-53	64 161	832	12.97	21.31	63 745	76.62	1 366 986	46.93
53-54	63 329	880	13.90	20.58	62 889	71.46	1 303 241	48.59
54-55	62 449	934	14.95	19.86	61 982	66.36	1 240 352	50.35
55-56	61 515	997	16.20	19.16	61 017	61.20	1 178 370	52.19
56-57	60 518	1 058	17.49	18.46	59 989	56.70	1 117 353	54.17
57-58	59 460	1 107	18.62	17.78	58 907	53.21	1 057 364	56.24
58-59	58 353	1 145	19.63	17.11	57 780	50.46	998 457	58.45
59-60	57 208	1 190	20.79	16.44	56 613	47.57	940 677	60.83
60-61	56 018	1 236	22.06	15.78	55 400	44.82	884 064	63.37
61-62	54 782	1 292	23.58	15.13	54 136	41.90	828 664	66.09
62-63	53 490	1 363	25.48	14.48	52 809	38.74	774 528	69.06
63-64	52 127	1 443	27.69	13.85	51 406	35.62	721 719	72.20
64-65	50 684	1 520	29.99	13.23	49 924	32.84	670 313	75.59
65-66	49 164	1 591	32.37	12.62	48 369	30.40	620 389	79.24
66-67	47 573	1 667	35.04	12.02	46 740	28.04	572 020	83.19
67-68	45 906	1 753	38.19	11.44	45 029	25.69	525 280	87.41
68-69	44 153	1 847	41.84	10.88	43 229	23.40	480 251	91.91
69-70	42 306	1 939	45.82	10.33	41 336	21.32	437 022	96.81
70-71	40 367	2 028	50.24	9.80	39 353	19.40	395 686	102.04
71-72	38 339	2 107	54.95	9.29	37 286	17.70	356 333	107.64
72-73	36 232	2 165	59.78	8.81	35 149	16.24	319 047	113.51
73-74	34 067	2 207	64.76	8.33	32 963	14.94	283 898	120.05
74-75	31 860	2 237	70.22	7.88	30 742	13.74	250 935	126.90
75-76	29 623	2 255	76.13	7.43	28 495	12.64	220 193	134.59
76-77	27 368	2 263	82.67	7.00	26 237	11.59	191 698	142.86
77-78	25 105	2 264	90.19	6.59	23 973	10.59	165 461	151.75
78-79	22 841	2 259	98.93	6.19	21 711	9.61	141 488	161.55
79-80	20 582	2 244	109.01	5.82	19 460	8.67	119 777	171.82
80-81	18 338	2 223	121.23	5.47	17 227	7.75	100 317	182.82
81-82	16 115	2 158	133.94	5.16	15 036	6.97	83 090	193.80
82-83	13 957	2 022	144.87	4.88	12 946	6.40	68 054	204.92
83-84	11 935	1 835	153.75	4.62	11 017	6.00	55 108	216.45
84-85	10 100	1 652	163.52	4.37	9 274	5.62	44 091	228.83
85-86	8 448	1 469	173.91	4.12	7 714	5.25	34 817	242.72
86-87	6 979	1 295	185.57	3.88	6 331	4.89	27 103	257.73
87-88	5 684	1 126	198.13	3.65	5 121	4.55	20 772	273.97
88-89	4 558	965	211.72	3.43	4 075	4.22	15 651	291.55
89-90	3 593	814	226.41	3.22	3 186	3.92	11 576	310.56
90-91	2 779	673	242.22	3.02	2 443	3.63	8 390	331.13
91-92	2 106	546	259.17	2.82	1 833	3.36	5 947	354.61
92-93	1 560	432	277.37	2.64	1 344	3.11	4 114	378.79
93-94	1 128	335	297.08	2.46	960	2.87	2 770	406.50
94-95	793	253	318.57	2.28	666	2.64	1 810	438.60
95-96	540	185	342.18	2.12	448	2.42	1 144	471.70
96-97	355	131	368.11	1.96	290	2.22	696	510.20
97-98	224	89	396.51	1.80	180	2.02	406	555.56
98-99	135	57	427.35	1.66	107	1.84	226	602.41
99-100	78	36	460.37	1.53	60	1.67	119	653.59
100-101	42	21	495.18	1.40	32	1.52	59	714.29
101-102	21	11	531.49	1.29	16	1.38	27	775.19
102-103	10	6	568.93	1.19	7	1.26	11	840.34
103-104	4	2	607.22	1.09	3	1.15	4	917.43
104-105	2	1	645.62	1.01	1	1.05	1	990.10
105-106	1	1	684.48	.93	.....	.96	.....	.....

TABLE 23 LIFE TABLE FOR FOREIGN-BORN WHITE MALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (2,367,801), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES ALIVE AT EXACT AGE 5:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4								
4-5	There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.							
5-6								
6-7								
7-8								
8-9								
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	100 000	933	9.33	52.71	99 534	106.68	5 271 201	18.97
6-7	99 067	616	6.22	52.20	98 759	160.32	5 171 667	19.16
7-8	98 451	435	4.42	51.53	98 234	225.83	5 072 908	19.41
8-9	98 016	329	3.36	50.75	97 851	297.42	4 974 674	19.70
9-10	97 687	272	2.78	49.92	97 551	358.64	4 876 823	20.03
10-11	97 415	246	2.53	49.06	97 292	395.50	4 779 272	20.38
11-12	97 169	245	2.52	48.18	97 046	396.11	4 681 980	20.76
12-13	96 924	259	2.67	47.30	96 795	373.73	4 584 934	21.14
13-14	96 665	284	2.95	46.43	96 523	339.87	4 488 139	21.54
14-15	96 381	316	3.28	45.57	96 223	304.50	4 391 616	21.94
15-16	96 065	348	3.62	44.71	95 891	275.55	4 295 393	22.37
16-17	95 717	388	4.05	43.87	95 523	246.19	4 199 502	22.79
17-18	95 329	433	4.55	43.05	95 113	219.66	4 103 979	23.23
18-19	94 896	476	5.01	42.24	94 658	198.86	4 008 866	23.67
19-20	94 420	510	5.40	41.46	94 165	184.64	3 914 208	24.12
20-21	93 910	540	5.75	40.68	93 640	173.41	3 820 043	24.58
21-22	93 370	562	6.01	39.91	93 089	165.64	3 726 403	25.06
22-23	92 808	573	6.18	39.15	92 522	161.47	3 633 314	25.54
23-24	92 235	580	6.29	38.39	91 945	158.53	3 540 792	26.05
24-25	91 655	588	6.42	37.63	91 361	155.38	3 448 847	26.57
25-26	91 067	597	6.55	36.87	90 769	152.04	3 357 486	27.12
26-27	90 470	605	6.69	36.11	90 168	149.04	3 266 717	27.69
27-28	89 865	614	6.83	35.35	89 558	145.86	3 176 549	28.29
28-29	89 251	624	6.99	34.59	88 939	142.53	3 086 991	28.91
29-30	88 627	635	7.17	33.83	88 310	139.07	2 998 052	29.56
30-31	87 992	645	7.34	33.07	87 670	135.92	2 909 742	30.24
31-32	87 347	667	7.64	32.31	87 013	130.45	2 822 072	30.95
32-33	86 680	702	8.10	31.55	86 329	122.98	2 735 059	31.70
33-34	85 978	745	8.66	30.81	85 605	114.91	2 648 730	32.46
34-35	85 233	785	9.21	30.07	84 841	108.08	2 563 125	33.26
35-36	84 448	826	9.78	29.35	84 035	101.74	2 478 284	34.07
36-37	83 622	860	10.29	28.63	83 192	96.73	2 394 249	34.93
37-38	82 762	885	10.69	27.92	82 319	93.02	2 311 057	35.82
38-39	81 877	905	11.05	27.22	81 424	89.97	2 228 738	36.74
39-40	80 972	928	11.46	26.52	80 508	86.75	2 147 314	37.71
40-41	80 044	955	11.93	25.82	79 566	83.32	2 066 806	38.73
41-42	79 089	983	12.43	25.13	78 597	79.96	1 987 240	39.79
42-43	78 106	1 013	12.97	24.44	77 599	76.60	1 908 643	40.92
43-44	77 093	1 044	13.54	23.75	76 571	73.34	1 831 044	42.11
44-45	76 049	1 080	14.19	23.07	75 509	69.92	1 754 473	43.35

IN THE ORIGINAL REGISTRATION STATES: 1901. TABLE 23

REPORTED DEATHS IN 1900 (43,934), IN 1901 (45,280), AND IN 1902 (43,253).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Alive at Exact Age 5:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	74 969	1 120	14.94	22.40	74 409	66.44	1 678 964	44.64
46-47	73 849	1 162	15.74	21.73	73 268	63.05	1 604 555	46.02
47-48	72 687	1 203	16.54	21.07	72 086	59.92	1 531 287	47.46
48-49	71 484	1 237	17.31	20.41	70 866	57.29	1 459 201	49.00
49-50	70 247	1 270	18.09	19.76	69 612	54.81	1 388 335	50.61
50-51	68 977	1 298	18.81	19.12	68 328	52.64	1 318 723	52.30
51-52	67 679	1 338	19.77	18.48	67 010	50.08	1 250 395	54.11
52-53	66 341	1 406	21.19	17.84	65 638	46.68	1 183 385	56.05
53-54	64 935	1 495	23.04	17.21	64 187	42.93	1 117 747	58.11
54-55	63 440	1 589	25.05	16.61	62 645	39.42	1 053 560	60.20
55-56	61 851	1 693	27.36	16.02	61 004	36.03	990 915	62.42
56-57	60 158	1 780	29.60	15.46	59 268	33.30	929 911	64.68
57-58	58 378	1 830	31.35	14.91	57 463	31.40	870 643	67.07
58-59	56 548	1 850	32.72	14.38	55 623	30.07	813 180	69.54
59-60	54 698	1 873	34.24	13.85	53 761	28.70	757 557	72.20
60-61	52 825	1 889	35.75	13.32	51 881	27.46	703 796	75.08
61-62	50 936	1 915	37.60	12.80	49 979	26.10	651 915	78.13
62-63	49 021	1 966	40.11	12.28	48 038	24.43	601 936	81.43
63-64	47 055	2 032	43.18	11.77	46 039	22.66	553 898	84.96
64-65	45 023	2 090	46.41	11.28	43 978	21.04	507 859	88.65
65-66	42 933	2 144	49.96	10.80	41 861	19.52	463 881	92.59
66-67	40 789	2 181	53.47	10.35	39 698	18.20	422 020	96.62
67-68	38 608	2 186	56.62	9.90	37 515	17.16	382 322	101.01
68-69	36 422	2 169	59.53	9.47	35 338	16.29	344 807	105.60
69-70	34 253	2 147	62.69	9.03	33 180	15.45	309 469	110.74
70-71	32 106	2 117	65.93	8.61	31 048	14.67	276 289	116.14
71-72	29 989	2 095	69.86	8.18	28 942	13.81	245 241	122.25
72-73	27 894	2 094	75.06	7.75	26 847	12.82	216 299	129.03
73-74	25 800	2 102	81.48	7.34	24 749	11.77	189 452	136.24
74-75	23 698	2 098	88.55	6.95	22 649	10.80	164 703	143.88
75-76	21 600	2 073	95.96	6.58	20 563	9.92	142 054	151.98
76-77	19 527	2 028	103.84	6.22	18 513	9.13	121 491	160.77
77-78	17 499	1 964	112.28	5.88	16 517	8.41	102 978	170.07
78-79	15 535	1 884	121.22	5.57	14 593	7.75	86 461	179.53
79-80	13 651	1 782	130.60	5.26	12 760	7.16	71 868	190.11
80-81	11 869	1 667	140.39	4.98	11 035	6.62	59 108	200.80
81-82	10 202	1 536	150.58	4.71	9 434	6.14	48 073	212.31
82-83	8 666	1 397	161.19	4.46	7 968	5.70	38 639	224.22
83-84	7 269	1 252	172.26	4.22	6 643	5.31	30 671	236.97
84-85	6 017	1 106	183.79	3.99	5 464	4.94	24 028	250.63
85-86	4 911	962	195.82	3.78	4 430	4.61	18 564	264.55
86-87	3 949	822	208.34	3.58	3 538	4.30	14 134	279.33
87-88	3 127	692	221.30	3.39	2 781	4.02	10 596	294.99
88-89	2 435	572	234.69	3.21	2 149	3.76	7 815	311.53
89-90	1 863	463	248.51	3.04	1 632	3.52	5 666	328.95
90-91	1 400	366	261.89	2.88	1 217	3.32	4 034	347.22
91-92	1 034	286	276.61	2.73	891	3.12	2 817	366.30
92-93	748	219	292.14	2.58	638	2.92	1 926	387.60
93-94	529	163	308.53	2.44	448	2.74	1 288	409.84
94-95	366	119	325.83	2.30	306	2.57	840	434.78
95-96	247	85	344.07	2.17	204	2.41	534	460.83
96-97	162	59	363.32	2.04	132	2.25	330	490.20
97-98	103	39	383.62	1.92	83	2.11	198	520.83
98-99	64	26	405.02	1.81	51	1.97	115	552.49
99-100	38	16	427.60	1.70	30	1.84	64	588.24
100-101	22	10	451.40	1.59	17	1.72	34	628.93
101-102	12	6	476.49	1.49	9	1.60	17	671.14
102-103	6	3	502.93	1.40	5	1.49	8	714.29
103-104	3	2	530.80	1.31	2	1.38	3	763.36
104-105	1	1	560.15	1.22	1	1.29	1	819.67

TABLE 24 LIFE TABLE FOR FOREIGN-BORN WHITE MALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (3,179,851), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 MALES ALIVE AT EXACT AGE 5:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4								
4-5	There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.							
5-6								
6-7								
7-8								
8-9								
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	100 000	576	5.76	54.24	99 712	173.11	5 423 811	18.44
6-7	99 424	454	4.57	53.55	99 197	218.50	5 324 099	18.67
7-8	98 970	373	3.76	52.79	98 783	264.83	5 224 902	18.94
8-9	98 597	314	3.18	51.99	98 440	313.50	5 126 119	19.23
9-10	98 283	271	2.76	51.16	98 148	362.17	5 027 679	19.55
10-11	98 012	242	2.47	50.30	97 891	404.51	4 929 531	19.88
11-12	97 770	228	2.33	49.42	97 656	428.32	4 831 640	20.23
12-13	97 542	229	2.34	48.53	97 427	425.45	4 733 984	20.61
13-14	97 313	244	2.50	47.65	97 191	398.32	4 636 557	20.99
14-15	97 069	263	2.71	46.76	96 938	368.59	4 539 366	21.39
15-16	96 806	280	2.89	45.89	96 666	345.24	4 442 428	21.79
16-17	96 526	326	3.38	45.02	96 363	295.59	4 345 762	22.21
17-18	96 200	385	4.01	44.17	96 008	249.37	4 249 399	22.64
18-19	95 815	432	4.51	43.35	95 599	221.29	4 153 391	23.07
19-20	95 383	461	4.83	42.54	95 153	206.41	4 057 792	23.51
20-21	94 922	484	5.10	41.75	94 680	195.62	3 962 639	23.95
21-22	94 438	493	5.22	40.96	94 192	191.06	3 867 959	24.41
22-23	93 945	488	5.20	40.17	93 701	192.01	3 773 767	24.89
23-24	93 457	479	5.12	39.38	93 217	194.61	3 680 066	25.39
24-25	92 978	473	5.08	38.58	92 742	196.07	3 586 849	25.92
25-26	92 505	468	5.06	37.77	92 271	197.16	3 494 107	26.48
26-27	92 037	468	5.09	36.96	91 803	196.16	3 401 836	27.06
27-28	91 569	476	5.19	36.15	91 331	191.87	3 310 033	27.66
28-29	91 093	489	5.37	35.33	90 849	185.79	3 218 702	28.30
29-30	90 604	505	5.57	34.52	90 352	178.91	3 127 853	28.97
30-31	90 099	522	5.80	33.71	89 838	172.10	3 037 501	29.66
31-32	89 577	548	6.12	32.91	89 303	162.96	2 947 663	30.39
32-33	89 029	583	6.55	32.11	88 737	152.21	2 858 360	31.14
33-34	88 446	622	7.03	31.31	88 135	141.70	2 769 623	31.94
34-35	87 824	662	7.54	30.53	87 493	132.16	2 681 488	32.75
35-36	87 162	706	8.10	29.76	86 809	122.96	2 593 995	33.60
36-37	86 456	746	8.63	29.00	86 083	115.39	2 507 186	34.48
37-38	85 710	781	9.11	28.25	85 319	109.24	2 421 103	35.40
38-39	84 929	812	9.56	27.50	84 523	104.09	2 335 784	36.36
39-40	84 117	845	10.04	26.76	83 695	99.05	2 251 261	37.37
40-41	83 272	876	10.53	26.03	82 834	94.56	2 167 566	38.42
41-42	82 396	913	11.08	25.30	81 939	89.75	2 084 732	39.53
42-43	81 483	956	11.73	24.58	81 005	84.73	2 002 793	40.68
43-44	80 527	1 002	12.45	23.87	80 026	79.87	1 921 788	41.89
44-45	79 525	1 049	13.20	23.16	79 000	75.31	1 841 762	43.18

IN THE ORIGINAL REGISTRATION STATES: 1910. TABLE 24

REPORTED DEATHS IN 1909 (50,282), IN 1910 (53,946), AND IN 1911 (54,775).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Alive at Exact Age 5:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males at Age 5 were Added Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	78 476	1 100	14.01	22.46	77 926	70.84	1 762 762	44.52
46-47	77 376	1 145	14.80	21.77	76 804	67.08	1 684 836	45.93
47-48	76 231	1 184	15.53	21.09	75 639	63.88	1 608 032	47.42
48-49	75 047	1 219	16.24	20.42	74 438	61.06	1 532 393	48.97
49-50	73 828	1 258	17.04	19.75	73 199	58.19	1 457 955	50.63
50-51	72 570	1 301	17.92	19.08	71 919	55.28	1 384 756	52.41
51-52	71 269	1 350	18.94	18.42	70 594	52.29	1 312 837	54.29
52-53	69 919	1 411	20.19	17.77	69 213	49.05	1 242 243	56.27
53-54	68 508	1 486	21.69	17.12	67 765	45.60	1 173 030	58.41
54-55	67 022	1 569	23.41	16.49	66 238	42.22	1 105 265	60.64
55-56	65 453	1 662	25.40	15.87	64 622	38.88	1 039 027	63.01
56-57	63 791	1 764	27.65	15.27	62 909	35.66	974 405	65.49
57-58	62 027	1 859	29.97	14.70	61 097	32.87	911 496	68.03
58-59	60 168	1 939	32.22	14.13	59 199	30.53	850 399	70.77
59-60	58 229	2 010	34.53	13.59	57 224	28.47	791 200	73.58
60-61	56 219	2 070	36.81	13.06	55 184	26.66	733 976	76.57
61-62	54 149	2 121	39.19	12.54	53 088	25.03	678 792	79.74
62-63	52 028	2 179	41.87	12.03	50 938	23.38	625 704	83.13
63-64	49 849	2 236	44.86	11.53	48 731	21.79	574 766	86.73
64-65	47 613	2 281	47.91	11.05	46 472	20.37	526 035	90.50
65-66	45 332	2 315	51.05	10.58	44 175	19.08	479 563	94.52
66-67	43 017	2 338	54.36	10.12	41 848	17.90	435 388	98.81
67-68	40 679	2 355	57.90	9.67	39 502	16.77	393 540	103.41
68-69	38 324	2 368	61.78	9.24	37 140	15.68	354 038	108.23
69-70	35 956	2 374	66.04	8.81	34 769	14.65	316 898	113.51
70-71	33 582	2 377	70.79	8.40	32 393	13.63	282 129	119.05
71-72	31 205	2 369	75.92	8.00	30 020	12.67	249 736	125.00
72-73	28 836	2 342	81.21	7.62	27 665	11.81	219 716	131.23
73-74	26 494	2 295	86.63	7.25	25 347	11.04	192 051	137.93
74-75	24 199	2 240	92.56	6.89	23 079	10.30	166 704	145.14
75-76	21 959	2 175	99.04	6.54	20 872	9.60	143 625	152.91
76-77	19 784	2 095	105.89	6.20	18 737	8.94	122 753	161.29
77-78	17 689	2 002	113.21	5.88	16 688	8.34	104 016	170.07
78-79	15 687	1 903	121.30	5.57	14 735	7.74	87 328	179.53
79-80	13 784	1 800	130.60	5.27	12 884	7.16	72 593	189.75
80-81	11 984	1 699	141.76	4.98	11 134	6.55	59 709	200.80
81-82	10 285	1 580	153.62	4.72	9 495	6.01	48 575	211.86
82-83	8 705	1 430	164.32	4.49	7 990	5.59	39 080	222.72
83-84	7 275	1 262	173.37	4.27	6 644	5.27	31 090	234.19
84-85	6 013	1 100	183.03	4.07	5 463	4.96	24 446	245.70
85-86	4 913	950	193.38	3.86	4 438	4.67	18 983	259.07
86-87	3 963	812	204.93	3.67	3 557	4.38	14 545	272.48
87-88	3 151	685	217.30	3.49	2 808	4.10	10 988	286.53
88-89	2 466	568	230.39	3.32	2 182	3.84	8 180	301.20
89-90	1 898	463	243.84	3.16	1 667	3.60	5 998	316.46
90-91	1 435	369	257.10	3.02	1 251	3.39	4 331	331.13
91-92	1 066	287	269.58	2.89	922	3.21	3 080	346.02
92-93	779	219	281.01	2.77	669	3.06	2 158	361.01
93-94	560	163	291.52	2.66	478	2.93	1 489	375.94
94-95	397	120	301.68	2.55	337	2.81	1 011	392.16
95-96	277	87	312.48	2.43	234	2.70	674	411.52
96-97	190	61	325.05	2.31	159	2.58	440	432.90
97-98	129	44	340.36	2.18	107	2.44	281	458.72
98-99	85	31	359.07	2.04	70	2.28	174	490.20
99-100	54	20	381.38	1.90	44	2.12	104	526.32
100-101	34	14	407.02	1.77	27	1.96	60	564.97
101-102	20	9	435.50	1.64	16	1.80	33	609.76
102-103	11	5	466.17	1.51	9	1.65	17	662.25
103-104	6	3	498.53	1.40	5	1.51	8	714.29
104-105	3	2	532.34	1.29	2	1.38	3	775.19
105-106	1	1	567.17	1.19	1	1.26	1	840.34

TABLE 25 LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (2,257,302), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES ALIVE AT EXACT AGE 5:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4								
4-5	There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.							
5-6								
6-7								
7-8								
8-9								
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	100 000	774	7.74	54.21	99 613	128.70	5 420 915	18.45
6-7	99 226	570	5.74	53.63	98 941	173.58	5 321 302	18.65
7-8	98 656	427	4.33	52.94	98 443	230.55	5 222 361	18.89
8-9	98 229	333	3.39	52.16	98 063	294.48	5 123 918	19.17
9-10	97 896	275	2.81	51.34	97 759	355.49	5 025 855	19.48
10-11	97 621	245	2.51	50.48	97 498	397.95	4 928 096	19.81
11-12	97 376	236	2.42	49.61	97 258	412.11	4 830 598	20.16
12-13	97 140	241	2.48	48.73	97 019	402.57	4 733 340	20.52
13-14	96 899	257	2.65	47.85	96 770	376.54	4 636 321	20.90
14-15	96 642	276	2.86	46.97	96 504	349.65	4 539 551	21.29
15-16	96 366	296	3.07	46.11	96 218	325.06	4 443 047	21.69
16-17	96 070	328	3.41	45.25	95 906	292.40	4 346 829	22.10
17-18	95 742	368	3.85	44.40	95 558	259.67	4 250 923	22.52
18-19	95 374	407	4.27	43.57	95 170	233.83	4 155 365	22.95
19-20	94 967	438	4.61	42.75	94 748	216.32	4 060 195	23.39
20-21	94 529	462	4.89	41.95	94 298	204.11	3 965 447	23.84
21-22	94 067	484	5.15	41.15	93 825	193.85	3 871 149	24.30
22-23	93 583	506	5.40	40.36	93 330	184.45	3 777 324	24.78
23-24	93 077	526	5.65	39.58	92 814	176.45	3 683 994	25.27
24-25	92 551	546	5.91	38.80	92 278	169.01	3 591 180	25.77
25-26	92 005	568	6.17	38.03	91 721	161.48	3 498 902	26.30
26-27	91 437	587	6.42	37.26	91 143	155.27	3 407 181	26.84
27-28	90 850	606	6.67	36.50	90 547	149.42	3 316 038	27.40
28-29	90 244	624	6.92	35.74	89 932	144.12	3 225 491	27.98
29-30	89 620	645	7.19	34.99	89 298	138.45	3 135 559	28.58
30-31	88 975	666	7.49	34.24	88 642	133.10	3 046 261	29.21
31-32	88 309	691	7.83	33.49	87 963	127.30	2 957 619	29.86
32-33	87 618	717	8.18	32.75	87 260	121.70	2 869 656	30.53
33-34	86 901	740	8.52	32.02	86 531	116.93	2 782 396	31.23
34-35	86 161	764	8.86	31.29	85 779	112.28	2 695 865	31.96
35-36	85 397	785	9.20	30.56	85 005	108.29	2 610 086	32.72
36-37	84 612	804	9.50	29.84	84 210	104.74	2 525 081	33.51
37-38	83 808	819	9.78	29.12	83 398	101.83	2 440 871	34.34
38-39	82 989	835	10.05	28.41	82 572	98.89	2 357 473	35.20
39-40	82 154	852	10.37	27.69	81 728	95.92	2 274 901	36.11
40-41	81 302	874	10.76	26.98	80 865	92.52	2 193 173	37.06
41-42	80 428	893	11.10	26.26	79 981	89.56	2 112 308	38.08
42-43	79 535	902	11.33	25.55	79 084	87.68	2 032 327	39.14
43-44	78 633	905	11.51	24.84	78 181	86.39	1 953 243	40.26
44-45	77 728	912	11.74	24.12	77 272	84.73	1 875 062	41.46

IN THE ORIGINAL REGISTRATION STATES: 1901. TABLE 25

REPORTED DEATHS IN 1900 (40,739), IN 1901 (40,923), AND IN 1902 (38,031).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Alive at Exact Age 5:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	76 816	921	11.99	23.40	76 355	82.90	1 797 790	42.74
46-47	75 895	946	12.47	22.68	75 422	79.73	1 721 435	44.09
47-48	74 949	994	13.26	21.96	74 452	74.90	1 646 013	45.54
48-49	73 955	1 055	14.27	21.25	73 427	69.60	1 571 561	47.06
49-50	72 900	1 113	15.26	20.55	72 343	65.00	1 498 134	48.66
50-51	71 787	1 166	16.25	19.86	71 204	61.07	1 425 791	50.35
51-52	70 621	1 226	17.36	19.18	70 008	57.10	1 354 587	52.14
52-53	69 395	1 297	18.69	18.51	68 747	53.00	1 284 579	54.02
53-54	68 098	1 383	20.30	17.85	67 407	48.74	1 215 832	56.02
54-55	66 715	1 474	22.10	17.21	65 978	44.76	1 148 425	58.11
55-56	65 241	1 577	24.18	16.59	64 453	40.87	1 082 447	60.28
56-57	63 664	1 671	26.24	15.99	62 829	37.60	1 017 994	62.54
57-58	61 993	1 734	27.98	15.41	61 126	35.25	955 165	64.89
58-59	60 259	1 774	29.43	14.84	59 372	33.47	894 039	67.39
59-60	58 485	1 812	30.99	14.27	57 579	31.78	834 667	70.08
60-61	56 673	1 846	32.56	13.71	55 750	30.20	777 088	72.94
61-62	54 827	1 884	34.38	13.16	53 885	28.60	721 338	75.99
62-63	52 943	1 944	36.72	12.61	51 971	26.73	667 453	79.30
63-64	50 999	2 018	39.56	12.07	49 990	24.77	615 482	82.85
64-65	48 981	2 083	42.53	11.55	47 940	23.01	565 492	86.58
65-66	46 898	2 144	45.72	11.04	45 826	21.37	517 552	90.58
66-67	44 754	2 201	49.18	10.54	43 654	19.83	471 726	94.88
67-68	42 553	2 251	52.90	10.06	41 428	18.40	428 072	99.40
68-69	40 302	2 293	56.89	9.59	39 155	17.08	386 644	104.28
69-70	38 009	2 330	61.30	9.14	36 844	15.81	347 489	109.41
70-71	35 679	2 362	66.20	8.71	34 498	14.61	310 645	114.81
71-72	33 317	2 376	71.34	8.29	32 129	13.52	276 147	120.63
72-73	30 941	2 369	76.54	7.89	29 756	12.56	244 018	126.74
73-74	28 572	2 347	82.14	7.50	27 399	11.67	214 262	133.33
74-75	26 225	2 312	88.16	7.13	25 069	10.84	186 863	140.25
75-76	23 913	2 261	94.56	6.77	22 783	10.08	161 794	147.71
76-77	21 652	2 195	101.37	6.42	20 555	9.36	139 011	155.76
77-78	19 457	2 114	108.64	6.09	18 400	8.70	118 456	164.20
78-79	17 343	2 018	116.41	5.77	16 334	8.09	100 056	173.31
79-80	15 325	1 912	124.73	5.46	14 369	7.52	83 722	183.15
80-81	13 413	1 792	133.64	5.17	12 517	6.98	69 353	193.42
81-82	11 621	1 665	143.21	4.89	10 788	6.48	56 836	204.50
82-83	9 956	1 527	153.45	4.63	9 193	6.02	46 048	215.98
83-84	8 429	1 386	164.37	4.37	7 736	5.58	36 855	228.83
84-85	7 043	1 239	175.93	4.13	6 424	5.18	29 119	242.13
85-86	5 804	1 091	188.04	3.91	5 258	4.82	22 695	255.75
86-87	4 713	946	200.60	3.70	4 240	4.49	17 437	270.27
87-88	3 767	804	213.49	3.50	3 365	4.18	13 197	285.71
88-89	2 963	671	226.64	3.32	2 627	3.91	9 832	301.20
89-90	2 292	551	240.05	3.14	2 017	3.67	7 205	318.47
90-91	1 741	441	253.76	2.98	1 521	3.44	5 188	335.57
91-92	1 300	349	267.88	2.82	1 125	3.23	3 667	354.61
92-93	951	268	282.55	2.67	817	3.04	2 542	374.53
93-94	683	204	297.94	2.53	581	2.86	1 725	395.26
94-95	479	150	314.23	2.39	404	2.68	1 144	418.41
95-96	329	109	331.52	2.26	274	2.52	740	442.48
96-97	220	77	349.96	2.13	181	2.36	466	469.48
97-98	143	53	369.45	2.00	116	2.21	285	500.00
98-99	90	35	390.04	1.89	72	2.06	169	529.10
99-100	55	23	411.80	1.77	44	1.93	97	564.97
100-101	32	14	434.82	1.66	25	1.80	53	602.41
101-102	18	8	459.15	1.56	14	1.68	28	641.03
102-103	10	5	484.88	1.46	7	1.56	14	684.93
103-104	5	3	512.09	1.37	4	1.45	7	729.93
104-105	2	1	540.88	1.27	2	1.35	3	787.40
105-106	1	1	571.35	1.19	1	1.25	1	840.34

TABLE 26 LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,833,324), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, tables, are given on

AGE INTERVAL.	OF 100,000 FEMALES ALIVE AT EXACT AGE 5:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4								
4-5	There are two important reasons for beginning the life tables for foreign-born whites at age 5: First, the proportion of children under 5 years of age among foreign-born whites is so much smaller than among other classes of the population that mortality rates deduced therefrom are not reliable; second, the deaths among whites of unknown nativity must be distributed among deaths of native whites and foreign-born whites, and any error in the choice of the method of distribution would materially affect mortality rates under 5 years of age among the foreign-born whites.							
5-6								
6-7								
7-8								
8-9								
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	100 000	498	4.98	56.30	99 751	200.30	5 630 432	17.76
6-7	99 502	396	3.97	55.58	99 304	250.77	5 530 681	17.99
7-8	99 106	319	3.22	54.80	98 947	310.18	5 431 377	18.25
8-9	98 787	263	2.67	53.98	98 656	375.12	5 332 430	18.53
9-10	98 524	226	2.30	53.12	98 411	435.45	5 233 774	18.83
10-11	98 298	205	2.09	52.24	98 195	479.00	5 135 363	19.14
11-12	98 093	199	2.03	51.35	97 993	492.43	5 037 168	19.47
12-13	97 894	205	2.09	50.45	97 792	477.03	4 939 175	19.82
13-14	97 689	218	2.24	49.56	97 580	447.61	4 841 383	20.18
14-15	97 471	238	2.44	48.67	97 352	409.04	4 743 803	20.55
15-16	97 233	259	2.67	47.79	97 103	374.92	4 646 451	20.92
16-17	96 974	285	2.94	46.91	96 831	339.76	4 549 348	21.32
17-18	96 689	307	3.18	46.05	96 535	314.45	4 452 517	21.72
18-19	96 382	326	3.37	45.19	96 219	295.15	4 355 982	22.13
19-20	96 056	338	3.53	44.35	95 887	283.69	4 259 763	22.55
20-21	95 718	349	3.65	43.50	95 543	273.76	4 163 876	22.99
21-22	95 369	363	3.80	42.66	95 188	262.23	4 068 333	23.44
22-23	95 006	381	4.02	41.82	94 816	248.86	3 973 145	23.91
23-24	94 625	405	4.28	40.99	94 423	233.14	3 878 329	24.40
24-25	94 220	426	4.53	40.16	94 007	220.67	3 783 906	24.90
25-26	93 794	449	4.79	39.34	93 569	208.39	3 689 899	25.42
26-27	93 345	469	5.02	38.53	93 110	198.53	3 596 330	25.95
27-28	92 876	484	5.21	37.72	92 634	191.39	3 503 220	26.51
28-29	92 392	497	5.39	36.91	92 144	185.40	3 410 586	27.09
29-30	91 895	515	5.60	36.11	91 637	177.94	3 318 442	27.69
30-31	91 380	534	5.84	35.31	91 113	170.62	3 226 805	28.32
31-32	90 846	556	6.13	34.52	90 568	162.89	3 135 692	28.97
32-33	90 290	582	6.44	33.73	89 999	154.64	3 045 124	29.65
33-34	89 708	605	6.75	32.94	89 405	147.78	2 955 125	30.36
34-35	89 103	630	7.06	32.16	88 788	140.93	2 865 720	31.09
35-36	88 473	653	7.39	31.39	88 146	134.99	2 776 932	31.86
36-37	87 820	674	7.67	30.62	87 483	129.80	2 688 786	32.66
37-38	87 146	687	7.89	29.85	86 802	126.35	2 601 303	33.50
38-39	86 459	700	8.09	29.08	86 109	123.01	2 514 501	34.39
39-40	85 759	713	8.32	28.32	85 402	119.78	2 428 392	35.31
40-41	85 046	727	8.55	27.55	84 682	116.48	2 342 990	36.30
41-42	84 319	746	8.85	26.78	83 946	112.53	2 258 308	37.34
42-43	83 573	775	9.27	26.02	83 185	107.34	2 174 362	38.43
43-44	82 798	809	9.77	25.26	82 394	101.85	2 091 177	39.59
44-45	81 989	845	10.31	24.50	81 566	96.53	2 008 783	40.82

IN THE ORIGINAL REGISTRATION STATES: 1910. TABLE 26

REPORTED DEATHS IN 1909 (43,756), IN 1910 (46,682), AND IN 1911 (46,854).

Michigan, and the District of Columbia. An explanation of each column of the life tables is given on pages 25 to 29, and illustrative examples, showing how to use the pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Alive at Exact Age 5:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females at Age 5 were Added Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	81 144	884	10.90	23.75	80 702	91.29	1 927 217	42.11
46-47	80 260	924	11.50	23.01	79 798	86.36	1 846 515	43.46
47-48	79 336	961	12.12	22.27	78 856	82.06	1 766 717	44.90
48-49	78 375	1 001	12.77	21.54	77 875	77.80	1 687 861	46.43
49-50	77 374	1 048	13.54	20.81	76 850	73.33	1 609 986	48.05
50-51	76 326	1 101	14.42	20.09	75 776	68.82	1 533 136	49.78
51-52	75 225	1 162	15.45	19.37	74 644	64.24	1 457 360	51.63
52-53	74 063	1 233	16.65	18.67	73 447	59.57	1 382 716	53.56
53-54	72 830	1 315	18.05	17.98	72 173	54.88	1 309 269	55.62
54-55	71 515	1 404	19.64	17.30	70 813	50.44	1 237 096	57.80
55-56	70 111	1 504	21.44	16.63	69 359	46.12	1 166 283	60.13
56-57	68 607	1 612	23.50	15.99	67 801	42.06	1 096 924	62.54
57-58	66 995	1 723	25.72	15.36	66 134	38.38	1 029 123	65.10
58-59	65 272	1 825	27.96	14.75	64 360	35.27	962 989	67.80
59-60	63 447	1 916	30.21	14.16	62 489	32.61	898 629	70.62
60-61	61 531	1 995	32.43	13.59	60 533	30.34	836 140	73.58
61-62	59 536	2 072	34.79	13.03	58 500	28.23	775 607	76.75
62-63	57 464	2 157	37.53	12.48	56 386	26.14	717 107	80.13
63-64	55 307	2 248	40.65	11.95	54 183	24.10	660 721	83.68
64-65	53 059	2 328	43.88	11.43	51 895	22.29	606 538	87.49
65-66	50 731	2 398	47.27	10.93	49 532	20.66	554 643	91.49
66-67	48 333	2 458	50.84	10.45	47 104	19.16	505 111	95.69
67-68	45 875	2 504	54.59	9.98	44 623	17.82	458 007	100.20
68-69	43 371	2 541	58.58	9.53	42 101	16.57	413 384	104.93
69-70	40 830	2 571	62.97	9.09	39 545	15.38	371 283	110.01
70-71	38 259	2 596	67.87	8.67	36 961	14.24	331 738	115.34
71-72	35 663	2 603	72.97	8.27	34 361	13.20	294 777	120.92
72-73	33 060	2 579	78.00	7.88	31 771	12.32	260 416	126.90
73-74	30 481	2 528	82.96	7.50	29 217	11.56	228 645	133.33
74-75	27 953	2 469	88.33	7.13	26 718	10.82	199 428	140.25
75-76	25 484	2 397	94.06	6.78	24 285	10.13	172 710	147.49
76-77	23 087	2 313	100.17	6.43	21 931	9.48	148 425	155.52
77-78	20 774	2 221	106.93	6.09	19 664	8.85	126 494	164.20
78-79	18 553	2 128	114.69	5.76	17 489	8.22	106 830	173.61
79-80	16 425	2 031	123.68	5.44	15 409	7.59	89 341	183.82
80-81	14 394	1 939	134.70	5.14	13 424	6.92	73 932	194.55
81-82	12 455	1 827	146.71	4.86	11 541	6.32	60 508	205.76
82-83	10 628	1 677	157.75	4.61	9 789	5.84	48 967	216.92
83-84	8 951	1 496	167.18	4.38	8 203	5.48	39 178	228.31
84-85	7 455	1 325	177.63	4.16	6 793	5.13	30 975	240.38
85-86	6 130	1 156	188.64	3.95	5 552	4.80	24 182	253.16
86-87	4 974	995	200.06	3.75	4 476	4.50	18 630	266.67
87-88	3 979	844	212.00	3.56	3 557	4.22	14 154	280.90
88-89	3 135	704	224.72	3.38	2 783	3.95	10 597	295.86
89-90	2 431	580	238.34	3.22	2 141	3.70	7 814	310.56
90-91	1 851	467	252.74	3.07	1 617	3.46	5 673	325.73
91-92	1 384	370	267.30	2.93	1 199	3.24	4 056	341.30
92-93	1 014	285	281.08	2.82	871	3.06	2 857	354.61
93-94	729	214	293.04	2.73	622	2.91	1 986	366.30
94-95	515	156	302.46	2.65	437	2.81	1 364	377.36
95-96	359	111	309.20	2.58	304	2.73	927	387.60
96-97	248	78	314.04	2.51	209	2.68	623	398.41
97-98	170	54	318.51	2.44	143	2.64	414	409.84
98-99	116	38	324.66	2.34	97	2.58	271	427.35
99-100	78	26	334.41	2.23	65	2.49	174	448.43
100-101	52	18	349.18	2.10	43	2.36	109	476.19
101-102	34	13	369.60	1.95	28	2.21	66	512.82
102-103	21	8	395.51	1.81	17	2.03	38	552.49
103-104	13	6	425.99	1.66	10	1.85	21	602.41
104-105	7	3	459.78	1.52	6	1.67	11	657.89
105-106	4	2	495.79	1.40	3	1.52	5	714.29
106-107	2	1	534.15	1.28	1	1.37	2	781.25
107-108	1	1	572.39	1.17	1	1.25	1	854.70

TABLE 27 LIFE TABLE FOR WHITE MALES IN CITIES OF

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (5,314,456), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, itants in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 834	48.34	43.97	8 031	19.92	4 396 807	22.74
1-2	95 166	1 340	14.08	46.12	7 875	70.56	4 388 776	21.68
2-3	93 826	1 247	13.29	46.69	7 767	74.76	4 380 901	21.42
3-4	92 579	1 164	12.58	47.24	7 666	79.08	4 373 134	21.17
4-5	91 415	1 084	11.85	47.75	7 573	83.88	4 365 468	20.94
5-6	90 331	1 004	11.11	48.24	7 486	89.52	4 357 895	20.73
6-7	89 327	923	10.33	48.70	7 405	96.24	4 350 409	20.53
7-8	88 404	843	9.55	49.13	7 332	104.40	4 343 004	20.35
8-9	87 561	766	8.74	49.52	7 265	113.76	4 335 672	20.19
9-10	86 795	693	7.98	49.87	7 204	124.80	4 328 407	20.05
10-11	86 102	626	7.28	50.19	7 149	137.04	4 321 203	19.92
11-12	85 476	573	6.71	50.47	7 099	148.68	4 314 054	19.81
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	15 097	150.97	43.97	89 852	5.95	4 396 807	22.74
1-2	84 903	3 586	42.23	50.73	82 787	23.09	4 306 955	19.71
2-3	81 317	1 626	19.99	51.95	80 456	49.48	4 224 168	19.25
3-4	79 691	1 039	13.04	52.00	79 151	76.18	4 143 712	19.23
4-5	78 652	780	9.92	51.68	78 247	100.32	4 064 561	19.35
5-6	77 872	579	7.44	51.19	77 582	133.99	3 986 314	19.54
6-7	77 293	473	6.11	50.57	77 056	162.91	3 908 732	19.77
7-8	76 820	383	4.99	49.88	76 629	200.08	3 831 676	20.05
8-9	76 437	313	4.10	49.13	76 281	243.71	3 755 047	20.35
9-10	76 124	261	3.42	48.33	75 994	291.16	3 678 766	20.69
10-11	75 863	225	2.97	47.49	75 751	336.67	3 602 772	21.06
11-12	75 638	208	2.74	46.63	75 534	363.14	3 527 021	21.45
12-13	75 430	204	2.71	45.76	75 328	369.25	3 451 487	21.85
13-14	75 226	216	2.87	44.88	75 118	347.77	3 376 159	22.28
14-15	75 010	240	3.19	44.01	74 890	312.04	3 301 041	22.72
15-16	74 770	273	3.66	43.15	74 633	273.38	3 226 151	23.17
16-17	74 497	318	4.26	42.30	74 338	233.77	3 151 518	23.64
17-18	74 179	361	4.87	41.48	73 998	204.98	3 077 180	24.11
18-19	73 818	398	5.39	40.68	73 619	184.97	3 003 182	24.58
19-20	73 420	427	5.83	39.90	73 207	171.44	2 929 563	25.06
20-21	72 993	460	6.29	39.13	72 763	158.18	2 856 356	25.56
21-22	72 533	491	6.77	38.38	72 288	147.23	2 783 593	26.06
22-23	72 042	516	7.17	37.64	71 784	139.12	2 711 305	26.57
23-24	71 526	535	7.48	36.90	71 258	133.19	2 639 521	27.10
24-25	70 991	549	7.74	36.18	70 716	128.81	2 568 263	27.64
25-26	70 442	563	7.99	35.46	70 160	124.62	2 497 547	28.20
26-27	69 879	575	8.23	34.74	69 591	121.03	2 427 387	28.79
27-28	69 304	588	8.49	34.02	69 010	117.36	2 357 796	29.39
28-29	68 716	604	8.79	33.31	68 414	113.27	2 288 786	30.02
29-30	68 112	621	9.12	32.60	67 801	109.18	2 220 372	30.67
30-31	67 491	639	9.47	31.89	67 171	105.12	2 152 571	31.36
31-32	66 852	657	9.83	31.19	66 523	101.25	2 085 400	32.06
32-33	66 195	675	10.19	30.50	65 858	97.57	2 018 877	32.79
33-34	65 520	691	10.55	29.81	65 175	94.32	1 953 019	33.55
34-35	64 829	706	10.89	29.12	64 476	91.33	1 887 844	34.34
35-36	64 123	721	11.25	28.44	63 763	88.44	1 823 368	35.16
36-37	63 402	736	11.61	27.75	63 034	85.64	1 759 605	36.04
37-38	62 666	752	12.01	27.07	62 290	82.83	1 696 571	36.94
38-39	61 914	772	12.47	26.40	61 528	79.70	1 634 281	37.88
39-40	61 142	795	12.99	25.72	60 744	76.41	1 572 753	38.88
40-41	60 347	817	13.54	25.06	59 939	73.36	1 512 009	39.90
41-42	59 530	843	14.17	24.39	59 108	70.12	1 452 070	41.00
42-43	58 687	866	14.75	23.74	58 254	67.27	1 392 962	42.12
43-44	57 821	880	15.22	23.08	57 381	65.21	1 334 708	43.33
44-45	56 941	890	15.64	22.43	56 496	63.48	1 277 327	44.58

THE ORIGINAL REGISTRATION STATES: 1901. TABLE 27

REPORTED DEATHS IN 1900 (101,480), IN 1901 (100,967), AND IN 1902 (99,631).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhab-
pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	56 051	903	16.12	21.78	55 599	61.57	1 220 831	45.91
46-47	55 148	918	16.64	21.13	54 689	59.57	1 165 232	47.33
47-48	54 230	940	17.32	20.48	53 760	57.19	1 110 543	48.83
48-49	53 290	970	18.22	19.83	52 805	54.44	1 056 783	50.43
49-50	52 320	1 008	19.25	19.19	51 816	51.40	1 003 978	52.11
50-51	51 312	1 042	20.31	18.56	50 791	48.74	952 162	53.88
51-52	50 270	1 075	21.39	17.93	49 733	46.26	901 371	55.77
52-53	49 195	1 111	22.59	17.31	48 640	43.78	851 638	57.77
53-54	48 084	1 155	24.02	16.70	47 507	41.13	802 998	59.88
54-55	46 929	1 208	25.74	16.10	46 325	38.35	755 491	62.11
55-56	45 721	1 265	27.68	15.51	45 089	35.64	709 166	64.47
56-57	44 456	1 331	29.93	14.94	43 791	32.90	664 077	66.93
57-58	43 125	1 392	32.28	14.38	42 429	30.48	620 286	69.54
58-59	41 733	1 434	34.37	13.85	41 016	28.60	577 857	72.20
59-60	40 299	1 459	36.21	13.32	39 569	27.12	536 841	75.08
60-61	38 840	1 482	38.15	12.80	38 099	25.71	497 272	78.13
61-62	37 358	1 497	40.08	12.29	36 609	24.45	459 173	81.37
62-63	35 861	1 516	42.28	11.78	35 103	23.16	422 564	84.89
63-64	34 345	1 550	45.11	11.28	33 570	21.66	387 461	88.65
64-65	32 795	1 594	48.63	10.79	31 998	20.07	353 891	92.68
65-66	31 201	1 637	52.45	10.32	30 382	18.56	321 893	96.90
66-67	29 564	1 679	56.80	9.86	28 725	17.11	291 511	101.42
67-68	27 885	1 709	61.30	9.42	27 030	15.82	262 786	106.16
68-69	26 176	1 712	65.39	9.01	25 320	14.79	235 756	110.99
69-70	24 464	1 690	69.09	8.60	23 619	13.98	210 436	116.28
70-71	22 774	1 664	73.08	8.20	21 942	13.19	186 817	121.95
71-72	21 110	1 629	77.17	7.81	20 295	12.46	164 875	128.04
72-73	19 481	1 593	81.77	7.42	18 684	11.73	144 580	134.77
73-74	17 888	1 565	87.48	7.04	17 105	10.93	125 896	142.05
74-75	16 323	1 541	94.37	6.66	15 553	10.09	108 791	150.15
75-76	14 782	1 506	101.90	6.31	14 029	9.32	93 238	158.48
76-77	13 276	1 467	110.48	5.97	12 543	8.55	79 209	167.50
77-78	11 809	1 411	119.53	5.65	11 104	7.87	66 666	176.99
78-79	10 398	1 334	128.26	5.34	9 731	7.29	55 562	187.27
79-80	9 064	1 239	136.74	5.06	8 445	6.82	45 831	197.63
80-81	7 825	1 146	146.45	4.78	7 252	6.33	37 386	209.21
81-82	6 679	1 053	157.63	4.51	6 152	5.84	30 134	221.73
82-83	5 626	953	169.38	4.26	5 150	5.40	23 982	234.74
83-84	4 673	846	181.00	4.03	4 250	5.02	18 832	248.14
84-85	3 827	736	192.41	3.81	3 459	4.70	14 582	262.47
85-86	3 091	632	204.53	3.60	2 775	4.39	11 123	277.78
86-87	2 459	536	217.99	3.39	2 191	4.09	8 348	294.99
87-88	1 923	446	232.05	3.20	1 700	3.81	6 157	312.50
88-89	1 477	365	246.90	3.02	1 294	3.55	4 457	331.13
89-90	1 112	292	262.57	2.84	966	3.31	3 163	352.11
90-91	820	229	279.06	2.68	706	3.08	2 197	373.13
91-92	591	175	296.38	2.52	504	2.87	1 491	396.83
92-93	416	131	314.55	2.37	351	2.68	987	421.94
93-94	285	95	333.61	2.23	238	2.50	636	448.43
94-95	190	67	353.60	2.10	156	2.33	398	476.19
95-96	123	46	374.58	1.97	100	2.17	242	507.61
96-97	77	31	396.61	1.85	62	2.02	142	540.54
97-98	46	19	419.70	1.73	37	1.88	80	578.03
98-99	27	12	443.95	1.62	21	1.75	43	617.28
99-100	15	7	469.35	1.52	11	1.63	22	657.89
100-101	8	4	495.90	1.42	6	1.52	11	704.23
101-102	4	2	523.63	1.33	3	1.41	5	751.88
102-103	2	1	552.55	1.24	1	1.31	2	806.45
103-104	1	1	582.65	1.16	1	1.22	1	862.07

TABLE 28 LIFE TABLE FOR WHITE MALES IN CITIES OF

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (7,211,022), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, itants in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given on

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 969	49.69	47.32	8 023	19.32	4 732 068	21.13
1-2	95 031	1 370	14.42	49.71	7 862	68.88	4 724 045	20.12
2-3	93 661	1 091	11.65	50.35	7 760	85.32	4 716 183	19.86
3-4	92 570	941	10.17	50.86	7 675	97.92	4 708 423	19.66
4-5	91 629	835	9.11	51.30	7 601	109.20	4 700 748	19.49
5-6	90 794	755	8.32	51.69	7 535	119.76	4 693 147	19.35
6-7	90 039	694	7.71	52.04	7 474	129.24	4 685 612	19.22
7-8	89 345	640	7.15	52.36	7 419	139.08	4 678 138	19.10
8-9	88 705	586	6.62	52.65	7 368	150.84	4 670 719	18.99
9-10	88 119	537	6.09	52.92	7 321	163.56	4 663 351	18.90
10-11	87 582	496	5.66	53.16	7 278	176.04	4 656 030	18.81
11-12	87 086	466	5.36	53.38	7 238	186.36	4 648 752	18.73
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 380	133.80	47.32	90 554	6.77	4 732 068	21.13
1-2	86 620	2 867	33.09	53.58	84 929	29.62	4 641 514	18.66
2-3	83 753	1 253	14.96	54.41	83 089	66.31	4 556 585	18.38
3-4	82 500	763	9.25	54.22	82 103	107.61	4 473 496	18.44
4-5	81 737	552	6.75	53.73	81 450	147.55	4 391 393	18.61
5-6	81 185	447	5.51	53.09	80 961	181.12	4 309 943	18.84
6-7	80 738	375	4.64	52.38	80 550	214.80	4 228 982	19.09
7-8	80 363	314	3.91	51.62	80 206	255.43	4 148 432	19.37
8-9	80 049	266	3.32	50.82	79 916	300.44	4 068 226	19.68
9-10	79 783	230	2.88	49.99	79 668	346.38	3 988 310	20.00
10-11	79 553	205	2.59	49.13	79 450	387.56	3 908 642	20.35
11-12	79 348	193	2.43	48.26	79 251	410.63	3 829 192	20.72
12-13	79 155	190	2.40	47.37	79 060	416.11	3 749 941	21.11
13-14	78 965	197	2.49	46.49	78 866	400.34	3 670 881	21.51
14-15	78 768	211	2.68	45.60	78 663	372.81	3 592 015	21.93
15-16	78 557	230	2.93	44.72	78 442	341.05	3 513 352	22.36
16-17	78 327	255	3.26	43.85	78 199	306.66	3 434 910	22.81
17-18	78 072	286	3.66	43.00	77 929	272.48	3 356 711	23.26
18-19	77 786	317	4.07	42.15	77 628	244.88	3 278 782	23.72
19-20	77 469	347	4.49	41.32	77 296	222.76	3 201 154	24.20
20-21	77 122	381	4.93	40.51	76 932	201.92	3 123 858	24.69
21-22	76 741	403	5.26	39.70	76 540	189.93	3 046 926	25.19
22-23	76 338	415	5.43	38.91	76 131	183.45	2 970 386	25.70
23-24	75 923	418	5.52	38.12	75 714	181.13	2 894 255	26.23
24-25	75 505	425	5.62	37.33	75 292	177.16	2 818 541	26.79
25-26	75 080	430	5.73	36.54	74 865	174.10	2 743 249	27.37
26-27	74 650	440	5.89	35.75	74 430	169.16	2 668 384	27.97
27-28	74 210	456	6.14	34.95	73 982	162.24	2 593 954	28.61
28-29	73 754	477	6.48	34.17	73 516	154.12	2 519 972	29.27
29-30	73 277	501	6.83	33.39	73 026	145.76	2 446 456	29.95
30-31	72 776	525	7.22	32.61	72 513	138.12	2 373 430	30.67
31-32	72 251	555	7.68	31.85	71 973	129.68	2 300 917	31.40
32-33	71 696	586	8.17	31.09	71 403	121.85	2 228 944	32.16
33-34	71 110	617	8.68	30.34	70 801	114.75	2 157 541	32.96
34-35	70 493	649	9.20	29.60	70 169	108.12	2 086 740	33.78
35-36	69 844	679	9.73	28.87	69 505	102.36	2 016 571	34.64
36-37	69 165	708	10.24	28.15	68 811	97.19	1 947 066	35.52
37-38	68 457	732	10.69	27.44	68 091	93.02	1 878 255	36.44
38-39	67 725	755	11.14	26.73	67 348	89.20	1 810 164	37.41
39-40	66 970	777	11.61	26.02	66 582	85.69	1 742 816	38.43
40-41	66 193	801	12.10	25.32	65 793	82.14	1 676 234	39.49
41-42	65 392	825	12.62	24.63	64 979	78.76	1 610 441	40.60
42-43	64 567	852	13.19	23.94	64 141	75.28	1 545 462	41.77
43-44	63 715	879	13.80	23.25	63 276	71.99	1 481 321	43.01
44-45	62 836	908	14.46	22.57	62 382	68.70	1 418 045	44.31

THE ORIGINAL REGISTRATION STATES: 1910. TABLE 28

REPORTED DEATHS IN 1909 (114,784), IN 1910 (123,533), AND IN 1911 (120,984).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhab- pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	61 928	941	15.18	21.89	61 457	65.31	1 355 663	45.68
46-47	60 987	973	15.96	21.22	60 501	62.18	1 294 206	47.13
47-48	60 014	1 004	16.74	20.56	59 512	59.27	1 233 705	48.64
48-49	59 010	1 034	17.52	19.90	58 493	56.57	1 174 193	50.25
49-50	57 976	1 063	18.34	19.24	57 444	54.04	1 115 700	51.98
50-51	56 913	1 091	19.17	18.59	56 368	51.67	1 058 256	53.79
51-52	55 822	1 124	20.13	17.95	55 260	49.16	1 001 888	55.71
52-53	54 698	1 169	21.38	17.31	54 114	46.29	946 628	57.77
53-54	53 529	1 229	22.96	16.67	52 915	43.06	892 514	59.99
54-55	52 300	1 296	24.77	16.05	51 652	39.85	839 599	62.31
55-56	51 004	1 373	26.93	15.45	50 317	36.65	787 947	64.72
56-57	49 631	1 455	29.31	14.86	48 903	33.61	737 630	67.29
57-58	48 176	1 522	31.60	14.30	47 415	31.15	688 727	69.93
58-59	46 654	1 574	33.74	13.75	45 867	29.14	641 312	72.73
59-60	45 080	1 626	36.07	13.21	44 267	27.22	595 445	75.70
60-61	43 454	1 373	38.51	12.68	42 617	25.47	551 178	78.86
61-62	41 781	1 717	41.10	12.17	40 922	23.83	508 561	82.17
62-63	40 064	1 762	43.96	11.67	39 183	22.24	467 639	85.69
63-64	38 302	1 804	47.11	11.19	37 400	20.73	428 456	89.37
64-65	36 498	1 837	50.34	10.71	35 579	19.37	391 056	93.37
65-66	34 661	1 860	53.66	10.26	33 731	18.13	355 477	97.47
66-67	32 801	1 875	57.15	9.81	31 864	16.99	321 746	101.94
67-68	30 926	1 884	60.91	9.37	29 984	15.92	289 882	106.72
68-69	29 042	1 888	65.01	8.95	28 098	14.88	259 898	111.73
69-70	27 154	1 885	69.42	8.54	26 212	13.91	231 800	117.10
70-71	25 269	1 875	74.20	8.14	24 332	12.98	205 588	122.85
71-72	23 394	1 857	79.41	7.75	22 465	12.10	181 256	129.03
72-73	21 537	1 832	85.03	7.37	20 621	11.26	158 791	135.69
73-74	19 705	1 795	91.10	7.01	18 808	10.48	138 170	142.65
74-75	17 910	1 752	97.83	6.66	17 034	9.72	119 362	150.15
75-76	16 158	1 704	105.46	6.33	15 306	8.98	102 328	157.98
76-77	14 454	1 638	113.33	6.02	13 635	8.32	87 022	166.11
77-78	12 816	1 550	120.93	5.73	12 041	7.77	73 387	174.52
78-79	11 266	1 446	128.38	5.45	10 543	7.29	61 346	183.49
79-80	9 820	1 342	136.67	5.17	9 149	6.82	50 803	193.42
80-81	8 478	1 237	145.88	4.91	7 859	6.36	41 654	203.67
81-82	7 241	1 128	155.81	4.67	6 677	5.92	33 795	214.13
82-83	6 113	1 016	166.14	4.44	5 605	5.52	27 118	225.23
83-84	5 097	900	176.56	4.22	4 647	5.16	21 513	236.97
84-85	4 197	785	187.15	4.02	3 804	4.84	16 866	248.76
85-86	3 412	674	197.41	3.83	3 075	4.57	13 062	261.10
86-87	2 738	571	208.55	3.65	2 453	4.30	9 987	273.97
87-88	2 167	477	220.24	3.48	1 929	4.04	7 534	287.36
88-89	1 690	393	232.33	3.32	1 494	3.80	5 605	301.20
89-90	1 297	317	244.59	3.17	1 139	3.59	4 111	315.46
90-91	980	252	256.62	3.03	854	3.40	2 972	330.03
91-92	728	195	267.99	2.91	631	3.23	2 118	343.64
92-93	533	148	278.57	2.79	459	3.09	1 487	358.42
93-94	385	111	288.57	2.67	329	2.97	1 028	374.53
94-95	274	82	298.67	2.56	233	2.85	699	390.63
95-96	192	60	309.87	2.43	162	2.73	466	411.52
96-97	132	42	323.37	2.30	111	2.59	304	434.78
97-98	90	31	340.17	2.16	74	2.44	193	462.96
98-99	59	21	360.88	2.01	48	2.27	119	497.51
99-100	38	15	385.57	1.87	31	2.09	71	534.76
100-101	23	9	413.88	1.72	18	1.92	40	581.40
101-102	14	6	445.10	1.59	11	1.75	22	628.93
102-103	8	4	478.40	1.46	6	1.59	11	684.93
103-104	4	2	513.10	1.35	3	1.45	5	740.74
104-105	2	1	548.54	1.24	1	1.32	2	806.45
105-106	1	1	584.78	1.15	1	1.21	1	869.57

TABLE 29 LIFE TABLE FOR WHITE FEMALES IN CITIES

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (5,488,482), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, itants in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 702	37.02	47.90	8 102	26.28	4 750 067	20.88
1-2	96 298	1 124	11.67	49.66	7 978	85.20	4 781 965	20.14
2-3	95 174	1 049	11.03	50.16	7 887	90.24	4 773 987	19.94
3-4	94 125	980	10.40	50.64	7 803	95.52	4 766 100	19.75
4-5	93 145	912	9.80	51.08	7 724	101.64	4 758 297	19.58
5-6	92 233	847	9.18	51.51	7 651	108.36	4 750 573	19.41
6-7	91 386	785	8.59	51.90	7 583	115.92	4 742 922	19.27
7-8	90 601	725	8.01	52.27	7 520	124.44	4 735 339	19.13
8-9	89 876	670	7.46	52.60	7 462	133.68	4 727 819	19.01
9-10	89 206	620	6.95	52.92	7 408	143.40	4 720 357	18.90
10-11	88 586	579	6.54	53.20	7 358	152.52	4 712 949	18.80
11-12	88 007	552	6.27	53.47	7 311	158.88	4 705 591	18.70
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 545	125.45	47.90	91 787	7.32	4 790 067	20.88
1-2	87 455	3 338	38.17	53.72	85 485	25.61	4 698 280	18.62
2-3	84 117	1 528	18.17	54.84	83 307	54.52	4 612 795	18.23
3-4	82 589	1 006	12.18	54.84	82 066	81.58	4 529 488	18.23
4-5	81 583	778	9.53	54.51	81 178	104.34	4 447 422	18.35
5-6	80 805	597	7.39	54.03	80 507	134.85	4 366 244	18.51
6-7	80 208	457	5.70	53.43	79 980	175.01	4 285 737	18.72
7-8	79 751	351	4.41	52.74	79 575	226.71	4 205 757	18.96
8-9	79 400	278	3.49	51.97	79 261	285.11	4 126 182	19.24
9-10	79 122	228	2.89	51.15	79 008	346.53	4 046 921	19.55
10-11	78 894	202	2.55	50.29	78 793	390.06	3 967 913	19.88
11-12	78 692	192	2.44	49.42	78 596	409.35	3 889 120	20.23
12-13	78 500	197	2.51	48.54	78 402	397.98	3 810 524	20.60
13-14	78 303	211	2.70	47.66	78 197	370.60	3 732 122	20.98
14-15	78 092	233	2.97	46.79	77 976	334.66	3 653 925	21.37
15-16	77 859	262	3.36	45.93	77 728	296.67	3 575 949	21.77
16-17	77 597	298	3.85	45.08	77 448	259.89	3 498 221	22.18
17-18	77 299	335	4.33	44.25	77 132	230.24	3 420 773	22.60
18-19	76 964	363	4.72	43.44	76 783	211.52	3 343 641	23.02
19-20	76 601	388	5.06	42.65	76 407	196.93	3 266 858	23.45
20-21	76 213	412	5.40	41.86	76 007	184.48	3 190 451	23.89
21-22	75 801	435	5.74	41.09	75 584	173.76	3 114 444	24.34
22-23	75 366	456	6.06	40.32	75 138	164.78	3 038 860	24.80
23-24	74 910	478	6.38	39.56	74 671	156.22	2 963 722	25.28
24-25	74 432	499	6.70	38.81	74 183	148.66	2 889 051	25.77
25-26	73 933	519	7.03	38.07	73 674	141.95	2 814 868	26.27
26-27	73 414	540	7.36	37.34	73 144	135.45	2 741 194	26.78
27-28	72 874	558	7.66	36.61	72 595	130.10	2 668 050	27.31
28-29	72 316	571	7.89	35.89	72 030	126.15	2 595 455	27.86
29-30	71 745	580	8.09	35.17	71 455	123.20	2 523 425	28.43
30-31	71 165	591	8.30	34.45	70 869	119.91	2 451 970	29.03
31-32	70 574	601	8.53	33.74	70 273	116.93	2 381 101	29.64
32-33	69 973	612	8.74	33.02	69 667	113.83	2 310 828	30.28
33-34	69 361	620	8.94	32.31	69 051	111.37	2 241 161	30.95
34-35	68 741	626	9.11	31.60	68 428	109.31	2 172 110	31.65
35-36	68 115	632	9.27	30.88	67 799	107.28	2 103 682	32.38
36-37	67 483	636	9.43	30.17	67 165	105.61	2 035 883	33.15
37-38	66 847	643	9.63	29.45	66 526	103.46	1 968 718	33.96
38-39	66 204	657	9.93	28.73	65 875	100.27	1 902 192	34.81
39-40	65 547	676	10.31	28.02	65 209	96.46	1 836 317	35.69
40-41	64 871	695	10.72	27.30	64 523	92.84	1 771 108	36.63
41-42	64 176	720	11.21	26.59	63 816	88.63	1 706 585	37.61
42-43	63 456	739	11.65	25.89	63 087	85.37	1 642 769	38.62
43-44	62 717	750	11.96	25.19	62 342	83.12	1 579 682	39.70
44-45	61 967	756	12.20	24.49	61 589	81.47	1 517 340	40.83

OF THE ORIGINAL REGISTRATION STATES: 1901. TABLE 29

REPORTED DEATHS IN 1900 (92,443), IN 1901 (90,330), AND IN 1902 (88,025).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhab- on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	61 211	765	12.50	23.78	60 828	79.51	1 455 751	42.05
46-47	60 446	774	12.80	23.08	60 059	77.60	1 394 923	43.33
47-48	59 672	794	13.31	22.37	59 275	74.65	1 334 864	44.70
48-49	58 878	833	14.14	21.66	58 461	70.18	1 275 589	46.17
49-50	58 045	882	15.20	20.97	57 604	65.31	1 217 128	47.69
50-51	57 163	932	16.30	20.28	56 697	60.83	1 159 524	49.31
51-52	56 231	982	17.47	19.61	55 740	56.76	1 102 827	50.99
52-53	55 249	1 029	18.63	18.95	54 734	53.19	1 047 087	52.77
53-54	54 220	1 073	19.78	18.30	53 683	50.03	992 353	54.64
54-55	53 147	1 117	21.01	17.66	52 589	47.08	938 670	56.63
55-56	52 030	1 166	22.42	17.03	51 447	44.12	886 081	58.72
56-57	50 864	1 222	24.02	16.41	50 253	41.12	834 634	60.94
57-58	49 642	1 281	25.81	15.80	49 001	38.25	784 381	63.29
58-59	48 361	1 338	27.66	15.21	47 692	35.64	735 380	65.75
59-60	47 023	1 387	29.49	14.62	46 330	33.40	687 688	68.40
60-61	45 636	1 430	31.35	14.05	44 921	31.41	641 358	71.17
61-62	44 206	1 469	33.21	13.49	43 472	29.59	596 437	74.13
62-63	42 737	1 505	35.22	12.94	41 985	27.90	552 965	77.28
63-64	41 232	1 551	37.61	12.39	40 457	26.08	510 980	80.71
64-65	39 681	1 606	40.48	11.86	38 878	24.21	470 523	84.32
65-66	38 075	1 660	43.60	11.34	37 245	22.44	431 645	88.18
66-67	36 415	1 714	47.09	10.83	35 558	20.75	394 400	92.34
67-68	34 701	1 767	50.91	10.34	33 817	19.14	358 842	96.71
68-69	32 934	1 806	54.84	9.87	32 031	17.74	325 025	101.32
69-70	31 128	1 831	58.81	9.41	30 213	16.50	292 994	106.27
70-71	29 297	1 849	63.13	8.97	28 372	15.34	262 781	111.48
71-72	27 448	1 861	67.80	8.54	26 517	14.25	234 409	117.10
72-73	25 587	1 858	72.61	8.12	24 658	13.27	207 892	123.15
73-74	23 729	1 841	77.60	7.72	22 808	12.39	183 234	129.53
74-75	21 888	1 816	82.95	7.33	20 980	11.55	160 426	136.43
75-76	20 072	1 784	88.85	6.95	19 180	10.75	139 446	143.88
76-77	18 288	1 749	95.65	6.58	17 414	9.96	120 266	151.98
77-78	16 539	1 708	103.27	6.22	15 685	9.18	102 852	160.77
78-79	14 831	1 658	111.77	5.88	14 002	8.45	87 167	170.07
79-80	13 173	1 594	121.05	5.55	12 376	7.76	73 165	180.18
80-81	11 579	1 516	130.93	5.25	10 821	7.14	60 789	190.48
81-82	10 063	1 421	141.19	4.97	9 352	6.58	49 968	201.21
82-83	8 642	1 311	151.66	4.70	7 987	6.09	40 616	212.77
83-84	7 331	1 189	162.25	4.45	6 737	5.66	32 629	224.72
84-85	6 142	1 063	172.99	4.22	5 611	5.28	25 892	236.97
85-86	5 079	934	183.99	3.99	4 612	4.94	20 281	250.63
86-87	4 145	810	195.44	3.78	3 740	4.62	15 669	264.55
87-88	3 335	692	207.50	3.58	2 989	4.32	11 929	279.33
88-89	2 643	582	220.27	3.38	2 352	4.04	8 940	295.86
89-90	2 061	482	233.81	3.20	1 820	3.78	6 588	312.50
90-91	1 579	392	248.09	3.02	1 383	3.53	4 768	331.13
91-92	1 187	312	263.09	2.85	1 031	3.30	3 385	350.88
92-93	875	244	278.79	2.69	753	3.09	2 354	371.75
93-94	631	186	295.23	2.54	538	2.89	1 601	393.70
94-95	445	139	312.51	2.39	375	2.70	1 063	418.41
95-96	306	101	330.76	2.25	255	2.52	688	444.44
96-97	205	72	350.12	2.12	169	2.36	433	471.70
97-98	133	49	370.68	1.99	108	2.20	264	502.51
98-99	84	33	392.50	1.87	67	2.05	156	534.76
99-100	51	21	415.60	1.75	40	1.91	89	571.43
100-101	30	13	440.00	1.64	23	1.77	49	609.76
101-102	17	8	465.76	1.53	13	1.65	26	653.59
102-103	9	4	492.93	1.43	7	1.53	13	699.30
103-104	5	3	521.58	1.33	3	1.42	6	751.88
104-105	2	1	551.79	1.24	2	1.31	3	806.45
105-106	1	1	583.63	1.15	1	1.21	1	869.57

TABLE 30 LIFE TABLE FOR WHITE FEMALES IN CITIES

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (7,246,306), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, itants in 1910 for the years 1910 and 1911. An explanation of each column of the life tables is given

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 874	38.74	51.39	8 091	25.08	5 139 231	19.46
1-2	96 126	1 086	11.29	53.38	7 965	87.96	5 131 140	18.73
2-3	95 040	923	9.71	53.91	7 882	102.48	5 123 175	18.55
3-4	94 117	805	8.56	54.35	7 810	116.40	5 115 293	18.40
4-5	93 312	722	7.74	54.74	7 746	128.76	5 107 483	18.27
5-6	92 590	656	7.08	55.08	7 688	140.64	5 099 737	18.16
6-7	91 934	602	6.55	55.39	7 636	152.16	5 092 049	18.05
7-8	91 332	559	6.12	55.67	7 588	162.84	5 084 413	17.96
8-9	90 773	521	5.74	55.93	7 543	173.76	5 076 825	17.88
9-10	90 252	488	5.40	56.17	7 501	184.44	5 069 282	17.80
10-11	89 764	457	5.09	56.39	7 461	195.96	5 061 781	17.73
11-12	89 307	430	4.82	56.59	7 424	207.24	5 054 320	17.67
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 123	111.23	51.39	92 335	8.30	5 139 231	19.46
1-2	88 877	2 708	30.47	56.79	87 279	32.23	5 046 896	17.61
2-3	86 169	1 139	13.22	57.56	85 565	75.12	4 959 617	17.37
3-4	85 030	753	8.85	57.32	84 638	112.40	4 874 052	17.45
4-5	84 277	543	6.44	56.83	83 995	154.69	4 789 414	17.60
5-6	83 734	439	5.25	56.19	83 514	190.24	4 705 419	17.80
6-7	83 295	363	4.35	55.49	83 113	228.96	4 621 905	18.02
7-8	82 932	296	3.58	54.73	82 784	279.68	4 538 792	18.27
8-9	82 636	246	2.97	53.92	82 513	335.42	4 456 008	18.55
9-10	82 390	207	2.52	53.08	82 287	397.52	4 373 495	18.84
10-11	82 183	183	2.23	52.22	82 091	448.58	4 291 208	19.15
11-12	82 000	172	2.10	51.33	81 914	476.24	4 209 117	19.48
12-13	81 828	172	2.10	50.44	81 742	475.24	4 127 203	19.83
13-14	81 656	180	2.21	49.54	81 566	453.14	4 045 461	20.19
14-15	81 476	197	2.41	48.65	81 378	413.09	3 963 895	20.55
15-16	81 279	219	2.70	47.77	81 170	370.64	3 882 517	20.93
16-17	81 060	243	3.00	46.90	80 939	333.08	3 801 347	21.32
17-18	80 817	264	3.28	46.03	80 685	305.63	3 720 408	21.72
18-19	80 553	285	3.54	45.18	80 410	282.14	3 639 723	22.13
19-20	80 268	306	3.82	44.34	80 115	261.81	3 559 313	22.55
20-21	79 962	328	4.10	43.51	79 798	243.29	3 479 198	22.98
21-22	79 634	347	4.35	42.69	79 460	228.99	3 399 400	23.42
22-23	79 287	363	4.58	41.87	79 106	217.92	3 319 940	23.88
23-24	78 924	377	4.78	41.06	78 736	208.85	3 240 834	24.35
24-25	78 547	392	5.00	40.26	78 351	199.88	3 162 098	24.84
25-26	78 155	408	5.22	39.46	77 951	191.06	3 083 747	25.34
26-27	77 747	423	5.44	38.66	77 535	183.30	3 005 796	25.87
27-28	77 324	436	5.64	37.87	77 106	176.85	2 928 261	26.41
28-29	76 888	450	5.85	37.08	76 663	170.36	2 851 155	26.97
29-30	76 438	464	6.08	36.30	76 206	164.24	2 774 492	27.55
30-31	75 974	481	6.33	35.52	75 733	157.45	2 698 286	28.15
31-32	75 493	498	6.60	34.74	75 244	151.09	2 622 553	28.79
32-33	74 995	516	6.88	33.97	74 737	144.84	2 547 309	29.44
33-34	74 479	532	7.15	33.20	74 213	139.50	2 472 572	30.12
34-35	73 947	548	7.41	32.43	73 673	134.44	2 398 359	30.84
35-36	73 399	563	7.67	31.67	73 118	129.87	2 324 686	31.58
36-37	72 836	576	7.91	30.91	72 548	125.95	2 251 568	32.35
37-38	72 260	587	8.12	30.16	71 967	122.60	2 179 020	33.16
38-39	71 673	598	8.34	29.40	71 374	119.35	2 107 053	34.01
39-40	71 075	609	8.58	28.64	70 771	116.21	2 035 679	34.92
40-41	70 466	622	8.83	27.88	70 155	112.79	1 964 908	35.87
41-42	69 844	638	9.14	27.13	69 525	108.97	1 894 753	36.86
42-43	69 206	662	9.55	26.37	68 875	104.04	1 825 228	37.92
43-44	68 544	688	10.05	25.62	68 200	99.13	1 756 353	39.03
44-45	67 856	719	10.59	24.88	67 496	93.87	1 688 153	40.19

OF THE ORIGINAL REGISTRATION STATES: 1910. TABLE 30

REPORTED DEATHS IN 1909 (101,088), IN 1910 (107,757), AND IN 1911 (104,586).

Michigan, and the District of Columbia. The term "cities" means municipalities of 8,000 or more inhabitants in 1900 for the year 1909, and of 10,000 or more inhab- on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	67 137	752	11.20	24.14	66 761	88.78	1 620 657	41.43
46-47	66 385	785	11.84	23.41	65 992	84.07	1 553 896	42.72
47-48	65 600	817	12.45	22.68	65 191	79.79	1 487 904	44.09
48-49	64 783	847	13.07	21.96	64 359	75.98	1 422 713	45.54
49-50	63 936	878	13.74	21.25	63 497	72.32	1 358 354	47.06
50-51	63 058	911	14.44	20.53	62 603	68.72	1 294 857	48.71
51-52	62 147	948	15.27	19.83	61 673	65.06	1 232 254	50.43
52-53	61 199	1 000	16.33	19.13	60 699	60.70	1 170 581	52.27
53-54	60 199	1 063	17.66	18.44	59 668	56.13	1 109 882	54.23
54-55	59 136	1 135	19.19	17.76	58 569	51.60	1 050 214	56.31
55-56	58 001	1 216	20.98	17.10	57 393	47.20	991 645	58.48
56-57	56 785	1 303	22.95	16.45	56 133	43.08	934 252	60.79
57-58	55 482	1 380	24.87	15.83	54 792	39.70	878 119	63.17
58-59	54 102	1 444	26.70	15.22	53 380	36.97	823 327	65.70
59-60	52 658	1 509	28.65	14.62	51 903	34.40	769 947	68.40
60-61	51 149	1 568	30.65	14.04	50 365	32.12	718 044	71.23
61-62	49 581	1 627	32.83	13.47	48 768	29.97	667 679	74.24
62-63	47 954	1 697	35.38	12.91	47 105	27.76	618 911	77.46
63-64	46 257	1 771	38.29	12.36	45 372	25.62	571 806	80.91
64-65	44 486	1 839	41.33	11.83	43 567	23.69	526 434	84.53
65-66	42 647	1 899	44.54	11.32	41 698	21.96	482 867	88.34
66-67	40 748	1 953	47.93	10.83	39 771	20.36	441 169	92.34
67-68	38 795	1 996	51.45	10.35	37 797	18.94	401 398	96.62
68-69	36 799	2 030	55.15	9.88	35 784	17.63	363 601	101.21
69-70	34 769	2 056	59.16	9.43	33 741	16.41	327 817	106.04
70-71	32 713	2 078	63.50	8.99	31 674	15.24	294 076	111.23
71-72	30 635	2 086	68.10	8.57	29 592	14.19	262 402	116.69
72-73	28 549	2 080	72.87	8.15	27 509	13.23	232 810	122.70
73-74	26 469	2 062	77.89	7.76	25 438	12.34	205 301	128.87
74-75	24 407	2 034	83.32	7.37	23 390	11.50	179 863	135.69
75-76	22 373	1 995	89.20	6.99	21 376	10.71	156 473	143.06
76-77	20 378	1 948	95.56	6.63	19 404	9.96	135 097	150.83
77-78	18 430	1 890	102.60	6.28	17 485	9.25	115 693	159.24
78-79	16 540	1 827	110.46	5.94	15 626	8.55	98 208	168.35
79-80	14 713	1 758	119.47	5.61	13 834	7.87	82 582	178.25
80-81	12 955	1 687	130.21	5.31	12 111	7.18	68 748	188.32
81-82	11 268	1 594	141.49	5.03	10 471	6.57	56 637	198.81
82-83	9 674	1 467	151.64	4.77	8 940	6.09	46 166	209.64
83-84	8 207	1 316	160.37	4.54	7 549	5.74	37 226	220.26
84-85	6 891	1 167	169.38	4.31	6 307	5.40	29 677	232.02
85-86	5 724	1 029	179.79	4.08	5 209	5.06	23 370	245.10
86-87	4 695	896	190.78	3.87	4 247	4.74	18 161	258.40
87-88	3 799	770	202.62	3.66	3 414	4.44	13 914	273.22
88-89	3 029	653	215.54	3.47	2 703	4.14	10 500	288.18
89-90	2 376	545	229.63	3.28	2 103	3.85	7 797	304.88
90-91	1 831	448	244.72	3.11	1 607	3.59	5 694	321.54
91-92	1 383	360	260.13	2.96	1 203	3.34	4 087	337.84
92-93	1 023	281	274.75	2.82	882	3.14	2 884	354.61
93-94	742	213	287.57	2.70	635	2.98	2 002	370.37
94-95	529	158	298.14	2.59	450	2.85	1 367	386.10
95-96	371	114	307.06	2.47	314	2.76	917	404.86
96-97	257	81	316.15	2.35	216	2.66	603	425.53
97-98	176	58	328.36	2.20	147	2.55	387	454.55
98-99	118	41	347.03	2.03	98	2.38	240	492.61
99-100	77	29	374.97	1.84	63	2.17	142	543.48
100-101	48	20	413.64	1.65	38	1.92	79	606.06
101-102	28	13	462.78	1.45	22	1.66	41	689.66
102-103	15	8	520.59	1.27	11	1.42	19	787.40
103-104	7	4	583.87	1.12	5	1.21	8	892.86
104-105	3	2	648.73	.98	2	1.04	3	.....
105-106	1	1	711.50	.87	1	.91	1	.....

TABLE 31 LIFE TABLE FOR WHITE MALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (4,697,259), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 194	41.94	54.03	8 071	23.04	5 403 110	18.51
1-2	95 806	1 016	10.61	56.31	7 942	93.84	5 395 039	17.76
2-3	94 790	909	9.59	56.83	7 861	103.80	5 387 097	17.60
3-4	93 881	810	8.62	57.30	7 790	115.44	5 379 236	17.45
4-5	93 071	715	7.68	57.71	7 726	129.72	5 371 446	17.33
5-6	92 356	632	6.84	58.08	7 670	145.68	5 363 720	17.22
6-7	91 724	564	6.15	58.39	7 620	162.12	5 356 050	17.13
7-8	91 160	504	5.52	58.67	7 576	180.36	5 348 430	17.04
8-9	90 656	451	4.98	58.91	7 536	200.52	5 340 854	16.98
9-10	90 205	403	4.47	59.12	7 500	223.32	5 333 318	16.91
10-11	89 802	364	4.05	59.31	7 468	246.24	5 325 818	16.86
11-12	89 438	338	3.78	59.46	7 439	264.12	5 318 350	16.82
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 900	109.00	54.03	92 199	8.46	5 403 110	18.51
1-2	89 100	2 165	24.30	59.61	87 823	40.56	5 310 911	16.78
2-3	86 935	923	10.62	60.08	86 446	93.66	5 223 088	16.64
3-4	86 012	591	6.87	59.72	85 704	145.02	5 136 642	16.74
4-5	85 421	464	5.43	59.13	85 180	183.58	5 050 938	16.91
5-6	84 957	369	4.35	58.45	84 772	229.73	4 965 758	17.11
6-7	84 588	303	3.58	57.70	84 436	278.67	4 880 986	17.33
7-8	84 285	257	3.05	56.91	84 156	327.46	4 796 550	17.57
8-9	84 028	225	2.68	56.08	83 916	372.96	4 712 394	17.83
9-10	83 803	202	2.41	55.23	83 702	414.37	4 628 478	18.11
10-11	83 601	191	2.29	54.36	83 506	437.20	4 544 776	18.40
11-12	83 410	191	2.29	53.49	83 315	436.20	4 461 270	18.70
12-13	83 219	199	2.40	52.61	83 119	417.68	4 377 955	19.01
13-14	83 020	217	2.61	51.73	82 911	382.08	4 294 836	19.33
14-15	82 803	239	2.89	50.87	82 684	345.96	4 211 925	19.66
15-16	82 564	267	3.24	50.01	82 430	308.73	4 129 241	20.00
16-17	82 297	300	3.65	49.17	82 147	273.82	4 046 811	20.34
17-18	81 997	332	4.04	48.35	81 831	246.48	3 964 664	20.68
18-19	81 665	359	4.39	47.55	81 486	226.98	3 882 833	21.03
19-20	81 306	382	4.70	46.75	81 115	212.34	3 801 347	21.39
20-21	80 924	408	5.04	45.97	80 720	197.84	3 720 232	21.75
21-22	80 516	434	5.39	45.20	80 299	185.02	3 639 512	22.12
22-23	80 082	453	5.66	44.44	79 855	176.28	3 559 213	22.50
23-24	79 629	460	5.78	43.69	79 399	172.61	3 479 358	22.89
24-25	79 169	459	5.80	42.95	78 939	171.98	3 399 959	23.28
25-26	78 710	458	5.81	42.19	78 481	171.36	3 321 020	23.70
26-27	78 252	454	5.81	41.44	78 025	171.86	3 242 539	24.13
27-28	77 798	452	5.81	40.68	77 572	171.62	3 164 514	24.58
28-29	77 346	450	5.82	39.91	77 121	171.38	3 086 942	25.06
29-30	76 896	449	5.84	39.14	76 672	170.76	3 009 821	25.55
30-31	76 447	446	5.84	38.37	76 224	170.91	2 933 149	26.06
31-32	76 001	443	5.83	37.59	75 779	171.06	2 856 925	26.60
32-33	75 558	443	5.86	36.81	75 336	170.06	2 781 146	27.17
33-34	75 115	448	5.96	36.02	74 891	167.17	2 705 810	27.76
34-35	74 667	455	6.10	35.24	74 440	163.60	2 630 919	28.38
35-36	74 212	463	6.24	34.45	73 980	159.78	2 556 479	29.03
36-37	73 749	473	6.41	33.66	73 512	155.42	2 482 499	29.71
37-38	73 276	482	6.58	32.88	73 035	151.52	2 408 987	30.41
38-39	72 794	491	6.75	32.09	72 549	147.76	2 335 952	31.16
39-40	72 303	501	6.93	31.30	72 053	143.82	2 263 403	31.95
40-41	71 802	512	7.13	30.52	71 546	139.74	2 191 350	32.77
41-42	71 290	524	7.35	29.73	71 028	135.55	2 119 804	33.64
42-43	70 766	538	7.60	28.95	70 497	131.04	2 048 776	34.54
43-44	70 228	554	7.89	28.17	69 951	126.27	1 978 279	35.50
44-45	69 674	572	8.21	27.39	69 388	121.31	1 908 328	36.51

OF THE ORIGINAL REGISTRATION STATES: 1901. TABLE 31

REPORTED DEATHS IN 1900 (72,251), IN 1901 (68,563), AND IN 1902 (63,756).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 102	593	8.58	26.61	68 806	116.03	1 838 940	37.58
46-47	68 509	617	9.00	25.84	68 201	110.54	1 770 134	38.70
47-48	67 892	640	9.44	25.07	67 572	105.58	1 701 933	39.89
48-49	67 252	663	9.85	24.30	66 920	100.94	1 634 361	41.15
49-50	66 589	682	10.25	23.54	66 248	97.14	1 567 441	42.48
50-51	65 907	706	10.71	22.78	65 554	92.85	1 501 193	43.90
51-52	65 201	730	11.19	22.02	64 836	88.82	1 435 639	45.41
52-53	64 471	761	11.80	21.26	64 091	84.22	1 370 803	47.04
53-54	63 710	803	12.61	20.51	63 309	78.84	1 306 712	48.76
54-55	62 907	857	13.62	19.77	62 479	72.90	1 243 403	50.58
55-56	62 050	914	14.74	19.03	61 593	67.39	1 180 924	52.55
56-57	61 136	979	16.01	18.31	60 646	61.95	1 119 331	54.61
57-58	60 157	1 046	17.38	17.60	59 634	57.01	1 058 685	56.82
58-59	59 111	1 108	18.75	16.90	58 557	52.85	999 051	59.17
59-60	58 003	1 169	20.15	16.21	57 418	49.12	940 494	61.69
60-61	56 834	1 232	21.68	15.54	56 218	45.63	883 076	64.35
61-62	55 602	1 296	23.30	14.87	54 954	42.40	826 858	67.25
62-63	54 306	1 370	25.23	14.21	53 621	39.14	771 904	70.37
63-64	52 936	1 463	27.64	13.57	52 204	35.68	718 283	73.69
64-65	51 473	1 569	30.47	12.94	50 688	32.31	666 079	77.28
65-66	49 904	1 670	33.47	12.33	49 069	29.38	615 391	81.10
66-67	48 234	1 771	36.72	11.74	47 348	26.74	566 322	85.18
67-68	46 463	1 866	40.15	11.17	45 530	24.40	518 974	89.53
68-69	44 597	1 949	43.70	10.62	43 623	22.38	473 444	94.16
69-70	42 648	2 023	47.45	10.08	41 636	20.58	429 821	99.21
70-71	40 625	2 093	51.52	9.56	39 578	18.91	388 185	104.60
71-72	38 532	2 155	55.92	9.05	37 454	17.38	348 607	110.50
72-73	36 377	2 211	60.77	8.55	35 272	15.95	311 153	116.96
73-74	34 166	2 257	66.07	8.07	33 038	14.64	275 881	123.92
74-75	31 909	2 297	72.00	7.61	30 760	13.39	242 843	131.41
75-76	29 612	2 331	78.70	7.16	28 447	12.20	212 083	139.66
76-77	27 281	2 355	86.35	6.73	26 103	11.08	183 636	148.59
77-78	24 926	2 371	95.10	6.32	23 740	10.01	157 533	158.23
78-79	22 555	2 367	104.96	5.93	21 372	9.03	133 793	168.63
79-80	20 188	2 338	115.79	5.57	19 019	8.13	112 421	179.53
80-81	17 850	2 272	127.32	5.23	16 714	7.35	93 402	191.20
81-82	15 578	2 168	139.19	4.92	14 494	6.68	76 688	203.25
82-83	13 410	2 027	151.12	4.64	12 396	6.12	62 194	215.52
83-84	11 383	1 855	162.97	4.37	10 456	5.64	49 798	228.83
84-85	9 528	1 665	174.76	4.13	8 695	5.22	39 342	242.13
85-86	7 863	1 468	186.67	3.90	7 129	4.86	30 647	256.41
86-87	6 395	1 273	199.02	3.68	5 759	4.52	23 518	271.74
87-88	5 122	1 086	212.08	3.47	4 579	4.22	17 759	288.18
88-89	4 036	912	226.06	3.27	3 580	3.92	13 180	305.81
89-90	3 124	753	241.05	3.07	2 747	3.65	9 600	325.73
90-91	2 371	610	257.02	2.89	2 066	3.39	6 853	346.02
91-92	1 761	482	273.85	2.72	1 520	3.15	4 787	367.65
92-93	1 279	373	291.49	2.56	1 093	2.93	3 267	390.63
93-94	906	281	309.90	2.40	766	2.73	2 174	416.67
94-95	625	205	329.16	2.25	522	2.54	1 408	444.44
95-96	420	147	349.43	2.11	346	2.36	886	473.93
96-97	273	101	370.87	1.98	222	2.20	540	505.05
97-98	172	68	393.62	1.86	138	2.04	318	537.63
98-99	104	43	417.71	1.74	82	1.89	180	574.71
99-100	61	27	443.05	1.62	47	1.76	98	617.28
100-101	34	16	469.66	1.51	26	1.63	51	662.25
101-102	18	9	497.58	1.41	13	1.51	25	709.22
102-103	9	5	526.83	1.32	7	1.40	12	757.58
103-104	4	2	557.42	1.23	3	1.29	5	813.01
104-105	2	1	589.38	1.14	1	1.20	2	877.19
105-106	1	1	622.69	1.06	1	1.11	1	943.40

TABLE 32 LIFE TABLE FOR WHITE MALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,721,941), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 570	45.70	55.06	8 048	21.12	5 506 488	18.16
1-2	95 430	997	10.45	57.62	7 911	95.16	5 498 440	17.36
2-3	94 433	822	8.71	58.14	7 835	114.36	5 490 529	17.20
3-4	93 611	699	7.47	58.57	7 772	133.44	5 482 694	17.07
4-5	92 912	595	6.40	58.93	7 718	155.64	5 474 922	16.97
5-6	92 317	515	5.58	59.22	7 672	178.80	5 467 204	16.89
6-7	91 802	459	5.00	59.47	7 631	199.56	5 459 532	16.82
7-8	91 343	408	4.46	59.69	7 595	223.44	5 451 901	16.75
8-9	90 935	363	3.99	59.87	7 563	249.96	5 444 306	16.70
9-10	90 572	325	3.59	60.03	7 534	278.16	5 436 743	16.66
10-11	90 247	296	3.28	60.16	7 508	304.32	5 429 209	16.62
11-12	89 951	277	3.08	60.27	7 484	324.24	5 421 701	16.59
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 326	103.26	55.06	92 271	8.94	5 506 488	18.16
1-2	89 674	1 779	19.84	60.38	88 625	49.82	5 414 217	16.56
2-3	87 895	799	9.10	60.59	87 472	109.48	5 325 592	16.50
3-4	87 096	512	5.87	60.14	86 830	169.59	5 238 120	16.63
4-5	86 584	361	4.17	59.49	86 396	239.32	5 151 290	16.81
5-6	86 223	304	3.53	58.74	86 071	283.13	5 064 894	17.02
6-7	85 919	262	3.05	57.95	85 788	327.44	4 978 823	17.26
7-8	85 657	227	2.65	57.12	85 543	376.84	4 893 035	17.51
8-9	85 430	202	2.36	56.27	85 329	422.42	4 807 492	17.77
9-10	85 228	185	2.17	55.41	85 136	460.19	4 722 163	18.05
10-11	85 043	176	2.07	54.53	84 955	482.70	4 637 027	18.34
11-12	84 867	175	2.06	53.64	84 780	484.46	4 552 072	18.64
12-13	84 692	181	2.14	52.75	84 602	467.41	4 467 292	18.96
13-14	84 511	193	2.28	51.86	84 415	437.38	4 382 690	19.28
14-15	84 318	208	2.47	50.98	84 214	404.88	4 298 275	19.62
15-16	84 110	227	2.69	50.10	83 997	370.03	4 214 061	19.96
16-17	83 883	250	2.98	49.24	83 758	335.03	4 130 064	20.31
17-18	83 633	282	3.38	48.38	83 492	296.07	4 046 306	20.67
18-19	83 351	320	3.83	47.54	83 191	259.97	3 962 814	21.03
19-20	83 031	357	4.31	46.72	82 853	232.08	3 879 623	21.40
20-21	82 674	399	4.83	45.92	82 474	206.70	3 796 770	21.78
21-22	82 275	428	5.20	45.14	82 061	191.73	3 714 296	22.15
22-23	81 847	435	5.31	44.38	81 629	187.65	3 632 235	22.53
23-24	81 412	427	5.24	43.61	81 199	190.16	3 550 606	22.93
24-25	80 985	421	5.20	42.84	80 775	191.86	3 469 407	23.34
25-26	80 564	413	5.13	42.06	80 358	194.57	3 388 632	23.78
26-27	80 151	409	5.10	41.28	79 946	195.47	3 308 274	24.22
27-28	79 742	410	5.15	40.48	79 537	193.99	3 228 328	24.70
28-29	79 332	417	5.25	39.69	79 124	189.75	3 148 791	25.20
29-30	78 915	420	5.33	38.90	78 705	187.39	3 069 667	25.71
30-31	78 495	423	5.39	38.10	78 284	185.07	2 999 962	26.25
31-32	78 072	429	5.50	37.31	77 857	181.48	2 912 678	26.80
32-33	77 643	441	5.67	36.51	77 423	175.56	2 834 821	27.39
33-34	77 202	453	5.88	35.72	76 976	169.92	2 757 398	28.00
34-35	76 749	467	6.08	34.92	76 516	163.85	2 680 422	28.64
35-36	76 282	480	6.30	34.14	76 042	158.42	2 603 906	29.29
36-37	75 802	492	6.49	33.35	75 556	153.57	2 527 864	29.99
37-38	75 310	499	6.63	32.56	75 060	150.42	2 452 308	30.71
38-39	74 811	506	6.75	31.78	74 558	147.35	2 377 248	31.47
39-40	74 305	512	6.90	30.99	74 049	144.63	2 302 690	32.27
40-41	73 793	521	7.06	30.20	73 532	141.14	2 228 641	33.11
41-42	73 272	532	7.26	29.41	73 006	137.23	2 155 109	34.00
42-43	72 740	548	7.53	28.62	72 466	132.24	2 082 103	34.94
43-44	72 192	567	7.86	27.84	71 908	126.82	2 009 637	35.92
44-45	71 625	590	8.23	27.05	71 330	120.90	1 937 729	36.97

OF THE ORIGINAL REGISTRATION STATES: 1910. TABLE 32

REPORTED DEATHS IN 1909 (67,589), IN 1910 (71,258), AND IN 1911 (69,513).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age-interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	71 035	615	8.67	26.27	70 727	115.00	1 866 399	38.07
46-47	70 420	642	9.11	25.50	70 099	109.19	1 795 672	39.22
47-48	69 778	662	9.49	24.73	69 447	104.90	1 725 573	40.44
48-49	69 116	681	9.85	23.96	68 776	100.99	1 656 126	41.74
49-50	68 435	701	10.24	23.20	68 085	97.13	1 587 350	43.10
50-51	67 734	721	10.65	22.43	67 374	93.45	1 519 265	44.58
51-52	67 013	749	11.18	21.67	66 639	88.97	1 451 891	46.15
52-53	66 264	791	11.94	20.91	65 869	83.27	1 385 252	47.82
53-54	65 473	847	12.94	20.15	65 050	76.80	1 319 383	49.63
54-55	64 626	909	14.06	19.41	64 172	70.60	1 254 333	51.52
55-56	63 717	979	15.37	18.68	63 228	64.58	1 190 161	53.53
56-57	62 738	1 053	16.79	17.96	62 211	59.08	1 126 933	55.68
57-58	61 685	1 122	18.19	17.26	61 124	54.48	1 064 722	57.94
58-59	60 563	1 188	19.60	16.57	59 969	50.48	1 003 598	60.35
59-60	59 375	1 258	21.19	15.89	58 746	46.70	943 629	62.93
60-61	58 117	1 331	22.91	15.23	57 451	43.16	884 883	65.66
61-62	56 786	1 413	24.87	14.57	56 080	39.69	827 432	68.63
62-63	55 373	1 502	27.13	13.93	54 622	36.37	771 352	71.79
63-64	53 871	1 597	29.65	13.30	53 072	33.23	716 730	75.19
64-65	52 274	1 688	32.29	12.70	51 430	30.47	663 658	78.74
65-66	50 586	1 774	35.06	12.10	49 699	28.02	612 228	82.64
66-67	48 812	1 857	38.04	11.52	47 884	25.79	562 529	86.81
67-68	46 955	1 939	41.30	10.96	45 986	23.72	514 645	91.24
68-69	45 016	2 022	44.91	10.41	44 005	21.76	468 659	96.06
69-70	42 994	2 097	48.79	9.88	41 945	20.00	424 654	101.21
70-71	40 897	2 165	52.93	9.36	39 814	18.39	382 709	106.84
71-72	38 732	2 233	57.65	8.85	37 616	16.85	342 895	112.99
72-73	36 499	2 305	63.16	8.36	35 346	15.33	305 279	119.62
73-74	34 194	2 374	69.41	7.89	33 007	13.90	269 933	126.74
74-75	31 820	2 427	76.29	7.45	30 606	12.61	236 926	134.23
75-76	29 393	2 470	84.04	7.02	28 158	11.40	206 320	142.45
76-77	26 923	2 479	92.05	6.62	25 683	10.36	178 162	151.06
77-78	24 444	2 444	99.99	6.24	23 222	9.50	152 479	160.26
78-79	22 000	2 380	108.20	5.88	20 810	8.74	129 257	170.07
79-80	19 620	2 313	117.89	5.53	18 463	7.98	108 447	180.83
80-81	17 307	2 245	129.68	5.20	16 185	7.21	89 984	192.31
81-82	15 062	2 142	142.22	4.90	13 991	6.53	73 799	204.08
82-83	12 920	1 986	153.76	4.63	11 927	6.00	59 808	215.98
83-84	10 934	1 793	163.92	4.38	10 038	5.60	47 881	228.31
84-85	9 141	1 601	175.24	4.14	8 340	5.21	37 843	241.55
85-86	7 540	1 414	187.54	3.91	6 833	4.83	29 503	255.75
86-87	6 126	1 225	199.99	3.70	5 513	4.50	22 670	270.27
87-88	4 901	1 043	212.76	3.50	4 379	4.20	17 157	285.71
88-89	3 858	872	226.02	3.31	3 422	3.92	12 778	302.11
89-90	2 986	716	239.84	3.13	2 628	3.67	9 356	319.49
90-91	2 270	577	254.25	2.96	1 981	3.43	6 728	337.84
91-92	1 693	456	269.19	2.80	1 465	3.21	4 747	357.14
92-93	1 237	352	284.58	2.65	1 061	3.01	3 282	377.36
93-94	885	266	300.37	2.51	752	2.83	2 221	398.41
94-95	619	196	316.59	2.37	521	2.66	1 469	421.94
95-96	423	141	333.44	2.24	353	2.50	948	446.43
96-97	282	99	351.29	2.11	233	2.35	595	473.93
97-98	183	68	370.73	1.98	149	2.20	362	505.05
98-99	115	45	392.37	1.85	93	2.05	213	540.54
99-100	70	29	416.73	1.72	55	1.90	120	581.40
100-101	41	18	444.12	1.60	32	1.75	65	625.00
101-102	23	11	474.70	1.48	17	1.61	33	675.68
102-103	12	6	508.29	1.36	9	1.47	16	735.29
103-104	6	3	544.52	1.25	4	1.34	7	800.00
104-105	3	2	582.88	1.15	2	1.22	3	869.57
105-106	1	1	622.88	1.05	1	1.11	1	952.38

TABLE 33 LIFE TABLE FOR WHITE FEMALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (4,484,513), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 222	32.22	55.41	8 132	30.24	5 541 213	18.05
1-2	96 778	826	8.53	57.17	8 030	116.64	5 533 081	17.49
2-3	95 952	749	7.81	57.58	7 965	127.56	5 525 051	17.37
3-4	95 203	679	7.14	57.95	7 905	139.68	5 517 086	17.26
4-5	94 524	614	6.50	58.28	7 851	153.48	5 509 181	17.16
5-6	93 910	554	5.89	58.58	7 803	168.96	5 501 330	17.07
6-7	93 356	498	5.34	58.84	7 759	186.96	5 493 527	17.00
7-8	92 858	448	4.82	59.08	7 719	206.76	5 485 768	16.93
8-9	92 410	403	4.36	59.28	7 684	228.84	5 478 049	16.87
9-10	92 007	361	3.92	59.46	7 652	254.40	5 470 365	16.82
10-11	91 646	324	3.54	59.61	7 624	282.36	5 462 713	16.78
11-12	91 322	301	3.30	59.73	7 598	302.88	5 455 089	16.74
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	8 979	89.79	55.41	93 722	10.44	5 541 213	18.05
1-2	91 021	1 988	21.84	59.85	89 848	45.20	5 447 491	16.71
2-3	89 033	944	10.60	60.18	88 533	93.78	5 357 643	16.62
3-4	88 089	596	6.77	59.82	87 779	147.28	5 269 110	16.72
4-5	87 493	476	5.44	59.22	87 245	183.29	5 181 331	16.89
5-6	87 017	380	4.37	58.54	86 827	228.49	5 094 086	17.08
6-7	86 637	306	3.53	57.80	86 484	282.63	5 007 259	17.30
7-8	86 331	251	2.90	57.00	86 206	343.45	4 920 775	17.54
8-9	86 080	212	2.47	56.16	85 974	405.54	4 834 569	17.81
9-10	85 868	191	2.22	55.30	85 772	449.07	4 748 595	18.08
10-11	85 677	182	2.12	54.42	85 586	470.25	4 662 823	18.38
11-12	85 495	185	2.17	53.54	85 403	461.64	4 577 237	18.68
12-13	85 310	200	2.34	52.65	85 210	426.05	4 491 834	18.99
13-14	85 110	222	2.61	51.78	84 999	382.88	4 406 624	19.31
14-15	84 888	251	2.96	50.91	84 763	337.70	4 321 625	19.64
15-16	84 637	287	3.40	50.06	84 493	294.40	4 236 862	19.98
16-17	84 350	329	3.90	49.23	84 185	255.88	4 152 369	20.31
17-18	84 021	367	4.37	48.42	83 837	228.44	4 068 184	20.65
18-19	83 654	400	4.77	47.63	83 454	208.64	3 984 347	21.00
19-20	83 254	426	5.12	46.86	83 041	194.93	3 900 893	21.34
20-21	82 828	455	5.50	46.09	82 600	181.54	3 817 852	21.70
21-22	82 373	486	5.89	45.35	82 130	168.99	3 735 252	22.05
22-23	81 887	508	6.21	44.61	81 633	160.69	3 653 122	22.42
23-24	81 379	520	6.38	43.89	81 119	156.00	3 571 489	22.78
24-25	80 859	523	6.47	43.17	80 598	154.11	3 490 370	23.16
25-26	80 336	526	6.55	42.44	80 073	152.23	3 409 772	23.56
26-27	79 810	527	6.60	41.72	79 547	150.94	3 329 699	23.97
27-28	79 283	527	6.65	40.99	79 020	149.94	3 250 152	24.40
28-29	78 756	528	6.70	40.27	78 492	148.66	3 171 132	24.83
29-30	78 228	529	6.76	39.53	77 964	147.38	3 092 640	25.30
30-31	77 699	528	6.80	38.80	77 435	146.66	3 014 676	25.77
31-32	77 171	527	6.83	38.06	76 908	145.94	2 937 241	26.27
32-33	76 644	524	6.85	37.32	76 382	145.77	2 860 333	26.80
33-34	76 120	522	6.86	36.57	75 859	145.32	2 783 951	27.34
34-35	75 598	520	6.87	35.82	75 338	144.88	2 708 092	27.92
35-36	75 078	517	6.89	35.07	74 820	144.72	2 632 754	28.51
36-37	74 561	514	6.90	34.31	74 304	144.56	2 557 934	29.15
37-38	74 047	515	6.95	33.54	73 790	143.28	2 483 630	29.82
38-39	73 532	520	7.08	32.77	73 272	140.91	2 409 840	30.52
39-40	73 012	531	7.27	32.00	72 746	137.00	2 336 568	31.25
40-41	72 481	542	7.47	31.23	72 210	133.23	2 263 822	32.02
41-42	71 939	554	7.70	30.46	71 662	129.35	2 191 612	32.83
42-43	71 385	565	7.92	29.70	71 103	125.85	2 119 950	33.67
43-44	70 820	572	8.07	28.93	70 534	123.31	2 048 847	34.57
44-45	70 248	576	8.21	28.16	69 960	121.46	1 978 313	35.51

OF THE ORIGINAL REGISTRATION STATES: 1901. TABLE 33

REPORTED DEATHS IN 1900 (66,636), IN 1901 (62,088), AND IN 1902 (57,138).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 672	585	8.39	27.39	69 379	118.60	1 908 353	36.51
46-47	69 087	594	8.61	26.62	68 790	115.81	1 838 974	37.57
47-48	68 493	610	8.91	25.84	68 188	111.78	1 770 184	38.70
48-49	67 883	633	9.33	25.07	67 566	106.74	1 701 996	39.89
49-50	67 250	662	9.84	24.30	66 919	101.09	1 634 430	41.15
50-51	66 588	691	10.39	23.54	66 242	95.86	1 567 511	42.48
51-52	65 897	724	10.98	22.78	65 535	90.52	1 501 269	43.90
52-53	65 173	760	11.65	22.03	64 793	85.25	1 435 734	45.39
53-54	64 413	799	12.42	21.28	64 013	80.12	1 370 941	46.99
54-55	63 614	845	13.28	20.54	63 191	74.78	1 306 928	48.69
55-56	62 769	894	14.24	19.81	62 322	69.71	1 243 737	50.48
56-57	61 875	946	15.30	19.09	61 402	64.91	1 181 415	52.38
57-58	60 929	1 001	16.42	18.38	60 428	60.37	1 120 013	54.41
58-59	59 928	1 054	17.59	17.68	59 401	56.36	1 059 585	56.56
59-60	58 874	1 107	18.81	16.99	58 320	52.68	1 000 184	58.86
60-61	57 767	1 164	20.14	16.30	57 185	49.13	941 864	61.35
61-62	56 603	1 220	21.56	15.63	55 993	45.90	884 679	63.98
62-63	55 383	1 285	23.19	14.96	54 741	42.60	828 686	66.84
63-64	54 098	1 359	25.13	14.31	53 419	39.31	773 945	69.88
64-65	52 739	1 442	27.34	13.66	52 018	36.07	720 526	73.21
65-66	51 297	1 524	29.72	13.03	50 535	33.16	668 508	76.75
66-67	49 773	1 606	32.27	12.42	48 970	30.49	617 973	80.52
67-68	48 167	1 693	35.14	11.81	47 320	27.95	569 003	84.67
68-69	46 474	1 786	38.43	11.23	45 581	25.52	521 683	89.05
69-70	44 688	1 884	42.17	10.65	43 746	23.22	476 102	93.90
70-71	42 804	1 983	46.31	10.10	41 812	21.09	432 356	99.01
71-72	40 821	2 080	50.95	9.57	39 781	19.13	390 544	104.49
72-73	38 741	2 170	56.02	9.05	37 656	17.35	350 763	110.50
73-74	36 571	2 244	61.37	8.56	35 449	15.80	313 107	116.82
74-75	34 327	2 300	67.00	8.09	33 177	14.42	277 658	123.61
75-76	32 027	2 344	73.19	7.63	30 855	13.16	244 481	131.06
76-77	29 683	2 376	80.05	7.20	28 495	11.99	213 626	138.89
77-78	27 307	2 396	87.75	6.78	26 109	10.90	185 131	147.49
78-79	24 911	2 397	96.20	6.38	23 712	9.89	159 022	156.74
79-80	22 514	2 372	105.35	6.01	21 328	8.99	135 310	166.39
80-81	20 142	2 317	115.06	5.66	18 983	8.19	113 982	176.68
81-82	17 825	2 231	125.17	5.33	16 709	7.49	94 999	187.62
82-83	15 594	2 114	135.55	5.02	14 537	6.88	78 290	199.20
83-84	13 480	1 970	146.15	4.73	12 495	6.34	63 753	211.42
84-85	11 510	1 808	157.05	4.45	10 606	5.87	51 258	224.72
85-86	9 702	1 634	168.46	4.19	8 885	5.44	40 652	238.66
86-87	8 068	1 458	180.64	3.94	7 339	5.04	31 767	253.81
87-88	6 610	1 281	193.86	3.70	5 970	4.66	24 428	270.27
88-89	5 329	1 110	208.30	3.46	4 774	4.30	18 458	289.02
89-90	4 219	945	223.99	3.24	3 746	3.96	13 684	308.64
90-91	3 274	789	240.86	3.04	2 880	3.65	9 938	328.95
91-92	2 485	643	258.74	2.84	2 164	3.36	7 058	352.11
92-93	1 842	511	277.47	2.66	1 587	3.10	4 894	375.94
93-94	1 331	395	296.98	2.49	1 133	2.87	3 307	401.61
94-95	936	297	317.29	2.32	787	2.65	2 174	431.03
95-96	639	216	338.55	2.17	531	2.45	1 387	460.83
96-97	423	153	360.94	2.03	346	2.27	856	492.61
97-98	270	104	384.66	1.89	218	2.10	510	529.10
98-99	166	68	409.85	1.76	132	1.94	292	568.18
99-100	98	43	436.60	1.64	77	1.79	160	609.76
100-101	55	25	464.90	1.53	42	1.65	83	653.59
101-102	30	15	494.72	1.42	22	1.52	41	704.23
102-103	15	8	525.86	1.32	11	1.40	19	757.58
103-104	7	4	558.39	1.22	5	1.29	8	819.67
104-105	3	2	592.26	1.13	2	1.19	3	884.96
105-106	1	1	627.44	1.05	1	1.09	1	952.38

TABLE 34 LIFE TABLE FOR WHITE FEMALES IN RURAL PART

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,459,915), AND ON THE

NOTE.—The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, the year 1909, and of 10,000 or more inhabitants in 1910 for the years 1910 and 1911. An explanation of each column of the

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 586	35.86	57.35	8 109	27.12	5 734 930	17.44
1-2	96 414	806	8.36	59.40	8 001	119.16	5 726 821	16.84
2-3	95 608	678	7.09	59.82	7 939	140.52	5 718 820	16.72
3-4	94 930	581	6.13	60.16	7 887	162.84	5 710 881	16.62
4-5	94 349	503	5.33	60.45	7 841	187.08	5 702 994	16.54
5-6	93 846	446	4.75	60.69	7 802	209.88	5 695 153	16.48
6-7	93 400	394	4.22	60.89	7 767	236.52	5 687 351	16.42
7-8	93 006	349	3.75	61.07	7 736	266.04	5 679 584	16.37
8-9	92 657	316	3.41	61.21	7 708	292.68	5 671 848	16.34
9-10	92 341	291	3.15	61.34	7 683	316.80	5 664 140	16.30
10-11	92 050	275	2.99	61.45	7 659	334.20	5 656 457	16.27
11-12	91 775	272	2.96	61.55	7 637	336.96	5 648 798	16.25
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	8 497	84.97	57.35	93 769	11.04	5 734 930	17.44
1-2	91 503	1 622	17.73	61.65	90 546	55.82	5 641 161	16.22
2-3	89 881	759	8.45	61.76	89 479	117.89	5 550 615	16.19
3-4	89 122	466	5.22	61.28	88 880	190.73	5 461 136	16.32
4-5	88 656	335	3.78	60.60	88 482	264.13	5 372 256	16.50
5-6	88 321	290	3.29	59.82	88 176	304.06	5 283 774	16.72
6-7	88 031	244	2.77	59.02	87 909	360.28	5 195 598	16.94
7-8	87 787	208	2.37	58.18	87 683	421.55	5 107 689	17.19
8-9	87 579	181	2.07	57.32	87 488	483.36	5 020 006	17.45
9-10	87 398	165	1.88	56.44	87 316	529.19	4 932 518	17.72
10-11	87 233	157	1.80	55.54	87 155	555.13	4 845 202	18.01
11-12	87 076	158	1.82	54.64	86 997	550.61	4 758 047	18.30
12-13	86 918	166	1.91	53.74	86 835	523.10	4 671 050	18.61
13-14	86 752	181	2.08	52.84	86 662	478.80	4 584 215	18.93
14-15	86 571	199	2.30	51.95	86 472	434.53	4 497 553	19.25
15-16	86 372	222	2.57	51.07	86 261	388.56	4 411 081	19.58
16-17	86 150	247	2.87	50.20	86 026	348.28	4 324 820	19.92
17-18	85 903	276	3.21	49.34	85 765	310.74	4 238 794	20.27
18-19	85 627	306	3.58	48.50	85 474	279.33	4 153 029	20.62
19-20	85 321	339	3.97	47.67	85 152	251.19	4 067 555	20.98
20-21	84 982	374	4.41	46.86	84 795	226.72	3 982 403	21.34
21-22	84 608	403	4.76	46.07	84 406	209.44	3 897 608	21.71
22-23	84 205	417	4.95	45.28	83 997	201.43	3 813 202	22.08
23-24	83 788	422	5.04	44.51	83 577	198.05	3 729 205	22.47
24-25	83 366	427	5.13	43.73	83 152	194.74	3 645 628	22.87
25-26	82 939	433	5.22	42.95	82 722	191.04	3 562 476	23.28
26-27	82 506	436	5.28	42.18	82 288	188.73	3 479 754	23.71
27-28	82 070	438	5.34	41.40	81 851	186.87	3 397 466	24.15
28-29	81 632	441	5.40	40.62	81 411	184.61	3 315 615	24.62
29-30	81 191	442	5.44	39.83	80 970	183.19	3 234 204	25.11
30-31	80 749	440	5.46	39.05	80 529	183.02	3 153 234	25.61
31-32	80 309	443	5.51	38.26	80 087	180.78	3 072 705	26.14
32-33	79 866	450	5.64	37.47	79 641	176.98	2 992 618	26.69
33-34	79 416	461	5.80	36.68	79 186	171.77	2 912 977	27.26
34-35	78 955	470	5.95	35.89	78 720	167.49	2 833 791	27.86
35-36	78 485	479	6.11	35.10	78 246	163.35	2 755 071	28.49
36-37	78 006	488	6.25	34.32	77 762	159.35	2 676 825	29.14
37-38	77 518	492	6.35	33.53	77 272	157.06	2 599 063	29.82
38-39	77 026	495	6.43	32.74	76 779	155.11	2 521 791	30.54
39-40	76 531	500	6.53	31.95	76 281	152.56	2 445 012	31.30
40-41	76 031	505	6.65	31.15	75 779	150.06	2 368 731	32.10
41-42	75 526	513	6.80	30.36	75 269	146.72	2 292 952	32.94
42-43	75 013	525	6.99	29.56	74 750	142.38	2 217 683	33.83
43-44	74 488	539	7.23	28.77	74 219	137.70	2 142 933	34.76
44-45	73 949	555	7.50	27.97	73 672	132.74	2 068 714	35.75

OF THE ORIGINAL REGISTRATION STATES: 1910. TABLE 34

REPORTED DEATHS IN 1909 (59,139), IN 1910 (62,476), AND IN 1911 (61,332).

Michigan, and the District of Columbia. The "rural part of the registration states" is that which is exclusive of municipalities of 8,000 or more inhabitants in 1900 for life tables is given on pages 25 to 29, and illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	73 394	573	7.82	27.18	73 108	127.59	1 995 042	36.79
46-47	72 821	595	8.17	26.39	72 523	121.89	1 921 934	37.89
47-48	72 226	619	8.57	25.61	71 916	116.18	1 849 411	39.05
48-49	71 607	643	8.98	24.82	71 285	110.86	1 777 495	40.29
49-50	70 964	670	9.43	24.04	70 629	105.42	1 706 210	41.60
50-51	70 294	696	9.91	23.27	69 946	100.50	1 635 581	42.97
51-52	69 598	728	10.46	22.50	69 234	95.10	1 565 635	44.44
52-53	68 870	768	11.15	21.73	68 486	89.17	1 496 401	46.02
53-54	68 102	817	11.99	20.97	67 694	82.86	1 427 915	47.69
54-55	67 285	871	12.95	20.22	66 850	76.75	1 360 221	49.46
55-56	66 414	935	14.08	19.47	65 947	70.53	1 293 371	51.36
56-57	65 479	999	15.26	18.75	64 980	65.05	1 227 424	53.33
57-58	64 480	1 056	16.38	18.03	63 952	60.56	1 162 444	55.46
58-59	63 424	1 108	17.48	17.32	62 870	56.74	1 098 492	57.74
59-60	62 316	1 167	18.72	16.62	61 732	52.90	1 035 622	60.17
60-61	61 149	1 227	20.06	15.93	60 536	49.34	973 890	62.77
61-62	59 922	1 300	21.69	15.24	59 272	45.59	913 354	65.62
62-63	58 622	1 390	23.72	14.57	57 927	41.67	854 082	68.63
63-64	57 232	1 490	26.04	13.91	56 487	37.91	796 155	71.89
64-65	55 742	1 586	28.44	13.27	54 949	34.65	739 668	75.36
65-66	54 156	1 673	30.90	12.64	53 319	31.87	684 719	79.11
66-67	52 483	1 768	33.68	12.03	51 599	29.18	631 400	83.13
67-68	50 715	1 875	36.98	11.43	49 778	26.55	579 801	87.49
68-69	48 840	1 995	40.86	10.85	47 842	23.98	530 023	92.17
69-70	46 845	2 114	45.12	10.29	45 788	21.66	482 181	97.18
70-71	44 731	2 233	49.92	9.76	43 614	19.53	436 393	102.46
71-72	42 498	2 339	55.03	9.24	41 329	17.67	392 779	108.23
72-73	40 159	2 414	60.11	8.75	38 952	16.14	351 450	114.29
73-74	37 745	2 459	65.17	8.28	36 515	14.85	312 498	120.77
74-75	35 286	2 495	70.70	7.82	34 038	13.64	275 983	127.88
75-76	32 791	2 513	76.64	7.38	31 534	12.55	241 945	135.50
76-77	30 278	2 517	83.11	6.95	29 020	11.53	210 411	143.88
77-78	27 761	2 513	90.55	6.53	26 505	10.55	181 391	153.14
78-79	25 248	2 507	99.29	6.13	23 994	9.57	154 886	163.13
79-80	22 741	2 490	109.49	5.76	21 496	8.63	130 892	173.61
80-81	20 251	2 472	122.06	5.40	19 015	7.69	109 396	185.19
81-82	17 779	2 407	135.42	5.08	16 575	6.88	90 381	196.85
82-83	15 372	2 260	146.99	4.80	14 242	6.30	73 806	208.33
83-84	13 112	2 049	156.28	4.54	12 087	5.90	59 564	220.26
84-85	11 063	1 835	165.90	4.29	10 145	5.53	47 477	233.10
85-86	9 228	1 635	177.11	4.05	8 410	5.15	37 332	246.91
86-87	7 593	1 435	188.96	3.81	6 876	4.79	28 922	262.47
87-88	6 158	1 243	201.85	3.58	5 537	4.45	22 046	279.33
88-89	4 915	1 062	216.08	3.36	4 384	4.13	16 509	297.62
89-90	3 853	893	231.84	3.15	3 407	3.81	12 125	317.46
90-91	2 960	737	249.07	2.94	2 591	3.51	8 718	340.14
91-92	2 223	595	267.52	2.76	1 925	3.24	6 127	362.32
92-93	1 628	467	286.86	2.58	1 395	2.99	4 202	387.60
93-94	1 161	356	306.84	2.42	983	2.76	2 807	413.22
94-95	805	264	327.31	2.26	673	2.56	1 824	442.48
95-96	541	188	348.29	2.12	447	2.37	1 151	471.70
96-97	353	131	369.83	1.99	288	2.20	704	502.51
97-98	222	87	392.27	1.86	179	2.05	416	537.63
98-99	135	56	415.98	1.74	107	1.90	237	574.71
99-100	79	35	441.21	1.63	62	1.77	130	613.50
100-101	44	21	468.05	1.52	34	1.64	68	657.89
101-102	23	11	496.88	1.41	18	1.51	34	709.22
102-103	12	6	527.06	1.31	9	1.40	16	763.36
103-104	6	4	558.60	1.22	4	1.29	7	819.67
104-105	2	1	591.49	1.13	2	1.19	3	884.96
105-106	1	1	625.71	1.05	1	1.10	1	952.38

TABLE 35 LIFE TABLE FOR NEGRO MALES IN

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD, 1901 TO 1910 (40,725), AND ON THE 1907 (1,375), IN 1908 (1,285), IN

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	9 376	93.76	28.31	7 747	9.96	2 830 642	35.32
1-2	90 624	3 075	33.94	31.15	7 424	28.92	2 822 895	32.10
2-3	87 549	2 696	30.79	32.16	7 183	31.92	2 815 471	31.09
3-4	84 853	2 410	28.41	33.10	6 971	34.68	2 808 288	30.21
4-5	82 443	2 143	25.99	33.98	6 781	37.92	2 801 317	29.43
5-6	80 300	1 893	23.57	34.80	6 613	41.88	2 794 536	28.74
6-7	78 407	1 651	21.06	35.56	6 465	47.04	2 787 923	28.12
7-8	76 756	1 427	18.59	36.24	6 337	53.28	2 781 458	27.59
8-9	75 329	1 238	16.43	36.84	6 226	60.36	2 775 121	27.14
9-10	74 091	1 056	14.26	37.37	6 130	69.60	2 768 895	26.76
10-11	73 035	919	12.58	37.83	6 048	78.96	2 762 765	26.43
11-12	72 116	850	11.79	38.23	5 974	84.36	2 756 717	26.16
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	28 734	287.34	28.31	79 899	2.78	2 830 642	35.32
1-2	71 266	5 412	75.94	38.60	68 073	12.58	2 750 743	25.91
2-3	65 854	2 236	33.95	40.74	64 669	28.92	2 682 670	24.55
3-4	63 618	1 237	19.44	41.15	62 975	50.91	2 618 001	24.30
4-5	62 381	853	13.68	40.96	61 938	72.61	2 555 026	24.41
5-6	61 528	628	10.21	40.52	61 214	97.47	2 493 088	24.68
6-7	60 900	527	8.66	39.93	60 636	115.06	2 431 874	25.04
7-8	60 373	448	7.41	39.28	60 149	134.26	2 371 238	25.46
8-9	59 925	387	6.47	38.57	59 731	154.34	2 311 089	25.93
9-10	59 538	348	5.84	37.81	59 364	170.59	2 251 358	26.45
10-11	59 190	327	5.53	37.03	59 026	180.51	2 191 994	27.01
11-12	58 863	326	5.53	36.24	58 700	180.06	2 132 968	27.59
12-13	58 537	341	5.83	35.44	58 367	171.16	2 074 268	28.22
13-14	58 196	372	6.40	34.64	58 010	155.94	2 015 901	28.87
14-15	57 824	414	7.16	33.86	57 617	139.17	1 957 891	29.53
15-16	57 410	462	8.04	33.10	57 179	123.76	1 900 274	30.21
16-17	56 948	524	9.21	32.36	56 686	108.18	1 843 095	30.90
17-18	56 424	601	10.64	31.66	56 124	93.38	1 786 409	31.59
18-19	55 823	675	12.10	31.00	55 486	82.20	1 730 285	32.26
19-20	55 148	740	13.41	30.37	54 778	74.02	1 674 799	32.93
20-21	54 408	795	14.63	29.78	54 011	67.94	1 620 021	33.58
21-22	53 613	838	15.62	29.21	53 194	63.48	1 566 010	34.23
22-23	52 775	862	16.35	28.67	52 344	60.72	1 512 816	34.88
23-24	51 913	879	16.92	28.13	51 474	58.56	1 460 472	35.55
24-25	51 034	891	17.47	27.61	50 589	56.78	1 408 998	36.22
25-26	50 143	902	17.99	27.09	49 692	55.09	1 358 409	36.91
26-27	49 241	907	18.41	26.58	48 787	53.79	1 308 717	37.62
27-28	48 334	905	18.73	26.07	47 881	52.91	1 259 930	38.36
28-29	47 429	901	18.99	25.56	46 978	52.14	1 212 049	39.12
29-30	46 528	897	19.28	25.04	46 080	51.37	1 165 071	39.94
30-31	45 631	893	19.58	24.52	45 184	50.60	1 118 991	40.78
31-32	44 738	892	19.92	24.00	44 292	49.65	1 073 807	41.67
32-33	43 846	889	20.29	23.48	43 402	48.82	1 029 515	42.59
33-34	42 957	887	20.65	22.96	42 513	47.93	986 113	43.55
34-35	42 070	883	20.99	22.43	41 628	47.14	943 600	44.58
35-36	41 187	878	21.32	21.90	40 748	46.41	901 972	45.66
36-37	40 309	875	21.70	21.37	39 871	45.57	861 224	46.79
37-38	39 434	875	22.20	20.83	38 996	44.57	821 353	48.01
38-39	38 559	879	22.79	20.29	38 119	43.37	782 357	49.29
39-40	37 680	883	23.42	19.75	37 238	42.17	744 238	50.63
40-41	36 797	887	24.10	19.21	36 354	40.99	707 000	52.06
41-42	35 910	891	24.83	18.68	35 465	39.80	670 646	53.53
42-43	35 019	899	25.66	18.14	34 569	38.45	635 181	55.13
43-44	34 120	909	26.64	17.60	33 666	37.04	600 612	56.82
44-45	33 211	924	27.82	17.07	32 749	35.44	566 946	58.58

THE DISTRICT OF COLUMBIA: 1901–1910. TABLE 35

REPORTED DEATHS IN 1901 (1,321), IN 1902 (1,299), IN 1903 (1,266), IN 1904 (1,326), IN 1905 (1,419), IN 1906 (1,439), IN 1909 (1,325), AND IN 1910 (1,429).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	32 287	945	29.27	16.55	31 815	33.67	534 197	60.42
46-47	31 342	970	30.96	16.03	30 857	31.81	502 382	62.38
47-48	30 372	990	32.60	15.52	29 877	30.18	471 525	64.43
48-49	29 382	999	33.99	15.03	28 882	28.91	441 648	66.53
49-50	28 383	1 003	35.35	14.54	27 881	27.80	412 766	68.78
50-51	27 380	1 003	36.61	14.06	26 878	26.80	384 885	71.12
51-52	26 377	1 001	37.96	13.57	25 877	25.85	358 007	73.69
52-53	25 376	1 009	39.77	13.09	24 871	24.65	332 130	76.39
53-54	24 367	1 030	42.27	12.61	23 852	23.16	307 259	79.30
54-55	23 337	1 035	45.22	12.14	22 809	21.62	283 407	82.37
55-56	22 282	1 091	48.94	11.70	21 736	19.92	260 598	85.47
56-57	21 191	1 130	53.36	11.27	20 626	18.25	238 862	88.73
57-58	20 061	1 154	57.49	10.88	19 484	16.88	218 236	91.91
58-59	18 907	1 149	60.80	10.51	18 332	15.95	198 752	95.15
59-60	17 758	1 141	64.21	10.16	17 187	15.06	180 420	98.43
60-61	16 617	1 120	67.43	9.82	16 057	14.34	163 233	101.83
61-62	15 497	1 095	70.64	9.50	14 949	13.65	147 176	105.26
62-63	14 402	1 072	74.43	9.18	13 866	12.93	132 227	108.93
63-64	13 330	1 053	79.02	8.88	12 803	12.16	118 361	112.61
64-65	12 277	1 031	83.94	8.60	11 762	11.41	105 558	116.28
65-66	11 246	993	88.29	8.34	10 750	10.83	93 796	119.90
66-67	10 253	938	91.50	8.10	9 784	10.43	83 046	123.46
67-68	9 315	876	94.11	7.86	8 877	10.13	73 262	127.23
68-69	8 439	813	96.34	7.63	8 032	9.88	64 385	131.06
69-70	7 626	752	98.63	7.39	7 250	9.64	56 353	135.32
70-71	6 874	698	101.49	7.14	6 525	9.35	49 103	140.06
71-72	6 176	650	105.32	6.89	5 851	9.00	42 578	145.14
72-73	5 526	610	110.25	6.65	5 221	8.56	36 727	150.38
73-74	4 916	570	116.09	6.41	4 631	8.12	31 506	156.01
74-75	4 346	532	122.36	6.18	4 080	7.67	26 875	161.81
75-76	3 814	490	128.53	5.98	3 569	7.28	22 795	167.22
76-77	3 324	446	134.17	5.78	3 101	6.95	19 226	173.01
77-78	2 878	401	139.19	5.60	2 677	6.68	16 125	178.57
78-79	2 477	356	143.70	5.43	2 299	6.46	13 448	184.16
79-80	2 121	314	147.97	5.26	1 964	6.25	11 149	190.11
80-81	1 807	275	152.30	5.08	1 670	6.07	9 185	196.85
81-82	1 532	240	156.97	4.90	1 412	5.87	7 515	204.08
82-83	1 292	210	162.05	4.72	1 187	5.67	6 103	211.86
83-84	1 082	181	167.62	4.54	992	5.47	4 916	220.26
84-85	901	157	173.72	4.35	823	5.26	3 924	229.89
85-86	744	134	180.51	4.17	677	5.04	3 101	239.81
86-87	610	115	188.20	3.97	553	4.81	2 424	251.89
87-88	495	97	197.06	3.78	446	4.57	1 871	264.55
88-89	398	83	207.30	3.58	356	4.32	1 425	279.33
89-90	315	69	219.14	3.39	281	4.06	1 069	294.99
90-91	246	57	232.50	3.20	218	3.80	788	312.50
91-92	189	47	247.17	3.02	166	3.55	570	331.13
92-93	142	37	262.83	2.84	124	3.30	404	352.11
93-94	105	29	279.29	2.68	90	3.08	280	373.13
94-95	76	23	296.44	2.52	64	2.87	190	396.83
95-96	53	17	314.36	2.37	45	2.68	126	421.94
96-97	36	12	333.18	2.23	30	2.50	81	448.43
97-98	24	8	353.11	2.09	20	2.33	51	478.47
98-99	16	6	374.28	1.96	13	2.17	31	510.20
99-100	10	4	396.75	1.84	8	2.02	18	543.48
100-101	6	3	420.55	1.72	5	1.88	10	581.40
101-102	3	1	445.77	1.61	3	1.74	5	621.12
102-103	2	1	472.48	1.50	1	1.62	2	666.67
103-104	1	1	500.78	1.40	1	1.50	1	714.29

TABLE 36 LIFE TABLE FOR NEGRO FEMALES IN

BASED ON THE ESTIMATED MEAN POPULATION FOR THE 10-YEAR PERIOD 1901 TO 1910 (50,301), AND ON THE 1907 (1,338), IN 1908 (1,304), IN

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	8 045	80.45	32.21	7 831	11.64	3 221 069	31.05
1-2	91 955	2 538	27.60	34.94	7 557	35.76	3 213 238	28.62
2-3	89 417	2 302	25.74	35.85	7 355	38.40	3 205 681	27.89
3-4	87 115	2 082	23.91	36.71	7 173	41.40	3 198 326	27.24
4-5	85 033	1 873	22.02	37.53	7 008	44.88	3 191 153	26.65
5-6	83 160	1 679	20.20	38.29	6 860	49.08	3 184 145	26.12
6-7	81 481	1 487	18.25	38.99	6 728	54.24	3 177 285	25.65
7-8	79 994	1 304	16.29	39.63	6 612	60.84	3 170 557	25.23
8-9	78 690	1 145	14.56	40.21	6 510	68.28	3 163 945	24.87
9-10	77 545	997	12.86	40.72	6 421	77.28	3 157 435	24.56
10-11	76 548	866	11.31	41.16	6 343	87.84	3 151 014	24.30
11-12	75 682	769	10.17	41.55	6 275	97.92	3 144 671	24.07
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	25 087	250.87	32.21	82 673	3.30	3 221 069	31.05
1-2	74 913	4 866	64.95	41.89	72 042	14.81	3 138 396	23.87
2-3	70 047	2 404	34.33	43.78	68 773	28.61	3 066 354	22.84
3-4	67 643	1 284	18.97	44.31	66 975	52.16	2 997 581	22.57
4-5	66 359	949	14.31	44.16	65 866	69.41	2 930 606	22.64
5-6	65 410	709	10.85	43.80	65 055	91.76	2 864 740	22.83
6-7	64 701	551	8.52	43.27	64 425	116.92	2 799 685	23.11
7-8	64 150	441	6.86	42.64	63 929	144.96	2 735 260	23.45
8-9	63 709	375	5.89	41.93	63 522	169.39	2 671 331	23.85
9-10	63 334	351	5.55	41.18	63 158	179.94	2 607 809	24.28
10-11	62 983	365	5.78	40.40	62 800	172.05	2 544 651	24.75
11-12	62 618	405	6.47	39.63	62 416	154.11	2 481 851	25.23
12-13	62 213	466	7.49	38.89	61 980	133.00	2 419 435	25.71
13-14	61 747	537	8.70	38.18	61 479	114.49	2 357 455	26.19
14-15	61 210	616	10.06	37.51	60 902	98.87	2 295 976	26.66
15-16	60 594	700	11.57	36.89	60 244	86.06	2 235 074	27.11
16-17	59 894	755	12.60	36.31	59 516	78.83	2 174 830	27.54
17-18	59 139	763	12.90	35.77	58 758	77.01	2 115 314	27.96
18-19	58 376	747	12.80	35.23	58 003	77.65	2 056 556	28.38
19-20	57 629	736	12.78	34.68	57 261	77.80	1 998 553	28.84
20-21	56 893	725	12.75	34.12	56 530	77.97	1 941 292	29.31
21-22	56 168	719	12.79	33.56	55 809	77.62	1 884 762	29.80
22-23	55 449	718	12.96	32.98	55 090	76.73	1 828 953	30.32
23-24	54 731	724	13.22	32.41	54 369	75.10	1 773 863	30.85
24-25	54 007	725	13.43	31.84	53 645	73.99	1 719 494	31.41
25-26	53 282	727	13.65	31.26	52 918	72.79	1 665 849	31.99
26-27	52 555	724	13.77	30.69	52 193	72.09	1 612 931	32.58
27-28	51 831	712	13.74	30.11	51 475	72.30	1 560 738	33.21
28-29	51 119	695	13.60	29.52	50 771	73.05	1 509 263	33.88
29-30	50 424	680	13.48	28.92	50 084	73.65	1 458 492	34.58
30-31	49 744	662	13.31	28.31	49 413	74.64	1 408 408	35.32
31-32	49 082	654	13.32	27.69	48 755	74.55	1 358 995	36.11
32-33	48 428	660	13.64	27.06	48 098	72.88	1 310 240	36.95
33-34	47 768	677	14.17	26.42	47 429	70.06	1 262 142	37.85
34-35	47 091	691	14.68	25.80	46 745	67.65	1 214 713	38.76
35-36	46 400	705	15.20	25.17	46 047	65.31	1 167 968	39.73
36-37	45 695	721	15.76	24.55	45 334	62.88	1 121 921	40.73
37-38	44 974	737	16.39	23.94	44 606	60.52	1 076 587	41.77
38-39	44 237	756	17.11	23.33	43 859	58.01	1 031 981	42.86
39-40	43 481	779	17.90	22.73	43 092	55.32	988 122	43.99
40-41	42 702	802	18.79	22.13	42 301	52.74	945 030	45.19
41-42	41 900	823	19.65	21.54	41 489	50.41	902 729	46.43
42-43	41 077	839	20.43	20.97	40 657	48.46	861 240	47.69
43-44	40 238	854	21.22	20.39	39 811	46.62	820 583	49.04
44-45	39 384	871	22.12	19.82	38 949	44.72	780 772	50.45

THE DISTRICT OF COLUMBIA: 1901–1910. TABLE 36

REPORTED DEATHS IN 1901 (1,373), IN 1902 (1,283), IN 1903 (1,280), IN 1904 (1,306), IN 1905 (1,334), IN 1906 (1,299), IN 1909 (1,267), AND IN 1910 (1,330).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	38 513	889	23.08	19.26	38 069	42.82	741 823	51.92
46-47	37 624	918	24.41	18.70	37 165	40.48	703 754	53.48
47-48	36 706	960	26.14	18.16	36 226	37.74	666 589	55.07
48-49	35 746	999	27.97	17.63	35 246	35.28	630 363	56.72
49-50	34 747	1 033	29.72	17.13	34 230	33.14	595 117	58.38
50-51	33 714	1 060	31.45	16.64	33 184	31.31	560 887	60.10
51-52	32 654	1 072	32.83	16.16	32 118	29.96	527 703	61.88
52-53	31 582	1 070	33.87	15.69	31 047	29.02	495 585	63.73
53-54	30 512	1 063	34.83	15.22	29 980	28.20	464 538	65.70
54-55	29 449	1 060	36.00	14.76	28 919	27.28	434 558	67.75
55-56	28 389	1 061	37.35	14.29	27 859	26.26	405 639	69.98
56-57	27 328	1 077	39.42	13.82	26 790	24.87	377 780	72.36
57-58	26 251	1 108	42.22	13.37	25 697	23.19	350 990	74.79
58-59	25 143	1 134	45.09	12.94	24 576	21.67	325 293	77.28
59-60	24 009	1 147	47.77	12.53	23 436	20.43	300 717	79.81
60-61	22 862	1 147	50.20	12.13	22 288	19.43	277 281	82.44
61-62	21 715	1 162	53.50	11.74	21 134	18.19	254 993	85.18
62-63	20 553	1 176	57.22	11.38	19 965	16.98	233 859	87.87
63-64	19 377	1 186	61.20	11.04	18 784	15.84	213 894	90.58
64-65	18 191	1 187	65.25	10.73	17 598	14.83	195 110	93.20
65-66	17 004	1 175	69.10	10.44	16 417	13.97	177 512	95.79
66-67	15 829	1 148	72.53	10.18	15 255	13.29	161 095	98.23
67-68	14 681	1 106	75.33	9.93	14 128	12.77	145 840	100.70
68-69	13 575	1 051	77.44	9.70	13 050	12.42	131 712	103.09
69-70	12 524	988	78.92	9.47	12 030	12.18	118 662	105.60
70-71	11 536	923	79.97	9.24	11 074	12.00	106 632	108.23
71-72	10 613	858	80.89	9.00	10 184	11.87	95 558	111.11
72-73	9 755	800	81.99	8.75	9 355	11.69	85 374	114.29
73-74	8 955	748	83.55	8.49	8 581	11.47	76 019	117.79
74-75	8 207	704	85.77	8.22	7 855	11.16	67 438	121.65
75-76	7 503	666	88.74	7.94	7 170	10.77	59 583	125.94
76-77	6 837	632	92.41	7.67	6 521	10.32	52 413	130.38
77-78	6 205	600	96.66	7.40	5 905	9.84	45 892	135.14
78-79	5 605	568	101.34	7.13	5 321	9.37	39 987	140.25
79-80	5 037	535	106.25	6.88	4 770	8.92	34 666	145.35
80-81	4 502	501	111.25	6.64	4 252	8.49	29 896	150.60
81-82	4 001	465	116.22	6.41	3 769	8.10	25 644	156.01
82-83	3 536	428	121.14	6.19	3 322	7.75	21 875	161.55
83-84	3 108	392	126.01	5.97	2 912	7.44	18 553	167.50
84-85	2 716	355	130.89	5.76	2 538	7.14	15 641	173.61
85-86	2 361	321	135.84	5.55	2 200	6.86	13 103	180.18
86-87	2 040	287	140.90	5.34	1 896	6.60	10 903	187.27
87-88	1 753	256	146.10	5.14	1 625	6.34	9 007	194.55
88-89	1 497	227	151.44	4.93	1 383	6.10	7 382	202.84
89-90	1 270	199	156.93	4.72	1 170	5.87	5 999	211.86
90-91	1 071	175	162.65	4.51	984	5.65	4 829	221.73
91-92	896	151	168.84	4.29	821	5.42	3 845	233.10
92-93	745	131	175.93	4.06	680	5.18	3 024	246.31
93-94	614	113	184.52	3.82	557	4.92	2 344	261.78
94-95	501	98	195.34	3.57	452	4.62	1 787	280.11
95-96	403	84	209.09	3.31	361	4.28	1 335	302.11
96-97	319	72	226.29	3.06	283	3.92	974	326.80
97-98	247	61	247.24	2.81	216	3.54	691	355.87
98-99	186	51	271.94	2.56	160	3.18	475	390.63
99-100	135	40	300.15	2.33	115	2.83	315	429.18
100-101	95	32	331.54	2.12	79	2.52	200	471.70
101-102	63	23	365.68	1.92	52	2.23	121	520.83
102-103	40	16	402.22	1.74	32	1.99	69	574.71
103-104	24	11	440.60	1.58	19	1.77	37	632.91
104-105	13	6	480.91	1.43	10	1.58	18	699.30
105-106	7	4	523.68	1.30	5	1.41	8	769.23
106-107	3	2	568.82	1.17	2	1.26	3	854.70
107-108	1	1	616.19	1.06	1	1.12	1	943.40

TABLE 37 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,296,108), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 070	110.70	52.62	92 029	8.31	5 262 080	19.00
1-2	88 930	2 597	29.20	58.14	87 398	33.65	5 170 051	17.20
2-3	86 333	1 083	12.55	58.87	85 759	79.19	5 082 653	16.99
3-4	85 250	673	7.89	58.61	84 900	126.15	4 996 894	17.06
4-5	84 577	478	5.65	58.08	84 329	176.42	4 911 994	17.22
5-6	84 099	398	4.74	57.40	83 900	210.80	4 827 665	17.42
6-7	83 701	332	3.96	56.68	83 535	251.61	4 743 765	17.64
7-8	83 369	280	3.36	55.90	83 229	297.25	4 660 230	17.89
8-9	83 089	244	2.93	55.09	82 967	340.03	4 577 001	18.15
9-10	82 845	220	2.66	54.25	82 735	376.07	4 494 034	18.43
10-11	82 625	209	2.53	53.39	82 521	394.84	4 411 299	18.73
11-12	82 416	209	2.54	52.52	82 312	393.84	4 328 778	19.04
12-13	82 207	218	2.66	51.66	82 098	376.60	4 246 466	19.36
13-14	81 989	236	2.88	50.79	81 871	346.91	4 164 368	19.69
14-15	81 753	259	3.17	49.94	81 624	315.15	4 082 497	20.02
15-16	81 494	288	3.53	49.09	81 350	282.47	4 000 873	20.37
16-17	81 206	320	3.94	48.27	81 046	253.27	3 919 523	20.72
17-18	80 886	354	4.37	47.46	80 709	227.99	3 838 477	21.07
18-19	80 532	388	4.82	46.66	80 338	207.06	3 757 768	21.43
19-20	80 144	423	5.28	45.89	79 933	188.97	3 677 430	21.79
20-21	79 721	459	5.76	45.13	79 492	173.19	3 597 497	22.16
21-22	79 262	499	6.30	44.38	79 012	158.34	3 518 005	22.53
22-23	78 763	526	6.67	43.66	78 500	149.24	3 438 993	22.90
23-24	78 237	525	6.72	42.95	77 975	148.52	3 360 493	23.28
24-25	77 712	509	6.55	42.24	77 457	152.17	3 282 518	23.67
25-26	77 203	494	6.40	41.51	76 956	155.78	3 205 061	24.09
26-27	76 709	476	6.21	40.78	76 471	160.65	3 128 105	24.52
27-28	76 233	463	6.07	40.03	76 001	164.15	3 051 634	24.98
28-29	75 770	461	6.08	39.27	75 539	163.86	2 975 633	25.46
29-30	75 309	466	6.18	38.51	75 076	161.11	2 900 094	25.97
30-31	74 843	468	6.26	37.75	74 609	159.42	2 825 018	26.49
31-32	74 375	470	6.32	36.98	74 140	157.74	2 750 409	27.04
32-33	73 905	472	6.39	36.21	73 669	156.08	2 676 269	27.62
33-34	73 433	473	6.44	35.44	73 196	154.75	2 602 600	28.22
34-35	72 960	474	6.50	34.67	72 723	153.42	2 529 404	28.84
35-36	72 486	476	6.57	33.89	72 248	151.78	2 456 681	29.51
36-37	72 010	479	6.65	33.11	71 770	149.83	2 384 433	30.20
37-38	71 531	486	6.79	32.33	71 288	146.68	2 312 663	30.93
38-39	71 045	497	6.99	31.55	70 797	142.45	2 241 375	31.70
39-40	70 548	512	7.26	30.77	70 292	137.29	2 170 578	32.50
40-41	70 036	528	7.54	29.99	69 772	132.14	2 100 286	33.34
41-42	69 508	544	7.84	29.21	69 236	127.27	2 030 514	34.23
42-43	68 964	563	8.16	28.44	68 683	121.99	1 961 278	35.16
43-44	68 401	581	8.50	27.67	68 111	117.23	1 892 595	36.14
44-45	67 820	602	8.87	26.90	67 519	112.16	1 824 484	37.17

THE STATE OF INDIANA: 1901. TABLE 37

REPORTED DEATHS IN 1900 (18,428), IN 1901 (18,022), AND IN 1902 (17,122).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	67 218	625	9.31	26.14	66 905	107.05	1 756 965	38.26
46-47	66 593	654	9.82	25.38	66 266	101.32	1 690 060	39.40
47-48	65 939	679	10.30	24.63	65 599	96.61	1 623 794	40.60
48-49	65 260	695	10.65	23.88	64 912	93.40	1 558 195	41.88
49-50	64 565	706	10.93	23.13	64 212	90.95	1 493 283	43.23
50-51	63 859	718	11.24	22.38	63 500	88.44	1 429 071	44.68
51-52	63 141	729	11.55	21.63	62 777	86.11	1 365 571	46.23
52-53	62 412	752	12.05	20.87	62 036	82.49	1 302 794	47.92
53-54	61 660	796	12.92	20.12	61 262	76.96	1 240 758	49.70
54-55	60 864	858	14.10	19.38	60 435	70.44	1 179 496	51.60
55-56	60 006	924	15.40	18.65	59 544	64.44	1 119 061	53.62
56-57	59 082	1 000	16.92	17.93	58 582	58.58	1 059 517	55.77
57-58	58 082	1 073	18.48	17.23	57 545	53.63	1 000 935	58.04
58-59	57 009	1 133	19.87	16.55	56 442	49.82	943 390	60.42
59-60	55 876	1 183	21.17	15.87	55 284	46.73	886 948	63.01
60-61	54 693	1 240	22.67	15.21	54 073	43.61	831 664	65.75
61-62	53 453	1 298	24.28	14.55	52 804	40.68	777 591	68.73
62-63	52 155	1 370	26.27	13.90	51 470	37.57	724 787	71.94
63-64	50 785	1 464	28.82	13.26	50 053	34.19	673 317	75.41
64-65	49 321	1 568	31.81	12.64	48 537	30.95	623 264	79.11
65-66	47 753	1 668	34.93	12.04	46 919	28.13	574 727	83.06
66-67	46 085	1 763	38.24	11.45	45 204	25.64	527 808	87.34
67-68	44 322	1 849	41.72	10.89	43 398	23.47	482 604	91.83
68-69	42 473	1 929	45.43	10.34	41 509	21.52	439 206	96.71
69-70	40 544	2 007	49.49	9.81	39 541	19.70	397 697	101.94
70-71	38 537	2 080	53.98	9.29	37 497	18.03	358 156	107.64
71-72	36 457	2 146	58.87	8.80	35 384	16.49	320 659	113.64
72-73	34 311	2 200	64.12	8.31	33 211	15.10	285 275	120.34
73-74	32 111	2 243	69.83	7.85	30 989	13.82	252 064	127.39
74-75	29 868	2 273	76.12	7.40	28 731	12.64	221 075	135.14
75-76	27 595	2 296	83.18	6.97	26 447	11.52	192 344	143.47
76-77	25 299	2 307	91.19	6.56	24 146	10.47	165 897	152.44
77-78	22 992	2 306	100.32	6.17	21 839	9.47	141 751	162.07
78-79	20 686	2 288	110.58	5.80	19 542	8.54	119 912	172.41
79-80	18 398	2 240	121.78	5.46	17 278	7.71	100 370	183.15
80-81	16 158	2 158	133.55	5.14	15 079	6.99	83 092	194.55
81-82	14 000	2 035	145.38	4.86	12 982	6.38	68 013	205.76
82-83	11 965	1 877	156.87	4.60	11 026	5.87	55 031	217.39
83-84	10 088	1 692	167.73	4.36	9 242	5.46	44 005	229.36
84-85	8 396	1 495	178.00	4.14	7 648	5.12	34 763	241.55
85-86	6 901	1 297	187.96	3.93	6 253	4.82	27 115	254.45
86-87	5 604	1 110	198.13	3.72	5 049	4.55	20 862	268.82
87-88	4 494	940	209.10	3.52	4 024	4.28	15 813	284.09
88-89	3 554	787	221.40	3.32	3 161	4.02	11 789	301.20
89-90	2 767	651	235.39	3.12	2 442	3.75	8 628	320.51
90-91	2 116	532	251.18	2.92	1 850	3.48	6 186	342.47
91-92	1 584	425	268.67	2.74	1 372	3.22	4 336	364.96
92-93	1 159	334	287.65	2.56	992	2.98	2 964	390.63
93-94	825	254	307.90	2.39	698	2.75	1 972	418.41
94-95	571	188	329.28	2.23	477	2.54	1 274	448.43
95-96	383	135	351.75	2.09	316	2.34	797	478.47
96-97	248	93	375.29	1.95	202	2.16	481	512.82
97-98	155	62	400.06	1.81	124	2.00	279	552.49
98-99	93	40	426.09	1.69	73	1.85	155	591.72
99-100	53	24	453.40	1.57	41	1.71	82	636.94
100-101	29	14	482.00	1.46	22	1.57	41	684.93
101-102	15	8	511.89	1.36	11	1.45	19	735.29
102-103	7	4	543.07	1.27	5	1.34	8	787.40
103-104	3	2	575.50	1.18	2	1.24	3	847.46
104-105	1	1	609.14	1.09	1	1.14	1	917.43

TABLE 38 **LIFE TABLE FOR MALES IN**

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,385,288), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 560	45.60	54.70	8 048	21.12	5 469 984	18.28
1-2	95 440	856	8.97	57.23	7 918	111.00	5 461 936	17.47
2-3	94 584	680	7.19	57.66	7 854	138.60	5 454 018	17.34
3-4	93 904	561	5.97	58.00	7 802	166.92	5 446 164	17.24
4-5	93 343	483	5.17	58.26	7 758	192.72	5 438 362	17.16
5-6	92 860	433	4.67	58.48	7 720	213.96	5 430 604	17.10
6-7	92 427	399	4.32	58.67	7 686	231.12	5 422 884	17.04
7-8	92 028	367	4.00	58.84	7 654	250.32	5 415 198	17.00
8-9	91 661	340	3.70	59.00	7 624	269.04	5 407 544	16.95
9-10	91 321	314	3.44	59.13	7 597	290.28	5 399 920	16.91
10-11	91 007	295	3.24	59.25	7 572	308.04	5 392 323	16.88
11-12	90 712	274	3.02	59.36	7 548	330.60	5 384 751	16.85
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	9 562	95.62	54.70	92 781	9.70	5 469 984	18.28
1-2	90 438	2 133	23.59	59.46	89 179	41.81	5 377 203	16.82
2-3	88 305	894	10.12	59.88	87 831	98.24	5 288 024	16.70
3-4	87 411	520	5.95	59.49	87 141	167.58	5 200 193	16.81
4-5	86 891	355	4.09	58.84	86 706	244.24	5 113 052	17.00
5-6	86 536	330	3.81	58.08	86 371	261.73	5 026 346	17.22
6-7	86 206	280	3.25	57.30	86 066	307.38	4 939 975	17.45
7-8	85 926	242	2.81	56.49	85 805	354.57	4 853 909	17.70
8-9	85 684	213	2.49	55.65	85 578	401.77	4 768 104	17.97
9-10	85 471	195	2.28	54.78	85 374	437.82	4 682 526	18.25
10-11	85 276	186	2.19	53.91	85 183	457.97	4 597 152	18.55
11-12	85 090	189	2.21	53.03	84 996	449.71	4 511 969	18.86
12-13	84 901	197	2.32	52.14	84 803	430.47	4 426 973	19.18
13-14	84 704	212	2.51	51.26	84 598	399.05	4 342 170	19.51
14-15	84 492	233	2.76	50.39	84 375	362.12	4 257 572	19.85
15-16	84 259	255	3.03	49.53	84 131	329.93	4 173 197	20.19
16-17	84 004	284	3.37	48.68	83 862	295.29	4 089 066	20.54
17-18	83 720	318	3.80	47.84	83 561	262.77	4 005 204	20.90
18-19	83 402	357	4.29	47.02	83 223	233.12	3 921 643	21.27
19-20	83 045	397	4.78	46.22	82 846	208.68	3 838 420	21.64
20-21	82 648	440	5.32	45.44	82 428	187.34	3 755 574	22.01
21-22	82 208	468	5.69	44.68	81 974	175.16	3 673 146	22.38
22-23	81 740	471	5.76	43.93	81 505	173.05	3 591 172	22.76
23-24	81 269	458	5.64	43.19	81 040	176.94	3 509 667	23.15
24-25	80 811	448	5.54	42.43	80 587	179.88	3 428 627	23.57
25-26	80 363	434	5.41	41.66	80 146	184.67	3 348 040	24.00
26-27	79 929	428	5.35	40.88	79 715	186.25	3 267 894	24.46
27-28	79 501	433	5.44	40.10	79 284	183.10	3 188 179	24.94
28-29	79 068	446	5.64	39.32	78 845	176.78	3 108 895	25.43
29-30	78 622	458	5.82	38.54	78 393	171.16	3 030 050	25.95
30-31	78 164	470	6.01	37.76	77 929	165.81	2 951 657	26.48
31-32	77 694	480	6.19	36.99	77 454	161.36	2 873 728	27.03
32-33	77 214	487	6.30	36.21	76 970	158.05	2 796 274	27.62
33-34	76 727	490	6.38	35.44	76 482	156.09	2 719 304	28.22
34-35	76 237	494	6.48	34.67	75 990	153.83	2 642 822	28.84
35-36	75 743	499	6.59	33.89	75 493	151.29	2 566 832	29.51
36-37	75 244	506	6.72	33.11	74 991	148.20	2 491 339	30.20
37-38	74 738	514	6.88	32.33	74 481	144.90	2 416 348	30.93
38-39	74 224	525	7.08	31.55	73 962	140.88	2 341 867	31.70
39-40	73 699	536	7.28	30.77	73 431	137.00	2 267 905	32.50
40-41	73 163	548	7.49	29.99	72 889	133.01	2 194 474	33.34
41-42	72 615	563	7.75	29.22	72 333	128.48	2 121 585	34.22
42-43	72 052	582	8.09	28.44	71 761	123.30	2 049 252	35.16
43-44	71 470	608	8.50	27.67	71 166	117.05	1 977 491	36.14
44-45	70 862	635	8.97	26.90	70 545	111.09	1 906 325	37.17

THE STATE OF INDIANA: 1910. TABLE 38

REPORTED DEATHS IN 1909 (18,264), IN 1910 (19,251), AND IN 1911 (18,717).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	70 227	671	9.56	26.14	69 891	104.16	1 835 780	38.26
46-47	69 556	699	10.05	25.39	69 206	99.01	1 765 889	39.39
47-48	68 857	709	10.29	24.64	68 503	96.62	1 696 683	40.58
48-49	68 148	706	10.36	23.89	67 795	96.03	1 628 180	41.86
49-50	67 442	707	10.48	23.14	67 089	94.89	1 560 385	43.22
50-51	66 735	705	10.57	22.38	66 382	94.16	1 493 296	44.68
51-52	66 030	722	10.94	21.61	65 669	90.95	1 426 914	46.27
52-53	65 308	772	11.81	20.84	64 922	84.10	1 361 245	47.98
53-54	64 536	847	13.14	20.09	64 112	75.69	1 296 323	49.78
54-55	63 689	931	14.61	19.35	63 223	67.91	1 232 211	51.68
55-56	62 758	1 029	16.40	18.63	62 243	60.49	1 168 988	53.68
56-57	61 729	1 120	18.14	17.93	61 169	54.62	1 106 745	55.77
57-58	60 609	1 176	19.41	17.25	60 021	51.04	1 045 576	57.97
58-59	59 433	1 208	20.32	16.58	58 829	48.70	985 555	60.31
59-60	58 225	1 248	21.45	15.92	57 601	46.15	926 726	62.81
60-61	56 977	1 290	22.64	15.25	56 332	43.67	869 125	65.57
61-62	55 687	1 346	24.17	14.60	55 014	40.87	812 793	68.49
62-63	54 341	1 428	26.28	13.94	53 627	37.55	757 779	71.74
63-64	52 913	1 528	28.87	13.31	52 149	34.13	704 152	75.13
64-65	51 385	1 621	31.54	12.69	50 575	31.20	652 003	78.80
65-66	49 764	1 711	34.39	12.09	48 909	28.59	601 428	82.71
66-67	48 053	1 797	37.39	11.50	47 155	26.24	552 519	86.96
67-68	46 256	1 877	40.59	10.93	45 318	24.14	505 364	91.49
68-69	44 379	1 957	44.10	10.37	43 400	22.18	460 046	96.43
69-70	42 422	2 036	47.99	9.82	41 404	20.34	416 646	101.83
70-71	40 386	2 110	52.24	9.29	39 331	18.64	375 242	107.64
71-72	38 276	2 193	57.29	8.78	37 180	16.95	335 911	113.90
72-73	36 083	2 287	63.41	8.28	34 940	15.28	298 731	120.77
73-74	33 796	2 381	70.45	7.81	32 605	13.69	263 791	128.04
74-75	31 415	2 459	78.27	7.36	30 185	12.28	231 186	135.87
75-76	28 956	2 525	87.21	6.94	27 693	10.97	201 001	144.09
76-77	26 431	2 542	96.16	6.56	25 160	9.90	173 308	152.44
77-78	23 889	2 493	104.37	6.20	22 643	9.08	148 148	161.29
78-79	21 396	2 401	112.23	5.87	20 195	8.41	125 505	170.36
79-80	18 995	2 308	121.50	5.54	17 841	7.73	105 310	180.51
80-81	16 687	2 213	132.61	5.24	15 580	7.04	87 469	190.84
81-82	14 474	2 087	144.21	4.97	13 430	6.43	71 889	201.21
82-83	12 387	1 914	154.50	4.72	11 430	5.97	58 459	211.86
83-84	10 473	1 706	162.91	4.49	9 620	5.64	47 029	222.72
84-85	8 767	1 502	171.30	4.27	8 016	5.34	37 409	231.19
85-86	7 265	1 308	180.06	4.05	6 611	5.05	29 393	246.91
86-87	5 957	1 142	191.67	3.82	5 386	4.72	22 782	261.78
87-88	4 815	985	204.66	3.61	4 322	4.39	17 396	277.01
88-89	3 830	838	218.81	3.41	3 411	4.07	13 074	293.26
89-90	2 992	699	233.62	3.23	2 642	3.78	9 663	309.60
90-91	2 293	570	248.44	3.06	2 008	3.53	7 021	326.80
91-92	1 723	453	262.77	2.91	1 497	3.31	5 013	343.64
92-93	1 270	351	276.42	2.77	1 095	3.12	3 516	361.01
93-94	919	266	289.63	2.63	786	2.95	2 421	380.23
94-95	653	198	302.97	2.50	554	2.80	1 635	400.00
95-96	455	144	317.16	2.37	383	2.65	1 081	421.94
96-97	311	104	332.91	2.24	259	2.50	698	446.43
97-98	207	72	350.68	2.11	171	2.35	439	473.93
98-99	135	50	370.64	1.99	110	2.20	268	502.51
99-100	85	34	392.59	1.86	68	2.05	158	537.63
100-101	51	21	416.24	1.74	41	1.90	90	574.71
101-102	30	13	441.29	1.63	23	1.77	49	613.50
102-103	17	8	467.62	1.52	13	1.64	26	657.89
103-104	9	4	495.26	1.42	7	1.52	13	704.23
104-105	5	3	524.40	1.32	3	1.41	6	757.58
105-106	2	1	555.34	1.23	2	1.30	3	813.01
106-107	1	1	588.22	1.14	1	1.20	1	877.19

TABLE 39 **LIFE TABLE FOR FEMALES IN**

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,240,585), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals:	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	9 366	93.66	52.91	93 350	9.97	5 290 979	18.90
1-2	90 634	2 425	26.76	57.35	89 203	36.78	5 197 629	17.44
2-3	88 209	1 185	13.43	57.91	87 581	73.91	5 108 426	17.27
3-4	87 024	632	7.26	57.69	86 696	137.18	5 020 845	17.33
4-5	86 392	530	6.14	57.11	86 116	162.48	4 934 149	17.51
5-6	85 862	435	5.07	56.46	85 644	196.88	4 848 033	17.71
6-7	85 427	350	4.09	55.75	85 252	243.58	4 762 389	17.94
7-8	85 077	278	3.27	54.98	84 938	305.53	4 677 137	18.19
8-9	84 799	226	2.66	54.15	84 686	374.72	4 592 199	18.47
9-10	84 573	196	2.32	53.30	84 475	430.99	4 507 513	18.76
10-11	84 377	188	2.22	52.42	84 283	448.31	4 423 038	19.08
11-12	84 189	197	2.34	51.54	84 091	426.86	4 338 755	19.40
12-13	83 992	222	2.64	50.66	83 881	377.84	4 254 664	19.74
13-14	83 770	258	3.09	49.79	83 641	324.19	4 170 783	20.08
14-15	83 512	304	3.64	48.94	83 360	274.21	4 087 142	20.43
15-16	83 208	357	4.29	48.12	83 029	232.57	4 003 782	20.78
16-17	82 851	417	5.03	47.32	82 642	198.18	3 920 753	21.13
17-18	82 434	471	5.71	46.56	82 199	174.52	3 838 111	21.48
18-19	81 963	512	6.25	45.82	81 707	159.58	3 755 912	21.82
19-20	81 451	546	6.70	45.11	81 178	148.68	3 674 205	22.17
20-21	80 905	582	7.20	44.41	80 614	138.51	3 593 027	22.52
21-22	80 323	621	7.73	43.73	80 012	128.84	3 512 413	22.87
22-23	79 702	646	8.11	43.07	79 379	122.88	3 432 401	23.22
23-24	79 056	653	8.25	42.41	78 729	120.57	3 353 022	23.58
24-25	78 403	645	8.22	41.76	78 081	121.06	3 274 293	23.95
25-26	77 758	636	8.18	41.10	77 440	121.76	3 196 212	24.33
26-27	77 122	624	8.09	40.44	76 810	123.09	3 118 772	24.73
27-28	76 498	613	8.02	39.77	76 192	124.29	3 041 962	25.14
28-29	75 885	607	8.01	39.08	75 581	124.52	2 965 770	25.59
29-30	75 278	605	8.04	38.39	74 975	123.93	2 890 189	26.05
30-31	74 673	600	8.03	37.70	74 373	123.96	2 815 214	26.53
31-32	74 073	593	8.00	37.00	73 777	124.41	2 740 841	27.03
32-33	73 480	586	7.98	36.30	73 187	124.89	2 667 064	27.55
33-34	72 894	582	7.99	35.58	72 603	124.75	2 593 877	28.11
34-35	72 312	580	8.01	34.87	72 022	124.18	2 521 274	28.68
35-36	71 732	576	8.04	34.14	71 444	124.03	2 449 252	29.29
36-37	71 156	574	8.06	33.42	70 869	123.47	2 377 808	29.92
37-38	70 582	573	8.13	32.68	70 296	122.68	2 306 939	30.60
38-39	70 009	578	8.25	31.95	69 720	120.62	2 236 643	31.30
39-40	69 431	585	8.42	31.21	69 139	118.19	2 166 923	32.04
40-41	68 846	592	8.60	30.47	68 550	115.79	2 097 784	32.82
41-42	68 254	602	8.82	29.73	67 953	112.88	2 029 234	33.64
42-43	67 652	609	9.01	28.99	67 347	110.59	1 961 281	34.49
43-44	67 043	614	9.16	28.25	66 736	108.69	1 893 934	35.40
44-45	66 429	617	9.29	27.51	66 120	107.16	1 827 198	36.35

THE STATE OF INDIANA: 1901. TABLE 39

REPORTED DEATHS IN 1900 (17,284), IN 1901 (17,108), AND IN 1902 (15,825).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	65 812	623	9.46	26.76	65 500	105.14	1 761 078	37.37
46-47	65 189	629	9.66	26.01	64 874	103.14	1 695 578	38.45
47-48	64 560	640	9.91	25.26	64 240	100.38	1 630 704	39.59
48-49	63 920	653	10.21	24.51	63 594	97.39	1 566 464	40.80
49-50	63 267	667	10.56	23.75	62 934	94.35	1 502 870	42.11
50-51	62 600	686	10.95	23.00	62 257	90.75	1 439 936	43.48
51-52	61 914	704	11.38	22.25	61 562	87.45	1 377 679	44.94
52-53	61 210	732	11.95	21.50	60 844	83.12	1 316 117	46.51
53-54	60 478	768	12.71	20.76	60 094	78.25	1 255 273	48.17
54-55	59 710	815	13.65	20.02	59 302	72.76	1 195 179	49.95
55-56	58 895	865	14.68	19.29	58 462	67.59	1 135 877	51.84
56-57	58 030	918	15.82	18.57	57 571	62.71	1 077 415	53.85
57-58	57 112	973	17.04	17.86	56 625	58.20	1 019 844	55.99
58-59	56 139	1 028	18.31	17.16	55 625	54.11	963 219	58.28
59-60	55 111	1 083	19.66	16.47	54 569	50.39	907 594	60.72
60-61	54 028	1 144	21.17	15.79	53 456	46.73	853 025	63.33
61-62	52 884	1 210	22.87	15.12	52 279	43.21	799 569	66.14
62-63	51 674	1 278	24.73	14.46	51 035	39.93	747 290	69.16
63-64	50 396	1 346	26.72	13.82	49 723	36.94	696 255	72.36
64-65	49 050	1 414	28.83	13.18	48 343	34.19	646 532	75.87
65-66	47 636	1 480	31.06	12.56	46 896	31.69	598 189	79.62
66-67	46 156	1 539	33.35	11.94	45 387	29.49	551 293	83.75
67-68	44 617	1 611	36.10	11.34	43 812	27.20	505 906	88.18
68-69	43 006	1 706	39.68	10.74	42 153	24.71	462 094	93.11
69-70	41 300	1 823	44.14	10.17	40 389	22.16	419 941	98.33
70-71	39 477	1 940	49.14	9.61	38 507	19.85	379 552	104.06
71-72	37 537	2 062	54.94	9.09	36 506	17.70	341 045	110.01
72-73	35 475	2 171	61.21	8.58	34 389	15.84	304 539	116.55
73-74	33 304	2 244	67.37	8.11	32 182	14.34	270 150	123.30
74-75	31 060	2 279	73.39	7.66	29 920	13.13	237 968	130.55
75-76	28 781	2 308	80.18	7.23	27 627	11.97	208 048	138.31
76-77	26 473	2 320	87.63	6.82	25 313	10.91	180 421	146.63
77-78	24 153	2 312	95.73	6.42	22 997	9.95	155 108	155.76
78-79	21 841	2 283	104.51	6.05	20 700	9.07	132 111	165.29
79-80	19 558	2 229	113.99	5.70	18 444	8.27	111 411	175.44
80-81	17 329	2 150	124.07	5.36	16 254	7.56	92 967	186.57
81-82	15 179	2 044	134.67	5.05	14 157	6.93	76 713	198.02
82-83	13 135	1 914	145.68	4.76	12 178	6.36	62 556	210.08
83-84	11 221	1 762	157.01	4.49	10 340	5.87	50 378	222.72
84-85	9 459	1 595	168.66	4.23	8 662	5.43	40 038	236.41
85-86	7 864	1 421	180.70	3.99	7 153	5.03	31 376	250.63
86-87	6 443	1 245	193.24	3.76	5 820	4.67	24 223	265.96
87-88	5 198	1 073	206.44	3.54	4 661	4.34	18 403	282.49
88-89	4 125	909	220.44	3.33	3 670	4.04	13 742	300.30
89-90	3 216	757	235.36	3.13	2 837	3.75	10 072	319.49
90-91	2 459	618	251.26	2.94	2 150	3.48	7 235	340.14
91-92	1 841	494	268.17	2.76	1 594	3.23	5 085	362.32
92-93	1 347	385	286.06	2.59	1 155	3.00	3 491	386.10
93-94	962	293	304.96	2.43	815	2.78	2 336	411.52
94-95	669	218	324.88	2.28	560	2.58	1 521	438.60
95-96	451	156	345.87	2.13	373	2.39	961	469.48
96-97	295	108	367.97	2.00	241	2.22	588	500.00
97-98	187	73	391.17	1.87	150	2.06	347	534.76
98-99	114	48	415.63	1.74	90	1.91	197	574.71
99-100	66	29	441.36	1.63	52	1.77	107	613.50
100-101	37	17	468.38	1.52	28	1.64	55	657.89
101-102	20	10	496.73	1.41	15	1.51	27	709.22
102-103	10	5	526.42	1.32	7	1.40	12	757.58
103-104	5	3	557.47	1.23	3	1.29	5	813.01
104-105	2	1	589.87	1.14	1	1.20	2	877.19
105-106	1	1	623.63	1.06	1	1.10	1	943.40

TABLE 40 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,319,479), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 635	36.35	56.16	8 106	26.76	5 615 867	17.81
1-2	96 365	766	7.95	58.19	7 998	125.28	5 607 761	17.19
2-3	95 599	572	5.98	58.58	7 943	166.68	5 599 763	17.07
3-4	95 027	478	5.04	58.84	7 899	198.36	5 591 820	17.00
4-5	94 549	417	4.40	59.06	7 862	226.20	5 583 921	16.93
5-6	94 132	376	3.99	59.24	7 829	249.84	5 576 059	16.88
6-7	93 756	341	3.64	59.39	7 799	274.44	5 568 230	16.84
7-8	93 415	315	3.37	59.52	7 771	296.04	5 560 431	16.80
8-9	93 100	296	3.18	59.64	7 746	314.04	5 552 660	16.77
9-10	92 804	287	3.09	59.75	7 722	322.92	5 544 914	16.74
10-11	92 517	281	3.04	59.85	7 698	328.80	5 537 192	16.71
11-12	92 236	277	3.00	59.95	7 675	332.52	5 529 494	16.68
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	8 041	80.41	56.16	94 048	11.70	5 615 867	17.81
1-2	91 959	1 895	20.61	60.05	90 841	47.94	5 521 819	16.65
2-3	90 064	846	9.40	60.30	89 616	105.93	5 430 978	16.58
3-4	89 218	478	5.36	59.87	88 969	186.13	5 341 362	16.70
4-5	88 740	383	4.31	59.19	88 541	231.18	5 252 393	16.89
5-6	88 357	314	3.56	58.44	88 200	280.89	5 163 852	17.11
6-7	88 043	257	2.92	57.65	87 914	342.08	5 075 652	17.35
7-8	87 786	213	2.43	56.82	87 679	411.64	4 987 738	17.60
8-9	87 573	185	2.10	55.95	87 480	472.86	4 900 059	17.87
9-10	87 388	168	1.93	55.07	87 304	519.67	4 812 579	18.16
10-11	87 220	165	1.90	54.18	87 137	528.10	4 725 275	18.46
11-12	87 055	173	1.99	53.28	86 968	502.71	4 638 138	18.77
12-13	86 882	190	2.19	52.38	86 787	456.77	4 551 170	19.09
13-14	86 692	214	2.47	51.50	86 585	404.60	4 464 383	19.42
14-15	86 478	244	2.82	50.62	86 356	353.92	4 377 798	19.76
15-16	86 234	278	3.22	49.77	86 095	309.69	4 291 442	20.09
16-17	85 956	312	3.63	48.92	85 800	275.00	4 205 347	20.44
17-18	85 644	347	4.05	48.10	85 471	246.31	4 119 547	20.79
18-19	85 297	382	4.47	47.29	85 106	222.79	4 034 076	21.15
19-20	84 915	417	4.91	46.50	84 707	203.13	3 948 970	21.51
20-21	84 498	453	5.37	45.73	84 272	186.03	3 864 263	21.87
21-22	84 045	482	5.73	44.98	83 804	173.87	3 779 991	22.23
22-23	83 563	496	5.93	44.23	83 315	167.97	3 696 187	22.61
23-24	83 067	500	6.02	43.49	82 817	165.63	3 612 872	22.99
24-25	82 567	505	6.12	42.75	82 314	163.00	3 530 055	23.39
25-26	82 062	508	6.19	42.01	81 808	161.04	3 447 741	23.80
26-27	81 554	511	6.26	41.27	81 298	159.10	3 365 933	24.23
27-28	81 043	514	6.34	40.53	80 786	157.17	3 284 635	24.67
28-29	80 529	517	6.42	39.79	80 271	155.26	3 203 849	25.13
29-30	80 012	520	6.49	39.04	79 752	153.37	3 123 578	25.61
30-31	79 492	520	6.55	38.29	79 232	152.37	3 043 826	26.12
31-32	78 972	521	6.60	37.54	78 711	151.08	2 964 594	26.64
32-33	78 451	524	6.67	36.79	78 189	149.22	2 885 883	27.18
33-34	77 927	524	6.73	36.03	77 665	148.22	2 807 694	27.75
34-35	77 403	526	6.79	35.27	77 140	146.65	2 730 029	28.35
35-36	76 877	527	6.85	34.51	76 614	145.38	2 652 889	28.98
36-37	76 350	529	6.93	33.74	76 086	143.83	2 576 275	29.64
37-38	75 821	533	7.03	32.97	75 555	141.75	2 500 189	30.33
38-39	75 288	538	7.15	32.20	75 019	139.44	2 424 634	31.06
39-40	74 750	544	7.29	31.43	74 478	136.91	2 349 615	31.82
40-41	74 206	553	7.45	30.66	73 929	133.69	2 275 137	32.62
41-42	73 653	561	7.61	29.89	73 372	130.79	2 201 208	33.46
42-43	73 092	567	7.76	29.11	72 808	128.41	2 127 836	34.35
43-44	72 525	575	7.92	28.34	72 237	125.63	2 055 028	35.29
44-45	71 950	584	8.11	27.56	71 658	122.70	1 982 791	36.28

THE STATE OF INDIANA: 1910. TABLE 40

REPORTED DEATHS IN 1909 (16,255), IN 1910 (17,197), AND IN 1911 (16,493).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	71 366	594	8.33	26.78	71 069	119.64	1 911 133	37.34
46-47	70 772	613	8.66	26.00	70 466	114.95	1 840 064	38.46
47-48	70 159	643	9.16	25.22	69 838	108.61	1 769 598	39.65
48-49	69 516	678	9.76	24.45	69 177	102.03	1 699 760	40.90
49-50	68 838	714	10.37	23.69	68 481	95.91	1 630 583	42.21
50-51	68 124	750	11.01	22.93	67 749	90.33	1 562 102	43.61
51-52	67 374	783	11.62	22.18	66 983	85.55	1 494 353	45.09
52-53	66 591	812	12.20	21.43	66 185	81.51	1 427 370	46.66
53-54	65 779	844	12.83	20.69	65 357	77.44	1 361 185	48.33
54-55	64 935	881	13.57	19.96	64 495	73.21	1 295 828	50.10
55-56	64 054	924	14.43	19.22	63 592	68.82	1 231 333	52.03
56-57	63 130	975	15.44	18.50	62 642	64.25	1 167 741	54.05
57-58	62 155	1 031	16.58	17.78	61 640	59.79	1 105 099	56.24
58-59	61 124	1 090	17.84	17.07	60 579	55.58	1 043 459	58.58
59-60	60 034	1 155	19.24	16.37	59 457	51.48	982 880	61.09
60-61	58 879	1 224	20.79	15.68	58 267	47.60	923 423	63.78
61-62	57 655	1 301	22.57	15.01	57 004	43.82	865 156	66.62
62-63	56 354	1 388	24.63	14.34	55 660	40.10	808 152	69.74
63-64	54 966	1 478	26.88	13.69	54 227	36.69	752 492	73.05
64-65	53 488	1 563	29.23	13.05	52 706	33.72	698 265	76.63
65-66	51 925	1 643	31.63	12.43	51 103	31.10	645 559	80.45
66-67	50 282	1 728	34.38	11.82	49 418	28.60	594 456	84.60
67-68	48 554	1 835	37.80	11.23	47 636	25.96	545 038	89.05
68-69	46 719	1 961	41.97	10.65	45 738	23.32	497 402	93.90
69-70	44 758	2 086	46.62	10.09	43 715	20.96	451 664	99.11
70-71	42 672	2 220	52.01	9.56	41 562	18.72	407 949	104.60
71-72	40 452	2 331	57.64	9.06	39 287	16.85	366 387	110.38
72-73	38 121	2 396	62.84	8.58	36 923	15.41	327 100	116.55
73-74	35 725	2 415	67.61	8.12	34 518	14.29	290 177	123.15
74-75	33 310	2 426	72.85	7.68	32 097	13.23	255 659	130.21
75-76	30 884	2 420	78.35	7.24	29 674	12.26	223 562	138.12
76-77	28 464	2 404	84.46	6.81	27 262	11.34	193 888	146.84
77-78	26 060	2 396	91.93	6.39	24 862	10.38	166 626	156.49
78-79	23 664	2 394	101.17	5.99	22 467	9.38	141 764	166.94
79-80	21 270	2 384	112.05	5.61	20 078	8.42	119 297	178.25
80-81	18 886	2 376	125.83	5.25	17 698	7.45	99 219	190.48
81-82	16 510	2 325	140.81	4.94	15 348	6.60	81 521	202.43
82-83	14 185	2 180	153.69	4.66	13 095	6.01	66 173	214.59
83-84	12 005	1 963	163.52	4.42	11 024	5.62	53 078	226.24
84-85	10 042	1 753	174.60	4.19	9 166	5.23	42 054	238.66
85-86	8 289	1 542	186.05	3.97	7 518	4.87	32 888	251.89
86-87	6 747	1 333	197.56	3.76	6 080	4.56	25 370	265.96
87-88	5 414	1 132	209.02	3.56	4 848	4.28	19 290	280.90
88-89	4 282	944	220.61	3.37	3 810	4.03	14 442	296.74
89-90	3 338	777	232.59	3.19	2 949	3.80	10 632	313.48
90-91	2 561	628	245.44	3.00	2 247	3.57	7 683	333.33
91-92	1 933	502	259.77	2.81	1 682	3.35	5 436	355.87
92-93	1 431	396	276.36	2.62	1 233	3.12	3 754	381.68
93-94	1 035	306	295.90	2.44	882	2.88	2 521	409.84
94-95	729	233	318.91	2.25	613	2.64	1 639	444.44
95-96	496	171	345.53	2.07	411	2.39	1 026	483.09
96-97	325	122	375.49	1.90	264	2.16	615	526.32
97-98	203	83	408.20	1.74	161	1.95	351	574.71
98-99	120	53	443.03	1.59	93	1.76	190	628.93
99-100	67	32	479.30	1.46	51	1.59	97	684.93
100-101	35	18	516.43	1.33	26	1.44	46	751.88
101-102	17	9	554.12	1.23	12	1.30	20	813.01
102-103	8	5	592.29	1.13	5	1.19	8	884.96
103-104	3	2	630.97	1.04	2	1.08	3	961.54
104-105	1	1	670.17	.96	1	.99	1	.....

TABLE 41 — LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION DECEMBER 1, 1889 (1,073,721), AND ON

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5								
5-6	This life table is based on the estimated population December 31, 1889, and reported deaths for the census year ended May 31, 1890, shown in Table 179, page 470. The reported deaths are not in exact agreement with those published in the Massachusetts Registration Reports, but the differences are small except for the age under 1 year.							
6-7								
7-8								
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	16 777	167.77	42.50	87 921	5.24	4 250 413	23.53
1-2	83 223	4 074	48.96	50.02	80 819	19.84	4 162 492	19.99
2-3	79 149	2 071	26.17	51.57	78 051	37.69	4 081 673	19.39
3-4	77 078	1 343	17.42	51.94	76 379	56.87	4 003 622	19.25
4-5	75 735	1 057	13.95	51.86	75 186	71.13	3 927 243	19.28
5-6	74 678	826	11.07	51.58	74 265	89.91	3 852 057	19.39
6-7	73 852	645	8.73	51.15	73 530	114.00	3 777 792	19.55
7-8	73 207	505	6.90	50.60	72 955	144.47	3 704 262	19.76
8-9	72 702	402	5.53	49.95	72 501	180.35	3 631 307	20.02
9-10	72 300	331	4.58	49.22	72 134	217.93	3 558 806	20.32
10-11	71 969	288	3.99	48.45	71 825	249.39	3 486 672	20.64
11-12	71 681	267	3.72	47.64	71 548	267.97	3 414 847	20.99
12-13	71 414	266	3.73	46.82	71 281	267.97	3 343 299	21.36
13-14	71 148	282	3.96	45.99	71 007	251.80	3 272 018	21.74
14-15	70 866	309	4.37	45.17	70 712	228.84	3 201 011	22.14
15-16	70 557	346	4.90	44.37	70 384	203.42	3 130 299	22.54
16-17	70 211	387	5.52	43.58	70 018	180.93	3 059 915	22.95
17-18	69 824	429	6.14	42.82	69 610	162.26	2 989 897	23.35
18-19	69 395	466	6.71	42.08	69 162	148.42	2 920 287	23.76
19-20	68 929	497	7.22	41.36	68 680	138.19	2 851 125	24.18
20-21	68 432	531	7.75	40.66	68 167	128.37	2 782 445	24.59
21-22	67 901	562	8.28	39.97	67 620	120.32	2 714 278	25.02
22-23	67 339	585	8.69	39.30	67 047	114.61	2 646 658	25.45
23-24	66 754	597	8.95	38.64	66 455	111.31	2 579 611	25.88
24-25	66 157	603	9.12	37.99	65 855	109.21	2 513 156	26.32
25-26	65 554	609	9.29	37.33	65 249	107.14	2 447 301	26.79
26-27	64 945	615	9.47	36.68	64 637	105.10	2 382 052	27.26
27-28	64 330	619	9.62	36.02	64 021	103.43	2 317 415	27.76
28-29	63 711	621	9.75	35.37	63 401	102.10	2 253 394	28.27
29-30	63 090	621	9.86	34.71	62 779	101.09	2 189 993	28.81
30-31	62 469	622	9.96	34.05	62 158	99.93	2 127 214	29.37
31-32	61 847	622	10.04	33.39	61 536	98.93	2 065 056	29.95
32-33	61 225	622	10.17	32.72	60 914	97.93	2 003 520	30.56
33-34	60 603	628	10.36	32.05	60 289	96.00	1 942 606	31.20
34-35	59 975	635	10.60	31.39	59 657	93.95	1 882 317	31.86
35-36	59 340	644	10.85	30.72	59 018	91.64	1 822 660	32.55
36-37	58 696	653	11.13	30.05	58 369	89.39	1 763 642	33.28
37-38	58 043	661	11.39	29.38	57 712	87.31	1 705 273	34.04
38-39	57 382	667	11.62	28.71	57 048	85.53	1 647 561	34.83
39-40	56 715	672	11.84	28.04	56 379	83.90	1 590 513	35.66
40-41	56 043	677	12.09	27.37	55 705	82.28	1 534 134	36.54
41-42	55 366	684	12.36	26.70	55 024	80.44	1 478 429	37.45
42-43	54 682	693	12.67	26.03	54 335	78.41	1 423 405	38.42
43-44	53 989	705	13.05	25.36	53 636	76.08	1 369 070	39.43
44-45	53 284	719	13.49	24.69	52 925	73.61	1 315 434	40.50

STATE OF MASSACHUSETTS: 1890. TABLE 41

THE REPORTED DEATHS IN THE CENSUS YEAR ENDED MAY 31, 1890 (21,545).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	52 565	734	13.96	24.02	52 198	71.11	1 262 509	41.63
46-47	51 831	749	14.45	23.35	51 457	68.70	1 210 311	42.83
47-48	51 082	768	15.03	22.69	50 698	66.01	1 158 854	44.07
48-49	50 314	792	15.75	22.02	49 918	63.03	1 108 156	45.41
49-50	49 522	820	16.56	21.37	49 112	59.89	1 058 238	46.79
50-51	48 702	848	17.41	20.72	48 278	56.93	1 009 126	48.26
51-52	47 854	875	18.30	20.08	47 417	54.19	960 848	49.80
52-53	46 979	905	19.27	19.44	46 526	51.41	913 431	51.44
53-54	46 074	939	20.38	18.82	45 604	48.57	866 905	53.13
54-55	45 135	979	21.68	18.20	44 646	45.60	821 301	54.95
55-56	44 156	1 024	23.19	17.59	43 644	42.62	776 655	56.85
56-57	43 132	1 080	25.06	16.99	42 592	39.44	733 011	58.86
57-58	42 052	1 126	26.76	16.42	41 489	36.85	690 419	60.90
58-59	40 926	1 137	27.79	15.86	40 358	35.50	648 930	63.05
59-60	39 789	1 126	28.30	15.29	39 226	34.84	608 572	65.40
60-61	38 663	1 116	28.87	14.73	38 105	34.14	569 346	67.89
61-62	37 547	1 100	29.28	14.15	36 997	33.63	531 241	70.67
62-63	36 447	1 106	30.36	13.56	35 894	32.45	494 244	73.75
63-64	35 341	1 156	32.72	12.97	34 763	30.07	458 350	77.10
64-65	34 185	1 239	36.23	12.39	33 565	27.09	423 587	80.71
65-66	32 946	1 319	40.03	11.84	32 287	24.48	390 022	84.46
66-67	31 627	1 375	43.47	11.31	30 940	22.50	357 735	88.42
67-68	30 252	1 415	46.77	10.80	29 545	20.88	326 795	92.59
68-69	28 837	1 441	49.99	10.31	28 117	19.51	297 250	96.99
69-70	27 396	1 458	53.21	9.82	26 667	18.29	269 133	101.83
70-71	25 938	1 470	56.66	9.35	25 203	17.14	242 466	106.95
71-72	24 468	1 484	60.66	8.88	23 726	15.99	217 263	112.61
72-73	22 984	1 505	65.49	8.42	22 232	14.77	193 537	118.76
73-74	21 479	1 531	71.28	7.98	20 714	13.53	171 305	125.31
74-75	19 948	1 555	77.97	7.55	19 170	12.33	150 591	132.45
75-76	18 393	1 568	85.26	7.15	17 609	11.23	131 421	139.86
76-77	16 825	1 561	92.76	6.76	16 044	10.28	113 812	147.93
77-78	15 264	1 528	100.13	6.41	14 500	9.49	97 768	156.01
78-79	13 736	1 473	107.20	6.06	12 999	8.82	83 268	165.02
79-80	12 263	1 398	114.06	5.73	11 564	8.27	70 269	174.52
80-81	10 865	1 316	121.07	5.40	10 207	7.76	58 705	185.19
81-82	9 549	1 230	128.80	5.08	8 934	7.26	48 498	196.85
82-83	8 319	1 147	137.85	4.76	7 746	6.75	39 564	210.08
83-84	7 172	1 066	148.70	4.44	6 639	6.23	31 818	225.23
84-85	6 106	987	161.67	4.12	5 612	5.69	25 179	242.72
85-86	5 119	905	176.83	3.82	4 666	5.16	19 567	261.78
86-87	4 214	818	194.05	3.54	3 805	4.65	14 901	282.49
87-88	3 396	724	213.10	3.27	3 034	4.19	11 096	305.81
88-89	2 672	624	233.73	3.02	2 360	3.78	8 062	331.13
89-90	2 048	524	255.77	2.79	1 786	3.41	5 702	358.42
90-91	1 524	425	279.12	2.57	1 311	3.08	3 916	389.11
91-92	1 099	334	303.77	2.37	932	2.79	2 605	421.94
92-93	765	252	329.74	2.19	639	2.53	1 673	456.62
93-94	513	183	357.05	2.02	421	2.30	1 034	495.05
94-95	330	128	385.69	1.86	266	2.09	613	537.63
95-96	202	84	415.61	1.72	160	1.91	347	581.40
96-97	118	53	446.74	1.59	92	1.74	187	628.93
97-98	65	31	479.00	1.47	50	1.59	95	680.27
98-99	34	17	512.28	1.35	25	1.45	45	740.74
99-100	17	9	546.44	1.25	12	1.33	20	800.00
100-101	8	5	581.32	1.16	5	1.22	8	862.07
101-102	3	2	616.76	1.07	2	1.12	3	934.58
102-103	1	1	652.54	.99	1	1.03	1	.....

TABLE 42 **LIFE TABLE FOR MALES IN THE**

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,399,045), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	15 878	158.78	46.07	88 568	5.58	4 607 267	21.71
1-2	84 122	3 170	37.69	53.72	82 251	25.95	4 518 699	18.62
2-3	80 952	1 403	17.33	54.80	80 208	57.17	4 436 448	18.25
3-4	79 549	999	12.55	54.76	79 030	79.11	4 356 240	18.26
4-5	78 550	709	9.04	54.45	78 181	110.27	4 277 210	18.37
5-6	77 841	517	6.64	53.94	77 582	150.06	4 199 029	18.54
6-7	77 324	423	5.47	53.30	77 112	182.30	4 121 447	18.76
7-8	76 901	345	4.48	52.59	76 728	222.40	4 044 335	19.02
8-9	76 556	283	3.70	51.83	76 414	270.01	3 967 607	19.29
9-10	76 273	238	3.12	51.02	76 154	319.97	3 891 193	19.60
10-11	76 035	208	2.74	50.17	75 931	365.05	3 815 039	19.93
11-12	75 827	195	2.57	49.31	75 730	388.36	3 739 108	20.28
12-13	75 632	194	2.57	48.44	75 535	389.36	3 663 378	20.64
13-14	75 438	208	2.75	47.56	75 334	362.18	3 587 843	21.03
14-15	75 230	230	3.06	46.69	75 115	326.59	3 512 509	21.42
15-16	75 000	261	3.49	45.83	74 869	286.85	3 437 394	21.82
16-17	74 739	301	4.02	44.99	74 588	247.80	3 362 525	22.23
17-18	74 438	339	4.55	44.17	74 269	219.08	3 287 937	22.64
18-19	74 099	371	5.02	43.37	73 913	199.23	3 213 668	23.06
19-20	73 728	400	5.42	42.59	73 528	183.82	3 139 755	23.48
20-21	73 328	428	5.84	41.82	73 114	170.83	3 066 227	23.91
21-22	72 900	457	6.26	41.06	72 672	159.02	2 993 113	24.35
22-23	72 443	477	6.60	40.31	72 204	151.37	2 920 441	24.81
23-24	71 966	491	6.82	39.58	71 720	146.07	2 848 237	25.27
24-25	71 475	499	6.98	38.85	71 225	142.74	2 776 517	25.74
25-26	70 976	506	7.13	38.12	70 723	139.77	2 705 292	26.23
26-27	70 470	512	7.27	37.39	70 214	137.14	2 634 569	26.75
27-28	69 958	517	7.40	36.66	69 699	134.81	2 564 355	27.28
28-29	69 441	523	7.53	35.92	69 179	132.27	2 494 656	27.84
29-30	68 918	528	7.66	35.19	68 654	130.03	2 425 477	28.42
30-31	68 390	534	7.80	34.46	68 123	127.57	2 356 823	29.02
31-32	67 856	538	7.94	33.73	67 587	125.63	2 288 700	29.65
32-33	67 318	546	8.11	32.99	67 045	122.79	2 221 113	30.31
33-34	66 772	557	8.33	32.26	66 494	119.38	2 154 068	31.00
34-35	66 215	568	8.58	31.53	65 931	116.08	2 087 574	31.72
35-36	65 647	580	8.84	30.80	65 357	112.68	2 021 643	32.47
36-37	65 067	593	9.11	30.07	64 770	109.22	1 956 286	33.26
37-38	64 474	606	9.41	29.34	64 171	105.89	1 891 516	34.08
38-39	63 868	624	9.76	28.61	63 556	101.85	1 827 345	34.95
39-40	63 244	642	10.16	27.89	62 923	98.01	1 763 789	35.86
40-41	62 602	664	10.60	27.17	62 270	93.78	1 700 866	36.81
41-42	61 938	688	11.11	26.46	61 594	89.53	1 638 596	37.79
42-43	61 250	709	11.58	25.75	60 895	85.89	1 577 002	38.83
43-44	60 541	724	11.96	25.04	60 179	83.12	1 516 107	39.94
44-45	59 817	735	12.28	24.34	59 450	80.88	1 455 928	41.08

STATE OF MASSACHUSETTS: 1901. TABLE 42

REPORTED DEATHS IN 1900 (26,050), IN 1901 (24,873), AND IN 1902 (24,312).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	59 082	748	12.67	23.64	58 708	78.49	1 396 478	42.30
46-47	58 334	764	13.09	22.93	57 952	75.85	1 337 770	43.61
47-48	57 570	785	13.64	22.23	57 178	72.84	1 279 818	44.98
48-49	56 785	815	14.36	21.53	56 378	69.18	1 222 640	46.45
49-50	55 970	852	15.22	20.84	55 544	65.19	1 166 262	47.98
50-51	55 118	888	16.11	20.15	54 674	61.57	1 110 718	49.63
51-52	54 230	924	17.03	19.47	53 768	58.19	1 056 044	51.36
52-53	53 306	963	18.08	18.80	52 825	54.85	1 002 276	53.19
53-54	52 343	1 012	19.33	18.14	51 837	51.22	949 451	55.13
54-55	51 331	1 070	20.85	17.49	50 796	47.47	897 614	57.18
55-56	50 261	1 134	22.55	16.85	49 694	43.82	846 818	59.35
56-57	49 127	1 205	24.53	16.23	48 525	40.27	797 124	61.61
57-58	47 922	1 276	26.62	15.62	47 284	37.06	748 599	64.02
58-59	46 646	1 332	28.56	15.03	45 980	34.52	701 315	66.53
59-60	45 314	1 373	30.31	14.46	44 627	32.50	655 335	69.16
60-61	43 941	1 414	32.16	13.90	43 234	30.58	610 708	71.94
61-62	42 527	1 446	34.01	13.34	41 804	28.91	567 474	74.96
62-63	41 081	1 482	36.07	12.80	40 340	27.22	525 670	78.13
63-64	39 599	1 529	38.61	12.26	38 835	25.40	485 330	81.57
64-65	38 070	1 585	41.65	11.73	37 278	23.52	446 495	85.25
65-66	36 485	1 639	44.92	11.22	35 665	21.76	409 217	89.13
66-67	34 846	1 692	48.56	10.72	34 000	20.09	373 552	93.28
67-68	33 154	1 733	52.27	10.24	32 288	18.63	339 552	97.66
68-69	31 421	1 750	55.71	9.78	30 546	17.45	307 264	102.25
69-70	29 671	1 751	59.00	9.33	28 795	16.44	276 718	107.18
70-71	27 920	1 747	62.59	8.88	27 046	15.48	247 923	112.61
71-72	26 173	1 737	66.35	8.44	25 304	14.57	220 877	118.48
72-73	24 436	1 731	70.84	8.06	23 571	13.62	195 573	125.00
73-74	22 705	1 738	76.55	7.58	21 836	12.56	172 002	131.93
74-75	20 967	1 748	83.36	7.16	20 093	11.49	150 166	139.66
75-76	19 219	1 742	90.65	6.77	18 348	10.53	130 073	147.71
76-77	17 477	1 716	98.18	6.39	16 619	9.68	111 725	156.49
77-78	15 761	1 678	106.50	6.03	14 922	8.89	95 106	165.84
78-79	14 083	1 626	115.43	5.69	13 270	8.16	80 184	175.75
79-80	12 457	1 555	124.88	5.37	11 679	7.51	66 914	186.22
80-81	10 902	1 470	134.81	5.07	10 167	6.92	55 235	197.24
81-82	9 432	1 369	145.19	4.78	8 747	6.39	45 068	209.21
82-83	8 063	1 259	156.06	4.51	7 433	5.91	36 321	221.73
83-84	6 804	1 139	167.49	4.25	6 234	5.47	28 888	235.29
84-85	5 665	1 018	179.57	4.00	5 156	5.07	22 654	250.00
85-86	4 647	894	192.39	3.77	4 200	4.70	17 498	265.25
86-87	3 753	773	206.00	3.54	3 367	4.35	13 298	282.49
87-88	2 980	657	220.42	3.33	2 652	4.04	9 931	300.30
88-89	2 323	547	235.66	3.13	2 050	3.74	7 279	319.49
89-90	1 776	447	251.69	2.95	1 552	3.47	5 229	338.98
90-91	1 329	357	268.49	2.77	1 150	3.22	3 677	361.01
91-92	972	278	286.03	2.60	833	3.00	2 527	384.62
92-93	694	211	304.36	2.44	588	2.79	1 694	409.84
93-94	483	156	323.57	2.29	405	2.59	1 106	436.68
94-95	327	113	343.75	2.15	270	2.41	701	465.12
95-96	214	78	365.02	2.02	175	2.24	431	495.05
96-97	136	53	387.46	1.89	110	2.08	256	529.10
97-98	83	34	411.08	1.77	66	1.93	146	564.97
98-99	49	21	435.86	1.65	38	1.79	80	606.06
99-100	28	13	461.85	1.55	21	1.67	42	645.16
100-101	15	7	489.06	1.44	11	1.54	21	694.44
101-102	8	4	517.48	1.35	6	1.43	10	740.74
102-103	4	2	547.14	1.26	3	1.33	4	793.65
103-104	2	1	578.02	1.17	1	1.23	1	854.70
104-105	1	1	610.11	1.09	.....	1.14	.....	917.43

TABLE 43 **LIFE TABLE FOR MALES IN THE**

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,661,319), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	5 119	51.19	49.33	8 013	18.84	4 933 230	20.27
1-2	94 881	1 437	15.15	51.91	7 847	65.52	4 925 217	19.26
2-3	93 444	1 179	12.62	52.62	7 738	78.72	4 917 370	19.00
3-4	92 265	1 006	10.90	53.21	7 647	91.20	4 909 632	18.79
4-5	91 259	888	9.73	53.72	7 568	102.24	4 901 985	18.62
5-6	90 371	794	8.79	54.16	7 498	113.28	4 894 417	18.46
6-7	89 577	712	7.95	54.56	7 435	125.28	4 886 919	18.33
7-8	88 865	638	7.18	54.91	7 379	138.84	4 879 484	18.21
8-9	88 227	571	6.48	55.22	7 328	153.96	4 872 105	18.11
9-10	87 656	512	5.84	55.50	7 283	170.64	4 864 777	18.02
10-11	87 144	454	5.21	55.74	7 243	191.40	4 857 494	17.94
11-12	86 690	396	4.57	55.95	7 208	218.40	4 850 251	17.87
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 706	137.06	49.33	90 187	6.58	4 933 230	20.27
1-2	86 294	2 446	28.34	56.12	84 851	34.69	4 843 043	17.82
2-3	83 848	998	11.90	56.75	83 319	83.49	4 758 192	17.62
3-4	82 850	691	8.35	56.43	82 491	119.38	4 674 873	17.72
4-5	82 159	449	5.46	55.90	81 925	182.46	4 592 382	17.89
5-6	81 710	379	4.64	55.20	81 521	215.09	4 510 457	18.12
6-7	81 331	321	3.95	54.46	81 171	252.87	4 428 936	18.36
7-8	81 010	273	3.37	53.67	80 874	296.24	4 347 765	18.63
8-9	80 737	235	2.92	52.85	80 620	343.06	4 266 891	18.92
9-10	80 502	208	2.58	52.00	80 398	386.53	4 186 271	19.23
10-11	80 294	190	2.37	51.14	80 199	422.10	4 105 873	19.55
11-12	80 104	182	2.27	50.26	80 013	439.63	4 025 674	19.90
12-13	79 922	181	2.27	49.37	79 832	441.06	3 945 661	20.26
13-14	79 741	188	2.36	48.48	79 647	423.65	3 865 829	20.63
14-15	79 553	202	2.53	47.59	79 452	393.33	3 786 182	21.01
15-16	79 351	218	2.75	46.71	79 242	363.50	3 706 730	21.41
16-17	79 133	242	3.05	45.84	79 012	326.50	3 627 488	21.82
17-18	78 891	270	3.43	44.98	78 756	291.69	3 548 476	22.23
18-19	78 621	301	3.83	44.13	78 470	260.70	3 469 720	22.66
19-20	78 320	333	4.25	43.30	78 153	234.69	3 391 250	23.09
20-21	77 987	367	4.70	42.48	77 804	212.00	3 313 097	23.54
21-22	77 620	389	5.02	41.68	77 426	199.04	3 235 293	23.99
22-23	77 231	398	5.16	40.89	77 032	193.55	3 157 867	24.46
23-24	76 833	399	5.18	40.10	76 634	192.07	3 080 835	24.94
24-25	76 434	400	5.24	39.30	76 234	190.59	3 004 201	25.45
25-26	76 034	401	5.28	38.51	75 834	189.11	2 927 967	25.97
26-27	75 633	407	5.38	37.71	75 429	185.33	2 852 133	26.52
27-28	75 226	422	5.60	36.91	75 015	177.76	2 776 704	27.09
28-29	74 804	442	5.92	36.12	74 583	168.74	2 701 689	27.69
29-30	74 362	464	6.24	35.33	74 130	159.76	2 627 106	28.30
30-31	73 898	488	6.60	34.55	73 654	150.93	2 552 976	28.94
31-32	73 410	511	6.95	33.77	73 155	143.16	2 479 322	29.61
32-33	72 899	527	7.24	33.01	72 636	137.83	2 406 167	30.29
33-34	72 372	540	7.46	32.24	72 102	133.52	2 333 531	31.02
34-35	71 832	553	7.70	31.48	71 556	129.40	2 261 429	31.77
35-36	71 279	565	7.92	30.72	70 997	125.66	2 189 873	32.55
36-37	70 714	579	8.20	29.96	70 424	121.63	2 118 876	33.38
37-38	70 135	601	8.57	29.21	69 834	116.20	2 048 452	34.23
38-39	69 534	627	9.01	28.46	69 221	110.40	1 978 618	35.14
39-40	68 907	653	9.48	27.71	68 581	105.02	1 909 397	36.09
40-41	68 254	682	10.00	26.97	67 913	99.58	1 840 816	37.08
41-42	67 572	708	10.48	26.24	67 218	94.94	1 772 903	38.11
42-43	66 864	727	10.87	25.51	66 500	91.47	1 705 685	39.20
43-44	66 137	741	11.21	24.78	65 766	88.75	1 639 185	40.36
44-45	65 396	759	11.60	24.06	65 017	85.66	1 573 419	41.56

STATE OF MASSACHUSETTS: 1910. TABLE 43.

REPORTED DEATHS IN 1909 (26,255), IN 1910 (28,208), AND IN 1911 (27,515).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 637	777	12.03	23.34	64 248	82.69	1 508 402	42.84
46-47	63 860	805	12.59	22.61	63 457	78.83	1 444 154	44.23
47-48	63 055	841	13.34	21.90	62 635	74.48	1 380 697	45.66
48-49	62 214	884	14.21	21.19	61 772	69.88	1 318 062	47.19
49-50	61 330	926	15.10	20.48	60 867	65.73	1 256 290	48.83
50-51	60 404	970	16.05	19.79	59 919	61.77	1 195 423	50.53
51-52	59 434	1 011	17.02	19.11	58 929	58.29	1 135 504	52.33
52-53	58 423	1 055	18.06	18.43	57 895	54.88	1 076 575	54.26
53-54	57 368	1 105	19.25	17.76	56 816	51.42	1 018 680	56.31
54-55	56 263	1 161	20.64	17.10	55 683	47.96	961 864	58.48
55-56	55 102	1 226	22.26	16.45	54 489	44.44	906 181	60.79
56-57	53 876	1 303	24.17	15.81	53 224	40.85	851 692	63.25
57-58	52 573	1 381	26.27	15.19	51 883	37.57	798 468	65.83
58-59	51 192	1 456	28.45	14.58	50 464	34.66	746 585	68.59
59-60	49 736	1 530	30.76	14.00	48 971	32.01	696 121	71.43
60-61	48 206	1 598	33.15	13.42	47 407	29.67	647 150	74.52
61-62	46 608	1 665	35.73	12.87	45 775	27.49	599 743	77.70
62-63	44 943	1 736	38.62	12.33	44 075	25.39	553 968	81.10
63-64	43 207	1 807	41.83	11.80	42 303	23.41	509 893	84.75
64-65	41 400	1 872	45.21	11.29	40 464	21.62	467 590	88.57
65-66	39 528	1 930	48.81	10.81	38 563	19.98	427 126	92.51
66-67	37 598	1 973	52.49	10.33	36 612	18.56	388 563	96.81
67-68	35 625	2 000	56.13	9.88	34 625	17.31	351 951	101.21
68-69	33 625	2 011	59.81	9.44	32 620	16.22	317 326	105.93
69-70	31 614	2 015	63.75	9.01	30 607	15.19	284 706	110.99
70-71	29 599	2 010	67.91	8.58	28 594	14.23	254 099	116.55
71-72	27 589	2 000	72.47	8.17	26 589	13.29	225 505	122.40
72-73	25 589	1 985	77.60	7.77	24 596	12.39	198 916	128.70
73-74	23 604	1 967	83.32	7.39	22 620	11.50	174 320	135.32
74-75	21 637	1 938	89.55	7.01	20 668	10.66	151 700	142.65
75-76	19 699	1 900	96.45	6.65	18 749	9.87	131 032	150.38
76-77	17 799	1 846	103.74	6.31	16 876	9.14	112 283	158.48
77-78	15 953	1 773	111.15	5.98	15 066	8.50	95 407	167.22
78-79	14 180	1 685	118.80	5.67	13 337	7.92	80 341	176.37
79-80	12 495	1 593	127.47	5.36	11 699	7.34	67 004	186.57
80-81	10 902	1 498	137.43	5.07	10 153	6.78	55 305	197.24
81-82	9 404	1 392	147.99	4.80	8 708	6.26	45 152	208.33
82-83	8 012	1 269	158.42	4.55	7 378	5.81	36 444	219.78
83-84	6 743	1 141	169.24	4.31	6 172	5.41	29 066	232.02
84-85	5 602	1 011	180.47	4.09	5 096	5.04	22 894	244.50
85-86	4 591	881	191.87	3.88	4 150	4.71	17 798	257.73
86-87	3 710	755	203.39	3.68	3 333	4.42	13 648	271.74
87-88	2 955	635	214.98	3.49	2 638	4.15	10 315	286.53
88-89	2 320	526	226.65	3.31	2 057	3.91	7 677	302.11
89-90	1 794	428	238.69	3.13	1 580	3.69	5 620	319.49
90-91	1 366	344	251.53	2.96	1 194	3.48	4 040	337.84
91-92	1 022	271	265.72	2.78	887	3.26	2 846	359.71
92-93	751	212	281.88	2.61	645	3.05	1 959	383.14
93-94	539	162	300.52	2.44	458	2.83	1 314	409.84
94-95	377	121	321.76	2.27	316	2.61	856	440.53
95-96	256	89	345.43	2.11	212	2.39	540	473.93
96-97	167	62	371.01	1.96	136	2.20	328	510.20
97-98	105	42	398.01	1.82	84	2.01	192	549.45
98-99	63	27	426.00	1.69	50	1.85	108	591.72
99-100	36	16	454.69	1.57	28	1.70	58	636.94
100-101	20	10	483.90	1.46	15	1.57	30	684.93
101-102	10	5	513.86	1.36	8	1.45	15	735.29
102-103	5	3	544.89	1.26	4	1.34	7	793.65
103-104	2	1	577.35	1.17	2	1.23	3	854.70
104-105	1	1	611.42	1.09	1	1.14	1	917.43

TABLE 44 — LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION DECEMBER 1, 1889 (1,136,902), AND ON

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5								
5-6	This life table is based on the estimated population December 31, 1889, and reported deaths for the census year ended May 31, 1890, shown in Table 179, page 470. The reported deaths are not in exact agreement with those published in the Massachusetts Registration Reports, but the differences are small except for the age under 1 year.							
6-7								
7-8								
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	14 755	147.55	44.46	89 524	6.07	4 446 137	22.49
1-2	85 245	3 983	46.73	51.11	82 895	20.81	4 356 613	19.57
2-3	81 262	2 194	26.99	52.59	80 099	36.51	4 273 718	19.02
3-4	79 068	1 395	17.64	53.04	78 343	56.16	4 193 619	18.85
4-5	77 673	1 088	14.02	52.98	77 107	70.87	4 115 276	18.88
5-6	76 585	845	11.03	52.73	76 162	90.13	4 038 169	18.96
6-7	75 740	654	8.64	52.31	75 413	115.31	3 962 007	19.12
7-8	75 086	510	6.79	51.76	74 831	146.73	3 886 594	19.32
8-9	74 576	405	5.44	51.11	74 373	183.64	3 811 763	19.57
9-10	74 171	336	4.53	50.39	74 003	220.25	3 737 390	19.85
10-11	73 835	296	4.01	49.62	73 687	248.94	3 663 387	20.15
11-12	73 539	281	3.82	48.81	73 399	261.21	3 589 700	20.49
12-13	73 258	288	3.93	48.00	73 114	253.87	3 516 301	20.83
13-14	72 970	311	4.26	47.19	72 815	234.13	3 443 187	21.19
14-15	72 659	347	4.78	46.39	72 486	208.89	3 370 372	21.56
15-16	72 312	391	5.41	45.61	72 117	184.44	3 297 886	21.93
16-17	71 921	440	6.12	44.85	71 701	162.96	3 225 769	22.30
17-18	71 481	479	6.70	44.12	71 241	148.73	3 154 068	22.67
18-19	71 002	500	7.04	43.42	70 752	141.50	3 082 827	23.03
19-20	70 502	510	7.23	42.72	70 247	137.74	3 012 075	23.41
20-21	69 992	522	7.47	42.03	69 731	133.58	2 941 828	23.79
21-22	69 470	535	7.69	41.34	69 202	129.35	2 872 097	24.19
22-23	68 935	546	7.92	40.66	68 662	125.75	2 802 895	24.59
23-24	68 389	560	8.18	39.98	68 109	121.62	2 734 233	25.01
24-25	67 829	575	8.48	39.31	67 542	117.46	2 666 124	25.44
25-26	67 254	590	8.78	38.64	66 959	113.49	2 598 582	25.88
26-27	66 664	607	9.10	37.98	66 361	109.33	2 531 623	26.33
27-28	66 057	619	9.37	37.32	65 748	106.22	2 465 262	26.80
28-29	65 438	623	9.52	36.67	65 127	104.54	2 399 514	27.27
29-30	64 815	622	9.59	36.02	64 504	103.70	2 334 387	27.76
30-31	64 193	621	9.68	35.36	63 883	102.87	2 269 883	28.28
31-32	63 572	619	9.75	34.70	63 262	102.20	2 206 000	28.82
32-33	62 953	622	9.87	34.04	62 642	100.71	2 142 738	29.38
33-34	62 331	629	10.10	33.37	62 016	98.59	2 080 096	29.97
34-35	61 702	642	10.40	32.71	61 381	95.61	2 018 080	30.57
35-36	61 060	653	10.70	32.05	60 733	93.01	1 956 699	31.20
36-37	60 407	666	11.02	31.39	60 074	90.20	1 895 966	31.86
37-38	59 741	674	11.29	30.73	59 404	88.14	1 835 892	32.54
38-39	59 067	677	11.47	30.08	58 728	86.75	1 776 488	33.24
39-40	58 390	677	11.59	29.42	58 051	85.75	1 717 760	33.99
40-41	57 713	676	11.72	28.76	57 375	84.87	1 659 709	34.77
41-42	57 037	676	11.85	28.09	56 699	83.87	1 602 334	35.60
42-43	56 361	679	12.04	27.42	56 022	82.51	1 545 635	36.47
43-44	55 682	688	12.36	26.75	55 338	80.43	1 489 613	37.38
44-45	54 994	702	12.77	26.08	54 643	77.84	1 434 275	38.34

STATE OF MASSACHUSETTS: 1890. TABLE 44

THE REPORTED DEATHS IN THE CENSUS YEAR ENDED MAY 31, 1890 (21,557).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	54 292	716	13.19	25.41	53 934	75.33	1 379 632	39.35
46-47	53 576	733	13.68	24.74	53 210	72.59	1 325 698	40.42
47-48	52 843	746	14.12	24.08	52 470	70.34	1 272 488	41.53
48-49	52 097	753	14.45	23.42	51 721	68.69	1 220 018	42.70
49-50	51 344	756	14.74	22.75	50 966	67.42	1 168 297	43.96
50-51	50 588	762	15.06	22.09	50 207	65.89	1 117 331	45.27
51-52	49 826	766	15.37	21.42	49 443	64.55	1 067 124	46.69
52-53	49 060	780	15.89	20.74	48 670	62.40	1 017 681	48.22
53-54	48 280	810	16.79	20.07	47 875	59.10	969 011	49.83
54-55	47 470	856	18.03	19.40	47 042	54.96	921 136	51.55
55-56	46 614	906	19.44	18.75	46 161	50.95	874 094	53.33
56-57	45 708	967	21.15	18.11	45 224	46.77	827 933	55.22
57-58	44 741	1 022	22.84	17.49	44 230	43.28	782 709	57.18
58-59	43 719	1 052	24.07	16.89	43 193	41.06	738 479	59.21
59-60	42 667	1 064	24.93	16.30	42 135	39.60	695 286	61.35
60-61	41 603	1 077	25.88	15.70	41 065	38.13	653 151	63.69
61-62	40 526	1 086	26.79	15.10	39 983	36.82	612 086	66.23
62-63	39 440	1 104	28.00	14.51	38 888	35.22	572 103	68.92
63-64	38 336	1 145	29.87	13.91	37 763	32.98	533 215	71.89
64-65	37 191	1 206	32.41	13.32	36 588	30.34	495 452	75.08
65-66	35 985	1 266	35.18	12.75	35 352	27.92	458 864	78.43
66-67	34 719	1 332	38.38	12.20	34 053	25.57	423 512	81.97
67-68	33 387	1 393	41.72	11.66	32 690	23.47	389 459	85.76
68-69	31 994	1 430	44.70	11.15	31 279	21.87	356 769	89.69
69-70	30 564	1 446	47.32	10.65	29 841	20.64	325 490	93.90
70-71	29 118	1 462	50.20	10.15	28 387	19.42	295 649	98.52
71-72	27 656	1 471	53.20	9.66	26 920	18.30	267 262	103.52
72-73	26 185	1 481	56.54	9.18	25 444	17.18	240 342	108.93
73-74	24 704	1 499	60.68	8.70	23 955	15.98	214 898	114.94
74-75	23 205	1 527	65.81	8.23	22 441	14.70	190 943	121.51
75-76	21 678	1 551	71.54	7.77	20 902	13.48	168 502	128.70
76-77	20 127	1 573	78.14	7.33	19 341	12.30	147 600	136.43
77-78	18 554	1 582	85.27	6.91	17 763	11.23	128 259	144.72
78-79	16 972	1 573	92.66	6.51	16 186	10.29	110 496	153.61
79-80	15 399	1 548	100.54	6.12	14 625	9.45	94 310	163.40
80-81	13 851	1 509	108.97	5.75	13 096	8.68	79 685	173.91
81-82	12 342	1 458	118.09	5.40	11 613	7.97	66 589	185.19
82-83	10 884	1 394	128.08	5.05	10 187	7.31	54 976	198.02
83-84	9 490	1 320	139.17	4.72	8 830	6.69	44 789	211.86
84-85	8 170	1 238	151.53	4.40	7 551	6.10	35 959	227.27
85-86	6 932	1 146	165.26	4.10	6 359	5.55	28 408	243.90
86-87	5 786	1 044	180.41	3.81	5 264	5.04	22 049	262.47
87-88	4 742	934	196.95	3.54	4 275	4.58	16 785	282.49
88-89	3 808	818	214.83	3.29	3 399	4.15	12 510	303.95
89-90	2 990	699	233.98	3.05	2 640	3.77	9 111	327.87
90-91	2 291	583	254.36	2.83	1 999	3.43	6 471	353.36
91-92	1 708	471	275.97	2.62	1 472	3.12	4 472	381.68
92-93	1 237	370	298.84	2.43	1 052	2.85	3 000	411.52
93-94	867	280	323.01	2.25	727	2.60	1 948	444.44
94-95	587	205	348.52	2.08	485	2.37	1 221	480.77
95-96	382	143	375.38	1.92	311	2.16	736	520.83
96-97	239	97	403.58	1.78	191	1.98	425	561.80
97-98	142	61	432.87	1.65	112	1.81	234	606.06
98-99	81	38	463.63	1.52	62	1.66	122	657.89
99-100	43	21	495.59	1.41	33	1.52	60	709.22
100-101	22	12	528.68	1.30	16	1.39	27	769.23
101-102	10	5	562.79	1.21	7	1.28	11	826.45
102-103	5	3	597.79	1.12	3	1.17	4	892.86
103-104	2	1	633.54	1.03	1	1.08	1	970.87
104-105	1	1	669.85	.96	.....	.99	.....	.....

TABLE 45 — LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,467,854), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 118	131.18	49.42	90 686	6.91	4 941 503	20.23
1-2	86 882	2 945	33.89	55.83	85 144	28.91	4 850 817	17.91
2-3	83 937	1 439	17.14	56.78	83 174	57.80	4 765 673	17.61
3-4	82 498	954	11.56	56.76	82 002	85.96	4 682 499	17.62
4-5	81 544	728	8.93	56.42	81 166	111.49	4 600 497	17.72
5-6	80 816	552	6.84	55.92	80 540	145.91	4 519 331	17.88
6-7	80 264	419	5.22	55.30	80 054	191.06	4 438 791	18.08
7-8	79 845	322	4.03	54.59	79 684	247.47	4 358 737	18.32
8-9	79 523	256	3.22	53.81	79 395	310.14	4 279 053	18.58
9-10	79 267	215	2.71	52.98	79 159	368.18	4 199 658	18.88
10-11	79 052	196	2.47	52.12	78 954	402.83	4 120 499	19.19
11-12	78 856	191	2.43	51.25	78 760	412.36	4 041 545	19.51
12-13	78 665	200	2.54	50.38	78 565	392.83	3 962 785	19.85
13-14	78 465	214	2.73	49.50	78 358	366.16	3 884 220	20.20
14-15	78 251	232	2.96	48.64	78 135	336.79	3 805 862	20.56
15-16	78 019	256	3.28	47.78	77 891	304.26	3 727 727	20.93
16-17	77 763	286	3.68	46.94	77 620	271.40	3 649 836	21.30
17-18	77 477	317	4.09	46.11	77 318	243.91	3 572 216	21.69
18-19	77 160	344	4.46	45.29	76 988	223.80	3 494 898	22.08
19-20	76 816	367	4.78	44.49	76 632	208.81	3 417 910	22.48
20-21	76 449	389	5.09	43.71	76 254	196.03	3 341 278	22.88
21-22	76 060	410	5.39	42.93	75 855	185.01	3 265 024	23.29
22-23	75 650	428	5.66	42.16	75 436	176.25	3 189 169	23.72
23-24	75 222	444	5.91	41.39	75 000	168.92	3 113 733	24.16
24-25	74 778	460	6.15	40.64	74 548	162.06	3 038 733	24.61
25-26	74 318	475	6.39	39.89	74 080	155.96	2 964 185	25.07
26-27	73 843	491	6.64	39.14	73 597	149.89	2 890 105	25.55
27-28	73 352	503	6.86	38.40	73 101	145.33	2 816 508	26.04
28-29	72 849	512	7.03	37.66	72 593	141.78	2 743 407	26.55
29-30	72 337	519	7.17	36.92	72 078	138.88	2 670 814	27.09
30-31	71 818	526	7.33	36.19	71 555	136.04	2 598 736	27.63
31-32	71 292	535	7.51	35.45	71 024	132.76	2 527 181	28.21
32-33	70 757	543	7.67	34.71	70 485	129.81	2 456 157	28.81
33-34	70 214	547	7.80	33.98	69 940	127.86	2 385 672	29.43
34-35	69 667	550	7.90	33.24	69 392	126.17	2 315 732	30.08
35-36	69 117	553	8.00	32.50	68 840	124.48	2 246 340	30.77
36-37	68 564	554	8.07	31.76	68 287	123.26	2 177 500	31.49
37-38	68 010	560	8.24	31.01	67 730	120.95	2 109 213	32.25
38-39	67 450	579	8.58	30.27	67 161	115.99	2 041 483	33.04
39-40	66 871	603	9.03	29.52	66 570	110.40	1 974 322	33.88
40-41	66 268	631	9.51	28.79	65 953	104.52	1 907 752	34.73
41-42	65 637	661	10.08	28.06	65 307	98.80	1 841 799	35.64
42-43	64 976	685	10.54	27.34	64 634	94.36	1 776 492	36.58
43-44	64 291	691	10.76	26.63	63 946	92.54	1 711 858	37.55
44-45	63 600	689	10.84	25.91	63 255	91.81	1 647 912	38.60

STATE OF MASSACHUSETTS: 1901. TABLE 45

REPORTED DEATHS IN 1900 (25,149), IN 1901 (23,332), AND IN 1902 (23,186).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	62 911	691	10.97	25.19	62 566	90.54	1 584 657	39.70
46-47	62 220	690	11.10	24.46	61 875	89.67	1 522 091	40.88
47-48	61 530	704	11.44	23.73	61 178	86.90	1 460 216	42.14
48-49	60 826	738	12.13	23.00	60 457	81.92	1 399 038	43.48
49-50	60 088	786	13.08	22.28	59 695	75.95	1 338 581	44.88
50-51	59 302	833	14.04	21.57	58 886	70.69	1 278 886	46.36
51-52	58 469	880	15.06	20.87	58 029	65.94	1 220 000	47.92
52-53	57 589	927	16.09	20.18	57 126	61.62	1 161 971	49.55
53-54	56 662	971	17.15	19.50	56 176	57.85	1 104 845	51.28
54-55	55 691	1 020	18.31	18.83	55 181	54.10	1 048 669	53.11
55-56	54 671	1 073	19.63	18.17	54 135	50.45	993 488	55.04
56-57	53 598	1 134	21.15	17.53	53 031	46.76	939 353	57.05
57-58	52 464	1 192	22.73	16.89	51 868	43.51	886 322	59.21
58-59	51 272	1 239	24.17	16.28	50 653	40.88	834 454	61.43
59-60	50 033	1 275	25.48	15.67	49 395	38.74	783 801	63.82
60-61	48 758	1 310	26.86	15.06	48 103	36.72	734 406	66.40
61-62	47 448	1 339	28.23	14.46	46 779	34.94	686 303	69.16
62-63	46 109	1 376	29.84	13.87	45 421	33.01	639 524	72.10
63-64	44 733	1 428	31.93	13.28	44 019	30.83	594 103	75.30
64-65	43 305	1 496	34.54	12.70	42 557	28.45	550 084	78.74
65-66	41 809	1 560	37.32	12.14	41 029	26.30	507 527	82.37
66-67	40 249	1 625	40.35	11.59	39 437	24.27	466 498	86.28
67-68	38 624	1 691	43.80	11.06	37 779	22.34	427 061	90.42
68-69	36 933	1 761	47.67	10.54	36 052	20.47	389 282	94.88
69-70	35 172	1 824	51.86	10.04	34 260	18.78	353 230	99.60
70-71	33 348	1 883	56.47	9.56	32 407	17.21	318 970	104.60
71-72	31 465	1 940	61.67	9.11	30 495	15.72	286 563	109.77
72-73	29 525	1 971	66.74	8.67	28 539	14.48	256 068	115.34
73-74	27 554	1 963	71.26	8.26	26 572	13.54	227 529	121.07
74-75	25 591	1 931	75.46	7.85	24 625	12.75	200 957	127.39
75-76	23 660	1 894	80.03	7.45	22 713	11.99	176 332	134.23
76-77	21 766	1 845	84.76	7.06	20 844	11.30	153 619	141.64
77-78	19 921	1 803	90.49	6.67	19 020	10.55	132 775	149.93
78-79	18 118	1 774	97.96	6.28	17 231	9.71	113 755	159.24
79-80	16 344	1 750	107.07	5.91	15 469	8.84	96 524	169.20
80-81	14 594	1 710	117.14	5.55	13 739	8.04	81 055	180.18
81-82	12 884	1 644	127.59	5.22	12 062	7.34	67 316	191.57
82-83	11 240	1 554	138.31	4.92	10 463	6.73	55 254	203.25
83-84	9 686	1 449	149.60	4.62	8 961	6.18	44 791	216.45
84-85	8 237	1 330	161.47	4.35	7 572	5.69	35 830	229.89
85-86	6 907	1 202	173.95	4.09	6 306	5.25	28 258	244.50
86-87	5 705	1 067	187.05	3.85	5 172	4.85	21 952	259.74
87-88	4 638	931	200.75	3.62	4 173	4.48	16 780	276.24
88-89	3 707	797	215.08	3.40	3 308	4.15	12 607	294.12
89-90	2 910	670	230.02	3.20	2 575	3.85	9 299	312.50
90-91	2 240	550	245.64	3.00	1 965	3.57	6 724	333.33
91-92	1 690	443	262.10	2.82	1 469	3.32	4 759	354.61
92-93	1 247	349	279.63	2.64	1 073	3.08	3 290	378.79
93-94	898	268	298.46	2.47	764	2.85	2 217	404.86
94-95	630	201	318.76	2.31	530	2.64	1 453	432.90
95-96	429	146	340.59	2.15	356	2.44	923	465.12
96-97	283	103	363.99	2.01	232	2.25	567	497.51
97-98	180	70	388.81	1.87	145	2.07	335	534.76
98-99	110	46	414.90	1.74	87	1.91	190	574.71
99-100	64	28	442.10	1.62	50	1.76	103	617.28
100-101	36	17	470.10	1.51	27	1.63	53	662.25
101-102	19	9	499.35	1.40	14	1.50	26	714.29
102-103	10	6	529.95	1.30	7	1.39	12	769.23
103-104	4	2	561.90	1.21	3	1.28	5	826.45
104-105	2	1	595.17	1.12	1	1.18	2	892.86
105-106	1	1	629.73	1.04	1	1.09	1	961.54

TABLE 46 — LIFE TABLE FOR FEMALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,716,933), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 918	39.18	53.06	8 088	24.72	5 306 158	18.85
1-2	96 082	1 074	11.17	55.14	7 962	88.92	5 298 070	18.14
2-3	95 008	955	10.06	55.68	7 878	99.00	5 290 108	17.96
3-4	94 053	862	9.17	56.16	7 802	108.60	5 282 230	17.81
4-5	93 191	777	8.33	56.60	7 734	119.40	5 274 428	17.67
5-6	92 414	705	7.63	56.99	7 672	130.56	5 266 694	17.55
6-7	91 709	641	6.99	57.34	7 616	142.56	5 259 022	17.44
7-8	91 068	581	6.38	57.66	7 565	156.24	5 251 406	17.34
8-9	90 487	523	5.77	57.95	7 519	172.56	5 243 841	17.26
9-10	89 964	467	5.20	58.20	7 478	192.12	5 236 322	17.18
10-11	89 497	420	4.69	58.42	7 441	212.64	5 228 844	17.12
11-12	89 077	381	4.28	58.62	7 407	233.28	5 221 403	17.06
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 304	113.04	53.06	92 162	8.15	5 306 158	18.85
1-2	88 696	2 264	25.53	58.79	87 360	38.59	5 213 996	17.01
2-3	86 432	918	10.63	59.31	85 945	93.62	5 126 636	16.86
3-4	85 514	566	6.62	58.95	85 219	150.56	5 040 691	16.96
4-5	84 948	453	5.33	58.34	84 713	187.00	4 955 472	17.14
5-6	84 495	382	4.53	57.65	84 304	220.69	4 870 759	17.35
6-7	84 113	316	3.76	56.91	83 955	265.68	4 786 455	17.57
7-8	83 797	263	3.13	56.12	83 666	318.12	4 702 500	17.82
8-9	83 534	221	2.65	55.29	83 424	377.48	4 618 834	18.09
9-10	83 313	192	2.31	54.44	83 217	433.42	4 535 410	18.37
10-11	83 121	176	2.11	53.56	83 033	471.78	4 452 193	18.67
11-12	82 945	168	2.03	52.68	82 861	493.22	4 369 160	18.98
12-13	82 777	170	2.05	51.78	82 692	486.42	4 286 299	19.31
13-14	82 607	179	2.17	50.89	82 518	460.99	4 203 607	19.65
14-15	82 428	195	2.37	50.00	82 330	422.21	4 121 089	20.00
15-16	82 233	217	2.64	49.11	82 124	378.45	4 038 759	20.36
16-17	82 016	240	2.92	48.24	81 896	341.23	3 956 635	20.73
17-18	81 776	258	3.17	47.38	81 647	316.46	3 874 739	21.11
18-19	81 518	277	3.39	46.53	81 379	293.79	3 793 092	21.49
19-20	81 241	295	3.64	45.69	81 093	274.89	3 711 713	21.89
20-21	80 946	315	3.89	44.85	80 788	256.47	3 630 620	22.30
21-22	80 631	332	4.12	44.03	80 465	242.36	3 549 832	22.71
22-23	80 299	345	4.30	43.21	80 126	232.25	3 469 367	23.14
23-24	79 954	357	4.46	42.39	79 775	223.46	3 389 241	23.59
24-25	79 597	369	4.63	41.58	79 413	215.21	3 309 466	24.05
25-26	79 228	380	4.80	40.77	79 038	207.99	3 230 053	24.53
26-27	78 848	392	4.98	39.96	78 652	200.64	3 151 015	25.03
27-28	78 456	407	5.19	39.16	78 253	192.27	3 072 363	25.54
28-29	78 049	423	5.43	38.36	77 837	184.01	2 994 110	26.07
29-30	77 626	442	5.68	37.57	77 405	175.12	2 916 273	26.62
30-31	77 184	460	5.97	36.78	76 954	167.29	2 838 868	27.19
31-32	76 724	479	6.24	36.00	76 484	159.67	2 761 914	27.78
32-33	76 245	493	6.46	35.22	75 998	154.15	2 685 430	28.39
33-34	75 752	501	6.62	34.45	75 501	150.70	2 609 432	29.03
34-35	75 251	512	6.79	33.67	74 995	146.47	2 533 931	29.70
35-36	74 739	519	6.96	32.90	74 480	143.51	2 458 936	30.40
36-37	74 220	530	7.13	32.13	73 955	139.54	2 384 456	31.12
37-38	73 690	541	7.34	31.35	73 420	135.71	2 310 501	31.90
38-39	73 149	555	7.59	30.58	72 872	131.30	2 237 081	32.70
39-40	72 594	570	7.86	29.81	72 309	126.86	2 164 209	33.55
40-41	72 024	587	8.14	29.04	71 730	122.20	2 091 900	34.44
41-42	71 437	604	8.46	28.28	71 135	117.77	2 020 170	35.36
42-43	70 833	625	8.82	27.52	70 520	112.83	1 949 035	36.34
43-44	70 208	646	9.21	26.76	69 885	108.18	1 878 515	37.37
44-45	69 562	671	9.65	26.00	69 226	103.17	1 808 630	38.46

STATE OF MASSACHUSETTS: 1910. TABLE 46

REPORTED DEATHS IN 1909 (24,841), IN 1910 (26,093), AND IN 1911 (25,488).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	68 891	700	10.16	25.25	68 541	97.92	1 739 404	39.60
46-47	68 191	728	10.67	24.50	67 827	93.17	1 670 863	40.82
47-48	67 463	751	11.14	23.76	67 088	89.33	1 603 036	42.09
48-49	66 712	773	11.58	23.02	66 326	85.80	1 535 948	43.44
49-50	65 939	796	12.07	22.29	65 541	82.34	1 469 622	44.86
50-51	65 143	819	12.58	21.55	64 733	79.04	1 404 081	46.40
51-52	64 324	852	13.25	20.82	63 898	75.00	1 339 348	48.03
52-53	63 472	902	14.21	20.09	63 021	69.87	1 275 450	49.78
53-54	62 570	968	15.47	19.38	62 086	64.14	1 212 429	51.60
54-55	61 602	1 040	16.89	18.67	61 082	58.73	1 150 343	53.56
55-56	60 562	1 125	18.57	17.99	60 000	53.33	1 089 261	55.59
56-57	59 437	1 210	20.36	17.32	58 832	48.62	1 029 261	57.74
57-58	58 227	1 283	22.04	16.67	57 586	44.88	970 429	59.99
58-59	56 944	1 344	23.60	16.03	56 272	41.87	912 843	62.38
59-60	55 600	1 407	25.30	15.41	54 896	39.02	856 571	64.89
60-61	54 193	1 465	27.03	14.79	53 461	36.49	801 675	67.61
61-62	52 728	1 531	29.04	14.19	51 963	33.94	748 214	70.47
62-63	51 197	1 614	31.54	13.60	50 390	31.22	696 251	73.53
63-64	49 583	1 708	34.45	13.03	48 729	28.53	645 861	76.75
64-65	47 875	1 794	37.47	12.47	46 978	26.19	597 132	80.19
65-66	46 081	1 875	40.69	11.94	45 143	24.08	550 154	83.75
66-67	44 206	1 940	43.88	11.42	43 236	22.29	505 011	87.57
67-68	42 266	1 982	46.90	10.93	41 275	20.82	461 775	91.49
68-69	40 284	2 009	49.87	10.44	39 279	19.55	420 500	95.79
69-70	38 275	2 032	53.09	9.96	37 259	18.34	381 221	100.40
70-71	36 243	2 047	56.47	9.49	35 220	17.21	343 962	105.37
71-72	34 196	2 062	60.30	9.03	33 165	16.08	308 742	110.74
72-73	32 134	2 083	64.82	8.58	31 093	14.93	275 577	116.55
73-74	30 051	2 104	70.01	8.14	28 999	13.78	244 484	122.85
74-75	27 947	2 113	75.61	7.71	26 891	12.73	215 485	129.70
75-76	25 834	2 112	81.75	7.30	24 778	11.73	188 594	136.99
76-77	23 722	2 097	88.40	6.91	22 674	10.81	163 816	144.72
77-78	21 625	2 066	95.57	6.53	20 592	9.97	141 142	153.14
78-79	19 559	2 023	103.43	6.16	18 547	9.17	120 550	162.34
79-80	17 536	1 974	112.54	5.82	16 549	8.38	102 003	171.82
80-81	15 562	1 922	123.49	5.49	14 601	7.60	85 454	182.15
81-82	13 640	1 837	134.74	5.19	12 721	6.92	70 853	192.68
82-83	11 803	1 705	144.42	4.93	10 950	6.42	58 132	202.84
83-84	10 098	1 539	152.37	4.67	9 329	6.06	47 182	214.13
84-85	8 559	1 377	160.92	4.42	7 871	5.71	37 853	226.24
85-86	7 182	1 221	169.97	4.17	6 572	5.38	29 982	239.81
86-87	5 961	1 082	181.50	3.93	5 420	5.01	23 410	254.45
87-88	4 879	950	194.82	3.69	4 404	4.63	17 990	271.00
88-89	3 929	826	210.06	3.46	3 516	4.26	13 586	289.02
89-90	3 103	704	226.96	3.25	2 751	3.91	10 070	307.69
90-91	2 399	587	244.90	3.05	2 105	3.58	7 319	327.87
91-92	1 812	477	263.05	2.88	1 573	3.30	5 214	347.22
92-93	1 335	374	280.52	2.73	1 148	3.06	3 641	366.30
93-94	961	285	296.71	2.60	818	2.87	2 493	384.62
94-95	676	211	311.39	2.48	570	2.71	1 675	403.23
95-96	465	151	324.77	2.38	390	2.58	1 105	420.17
96-97	314	106	337.37	2.28	261	2.46	715	438.60
97-98	208	73	349.86	2.18	172	2.36	454	458.72
98-99	135	49	362.96	2.09	111	2.26	282	478.47
99-100	86	32	377.21	1.99	70	2.15	171	502.51
100-101	54	21	392.91	1.90	43	2.05	101	526.32
101-102	33	14	410.16	1.80	26	1.94	58	555.56
102-103	19	8	429.67	1.70	15	1.83	32	588.24
103-104	11	5	449.89	1.61	8	1.72	17	621.12
104-105	6	3	471.62	1.52	5	1.62	9	657.89
105-106	3	1	495.04	1.43	2	1.52	4	699.30
106-107	2	1	520.40	1.34	1	1.42	2	716.27
107-108	1	1	547.99	1.25	1	1.33	1	800.00

TABLE 47 — LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,271,463), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 314	113.14	53.45	91 854	8.12	5 345 346	18.71
1-2	88 686	2 045	23.06	59.24	87 479	42.78	5 253 492	16.88
2-3	86 641	936	10.80	59.63	86 145	92.04	5 166 013	16.77
3-4	85 705	568	6.63	59.27	85 410	150.37	5 079 868	16.87
4-5	85 137	469	5.51	58.66	84 893	181.01	4 994 458	17.05
5-6	84 668	387	4.57	57.99	84 475	218.28	4 909 565	17.24
6-7	84 281	320	3.80	57.25	84 121	262.88	4 825 090	17.47
7-8	83 961	271	3.22	56.47	83 825	309.32	4 740 969	17.71
8-9	83 690	236	2.82	55.65	83 572	354.12	4 657 144	17.97
9-10	83 454	215	2.58	54.80	83 347	387.66	4 573 572	18.25
10-11	83 239	206	2.48	53.94	83 136	403.57	4 490 225	18.54
11-12	83 033	209	2.52	53.08	82 928	396.78	4 407 089	18.84
12-13	82 824	221	2.66	52.21	82 713	374.27	4 324 161	19.15
13-14	82 603	240	2.91	51.35	82 483	343.68	4 241 448	19.47
14-15	82 363	266	3.23	50.50	82 230	309.14	4 158 965	19.80
15-16	82 097	298	3.62	49.66	81 948	274.99	4 076 735	20.14
16-17	81 799	334	4.09	48.84	81 632	244.41	3 994 787	20.48
17-18	81 465	368	4.51	48.03	81 281	220.87	3 913 155	20.82
18-19	81 097	390	4.82	47.25	80 902	207.44	3 831 874	21.16
19-20	80 707	407	5.04	46.48	80 503	197.80	3 750 972	21.51
20-21	80 300	423	5.27	45.71	80 089	189.34	3 670 469	21.88
21-22	79 877	441	5.52	44.95	79 656	180.63	3 590 380	22.25
22-23	79 436	452	5.70	44.20	79 210	175.24	3 510 724	22.62
23-24	78 984	458	5.79	43.45	78 755	171.95	3 431 514	23.01
24-25	78 526	457	5.83	42.70	78 297	171.33	3 352 759	23.42
25-26	78 069	457	5.85	41.94	77 840	170.33	3 274 462	23.84
26-27	77 612	456	5.87	41.19	77 384	169.70	3 196 622	24.28
27-28	77 156	451	5.85	40.43	76 931	170.58	3 119 238	24.73
28-29	76 705	444	5.79	39.66	76 483	172.26	3 042 307	25.21
29-30	76 261	436	5.71	38.89	76 043	174.41	2 965 824	25.71
30-31	75 825	426	5.62	38.11	75 612	177.49	2 889 781	26.24
31-32	75 399	416	5.52	37.32	75 191	180.75	2 814 169	26.80
32-33	74 983	413	5.50	36.53	74 776	181.06	2 738 978	27.37
33-34	74 570	419	5.62	35.73	74 360	177.47	2 664 202	27.99
34-35	74 151	433	5.84	34.93	73 934	170.75	2 589 842	28.63
35-36	73 718	447	6.06	34.13	73 494	164.42	2 515 908	29.30
36-37	73 271	461	6.29	33.33	73 041	158.44	2 442 414	30.00
37-38	72 810	476	6.54	32.54	72 572	152.46	2 369 373	30.73
38-39	72 334	492	6.80	31.75	72 088	146.52	2 296 801	31.50
39-40	71 842	508	7.07	30.97	71 588	140.92	2 224 713	32.29
40-41	71 334	525	7.37	30.18	71 072	135.38	2 153 125	33.13
41-42	70 809	546	7.71	29.40	70 536	129.19	2 082 053	34.01
42-43	70 263	563	8.01	28.63	69 981	124.30	2 011 517	34.93
43-44	69 700	576	8.26	27.86	69 412	120.51	1 941 536	35.89
44-45	69 124	586	8.48	27.08	68 831	117.46	1 872 124	36.93

STATE OF MICHIGAN: 1901. TABLE 47

REPORTED DEATHS IN 1900 (18,130), IN 1901 (17,597), AND IN 1902 (17,016).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	68 538	599	8.74	26.31	68 239	113.92	1 803 293	38.01
46-47	67 939	613	9.03	25.54	67 632	110.33	1 735 054	39.15
47-48	67 326	634	9.41	24.77	67 009	105.69	1 667 422	40.37
48-49	66 692	660	9.91	24.00	66 362	100.55	1 600 413	41.67
49-50	66 032	693	10.50	23.23	65 685	94.78	1 534 051	43.05
50-51	65 339	727	11.12	22.47	64 975	89.37	1 468 366	44.50
51-52	64 612	762	11.79	21.72	64 231	84.29	1 403 391	46.04
52-53	63 850	801	12.54	20.97	63 450	79.21	1 339 160	47.69
53-54	63 049	845	13.41	20.23	62 627	74.11	1 275 710	49.43
54-55	62 204	896	14.41	19.50	61 756	68.92	1 213 083	51.28
55-56	61 308	952	15.53	18.78	60 832	63.90	1 151 327	53.25
56-57	60 356	1 015	16.81	18.07	59 848	58.96	1 090 495	55.34
57-58	59 341	1 074	18.11	17.37	58 804	54.75	1 030 647	57.57
58-59	58 267	1 125	19.31	16.68	57 704	51.29	971 843	59.95
59-60	57 142	1 172	20.50	16.00	56 556	48.26	914 139	62.50
60-61	55 970	1 222	21.84	15.32	55 359	45.30	857 583	65.27
61-62	54 748	1 274	23.27	14.65	54 111	42.47	802 224	68.26
62-63	53 474	1 346	25.16	13.99	52 801	39.23	748 113	71.48
63-64	52 128	1 447	27.76	13.34	51 405	35.53	695 312	74.96
64-65	50 681	1 565	30.88	12.71	49 899	31.88	643 907	78.68
65-66	49 116	1 678	34.17	12.09	48 277	28.77	594 008	82.71
66-67	47 438	1 787	37.68	11.50	46 544	26.05	545 731	86.96
67-68	45 651	1 886	41.31	10.93	44 708	23.71	499 187	91.49
68-69	43 765	1 971	45.03	10.38	42 780	21.70	454 479	96.34
69-70	41 794	2 049	49.03	9.85	40 770	19.90	411 699	101.52
70-71	39 745	2 126	53.51	9.33	38 682	18.19	370 929	107.18
71-72	37 619	2 202	58.52	8.83	36 518	16.58	332 247	113.25
72-73	35 417	2 268	64.05	8.35	34 283	15.12	295 729	119.76
73-74	33 149	2 318	69.92	7.89	31 990	13.80	261 446	126.74
74-75	30 831	2 344	76.03	7.44	29 659	12.65	229 456	134.41
75-76	28 487	2 354	82.64	7.01	27 310	11.60	199 797	142.65
76-77	26 133	2 345	89.73	6.60	24 961	10.64	172 487	151.52
77-78	23 788	2 324	97.72	6.20	22 626	9.74	147 526	161.29
78-79	21 464	2 293	106.84	5.82	20 317	8.86	124 900	171.82
79-80	19 171	2 242	116.93	5.46	18 050	8.05	104 583	183.15
80-81	16 929	2 166	127.96	5.11	15 846	7.31	86 533	195.69
81-82	14 763	2 065	139.84	4.79	13 730	6.65	70 687	208.77
82-83	12 698	1 936	152.46	4.49	11 730	6.06	56 957	222.72
83-84	10 762	1 784	165.75	4.20	9 870	5.53	45 227	238.10
84-85	8 978	1 613	179.66	3.94	8 172	5.07	35 357	253.81
85-86	7 365	1 430	194.15	3.69	6 650	4.65	27 185	271.00
86-87	5 935	1 242	209.27	3.46	5 314	4.28	20 535	289.02
87-88	4 693	1 056	225.05	3.24	4 165	3.94	15 221	308.64
88-89	3 637	878	241.56	3.04	3 198	3.64	11 056	328.95
89-90	2 759	715	258.85	2.85	2 402	3.36	7 858	350.88
90-91	2 044	566	276.95	2.67	1 761	3.11	5 456	374.53
91-92	1 478	437	295.91	2.50	1 260	2.88	3 695	400.00
92-93	1 041	329	315.78	2.34	876	2.67	2 435	427.35
93-94	712	240	336.62	2.19	592	2.47	1 559	456.62
94-95	472	169	358.52	2.05	388	2.29	967	487.80
95-96	303	116	381.56	1.92	245	2.12	579	520.83
96-97	187	76	405.77	1.79	149	1.96	334	558.66
97-98	111	48	431.16	1.67	87	1.82	185	598.80
98-99	63	29	457.61	1.56	49	1.69	98	641.03
99-100	34	16	485.28	1.46	26	1.56	49	684.93
100-101	18	9	514.10	1.36	13	1.45	23	735.29
101-102	9	5	544.02	1.27	6	1.34	10	787.40
102-103	4	2	575.03	1.18	3	1.24	4	847.46
103-104	2	1	607.06	1.10	1	1.15	1	909.09
104-105	1	1	640.05	1.02	.....	1.06	.....	980.39

TABLE 48 — LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,458,872), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	5 177	51.77	53.86	8 010	18.60	5 385 791	18.57
1-2	94 823	1 165	12.29	56.71	7 853	80.88	5 377 781	17.63
2-3	93 658	927	9.89	57.34	7 766	100.56	5 369 928	17.44
3-4	92 731	757	8.16	57.82	7 696	122.04	5 362 162	17.30
4-5	91 974	638	6.94	58.22	7 638	143.64	5 354 466	17.18
5-6	91 336	545	5.97	58.54	7 589	167.04	5 346 828	17.08
6-7	90 791	471	5.18	58.81	7 546	192.24	5 339 239	17.00
7-8	90 320	407	4.51	59.03	7 510	221.40	5 331 693	16.94
8-9	89 913	361	4.01	59.21	7 478	248.52	5 324 183	16.89
9-10	89 552	328	3.67	59.37	7 449	272.52	5 316 705	16.84
10-11	89 224	303	3.40	59.50	7 423	294.00	5 309 256	16.81
11-12	88 921	289	3.25	59.62	7 398	307.20	5 301 833	16.77
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 368	113.68	53.86	91 356	8.04	5 385 791	18.57
1-2	88 632	1 833	20.67	59.74	87 551	47.76	5 294 435	16.74
2-3	86 799	772	8.90	59.99	86 390	111.90	5 206 884	16.67
3-4	86 027	522	6.07	59.52	85 756	164.28	5 120 494	16.80
4-5	85 505	422	4.93	58.88	85 286	202.10	5 034 738	16.98
5-6	85 083	344	4.04	58.17	84 911	246.83	4 949 452	17.19
6-7	84 739	302	3.57	57.41	84 588	280.09	4 864 541	17.42
7-8	84 437	267	3.16	56.61	84 303	315.74	4 779 953	17.66
8-9	84 170	238	2.83	55.79	84 051	353.16	4 695 650	17.92
9-10	83 932	217	2.58	54.94	83 823	386.28	4 611 599	18.20
10-11	83 715	203	2.43	54.09	83 613	411.89	4 527 776	18.49
11-12	83 512	197	2.36	53.22	83 413	423.42	4 444 163	18.79
12-13	83 315	199	2.38	52.34	83 215	418.17	4 360 750	19.11
13-14	83 116	206	2.48	51.46	83 013	402.98	4 277 535	19.43
14-15	82 910	217	2.63	50.59	82 801	381.57	4 194 522	19.77
15-16	82 693	231	2.79	49.72	82 577	357.48	4 111 721	20.11
16-17	82 462	253	3.07	48.86	82 335	325.43	4 029 144	20.47
17-18	82 209	286	3.47	48.01	82 066	286.94	3 946 809	20.83
18-19	81 923	324	3.96	47.18	81 761	252.35	3 864 743	21.20
19-20	81 599	362	4.44	46.36	81 418	224.91	3 782 982	21.57
20-21	81 237	402	4.95	45.57	81 036	201.58	3 701 564	21.94
21-22	80 835	429	5.31	44.79	80 620	187.93	3 620 528	22.33
22-23	80 406	435	5.40	44.03	80 189	184.34	3 539 908	22.71
23-24	79 971	426	5.33	43.26	79 758	187.23	3 459 719	23.12
24-25	79 545	420	5.28	42.49	79 335	188.89	3 379 961	23.53
25-26	79 125	414	5.22	41.71	78 918	190.62	3 300 626	23.98
26-27	78 711	408	5.19	40.93	78 507	192.42	3 221 708	24.43
27-28	78 303	408	5.22	40.14	78 099	191.42	3 143 201	24.91
28-29	77 895	413	5.29	39.35	77 689	188.11	3 065 102	25.41
29-30	77 482	414	5.35	38.56	77 275	186.65	2 987 413	25.93
30-31	77 068	416	5.40	37.76	76 860	184.76	2 910 138	26.48
31-32	76 652	420	5.48	36.96	76 442	182.00	2 833 278	27.06
32-33	76 232	429	5.63	36.16	76 017	177.20	2 756 836	27.65
33-34	75 803	440	5.81	35.37	75 583	171.78	2 680 819	28.27
34-35	75 363	453	6.00	34.57	75 136	165.86	2 605 236	28.93
35-36	74 910	467	6.23	33.78	74 677	159.91	2 530 100	29.60
36-37	74 443	477	6.41	32.98	74 205	155.57	2 455 423	30.32
37-38	73 966	481	6.51	32.19	73 725	153.27	2 381 218	31.07
38-39	73 485	482	6.56	31.40	73 244	151.96	2 307 493	31.85
39-40	73 003	485	6.64	30.60	72 760	150.02	2 234 249	32.68
40-41	72 518	487	6.71	29.81	72 275	148.41	2 161 489	33.55
41-42	72 031	499	6.93	29.00	71 782	143.85	2 089 214	34.48
42-43	71 532	527	7.37	28.20	71 269	135.24	2 017 432	35.46
43-44	71 005	567	7.98	27.41	70 722	124.73	1 946 163	36.48
44-45	70 438	607	8.63	26.63	70 135	115.54	1 875 441	37.55

STATE OF MICHIGAN: 1910. TABLE 48

REPORTED DEATHS IN 1909 (19,622), IN 1910 (21,724), AND IN 1911 (20,855).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 831	654	9.36	25.85	69 504	106.28	1 805 306	38.68
46-47	69 177	693	10.03	25.09	68 830	99.32	1 735 802	39.86
47-48	68 484	719	10.50	24.34	68 124	94.75	1 666 972	41.08
48-49	67 765	734	10.83	23.59	67 398	91.82	1 598 848	42.39
49-50	67 031	752	11.22	22.85	66 655	88.64	1 531 450	43.76
50-51	66 279	769	11.60	22.10	65 895	85.69	1 464 795	45.25
51-52	65 510	792	12.09	21.35	65 114	82.21	1 398 900	46.84
52-53	64 718	829	12.80	20.61	64 304	77.57	1 333 786	48.52
53-54	63 889	877	13.74	19.87	63 450	72.35	1 269 482	50.33
54-55	63 012	932	14.78	19.14	62 546	67.11	1 206 032	52.25
55-56	62 080	993	16.00	18.42	61 584	62.02	1 143 486	54.29
56-57	61 087	1 060	17.35	17.71	60 557	57.13	1 081 902	56.47
57-58	60 027	1 125	18.74	17.01	59 464	52.86	1 021 345	58.79
58-59	58 902	1 189	20.18	16.33	58 308	49.04	961 881	61.24
59-60	57 713	1 258	21.80	15.66	57 084	45.38	903 573	63.86
60-61	56 455	1 331	23.58	14.99	55 789	41.92	846 489	66.71
61-62	55 124	1 413	25.63	14.34	54 418	38.51	790 700	69.74
62-63	53 711	1 504	28.00	13.71	52 959	35.21	736 282	72.94
63-64	52 207	1 598	30.61	13.09	51 408	32.17	683 323	76.39
64-65	50 609	1 685	33.31	12.49	49 766	29.53	631 915	80.06
65-66	48 924	1 767	36.11	11.90	48 040	27.19	582 149	84.03
66-67	47 157	1 842	39.06	11.33	46 236	25.10	534 109	88.26
67-68	45 315	1 917	42.31	10.77	44 357	23.14	487 873	92.85
68-69	43 398	1 997	46.02	10.22	42 400	21.23	443 516	97.85
69-70	41 401	2 076	50.14	9.69	40 363	19.44	401 116	103.20
70-71	39 325	2 153	54.74	9.17	38 249	17.77	360 753	109.05
71-72	37 172	2 231	60.02	8.68	36 057	16.16	322 504	115.21
72-73	34 941	2 302	65.89	8.20	33 790	14.68	286 447	121.95
73-74	32 639	2 356	72.20	7.74	31 461	13.35	252 657	129.20
74-75	30 283	2 396	79.10	7.30	29 085	12.14	221 196	136.99
75-76	27 887	2 418	86.72	6.89	26 678	11.03	192 111	145.14
76-77	25 469	2 408	94.52	6.50	24 265	10.08	165 433	153.85
77-78	23 061	2 361	102.41	6.12	21 881	9.27	141 168	163.40
78-79	20 700	2 295	110.87	5.76	19 552	8.52	119 287	173.61
79-80	18 405	2 223	120.75	5.42	17 294	7.78	99 735	184.50
80-81	16 182	2 147	132.70	5.09	15 109	7.04	82 441	196.46
81-82	14 035	2 046	145.75	4.80	13 012	6.36	67 332	208.33
82-83	11 989	1 895	158.10	4.53	11 042	5.83	54 320	220.75
83-84	10 094	1 711	169.52	4.29	9 238	5.40	43 278	233.10
84-85	8 383	1 525	181.95	4.06	7 620	5.00	34 040	246.31
85-86	6 858	1 331	194.06	3.85	6 192	4.65	26 420	259.74
86-87	5 527	1 137	205.74	3.66	4 958	4.36	20 228	273.22
87-88	4 390	953	217.10	3.48	3 913	4.11	15 270	287.36
88-89	3 437	786	228.55	3.30	3 044	3.88	11 357	303.03
89-90	2 651	638	240.69	3.14	2 332	3.65	8 313	318.47
90-91	2 013	511	254.05	2.97	1 757	3.44	5 981	336.70
91-92	1 502	404	268.83	2.81	1 300	3.22	4 224	355.87
92-93	1 098	313	284.78	2.66	942	3.01	2 924	375.94
93-94	785	236	301.38	2.52	667	2.82	1 982	396.83
94-95	549	175	317.96	2.39	461	2.65	1 315	418.41
95-96	374	125	333.99	2.28	312	2.49	854	438.60
96-97	249	87	349.27	2.17	206	2.36	542	460.83
97-98	162	59	364.20	2.06	133	2.25	336	485.44
98-99	103	39	379.63	1.96	84	2.13	203	510.20
99-100	64	25	396.65	1.85	51	2.02	119	540.54
100-101	39	16	416.23	1.75	31	1.90	68	571.43
101-102	23	10	439.14	1.63	18	1.78	37	613.50
102-103	13	6	465.60	1.52	10	1.65	19	657.89
103-104	7	4	495.34	1.41	5	1.52	9	709.22
104-105	3	1	527.78	1.31	3	1.39	4	763.36
105-106	2	1	562.42	1.21	1	1.28	1	826.45
106-107	1	1	599.01	1.11	.....	1.17	.....	900.90

TABLE 49 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,192,215), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years		Per month		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	9 143	91.43	55.07	93 508	10.23	5 506 908	18.16
1-2	90 857	1 899	20.89	59.58	89 737	47.25	5 413 400	16.78
2-3	88 958	862	9.70	59.84	88 501	102.67	5 323 663	16.71
3-4	88 096	589	6.68	59.43	87 790	149.05	5 235 162	16.83
4-5	87 507	465	5.32	58.82	87 265	187.67	5 147 372	17.00
5-6	87 042	369	4.24	58.13	86 857	235.38	5 060 107	17.20
6-7	86 673	295	3.40	57.38	86 526	293.31	4 973 250	17.43
7-8	86 378	241	2.79	56.57	86 258	357.92	4 886 724	17.68
8-9	86 137	205	2.38	55.73	86 035	419.68	4 800 466	17.94
9-10	85 932	185	2.16	54.86	85 839	463.99	4 714 431	18.23
10-11	85 747	181	2.10	53.98	85 657	473.24	4 628 592	18.53
11-12	85 566	186	2.18	53.09	85 473	459.53	4 542 935	18.84
12-13	85 380	203	2.38	52.21	85 278	420.09	4 457 462	19.15
13-14	85 177	228	2.67	51.33	85 063	373.08	4 372 184	19.48
14-15	84 949	258	3.04	50.47	84 820	328.76	4 287 121	19.81
15-16	84 691	295	3.49	49.62	84 543	286.59	4 202 301	20.15
16-17	84 396	339	4.01	48.79	84 226	248.45	4 117 758	20.50
17-18	84 057	378	4.49	47.99	83 868	221.87	4 033 532	20.84
18-19	83 679	407	4.87	47.20	83 476	205.10	3 949 664	21.19
19-20	83 272	431	5.18	46.43	83 056	192.71	3 866 188	21.54
20-21	82 841	457	5.51	45.67	82 612	180.77	3 783 132	21.90
21-22	82 384	481	5.84	44.92	82 144	170.78	3 700 520	22.26
22-23	81 903	502	6.13	44.18	81 652	162.65	3 618 376	22.63
23-24	81 401	518	6.36	43.45	81 142	156.64	3 536 724	23.01
24-25	80 883	529	6.55	42.72	80 619	152.40	3 455 582	23.41
25-26	80 354	540	6.72	42.00	80 084	148 30	3 374 963	23.81
26-27	79 814	551	6.90	41.28	79 538	144.35	3 294 879	24.22
27-28	79 263	556	7.01	40.57	78 985	142.06	3 215 341	24.65
28-29	78 707	554	7.04	39.85	78 430	141.57	3 136 356	25.09
29-30	78 153	548	7.01	39.13	77 879	142.11	3 057 926	25.56
30-31	77 605	540	6.96	38.40	77 335	143.21	2 980 047	26.04
31-32	77 065	531	6.89	37.67	76 799	144.63	2 902 712	26.55
32-33	76 534	526	6.86	36.92	76 271	145.00	2 825 913	27.09
33-34	76 008	527	6.93	36.18	75 745	143.73	2 749 642	27.64
34-35	75 481	533	7.07	35.42	75 215	141.12	2 673 897	28.23
35-36	74 948	539	7.19	34.67	74 678	138.55	2 598 682	28.84
36-37	74 409	545	7.32	33.92	74 136	136.03	2 524 004	29.48
37-38	73 864	550	7.44	33.17	73 589	133.80	2 449 868	30.15
38-39	73 314	553	7.55	32.41	73 038	132.08	2 376 279	30.85
39-40	72 761	556	7.64	31.65	72 483	130.37	2 303 241	31.60
40-41	72 205	561	7.76	30.89	71 924	128.21	2 230 758	32.37
41-42	71 644	566	7.91	30.13	71 361	126.08	2 158 834	33.19
42-43	71 078	572	8.05	29.37	70 792	123.76	2 087 473	34.05
43-44	70 506	578	8.20	28.60	70 217	121.48	2 016 681	34.97
44-45	69 928	585	8.36	27.84	69 635	119.03	1 946 464	35.92

THE STATE OF MICHIGAN: 1901. TABLE 49

REPORTED DEATHS IN 1900 (15,843), IN 1901 (15,255), AND IN 1902 (14,346).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	69 343	593	8.55	27.07	69 047	116.44	1 876 829	36.94
46-47	68 750	602	8.76	26.30	68 449	113.70	1 807 782	38.02
47-48	68 148	618	9.07	25.52	67 839	109.77	1 739 333	39.18
48-49	67 530	642	9.50	24.75	67 209	104.69	1 671 494	40.40
49-50	66 888	671	10.03	23.98	66 553	99.18	1 604 285	41.70
50-51	66 217	702	10.61	23.22	65 866	93.83	1 537 732	43.07
51-52	65 515	738	11.26	22.47	65 146	88.27	1 471 866	44.50
52-53	64 777	772	11.91	21.72	64 391	83.41	1 406 720	46.04
53-54	64 005	801	12.52	20.97	63 605	79.41	1 342 329	47.69
54-55	63 204	830	13.13	20.23	62 789	75.65	1 278 724	49.43
55-56	62 374	863	13.84	19.49	61 942	71.78	1 215 935	51.31
56-57	61 511	899	14.61	18.76	61 061	67.92	1 153 993	53.30
57-58	60 612	945	15.59	18.03	60 140	63.64	1 092 932	55.46
58-59	59 667	1 008	16.89	17.31	59 163	58.69	1 032 792	57.77
59-60	58 659	1 083	18.46	16.60	58 118	53.66	973 629	60.24
60-61	57 576	1 161	20.17	15.90	56 996	49.09	915 511	62.89
61-62	56 415	1 243	22.04	15.22	55 793	44.89	858 515	65.70
62-63	55 172	1 332	24.14	14.55	54 506	40.92	802 722	68.73
63-64	53 840	1 425	26.46	13.90	53 128	37.28	748 216	71.94
64-65	52 415	1 520	29.00	13.26	51 655	33.98	695 088	75.41
65-66	50 895	1 616	31.75	12.64	50 087	30.99	643 433	79.11
66-67	49 279	1 712	34.75	12.04	48 423	28.28	593 346	83.06
67-68	47 567	1 803	37.90	11.46	46 665	25.88	544 923	87.26
68-69	45 764	1 886	41.22	10.89	44 821	23.77	498 258	91.83
69-70	43 878	1 968	44.86	10.33	42 894	21.80	453 437	96.81
70-71	41 910	2 051	48.92	9.80	40 885	19.93	410 543	102.04
71-72	39 859	2 131	53.47	9.27	38 794	18.20	369 658	107.87
72-73	37 728	2 213	58.65	8.77	36 622	16.55	330 864	114.03
73-74	35 515	2 289	64.46	8.29	34 371	15.02	294 242	120.63
74-75	33 226	2 351	70.77	7.82	32 050	13.63	259 871	127.88
75-76	30 875	2 398	77.66	7.38	29 676	12.38	227 821	135.50
76-77	28 477	2 427	85.22	6.96	27 264	11.23	198 145	143.68
77-78	26 050	2 440	93.67	6.56	24 830	10.18	170 881	152.44
78-79	23 610	2 429	102.90	6.19	22 395	9.22	146 051	161.55
79-80	21 181	2 388	112.74	5.84	19 987	8.37	123 656	171.23
80-81	18 793	2 311	122.95	5.52	17 637	7.63	103 669	181.16
81-82	16 482	2 196	133.22	5.22	15 384	7.01	86 032	191.57
82-83	14 286	2 047	143.30	4.95	13 263	6.48	70 648	202.02
83-84	12 239	1 873	153.09	4.69	11 302	6.03	57 385	213.22
84-85	10 366	1 687	162.67	4.45	9 522	5.65	46 083	224.72
85-86	8 679	1 495	172.30	4.21	7 932	5.30	36 561	237.53
86-87	7 184	1 310	182.39	3.99	6 529	4.98	28 629	250.63
87-88	5 874	1 136	193.36	3.76	5 306	4.67	22 100	265.96
88-89	4 738	974	205.55	3.54	4 251	4.36	16 794	282.49
89-90	3 764	825	219.17	3.33	3 352	4.06	12 543	300.30
90-91	2 939	688	234.27	3.13	2 595	3.77	9 191	319.49
91-92	2 251	565	250.74	2.93	1 968	3.49	6 596	341.30
92-93	1 686	452	268.44	2.75	1 460	3.23	4 628	363.64
93-94	1 234	355	287.21	2.57	1 056	2.98	3 168	389.11
94-95	879	270	307.00	2.40	744	2.76	2 112	416.67
95-96	609	199	327.85	2.25	509	2.55	1 368	444.44
96-97	410	144	349.82	2.10	338	2.36	859	476.19
97-98	266	99	373.02	1.96	217	2.18	521	510.20
98-99	167	66	397.53	1.83	134	2.02	304	546.45
99-100	101	43	423.40	1.70	79	1.86	170	588.24
100-101	58	26	450.59	1.58	45	1.72	91	632.91
101-102	32	15	479.26	1.47	24	1.59	46	680.27
102-103	17	9	509.39	1.37	12	1.46	22	729.93
103-104	8	4	540.98	1.27	6	1.35	10	787.40
104-105	4	2	574.06	1.18	3	1.24	4	847.46
105-106	2	1	608.61	1.09	1	1.14	1	917.43
106-107	1	1	644.61	1.01	.....	1.05	.....	990.10

TABLE 50 **LIFE TABLE FOR FEMALES IN**

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,359,511), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 955	39.55	56.24	8 086	24.48	5 623 970	17.78
1-2	96 045	895	9.32	58.47	7 966	106.80	5 615 884	17.10
2-3	95 150	755	7.94	58.94	7 898	125.52	5 607 918	16.97
3-4	94 395	631	6.68	59.33	7 840	149.04	5 600 020	16.85
4-5	93 764	528	5.64	59.64	7 792	177.12	5 592 180	16.77
5-6	93 236	458	4.91	59.90	7 751	203.04	5 584 388	16.69
6-7	92 778	405	4.36	60.11	7 715	228.60	5 576 637	16.64
7-8	92 373	359	3.88	60.29	7 683	256.80	5 568 922	16.59
8-9	92 014	317	3.45	60.44	7 655	289.80	5 561 239	16.55
9-10	91 697	288	3.15	60.56	7 629	317.88	5 553 584	16.51
10-11	91 409	273	2.98	60.67	7 606	334.32	5 545 955	16.48
11-12	91 136	266	2.92	60.77	7 584	342.12	5 538 349	16.46
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	9 130	91.30	56.24	93 205	10.21	5 623 970	17.78
1-2	90 870	1 712	18.84	60.86	89 860	52.49	5 530 765	16.43
2-3	89 158	775	8.69	61.03	88 747	114.51	5 440 905	16.39
3-4	88 383	519	5.87	60.56	88 113	169.77	5 352 158	16.51
4-5	87 864	362	4.12	59.91	87 676	242.20	5 264 045	16.69
5-6	87 502	324	3.70	59.16	87 340	269.57	5 176 369	16.90
6-7	87 178	276	3.17	58.38	87 040	315.36	5 089 029	17.13
7-8	86 902	237	2.72	57.56	86 783	366.17	5 001 989	17.37
8-9	86 665	206	2.37	56.72	86 562	420.20	4 915 206	17.63
9-10	86 459	184	2.13	55.85	86 367	469.39	4 828 644	17.91
10-11	86 275	173	2.00	54.97	86 188	498.20	4 742 277	18.19
11-12	86 102	170	1.98	54.08	86 017	505.98	4 656 089	18.49
12-13	85 932	177	2.05	53.18	85 843	484.99	4 570 072	18.80
13-14	85 755	189	2.21	52.29	85 661	453.23	4 484 229	19.12
14-15	85 566	207	2.42	51.41	85 463	412.86	4 398 568	19.45
15-16	85 359	227	2.66	50.53	85 246	375.53	4 313 105	19.79
16-17	85 132	253	2.98	49.66	85 006	335.99	4 227 859	20.14
17-18	84 879	288	3.40	48.81	84 735	294.22	4 142 853	20.49
18-19	84 591	328	3.88	47.97	84 427	257.40	4 058 118	20.85
19-20	84 263	368	4.36	47.16	84 079	228.48	3 973 691	21.20
20-21	83 895	410	4.89	46.36	83 690	204.12	3 889 612	21.57
21-22	83 485	440	5.27	45.59	83 265	189.24	3 805 922	21.93
22-23	83 045	449	5.41	44.83	82 821	184.46	3 722 657	22.31
23-24	82 596	445	5.39	44.07	82 373	185.11	3 639 836	22.69
24-25	82 151	444	5.40	43.30	81 929	184.52	3 557 463	23.09
25-26	81 707	440	5.39	42.54	81 487	185.20	3 475 534	23.51
26-27	81 267	438	5.39	41.76	81 048	185.04	3 394 047	23.95
27-28	80 829	440	5.45	40.99	80 609	183.20	3 312 999	24.40
28-29	80 389	446	5.54	40.21	80 166	179.74	3 232 390	24.87
29-30	79 943	448	5.61	39.43	79 719	177.94	3 152 224	25.36
30-31	79 495	450	5.66	38.65	79 270	176.16	3 072 505	25.87
31-32	79 045	455	5.76	37.87	78 817	173.22	2 993 235	26.41
32-33	78 590	468	5.95	37.08	78 356	167.43	2 914 418	26.97
33-34	78 122	483	6.18	36.30	77 881	161.24	2 836 062	27.55
34-35	77 639	498	6.42	35.53	77 390	155.40	2 758 181	28.15
35-36	77 141	517	6.69	34.75	76 883	148.71	2 680 791	28.78
36-37	76 624	526	6.87	33.98	76 361	145.17	2 603 908	29.43
37-38	76 098	524	6.89	33.21	75 836	144.73	2 527 547	30.11
38-39	75 574	515	6.81	32.44	75 317	146.25	2 451 711	30.83
39-40	75 059	507	6.76	31.66	74 806	147.55	2 376 394	31.59
40-41	74 552	500	6.70	30.87	74 302	148.60	2 301 588	32.39
41-42	74 052	500	6.75	30.08	73 802	147.60	2 227 286	33.24
42-43	73 552	514	6.99	29.28	73 295	142.60	2 153 484	34.15
43-44	73 038	539	7.38	28.48	72 769	135.01	2 080 189	35.11
44-45	72 499	564	7.78	27.69	72 217	128.04	2 007 420	36.11

THE STATE OF MICHIGAN: 1910. TABLE 50

REPORTED DEATHS IN 1909 (16,638), IN 1910 (18,164), AND IN 1911 (17,138).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	71 935	591	8.22	26.90	71 640	121.22	1 935 203	37.17
46-47	71 344	621	8.70	26.12	71 034	114.39	1 863 563	38.28
47-48	70 723	650	9.20	25.35	70 398	108.30	1 792 529	39.45
48-49	70 073	680	9.70	24.58	69 733	102.55	1 722 131	40.68
49-50	69 393	711	10.25	23.81	69 037	97.10	1 652 398	42.00
50-51	68 682	744	10.83	23.05	68 310	91.81	1 583 361	43.38
51-52	67 938	775	11.42	22.30	67 550	87.16	1 515 051	44.84
52-53	67 163	810	12.06	21.55	66 758	82.42	1 447 501	46.40
53-54	66 353	849	12.79	20.81	65 928	77.65	1 380 743	48.05
54-55	65 504	893	13.64	20.07	65 057	72.85	1 314 815	49.83
55-56	64 611	946	14.64	19.34	64 138	67.80	1 249 758	51.71
56-57	63 665	1 002	15.74	18.62	63 164	63.04	1 185 620	53.71
57-58	62 663	1 057	16.86	17.91	62 134	58.78	1 122 456	55.83
58-59	61 606	1 109	18.00	17.21	61 052	55.05	1 060 322	58.11
59-60	60 497	1 165	19.27	16.52	59 914	51.43	999 270	60.53
60-61	59 332	1 224	20.62	15.83	58 720	47.97	939 356	63.17
61-62	58 108	1 291	22.22	15.16	57 462	44.51	880 636	65.96
62-63	56 817	1 373	24.16	14.49	56 130	40.88	823 174	69.01
63-64	55 444	1 462	26.37	13.83	54 713	37.42	767 044	72.31
64-65	53 982	1 547	28.67	13.20	53 208	34.39	712 331	75.76
65-66	52 435	1 628	31.04	12.57	51 621	31.71	659 123	79.55
66-67	50 807	1 713	33.72	11.96	49 951	29.16	607 502	83.61
67-68	49 094	1 815	36.97	11.36	48 187	26.55	557 551	88.03
68-69	47 279	1 932	40.87	10.77	46 313	23.97	509 364	92.85
69-70	45 347	2 052	45.24	10.21	44 321	21.60	463 051	97.94
70-71	43 295	2 175	50.24	9.67	42 208	19.41	418 730	103.41
71-72	41 120	2 293	55.78	9.16	39 973	17.43	376 522	109.17
72-73	38 827	2 388	61.50	8.67	37 633	15.76	336 549	115.34
73-74	36 439	2 451	67.26	8.20	35 213	14.37	298 916	121.95
74-75	33 988	2 501	73.58	7.76	32 738	13.09	263 703	128.87
75-76	31 487	2 535	80.51	7.34	30 220	11.92	230 965	136.24
76-77	28 952	2 529	87.38	6.93	27 687	10.95	200 745	144.30
77-78	26 423	2 487	94.10	6.55	25 179	10.12	173 058	152.67
78-79	23 936	2 420	101.13	6.18	22 726	9.39	147 879	161.81
79-80	21 516	2 350	109.21	5.82	20 341	8.66	125 153	171.82
80-81	19 166	2 275	118.71	5.47	18 028	7.92	104 812	182.82
81-82	16 891	2 186	129.41	5.14	15 798	7.23	86 784	194.55
82-83	14 705	2 065	140.40	4.83	13 673	6.62	70 986	207.04
83-84	12 640	1 910	151.16	4.53	11 685	6.12	57 313	220.75
84-85	10 730	1 747	162.78	4.25	9 856	5.64	45 628	235.29
85-86	8 983	1 580	175.91	3.98	8 193	5.18	35 772	251.26
86-87	7 403	1 411	190.57	3.73	6 697	4.75	27 579	268.10
87-88	5 992	1 240	206.98	3.49	5 372	4.33	20 882	286.53
88-89	4 752	1 069	224.98	3.26	4 217	3.94	15 510	306.75
89-90	3 683	899	243.99	3.07	3 234	3.60	11 293	325.73
90-91	2 784	732	262.96	2.89	2 418	3.30	8 059	346.02
91-92	2 052	576	280.68	2.75	1 764	3.06	5 641	363.64
92-93	1 476	437	296.17	2.63	1 258	2.88	3 877	380.23
93-94	1 039	321	309.12	2.52	878	2.73	2 619	396.83
94-95	718	230	319.99	2.43	603	2.63	1 741	411.52
95-96	488	161	329.89	2.33	408	2.53	1 138	429.18
96-97	327	111	340.19	2.24	271	2.44	730	446.43
97-98	216	76	352.39	2.13	178	2.34	459	469.48
98-99	140	52	367.66	2.02	114	2.22	281	495.05
99-100	88	34	386.49	1.90	71	2.09	167	526.32
100-101	54	22	408.61	1.78	43	1.95	96	561.80
101-102	32	14	433.40	1.66	25	1.81	53	602.41
102-103	18	8	460.02	1.55	14	1.67	28	645.16
103-104	10	5	487.90	1.45	7	1.55	14	689.66
104-105	5	3	516.79	1.35	4	1.43	7	740.74
105-106	2	1	546.83	1.26	2	1.33	3	793.65
106-107	1	1	578.58	1.17	1	1.23	1	854.70

TABLE 51 **LIFE TABLE FOR MALES IN THE**

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (979,411), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	14 288	142.88	46.38	89 713	6.28	4 637 586	21.56
1-2	85 712	3 046	35.54	53.06	83 915	27.55	4 547 873	18.85
2-3	82 666	1 462	17.68	54.00	81 891	56.01	4 463 958	18.52
3-4	81 204	826	10.17	53.96	80 775	97.79	4 382 067	18.53
4-5	80 378	668	8.31	53.51	80 031	119.81	4 301 292	18.69
5-6	79 710	542	6.81	52.96	79 439	146.57	4 221 261	18.88
6-7	79 168	440	5.55	52.32	78 948	179.43	4 141 822	19.11
7-8	78 728	357	4.53	51.61	78 549	220.03	4 062 874	19.38
8-9	78 371	293	3.74	50.84	78 224	266.98	3 984 325	19.67
9-10	78 078	247	3.16	50.03	77 954	315.60	3 906 101	19.99
10-11	77 831	218	2.80	49.19	77 722	356.52	3 828 147	20.33
11-12	77 613	204	2.63	48.32	77 511	379.96	3 750 425	20.70
12-13	77 409	204	2.64	47.45	77 307	378.96	3 672 914	21.07
13-14	77 205	218	2.82	46.57	77 096	353.65	3 595 607	21.47
14-15	76 987	241	3.14	45.70	76 867	318.95	3 518 511	21.88
15-16	76 746	276	3.60	44.84	76 608	277.57	3 441 644	22.30
16-17	76 470	321	4.20	44.00	76 309	237.72	3 365 036	22.73
17-18	76 149	363	4.77	43.19	75 967	209.28	3 288 727	23.15
18-19	75 786	393	5.19	42.39	75 589	192.34	3 212 760	23.59
19-20	75 393	415	5.50	41.61	75 185	181.17	3 137 171	24.03
20-21	74 978	440	5.86	40.84	74 758	169.90	3 061 986	24.49
21-22	74 538	464	6.22	40.08	74 306	160.14	2 987 228	24.95
22-23	74 074	486	6.57	39.32	73 831	151.92	2 912 922	25.43
23-24	73 588	509	6.91	38.58	73 334	144.07	2 839 091	25.92
24-25	73 079	528	7.24	37.85	72 815	137.91	2 765 757	26.42
25-26	72 551	548	7.55	37.12	72 277	131.89	2 692 942	26.94
26-27	72 003	566	7.86	36.40	71 720	126.71	2 620 665	27.47
27-28	71 437	581	8.13	35.68	71 146	122.45	2 548 945	28.03
28-29	70 856	592	8.35	34.97	70 560	119.19	2 477 799	28.60
29-30	70 264	600	8.54	34.26	69 964	116.61	2 407 239	29.19
30-31	69 664	608	8.73	33.55	69 360	114.08	2 337 275	29.81
31-32	69 056	615	8.91	32.84	68 749	111.79	2 267 915	30.45
32-33	68 441	626	9.14	32.13	68 128	108.83	2 199 166	31.12
33-34	67 815	642	9.48	31.42	67 494	105.13	2 131 038	31.83
34-35	67 173	663	9.87	30.72	66 841	100.82	2 063 544	32.55
35-36	66 510	683	10.26	30.02	66 168	96.88	1 996 703	33.31
36-37	65 827	703	10.68	29.33	65 476	93.14	1 930 535	34.09
37-38	65 124	718	11.03	28.64	64 765	90.20	1 865 059	34.92
38-39	64 406	726	11.26	27.95	64 043	88.21	1 800 294	35.78
39-40	63 680	727	11.43	27.27	63 317	87.09	1 736 251	36.67
40-41	62 953	732	11.62	26.57	62 587	85.50	1 672 934	37.64
41-42	62 221	735	11.82	25.88	61 854	84.16	1 610 347	38.64
42-43	61 486	746	12.13	25.18	61 113	81.92	1 548 493	39.71
43-44	60 740	770	12.67	24.49	60 355	78.38	1 487 380	40.83
44-45	59 970	803	13.39	23.80	59 569	74.18	1 427 025	42.02

STATE OF NEW JERSEY: 1901. TABLE 51

REPORTED DEATHS IN 1900 (17,904), IN 1901 (17,077), AND IN 1902 (17,071).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	59 167	838	14.17	23.11	58 748	70.11	1 367 456	43.27
46-47	58 329	881	15.09	22.44	57 889	65.71	1 308 708	44.56
47-48	57 448	917	15.97	21.77	56 989	62.15	1 250 819	45.93
48-49	56 531	941	16.65	21.12	56 060	59.57	1 193 830	47.35
49-50	55 590	955	17.17	20.47	55 112	57.71	1 137 770	48.85
50-51	54 635	970	17.76	19.82	54 150	55.82	1 082 658	50.45
51-52	53 665	984	18.33	19.17	53 173	54.04	1 028 508	52.16
52-53	52 681	1 007	19.11	18.51	52 178	51.82	975 335	54.02
53-54	51 674	1 049	20.31	17.87	51 150	48.76	923 157	55.96
54-55	50 625	1 109	21.90	17.22	50 070	45.15	872 007	58.07
55-56	49 516	1 171	23.64	16.60	48 931	41.79	821 937	60.24
56-57	48 345	1 240	25.65	15.99	47 725	38.49	773 006	62.54
57-58	47 105	1 306	27.72	15.40	46 452	35.57	725 281	64.94
58-59	45 799	1 353	29.56	14.82	45 122	33.35	678 829	67.48
59-60	44 446	1 386	31.17	14.26	43 753	31.57	633 707	70.13
60-61	43 060	1 417	32.91	13.70	42 352	29.89	589 954	72.99
61-62	41 643	1 442	34.63	13.15	40 922	28.38	547 602	76.05
62-63	40 201	1 474	36.68	12.60	39 464	26.77	506 680	79.37
63-64	38 727	1 526	39.39	12.06	37 964	24.88	467 216	82.92
64-65	37 201	1 591	42.78	11.54	36 406	22.88	429 252	86.66
65-66	35 610	1 655	46.46	11.03	34 783	21.02	392 846	90.66
66-67	33 955	1 720	50.67	10.55	33 095	19.24	358 063	94.79
67-68	32 235	1 769	54.89	10.08	31 350	17.72	324 968	99.21
68-69	30 466	1 783	58.52	9.64	29 574	16.59	293 618	103.73
69-70	28 683	1 769	61.67	9.21	27 798	15.71	264 044	108.58
70-71	26 914	1 752	65.09	8.78	26 038	14.86	236 246	113.90
71-72	25 162	1 725	68.57	8.35	24 300	14.09	210 208	119.76
72-73	23 437	1 702	72.60	7.93	22 586	13.27	185 908	126.10
73-74	21 735	1 690	77.78	7.51	20 890	12.36	163 322	133.16
74-75	20 045	1 687	84.16	7.11	19 201	11.38	142 432	140.65
75-76	18 358	1 673	91.12	6.71	17 521	10.47	123 231	149.03
76-77	16 685	1 651	98.98	6.34	15 859	9.61	105 710	157.73
77-78	15 034	1 619	107.65	5.98	14 224	8.79	89 851	167.22
78-79	13 415	1 574	117.34	5.64	12 628	8.02	75 627	177.31
79-80	11 841	1 513	127.78	5.32	11 085	7.33	62 999	187.97
80-81	10 328	1 432	138.65	5.03	9 612	6.71	51 914	198.81
81-82	8 896	1 331	149.58	4.76	8 231	6.19	42 302	210.08
82-83	7 565	1 212	160.31	4.50	6 959	5.74	34 071	222.22
83-84	6 353	1 085	170.74	4.27	5 810	5.36	27 112	234.19
84-85	5 268	954	180.99	4.04	4 791	5.03	21 302	247.52
85-86	4 314	825	191.41	3.83	3 902	4.72	16 511	261.10
86-87	3 489	707	202.50	3.62	3 135	4.44	12 609	276.24
87-88	2 782	597	214.74	3.41	2 483	4.16	9 474	293.26
88-89	2 185	500	228.54	3.20	1 935	3.88	6 991	312.50
89-90	1 685	411	244.06	3.00	1 480	3.60	5 056	333.33
90-91	1 274	333	261.35	2.81	1 108	3.33	3 576	355.87
91-92	941	264	280.19	2.62	809	3.07	2 468	381.68
92-93	677	203	300.31	2.45	576	2.83	1 659	408.16
93-94	474	152	321.51	2.29	398	2.61	1 083	436.68
94-95	322	111	343.68	2.14	266	2.41	685	467.29
95-96	211	77	366.84	2.00	172	2.23	419	500.00
96-97	134	53	391.07	1.86	108	2.06	247	537.63
97-98	81	34	416.47	1.74	64	1.90	139	574.71
98-99	47	21	442.99	1.62	37	1.76	75	617.28
99-100	26	12	470.87	1.51	20	1.62	38	662.25
100-101	14	7	499.96	1.40	10	1.50	18	714.29
101-102	7	4	530.26	1.31	5	1.39	8	763.36
102-103	3	2	561.72	1.21	2	1.28	3	826.45
103-104	1	1	594.30	1.13	1	1.18	1	884.96

TABLE 52 — LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,293,454), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 469	44.69	49.08	8 054	21.60	4 908 250	20.37
1-2	95 531	1 147	12.00	51.29	7 913	82.80	4 900 196	19.50
2-3	94 384	1 024	10.85	51.83	7 823	91.68	4 892 283	19.29
3-4	93 360	932	9.99	52.32	7 741	99.72	4 884 460	19.11
4-5	92 428	848	9.17	52.76	7 667	108.48	4 876 719	18.95
5-6	91 580	768	8.38	53.17	7 600	118.80	4 869 052	18.81
6-7	90 812	691	7.61	53.53	7 539	130.92	4 861 452	18.68
7-8	90 121	617	6.85	53.86	7 484	145.56	4 853 913	18.57
8-9	89 504	551	6.15	54.15	7 436	162.00	4 846 429	18.47
9-10	88 953	492	5.54	54.40	7 392	180.24	4 838 993	18.38
10-11	88 461	450	5.08	54.62	7 353	196.08	4 831 601	18.31
11-12	88 011	430	4.89	54.81	7 316	204.12	4 824 248	18.24
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 419	124.19	49.08	91 318	7.35	4 908 250	20.37
1-2	87 581	2 599	29.67	55.00	86 048	33.11	4 816 932	18.18
2-3	84 982	1 229	14.47	55.67	84 331	68.62	4 730 884	17.96
3-4	83 753	697	8.32	55.48	83 390	119.64	4 646 553	18.02
4-5	83 056	528	6.36	54.94	82 781	156.78	4 563 163	18.20
5-6	82 528	421	5.10	54.29	82 317	195.53	4 480 382	18.42
6-7	82 107	359	4.37	53.57	81 928	228.21	4 398 065	18.67
7-8	81 748	307	3.75	52.80	81 595	265.78	4 316 137	18.94
8-9	81 441	263	3.24	52.00	81 310	309.16	4 234 542	19.23
9-10	81 178	231	2.84	51.16	81 063	350.92	4 153 232	19.55
10-11	80 947	206	2.55	50.31	80 844	392.45	4 072 169	19.88
11-12	80 741	193	2.38	49.43	80 645	417.85	3 991 325	20.23
12-13	80 548	187	2.33	48.55	80 455	430.24	3 910 680	20.60
13-14	80 361	191	2.37	47.66	80 266	420.24	3 830 225	20.98
14-15	80 170	200	2.50	46.78	80 070	400.35	3 749 959	21.38
15-16	79 970	214	2.67	45.89	79 863	373.19	3 669 889	21.79
16-17	79 756	238	2.99	45.01	79 637	334.61	3 590 026	22.22
17-18	79 518	275	3.46	44.15	79 380	288.65	3 510 389	22.65
18-19	79 243	318	4.01	43.30	79 084	248.69	3 431 009	23.09
19-20	78 925	360	4.56	42.47	78 745	218.74	3 351 925	23.55
20-21	78 565	405	5.15	41.66	78 363	193.49	3 273 180	24.00
21-22	78 160	434	5.56	40.88	77 943	179.59	3 194 817	24.46
22-23	77 726	444	5.71	40.10	77 504	174.56	3 116 874	24.94
23-24	77 282	440	5.69	39.33	77 062	175.14	3 039 370	25.43
24-25	76 842	439	5.71	38.55	76 623	174.54	2 962 308	25.94
25-26	76 403	438	5.74	37.77	76 184	173.94	2 885 685	26.48
26-27	75 965	442	5.82	36.98	75 744	171.37	2 809 501	27.04
27-28	75 523	455	6.02	36.20	75 296	165.49	2 733 757	27.62
28-29	75 068	473	6.31	35.41	74 832	158.21	2 658 461	28.24
29-30	74 595	492	6.60	34.64	74 349	151.12	2 583 629	28.87
30-31	74 103	511	6.89	33.86	73 847	144.51	2 509 280	29.53
31-32	73 592	536	7.28	33.09	73 324	136.80	2 435 433	30.22
32-33	73 056	568	7.78	32.33	72 772	128.12	2 362 109	30.93
33-34	72 488	605	8.33	31.58	72 185	119.31	2 289 337	31.67
34-35	71 883	638	8.89	30.84	71 564	112.17	2 217 152	32.43
35-36	71 245	674	9.46	30.12	70 908	105.20	2 145 588	33.20
36-37	70 571	702	9.94	29.40	70 220	100.03	2 074 680	34.01
37-38	69 869	718	10.29	28.69	69 510	96.81	2 004 460	34.86
38-39	69 151	730	10.55	27.98	68 786	94.23	1 934 950	35.74
39-40	68 421	742	10.84	27.27	68 050	91.71	1 866 164	36.67
40-41	67 679	754	11.14	26.57	67 302	89.26	1 798 114	37.64
41-42	66 925	769	11.49	25.86	66 541	86.53	1 730 812	38.67
42-43	66 156	790	11.95	25.16	65 761	83.24	1 664 271	39.75
43-44	65 366	817	12.50	24.45	64 958	79.51	1 598 510	40.90
44-45	64 549	845	13.09	23.76	64 126	75.89	1 533 552	42.09

STATE OF NEW JERSEY: 1910. TABLE 52

REPORTED DEATHS IN 1909 (19,621), IN 1910 (21,223), AND IN 1911 (20,811).

illustrative examples, showing how to use the tables, are given on pages 29 to 49

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	63 704	877	13.77	23.07	63 265	72.14	1 469 426	43.35
46-47	62 827	907	14.43	22.38	62 374	68.77	1 406 161	44.68
47-48	61 920	928	15.00	21.70	61 456	66.22	1 343 787	46.08
48-49	60 992	946	15.50	21.02	60 519	63.97	1 282 331	47.57
49-50	60 046	963	16.04	20.35	59 565	61.85	1 221 812	49.14
50-51	59 083	979	16.57	19.67	58 594	59.85	1 162 247	50.84
51-52	58 104	1 006	17.32	18.99	57 601	57.26	1 103 653	52.66
52-53	57 098	1 054	18.46	18.32	56 571	53.67	1 046 052	54.59
53-54	56 044	1 123	20.04	17.66	55 482	49.41	989 481	56.63
54-55	54 921	1 200	21.84	17.01	54 321	45.27	933 999	58.79
55-56	53 721	1 291	24.04	16.37	53 076	41.11	879 678	61.09
56-57	52 430	1 382	26.37	15.77	51 739	37.44	826 602	63.41
57-58	51 048	1 451	28.41	15.18	50 323	34.68	774 863	65.88
58-59	49 597	1 495	30.14	14.61	48 850	32.68	724 540	68.45
59-60	48 102	1 541	32.05	14.05	47 332	30.72	675 690	71.17
60-61	46 561	1 583	33.99	13.50	45 770	28.91	628 358	74.07
61-62	44 978	1 626	36.16	12.95	44 165	27.16	582 588	77.22
62-63	43 352	1 683	38.81	12.42	42 510	25.26	538 423	80.52
63-64	41 669	1 745	41.89	11.90	40 796	23.38	495 913	84.03
64-65	39 924	1 798	45.02	11.40	39 025	21.70	455 117	87.72
65-66	38 126	1 841	48.30	10.91	37 206	20.21	416 092	91.66
66-67	36 285	1 872	51.58	10.44	35 349	18.88	378 886	95.79
67-68	34 413	1 884	54.75	9.98	33 471	17.77	343 537	100.20
68-69	32 529	1 884	57.93	9.53	31 587	16.77	310 066	104.93
69-70	30 645	1 879	61.30	9.09	29 705	15.81	278 479	110.01
70-71	28 766	1 863	64.77	8.65	27 834	14.94	248 774	115.61
71-72	26 903	1 853	68.88	8.21	25 976	14.02	220 940	121.80
72-73	25 050	1 858	74.15	7.78	24 121	12.98	194 964	128.53
73-74	23 192	1 869	80.61	7.37	22 258	11.91	170 843	135.69
74-75	21 323	1 875	87.93	6.97	20 385	10.87	148 585	143.47
75-76	19 448	1 880	96.67	6.59	18 508	9.84	128 200	151.75
76-77	17 568	1 858	105.79	6.24	16 639	8.96	109 692	160.26
77-78	15 710	1 791	113.99	5.92	14 814	8.27	93 053	168.92
78-79	13 919	1 689	121.32	5.62	13 075	7.74	78 239	177.94
79-80	12 230	1 588	129.87	5.33	11 436	7.20	65 164	187.62
80-81	10 642	1 487	139.69	5.05	9 899	6.66	53 728	198.02
81-82	9 155	1 365	149.11	4.79	8 473	6.21	43 829	208.77
82-83	7 790	1 235	158.53	4.54	7 173	5.81	35 356	220.26
83-84	6 555	1 103	168.32	4.30	6 004	5.44	28 183	232.56
84-85	5 452	974	178.68	4.07	4 965	5.10	22 179	245.70
85-86	4 478	850	189.83	3.84	4 053	4.77	17 214	260.42
86-87	3 628	733	201.95	3.63	3 261	4.45	13 161	275.48
87-88	2 895	623	215.14	3.42	2 584	4.15	9 900	292.40
88-89	2 272	521	229.40	3.22	2 012	3.86	7 316	310.56
89-90	1 751	428	244.70	3.03	1 537	3.59	5 304	330.03
90-91	1 323	346	260.93	2.85	1 150	3.33	3 767	350.88
91-92	977	271	278.01	2.68	842	3.10	2 617	373.13
92-93	706	209	295.91	2.52	601	2.88	1 775	396.83
93-94	497	156	314.63	2.36	419	2.68	1 174	423.73
94-95	341	114	334.24	2.22	284	2.49	755	450.45
95-96	227	81	354.88	2.08	186	2.32	471	480.77
96-97	146	55	376.61	1.95	119	2.16	285	512.82
97-98	91	36	399.49	1.83	73	2.00	166	546.45
98-99	55	23	423.53	1.71	43	1.86	93	584.80
99-100	32	15	448.61	1.60	24	1.73	50	625.00
100-101	17	8	474.90	1.50	13	1.61	26	666.67
101-102	9	4	502.45	1.40	7	1.49	13	714.29
102-103	5	3	531.30	1.30	3	1.38	6	769.23
103-104	2	1	561.47	1.22	2	1.28	3	819.67
104-105	1	1	592.96	1.13	1	1.19	1	884.96

TABLE 53 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (975,950), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 666	116.66	50.45	91 717	7.86	5 045 407	19.82
1-2	88 334	2 937	33.25	56.08	86 601	29.49	4 953 690	17.83
2-3	85 397	1 312	15.36	56.99	84 702	64.56	4 867 089	17.55
3-4	84 085	887	10.55	56.88	83 624	94.28	4 782 387	17.58
4-5	83 198	676	8.13	56.48	82 847	122.55	4 698 763	17.71
5-6	82 522	500	6.06	55.94	82 272	164.54	4 615 916	17.88
6-7	82 022	414	5.05	55.27	81 815	197.62	4 533 644	18.09
7-8	81 608	342	4.20	54.55	81 437	238.12	4 451 829	18.33
8-9	81 266	285	3.50	53.78	81 123	284.64	4 370 392	18.59
9-10	80 981	241	2.98	52.97	80 860	335.52	4 289 269	18.88
10-11	80 740	213	2.63	52.12	80 634	378.56	4 208 409	19.19
11-12	80 527	196	2.44	51.26	80 429	410.35	4 127 775	19.51
12-13	80 331	193	2.41	50.38	80 234	415.72	4 047 346	19.85
13-14	80 138	201	2.51	49.50	80 037	398.19	3 967 112	20.20
14-15	79 937	219	2.74	48.63	79 827	364.51	3 887 075	20.56
15-16	79 718	244	3.06	47.76	79 596	326.21	3 807 248	20.94
16-17	79 474	277	3.48	46.90	79 335	286.41	3 727 652	21.32
17-18	79 197	311	3.92	46.07	79 042	254.15	3 648 317	21.71
18-19	78 886	342	4.33	45.25	78 715	230.16	3 569 275	22.10
19-20	78 544	369	4.71	44.44	78 360	212.36	3 490 560	22.50
20-21	78 175	399	5.10	43.65	77 975	195.43	3 412 200	22.91
21-22	77 776	428	5.50	42.87	77 562	181.22	3 334 225	23.33
22-23	77 348	452	5.84	42.10	77 122	170.62	3 256 663	23.75
23-24	76 896	470	6.12	41.35	76 661	163.11	3 179 541	24.18
24-25	76 426	486	6.36	40.60	76 183	156.76	3 102 880	24.63
25-26	75 940	501	6.59	39.86	75 689	151.08	3 026 697	25.09
26-27	75 439	515	6.83	39.12	75 181	145.98	2 951 008	25.56
27-28	74 924	528	7.04	38.38	74 660	141.40	2 875 827	26.06
28-29	74 396	537	7.23	37.65	74 128	138.04	2 801 167	26.56
29-30	73 859	547	7.40	36.92	73 585	134.52	2 727 039	27.09
30-31	73 312	555	7.58	36.19	73 034	131.59	2 653 454	27.63
31-32	72 757	565	7.76	35.47	72 475	128.27	2 580 420	28.19
32-33	72 192	571	7.91	34.74	71 907	125.93	2 507 945	28.79
33-34	71 621	575	8.03	34.01	71 334	124.06	2 436 038	29.40
34-35	71 046	576	8.11	33.28	70 758	122.84	2 364 704	30.05
35-36	70 470	578	8.20	32.55	70 181	121.42	2 293 946	30.72
36-37	69 892	578	8.27	31.82	69 603	120.42	2 223 765	31.43
37-38	69 314	582	8.40	31.08	69 023	118.60	2 154 162	32.18
38-39	68 732	595	8.66	30.34	68 434	115.02	2 085 139	32.96
39-40	68 137	614	9.01	29.60	67 830	110.47	2 016 705	33.78
40-41	67 523	634	9.39	28.86	67 206	106.00	1 948 875	34.65
41-42	66 889	658	9.84	28.13	66 560	101.16	1 881 669	35.55
42-43	66 231	678	10.23	27.41	65 892	97.19	1 815 109	36.48
43-44	65 553	688	10.50	26.68	65 209	94.78	1 749 217	37.48
44-45	64 865	693	10.69	25.96	64 519	93.10	1 684 008	38.52

THE STATE OF NEW JERSEY: 1901. TABLE 53

REPORTED DEATHS IN 1900 (15,535), IN 1901 (14,714), AND IN 1902 (14,311).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 172	701	10.93	25.24	63 821	91.04	1 619 489	39.62
46-47	63 471	711	11.19	24.51	63 115	88.77	1 555 668	40.80
47-48	62 760	729	11.61	23.78	62 396	85.59	1 492 553	42.05
48-49	62 031	762	12.29	23.06	61 650	80.91	1 430 157	43.37
49-50	61 269	806	13.15	22.34	60 866	75.52	1 368 507	44.76
50-51	60 463	848	14.03	21.63	60 039	70.80	1 307 641	46.23
51-52	59 615	892	14.96	20.93	59 169	66.33	1 247 602	47.78
52-53	58 723	935	15.92	20.24	58 255	62.30	1 188 433	49.41
53-54	57 788	978	16.92	19.56	57 299	58.59	1 130 178	51.12
54-55	56 810	1 024	18.02	18.89	56 298	54.98	1 072 879	52.94
55-56	55 786	1 074	19.26	18.22	55 249	51.14	1 016 581	54.88
56-57	54 712	1 132	20.68	17.57	54 146	47.83	961 332	56.92
57-58	53 580	1 189	22.20	16.93	52 986	44.56	907 186	59.07
58-59	52 391	1 240	23.66	16.30	51 771	41.75	854 200	61.35
59-60	51 151	1 281	25.04	15.69	50 511	39.43	802 429	63.73
60-61	49 870	1 320	26.49	15.08	49 210	37.28	751 918	66.31
61-62	48 550	1 356	27.93	14.47	47 872	35.30	702 708	69.11
62-63	47 194	1 395	29.55	13.88	46 496	33.33	654 836	72.05
63-64	45 799	1 446	31.58	13.28	45 076	31.17	608 340	75.30
64-65	44 353	1 512	34.09	12.70	43 597	28.83	563 264	78.74
65-66	42 841	1 578	36.83	12.13	42 052	26.65	519 667	82.44
66-67	41 263	1 648	39.93	11.57	40 439	24.54	477 615	86.43
67-68	39 615	1 719	43.41	11.04	38 755	22.55	437 176	90.58
68-69	37 896	1 787	47.13	10.51	37 002	20.71	398 421	95.15
69-70	36 109	1 840	50.98	10.01	35 189	19.12	361 419	99.90
70-71	34 269	1 891	55.17	9.52	33 323	17.62	326 230	105.04
71-72	32 378	1 933	59.70	9.05	31 412	16.25	292 907	110.50
72-73	30 445	1 961	64.41	8.59	29 465	15.03	261 495	116.41
73-74	28 484	1 977	69.40	8.15	27 496	13.91	232 030	122.70
74-75	26 507	1 984	74.86	7.72	25 515	12.86	204 534	129.53
75-76	24 523	1 985	80.95	7.30	23 530	11.85	179 019	136.99
76-77	22 538	1 980	87.84	6.90	21 548	10.88	155 489	144.93
77-78	20 558	1 962	95.41	6.52	19 577	9.98	133 941	153.37
78-79	18 596	1 923	103.46	6.15	17 635	9.17	114 364	162.60
79-80	16 673	1 868	112.02	5.80	15 739	8.43	96 729	172.41
80-81	14 805	1 793	121.08	5.47	13 909	7.76	80 990	182.82
81-82	13 012	1 700	130.63	5.16	12 162	7.16	67 081	193.80
82-83	11 312	1 591	140.68	4.85	10 517	6.61	54 919	206.19
83-84	9 721	1 471	151.34	4.57	8 985	6.11	44 402	218.82
84-85	8 250	1 343	162.73	4.29	7 579	5.65	35 417	233.10
85-86	6 907	1 208	175.00	4.03	6 303	5.21	27 838	248.14
86-87	5 699	1 073	188.28	3.78	5 162	4.81	21 535	264.55
87-88	4 626	938	202.65	3.54	4 157	4.43	16 373	282.49
88-89	3 688	804	218.16	3.31	3 286	4.08	12 216	302.11
89-90	2 884	677	234.79	3.10	2 545	3.76	8 930	322.58
90-91	2 207	558	252.52	2.89	1 928	3.46	6 385	346.02
91-92	1 649	447	271.33	2.70	1 426	3.19	4 457	370.37
92-93	1 202	350	291.20	2.52	1 027	2.93	3 031	396.83
93-94	852	266	312.18	2.35	719	2.70	2 004	425.53
94-95	586	196	334.32	2.19	488	2.49	1 285	456.62
95-96	390	139	357.68	2.04	320	2.30	797	490.20
96-97	251	96	382.25	1.90	203	2.12	477	526.32
97-98	155	63	408.17	1.77	123	1.95	274	564.97
98-99	92	40	435.37	1.65	72	1.80	151	606.06
99-100	52	24	463.85	1.53	40	1.66	79	653.59
100-101	28	14	493.60	1.42	21	1.53	39	704.23
101-102	14	7	524.58	1.32	10	1.41	18	757.58
102-103	7	4	556.78	1.23	5	1.30	8	813.01
103-104	3	2	590.14	1.14	2	1.19	3	877.19
104-105	1	1	624.56	1.06	1	1.10	1	943.40

TABLE 54 **LIFE TABLE FOR FEMALES IN**

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,257,500), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 442	34.42	52.80	8 118	28.32	5 280 055	18.94
1-2	96 558	922	9.55	54.60	8 008	104.28	5 271 937	18.32
2-3	95 636	831	8.69	55.04	7 935	114.60	5 263 929	18.17
3-4	94 805	752	7.93	55.44	7 869	125.52	5 255 994	18.04
4-5	94 053	684	7.28	55.80	7 809	137.04	5 248 125	17.92
5-6	93 369	631	6.75	56.12	7 754	147.48	5 240 316	17.82
6-7	92 738	588	6.34	56.42	7 704	157.20	5 232 562	17.72
7-8	92 150	552	5.99	56.70	7 656	166.44	5 224 858	17.64
8-9	91 598	519	5.66	56.96	7 612	176.04	5 217 202	17.56
9-10	91 079	486	5.34	57.20	7 570	186.96	5 209 590	17.48
10-11	90 593	451	4.99	57.42	7 531	200.40	5 202 020	17.42
11-12	90 142	424	4.70	57.63	7 494	212.04	5 194 489	17.35
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 282	102.82	52.80	93 060	9.05	5 280 055	18.94
1-2	89 718	2 510	27.98	57.81	88 237	35.15	5 186 995	17.30
2-3	87 208	1 066	12.22	58.47	86 643	81.28	5 098 758	17.10
3-4	86 142	696	8.07	58.18	85 780	123.25	5 012 115	17.19
4-5	85 446	528	6.18	57.65	85 172	161.31	4 926 335	17.35
5-6	84 918	410	4.84	57.01	84 713	206.62	4 841 163	17.54
6-7	84 508	352	4.17	56.28	84 332	239.58	4 756 450	17.77
7-8	84 156	301	3.58	55.52	84 005	279.09	4 672 118	18.01
8-9	83 855	260	3.09	54.71	83 725	322.02	4 588 113	18.28
9-10	83 595	227	2.72	53.88	83 482	367.76	4 504 388	18.56
10-11	83 368	205	2.46	53.03	83 266	406.18	4 420 906	18.86
11-12	83 163	193	2.32	52.16	83 066	430.39	4 337 640	19.17
12-13	82 970	190	2.29	51.28	82 875	436.18	4 254 574	19.50
13-14	82 780	193	2.34	50.40	82 684	428.41	4 171 699	19.84
14-15	82 587	204	2.47	49.51	82 485	404.34	4 089 015	20.20
15-16	82 383	219	2.66	48.63	82 273	375.68	4 006 530	20.56
16-17	82 164	239	2.90	47.76	82 044	343.28	3 924 257	20.94
17-18	81 925	260	3.18	46.90	81 795	314.60	3 842 213	21.32
18-19	81 665	286	3.49	46.05	81 522	285.04	3 760 418	21.72
19-20	81 379	310	3.82	45.21	81 224	262.01	3 678 896	22.12
20-21	81 069	338	4.16	44.38	80 900	239.35	3 597 672	22.53
21-22	80 731	360	4.47	43.56	80 551	223.75	3 516 772	22.96
22-23	80 371	378	4.70	42.75	80 182	212.12	3 436 221	23.39
23-24	79 993	391	4.89	41.95	79 797	204.08	3 356 039	23.84
24-25	79 602	406	5.10	41.16	79 399	195.56	3 276 242	24.30
25-26	79 196	421	5.32	40.37	78 985	187.61	3 196 843	24.77
26-27	78 775	433	5.50	39.58	78 558	181.43	3 117 858	25.27
27-28	78 342	440	5.61	38.80	78 122	177.55	3 039 300	25.77
28-29	77 902	443	5.69	38.01	77 680	175.35	2 961 178	26.31
29-30	77 459	447	5.77	37.23	77 235	172.79	2 883 498	26.86
30-31	77 012	449	5.83	36.44	76 788	171.02	2 806 263	27.44
31-32	76 563	459	5.99	35.65	76 334	166.31	2 729 475	28.05
32-33	76 104	481	6.33	34.86	75 864	157.72	2 653 141	28.69
33-34	75 623	511	6.75	34.08	75 368	147.49	2 577 277	29.34
34-35	75 112	536	7.14	33.31	74 844	139.63	2 501 909	30.02
35-36	74 576	563	7.55	32.54	74 294	131.96	2 427 065	30.73
36-37	74 013	581	7.85	31.79	73 722	126.89	2 352 771	31.46
37-38	73 432	588	8.00	31.04	73 138	124.38	2 279 049	32.22
38-39	72 844	586	8.05	30.28	72 551	123.81	2 205 911	33.03
39-40	72 258	587	8.12	29.52	71 965	122.60	2 133 360	33.88
40-41	71 671	588	8.21	28.76	71 377	121.39	2 061 395	34.77
41-42	71 083	593	8.35	28.00	70 786	119.37	1 990 018	35.71
42-43	70 490	607	8.61	27.23	70 186	115.63	1 919 232	36.72
43-44	69 883	627	8.97	26.46	69 569	110.96	1 849 046	37.79
44-45	69 256	648	9.36	25.69	68 932	106.38	1 779 477	38.93

THE STATE OF NEW JERSEY: 1910. TABLE 54

REPORTED DEATHS IN 1909 (16,689), IN 1910 (18,281), AND IN 1911 (17,806).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	68 608	672	9.79	24.93	68 272	101.60	1 710 545	40.11
46-47	67 936	701	10.32	24.17	67 586	96.41	1 642 273	41.37
47-48	67 235	739	10.99	23.42	66 866	90.48	1 574 687	42.70
48-49	66 496	780	11.73	22.68	66 106	84.75	1 507 821	44.09
49-50	65 716	823	12.52	21.94	65 305	79.35	1 441 715	45.58
50-51	64 893	867	13.36	21.21	64 460	74.35	1 376 410	47.15
51-52	64 026	913	14.26	20.49	63 570	69.63	1 311 950	48.80
52-53	63 113	965	15.29	19.78	62 631	64.90	1 248 380	50.56
53-54	62 148	1 026	16.52	19.08	61 635	60.07	1 185 749	52.41
54-55	61 122	1 097	17.95	18.39	60 573	55.22	1 124 114	54.38
55-56	60 025	1 182	19.68	17.72	59 434	50.28	1 063 541	56.43
56-57	58 843	1 263	21.47	17.06	58 212	46.09	1 004 107	58.62
57-58	57 580	1 326	23.02	16.43	56 917	42.92	945 895	60.86
58-59	56 254	1 368	24.33	15.80	55 570	40.62	888 978	63.29
59-60	54 886	1 412	25.73	15.18	54 180	38.37	833 408	65.88
60-61	53 474	1 448	27.07	14.57	52 750	36.43	779 228	68.63
61-62	52 026	1 499	28.82	13.96	51 277	34.21	726 478	71.63
62-63	50 527	1 585	31.36	13.36	49 735	31.38	675 201	74.85
63-64	48 942	1 693	34.60	12.78	48 096	28.41	625 466	78.25
64-65	47 249	1 794	37.98	12.22	46 352	25.84	577 370	81.83
65-66	45 455	1 894	41.67	11.68	44 508	23.50	531 018	85.62
66-67	43 561	1 974	45.32	11.17	42 574	21.57	486 510	89.53
67-68	41 587	2 021	48.59	10.67	40 576	20.08	443 936	93.72
68-69	39 566	2 042	51.61	10.19	38 545	18.88	403 360	98.14
69-70	37 524	2 060	54.91	9.72	36 494	17.72	364 815	102.88
70-71	35 464	2 070	58.36	9.26	34 429	16.63	328 321	107.99
71-72	33 394	2 079	62.27	8.80	32 355	15.56	293 892	113.64
72-73	31 315	2 098	67.00	8.35	30 266	14.43	261 537	119.76
73-74	29 217	2 119	72.54	7.92	28 157	13.29	231 271	126.26
74-75	27 098	2 130	78.59	7.50	26 033	12.22	203 114	133.33
75-76	24 968	2 132	85.40	7.09	23 902	11.21	177 081	141.04
76-77	22 836	2 116	92.64	6.71	21 778	10.29	153 179	149.03
77-78	20 720	2 072	100.02	6.34	19 684	9.50	131 401	157.73
78-79	18 648	2 009	107.73	5.99	17 643	8.78	111 717	166.94
79-80	16 639	1 943	116.77	5.65	15 667	8.06	94 074	176.99
80-81	14 696	1 876	127.64	5.34	13 758	7.33	78 407	187.27
81-82	12 820	1 778	138.74	5.04	11 931	6.71	64 649	198.41
82-83	11 042	1 655	149.88	4.77	10 214	6.17	52 718	209.64
83-84	9 387	1 515	161.34	4.53	8 629	5.70	42 504	220.75
84-85	7 872	1 361	172.89	4.30	7 192	5.28	33 875	232.56
85-86	6 511	1 200	184.31	4.10	5 911	4.93	26 683	243.90
86-87	5 311	1 038	195.39	3.91	4 792	4.62	20 772	255.75
87-88	4 273	880	206.05	3.74	3 833	4.35	15 980	267.38
88-89	3 393	734	216.28	3.58	3 026	4.12	12 147	279.33
89-90	2 659	601	226.20	3.43	2 358	3.92	9 121	291.55
90-91	2 058	486	236.02	3.29	1 815	3.74	6 763	303.95
91-92	1 572	387	245.99	3.15	1 379	3.57	4 948	317.46
92-93	1 185	304	256.39	3.01	1 033	3.40	3 569	332.23
93-94	881	235	267.43	2.88	764	3.24	2 536	347.22
94-95	646	181	279.28	2.75	556	3.08	1 772	363.64
95-96	465	136	292.17	2.62	397	2.92	1 216	381.68
96-97	329	100	305.87	2.49	279	2.77	819	401.61
97-98	229	74	320.40	2.37	192	2.62	540	421.94
98-99	155	52	335.86	2.25	129	2.48	348	444.44
99-100	103	36	352.32	2.13	85	2.34	219	469.48
100-101	67	25	369.87	2.01	54	2.20	134	497.51
101-102	42	16	388.64	1.90	34	2.07	80	526.32
102-103	26	11	408.73	1.79	20	1.95	46	558.66
103-104	15	6	430.30	1.69	12	1.82	26	591.72
104-105	9	4	453.52	1.58	7	1.70	14	632.91
105-106	5	3	478.60	1.48	4	1.59	7	675.68
106-107	2	1	505.78	1.38	2	1.48	3	724.64
107-108	1	1	535.38	1.29	1	1.37	1	775.19

TABLE 55 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (3,721,173), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 818	138.18	45.62	90 051	6.52	4 561 973	21.92
1-2	86 182	3 600	41.78	51.89	84 058	23.35	4 471 922	19.27
2-3	82 582	1 564	18.94	53.13	81 753	52.27	4 387 864	18.82
3-4	81 018	994	12.26	53.15	80 501	80.99	4 306 111	18.81
4-5	80 024	743	9.29	52.80	79 638	107.18	4 225 610	18.94
5-6	79 281	562	7.09	52.29	79 000	140.57	4 145 972	19.12
6-7	78 719	454	5.77	51.66	78 492	172.89	4 066 972	19.36
7-8	78 265	366	4.69	50.96	78 082	213.34	3 988 180	19.62
8-9	77 899	299	3.84	50.20	77 749	260.03	3 910 398	19.92
9-10	77 600	249	3.21	49.39	77 475	311.14	3 832 649	20.25
10-11	77 351	216	2.80	48.55	77 243	357.61	3 755 174	20.60
11-12	77 135	199	2.58	47.68	77 035	387.11	3 677 931	20.97
12-13	76 936	197	2.56	46.80	76 837	390.04	3 600 896	21.37
13-14	76 739	208	2.71	45.92	76 635	368.44	3 524 059	21.78
14-15	76 531	230	3.00	45.05	76 416	332.24	3 447 424	22.20
15-16	76 301	262	3.44	44.18	76 170	290.73	3 371 008	22.63
16-17	76 039	304	4.00	43.33	75 887	249.63	3 294 838	23.08
17-18	75 735	347	4.58	42.50	75 561	217.76	3 218 951	23.53
18-19	75 388	385	5.10	41.70	75 196	195.31	3 143 390	23.98
19-20	75 003	417	5.56	40.91	74 795	179.36	3 068 194	24.44
20-21	74 586	452	6.06	40.13	74 360	164.51	2 993 399	24.92
21-22	74 134	486	6.56	39.38	73 891	152.04	2 919 039	25.39
22-23	73 648	515	7.00	38.63	73 390	142.50	2 845 148	25.89
23-24	73 133	538	7.35	37.90	72 864	135.43	2 771 758	26.39
24-25	72 595	555	7.65	37.18	72 317	130.30	2 698 894	26.90
25-26	72 040	572	7.94	36.46	71 754	125.44	2 626 577	27.43
26-27	71 468	588	8.22	35.75	71 174	121.04	2 554 823	27.97
27-28	70 880	604	8.52	35.04	70 578	116.85	2 483 649	28.54
28-29	70 276	622	8.86	34.34	69 965	112.48	2 413 071	29.12
29-30	69 654	643	9.23	33.64	69 333	107.83	2 343 106	29.73
30-31	69 011	662	9.60	32.95	68 680	103.75	2 273 773	30.35
31-32	68 349	683	9.99	32.26	68 007	99.57	2 205 093	31.00
32-33	67 666	702	10.37	31.58	67 315	95.89	2 137 086	31.67
33-34	66 964	717	10.71	30.91	66 606	92.90	2 069 771	32.35
34-35	66 247	731	11.03	30.24	65 882	90.13	2 003 165	33.07
35-36	65 516	744	11.36	29.57	65 144	87.56	1 937 283	33.82
36-37	64 772	757	11.68	28.90	64 394	85.06	1 872 139	34.60
37-38	64 015	770	12.02	28.24	63 630	82.64	1 807 745	35.41
38-39	63 245	784	12.40	27.58	62 853	80.17	1 744 115	36.26
39-40	62 461	799	12.80	26.92	62 061	77.67	1 681 262	37.15
40-41	61 662	816	13.23	26.26	61 254	75.07	1 619 201	38.08
41-42	60 846	833	13.69	25.60	60 429	72.54	1 557 947	39.06
42-43	60 013	848	14.14	24.95	59 589	70.27	1 497 518	40.08
43-44	59 165	860	14.53	24.30	58 735	68.30	1 437 929	41.15
44-45	58 305	870	14.92	23.65	57 870	66.52	1 379 194	42.28

THE STATE OF NEW YORK: 1901. TABLE 55

REPORTED DEATHS IN 1900 (69,687), IN 1901 (70,070), AND IN 1902 (66,841).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	57 435	882	15.35	23.01	56 994	64.62	1 321 324	43.46
46-47	56 553	895	15.83	22.36	56 106	62.69	1 264 330	44.72
47-48	55 658	913	16.42	21.71	55 201	60.46	1 208 224	46.06
48-49	54 745	940	17.16	21.06	54 275	57.74	1 153 023	47.48
49-50	53 805	969	18.01	20.42	53 321	55.03	1 098 748	48.97
50-51	52 836	997	18.88	19.79	52 338	52.50	1 045 427	50.53
51-52	51 839	1 026	19.78	19.16	51 326	50.03	993 089	52.19
52-53	50 813	1 054	20.76	18.53	50 286	47.71	941 763	53.97
53-54	49 759	1 088	21.86	17.92	49 215	45.23	891 477	55.80
54-55	48 671	1 126	23.14	17.31	48 108	42.72	842 262	57.77
55-56	47 545	1 169	24.58	16.70	46 961	40.17	794 154	59.88
56-57	46 376	1 216	26.23	16.11	45 768	37.64	747 193	62.07
57-58	45 160	1 264	27.99	15.53	44 528	35.23	701 425	64.39
58-59	43 896	1 303	29.69	14.96	43 244	33.19	656 897	66.84
59-60	42 593	1 333	31.30	14.41	41 926	31.45	613 653	69.40
60-61	41 260	1 362	32.99	13.86	40 579	29.79	571 727	72.15
61-62	39 898	1 384	34.70	13.31	39 206	28.33	531 148	75.13
62-63	38 514	1 411	36.64	12.77	37 808	26.80	491 942	78.31
63-64	37 103	1 450	39.08	12.24	36 378	25.09	454 134	81.70
64-65	35 653	1 499	42.03	11.72	34 904	23.28	417 756	85.32
65-66	34 154	1 544	45.22	11.21	33 382	21.62	382 852	89.21
66-67	32 610	1 591	48.79	10.72	31 815	20.00	349 470	93.28
67-68	31 019	1 629	52.52	10.24	30 205	18.54	317 655	97.66
68-69	29 390	1 648	56.07	9.78	28 566	17.33	287 450	102.25
69-70	27 742	1 649	59.46	9.33	26 917	16.32	258 884	107.18
70-71	26 093	1 647	63.09	8.89	25 269	15.34	231 967	112.49
71-72	24 446	1 634	66.85	8.46	23 629	14.46	206 698	118.20
72-73	22 812	1 621	71.06	8.03	22 002	13.57	183 069	124.53
73-74	21 191	1 615	76.20	7.60	20 384	12.62	161 067	131.58
74-75	19 576	1 611	82.33	7.19	18 770	11.65	140 683	139.08
75-76	17 965	1 600	89.04	6.79	17 165	10.73	121 913	147.28
76-77	16 365	1 580	96.57	6.40	15 575	9.86	104 748	156.25
77-78	14 785	1 556	105.22	6.03	14 007	9.00	89 173	165.84
78-79	13 229	1 518	114.75	5.68	12 470	8.21	75 166	176.06
79-80	11 711	1 465	125.10	5.35	10 978	7.49	62 696	186.92
80-81	10 246	1 394	136.04	5.05	9 549	6.85	51 718	198.02
81-82	8 852	1 304	147.32	4.76	8 200	6.29	42 169	210.08
82-83	7 548	1 198	158.76	4.50	6 949	5.80	33 969	222.22
83-84	6 350	1 081	170.24	4.26	5 809	5.37	27 020	234.74
84-85	5 269	958	181.79	4.03	4 790	5.00	21 211	248.14
85-86	4 311	834	193.52	3.81	3 894	4.67	16 421	262.47
86-87	3 477	715	205.65	3.60	3 119	4.36	12 527	277.78
87-88	2 762	603	218.36	3.41	2 460	4.08	9 408	293.26
88-89	2 159	501	231.82	3.22	1 908	3.81	6 948	310.56
89-90	1 658	408	246.10	3.04	1 454	3.56	5 040	328.95
90-91	1 250	326	261.23	2.87	1 087	3.33	3 586	348.43
91-92	924	256	277.16	2.70	796	3.11	2 499	370.37
92-93	668	197	293.85	2.55	570	2.90	1 703	392.16
93-94	471	146	311.30	2.40	398	2.71	1 133	416.67
94-95	325	107	329.58	2.26	271	2.53	735	442.48
95-96	218	76	348.80	2.13	180	2.37	464	469.48
96-97	142	53	369.07	2.00	116	2.21	284	500.00
97-98	89	34	390.46	1.88	72	2.06	168	531.91
98-99	55	23	413.03	1.76	43	1.92	96	568.18
99-100	32	14	436.82	1.65	25	1.79	53	606.06
100-101	18	8	461.84	1.55	14	1.67	28	645.16
101-102	10	5	488.14	1.45	7	1.55	14	689.66
102-103	5	3	515.79	1.35	4	1.44	7	740.74
103-104	2	1	544.82	1.26	2	1.34	3	793.65
104-105	1	1	575.27	1.18	1	1.24	1	847.46

TABLE 56 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,605,057), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	4 735	47.35	47.89	8 037	20.40	4 788 999	20.88
1-2	95 265	1 286	13.50	50.19	7 885	73.56	4 780 962	19.92
2-3	93 979	1 076	11.44	50.79	7 787	86.88	4 773 077	19.69
3-4	92 903	913	9.83	51.29	7 704	101.28	4 765 290	19.50
4-5	91 990	796	8.65	51.72	7 633	115.08	4 757 586	19.33
5-6	91 194	705	7.73	52.09	7 570	128.88	4 749 953	19.20
6-7	90 489	631	6.98	52.41	7 514	142.92	4 742 383	19.08
7-8	89 858	577	6.42	52.69	7 464	155.28	4 734 869	18.98
8-9	89 281	536	6.00	52.95	7 418	166.08	4 727 405	18.89
9-10	88 745	506	5.70	53.19	7 374	174.84	4 719 987	18.80
10-11	88 239	483	5.48	53.41	7 333	182.16	4 712 613	18.72
11-12	87 756	469	5.35	53.62	7 293	186.60	4 705 280	18.65
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 713	127.13	47.89	91 012	7.16	4 788 999	20.88
1-2	87 287	2 937	33.64	53.82	85 554	29.13	4 697 987	18.58
2-3	84 350	1 313	15.56	54.68	83 654	63.71	4 612 433	18.29
3-4	83 037	773	9.31	54.54	82 635	106.90	4 528 779	18.34
4-5	82 264	538	6.55	54.05	81 984	152.39	4 446 144	18.50
5-6	81 726	440	5.38	53.40	81 506	185.24	4 364 160	18.73
6-7	81 286	362	4.45	52.69	81 105	224.05	4 282 654	18.98
7-8	80 924	299	3.70	51.92	80 774	270.15	4 201 549	19.26
8-9	80 625	251	3.11	51.11	80 499	320.71	4 120 775	19.57
9-10	80 374	216	2.69	50.27	80 266	371.60	4 040 276	19.89
10-11	80 158	194	2.42	49.40	80 061	412.69	3 960 010	20.24
11-12	79 964	184	2.30	48.52	79 872	434.09	3 879 949	20.61
12-13	79 780	185	2.32	47.63	79 687	430.74	3 800 077	21.00
13-14	79 595	195	2.45	46.74	79 497	407.68	3 720 390	21.39
14-15	79 400	213	2.68	45.86	79 293	372.27	3 640 893	21.81
15-16	79 187	237	2.99	44.98	79 068	333.62	3 561 600	22.23
16-17	78 950	266	3.37	44.11	78 817	296.30	3 482 532	22.67
17-18	78 684	297	3.77	43.26	78 536	264.43	3 403 715	23.12
18-19	78 387	328	4.19	42.42	78 223	238.48	3 325 179	23.57
19-20	78 059	361	4.62	41.60	77 878	215.73	3 246 956	24.04
20-21	77 698	394	5.07	40.79	77 501	196.70	3 169 078	24.52
21-22	77 304	419	5.42	39.99	77 095	184.00	3 091 577	25.01
22-23	76 885	433	5.63	39.21	76 669	177.06	3 014 482	25.50
23-24	76 452	440	5.76	38.43	76 232	173.25	2 937 813	26.02
24-25	76 012	448	5.90	37.65	75 788	169.17	2 861 581	26.56
25-26	75 564	457	6.05	36.87	75 335	164.85	2 785 793	27.12
26-27	75 107	468	6.23	36.09	74 873	159.99	2 710 458	27.71
27-28	74 639	484	6.48	35.31	74 397	153.71	2 635 585	28.32
28-29	74 155	505	6.80	34.54	73 902	146.34	2 561 188	28.95
29-30	73 650	526	7.14	33.77	73 387	139.52	2 487 286	29.61
30-31	73 124	548	7.50	33.01	72 850	132.94	2 413 899	30.29
31-32	72 576	577	7.95	32.26	72 288	125.28	2 341 049	31.00
32-33	71 999	610	8.47	31.51	71 694	117.53	2 268 761	31.74
33-34	71 389	645	9.04	30.78	71 067	110.18	2 197 067	32.49
34-35	70 744	679	9.61	30.05	70 404	103.69	2 126 000	33.28
35-36	70 065	714	10.19	29.34	69 708	97.63	2 055 596	34.08
36-37	69 351	744	10.72	28.64	68 979	92.71	1 985 888	34.92
37-38	68 607	767	11.18	27.94	68 224	88.95	1 916 909	35.79
38-39	67 840	786	11.59	27.25	67 447	85.81	1 848 685	36.70
39-40	67 054	807	12.03	26.56	66 651	82.59	1 781 238	37.65
40-41	66 247	827	12.49	25.88	65 834	79.61	1 714 587	38.64
41-42	65 420	848	12.97	25.20	64 996	76.65	1 648 753	39.68
42-43	64 572	871	13.49	24.53	64 136	73.63	1 583 757	40.77
43-44	63 701	896	14.06	23.86	63 253	70.59	1 519 621	41.91
44-45	62 805	920	14.65	23.19	62 345	67.77	1 456 368	43.12

THE STATE OF NEW YORK: 1910. TABLE 56

REPORTED DEATHS IN 1909 (75,466), IN 1910 (79,664), AND IN 1911 (78,368).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	61 885	947	15.30	22.53	61 412	64.85	1 394 023	44.39
46-47	60 938	974	15.99	21.87	60 451	62.06	1 332 611	45.72
47-48	59 964	1 002	16.70	21.22	59 463	59.34	1 272 160	47.13
48-49	58 962	1 027	17.42	20.57	58 449	56.91	1 212 697	48.61
49-50	57 935	1 053	18.18	19.92	57 408	54.52	1 154 248	50.20
50-51	56 882	1 078	18.95	19.28	56 343	52.27	1 096 840	51.87
51-52	55 804	1 106	19.82	18.65	55 251	49.96	1 049 497	53.62
52-53	54 698	1 143	20.90	18.01	54 127	47.36	985 246	55.52
53-54	53 555	1 190	22.22	17.39	52 960	44.50	931 119	57.50
54-55	52 365	1 242	23.72	16.77	51 744	41.66	878 159	59.63
55-56	51 123	1 301	25.45	16.17	50 473	38.80	826 415	61.84
56-57	49 822	1 364	27.38	15.57	49 140	36.03	775 942	64.23
57-58	48 458	1 422	29.35	15.00	47 747	33.58	726 802	66.67
58-59	47 036	1 473	31.30	14.44	46 300	31.43	679 055	69.25
59-60	45 563	1 523	33.43	13.89	44 802	29.42	632 755	71.99
60-61	44 040	1 573	35.72	13.35	43 253	27.50	587 953	74.91
61-62	42 467	1 618	38.09	12.83	41 658	25.75	544 700	77.94
62-63	40 849	1 656	40.54	12.31	40 021	24.17	503 042	81.23
63-64	39 193	1 689	43.10	11.81	38 349	22.71	463 021	84.67
64-65	37 504	1 716	45.76	11.32	36 646	21.36	424 672	88.34
65-66	35 788	1 735	48.47	10.84	34 921	20.13	388 026	92.25
66-67	34 053	1 752	51.45	10.37	33 177	18.94	353 105	96.43
67-68	32 301	1 772	54.87	9.90	31 415	17.73	319 928	101.01
68-69	30 529	1 793	58.74	9.45	29 632	16.53	288 513	105.82
69-70	28 736	1 806	62.85	9.01	27 833	15.41	258 881	110.99
70-71	26 930	1 812	67.28	8.58	26 024	14.36	231 048	116.55
71-72	25 118	1 811	72.07	8.16	24 213	13.37	205 024	122.55
72-73	23 307	1 800	77.26	7.76	22 407	12.45	180 811	128.87
73-74	21 507	1 783	82.88	7.37	20 616	11.56	158 404	135.69
74-75	19 724	1 758	89.12	6.99	18 845	10.72	137 788	143.06
75-76	17 966	1 727	96.16	6.62	17 103	9.90	118 943	151.06
76-77	16 239	1 682	103.55	6.27	15 398	9.15	101 840	159.49
77-78	14 557	1 616	111.00	5.94	13 749	8.51	86 442	168.35
78-79	12 941	1 536	118.69	5.62	12 173	7.93	72 693	177.94
79-80	11 405	1 454	127.48	5.31	10 678	7.34	60 520	188.32
80-81	9 951	1 376	138.29	5.01	9 263	6.73	49 842	199.60
81-82	8 575	1 279	149.16	4.73	7 936	6.20	40 579	211.42
82-83	7 296	1 174	160.89	4.47	6 709	5.72	32 643	223.71
83-84	6 122	1 061	173.27	4.24	5 592	5.27	25 934	235.85
84-85	5 061	941	185.93	4.02	4 591	4.88	20 342	248.76
85-86	4 120	817	198.44	3.82	3 712	4.54	15 751	261.78
86-87	3 303	695	210.43	3.65	2 955	4.25	12 039	273.97
87-88	2 608	578	221.70	3.48	2 319	4.01	9 084	287.36
88-89	2 030	472	232.29	3.33	1 794	3.81	6 765	300.30
89-90	1 558	378	242.46	3.19	1 369	3.62	4 971	313.48
90-91	1 180	298	252.62	3.05	1 031	3.46	3 602	327.87
91-92	882	232	263.22	2.91	766	3.30	2 571	343.64
92-93	650	179	274.62	2.78	561	3.14	1 805	359.71
93-94	471	135	287.18	2.64	404	2.98	1 244	378.79
94-95	336	101	301.18	2.50	285	2.82	840	400.00
95-96	235	75	316.80	2.36	198	2.66	555	423.73
96-97	160	53	334.18	2.22	134	2.49	357	450.45
97-98	107	38	353.45	2.09	88	2.33	223	478.47
98-99	69	26	374.71	1.95	56	2.17	135	512.82
99-100	43	17	398.09	1.82	35	2.01	79	549.45
100-101	26	11	423.61	1.70	20	1.86	44	588.24
101-102	15	7	451.21	1.58	12	1.72	24	632.91
102-103	8	4	480.72	1.46	6	1.58	12	684.93
103-104	4	2	511.95	1.36	3	1.45	6	735.29
104-105	2	1	544.74	1.26	2	1.34	3	793.65
105-106	1	1	578.76	1.16	1	1.23	1	862.07

TABLE 57 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (3,750,095), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 604	116.04	49.26	91 761	7.91	4 925 665	20.30
1-2	88 396	3 292	37.24	54.68	86 453	26.26	4 833 904	18.29
2-3	85 104	1 489	17.49	55.78	84 315	56.63	4 747 451	17.93
3-4	83 615	952	11.39	55.77	83 120	87.31	4 663 136	17.93
4-5	82 663	740	8.95	55.41	82 278	111.19	4 580 016	18.05
5-6	81 923	570	6.96	54.90	81 638	143.22	4 497 738	18.21
6-7	81 353	439	5.40	54.28	81 133	184.81	4 416 100	18.42
7-8	80 914	341	4.22	53.57	80 743	236.78	4 334 967	18.67
8-9	80 573	272	3.37	52.80	80 437	295.72	4 254 224	18.94
9-10	80 301	225	2.81	51.98	80 189	356.40	4 173 787	19.24
10-11	80 076	200	2.50	51.12	79 976	399.88	4 093 598	19.56
11-12	79 876	192	2.40	50.25	79 780	415.52	4 013 622	19.90
12-13	79 684	195	2.46	49.37	79 586	408.13	3 933 842	20.26
13-14	79 489	210	2.63	48.49	79 384	378.02	3 854 256	20.62
14-15	79 279	228	2.89	47.62	79 165	347.21	3 774 872	21.00
15-16	79 051	257	3.24	46.75	78 923	307.09	3 695 707	21.39
16-17	78 794	290	3.68	45.90	78 649	271.20	3 616 784	21.79
17-18	78 504	324	4.13	45.07	78 342	241.80	3 538 135	22.19
18-19	78 180	355	4.54	44.25	78 002	219.72	3 459 793	22.60
19-20	77 825	382	4.90	43.45	77 634	203.23	3 381 791	23.01
20-21	77 443	409	5.28	42.67	77 239	188.85	3 304 157	23.44
21-22	77 034	436	5.66	41.89	76 816	176.18	3 226 918	23.87
22-23	76 598	459	6.00	41.13	76 368	166.38	3 150 102	24.31
23-24	76 139	481	6.31	40.37	75 898	157.79	3 073 734	24.77
24-25	75 658	499	6.60	39.62	75 409	151.12	2 997 836	25.24
25-26	75 159	518	6.89	38.88	74 900	144.59	2 922 427	25.72
26-27	74 641	537	7.19	38.15	74 373	138.50	2 847 527	26.21
27-28	74 104	553	7.47	37.42	73 827	133.50	2 773 154	26.72
28-29	73 551	569	7.74	36.70	73 266	128.76	2 699 327	27.25
29-30	72 982	583	7.99	35.98	72 690	124.68	2 626 061	27.79
30-31	72 399	597	8.25	35.27	72 100	120.77	2 553 371	28.35
31-32	71 802	613	8.53	34.56	71 496	116.63	2 481 271	28.94
32-33	71 189	624	8.77	33.85	70 877	113.58	2 409 775	29.54
33-34	70 565	630	8.93	33.15	70 250	111.51	2 338 898	30.17
34-35	69 935	631	9.03	32.44	69 619	110.33	2 268 648	30.83
35-36	69 304	634	9.14	31.73	68 987	108.81	2 199 029	31.52
36-37	68 670	633	9.22	31.02	68 354	107.98	2 130 042	32.24
37-38	68 037	636	9.36	30.30	67 719	106.48	2 061 688	33.00
38-39	67 401	649	9.62	29.58	67 076	103.35	1 993 969	33.81
39-40	66 752	665	9.96	28.87	66 420	99.88	1 926 893	34.64
40-41	66 087	682	10.33	28.15	65 746	96.40	1 860 473	35.52
41-42	65 405	704	10.76	27.44	65 053	92.40	1 794 727	36.44
42-43	64 701	721	11.15	26.73	64 340	89.24	1 729 674	37.41
43-44	63 980	731	11.42	26.03	63 615	87.02	1 665 334	38.42
44-45	63 249	736	11.64	25.32	62 881	85.44	1 601 719	39.49

THE STATE OF NEW YORK: 1901. TABLE 57

REPORTED DEATHS IN 1900 (62,665), IN 1901 (61,391), AND IN 1902 (57,816).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	62 513	744	11.90	24.62	62 141	83.52	1 538 838	40.62
46-47	61 769	753	12.19	23.91	61 393	81.53	1 476 697	41.82
47-48	61 016	771	12.65	23.20	60 631	78.64	1 415 304	43.10
48-49	60 245	807	13.39	22.49	59 841	74.15	1 354 673	44.46
49-50	59 438	852	14.33	21.78	59 012	69.26	1 294 832	45.91
50-51	58 586	896	15.30	21.09	58 138	64.89	1 235 820	47.42
51-52	57 690	942	16.33	20.41	57 219	60.74	1 177 682	49.00
52-53	56 748	986	17.37	19.74	56 255	57.05	1 120 463	50.66
53-54	55 762	1 027	18.41	19.08	55 249	53.80	1 064 208	52.41
54-55	54 735	1 068	19.51	18.43	54 201	50.75	1 008 959	54.26
55-56	53 667	1 114	20.77	17.79	53 110	47.68	954 758	56.21
56-57	52 553	1 166	22.19	17.16	51 970	44.57	901 648	58.28
57-58	51 387	1 220	23.75	16.53	50 777	41.62	849 678	60.50
58-59	50 167	1 273	25.36	15.92	49 530	38.91	798 901	62.81
59-60	48 894	1 318	26.97	15.33	48 235	36.60	749 371	65.23
60-61	47 576	1 362	28.62	14.74	46 895	34.43	701 136	67.84
61-62	46 214	1 400	30.30	14.16	45 514	32.51	654 241	70.62
62-63	44 814	1 439	32.10	13.58	44 095	30.64	608 727	73.64
63-64	43 375	1 484	34.22	13.02	42 633	28.73	564 632	76.80
64-65	41 891	1 537	36.71	12.46	41 123	26.76	521 999	80.26
65-66	40 354	1 590	39.41	11.92	39 559	24.88	480 876	83.89
66-67	38 764	1 643	42.38	11.38	37 942	23.09	441 317	87.87
67-68	37 121	1 697	45.71	10.87	36 272	21.37	403 375	92.00
68-69	35 424	1 747	49.31	10.36	34 551	19.78	367 103	96.53
69-70	33 677	1 788	53.11	9.87	32 783	18.34	332 552	101.32
70-71	31 889	1 826	57.24	9.40	30 976	16.96	299 769	106.38
71-72	30 063	1 855	61.70	8.94	29 136	15.71	268 793	111.86
72-73	28 208	1 873	66.41	8.50	27 272	14.56	239 657	117.65
73-74	26 335	1 879	71.37	8.06	25 395	13.52	212 385	124.07
74-75	24 456	1 877	76.74	7.65	23 517	12.53	186 990	130.72
75-76	22 579	1 866	82.65	7.24	21 646	11.60	163 473	138.12
76-77	20 713	1 850	89.31	6.85	19 788	10.70	141 827	145.99
77-78	18 863	1 824	96.72	6.47	17 951	9.84	122 039	154.56
78-79	17 039	1 788	104.91	6.11	16 145	9.03	104 088	163.67
79-80	15 251	1 736	113.82	5.77	14 383	8.29	87 943	173.31
80-81	13 515	1 667	123.35	5.44	12 682	7.61	73 560	183.82
81-82	11 848	1 580	133.34	5.14	11 058	7.00	60 878	194.55
82-83	10 268	1 475	143.69	4.85	9 531	6.46	49 820	206.19
83-84	8 793	1 357	154.36	4.58	8 114	5.98	40 289	218.34
84-85	7 436	1 230	165.39	4.33	6 821	5.55	32 175	230.95
85-86	6 206	1 098	176.85	4.09	5 657	5.15	25 354	244.50
86-87	5 108	965	188.88	3.86	4 626	4.79	19 697	259.07
87-88	4 143	835	201.58	3.64	3 726	4.46	15 071	274.73
88-89	3 308	711	215.03	3.43	2 953	4.15	11 345	291.55
89-90	2 597	595	229.24	3.23	2 299	3.86	8 392	309.60
90-91	2 002	489	244.21	3.04	1 757	3.59	6 093	328.95
91-92	1 513	393	259.94	2.87	1 316	3.35	4 336	348.43
92-93	1 120	310	276.43	2.70	965	3.12	3 020	370.37
93-94	810	238	293.75	2.54	691	2.90	2 055	393.70
94-95	572	178	312.00	2.38	483	2.71	1 364	420.17
95-96	394	131	331.31	2.24	328	2.52	881	446.43
96-97	263	92	351.81	2.10	217	2.34	553	476.19
97-98	171	64	373.55	1.97	139	2.18	336	507.61
98-99	107	43	396.58	1.84	86	2.02	197	543.48
99-100	64	27	420.94	1.72	51	1.88	111	581.40
100-101	37	16	446.62	1.61	29	1.74	60	621.12
101-102	21	10	473.65	1.50	16	1.61	31	666.67
102-103	11	6	502.12	1.40	8	1.49	15	714.29
103-104	5	2	532.06	1.30	4	1.38	7	769.23
104-105	3	2	563.53	1.21	2	1.27	3	826.45
105-106	1	1	596.55	1.12	1	1.18	1	892.86

TABLE 58 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (4,547,475), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	100 000	3 768	37.68	51.89	8 098	25.80	5 189 206	19.27
1-2	96 232	1 075	11.17	53.84	7 975	89.04	5 181 108	18.57
2-3	95 157	873	9.18	54.36	7 893	108.48	5 173 133	18.40
3-4	94 284	751	7.97	54.78	7 826	125.04	5 165 240	18.25
4-5	93 533	665	7.11	55.14	7 767	140.16	5 157 414	18.14
5-6	92 868	609	6.56	55.45	7 714	152.04	5 149 647	18.03
6-7	92 259	563	6.10	55.73	7 665	163.32	5 141 933	17.94
7-8	91 696	528	5.75	55.99	7 619	173.16	5 134 268	17.86
8-9	91 168	499	5.48	56.23	7 577	182.16	5 126 649	17.78
9-10	90 669	474	5.23	56.46	7 536	190.80	5 119 072	17.71
10-11	90 195	450	4.99	56.67	7 497	199.92	5 111 536	17.65
11-12	89 745	427	4.76	56.87	7 461	209.64	5 104 039	17.58
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 682	106.82	51.89	92 628	8.67	5 189 206	19.27
1-2	89 318	2 751	30.79	57.06	87 695	31.88	5 096 578	17.53
2-3	86 567	1 188	13.73	57.86	85 938	72.34	5 008 883	17.28
3-4	85 379	773	9.05	57.66	84 977	109.93	4 922 945	17.34
4-5	84 606	513	6.07	57.18	84 339	164.40	4 837 968	17.49
5-6	84 093	428	5.08	56.53	83 879	195.98	4 753 629	17.69
6-7	83 665	348	4.17	55.81	83 491	239.92	4 669 750	17.92
7-8	83 317	284	3.40	55.05	83 175	292.87	4 586 259	18.17
8-9	83 033	233	2.81	54.23	82 917	355.87	4 503 084	18.44
9-10	82 800	197	2.38	53.38	82 702	419.81	4 420 167	18.73
10-11	82 603	175	2.12	52.51	82 516	471.52	4 337 465	19.04
11-12	82 428	165	2.01	51.62	82 346	499.07	4 254 949	19.37
12-13	82 263	167	2.03	50.72	82 179	492.09	4 172 603	19.72
13-14	82 096	177	2.16	49.82	82 007	463.32	4 090 424	20.07
14-15	81 919	195	2.38	48.93	81 821	419.59	4 008 417	20.44
15-16	81 724	220	2.69	48.05	81 614	370.97	3 926 596	20.81
16-17	81 504	244	3.00	47.18	81 382	333.53	3 844 982	21.20
17-18	81 260	266	3.27	46.32	81 127	304.99	3 763 600	21.59
18-19	80 994	286	3.53	45.47	80 851	282.70	3 682 473	21.99
19-20	80 708	306	3.80	44.63	80 555	263.25	3 601 622	22.41
20-21	80 402	327	4.07	43.79	80 238	245.38	3 521 067	22.84
21-22	80 075	347	4.33	42.97	79 901	230.26	3 440 829	23.27
22-23	79 728	365	4.57	42.15	79 545	217.93	3 360 928	23.72
23-24	79 363	381	4.81	41.35	79 172	207.80	3 281 383	24.18
24-25	78 982	399	5.05	40.54	78 783	197.45	3 202 211	24.67
25-26	78 583	416	5.30	39.75	78 375	188.40	3 123 428	25.16
26-27	78 167	433	5.53	38.96	77 951	180.03	3 045 053	25.67
27-28	77 734	446	5.75	38.17	77 511	173.79	2 967 102	26.20
28-29	77 288	460	5.95	37.39	77 058	167.52	2 889 591	26.75
29-30	76 828	475	6.18	36.61	76 590	161.24	2 812 533	27.31
30-31	76 353	491	6.43	35.83	76 107	155.00	2 735 943	27.91
31-32	75 862	508	6.69	35.06	75 608	148.83	2 659 836	28.52
32-33	75 354	524	6.96	34.29	75 092	143.31	2 584 228	29.16
33-34	74 830	539	7.20	33.53	74 561	138.33	2 509 136	29.82
34-35	74 291	553	7.45	32.77	74 014	133.84	2 434 575	30.52
35-36	73 738	567	7.69	32.01	73 454	129.55	2 360 561	31.24
36-37	73 171	579	7.92	31.26	72 881	125.87	2 287 107	31.99
37-38	72 592	592	8.15	30.50	72 296	122.12	2 214 226	32.79
38-39	72 000	606	8.41	29.75	71 697	118.31	2 141 930	33.61
39-40	71 394	619	8.68	29.00	71 084	114.84	2 070 233	34.48
40-41	70 775	635	8.97	28.25	70 457	110.96	1 999 149	35.40
41-42	70 140	653	9.31	27.50	69 813	106.91	1 928 692	36.36
42-43	69 487	675	9.71	26.75	69 149	102.44	1 858 879	37.38
43-44	68 812	699	10.16	26.01	68 463	97.94	1 789 730	38.45
44-45	68 113	725	10.65	25.27	67 751	93.45	1 721 267	39.57

THE STATE ON NEW YORK: 1910. TABLE 58

REPORTED DEATHS IN 1909 (64,607), IN 1910 (68,014), AND IN 1911 (67,286).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.

Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	67 388	754	11.19	24.54	67 011	88.87	1 653 516	40.75
46-47	66 634	784	11.76	23.81	66 242	84.49	1 586 505	42.00
47-48	65 850	811	12.32	23.09	65 445	80.70	1 520 263	43.31
48-49	65 039	837	12.87	22.37	64 620	77.20	1 454 818	44.70
49-50	64 202	866	13.48	21.65	63 769	73.64	1 390 198	46.19
50-51	63 336	894	14.12	20.94	62 889	70.35	1 326 429	47.76
51-52	62 442	928	14.87	20.24	61 978	66.79	1 263 540	49.41
52-53	61 514	973	15.81	19.53	61 027	62.72	1 201 562	51.20
53-54	60 541	1 028	16.99	18.84	60 027	58.39	1 140 535	53.08
54-55	59 513	1 090	18.32	18.16	58 968	54.10	1 080 508	55.07
55 56	58 423	1 161	19.86	17.49	57 842	49.82	1 021 540	57.18
56-57	57 262	1 236	21.59	16.83	56 644	45.83	963 698	59.42
57-58	56 026	1 310	23.38	16.19	55 371	42.27	907 054	61.77
58-59	54 716	1 377	25.17	15.57	54 028	39.24	851 683	64.23
59-60	53 339	1 444	27.08	14.95	52 617	36.44	797 655	66.89
60-61	51 895	1 510	29.09	14.36	51 140	33.87	745 038	69.64
61-62	50 385	1 573	31.21	13.77	49 599	31.53	693 898	72.62
62-63	48 812	1 637	33.54	13.20	47 994	29.32	644 299	75.76
63-64	47 175	1 703	36.10	12.64	46 324	27.20	596 305	79.11
64-65	45 472	1 763	38.77	12.09	44 591	25.29	549 981	82.71
65-66	43 709	1 816	41.54	11.56	42 801	23.57	505 390	86.51
66-67	41 893	1 869	44.62	11.04	40 959	21.91	462 589	90.58
67-68	40 024	1 927	48.15	10.53	39 061	20.27	421 630	94.97
68-69	38 097	1 986	52.13	10.04	37 104	18.68	382 569	99.60
69-70	36 111	2 039	56.46	9.57	35 091	17.21	345 465	104.49
70-71	34 072	2 087	61.26	9.11	33 029	15.83	310 374	109.77
71-72	31 985	2 117	66.20	8.67	30 926	14.61	277 345	115.34
72-73	29 868	2 119	70.94	8.25	28 808	13.60	246 419	121.21
73-74	27 749	2 097	75.58	7.84	26 700	12.73	217 611	127.55
74-75	25 652	2 068	80.60	7.44	24 618	11.90	190 911	134.41
75-76	23 584	2 025	85.88	7.05	22 571	11.15	166 293	141.84
76-77	21 559	1 980	91.84	6.67	20 569	10.39	143 722	149.93
77-78	19 579	1 939	99.04	6.29	18 609	9.60	123 153	158.98
78-79	17 640	1 900	107.71	5.93	16 690	8.78	104 544	168.63
79-80	15 740	1 852	117.68	5.58	14 814	8.00	87 854	179.21
80-81	13 888	1 804	129.85	5.26	12 986	7.20	73 040	190.11
81-82	12 084	1 724	142.68	4.97	11 222	6.51	60 054	201.21
82-83	10 360	1 593	153.77	4.71	9 564	6.00	48 832	212.31
83-84	8 767	1 426	162.71	4.48	8 054	5.65	39 268	223.21
84-85	7 341	1 268	172.63	4.25	6 707	5.29	31 214	235.29
85-86	6 073	1 111	182.92	4.03	5 518	4.97	24 507	248.14
86-87	4 962	960	193.55	3.83	4 482	4.67	18 989	261.10
87-88	4 002	819	204.58	3.62	3 593	4.39	14 507	276.24
88-89	3 183	688	216.32	3.43	2 839	4.12	10 914	291.55
89-90	2 495	572	229.20	3.24	2 209	3.86	8 075	308.64
90-91	1 923	468	243.47	3.05	1 689	3.61	5 866	327.87
91-92	1 455	377	259.15	2.87	1 266	3.36	4 177	348.43
92-93	1 078	298	276.08	2.70	929	3.12	2 911	370.37
93-94	780	229	294.03	2.54	665	2.90	1 982	393.70
94-95	551	172	312.63	2.39	465	2.70	1 317	418.41
95-96	379	126	331.72	2.25	316	2.51	852	444.44
96-97	253	89	351.18	2.12	209	2.35	536	471.70
97-98	164	61	371.25	1.99	134	2.19	327	502.51
98-99	103	40	392.28	1.87	83	2.05	193	534.76
99-100	63	26	414.66	1.75	50	1.91	110	571.43
100-101	37	16	438.59	1.64	29	1.78	60	609.76
101-102	21	10	464.42	1.53	16	1.65	31	653.59
102-103	11	5	492.11	1.43	8	1.53	15	699.30
103-104	6	3	521.55	1.33	4	1.42	7	751.88
104-105	3	2	552.48	1.24	2	1.31	3	806.45
105-106	1	1	584.73	1.15	1	1.21	1	869.57

TABLE 59 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (280,923), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	15 736	157.36	41.64	88 670	5.63	4 163 508	24.02
1-2	84 264	4 139	49.12	48.36	81 822	19.77	4 074 838	20.68
2-3	80 125	1 848	23.06	49.83	79 146	42.83	3 993 016	20.07
3-4	78 277	1 284	16.41	50.00	77 609	60.44	3 913 870	20.00
4-5	76 993	995	12.92	49.83	76 476	76.86	3 836 261	20.07
5-6	75 998	759	9.99	49.47	75 619	99.63	3 759 785	20.21
6-7	75 239	571	7.59	48.97	74 954	131.27	3 684 166	20.42
7-8	74 668	425	5.69	48.34	74 456	175.19	3 609 212	20.69
8-9	74 243	317	4.27	47.61	74 085	233.71	3 534 756	21.00
9-10	73 926	241	3.27	46.81	73 805	306.24	3 460 671	21.36
10-11	73 685	197	2.67	45.96	73 586	373.53	3 386 866	21.76
11-12	73 488	179	2.43	45.09	73 398	410.04	3 313 280	22.18
12-13	73 309	185	2.52	44.19	73 217	395.77	3 239 882	22.63
13-14	73 124	212	2.90	43.31	73 018	344.42	3 166 665	23.09
14-15	72 912	258	3.53	42.43	72 783	282.10	3 093 647	23.57
15-16	72 654	318	4.38	41.58	72 495	227.97	3 020 864	24.05
16-17	72 336	391	5.41	40.76	72 141	184.50	2 948 369	24.53
17-18	71 945	455	6.32	39.98	71 718	157.62	2 876 228	25.01
18-19	71 490	490	6.86	39.23	71 245	145.40	2 804 510	25.49
19-20	71 000	508	7.16	38.50	70 746	139.26	2 733 265	25.97
20-21	70 492	528	7.49	37.77	70 228	133.01	2 662 519	26.48
21-22	69 964	545	7.79	37.05	69 691	127.87	2 592 291	26.99
22-23	69 419	566	8.14	36.34	69 136	122.15	2 522 600	27.52
23-24	68 853	592	8.60	35.63	68 557	115.81	2 453 464	28.07
24-25	68 261	621	9.10	34.94	67 950	109.42	2 384 907	28.62
25-26	67 640	644	9.52	34.25	67 318	104.53	2 316 957	29.20
26-27	66 996	665	9.92	33.58	66 664	100.25	2 249 639	29.78
27-28	66 331	678	10.23	32.91	65 992	97.33	2 182 975	30.39
28-29	65 653	686	10.44	32.25	65 310	95.20	2 116 983	31.01
29-30	64 967	687	10.59	31.58	64 624	94.07	2 051 673	31.67
30-31	64 280	692	10.76	30.91	63 934	92.39	1 987 049	32.35
31-32	63 588	696	10.94	30.24	63 240	90.86	1 923 115	33.07
32-33	62 892	703	11.18	29.57	62 540	88.96	1 859 875	33.82
33-34	62 189	716	11.51	28.90	61 831	86.36	1 797 335	34.60
34-35	61 473	732	11.90	28.23	61 107	83.48	1 735 504	35.42
35-36	60 741	747	12.29	27.57	60 367	80.81	1 674 397	36.27
36-37	59 994	762	12.70	26.90	59 613	78.23	1 614 030	37.17
37-38	59 232	777	13.11	26.24	58 844	75.73	1 554 417	38.11
38-39	58 455	790	13.52	25.59	58 060	73.49	1 495 573	39.08
39-40	57 665	804	13.95	24.93	57 263	71.22	1 437 513	40.11
40-41	56 861	821	14.43	24.27	56 451	68.76	1 380 250	41.20
41-42	56 040	840	14.99	23.62	55 620	66.21	1 323 799	42.34
42-43	55 200	859	15.56	22.97	54 771	63.76	1 268 179	43.54
43-44	54 341	874	16.09	22.33	53 904	61.68	1 213 408	44.78
44-45	53 467	889	16.62	21.69	53 023	59.64	1 159 504	46.10

THE CITY OF BOSTON: 1901. TABLE 59

REPORTED DEATHS IN 1900 (5,840), IN 1901 (5,901), AND IN 1902 (5,661).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	52 578	906	17.23	21.04	52 125	57.53	1 106 481	47.53
46-47	51 672	925	17.90	20.40	51 210	55.36	1 054 356	49.02
47-48	50 747	950	18.72	19.77	50 272	52.92	1 003 146	50.58
48-49	49 797	980	19.68	19.14	49 307	50.31	952 874	52.25
49-50	48 817	1 012	20.74	18.51	48 311	47.74	903 567	54.02
50-51	47 805	1 042	21.80	17.89	47 284	45.38	855 256	55.90
51-52	46 763	1 068	22.84	17.28	46 229	43.29	807 972	57.87
52-53	45 695	1 098	24.04	16.67	45 146	41.12	761 743	59.99
53-54	44 597	1 143	25.63	16.07	44 025	38.52	716 597	62.23
54-55	43 454	1 203	27.68	15.48	42 852	35.62	672 572	64.60
55-56	42 251	1 269	30.04	14.90	41 616	32.79	629 720	67.11
56-57	40 982	1 350	32.94	14.35	40 307	29.86	588 104	69.69
57-58	39 632	1 422	35.88	13.82	38 921	27.37	547 797	72.36
58-59	38 210	1 458	38.16	13.32	37 481	25.71	508 876	75.08
59-60	36 752	1 463	39.80	12.83	36 020	24.62	471 395	77.94
60-61	35 289	1 465	41.52	12.34	34 556	23.59	435 375	81.04
61-62	33 824	1 455	43.01	11.85	33 097	22.75	400 819	84.39
62-63	32 369	1 461	45.14	11.36	31 639	21.66	367 722	88.03
63-64	30 908	1 505	48.69	10.87	30 156	20.04	336 083	92.00
64-65	29 403	1 578	53.65	10.40	28 614	18.13	305 927	96.15
65-66	27 825	1 644	59.12	9.97	27 003	16.43	277 313	100.30
66-67	26 181	1 677	64.05	9.56	25 342	15.11	250 310	104.60
67-68	24 504	1 665	67.96	9.18	23 671	14.22	224 968	108.93
68-69	22 839	1 628	71.28	8.81	22 025	13.53	201 297	113.51
69-70	21 211	1 573	74.12	8.45	20 425	12.98	179 272	118.34
70-71	19 638	1 507	76.79	8.09	18 884	12.53	158 847	123.61
71-72	18 131	1 447	79.76	7.72	17 407	12.03	139 963	129.53
72-73	16 684	1 393	83.52	7.35	15 988	11.48	122 556	136.05
73-74	15 291	1 353	88.45	6.97	14 615	10.80	106 568	143.47
74-75	13 938	1 320	94.74	6.60	13 278	10.06	91 953	151.52
75-76	12 618	1 292	102.36	6.24	11 972	9.27	78 675	160.26
76-77	11 326	1 258	111.12	5.89	10 697	8.59	66 703	169.78
77-78	10 068	1 216	120.74	5.56	9 460	7.78	56 006	179.86
78-79	8 852	1 159	130.90	5.26	8 273	7.14	46 546	190.11
79-80	7 693	1 087	141.32	4.98	7 150	6.58	38 273	290.80
80-81	6 606	1 002	151.78	4.71	6 105	6.09	31 123	212.31
81-82	5 604	909	162.22	4.46	5 149	5.66	25 018	224.22
82-83	4 695	811	172.70	4.23	4 289	5.29	19 869	236.41
83-84	3 884	712	183.35	4.01	3 528	4.95	15 580	249.38
84-85	3 172	617	194.42	3.80	2 863	4.64	12 052	263.16
85-86	2 555	527	206.12	3.60	2 292	4.35	9 189	277.78
86-87	2 028	443	218.65	3.40	1 807	4.07	6 897	294.12
87-88	1 585	368	232.11	3.21	1 401	3.81	5 090	311.53
88-89	1 217	300	246.53	3.03	1 067	3.56	3 689	330.03
89-90	917	240	261.88	2.86	797	3.32	2 622	349.65
90-91	677	188	278.09	2.70	583	3.10	1 825	370.37
91-92	489	145	295.02	2.54	417	2.89	1 242	393.70
92-93	344	107	312.62	2.39	291	2.70	825	418.41
93-94	237	79	330.90	2.26	198	2.52	534	442.48
94-95	158	55	349.99	2.12	131	2.36	336	471.70
95-96	103	38	370.00	2.00	84	2.20	205	500.00
96-97	65	25	391.06	1.88	52	2.06	121	531.91
97-98	40	17	413.24	1.77	31	1.92	69	564.97
98-99	23	10	436.60	1.66	18	1.79	38	602.41
99-100	13	6	461.11	1.55	10	1.67	20	645.16
100-101	7	3	486.77	1.46	5	1.55	10	684.93
101-102	4	2	513.62	1.36	3	1.45	5	735.29
102-103	2	1	541.71	1.28	1	1.35	2	781.25
103-104	1	1	571.04	1.19	1	1.25	1	840.34

TABLE 60 — TABLE LIFE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (330,841), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 527	135.27	46.05	90 260	6.67	4 604 944	21.72
1-2	86 473	2 806	32.44	52.21	84 817	30.23	4 514 684	19.15
2-3	83 667	1 198	14.32	52.95	83 032	69.31	4 429 867	18.89
3-4	82 469	851	10.32	52.71	82 026	96.39	4 346 835	18.97
4-5	81 618	668	8.19	52.25	81 270	121.66	4 264 809	19.14
5-6	80 950	521	6.43	51.68	80 689	154.87	4 183 539	19.35
6-7	80 429	403	5.01	51.01	80 228	199.08	4 102 850	19.60
7-8	80 026	313	3.92	50.27	79 869	255.17	4 022 622	19.89
8-9	79 713	249	3.13	49.46	79 588	319.63	3 942 753	20.22
9-10	79 464	207	2.60	48.62	79 360	383.38	3 863 165	20.57
10-11	79 257	184	2.32	47.74	79 165	430.24	3 783 805	20.95
11-12	79 073	175	2.22	46.85	78 985	451.34	3 704 640	21.34
12-13	78 898	180	2.27	45.95	78 808	437.82	3 625 655	21.76
13-14	78 718	193	2.46	45.06	78 622	407.37	3 546 847	22.19
14-15	78 525	217	2.76	44.17	78 417	361.37	3 468 225	22.64
15-16	78 308	249	3.18	43.29	78 184	313.99	3 389 808	23.10
16-17	78 059	292	3.75	42.42	77 913	266.83	3 311 624	23.57
17-18	77 767	328	4.21	41.58	77 603	236.59	3 233 711	24.05
18-19	77 439	342	4.43	40.76	77 268	225.93	3 156 108	24.53
19-20	77 097	347	4.50	39.93	76 923	221.68	3 078 840	25.04
20-21	76 750	355	4.63	39.11	76 573	215.70	3 001 917	25.57
21-22	76 395	364	4.76	38.29	76 213	209.38	2 925 344	26.12
22-23	76 031	378	4.97	37.47	75 842	200.64	2 849 131	26.69
23-24	75 653	399	5.28	36.66	75 454	189.11	2 773 289	27.28
24-25	75 254	427	5.67	35.85	75 041	175.74	2 697 835	27.89
25-26	74 827	453	6.06	35.05	74 600	164.68	2 622 794	28.53
26-27	74 374	480	6.45	34.26	74 134	154.45	2 548 194	29.19
27-28	73 894	508	6.88	33.48	73 640	144.96	2 474 060	29.87
28-29	73 386	540	7.35	32.71	73 116	135.40	2 400 420	30.57
29-30	72 846	573	7.88	31.95	72 560	126.63	2 327 304	31.30
30-31	72 273	611	8.45	31.20	71 967	117.79	2 254 744	32.05
31-32	71 662	652	9.09	30.46	71 336	109.41	2 182 777	32.83
32-33	71 010	690	9.72	29.73	70 665	102.41	2 111 441	33.64
33-34	70 320	719	10.23	29.02	69 961	97.30	2 040 776	34.46
34-35	69 601	742	10.66	28.32	69 230	93.30	1 970 815	35.31
35-36	68 859	763	11.08	27.62	68 478	89.75	1 901 585	36.21
36-37	68 096	781	11.48	26.92	67 705	86.69	1 833 107	37.15
37-38	67 315	805	11.95	26.23	66 913	83.12	1 765 402	38.12
38-39	66 510	837	12.59	25.54	66 092	78.96	1 698 489	39.15
39-40	65 673	878	13.37	24.86	65 234	74.30	1 632 397	40.23
40-41	64 795	920	14.20	24.19	64 335	69.93	1 567 163	41.34
42-42	63 875	968	15.15	23.53	63 391	65.49	1 502 828	42.50
42-43	62 907	1 004	15.96	22.88	62 405	62.16	1 439 437	43.71
43-44	61 903	1 019	16.46	22.24	61 393	60.25	1 377 032	44.96
44-45	60 884	1 020	16.75	21.61	60 374	59.19	1 315 639	46.27

THE CITY OF BOSTON: 1910. TABLE 60

REPORTED DEATHS IN 1909 (5,797), IN 1910 (6,049), AND IN 1911 (6,234).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	59 864	1 023	17.09	20.97	59 353	58.02	1 255 265	47.69
46-47	58 841	1 021	17.36	20.32	58 330	57.13	1 195 912	49.21
47-48	57 820	1 041	18.00	19.67	57 299	55.04	1 137 582	50.84
48-49	56 779	1 096	19.31	19.03	56 231	51.31	1 080 283	52.55
49-50	55 683	1 175	21.09	18.39	55 095	46.89	1 024 052	54.38
50-51	54 508	1 251	22.96	17.78	53 882	43.07	968 957	56.24
51-52	53 257	1 337	25.09	17.18	52 588	39.33	915 075	58.21
52-53	51 920	1 396	26.90	16.61	51 222	36.69	862 487	60.20
53-54	50 524	1 416	28.02	16.06	49 816	35.18	811 265	62.27
54-55	49 108	1 410	28.71	15.51	48 403	34.33	761 449	64.47
55-56	47 698	1 411	29.58	14.95	46 993	33.30	713 046	66.89
56-57	46 287	1 406	30.39	14.39	45 584	32.42	666 053	69.49
57-58	44 881	1 439	32.05	13.82	44 162	30.69	620 469	72.36
58-59	43 442	1 529	35.20	13.27	42 678	27.91	576 307	75.36
59-60	41 913	1 647	39.31	12.73	41 089	24.95	533 629	78.55
60-61	40 266	1 750	43.45	12.23	39 391	22.51	492 540	81.77
61-62	38 516	1 845	47.91	11.77	37 594	20.38	453 149	84.96
62-63	36 671	1 894	51.64	11.33	35 724	18.86	415 555	88.26
63-64	34 777	1 880	54.06	10.92	33 837	18.00	379 831	91.58
64-65	32 897	1 829	55.61	10.52	31 982	17.49	345 994	95.06
65-66	31 068	1 778	57.22	10.11	30 179	16.97	314 012	98.91
66-67	29 290	1 713	58.49	9.69	28 433	16.60	283 833	103.20
67-68	27 577	1 677	60.80	9.26	26 739	15.94	255 400	107.99
68-69	25 900	1 693	65.36	8.83	25 054	14.80	228 661	113.25
69-70	24 207	1 740	71.91	8.41	23 337	13.41	203 607	118.91
70-71	22 467	1 777	79.09	8.02	21 578	12.14	180 270	124.69
71-72	20 690	1 777	85.89	7.67	19 801	11.14	158 692	130.38
72-73	18 913	1 732	91.59	7.34	18 047	10.42	138 891	136.24
73-74	17 181	1 662	96.70	7.03	16 350	9.84	120 844	142.25
74-75	15 519	1 571	101.24	6.73	14 734	9.38	104 494	148.59
75-76	13 948	1 472	105.51	6.44	13 212	8.98	89 760	155.28
76-77	12 476	1 372	110.00	6.14	11 790	8.59	76 548	162.87
77-78	11 104	1 279	115.22	5.83	10 464	8.18	64 758	171.53
78-79	9 825	1 195	121.58	5.53	9 227	7.72	54 294	180.83
79-80	8 630	1 116	129.27	5.22	8 072	7.23	45 067	191.57
80-81	7 514	1 039	138.28	4.92	6 995	6.73	36 995	203.25
81-82	6 475	961	148.42	4.63	5 995	6.24	30 000	215.98
82-83	5 514	879	159.51	4.35	5 075	5.77	24 005	229.89
83-84	4 635	795	171.54	4.08	4 237	5.33	18 930	245.10
84-85	3 840	709	184.62	3.83	3 485	4.92	14 693	261.10
85-86	3 131	623	198.96	3.58	2 819	4.53	11 208	279.33
86-87	2 508	539	214.75	3.34	2 239	4.16	8 389	299.40
87-88	1 969	457	232.03	3.12	1 741	3.81	6 150	320.51
88-89	1 512	379	250.64	2.91	1 323	3.49	4 409	343.64
89-90	1 133	306	270.25	2.72	980	3.20	3 086	367.65
90-91	827	240	290.46	2.55	707	2.94	2 106	392.16
91-92	587	183	310.99	2.38	496	2.72	1 399	420.17
92-93	404	134	331.75	2.23	337	2.51	903	448.43
93-94	270	95	352.87	2.09	223	2.33	566	478.47
94-95	175	66	374.60	1.96	142	2.17	343	510.20
95-96	109	43	397.35	1.84	88	2.02	201	543.48
96-97	66	28	421.46	1.72	52	1.87	113	581.40
97-98	38	17	447.13	1.60	30	1.74	61	625.00
98-99	21	10	474.35	1.50	16	1.61	31	666.67
99-100	11	5	503.01	1.39	8	1.49	15	719.42
100-101	6	3	532.89	1.30	4	1.38	7	769.23
101-102	3	2	563.70	1.21	2	1.27	3	826.45
102-103	1	1	595.35	1.13	1	1.18	1	884.96

TABLE 61 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (292,004), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 548	135.48	45.14	90 381	6.67	4 514 027	22.15
1-2	86 452	3 435	39.73	51.17	84 425	24.58	4 423 646	19.54
2-3	83 017	1 916	23.08	52.27	82 001	42.80	4 339 221	19.13
3-4	81 101	1 179	14.53	52.49	80 488	68.27	4 257 220	19.05
4-5	79 922	939	11.76	52.26	79 434	84.59	4 176 732	19.14
5-6	78 983	746	9.44	51.88	78 610	105.38	4 097 298	19.28
6-7	78 237	590	7.55	51.37	77 942	132.11	4 018 688	19.47
7-8	77 647	470	6.05	50.75	77 412	164.71	3 940 746	19.70
8-9	77 177	378	4.90	50.06	76 988	203.67	3 863 334	19.98
9-10	76 799	313	4.07	49.30	76 642	244.86	3 786 346	20.28
10-11	76 486	270	3.53	48.50	76 351	282.78	3 709 704	20.62
11-12	76 216	246	3.23	47.67	76 093	309.32	3 633 353	20.98
12-13	75 970	238	3.14	46.82	75 851	318.70	3 557 260	21.36
13-14	75 732	244	3.21	45.97	75 610	309.88	3 481 409	21.75
14-15	75 488	258	3.43	45.12	75 359	292.09	3 405 799	22.16
15-16	75 230	281	3.74	44.27	75 089	267.22	3 330 440	22.59
16-17	74 949	308	4.11	43.43	74 795	242.84	3 255 351	23.03
17-18	74 641	343	4.60	42.61	74 469	217.11	3 180 556	23.47
18-19	74 298	383	5.15	41.81	74 106	193.49	3 106 087	23.92
19-20	73 915	418	5.66	41.02	73 706	176.33	3 031 981	24.38
20-21	73 497	450	6.12	40.25	73 272	162.83	2 958 275	24.84
21-22	73 047	478	6.53	39.50	72 808	152.32	2 885 003	25.32
22-23	72 569	500	6.90	38.75	72 319	144.64	2 812 195	25.81
23-24	72 069	521	7.24	38.02	71 808	137.83	2 739 876	26.30
24-25	71 548	543	7.58	37.29	71 276	131.26	2 668 068	26.82
25-26	71 005	561	7.91	36.57	70 725	126.07	2 596 792	27.34
26-27	70 444	581	8.25	35.86	70 153	120.75	2 526 067	27.89
27-28	69 863	596	8.54	35.15	69 565	116.72	2 455 914	28.45
28-29	69 267	608	8.78	34.45	68 963	113.43	2 386 349	29.03
29-30	68 659	618	8.99	33.75	68 350	110.60	2 317 386	29.63
30-31	68 041	627	9.23	33.05	67 728	108.02	2 249 036	30.26
31-32	67 414	640	9.49	32.36	67 094	104.83	2 181 308	30.90
32-33	66 774	652	9.76	31.66	66 448	101.91	2 114 214	31.59
33-34	66 122	662	10.00	30.97	65 791	99.38	2 047 766	32.29
34-35	65 460	668	10.22	30.28	65 126	97.49	1 981 975	33.03
35-36	64 792	676	10.43	29.58	64 454	95.35	1 916 849	33.81
36-37	64 116	681	10.62	28.89	63 775	93.65	1 852 395	34.61
37-38	63 435	691	10.89	28.20	63 090	91.30	1 788 620	35.46
38-39	62 744	711	11.33	27.50	62 389	87.75	1 725 530	36.36
39-40	62 033	737	11.90	26.81	61 665	83.67	1 663 141	37.30
40-41	61 296	768	12.52	26.13	60 912	79.31	1 601 476	38.27
41-42	60 528	802	13.27	25.45	60 127	74.97	1 540 564	39.29
42-43	59 726	828	13.86	24.79	59 312	71.63	1 480 437	40.34
43-44	58 898	831	14.10	24.13	58 482	70.38	1 421 125	41.44
44-45	58 067	818	14.09	23.47	57 658	70.49	1 362 643	42.61

THE CITY OF BOSTON: 1901. TABLE 61

REPORTED DEATHS IN 1900 (5,610), IN 1901 (5,396), AND IN 1902 (5,338).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	57 249	809	14.13	22.79	56 845	70.27	1 304 985	43.88
46-47	56 440	797	14.13	22.11	56 042	70.32	1 248 140	45.23
47-48	55 643	805	14.46	21.42	55 240	68.62	1 192 098	46.69
48-49	54 838	842	15.35	20.73	54 417	64.63	1 136 858	48.24
49-50	53 996	898	16.64	20.05	53 547	59.63	1 082 441	49.88
50-51	53 098	952	17.92	19.38	52 622	55.28	1 028 894	51.60
51-52	52 146	1 004	19.25	18.72	51 644	51.44	976 272	53.42
52-53	51 142	1 053	20.60	18.08	50 616	48.07	924 628	55.31
53-54	50 089	1 103	22.02	17.45	49 537	44.91	874 012	57.31
54-55	48 986	1 157	23.62	16.83	48 408	41.84	824 475	59.42
55-56	47 829	1 220	25.51	16.23	47 219	38.70	776 067	61.61
56-57	46 609	1 298	27.85	15.64	45 960	35.41	728 848	63.94
57-58	45 311	1 367	30.17	15.07	44 627	32.65	682 888	66.36
58-59	43 944	1 402	31.89	14.52	43 243	30.84	638 261	68.87
59-60	42 542	1 407	33.07	13.99	41 839	29.74	595 018	71.48
60-61	41 135	1 410	34.29	13.45	40 430	28.67	553 179	74.35
61-62	39 725	1 403	35.30	12.91	39 024	27.81	512 749	77.46
62-63	38 322	1 413	36.88	12.36	37 616	26.62	473 725	80.91
63-64	36 909	1 465	39.69	11.82	36 176	24.69	436 109	84.60
64-65	35 444	1 551	43.75	11.28	34 669	22.35	399 933	88.65
65-66	33 893	1 634	48.23	10.78	33 076	20.24	365 264	92.76
66-67	32 259	1 729	53.57	10.30	31 394	18.16	332 188	97.09
67-68	30 530	1 803	59.07	9.85	29 629	16.43	300 794	101.52
68-69	28 727	1 824	63.51	9.44	27 815	15.25	271 165	105.93
69-70	26 903	1 799	66.86	9.05	26 003	14.45	243 350	110.50
70-71	25 104	1 773	70.61	8.66	24 218	13.66	217 347	115.47
71-72	23 331	1 737	74.47	8.28	22 463	12.93	193 129	120.77
72-73	21 594	1 693	78.38	7.90	20 748	12.26	170 666	126.58
73-74	19 901	1 646	82.74	7.53	19 078	11.59	149 918	132.80
74-75	18 255	1 602	87.75	7.17	17 454	10.90	130 840	139.47
75-76	16 653	1 549	93.02	6.81	15 878	10.25	113 386	146.84
76-77	15 104	1 491	98.71	6.46	14 358	9.63	97 508	154.80
77-78	13 613	1 431	105.15	6.11	12 897	9.01	83 150	163.67
78-79	12 182	1 369	112.33	5.77	11 497	8.40	70 253	173.31
79-80	10 813	1 299	120.14	5.43	10 164	7.82	58 756	184.16
80-81	9 514	1 225	128.73	5.11	8 902	7.27	48 592	195.69
81-82	8 289	1 152	139.06	4.79	7 713	6.69	39 690	208.77
82-83	7 137	1 075	150.61	4.48	6 599	6.14	31 977	223.21
83-84	6 062	991	163.50	4.19	5 566	5.62	25 378	238.66
84-85	5 071	901	177.67	3.91	4 620	5.13	19 812	255.75
85-86	4 170	805	193.06	3.64	3 767	4.68	15 192	274.73
86-87	3 365	705	209.58	3.40	3 012	4.27	11 425	294.12
87-88	2 660	605	227.15	3.16	2 357	3.90	8 413	316.46
88-89	2 055	505	245.73	2.95	1 803	3.57	6 056	338.98
89-90	1 550	411	265.34	2.74	1 345	3.27	4 253	364.96
90-91	1 139	326	286.04	2.55	976	3.00	2 908	392.16
91-92	813	250	307.89	2.37	688	2.75	1 932	421.94
92-93	563	186	330.96	2.21	470	2.52	1 244	452.49
93-94	377	134	355.24	2.05	310	2.32	774	487.80
94-95	243	93	380.74	1.91	197	2.13	464	523.56
95-96	150	61	407.43	1.77	120	1.95	267	564.97
96-97	89	39	435.27	1.65	70	1.80	147	606.06
97-98	50	23	464.22	1.53	39	1.65	77	653.59
98-99	27	13	494.24	1.42	20	1.52	38	704.23
99-100	14	8	525.03	1.32	10	1.40	18	757.58
100-101	6	3	556.96	1.23	5	1.30	8	813.01
101-102	3	2	589.71	1.14	2	1.20	3	877.19
102-103	1	1	623.16	1.06	1	1.10	1	943.40

TABLE 62 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (342,058), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 330	113.30	50.28	91 956	8.12	5 028 358	19.89
1-2	88 670	2 521	28.43	55.67	87 183	34.58	4 936 402	17.96
2-3	86 149	1 089	12.64	56.29	85 572	78.58	4 849 219	17.77
3-4	85 060	674	7.92	56.00	84 710	125.38	4 763 647	17.86
4-5	84 386	567	6.72	55.45	84 091	148.31	4 678 937	18.03
5-6	83 819	472	5.63	54.82	83 583	177.08	4 594 846	18.24
6-7	83 347	389	4.68	54.13	83 153	213.76	4 511 263	18.47
7-8	82 958	322	3.88	53.38	82 797	257.13	4 428 110	18.73
8-9	82 636	269	3.26	52.58	82 501	306.70	4 345 313	19.02
9-10	82 367	234	2.84	51.75	82 250	351.50	4 262 812	19.32
10-11	82 133	216	2.63	50.90	82 025	379.75	4 180 562	19.65
11-12	81 917	210	2.56	50.03	81 812	389.58	4 098 537	19.99
12-13	81 707	213	2.61	49.16	81 600	383.10	4 016 725	20.34
13-14	81 494	224	2.75	48.29	81 382	363.31	3 935 125	20.71
14-15	81 270	241	2.97	47.42	81 150	336.72	3 853 743	21.09
15-16	81 029	265	3.27	46.56	80 897	305.27	3 772 593	21.48
16-17	80 764	294	3.65	45.71	80 617	274.21	3 691 696	21.88
17-18	80 470	320	3.98	44.87	80 310	250.97	3 611 079	22.29
18-19	80 150	334	4.16	44.05	79 983	239.47	3 530 769	22.70
19-20	79 816	341	4.27	43.23	79 646	233.57	3 450 786	23.13
20-21	79 475	348	4.39	42.42	79 301	227.88	3 371 140	23.57
21-22	79 127	356	4.50	41.60	78 949	221.77	3 291 839	24.04
22-23	78 771	369	4.68	40.79	78 587	212.97	3 212 890	24.52
23-24	78 402	389	4.97	39.98	78 208	201.05	3 134 303	25.01
24-25	78 013	417	5.34	39.17	77 804	186.58	3 056 095	25.53
25-26	77 596	443	5.71	38.38	77 374	174.66	2 978 291	26.06
26-27	77 153	472	6.12	37.60	76 917	162.96	2 900 917	26.60
27-28	76 681	492	6.41	36.83	76 435	155.36	2 824 000	27.15
28-29	76 189	495	6.50	36.06	75 941	153.42	2 747 565	27.73
29-30	75 694	490	6.47	35.30	75 449	153.98	2 671 624	28.33
30-31	75 204	488	6.48	34.52	74 960	153.61	2 596 175	28.97
31-32	74 716	483	6.47	33.74	74 475	154.19	2 521 215	29.64
32-33	74 233	491	6.62	32.96	73 988	150.69	2 446 740	30.34
33-34	73 742	518	7.03	32.18	73 483	141.86	2 372 752	31.08
34-35	73 224	557	7.60	31.40	72 945	130.96	2 299 269	31.85
35-36	72 667	592	8.14	30.64	72 371	122.25	2 226 324	32.64
36-37	72 075	626	8.69	29.88	71 762	114.64	2 153 953	33.47
37-38	71 449	657	9.19	29.14	71 121	108.25	2 082 191	34.32
38-39	70 792	683	9.65	28.41	70 451	103.15	2 011 070	35.20
39-40	70 109	707	10.09	27.68	69 756	98.66	1 940 619	36.13
40-41	69 402	736	10.60	26.96	69 034	93.80	1 870 863	37.09
41-42	68 666	768	11.19	26.24	68 282	88.91	1 801 829	38.11
42-43	67 898	796	11.73	25.53	67 500	84.80	1 733 547	39.17
43-44	67 102	813	12.11	24.83	66 695	82.04	1 666 047	40.27
44-45	66 289	822	12.40	24.13	65 878	80.14	1 599 352	41.44

THE CITY OF BOSTON: 1910. TABLE 62

REPORTED DEATHS IN 1909 (5,259), IN 1910 (5,513), AND IN 1911 (5,531).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	65 467	833	12.73	23.42	65 050	78.09	1 533 474	42.70
46-47	64 634	842	13.03	22.72	64 213	76.26	1 468 424	44.01
47-48	63 792	865	13.55	22.01	63 359	73.25	1 404 211	45.43
48-49	62 927	910	14.46	21.31	62 472	68.65	1 340 852	46.93
49-50	62 017	972	15.66	20.61	61 531	63.30	1 278 380	48.52
50-51	61 045	1 033	16.93	19.93	60 529	58.60	1 216 849	50.18
51-52	60 012	1 102	18.36	19.27	59 461	53.96	1 156 320	51.89
52-53	58 910	1 160	19.69	18.62	58 330	50.28	1 096 859	53.71
53-54	57 750	1 200	20.79	17.98	57 150	47.63	1 038 529	55.62
54-55	56 550	1 233	21.79	17.35	55 933	45.36	981 379	57.64
55-56	55 317	1 272	23.00	16.73	54 681	42.99	925 446	59.77
56-57	54 045	1 315	24.33	16.11	53 387	40.60	870 765	62.07
57-58	52 730	1 380	26.17	15.50	52 040	37.71	817 378	64.52
58-59	51 350	1 472	28.66	14.90	50 614	34.38	765 338	67.11
59-60	49 878	1 568	31.43	14.33	49 094	31.31	714 724	69.78
60-61	48 310	1 648	34.12	13.78	47 486	28.81	665 630	72.57
61-62	46 662	1 716	36.76	13.25	45 804	26.69	618 144	75.47
62-63	44 946	1 765	39.28	12.73	44 064	24.97	572 340	78.55
63-64	43 181	1 806	41.82	12.23	42 278	23.41	528 276	81.77
64-65	41 375	1 844	44.58	11.75	40 453	21.94	485 998	85.11
65-66	39 531	1 881	47.58	11.27	38 590	20.52	445 545	88.73
66-67	37 650	1 917	50.91	10.81	36 692	19.14	406 955	92.51
67-68	35 733	1 942	54.35	10.36	34 762	17.90	370 263	96.53
68-69	33 791	1 945	57.56	9.93	32 818	16.87	335 501	100.70
69-70	31 846	1 927	60.52	9.50	30 882	16.03	302 683	105.26
70-71	29 919	1 906	63.68	9.08	28 966	15.20	271 801	110.13
71-72	28 013	1 875	66.94	8.67	27 076	14.44	242 835	115.34
72-73	26 138	1 844	70.55	8.25	25 216	13.67	215 759	121.21
73-74	24 294	1 820	74.91	7.84	23 384	12.85	190 543	127.55
74-75	22 474	1 800	80.09	7.44	21 574	11.99	167 159	134.41
75-76	20 674	1 779	86.06	7.04	19 785	11.12	145 585	142.05
76-77	18 895	1 760	93.16	6.66	18 015	10.24	125 800	150.15
77-78	17 135	1 739	101.48	6.29	16 265	9.35	107 785	158.98
78-79	15 396	1 708	110.94	5.94	14 542	8.51	91 520	168.35
79-80	13 688	1 660	121.27	5.62	12 858	7.75	76 978	177.94
80-81	12 028	1 589	132.07	5.33	11 234	7.07	64 120	187.62
81-82	10 439	1 490	142.82	5.07	9 694	6.50	52 886	197.24
82-83	8 949	1 370	153.10	4.83	8 264	6.03	43 192	207.04
83-84	7 579	1 233	162.66	4.61	6 962	5.65	34 928	216.92
84-85	6 346	1 088	171.47	4.41	5 802	5.33	27 966	226.76
85-86	5 258	945	179.76	4.22	4 785	5.06	22 164	236.97
86-87	4 313	811	187.93	4.03	3 907	4.82	17 379	248.14
87-88	3 502	688	196.44	3.85	3 158	4.59	13 472	259.74
88-89	2 814	579	205.72	3.67	2 525	4.36	10 314	272.48
89-90	2 235	483	216.04	3.49	1 994	4.13	7 789	286.53
90-91	1 752	398	227.52	3.31	1 553	3.90	5 795	302.11
91-92	1 354	325	240.11	3.14	1 191	3.66	4 242	318.47
92-93	1 029	261	253.70	2.97	898	3.44	3 051	336.70
93-94	768	206	268.17	2.81	665	3.23	2 153	355.87
94-95	562	159	283.50	2.65	482	3.03	1 488	377.36
95-96	403	121	299.69	2.50	342	2.84	1 006	400.00
96-97	282	89	316.83	2.36	237	2.66	664	423.73
97-98	193	65	335.09	2.22	160	2.48	427	450.45
98-99	128	45	354.40	2.09	105	2.32	267	478.47
99-100	83	31	374.92	1.96	67	2.17	162	510.20
100-101	52	21	396.74	1.84	41	2.02	95	543.48
101-102	31	13	419.96	1.73	25	1.88	54	578.03
102-103	18	8	444.68	1.61	14	1.75	29	621.12
103-104	10	5	471.02	1.51	8	1.62	15	662.25
104-105	5	2	499.11	1.40	4	1.50	7	714.29
105-106	3	2	529.11	1.31	2	1.39	3	763.36
106-107	1	1	561.17	1.21	1	1.28	1	826.45

TABLE 63 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (892,052), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 010	120.10	46.31	91 352	7.61	4 631 387	21.59
1-2	87 990	3 132	35.59	51.60	86 142	27.50	4 540 035	19.38
2-3	84 858	1 391	16.39	52.49	84 121	60.48	4 453 893	19.05
3-4	83 467	930	11.15	52.35	82 983	89.23	4 369 772	19.10
4-5	82 537	728	8.82	51.94	82 158	112.85	4 286 789	19.25
5-6	81 809	580	7.09	51.40	81 519	140.55	4 204 631	19.46
6-7	81 229	472	5.81	50.76	80 993	171.60	4 123 112	19.70
7-8	80 757	388	4.80	50.05	80 563	207.64	4 042 119	19.98
8-9	80 369	324	4.03	49.29	80 207	247.55	3 961 556	20.29
9-10	80 045	279	3.48	48.49	79 906	286.40	3 881 349	20.62
10-11	79 766	250	3.14	47.66	79 641	318.56	3 801 443	20.98
11-12	79 516	238	3.00	46.81	79 397	333.60	3 721 802	21.36
12-13	79 278	241	3.04	45.94	79 157	328.45	3 642 405	21.77
13-14	79 037	257	3.25	45.08	78 908	307.04	3 563 248	22.18
14-15	78 780	285	3.61	44.23	78 638	275.92	3 484 340	22.61
15-16	78 495	324	4.13	43.39	78 333	241.77	3 405 702	23.05
16-17	78 171	375	4.80	42.57	77 984	207.96	3 327 369	23.49
17-18	77 796	421	5.41	41.77	77 586	184.29	3 249 385	23.94
18-19	77 375	449	5.81	40.99	77 150	171.83	3 171 799	24.40
19-20	76 926	465	6.04	40.23	76 693	164.93	3 094 649	24.86
20-21	76 461	483	6.32	39.47	76 219	157.80	3 017 956	25.34
21-22	75 978	503	6.61	38.72	75 726	150.55	2 941 737	25.83
22-23	75 475	514	6.81	37.97	75 218	146.34	2 866 011	26.34
23-24	74 961	516	6.89	37.23	74 703	144.77	2 790 793	26.86
24-25	74 445	515	6.91	36.48	74 187	144.05	2 716 090	27.41
25-26	73 930	513	6.94	35.74	73 674	143.61	2 641 903	27.98
26-27	73 417	510	6.95	34.98	73 162	143.45	2 568 229	28.59
27-28	72 907	514	7.05	34.22	72 650	141.34	2 495 067	29.22
28-29	72 393	529	7.31	33.46	72 129	136.35	2 422 417	29.89
29-30	71 864	551	7.67	32.70	71 589	129.93	2 350 288	30.58
30-31	71 313	573	8.04	31.95	71 026	123.95	2 278 699	31.30
31-32	70 740	596	8.42	31.21	70 442	118.19	2 207 673	32.04
32-33	70 144	619	8.82	30.47	69 834	112.82	2 137 231	32.82
33-34	69 525	641	9.22	29.74	69 204	107.96	2 067 397	33.62
34-35	68 884	663	9.62	29.01	68 553	103.40	1 998 193	34.47
35-36	68 221	685	10.05	28.29	67 879	99.09	1 929 640	35.35
36-37	67 536	708	10.49	27.57	67 182	94.89	1 861 761	36.27
37-38	66 828	735	10.99	26.85	66 461	90.42	1 794 579	37.24
38-39	66 093	767	11.61	26.15	65 710	85.67	1 728 118	38.24
39-40	65 326	805	12.32	25.45	64 924	80.65	1 662 408	39.29
40-41	64 521	844	13.08	24.76	64 099	75.95	1 597 484	40.39
41-42	63 677	888	13.94	24.08	63 233	71.21	1 533 385	41.53
42-43	62 789	926	14.75	23.41	62 326	67.31	1 470 152	42.72
43-44	61 863	954	15.43	22.76	61 386	64.35	1 407 826	43.94
44-45	60 909	977	16.04	22.11	60 420	61.84	1 346 440	45.23

THE CITY OF CHICAGO: 1901. TABLE 63

REPORTED DEATHS IN 1900 (14,382), IN 1901 (13,510), AND IN 1902 (14,991).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	59 932	1 005	16.76	21.46	59 430	59.13	1 286 020	46.60
46-47	58 927	1 034	17.56	20.82	58 410	56.49	1 226 590	48.03
47-48	57 893	1 072	18.52	20.18	57 357	53.50	1 168 180	49.55
48-49	56 821	1 116	19.63	19.55	56 263	50.41	1 110 823	51.15
49-50	55 705	1 158	20.80	18.93	55 126	47.60	1 054 560	52.83
50-51	54 547	1 199	21.97	18.32	53 948	44.99	999 434	54.59
51-52	53 348	1 234	23.14	17.72	52 731	42.73	945 486	56.43
52-53	52 114	1 267	24.32	17.13	51 480	40.63	892 755	58.38
53-54	50 847	1 302	25.60	16.55	50 196	38.55	841 275	60.42
54-55	49 545	1 341	27.08	15.97	48 874	36.45	791 079	62.62
55-56	48 204	1 385	28.74	15.40	47 511	34.30	742 205	64.94
56-57	46 819	1 437	30.69	14.84	46 100	32.08	694 694	67.39
57-58	45 382	1 483	32.67	14.29	44 640	30.10	648 594	69.98
58-59	43 899	1 507	34.32	13.76	43 146	28.63	603 954	72.67
59-60	42 392	1 510	35.63	13.23	41 637	27.57	560 808	75.59
60-61	40 882	1 512	37.00	12.70	40 126	26.54	519 171	78.74
61-62	39 370	1 505	38.23	12.17	38 617	25.66	479 045	82.17
62-63	37 865	1 516	40.03	11.63	37 107	24.48	440 428	85.98
63-64	36 349	1 564	43.04	11.10	35 567	22.74	403 321	90.09
64-65	34 785	1 644	47.25	10.57	33 963	20.66	367 754	94.61
65-66	33 141	1 719	51.86	10.07	32 282	18.78	333 791	99.30
66-67	31 422	1 797	57.20	9.60	30 524	16.99	301 509	104.17
67-68	29 625	1 860	62.80	9.15	28 695	15.43	270 985	109.29
68-69	27 765	1 884	67.84	8.73	26 823	14.24	242 290	114.55
69-70	25 881	1 871	72.30	8.33	24 945	13.33	215 467	120.05
70-71	24 010	1 855	77.24	7.94	23 083	12.44	190 522	125.94
71-72	22 155	1 827	82.49	7.56	21 242	11.63	167 439	132.28
72-73	20 328	1 784	87.75	7.19	19 436	10.89	146 197	139.08
73-74	18 544	1 728	93.19	6.84	17 680	10.23	126 761	146.20
74-75	16 816	1 665	99.04	6.49	15 983	9.60	109 081	154.08
75-76	15 151	1 595	105.25	6.14	14 353	9.00	93 098	162.87
76-77	13 556	1 516	111.86	5.81	12 798	8.44	78 745	172.12
77-78	12 040	1 438	119.43	5.48	11 321	7.87	65 947	182.48
78-79	10 602	1 360	128.24	5.15	9 922	7.30	54 626	194.17
79-80	9 242	1 277	138.17	4.84	8 604	6.74	44 704	206.61
80-81	7 965	1 188	149.15	4.53	7 371	6.20	36 100	220.75
81-82	6 777	1 093	161.38	4.24	6 230	5.70	28 729	235.85
82-83	5 684	996	175.13	3.96	5 186	5.21	22 499	252.53
83-84	4 688	893	190.44	3.69	4 242	4.75	17 313	271.00
84-85	3 795	786	207.20	3.44	3 402	4.33	13 071	290.70
85-86	3 009	677	225.13	3.21	2 670	3.94	9 669	311.53
86-87	2 332	569	243.83	3.00	2 047	3.60	6 999	333.33
87-88	1 763	463	262.90	2.81	1 531	3.30	4 952	355.87
88-89	1 300	367	282.07	2.63	1 116	3.05	3 421	380.23
89-90	933	281	301.24	2.47	792	2.82	2 305	404.86
90-91	652	209	320.53	2.32	547	2.62	1 513	431.03
91-92	443	151	340.16	2.18	368	2.44	966	458.72
92-93	292	105	360.53	2.05	240	2.27	598	487.80
93-94	187	71	382.00	1.92	151	2.12	358	520.83
94-95	116	47	404.82	1.80	92	1.97	207	555.56
95-96	69	30	429.03	1.69	54	1.83	115	591.72
96-97	39	18	454.58	1.58	30	1.70	61	632.91
97-98	21	10	481.27	1.47	16	1.58	31	680.27
98-99	11	6	508.92	1.38	8	1.46	15	724.64
99-100	5	2	537.33	1.29	4	1.36	7	775.19
100-101	3	2	566.60	1.20	2	1.26	3	833.33
101-102	1	1	596.66	1.13	1	1.18	1	884.96

TABLE 64 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,131,054), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x.	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 066	130.66	45.92	90 592	6.93	4 591 642	21.78
1-2	86 934	3 013	34.65	51.78	85 156	28.26	4 501 050	19.31
2-3	83 921	1 367	16.30	52.62	83 196	60.86	4 415 894	19.00
3-4	82 554	879	10.64	52.48	82 097	93.40	4 332 698	19.05
4-5	81 675	655	8.03	52.04	81 335	124.18	4 250 601	19.22
5-6	81 020	514	6.35	51.46	80 763	157.13	4 169 266	19.43
6-7	80 506	419	5.20	50.79	80 296	191.64	4 088 503	19.69
7-8	80 087	341	4.26	50.05	79 916	234.36	4 008 207	19.98
8-9	79 746	281	3.52	49.26	79 605	283.29	3 928 291	20.30
9-10	79 465	237	2.98	48.43	79 346	334.79	3 848 686	20.65
10-11	79 228	209	2.63	47.58	79 124	378.58	3 769 340	21.02
11-12	79 019	193	2.45	46.70	78 923	408.93	3 690 216	21.41
12-13	78 826	192	2.44	45.81	78 730	410.05	3 611 293	21.83
13-14	78 634	202	2.56	44.92	78 533	388.78	3 532 563	22.26
14-15	78 432	220	2.81	44.04	78 322	356.01	3 454 030	22.71
15-16	78 212	247	3.15	43.16	78 089	316.15	3 375 708	23.17
16-17	77 965	279	3.58	42.30	77 826	278.95	3 297 619	23.64
17-18	77 686	311	4.01	41.45	77 531	249.30	3 219 793	24.13
18-19	77 375	341	4.41	40.61	77 204	226.40	3 142 262	24.62
19-20	77 034	365	4.74	39.79	76 851	210.55	3 065 058	25.13
20-21	76 669	389	5.07	38.98	76 474	196.59	2 988 207	25.65
21-22	76 280	412	5.40	38.17	76 074	184.65	2 911 733	26.20
22-23	75 868	431	5.68	37.38	75 652	175.53	2 835 659	26.75
23-24	75 437	445	5.90	36.59	75 214	169.02	2 760 007	27.33
24-25	74 992	457	6.10	35.80	74 763	163.60	2 684 793	27.93
25-26	74 535	471	6.31	35.02	74 299	157.75	2 610 030	28.56
26-27	74 064	484	6.54	34.24	73 822	152.52	2 535 731	29.21
27-28	73 580	499	6.79	33.46	73 330	146.95	2 461 909	29.89
28-29	73 081	519	7.09	32.68	72 821	140.31	2 388 579	30.60
29-30	72 562	540	7.45	31.91	72 292	133.87	2 315 758	31.34
30-31	72 022	566	7.85	31.15	71 739	126.75	2 243 466	32.10
31-32	71 456	593	8.30	30.39	71 160	120.00	2 171 727	32.91
32-33	70 863	624	8.80	29.64	70 551	113.06	2 100 567	33.74
33-34	70 239	656	9.34	28.90	69 911	106.57	2 030 016	34.60
34-35	69 583	688	9.89	28.17	69 239	100.64	1 960 105	35.50
35-36	68 895	723	10.49	27.45	68 534	94.79	1 890 866	36.43
36-37	68 172	758	11.13	26.73	67 793	89.44	1 822 332	37.41
37-38	67 414	794	11.77	26.03	67 017	84.40	1 754 539	38.42
38-39	66 620	826	12.40	25.33	66 207	80.15	1 687 522	39.48
39-40	65 794	858	13.04	24.64	65 365	76.18	1 621 315	40.58
40-41	64 936	890	13.71	23.96	64 491	72.46	1 555 950	41.74
41-42	64 046	921	14.38	23.29	63 586	69.04	1 491 459	42.94
42-43	63 125	956	15.16	22.62	62 647	65.53	1 427 873	44.21
43-44	62 169	1 001	16.10	21.96	61 668	61.61	1 365 226	45.54
44-45	61 168	1 051	17.17	21.31	60 642	57.70	1 303 558	46.93

THE CITY OF CHICAGO: 1910. TABLE 64

REPORTED DEATHS IN 1909 (17,871), IN 1910 (19,169), AND IN 1911 (18,947).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	60 117	1 099	18.28	20.67	59 568	54.20	1 242 916	48.38
46-47	59 018	1 148	19.46	20.05	58 444	50.91	1 183 348	49.88
47-48	57 870	1 193	20.61	19.44	57 274	48.01	1 124 904	51.44
48-49	56 677	1 226	21.63	18.84	56 064	45.73	1 067 630	53.08
49-50	55 451	1 252	22.58	18.24	54 825	43.79	1 011 566	54.82
50-51	54 199	1 278	23.59	17.65	53 560	41.91	956 741	56.66
51-52	52 921	1 303	24.61	17.07	52 270	40.12	903 181	58.58
52-53	51 618	1 332	25.81	16.48	50 952	38.25	850 911	60.68
53-54	50 286	1 377	27.39	15.91	49 597	36.02	799 959	62.85
54-55	48 909	1 438	29.39	15.34	48 190	33.51	750 362	65.19
55-56	47 471	1 507	31.74	14.79	46 718	31.00	702 172	67.61
56-57	45 964	1 595	34.71	14.26	45 167	28.32	655 454	70.13
57-58	44 369	1 675	37.74	13.75	43 532	25.99	610 287	72.73
58-59	42 694	1 707	39.98	13.27	41 841	24.51	566 755	75.36
59-60	40 987	1 696	41.40	12.81	40 139	23.67	524 914	78.06
60-61	39 291	1 686	42.89	12.34	38 448	22.80	484 775	81.04
61-62	37 605	1 660	44.15	11.87	36 775	22.15	446 327	84.25
62-63	35 945	1 650	45.92	11.39	35 120	21.28	409 552	87.80
63-64	34 295	1 679	48.94	10.92	33 455	19.93	374 432	91.58
64-65	32 616	1 732	53.11	10.45	31 750	18.33	340 977	95.69
65-66	30 884	1 772	57.39	10.01	29 998	16.93	309 227	99.90
66-67	29 112	1 809	62.12	9.59	28 207	15.59	279 229	104.28
67-68	27 303	1 817	66.56	9.19	26 395	14.53	251 022	108.81
68-69	25 486	1 784	70.01	8.81	24 594	13.79	224 627	113.51
69-70	23 702	1 723	72.71	8.44	22 840	13.26	200 033	118.48
70-71	21 979	1 664	75.67	8.06	21 147	12.71	177 193	124.07
71-72	20 315	1 620	79.75	7.68	19 505	12.04	156 046	130.21
72-73	18 695	1 586	84.82	7.30	17 902	11.29	136 541	136.99
73-74	17 109	1 554	90.85	6.93	16 332	10.51	118 639	144.30
74-75	15 555	1 523	97.90	6.58	14 794	9.71	102 307	151.98
75-76	14 032	1 485	105.88	6.24	13 289	8.95	87 513	160.26
76-77	12 547	1 438	114.61	5.92	11 828	8.23	74 224	168.92
77-78	11 109	1 377	123.91	5.62	10 420	7.57	62 396	177.94
78-79	9 732	1 300	133.58	5.34	9 082	6.99	51 976	187.27
79-80	8 432	1 209	143.37	5.09	7 828	6.47	42 894	196.46
80-81	7 223	1 106	153.07	4.85	6 670	6.03	35 066	206.19
81-82	6 117	993	162.45	4.64	5 621	5.66	28 396	215.52
82-83	5 124	878	171.37	4.44	4 685	5.34	22 775	225.23
83-84	4 246	764	179.79	4.26	3 864	5.06	18 090	234.74
84-85	3 482	654	187.85	4.09	3 155	4.82	14 226	244.50
85-86	2 828	554	195.88	3.91	2 551	4.61	11 071	255.75
86-87	2 274	464	204.27	3.75	2 042	4.40	8 520	266.67
87-88	1 810	387	213.39	3.58	1 617	4.19	6 478	279.33
88-89	1 423	318	223.48	3.41	1 264	3.97	4 861	293.26
89-90	1 105	259	234.60	3.25	976	3.76	3 597	307.69
90-91	846	209	246.66	3.10	742	3.55	2 621	322.58
91-92	637	165	259.42	2.95	555	3.35	1 879	338.98
92-93	472	129	272.63	2.81	408	3.17	1 324	355.87
93-94	343	98	286.12	2.67	294	3.00	916	374.53
94-95	245	73	299.92	2.54	208	2.83	622	393.70
95-96	172	54	314.20	2.41	145	2.68	414	414.94
96-97	118	39	329.26	2.29	98	2.54	269	436.68
97-98	79	27	345.39	2.17	65	2.40	171	460.83
98-99	52	19	362.98	2.05	42	2.25	106	487.80
99-100	33	13	381.97	1.94	27	2.12	64	515.46
100-101	20	8	402.14	1.83	16	1.99	37	546.45
101-102	12	5	423.60	1.72	10	1.86	21	581.40
102-103	7	3	446.45	1.62	5	1.74	11	617.28
103-104	4	2	470.81	1.51	3	1.62	6	662.25
104-105	2	1	496.84	1.42	2	1.51	3	704.23
105-106	1	1	524.68	1.32	1	1.41	1	757.58

TABLE 65 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (859,917), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	9 762	97.62	50.79	93 069	9.53	5 079 412	19.69
1-2	90 238	3 002	33.27	55.26	88 467	29.47	4 986 343	18.10
2-3	87 236	1 318	15.11	56.15	86 537	65.66	4 897 876	17.81
3-4	85 918	882	10.26	56.00	85 459	96.89	4 811 339	17.86
4-5	85 036	712	8.38	55.58	84 666	118.91	4 725 880	17.99
5-6	84 324	573	6.79	55.04	84 038	146.66	4 641 214	18.17
6-7	83 751	458	5.47	54.41	83 522	182.36	4 557 176	18.38
7-8	83 293	368	4.42	53.71	83 109	225.84	4 473 654	18.62
8-9	82 925	299	3.61	52.95	82 775	276.84	4 390 545	18.89
9-10	82 626	250	3.02	52.14	82 501	330.00	4 307 770	19.18
10-11	82 376	218	2.65	51.29	82 267	377.37	4 225 269	19.50
11-12	82 158	204	2.48	50.43	82 056	402.24	4 143 002	19.83
12-13	81 954	203	2.48	49.55	81 853	403.22	4 060 946	20.18
13-14	81 751	217	2.65	48.67	81 643	376.24	3 979 093	20.55
14-15	81 534	242	2.97	47.80	81 413	336.42	3 897 450	20.92
15-16	81 292	278	3.42	46.94	81 153	291.92	3 816 037	21.30
16-17	81 014	322	3.98	46.10	80 853	251.10	3 734 884	21.69
17-18	80 692	363	4.49	45.28	80 510	221.79	3 654 031	22.08
18-19	80 329	388	4.83	44.49	80 135	206.53	3 573 521	22.48
19-20	79 941	404	5.05	43.70	79 739	197.37	3 493 386	22.88
20-21	79 537	421	5.30	42.92	79 327	188.43	3 413 647	23.30
21-22	79 116	438	5.54	42.14	78 897	180.13	3 334 320	23.73
22-23	78 678	453	5.76	41.38	78 451	173.18	3 255 423	24.17
23-24	78 225	468	5.98	40.61	77 991	166.65	3 176 972	24.62
24-25	77 757	481	6.18	39.85	77 517	161.16	3 098 981	25.09
25-26	77 276	493	6.38	39.10	77 030	156.25	3 021 464	25.58
26-27	76 783	505	6.58	38.35	76 531	151.55	2 944 434	26.08
27-28	76 278	515	6.76	37.60	76 021	147.61	2 867 903	26.60
28-29	75 763	523	6.91	36.85	75 501	144.36	2 791 882	27.14
29-30	75 240	530	7.04	36.10	74 975	141.46	2 716 381	27.70
30-31	74 710	537	7.19	35.36	74 442	138.63	2 641 406	28.28
31-32	74 173	544	7.33	34.61	73 901	135.85	2 566 964	28.89
32-33	73 629	552	7.50	33.86	73 353	132.89	2 493 063	29.53
33-34	73 077	563	7.70	33.11	72 795	129.30	2 419 710	30.20
34-35	72 514	574	7.92	32.36	72 227	125.83	2 346 915	30.90
35-36	71 940	586	8.14	31.62	71 647	122.26	2 274 688	31.63
36-37	71 354	596	8.36	30.87	71 056	119.22	2 203 041	32.39
37-38	70 758	609	8.61	30.13	70 453	115.69	2 131 985	33.19
38-39	70 149	623	8.88	29.39	69 837	112.10	2 061 532	34.03
39-40	69 526	640	9.20	28.65	69 206	108.13	1 991 695	34.90
40-41	68 886	659	9.57	27.91	68 556	104.03	1 922 489	35.83
41-42	68 227	682	10.00	27.17	67 886	99.54	1 853 933	36.81
42-43	67 545	705	10.43	26.44	67 192	95.31	1 786 047	37.82
43-44	66 840	723	10.82	25.72	66 479	91.95	1 718 855	38.88
44-45	66 117	739	11.18	24.99	65 747	88.97	1 652 376	40.02

THE CITY OF CHICAGO: 1901. TABLE 65

REPORTED DEATHS IN 1900 (11,680), IN 1901 (10,968), AND IN 1902 (11,494).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	65 378	758	11.59	24.27	64 999	85.75	1 586 629	41.20
46-47	64 620	778	12.04	23.55	64 231	82.56	1 521 630	42.46
47-48	63 842	806	12.63	22.83	63 439	78.71	1 457 399	43.80
48-49	63 036	846	13.42	22.11	62 613	74.01	1 393 960	45.23
49-50	62 190	893	14.36	21.41	61 743	69.14	1 331 347	46.71
50-51	61 297	939	15.32	20.71	60 827	64.78	1 269 604	48.29
51-52	60 358	985	16.32	20.03	59 865	60.78	1 208 777	49.93
52-53	59 373	1 030	17.35	19.35	58 858	57.14	1 148 912	51.68
53-54	58 343	1 077	18.46	18.68	57 804	53.67	1 090 054	53.53
54-55	57 266	1 129	19.72	18.03	56 701	50.22	1 032 250	55.46
55-56	56 137	1 189	21.18	17.38	55 542	46.71	975 549	57.54
56-57	54 948	1 261	22.95	16.74	54 317	43.07	920 007	59.74
57-58	53 687	1 331	24.78	16.12	53 021	39.84	865 690	62.03
58-59	52 356	1 380	26.36	15.52	51 666	37.44	812 669	64.43
59-60	50 976	1 410	27.67	14.93	50 271	35.65	761 003	66.98
60-61	49 566	1 439	29.03	14.34	48 846	33.94	710 732	69.74
61-62	48 127	1 456	30.25	13.75	47 399	32.55	661 886	72.73
62-63	46 671	1 493	32.00	13.17	45 924	30.76	614 487	75.93
63-64	45 178	1 576	34.87	12.58	44 390	28.17	568 563	79.49
64-65	43 602	1 688	38.73	12.02	42 758	25.33	524 173	83.19
65-66	41 914	1 796	42.86	11.49	41 016	22.84	481 415	87.03
66-67	40 118	1 909	47.56	10.98	39 164	20.52	440 399	91.07
67-68	38 209	1 987	52.01	10.50	37 216	18.73	401 235	95.24
68-69	36 222	2 006	55.39	10.05	35 219	17.56	364 019	99.50
69-70	34 216	1 983	57.94	9.61	33 224	16.75	328 800	104.06
70-71	32 233	1 961	60.84	9.17	31 253	15.94	295 576	109.05
71-72	30 272	1 934	63.88	8.73	29 305	15.15	264 323	114.55
72-73	28 338	1 910	67.40	8.29	27 383	14.34	235 018	120.63
73-74	26 428	1 900	71.90	7.86	25 478	13.41	207 635	127.23
74-75	24 528	1 898	77.37	7.43	23 579	12.42	182 157	134.59
75-76	22 630	1 882	83.17	7.01	21 689	11.52	158 578	142.65
76-77	20 748	1 869	90.08	6.60	19 814	10.60	136 889	151.52
77-78	18 879	1 864	98.75	6.20	17 947	9.63	117 075	161.29
78-79	17 015	1 852	108.86	5.83	16 089	8.69	99 128	171.53
79-80	15 163	1 822	120.16	5.48	14 252	7.82	83 039	182.48
80-81	13 341	1 763	132.16	5.16	12 459	7.07	68 787	193.80
81-82	11 578	1 671	144.27	4.87	10 742	6.43	56 328	205.34
82-83	9 907	1 545	155.99	4.60	9 135	5.91	45 586	217.39
83-84	8 362	1 397	167.07	4.36	7 663	5.49	36 451	229.36
84-85	6 965	1 237	177.62	4.13	6 346	5.13	28 788	242.13
85-86	5 728	1 077	188.04	3.92	5 189	4.82	22 442	255.10
86-87	4 651	925	198.92	3.71	4 188	4.53	17 253	269.54
87-88	3 726	786	210.81	3.51	3 333	4.24	13 065	284.90
88-89	2 940	658	224.01	3.31	2 611	3.96	9 732	302.11
89-90	2 282	545	238.52	3.12	2 009	3.69	7 121	320.51
90-91	1 737	441	254.11	2.94	1 517	3.44	5 112	340.14
91-92	1 296	351	270.40	2.77	1 121	3.20	3 595	361.01
92-93	945	271	287.07	2.62	810	2.98	2 474	381.68
93-94	674	205	303.98	2.47	572	2.79	1 664	404.86
94-95	469	151	321.25	2.33	394	2.61	1 092	429.18
95-96	318	108	339.20	2.20	264	2.45	698	454.55
96-97	210	75	358.25	2.07	173	2.29	434	483.09
97-98	135	51	378.73	1.94	109	2.14	261	515.46
98-99	84	34	400.82	1.82	67	1.99	152	549.45
99-100	50	21	424.53	1.71	40	1.86	85	584.80
100-101	29	13	449.76	1.59	22	1.72	45	628.93
101-102	16	8	476.41	1.49	12	1.60	23	671.14
102-103	8	4	504.43	1.39	6	1.48	11	719.42
103-104	4	2	533.79	1.30	3	1.37	5	769.23
104-105	2	1	564.63	1.21	1	1.27	2	826.45
105-106	1	1	597.02	1.12	1	1.18	1	892.86

TABLE 66 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (1,064,497), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	10 431	104.31	51.68	92 594	8.88	5 167 992	19.35
1-2	89 569	2 765	30.87	56.66	87 938	31.80	5 075 398	17.65
2-3	86 804	1 270	14.63	57.46	86 131	67.82	4 987 460	17.40
3-4	85 534	859	10.04	57.30	85 088	99.05	4 901 329	17.45
4-5	84 675	634	7.49	56.88	84 345	133.04	4 816 241	17.58
5-6	84 041	482	5.73	56.30	83 800	173.86	4 731 896	17.76
6-7	83 559	400	4.79	55.63	83 359	208.40	4 648 096	17.98
7-8	83 159	330	3.97	54.89	82 994	251.50	4 564 737	18.22
8-9	82 829	272	3.29	54.11	82 693	304.02	4 481 743	18.48
9-10	82 557	229	2.77	53.29	82 443	360.01	4 399 050	18.77
10-11	82 328	199	2.42	52.43	82 229	413.21	4 316 607	19.07
11-12	82 129	185	2.25	51.56	82 037	443.44	4 234 378	19.39
12-13	81 944	181	2.22	50.67	81 854	452.23	4 152 341	19.74
13-14	81 763	189	2.31	49.78	81 668	432.11	4 070 487	20.09
14-15	81 574	204	2.50	48.90	81 472	399.37	3 988 819	20.45
15-16	81 370	224	2.76	48.02	81 258	362.76	3 907 347	20.82
16-17	81 146	248	3.06	47.15	81 022	326.70	3 826 089	21.21
17-18	80 898	274	3.38	46.29	80 761	294.75	3 745 067	21.60
18-19	80 624	297	3.69	45.45	80 475	270.96	3 664 306	22.00
19-20	80 327	319	3.97	44.62	80 167	251.31	3 583 831	22.41
20-21	80 008	341	4.26	43.79	79 838	234.13	3 503 664	22.84
21-22	79 667	362	4.55	42.98	79 486	219.57	3 423 826	23.27
22-23	79 305	379	4.77	42.17	79 116	208.75	3 344 340	23.71
23-24	78 926	388	4.92	41.37	78 732	202.92	3 265 224	24.17
24-25	78 538	395	5.03	40.57	78 341	198.33	3 186 492	24.65
25-26	78 143	402	5.15	39.78	77 942	193.89	3 108 151	25.14
26-27	77 741	410	5.27	38.98	77 536	189.11	3 030 209	25.65
27-28	77 331	420	5.43	38.18	77 121	183.62	2 952 673	26.19
28-29	76 911	434	5.65	37.39	76 694	176.71	2 875 552	26.75
29-30	76 477	452	5.91	36.60	76 251	168.70	2 798 858	27.32
30-31	76 025	470	6.18	35.81	75 790	161.26	2 722 607	27.93
31-32	75 555	490	6.48	35.03	75 310	153.69	2 646 817	28.55
32-33	75 065	510	6.79	34.26	74 810	146.69	2 571 507	29.19
33-34	74 555	528	7.08	33.49	74 291	140.70	2 496 697	29.86
34-35	74 027	543	7.34	32.72	73 756	135.83	2 422 406	30.56
35-36	73 484	559	7.61	31.96	73 204	130.96	2 348 650	31.29
36-37	72 925	577	7.90	31.20	72 637	125.89	2 275 446	32.05
37-38	72 348	589	8.15	30.45	72 053	122.33	2 202 809	32.84
38-39	71 759	600	8.35	29.69	71 459	119.10	2 130 756	33.68
39-40	71 159	607	8.54	28.94	70 855	116.73	2 059 297	34.55
40-41	70 552	617	8.74	28.18	70 243	113.85	1 988 442	35.49
41-42	69 935	624	8.92	27.43	69 623	111.58	1 918 199	36.46
42-43	69 311	641	9.26	26.67	68 990	107.63	1 848 576	37.50
43-44	68 670	676	9.84	25.92	68 332	101.08	1 779 586	38.58
44-45	67 994	719	10.58	25.17	67 634	94.07	1 711 254	39.73

THE CITY OF CHICAGO: 1910. TABLE 66

REPORTED DEATHS IN 1909 (13,425), IN 1910 (14,072), AND IN 1911 (13,584).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	67 275	765	11.36	24.43	66 893	87.44	1 643 620	40.93
46-47	66 510	812	12.21	23.71	66 104	81.41	1 576 727	42.18
47-48	65 698	854	13.00	22.99	65 271	76.43	1 510 623	43.50
48-49	64 844	885	13.65	22.29	64 401	72.77	1 445 352	44.86
49-50	63 959	910	14.22	21.59	63 504	69.78	1 380 951	46.32
50-51	63 049	937	14.87	20.90	62 580	66.79	1 317 447	47.85
51-52	62 112	967	15.56	20.20	61 629	63.73	1 254 867	49.50
52-53	61 145	1 003	16.41	19.51	60 644	60.46	1 193 238	51.26
53-54	60 142	1 056	17.56	18.83	59 614	56.45	1 132 594	53.11
54-55	59 086	1 123	19.02	18.16	58 524	52.11	1 072 980	55.07
55-56	57 963	1 200	20.69	17.50	57 363	47.80	1 014 456	57.14
56-57	56 763	1 290	22.74	16.86	56 118	43.50	957 093	59.31
57-58	55 473	1 377	24.82	16.24	54 784	39.79	900 975	61.58
58-59	54 096	1 433	26.49	15.64	53 379	37.25	846 191	63.94
59-60	52 663	1 461	27.74	15.05	51 932	35.55	792 812	66.45
60-61	51 202	1 487	29.05	14.47	50 458	33.93	740 880	69.11
61-62	49 715	1 504	30.24	13.89	48 963	32.56	690 422	71.99
62-63	48 211	1 533	31.80	13.31	47 445	30.95	641 459	75.13
63-64	46 678	1 595	34.18	12.73	45 880	28.76	594 014	78.55
64-65	45 083	1 685	37.37	12.16	44 240	26.26	548 134	82.24
65-66	43 398	1 768	40.75	11.61	42 514	24.05	503 894	86.13
66-67	41 630	1 854	44.53	11.08	40 703	21.95	461 380	90.25
67-68	39 776	1 928	48.48	10.58	38 812	20.13	420 677	94.52
68-69	37 848	1 977	52.24	10.09	36 859	18.64	381 865	99.11
69-70	35 871	2 005	55.87	9.62	34 869	17.39	345 006	103.95
70-71	33 866	2 029	59.92	9.16	32 852	16.19	310 137	109.17
71-72	31 837	2 046	64.27	8.71	30 814	15.06	277 285	114.81
72-73	29 791	2 061	69.17	8.27	28 761	13.95	246 471	120.92
73-74	27 730	2 077	74.93	7.85	26 692	12.85	217 710	127.39
74-75	25 653	2 090	81.47	7.45	24 608	11.77	191 018	134.23
75-76	23 563	2 087	88.57	7.06	22 519	10.79	166 410	141.64
76-77	21 476	2 072	96.48	6.70	20 440	9.86	143 891	149.25
77-78	19 404	2 025	104.34	6.36	18 392	9.08	123 451	157.23
78-79	17 379	1 937	111.46	6.05	16 411	8.47	105 059	165.29
79-80	15 442	1 824	118.12	5.74	14 530	7.97	88 648	174.22
80-81	13 618	1 709	125.52	5.44	12 763	7.47	74 118	183.82
81-82	11 909	1 591	133.61	5.15	11 113	6.98	61 355	194.17
82-83	10 318	1 471	142.58	4.87	9 582	6.51	50 242	205.34
83-84	8 847	1 350	152.58	4.60	8 172	6.05	40 660	217.39
84-85	7 497	1 225	163.36	4.33	6 884	5.62	32 488	230.95
85-86	6 272	1 096	174.71	4.08	5 724	5.22	25 604	245.10
86-87	5 176	965	186.57	3.84	4 693	4.86	19 880	260.42
87-88	4 211	840	199.28	3.61	3 791	4.52	15 187	277.01
88-89	3 371	720	213.58	3.38	3 011	4.18	11 396	295.86
89-90	2 651	609	230.00	3.16	2 346	3.85	8 385	316.46
90-91	2 042	506	247.77	2.96	1 789	3.54	6 039	337.84
91-92	1 536	410	266.56	2.77	1 331	3.25	4 250	361.01
92-93	1 126	321	285.39	2.59	966	3.00	2 919	386.10
93-94	805	245	304.88	2.43	682	2.78	1 953	411.52
94-95	560	182	325.07	2.27	469	2.58	1 271	440.53
95-96	378	131	346.10	2.13	312	2.39	802	469.48
96-97	247	91	368.16	1.99	201	2.22	490	502.51
97-98	156	61	391.50	1.86	125	2.05	289	537.63
98-99	95	40	416.32	1.74	75	1.90	164	574.71
99-100	55	24	442.72	1.62	43	1.76	89	617.28
100-101	31	15	470.72	1.51	24	1.62	46	662.25
101-102	16	8	500.25	1.40	12	1.50	22	714.29
102-103	8	4	531.17	1.30	6	1.38	10	769.23
103-104	4	2	563.33	1.21	3	1.28	4	826.45
104-105	2	1	596.81	1.12	1	1.18	1	892.86
105-106	1	1	631.57	1.04	.....	1.08	.....	961.54

TABLE 67 — LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,779,796), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	15 673	156.73	40.65	88 715	5.66	4 065 000	24.60
1-2	84 327	4 635	54.96	47.15	81 592	17.60	3 976 285	21.21
2-3	79 692	1 967	24.69	48.87	78 649	39.98	3 894 693	20.46
3-4	77 725	1 257	16.17	49.10	77 071	61.31	3 816 044	20.37
4-5	76 468	903	11.81	48.90	75 998	84.16	3 738 973	20.45
5-6	75 565	652	8.63	48.47	75 239	115.40	3 662 975	20.63
6-7	74 913	529	7.06	47.89	74 648	141.11	3 587 736	20.88
7-8	74 384	425	5.72	47.23	74 171	174.52	3 513 088	21.17
8-9	73 959	341	4.61	46.50	73 788	216.39	3 438 917	21.51
9-10	73 618	276	3.75	45.71	73 480	266.23	3 365 129	21.88
10-11	73 342	230	3.13	44.88	73 227	318.38	3 291 649	22.28
11-12	73 112	201	2.75	44.02	73 012	363.24	3 218 422	22.72
12-13	72 911	189	2.60	43.14	72 817	385.28	3 145 410	23.18
13-14	72 722	195	2.68	42.25	72 625	372.44	3 072 593	23.67
14-15	72 527	214	2.96	41.36	72 420	338.41	2 999 968	24.18
15-16	72 313	249	3.44	40.48	72 188	289.91	2 927 548	24.70
16-17	72 064	296	4.10	39.62	71 916	242.96	2 855 360	25.24
17-18	71 768	345	4.81	38.78	71 596	207.52	2 783 444	25.79
18-19	71 423	391	5.48	37.97	71 227	182.17	2 711 848	26.34
19-20	71 032	431	6.07	37.18	70 816	164.31	2 640 621	26.90
20-21	70 601	474	6.70	36.40	70 364	148.45	2 569 805	27.47
21-22	70 127	515	7.35	35.64	69 870	135.67	2 499 441	28.06
22-23	69 612	550	7.90	34.90	69 337	126.07	2 429 571	28.65
23-24	69 062	575	8.33	34.18	68 774	119.61	2 360 234	29.26
24-25	68 487	596	8.70	33.46	68 189	114.41	2 291 460	29.89
25-26	67 891	614	9.05	32.75	67 584	110.07	2 223 271	30.53
26-27	67 277	632	9.38	32.04	66 961	105.95	2 155 687	31.21
27-28	66 645	652	9.79	31.34	66 319	101.72	2 088 726	31.91
28-29	65 993	682	10.34	30.65	65 652	96.26	2 022 407	32.63
29-30	65 311	718	10.99	29.96	64 952	90.46	1 956 755	33.38
30-31	64 593	753	11.66	29.29	64 217	85.28	1 891 803	34.14
31-32	63 840	790	12.37	28.63	63 445	80.31	1 827 586	34.93
32-33	63 050	821	13.03	27.98	62 640	76.30	1 764 141	35.74
33-34	62 229	843	13.55	27.34	61 808	73.32	1 701 501	36.58
34-35	61 386	857	13.97	26.71	60 957	71.13	1 639 693	37.44
35-36	60 529	872	14.41	26.08	60 093	68.91	1 578 736	38.34
36-37	59 657	886	14.85	25.46	59 214	66.83	1 518 643	39.28
37-38	58 771	902	15.34	24.83	58 320	64.66	1 459 429	40.27
38-39	57 869	922	15.94	24.21	57 408	62.26	1 401 109	41.31
39-40	56 947	947	16.62	23.60	56 474	59.63	1 343 701	42.37
40-41	56 000	970	17.33	22.99	55 515	57.23	1 287 227	43.50
41-42	55 030	998	18.13	22.38	54 531	54.64	1 231 712	44.68
42-43	54 032	1 019	18.87	21.79	53 522	52.52	1 177 181	45.89
43-44	53 013	1 033	19.49	21.20	52 496	50.82	1 123 659	47.17
44-45	51 980	1 042	20.04	20.61	51 459	49.38	1 071 163	48.52

THE CITY OF NEW YORK: 1901. TABLE 67

REPORTED DEATHS IN 1900 (38,029), IN 1901 (38,174), AND IN 1902 (36,899).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	50 938	1 053	20.68	20.02	50 411	47.87	1 019 704	49.95
46-47	49 885	1 066	21.37	19.43	49 352	46.30	969 293	51.47
47-48	48 819	1 087	22.26	18.84	48 275	44.41	919 941	53.08
48-49	47 732	1 115	23.37	18.26	47 174	42.31	871 666	54.76
49-50	46 617	1 147	24.60	17.69	46 043	40.14	824 492	56.53
50-51	45 470	1 174	25.82	17.12	44 883	38.23	778 449	58.41
51-52	44 296	1 198	27.04	16.56	43 697	36.47	733 566	60.39
52-53	43 098	1 220	28.32	16.01	42 488	34.83	689 869	62.46
53-54	41 878	1 249	29.82	15.46	41 253	33.03	647 381	64.68
54-55	40 629	1 286	31.63	14.92	39 986	31.09	606 128	67.02
55-56	39 343	1 325	33.69	14.39	38 681	29.19	566 142	69.49
56-57	38 018	1 372	36.09	13.87	37 332	27.21	527 461	72.10
57-58	36 646	1 417	38.67	13.37	35 937	25.36	490 129	74.79
58-59	35 229	1 445	41.01	12.89	34 506	23.88	454 192	77.58
59-60	33 784	1 454	43.03	12.42	33 057	22.74	419 686	80.52
60-61	32 330	1 458	45.12	11.96	31 601	21.67	386 629	83.61
61-62	30 872	1 455	47.13	11.50	30 144	20.72	355 028	86.96
62-63	29 417	1 453	49.38	11.04	28 690	19.75	324 884	90.58
63-64	27 964	1 464	52.36	10.59	27 232	18.60	296 194	94.43
64-65	26 500	1 489	56.18	10.15	25 755	17.30	268 962	98.52
65-66	25 011	1 512	60.46	9.72	24 255	16.04	243 207	102.88
66-67	23 499	1 528	65.00	9.32	22 735	14.88	218 952	107.30
67-68	21 971	1 513	68.88	8.93	21 215	14.02	196 217	111.98
68-69	20 458	1 485	72.58	8.55	19 716	13.28	175 002	116.96
69-70	18 973	1 445	76.17	8.18	18 251	12.63	155 286	122.25
70-71	17 528	1 400	79.89	7.82	16 828	12.02	137 035	127.88
71-72	16 128	1 356	84.07	7.45	15 450	11.39	120 207	134.23
72-73	14 772	1 316	89.07	7.09	14 114	10.72	104 757	141.04
73-74	13 456	1 280	95.13	6.74	12 816	10.01	90 643	148.37
74-75	12 176	1 245	102.30	6.39	11 553	9.28	77 827	156.49
75-76	10 931	1 207	110.42	6.06	10 327	8.56	66 274	165.02
76-77	9 724	1 159	119.16	5.75	9 144	7.89	55 947	173.91
77-78	8 565	1 098	128.16	5.46	8 016	7.30	46 803	183.15
78-79	7 467	1 024	137.12	5.19	6 955	6.79	38 787	192.68
79-80	6 443	940	145.92	4.94	5 973	6.35	31 832	202.43
80-81	5 503	851	154.62	4.70	5 078	5.97	25 859	212.77
81-82	4 652	760	163.45	4.47	4 272	5.62	20 781	223.71
82-83	3 892	673	172.77	4.24	3 556	5.29	16 509	235.85
83-84	3 219	588	182.88	4.02	2 925	4.97	12 953	248.76
84-85	2 631	511	193.95	3.81	2 376	4.66	10 028	262.47
85-86	2 120	436	206.01	3.61	1 902	4.35	7 652	277.01
86-87	1 684	369	218.94	3.42	1 499	4.07	5 750	292.40
87-88	1 315	306	232.50	3.23	1 162	3.80	4 251	309.60
88-89	1 009	249	246.49	3.06	885	3.56	3 089	326.80
89-90	760	198	260.81	2.90	661	3.33	2 204	344.83
90-91	562	155	275.48	2.74	485	3.13	1 543	364.96
91-92	407	118	290.63	2.60	348	2.94	1 058	384.62
92-93	289	89	306.42	2.46	245	2.76	710	406.50
93-94	200	64	323.06	2.32	168	2.60	465	431.03
94-95	136	47	340.73	2.19	113	2.43	297	456.62
95-96	89	32	359.57	2.07	73	2.28	184	483.09
96-97	57	21	379.61	1.95	46	2.13	111	512.82
97-98	36	15	400.87	1.83	28	1.99	65	546.45
98-99	21	9	423.32	1.72	17	1.86	37	581.40
99-100	12	5	446.94	1.61	10	1.74	20	621.12
100-101	7	3	471.74	1.51	5	1.62	10	662.25
101-102	4	2	497.71	1.42	3	1.51	5	704.23
102-103	2	1	524.96	1.33	1	1.40	2	751.88
103-104	1	1	553.54	1.24	1	1.31	1	806.45

TABLE 68 LIFE TABLE FOR MALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,396,502), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 186	131.86	45.30	90 506	6.86	4 530 257	22.08
1-2	86 814	3 613	41.61	51.14	84 682	23.44	4 439 751	19.55
2-3	83 201	1 602	19.25	52.34	82 352	51.41	4 355 069	19.11
3-4	81 599	890	10.92	52.36	81 136	91.16	4 272 717	19.10
4-5	80 709	616	7.63	51.93	80 389	130.50	4 191 581	19.26
5-6	80 093	489	6.12	51.33	79 848	163.29	4 111 192	19.48
6-7	79 604	390	4.89	50.64	79 409	203.61	4 031 344	19.75
7-8	79 214	311	3.92	49.89	79 059	254.21	3 951 935	20.04
8-9	78 903	251	3.18	49.08	78 778	313.86	3 872 876	20.37
9-10	78 652	209	2.66	48.24	78 548	375.83	3 794 098	20.73
10-11	78 443	183	2.33	47.37	78 352	428.15	3 715 550	21.11
11-12	78 260	171	2.19	46.48	78 174	457.16	3 637 198	21.51
12-13	78 089	173	2.21	45.58	78 002	450.88	3 559 024	21.94
13-14	77 916	184	2.37	44.68	77 824	422.96	3 481 022	22.38
14-15	77 732	205	2.64	43.78	77 630	378.68	3 403 198	22.84
15-16	77 527	234	3.02	42.90	77 410	330.81	3 325 568	23.31
16-17	77 293	271	3.51	42.02	77 157	284.71	3 248 158	23.80
17-18	77 022	305	3.96	41.17	76 870	252.03	3 171 001	24.29
18-19	76 717	328	4.28	40.33	76 553	233.39	3 094 131	24.80
19-20	76 389	344	4.51	39.50	76 217	221.56	3 017 578	25.32
20-21	76 045	363	4.78	38.68	75 863	208.99	2 941 361	25.85
21-22	75 682	383	5.06	37.86	75 491	197.10	2 865 498	26.41
22-23	75 299	400	5.32	37.05	75 099	187.75	2 790 007	26.99
23-24	74 899	418	5.58	36.25	74 690	178.68	2 714 908	27.59
24-25	74 481	435	5.84	35.45	74 264	170.72	2 640 218	28.21
25-26	74 046	452	6.11	34.65	73 820	163.32	2 565 954	28.86
26-27	73 594	470	6.39	33.86	73 359	156.08	2 492 134	29.53
27-28	73 124	491	6.72	33.08	72 879	148.43	2 418 775	30.23
28-29	72 633	519	7.15	32.30	72 373	139.45	2 345 896	30.96
29-30	72 114	553	7.67	31.53	71 837	129.90	2 273 523	31.72
30-31	71 561	588	8.22	30.77	71 267	121.20	2 201 686	32.50
31-32	70 973	626	8.82	30.02	70 660	112.88	2 130 419	33.31
32-33	70 347	667	9.48	29.28	70 013	104.97	2 059 759	34.15
33-34	69 680	707	10.15	28.56	69 326	98.06	1 989 746	35.01
34-35	68 973	746	10.81	27.84	68 600	91.96	1 920 420	35.92
35-36	68 227	785	11.51	27.14	67 834	86.41	1 851 820	36.85
36-37	67 442	824	12.23	26.45	67 030	81.35	1 783 986	37.81
37-38	66 618	860	12.91	25.77	66 188	76.96	1 716 956	38.80
38-39	65 758	890	13.53	25.10	65 313	73.39	1 650 768	39.84
39-40	64 868	918	14.14	24.44	64 409	70.16	1 585 455	40.92
40-41	63 950	945	14.79	23.78	63 477	67.17	1 521 046	42.05
41-42	63 005	974	15.46	23.13	62 518	64.19	1 457 569	43.23
42-43	62 031	1 004	16.18	22.49	61 529	61.28	1 395 051	44.46
43-44	61 027	1 034	16.95	21.85	60 510	58.52	1 333 522	45.77
44-45	59 993	1 066	17.77	21.22	59 460	55.78	1 273 012	47.13

THE CITY OF NEW YORK: 1910. TABLE 68

REPORTED DEATHS IN 1909 (40,388), IN 1910 (41,763), AND IN 1911 (41,118).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	58 927	1 097	18.63	20.59	58 378	53.22	1 213 552	48.57
46-47	57 830	1 130	19.53	19.98	57 265	50.68	1 155 174	50.05
47-48	56 700	1 163	20.50	19.36	56 119	48.25	1 097 909	51.65
48-49	55 537	1 195	21.52	18.76	54 940	45.97	1 041 790	53.30
49-50	54 342	1 227	22.58	18.16	53 729	43.79	986 850	55.07
50-51	53 115	1 258	23.70	17.57	52 486	41.72	933 121	56.92
51-52	51 857	1 290	24.87	16.98	51 212	39.70	880 635	58.89
52-53	50 567	1 321	26.13	16.40	49 907	37.78	829 423	60.98
53-54	49 246	1 357	27.56	15.83	48 568	35.79	779 516	63.17
54-55	47 889	1 402	29.28	15.26	47 188	33.66	730 948	65.53
55-56	46 487	1 455	31.29	14.71	45 759	31.45	683 760	67.98
56-57	45 032	1 517	33.70	14.17	44 273	29.18	638 001	70.57
57-58	43 515	1 589	36.51	13.64	42 720	26.88	593 728	73.31
58-59	41 926	1 651	39.38	13.14	41 100	24.89	551 008	76.10
59-60	40 275	1 694	42.06	12.66	39 428	23.28	509 908	78.99
60-61	38 581	1 730	44.82	12.19	37 716	21.80	470 480	82.03
61-62	36 851	1 752	47.56	11.74	35 975	20.53	432 764	85.18
62-63	35 099	1 764	50.24	11.30	34 217	19.40	396 789	88.50
63-64	33 335	1 769	53.08	10.88	32 451	18.34	362 572	91.91
64-65	31 566	1 774	56.19	10.46	30 679	17.29	330 121	95.60
65-66	29 792	1 769	59.39	10.05	28 907	16.34	299 442	99.50
66-67	28 023	1 757	62.69	9.65	27 144	15.45	270 535	103.63
67-68	26 266	1 739	66.19	9.27	25 397	14.60	243 391	107.87
68-69	24 527	1 713	69.88	8.89	23 671	13.82	217 994	112.49
69-70	22 814	1 682	73.71	8.52	21 973	13.06	194 323	117.37
70-71	21 132	1 643	77.75	8.16	20 311	12.36	172 350	122.55
71-72	19 489	1 599	82.06	7.80	18 689	11.69	152 039	128.21
72-73	17 890	1 558	87.08	7.45	17 111	10.98	133 350	134.23
73-74	16 332	1 513	92.66	7.12	15 575	10.29	116 239	140.45
74-75	14 819	1 464	98.76	6.79	14 087	9.62	100 664	147.28
75-76	13 355	1 406	105.27	6.48	12 652	9.00	86 577	154.32
76-77	11 949	1 338	112.02	6.19	11 280	8.43	73 925	161.55
77-78	10 611	1 262	118.87	5.90	9 980	7.91	62 645	169.49
78-79	9 349	1 175	125.74	5.63	8 762	7.46	52 665	177.62
79-80	8 174	1 085	132.67	5.37	7 632	7.03	43 903	186.22
80-81	7 089	991	139.82	5.12	6 594	6.65	36 271	195.31
81-82	6 098	899	147.42	4.87	5 649	6.28	29 677	205.34
82-83	5 199	809	155.71	4.62	4 794	5.92	24 028	216.45
83-84	4 390	724	164.87	4.38	4 028	5.57	19 234	228.31
84-85	3 666	642	175.02	4.15	3 345	5.21	15 206	240.96
85-86	3 024	563	186.18	3.92	2 743	4.87	11 861	255.10
86-87	2 461	488	198.26	3.70	2 217	4.54	9 118	270.27
87-88	1 973	416	211.16	3.50	1 765	4.24	6 901	285.71
88-89	1 557	350	224.80	3.30	1 382	3.95	5 136	303.03
89-90	1 207	289	239.15	3.11	1 062	3.68	3 754	321.54
90-91	918	233	254.26	2.93	801	3.43	2 692	341.30
91-92	685	185	270.19	2.76	592	3.20	1 891	362.32
92-93	500	144	287.02	2.60	428	2.98	1 299	384.62
93-94	356	108	304.82	2.44	302	2.78	871	409.84
94-95	248	80	323.64	2.30	208	2.59	569	434.78
95-96	168	58	343.52	2.16	139	2.41	361	462.96
96-97	110	40	364.49	2.02	90	2.24	222	495.05
97-98	70	27	386.60	1.90	56	2.09	132	526.32
98-99	43	18	409.91	1.77	34	1.94	76	564.97
99-100	25	11	434.46	1.66	20	1.80	42	602.41
100-101	14	6	460.28	1.55	11	1.67	22	645.16
101-102	8	4	487.43	1.45	6	1.55	11	689.66
102-103	4	2	515.95	1.35	3	1.44	5	740.74
103-104	2	1	545.87	1.26	1	1.33	2	793.65
104-105	1	1	577.22	1.17	1	1.23	1	854.70

TABLE 69 **LIFE TABLE FOR FEMALES IN**

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (1,803,278), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	13 298	132.98	44.86	90 558	6.81	4 486 189	22.29
1-2	86 702	4 266	49.20	50.70	84 185	19.73	4 395 631	19.72
2-3	82 436	1 892	22.95	52.30	81 433	43.04	4 311 446	19.12
3-4	80 544	1 187	14.74	52.52	79 926	67.33	4 230 013	19.04
4-5	79 357	899	11.32	52.30	78 889	87.75	4 150 087	19.12
5-6	78 458	673	8.58	51.89	78 121	116.08	4 071 198	19.27
6-7	77 785	502	6.45	51.33	77 534	154.45	3 993 077	19.48
7-8	77 283	375	4.86	50.66	77 095	205.59	3 915 543	19.74
8-9	76 908	288	3.74	49.91	76 764	266.54	3 838 448	20.04
9-10	76 620	232	3.02	49.10	76 504	329.76	3 761 684	20.37
10-11	76 388	201	2.63	48.24	76 288	379.54	3 685 180	20.73
11-12	76 187	190	2.49	47.37	76 092	400.48	3 608 892	21.11
12-13	75 997	192	2.54	46.49	75 901	395.32	3 532 800	21.51
13-14	75 805	205	2.69	45.60	75 703	369.28	3 456 899	21.93
14-15	75 600	218	2.88	44.72	75 491	346.29	3 381 196	22.36
15-16	75 382	241	3.20	43.85	75 262	312.29	3 305 705	22.81
16-17	75 141	272	3.62	42.99	75 005	275.75	3 230 443	23.26
17-18	74 869	305	4.09	42.15	74 717	244.97	3 155 438	23.72
18-19	74 564	341	4.57	41.32	74 393	218.16	3 080 721	24.20
19-20	74 223	374	5.04	40.50	74 036	197.96	3 006 328	24.69
20-21	73 849	407	5.51	39.71	73 646	180.95	2 932 292	25.18
21-22	73 442	437	5.96	38.92	73 224	167.56	2 858 646	25.69
22-23	73 005	466	6.38	38.15	72 772	156.16	2 785 422	26.21
23-24	72 539	492	6.78	37.40	72 293	146.94	2 712 650	26.74
24-25	72 047	517	7.19	36.65	71 788	138.85	2 640 357	27.29
25-26	71 530	544	7.60	35.91	71 258	130.99	2 568 569	27.85
26-27	70 986	571	8.03	35.18	70 701	123.82	2 497 311	28.43
27-28	70 415	593	8.43	34.46	70 119	118.24	2 426 610	29.02
28-29	69 822	613	8.78	33.75	69 515	113.40	2 356 491	29.63
29-30	69 209	629	9.09	33.04	68 894	109.53	2 286 976	30.27
30-31	68 580	647	9.43	32.34	68 256	105.50	2 218 082	30.92
31-32	67 933	665	9.79	31.65	67 600	101.65	2 149 826	31.60
32-33	67 268	682	10.14	30.95	66 927	98.13	2 082 226	32.31
33-34	66 586	695	10.43	30.27	66 238	95.31	2 015 299	33.04
34-35	65 891	704	10.68	29.58	65 539	93.10	1 949 061	33.81
35-36	65 187	711	10.92	28.89	64 831	91.18	1 883 522	34.61
36-37	64 476	719	11.14	28.21	64 116	89.17	1 818 691	35.45
37-38	63 757	727	11.40	27.52	63 394	87.20	1 754 575	36.34
38-39	63 030	742	11.77	26.83	62 659	84.45	1 691 181	37.27
39-40	62 288	762	12.24	26.15	61 907	81.24	1 628 522	38.24
40-41	61 526	784	12.74	25.46	61 134	77.98	1 566 615	39.28
41-42	60 742	810	13.34	24.78	60 337	74.49	1 505 481	40.36
42-43	59 932	833	13.89	24.11	59 515	71.45	1 445 144	41.48
43-44	59 099	843	14.27	23.45	58 678	69.61	1 385 629	42.64
44-45	58 256	847	14.55	22.78	57 832	68.28	1 326 951	43.90

THE CITY OF NEW YORK: 1901. TABLE 69

REPORTED DEATHS IN 1900 (32,838), IN 1901 (32,434), AND IN 1902 (31,087).

Illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	57 409	855	14.88	22.11	56 981	66.64	1 269 119	45.23
46-47	56 554	861	15.22	21.43	56 124	65.18	1 212 138	46.66
47-48	55 693	881	15.82	20.76	55 253	62.72	1 156 014	48.17
48-49	54 812	922	16.84	20.08	54 351	58.95	1 100 761	49.80
49-50	53 890	979	18.16	19.42	53 400	54.55	1 046 410	51.49
50-51	52 911	1 031	19.49	18.77	52 395	50.82	993 010	53.28
51-52	51 880	1 084	20.89	18.13	51 338	47.36	940 615	55.16
52-53	50 796	1 133	22.30	17.51	50 230	44.33	889 277	57.11
53-54	49 663	1 179	23.74	16.89	49 074	41.62	839 047	59.21
54-55	48 484	1 229	25.35	16.29	47 870	38.95	789 973	61.39
55-56	47 255	1 286	27.21	15.70	46 612	36.25	742 103	63.69
56-57	45 969	1 351	29.38	15.13	45 294	33.53	695 491	66.09
57-58	44 618	1 416	31.75	14.57	43 910	31.01	650 197	68.63
58-59	43 202	1 469	33.99	14.03	42 467	28.91	606 287	71.28
59-60	41 733	1 501	35.98	13.51	40 982	27.30	563 820	74.02
60-61	40 232	1 528	37.98	13.00	39 468	25.83	522 838	76.92
61-62	38 704	1 544	39.89	12.49	37 932	24.57	483 370	80.06
62-63	37 160	1 558	41.92	11.99	36 381	23.35	445 438	83.40
63-64	35 602	1 581	44.42	11.49	34 811	22.02	409 057	87.03
64-65	34 021	1 618	47.56	11.00	33 212	20.53	374 246	90.91
65-66	32 403	1 653	51.01	10.52	31 576	19.10	341 034	95.06
66-67	30 750	1 692	55.02	10.06	29 904	17.67	309 458	99.40
67-68	29 058	1 727	59.42	9.62	28 194	16.33	279 554	103.95
68-69	27 331	1 738	63.62	9.20	26 462	15.23	251 360	108.70
69-70	25 593	1 726	67.43	8.79	24 730	14.33	224 898	113.77
70-71	23 867	1 707	71.52	8.39	23 013	13.48	200 168	119.19
71-72	22 160	1 677	75.69	7.99	21 321	12.71	177 155	125.16
72-73	20 483	1 654	80.73	7.61	19 656	11.88	155 834	131.41
73-74	18 829	1 625	86.31	7.23	18 016	11.09	136 178	138.31
74-75	17 204	1 591	92.50	6.87	16 408	10.31	118 162	145.56
75-76	15 613	1 551	99.30	6.52	14 837	9.57	101 754	153.37
76-77	14 062	1 499	106.65	6.18	13 312	8.88	86 917	161.81
77-78	12 563	1 439	114.50	5.86	11 843	8.23	73 605	170.65
78-79	11 124	1 365	122.77	5.55	10 441	7.65	61 762	180.18
79-80	9 759	1 283	131.44	5.26	9 117	7.11	51 321	190.11
80-81	8 476	1 192	140.57	4.98	7 880	6.61	42 204	200.80
81-82	7 284	1 094	150.23	4.71	6 737	6.16	34 324	212.31
82-83	6 190	994	160.53	4.46	5 693	5.73	27 587	224.22
83-84	5 196	891	171.51	4.21	4 751	5.33	21 894	237.53
84-85	4 305	788	183.18	3.98	3 911	4.96	17 143	251.26
85-86	3 517	688	195.48	3.76	3 173	4.62	13 232	265.96
86-87	2 829	589	208.34	3.56	2 534	4.30	10 059	280.90
87-88	2 240	497	221.68	3.36	1 991	4.01	7 525	297.62
88-89	1 743	410	235.50	3.18	1 538	3.75	5 534	314.17
89-90	1 333	333	249.83	3.00	1 166	3.50	3 996	333.33
90-91	1 000	265	264.78	2.83	867	3.28	2 830	353.36
91-92	735	206	280.46	2.67	632	3.07	1 963	374.53
92-93	529	157	297.01	2.52	450	2.87	1 331	396.83
93-94	372	117	314.55	2.37	313	2.68	881	421.94
94-95	255	85	333.14	2.23	212	2.50	568	448.43
95-96	170	60	352.82	2.10	140	2.33	356	476.19
96-97	110	41	373.59	1.97	89	2.18	216	507.61
97-98	69	27	395.48	1.85	55	2.03	127	540.54
98-99	42	18	418.48	1.74	33	1.89	72	574.71
99-100	24	11	442.65	1.63	19	1.76	39	613.50
100-101	13	6	468.06	1.52	10	1.64	20	657.89
101-102	7	3	494.74	1.43	5	1.52	10	699.30
102-103	4	2	522.75	1.33	3	1.41	5	751.88
103-104	2	1	552.10	1.24	1	1.31	2	806.45
104-105	1	1	582.84	1.16	1	1.22	1	862.97

TABLE 70 — LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (2,398,433), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 405	114.05	49.46	91 902	8.06	4 946 392	20.22
1-2	88 595	3 357	37.89	54.79	86 614	25.80	4 854 490	18.25
2-3	85 238	1 402	16.45	55.94	84 495	60.27	4 767 876	17.88
3-4	83 836	945	11.27	55.86	83 344	88.19	4 683 381	17.90
4-5	82 891	599	7.22	55.50	82 580	137.86	4 600 037	18.02
5-6	82 292	434	5.28	54.90	82 075	189.11	4 517 457	18.21
6-7	81 858	365	4.47	54.18	81 675	223.77	4 435 382	18.46
7-8	81 493	306	3.75	53.42	81 340	265.82	4 353 707	18.72
8-9	81 187	255	3.15	52.62	81 060	317.88	4 272 367	19.00
9-10	80 932	217	2.68	51.79	80 824	372.46	4 191 307	19.31
10-11	80 715	190	2.36	50.93	80 620	424.32	4 110 483	19.63
11-12	80 525	175	2.17	50.04	80 438	459.65	4 029 863	19.98
12-13	80 350	170	2.12	49.15	80 265	472.15	3 949 425	20.35
13-14	80 180	175	2.18	48.26	80 092	457.67	3 869 160	20.72
14-15	80 005	186	2.33	47.36	79 912	429.63	3 789 068	21.11
15-16	79 819	203	2.55	46.47	79 717	392.69	3 709 156	21.52
16-17	79 616	225	2.82	45.59	79 504	353.35	3 629 439	21.93
17-18	79 391	247	3.11	44.71	79 268	320.92	3 549 935	22.37
18-19	79 144	269	3.41	43.85	79 010	293.72	3 470 667	22.81
19-20	78 875	291	3.69	43.00	78 729	270.55	3 391 657	23.26
20-21	78 584	313	3.98	42.16	78 427	250.57	3 312 928	23.72
21-22	78 271	334	4.26	41.32	78 104	233.84	3 234 501	24.20
22-23	77 937	352	4.53	40.50	77 761	220.91	3 156 397	24.69
23-24	77 585	371	4.78	39.68	77 400	208.63	3 078 636	25.20
24-25	77 214	389	5.04	38.87	77 020	197.99	3 001 236	25.73
25-26	76 825	408	5.32	38.06	76 621	187.80	2 924 216	26.27
26-27	76 417	431	5.64	37.26	76 201	176.80	2 847 595	26.84
27-28	75 986	452	5.95	36.47	75 760	167.61	2 771 394	27.42
28-29	75 534	471	6.23	35.69	75 298	159.87	2 695 634	28.02
29-30	75 063	488	6.50	34.91	74 819	153.32	2 620 336	28.65
30-31	74 575	506	6.79	34.13	74 322	146.88	2 545 517	29.30
31-32	74 069	526	7.11	33.36	73 806	140.32	2 471 195	29.98
32-33	73 543	548	7.45	32.60	73 269	133.70	2 397 389	30.67
33-34	72 995	570	7.81	31.84	72 710	127.56	2 324 120	31.41
34-35	72 425	591	8.16	31.09	72 129	122.05	2 251 410	32.16
35-36	71 834	612	8.51	30.34	71 528	116.88	2 179 281	32.96
36-37	71 222	630	8.86	29.59	70 907	112.55	2 107 753	33.80
37-38	70 592	649	9.19	28.85	70 267	108.27	2 036 846	34.66
38-39	69 943	665	9.51	28.12	69 610	104.68	1 966 579	35.56
39-40	69 278	683	9.86	27.38	68 936	100.93	1 896 969	36.52
40-41	68 595	702	10.23	26.65	68 244	97.21	1 828 033	37.52
41-42	67 893	723	10.64	25.92	67 531	93.40	1 759 789	38.58
42-43	67 170	745	11.09	25.19	66 798	89.66	1 692 258	39.70
43-44	66 425	770	11.59	24.47	66 040	85.77	1 625 460	40.87
44-45	65 655	796	12.12	23.75	65 257	81.98	1 559 420	42.11

THE CITY OF NEW YORK: 1910. TABLE 70

REPORTED DEATHS IN 1909 (33,875), IN 1910 (35,024), AND IN 1911 (34,211).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 859	824	12.70	23.04	64 447	78.21	1 494 163	43.40
46-47	64 035	853	13.33	22.33	63 609	74.57	1 429 716	44.78
47-48	63 182	887	14.04	21.62	62 738	70.73	1 366 107	46.25
48-49	62 295	923	14.82	20.92	61 833	66.99	1 303 369	47.80
49-50	61 372	963	15.69	20.23	60 890	63.23	1 241 536	49.43
50-51	60 409	1 005	16.63	19.54	59 906	59.61	1 180 646	51.18
51-52	59 404	1 047	17.64	18.87	58 880	56.24	1 120 740	52.99
52-53	58 357	1 096	18.78	18.20	57 809	52.75	1 061 860	54.95
53-54	57 261	1 154	20.14	17.53	56 684	49.12	1 004 051	57.05
54-55	56 107	1 223	21.81	16.89	55 496	45.38	947 367	59.21
55-56	54 884	1 304	23.76	16.25	54 232	41.59	891 871	61.54
56-57	53 580	1 399	26.10	15.63	52 880	37.80	837 639	63.98
57-58	52 181	1 497	28.70	15.04	51 432	34.36	784 759	66.49
58-59	50 684	1 579	31.16	14.47	49 894	31.60	733 327	69.11
59-60	49 105	1 636	33.31	13.92	48 287	29.52	683 433	71.84
60-61	47 469	1 685	35.50	13.38	46 626	27.67	635 146	74.74
61-62	45 784	1 720	37.57	12.85	44 924	26.12	588 520	77.82
62-63	44 064	1 753	39.77	12.34	43 188	24.64	543 596	81.04
63-64	42 311	1 798	42.51	11.83	41 412	23.03	500 408	84.53
64-65	40 513	1 859	45.89	11.33	39 583	21.29	458 996	88.26
65-66	38 654	1 914	49.50	10.85	37 697	19.70	419 413	92.17
66-67	36 740	1 967	53.54	10.39	35 757	18.18	381 716	96.25
67-68	34 773	2 009	57.79	9.95	33 768	16.81	345 959	100.50
68-69	32 764	2 025	61.79	9.53	31 751	15.68	312 191	104.93
69-70	30 739	2 012	65.47	9.12	29 733	14.78	280 440	109.65
70-71	28 727	1 995	69.44	8.73	27 729	13.90	250 707	114.55
71-72	26 732	1 967	73.58	8.34	25 749	13.09	222 978	119.90
72-73	24 765	1 930	77.94	7.96	23 800	12.33	197 229	125.63
73-74	22 835	1 892	82.85	7.59	21 889	11.57	173 429	131.75
74-75	20 943	1 853	88.49	7.24	20 016	10.80	151 540	138.12
75-76	19 090	1 807	94.66	6.89	18 186	10.06	131 524	145.14
76-77	17 283	1 757	101.65	6.56	16 404	9.34	113 338	152.44
77-78	15 526	1 696	109.22	6.24	14 678	8.65	96 934	160.26
78-79	13 830	1 615	116.82	5.95	13 022	8.06	82 256	168.07
79-80	12 215	1 518	124.25	5.67	11 456	7.55	69 234	176.37
80-81	10 697	1 417	132.46	5.40	9 989	7.05	57 778	185.19
81-82	9 280	1 313	141.54	5.15	8 623	6.57	47 789	194.17
82-83	7 967	1 200	150.57	4.92	7 367	6.14	39 166	203.25
83-84	6 767	1 076	159.04	4.70	6 229	5.79	31 799	212.77
84-85	5 691	951	167.02	4.49	5 216	5.49	25 570	222.72
85-86	4 740	829	174.86	4.29	4 326	5.22	20 354	233.10
86-87	3 911	716	183.28	4.10	3 553	4.96	16 028	243.90
87-88	3 195	617	192.88	3.91	2 886	4.68	12 475	255.75
88-89	2 578	523	203.10	3.72	2 317	4.42	9 589	268.82
89-90	2 055	440	213.94	3.54	1 835	4.17	7 272	282.49
90-91	1 615	364	225.35	3.37	1 433	3.94	5 437	296.74
91-92	1 251	297	237.28	3.20	1 103	3.71	4 004	312.50
92-93	954	238	249.72	3.04	835	3.50	2 901	328.95
93-94	716	188	262.74	2.89	622	3.31	2 066	346.02
94-95	528	146	276.42	2.74	455	3.12	1 444	364.96
95-96	382	111	290.97	2.59	326	2.94	989	386.10
96-97	271	83	306.72	2.45	229	2.76	663	408.16
97-98	188	61	323.54	2.32	157	2.59	434	431.03
98-99	127	43	341.42	2.18	105	2.43	277	458.72
99-100	84	31	360.45	2.06	69	2.27	172	485.44
100-101	53	20	380.74	1.93	43	2.13	103	518.13
101-102	33	13	402.38	1.82	26	1.99	60	549.45
102-103	20	9	425.50	1.70	16	1.85	34	588.24
103-104	11	5	450.23	1.59	9	1.72	18	628.93
104-105	6	3	476.73	1.49	5	1.60	9	671.14
105-106	3	1	505.17	1.38	2	1.48	4	724.64
106-107	2	1	535.76	1.28	1	1.37	2	781.25
107-108	1	1	568.75	1.19	1	1.26	1	840.34

TABLE 71 — LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (648,298), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	15 027	150.27	42.51	89 181	5.93	4 250 702	23.52
1-2	84 973	3 951	46.50	48.97	82 642	20.92	4 161 521	20.42
2-3	81 022	1 831	22.59	50.34	80 052	43.72	4 078 879	19.86
3-4	79 191	1 252	15.81	50.50	78 540	62.73	3 998 827	19.80
4-5	77 939	945	12.13	50.30	77 448	81.96	3 920 287	19.88
5-6	76 994	708	9.19	49.91	76 640	108.25	3 842 839	20.04
6-7	76 286	529	6.94	49.37	76 022	143.71	3 766 199	20.26
7-8	75 757	400	5.28	48.71	75 557	188.89	3 690 177	20.53
8-9	75 357	313	4.15	47.97	75 201	240.26	3 614 620	20.85
9-10	75 044	258	3.45	47.16	74 915	290.37	3 539 419	21.20
10-11	74 786	233	3.11	46.33	74 669	320.47	3 464 504	21.58
11-12	74 553	227	3.05	45.47	74 439	327.93	3 389 835	21.99
12-13	74 326	236	3.18	44.61	74 208	314.44	3 315 396	22.42
13-14	74 090	254	3.42	43.75	73 963	291.19	3 241 188	22.86
14-15	73 836	273	3.70	42.90	73 700	269.96	3 167 225	23.31
15-16	73 563	302	4.11	42.05	73 412	243.09	3 093 525	23.78
16-17	73 261	341	4.65	41.22	73 090	214.34	3 020 113	24.26
17-18	72 920	384	5.26	40.41	72 728	189.40	2 947 023	24.75
18-19	72 536	425	5.86	39.63	72 324	170.17	2 874 295	25.23
19-20	72 111	463	6.42	38.86	71 879	155.25	2 801 971	25.73
20-21	71 648	500	6.98	38.10	71 398	142.80	2 730 092	26.25
21-22	71 148	535	7.52	37.37	70 881	132.49	2 658 694	26.76
22-23	70 613	561	7.95	36.65	70 332	125.37	2 587 813	27.29
23-24	70 052	578	8.24	35.94	69 763	120.70	2 517 481	27.82
24-25	69 474	588	8.46	35.23	69 180	117.65	2 447 718	28.38
25-26	68 886	597	8.68	34.53	68 588	114.89	2 378 538	28.96
26-27	68 289	608	8.90	33.83	67 985	111.82	2 309 950	29.56
27-28	67 681	616	9.11	33.13	67 373	109.37	2 241 965	30.18
28-29	67 065	626	9.33	32.43	66 752	106.63	2 174 592	30.84
29-30	66 439	636	9.57	31.73	66 121	103.96	2 107 840	31.52
30-31	65 803	646	9.82	31.03	65 480	101.36	2 041 719	32.23
31-32	65 157	656	10.06	30.33	64 829	98.82	1 976 239	32.97
32-33	64 501	670	10.39	29.63	64 166	95.77	1 911 410	33.75
33-34	63 831	692	10.85	28.94	63 485	91.74	1 847 244	34.55
34-35	63 139	720	11.39	28.25	62 779	87.19	1 783 759	35.40
35-36	62 419	746	11.95	27.57	62 046	83.17	1 720 980	36.27
36-37	61 673	775	12.57	26.90	61 286	79.08	1 658 934	37.17
37-38	60 898	797	13.10	26.23	60 500	75.91	1 597 648	38.12
38-39	60 101	811	13.49	25.58	59 695	73.61	1 537 148	39.09
39-40	59 290	817	13.79	24.92	58 882	72.07	1 477 453	40.13
40-41	58 473	826	14.13	24.26	58 060	70.29	1 418 571	41.22
41-42	57 647	834	14.46	23.60	57 230	68.62	1 360 511	42.37
42-43	56 813	849	14.95	22.94	56 388	66.42	1 303 281	43.59
43-44	55 964	880	15.73	22.28	55 524	63.10	1 246 893	44.88
44-45	55 084	922	16.73	21.63	54 623	59.24	1 191 369	46.23

CITY OF PHILADELPHIA: 1901. TABLE 71

REPORTED DEATHS IN 1900 (14,139), IN 1901 (12,200), AND IN 1902 (12,297).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Male Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	54 162	965	17.81	20.99	53 680	55.63	1 136 746	47.64
46-47	53 197	1 014	19.07	20.36	52 690	51.96	1 083 066	49.12
47-48	52 183	1 057	20.24	19.75	51 655	48.87	1 030 376	50.63
48-49	51 126	1 078	21.08	19.14	50 587	46.93	978 721	52.25
49-50	50 048	1 084	21.67	18.54	49 506	45.67	928 134	53.94
50-51	48 964	1 094	22.33	17.94	48 417	44.26	878 628	55.74
51-52	47 870	1 098	22.95	17.34	47 321	43.10	830 211	57.67
52-53	46 772	1 115	23.84	16.74	46 214	41.45	782 890	59.74
53-54	45 657	1 154	25.26	16.14	45 080	39.06	736 676	61.96
54-55	44 503	1 210	27.21	15.54	43 898	36.28	691 596	64.35
55-56	43 293	1 271	29.35	14.96	42 657	33.56	647 698	66.84
56-57	42 022	1 340	31.89	14.40	41 352	30.86	605 041	69.44
57-58	40 682	1 401	34.45	13.86	39 981	28.54	563 689	72.15
58-59	39 281	1 435	36.53	13.33	38 563	26.87	523 708	75.02
59-60	37 846	1 445	38.18	12.82	37 123	25.69	485 145	78.00
60-61	36 401	1 455	39.96	12.31	35 673	24.52	448 022	81.23
61-62	34 946	1 456	41.67	11.80	34 218	23.50	412 349	84.75
62-63	33 490	1 468	43.83	11.29	32 756	22.31	378 131	88.57
63-64	32 022	1 506	47.03	10.79	31 269	20.76	345 375	92.68
64-65	30 516	1 564	51.26	10.29	29 734	19.01	314 106	97.18
65-66	28 952	1 618	55.89	9.82	28 143	17.39	284 372	101.83
66-67	27 334	1 656	60.59	9.37	26 506	16.01	256 229	106.72
67-68	25 678	1 668	64.97	8.95	24 844	14.89	229 723	111.73
68-69	24 010	1 664	69.28	8.53	23 178	13.93	204 879	117.23
69-70	22 346	1 643	73.54	8.13	21 525	13.10	181 701	123.00
70-71	20 703	1 612	77.85	7.74	19 897	12.34	160 176	129.20
71-72	19 091	1 574	82.44	7.35	18 304	11.63	140 279	136.05
72-73	17 517	1 533	87.55	6.96	16 750	10.93	121 975	143.68
73-74	15 984	1 494	93.42	6.58	15 237	10.20	105 225	151.98
74-75	14 490	1 453	100.29	6.21	13 764	9.47	89 988	161.03
75-76	13 037	1 412	108.35	5.85	12 331	8.73	76 224	170.94
76-77	11 625	1 369	117.70	5.50	10 940	7.99	63 893	181.82
77-78	10 256	1 316	128.37	5.16	9 598	7.29	52 953	193.80
78-79	8 940	1 254	140.22	4.85	8 313	6.63	43 355	206.19
79-80	7 686	1 176	153.04	4.56	7 098	6.04	35 042	219.30
80-81	6 510	1 084	166.45	4.29	5 968	5.51	27 944	233.10
81-82	5 426	977	180.08	4.05	4 938	5.05	21 976	246.91
82-83	4 449	861	193.58	3.83	4 019	4.67	17 038	261.10
83-84	3 588	742	206.75	3.63	3 217	4.34	13 019	275.48
84-85	2 846	625	219.51	3.44	2 534	4.06	9 802	290.70
85-86	2 221	515	231.99	3.27	1 964	3.81	7 268	305.81
86-87	1 706	417	244.44	3.11	1 498	3.59	5 304	321.54
87-88	1 289	332	257.20	2.95	1 123	3.39	3 806	338.98
88-89	957	259	270.58	2.80	828	3.20	2 683	357.14
89-90	698	199	284.82	2.66	599	3.01	1 855	375.94
90-91	499	149	300.02	2.52	425	2.83	1 256	396.83
91-92	350	111	316.20	2.38	294	2.66	831	420.17
92-93	239	80	333.30	2.25	199	2.50	537	444.44
93-94	159	56	351.28	2.13	131	2.35	338	469.48
94-95	103	38	370.11	2.01	84	2.20	207	497.51
95-96	65	25	389.83	1.90	52	2.07	123	526.32
96-97	40	17	410.48	1.79	32	1.94	71	558.66
97-98	23	10	432.10	1.68	18	1.81	39	595.24
98-99	13	6	454.74	1.59	10	1.70	21	628.93
99-100	7	3	478.42	1.49	6	1.59	11	671.14
100-101	4	2	503.17	1.40	3	1.49	5	714.29
101-102	2	1	529.04	1.32	1	1.39	2	757.58
102-103	1	1	556.04	1.24	1	1.30	1	806.45

TABLE 72 LIFE TABLE FOR MALES IN THE

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (763,107), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 MALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	14 174	141.74	45.47	89 795	6.34	4 546 697	21.99
1-2	85 826	3 282	38.24	51.93	83 890	25.56	4 456 902	19.26
2-3	82 544	1 488	18.03	52.98	81 756	54.94	4 373 012	18.88
3-4	81 056	937	11.56	52.94	80 569	85.99	4 291 256	18.89
4-5	80 119	677	8.46	52.56	79 767	117.82	4 210 687	19.03
5-6	79 442	475	5.98	52.00	79 204	166.75	4 130 920	19.23
6-7	78 967	389	4.92	51.31	78 773	202.50	4 051 716	19.49
7-8	78 578	318	4.06	50.56	78 419	246.60	3 972 943	19.78
8-9	78 260	265	3.39	49.76	78 127	294.82	3 894 524	20.10
9-10	77 995	226	2.90	48.93	77 882	344.61	3 816 397	20.44
10-11	77 769	201	2.58	48.07	77 668	386.41	3 738 515	20.80
11-12	77 568	189	2.43	47.20	77 474	409.92	3 660 847	21.19
12-13	77 379	187	2.43	46.31	77 286	413.29	3 583 373	21.59
13-14	77 192	197	2.55	45.42	77 093	391.34	3 506 087	22.02
14-15	76 995	215	2.79	44.54	76 888	357.62	3 428 994	22.45
15-16	76 780	239	3.12	43.66	76 661	320.76	3 352 106	22.90
16-17	76 541	269	3.52	42.79	76 406	284.04	3 275 445	23.37
17-18	76 272	303	3.96	41.94	76 120	251.22	3 199 039	23.84
18-19	75 969	333	4.39	41.11	75 802	227.63	3 122 919	24.32
19-20	75 636	364	4.80	40.29	75 454	207.29	3 047 117	24.82
20-21	75 272	393	5.22	39.48	75 076	191.03	2 971 663	25.33
21-22	74 879	423	5.65	38.68	74 668	176.52	2 896 587	25.85
22-23	74 456	447	6.01	37.90	74 233	166.07	2 821 919	26.39
23-24	74 009	465	6.29	37.13	73 777	158.66	2 747 686	26.93
24-25	73 544	480	6.52	36.36	73 304	152.72	2 673 909	27.50
25-26	73 064	495	6.78	35.59	72 816	147.10	2 600 605	28.10
26-27	72 569	512	7.05	34.83	72 313	141.24	2 527 789	28.71
27-28	72 057	528	7.32	34.08	71 793	135.97	2 455 476	29.34
28-29	71 529	543	7.60	33.32	71 258	131.23	2 383 683	30.01
29-30	70 986	561	7.90	32.58	70 705	126.03	2 312 425	30.69
30-31	70 425	578	8.21	31.83	70 136	121.34	2 241 720	31.42
31-32	69 847	594	8.51	31.09	69 550	117.09	2 171 584	32.16
32-33	69 253	619	8.93	30.35	68 944	111.38	2 102 034	32.95
33-34	68 634	652	9.51	29.62	68 308	104.77	2 033 090	33.76
34-35	67 982	692	10.17	28.90	67 636	97.74	1 964 782	34.60
35-36	67 290	729	10.84	28.19	66 926	91.81	1 897 146	35.47
36-37	66 561	768	11.54	27.50	66 177	86.17	1 830 220	36.36
37-38	65 793	796	12.11	26.81	65 395	82.15	1 764 043	37.30
38-39	64 997	811	12.47	26.13	64 591	79.64	1 698 648	38.27
39-40	64 186	815	12.71	25.46	63 779	78.26	1 634 057	39.28
40-41	63 371	823	12.98	24.78	62 959	76.50	1 570 278	40.36
41-42	62 548	829	13.25	24.10	62 134	74.95	1 507 319	41.49
42-43	61 719	844	13.68	23.42	61 297	72.63	1 445 185	42.70
43-44	60 875	876	14.38	22.73	60 437	68.99	1 383 888	43.99
44-45	59 999	916	15.27	22.06	59 541	65.00	1 323 451	45.33

CITY OF PHILADELPHIA: 1910. TABLE 72

REPORTED DEATHS IN 1909 (12,976), IN 1910 (14,255), AND IN 1911 (13,895).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Males Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY MALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Males were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	59 083	957	16.20	21.39	58 604	61.24	1 263 910	46.75
46-47	58 126	1 001	17.21	20.74	57 626	57.57	1 205 306	48.22
47-48	57 125	1 039	18.20	20.09	56 606	54.48	1 147 680	49.78
48-49	56 086	1 069	19.06	19.45	55 551	51.97	1 091 074	51.41
49-50	55 017	1 092	19.85	18.82	54 471	49.88	1 035 523	53.13
50-51	53 925	1 117	20.71	18.19	53 366	47.78	981 052	54.98
51-52	52 808	1 140	21.59	17.57	52 238	45.82	927 686	56.92
52-53	51 668	1 171	22.67	16.94	51 082	43.62	875 448	59.03
53-54	50 497	1 221	24.18	16.33	49 886	40.86	824 366	61.24
54-55	49 276	1 289	26.16	15.72	48 631	37.73	774 480	63.61
55-56	47 987	1 365	28.45	15.13	47 304	34.65	725 849	66.09
56-57	46 622	1 460	31.30	14.55	45 892	31.43	678 545	68.73
57-58	45 162	1 547	34.25	14.01	44 389	28.69	632 653	71.38
58-59	43 615	1 597	36.63	13.49	42 817	26.81	588 264	74.13
59-60	42 018	1 614	38.40	12.98	41 211	25.53	545 447	77.04
60-61	40 404	1 628	40.30	12.48	39 590	24.32	504 236	80.13
61-62	38 776	1 631	42.05	11.98	37 961	23.27	464 646	83.47
62-63	37 145	1 643	44.24	11.49	36 324	22.11	426 685	87.03
63-64	35 502	1 685	47.46	11.00	34 659	20.57	390 361	90.91
64-65	33 817	1 747	51.66	10.52	32 943	18.86	355 702	95.06
65-66	32 070	1 797	56.05	10.06	31 171	17.35	322 759	99.40
66-67	30 273	1 844	60.91	9.63	29 351	15.92	291 588	103.84
67-68	28 429	1 867	65.68	9.22	27 495	14.73	262 237	108.46
68-69	26 562	1 852	69.70	8.84	25 636	13.84	234 742	113.12
69-70	24 710	1 807	73.14	8.46	23 807	13.17	209 106	118.20
70-71	22 903	1 762	76.92	8.09	22 022	12.50	185 299	123.61
71-72	21 141	1 708	80.83	7.72	20 287	11.88	163 277	129.53
72-73	19 433	1 657	85.25	7.36	18 604	11.23	142 990	135.87
73-74	17 776	1 612	90.69	7.00	16 970	10.53	124 386	142.86
74-75	16 164	1 571	97.18	6.65	15 378	9.79	107 416	150.38
75-76	14 593	1 522	104.27	6.31	13 832	9.09	92 038	158.48
76-77	13 071	1 469	112.40	5.98	12 337	8.40	78 206	167.22
77-78	11 602	1 402	120.84	5.68	10 901	7.78	65 869	176.06
78-79	10 200	1 312	128.62	5.39	9 544	7.27	54 968	185.53
79-80	8 888	1 206	135.73	5.11	8 285	6.87	45 424	195.69
80-81	7 682	1 103	143.54	4.83	7 131	6.47	37 139	207.04
81-82	6 579	1 003	152.53	4.56	6 078	6.06	30 008	219.30
82-83	5 576	910	163.14	4.29	5 121	5.63	23 930	233.10
83-84	4 666	817	175.16	4.03	4 257	5.21	18 809	248.14
84-85	3 849	726	188.62	3.78	3 486	4.80	14 552	264.55
85-86	3 123	635	203.41	3.54	2 805	4.42	11 066	282.49
86-87	2 488	546	219.28	3.32	2 215	4.06	8 261	301.20
87-88	1 942	458	235.97	3.11	1 713	3.74	6 046	321.54
88-89	1 484	376	253.24	2.92	1 296	3.45	4 333	342.47
89-90	1 108	300	270.95	2.74	958	3.19	3 037	364.96
90-91	808	234	289.09	2.57	691	2.96	2 079	389.11
91-92	574	176	307.78	2.42	486	2.75	1 388	413.22
92-93	398	131	327.19	2.27	333	2.56	902	440.53
93-94	267	92	347.49	2.13	221	2.38	569	469.48
94-95	175	65	368.81	2.00	142	2.21	348	500.00
95-96	110	43	391.23	1.87	89	2.06	206	534.76
96-97	67	28	414.76	1.75	53	1.91	117	571.43
97-98	39	17	439.31	1.64	31	1.78	64	609.76
98-99	22	10	465.03	1.54	17	1.65	33	649.35
99-100	12	6	491.84	1.44	9	1.53	16	694.44
100-101	6	3	519.73	1.34	4	1.42	7	746.27
101-102	3	2	548.70	1.25	2	1.32	3	800.00
102-103	1	1	578.72	1.17	1	1.23	1	854.70

TABLE 73 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1901 (673,408), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	Stationary Female Population, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.								
Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	12 741	127.41	46.23	90 954	7.14	4 623 167	21.63
1-2	87 259	3 628	41.58	51.94	85 119	23.46	4 532 213	19.25
2-3	83 631	1 711	20.45	53.18	82 724	48.35	4 447 094	18.80
3-4	81 920	1 220	14.90	53.28	81 286	66.63	4 364 370	18.77
4-5	80 700	932	11.56	53.07	80 215	86.07	4 283 084	18.84
5-6	79 768	707	8.86	52.69	79 414	112.33	4 202 869	18.98
6-7	79 061	533	6.74	52.16	78 795	147.83	4 123 455	19.17
7-8	78 528	405	5.15	51.51	78 326	193.40	4 044 660	19.41
8-9	78 123	314	4.03	50.77	77 966	248.30	3 966 334	19.70
9-10	77 809	257	3.30	49.97	77 680	302.26	3 888 368	20.01
10-11	77 552	225	2.91	49.14	77 439	344.17	3 810 688	20.35
11-12	77 327	216	2.79	48.28	77 219	357.50	3 733 249	20.71
12-13	77 111	222	2.88	47.41	77 000	346.85	3 656 030	21.09
13-14	76 889	239	3.11	46.55	76 770	321.21	3 579 030	21.48
14-15	76 650	261	3.42	45.69	76 519	293.18	3 502 260	21.89
15-16	76 389	295	3.86	44.85	76 241	258.44	3 425 741	22.30
16-17	76 094	336	4.41	44.02	75 926	225.97	3 349 500	22.72
17-18	75 758	376	4.96	43.21	75 570	200.98	3 273 574	23.14
18-19	75 382	409	5.44	42.42	75 177	183.81	3 198 004	23.57
19-20	74 973	437	5.83	41.65	74 754	171.06	3 122 827	24.01
20-21	74 536	465	6.23	40.89	74 303	159.79	3 048 073	24.46
21-22	74 071	490	6.63	40.15	73 826	150.67	2 973 770	24.91
22-23	73 581	510	6.93	39.41	73 326	143.78	2 899 944	25.37
23-24	73 071	521	7.13	38.68	72 810	139.75	2 826 618	25.85
24-25	72 550	528	7.28	37.96	72 286	136.91	2 753 808	26.34
25-26	72 022	536	7.44	37.23	71 754	133.87	2 681 522	26.86
26-27	71 486	542	7.59	36.51	71 215	131.39	2 609 768	27.39
27-28	70 944	552	7.77	35.78	70 668	128.02	2 538 553	27.95
28-29	70 392	563	8.01	35.06	70 110	124.53	2 467 885	28.52
29-30	69 829	580	8.30	34.34	69 539	119.89	2 397 775	29.12
30-31	69 249	594	8.59	33.62	68 952	116.08	2 328 236	29.74
31-32	68 655	611	8.89	32.91	68 350	111.87	2 259 284	30.39
32-33	68 044	629	9.25	32.20	67 730	107.68	2 190 934	31.06
33-34	67 415	651	9.66	31.49	67 090	103.06	2 123 204	31.76
34-35	66 764	674	10.10	30.80	66 427	98.56	2 056 114	32.47
35-36	66 090	697	10.54	30.11	65 742	94.32	1 989 687	33.21
36-37	65 393	720	11.01	29.42	65 033	90.32	1 923 945	33.99
37-38	64 673	735	11.38	28.74	64 305	87.49	1 858 912	34.79
38-39	63 938	740	11.57	28.07	63 568	85.90	1 794 607	35.63
39-40	63 198	736	11.65	27.39	62 830	85.37	1 731 039	36.51
40-41	62 462	734	11.75	26.71	62 095	84.60	1 668 209	37.44
41-42	61 728	731	11.84	26.02	61 363	83.94	1 606 114	38.43
42-43	60 997	734	12.04	25.33	60 630	82.69	1 544 751	39.48
43-44	60 263	751	12.45	24.63	59 888	79.74	1 484 121	40.60
44-45	59 512	776	13.04	23.93	59 124	76.19	1 424 233	41.79

THE CITY OF PHILADELPHIA: 1901. TABLE 73

REPORTED DEATHS IN 1900 (12,836), IN 1901 (11,606), AND IN 1902 (11,281).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	58 736	802	13.66	23.24	58 335	72.74	1 365 109	43.03
46-47	57 934	831	14.35	22.56	57 519	69.22	1 306 774	44.33
47-48	57 103	861	15.07	21.88	56 673	65.82	1 249 255	45.70
48-49	56 242	886	15.75	21.20	55 799	62.98	1 192 582	47.17
49-50	55 356	908	16.40	20.54	54 902	60.46	1 136 783	48.69
50-51	54 448	932	17.12	19.87	53 982	57.92	1 081 881	50.33
51-52	53 516	957	17.88	19.21	53 038	55.42	1 027 899	52.06
52-53	52 559	984	18.72	18.55	52 067	52.91	974 861	53.91
53-54	51 575	1 017	19.72	17.89	51 067	50.21	922 794	55.90
54-55	50 558	1 059	20.95	17.24	50 029	47.24	871 727	58.00
55-56	49 499	1 106	22.34	16.60	48 946	44.25	821 698	60.24
56-57	48 393	1 158	23.93	15.97	47 814	41.29	772 752	62.62
57-58	47 235	1 221	25.86	15.35	46 624	38.19	724 938	65.15
58-59	46 014	1 290	28.02	14.74	45 369	35.17	678 314	67.84
59-60	44 724	1 352	30.24	14.15	44 048	32.58	632 945	70.67
60-61	43 372	1 411	32.53	13.58	42 666	30.24	588 897	73.64
61-62	41 961	1 463	34.86	13.02	41 230	28.18	546 231	76.80
62-63	40 498	1 507	37.21	12.47	39 745	26.37	505 001	80.19
63-64	38 991	1 549	39.73	11.93	38 217	24.67	465 256	83.82
64-65	37 442	1 595	42.60	11.41	36 645	22.97	427 039	87.64
65-66	35 847	1 639	45.73	10.89	35 027	21.37	390 394	91.83
66-67	34 208	1 682	49.16	10.39	33 367	19.84	355 367	96.25
67-68	32 526	1 727	53.11	9.90	31 662	18.33	322 000	101.01
68-69	30 799	1 772	57.51	9.43	29 913	16.88	290 338	106.04
69-70	29 027	1 804	62.18	8.97	28 125	15.59	260 425	111.48
70-71	27 223	1 829	67.16	8.53	26 308	14.38	232 300	117.23
71-72	25 394	1 842	72.56	8.11	24 473	13.29	205 992	123.30
72-73	23 552	1 834	77.85	7.71	22 635	12.34	181 519	129.70
73-74	21 718	1 801	82.94	7.32	20 817	11.56	158 884	136.61
74-75	19 917	1 757	88.19	6.93	19 038	10.84	138 067	144.30
75-76	18 160	1 712	94.29	6.55	17 304	10.11	119 029	152.67
76-77	16 448	1 670	101.54	6.18	15 613	9.35	101 725	161.81
77-78	14 778	1 623	109.84	5.83	13 966	8.61	86 112	171.53
78-79	13 155	1 569	119.25	5.48	12 370	7.88	72 146	182.48
79-80	11 586	1 503	129.72	5.16	10 835	7.21	59 776	193.80
80-81	10 083	1 422	141.05	4.85	9 372	6.59	48 941	206.19
81-82	8 661	1 325	153.01	4.57	7 998	6.04	39 569	218.82
82-83	7 336	1 213	165.38	4.30	6 729	5.55	31 571	232.56
83-84	6 123	1 090	177.99	4.06	5 578	5.12	24 842	246.31
84-85	5 033	960	190.79	3.83	4 553	4.74	19 264	261.10
85-86	4 073	831	203.84	3.61	3 658	4.41	14 711	277.01
86-87	3 242	704	217.25	3.41	2 890	4.10	11 053	293.26
87-88	2 538	587	231.20	3.22	2 245	3.83	8 163	310.56
88-89	1 951	479	245.83	3.03	1 711	3.57	5 918	330.03
89-90	1 472	385	261.26	2.86	1 279	3.33	4 207	349.65
90-91	1 087	302	277.52	2.69	936	3.10	2 928	371.75
91-92	785	231	294.63	2.54	670	2.89	1 992	393.70
92-93	554	173	312.61	2.39	467	2.70	1 322	418.41
93-94	381	126	331.47	2.25	318	2.52	855	444.44
94-95	255	90	351.21	2.11	210	2.35	537	473.93
95-96	165	61	371.96	1.98	134	2.19	327	505.05
96-97	104	41	393.75	1.86	83	2.04	193	537.63
97-98	63	26	416.62	1.75	50	1.90	110	571.43
98-99	37	16	440.61	1.64	29	1.77	60	609.76
99-100	21	10	465.74	1.53	16	1.65	31	653.59
100-101	11	5	492.04	1.44	8	1.53	15	694.44
101-102	6	3	519.53	1.34	4	1.42	7	746.27
102-103	3	2	548.22	1.26	2	1.32	3	793.65
103-104	1	1	578.13	1.17	1	1.23	1	854.70

TABLE 74 LIFE TABLE FOR FEMALES IN

BASED ON THE ESTIMATED POPULATION JULY 1, 1910 (791,287), AND ON THE

NOTE.—An explanation of each column of the life tables is given on pages 25 to 29, and

AGE INTERVAL.	OF 100,000 FEMALES BORN ALIVE:		RATE OF MORTALITY PER THOUSAND.	COMPLETE EXPECTATION OF LIFE.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					POPULATION IN CURRENT AGE INTERVAL.	MEASURE OF VITALITY.	POPULATION IN CURRENT AND ALL OLDER AGE INTERVALS.	DEATH RATE PER THOUSAND.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9

INFANT MORTALITY—FIRST YEAR OF LIFE BY AGE INTERVALS OF ONE MONTH.

Months.			Monthly rate.	In years.		Per month.		Annual rate.
0-1	.....	.....	.....	.....	.....	.....	.....	.....
1-2	.....	.....	.....	.....	.....	.....	.....	.....
2-3	.....	.....	.....	.....	.....	.....	.....	.....
3-4	.....	.....	.....	.....	.....	.....	.....	.....
4-5	.....	.....	.....	.....	.....	.....	.....	.....
5-6	.....	.....	.....	.....	.....	.....	.....	.....
6-7	.....	.....	.....	.....	.....	.....	.....	.....
7-8	.....	.....	.....	.....	.....	.....	.....	.....
8-9	.....	.....	.....	.....	.....	.....	.....	.....
9-10	.....	.....	.....	.....	.....	.....	.....	.....
10-11	.....	.....	.....	.....	.....	.....	.....	.....
11-12	.....	.....	.....	.....	.....	.....	.....	.....

LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR.

Years.			Annual rate.	In years.		Per year.		Annual rate.
0-1	100 000	11 926	119.26	49.60	91 533	7.68	4 960 498	20.16
1-2	88 074	3 033	34.44	55.28	86 285	28.45	4 868 965	18.09
2-3	85 041	1 303	15.33	56.24	84 351	64.74	4 782 680	17.78
3-4	83 738	865	10.33	56.11	83 289	96.29	4 698 329	17.82
4-5	82 873	669	8.07	55.69	82 526	123.36	4 615 040	17.96
5-6	82 204	515	6.27	55.14	81 947	159.12	4 532 514	18.14
6-7	81 689	397	4.86	54.48	81 491	205.27	4 450 567	18.36
7-8	81 292	309	3.81	53.75	81 138	262.58	4 369 076	18.60
8-9	80 983	248	3.07	52.95	80 859	326.04	4 287 938	18.89
9-10	80 735	209	2.59	52.11	80 630	385.79	4 207 079	19.19
10-11	80 526	188	2.34	51.24	80 432	427.83	4 126 449	19.52
11-12	80 338	182	2.26	50.36	80 247	440.92	4 046 017	19.86
12-13	80 156	184	2.31	49.48	80 064	435.13	3 965 770	20.21
13-14	79 972	195	2.44	48.59	79 874	409.61	3 885 706	20.58
14-15	79 777	208	2.61	47.71	79 673	383.04	3 805 832	20.96
15-16	79 569	226	2.84	46.83	79 456	351.58	3 726 159	21.35
16-17	79 343	246	3.10	45.96	79 220	322.03	3 646 703	21.76
17-18	79 097	272	3.44	45.10	78 961	290.30	3 567 483	22.17
18-19	78 825	305	3.86	44.26	78 673	257.94	3 488 522	22.59
19-20	78 520	338	4.31	43.43	78 351	231.81	3 409 849	23.03
20-21	78 182	371	4.75	42.61	77 996	210.23	3 331 498	23.47
21-22	77 811	405	5.19	41.81	77 608	191.62	3 253 502	23.92
22-23	77 406	429	5.54	41.03	77 192	179.93	3 175 894	24.37
23-24	76 977	443	5.76	40.25	76 756	173.26	3 098 702	24.84
24-25	76 534	452	5.91	39.49	76 308	168.82	3 021 946	25.32
25-26	76 082	462	6.08	38.72	75 851	164.18	2 945 638	25.83
26-27	75 620	473	6.26	37.95	75 383	159.37	2 869 787	26.35
27-28	75 147	484	6.44	37.19	74 905	154.76	2 794 404	26.89
28-29	74 663	495	6.63	36.42	74 416	150.34	2 719 499	27.46
29-30	74 168	507	6.83	35.66	73 915	145.79	2 645 083	28.04
30-31	73 661	518	7.04	34.91	73 402	141.70	2 571 168	28.65
31-32	73 143	529	7.23	34.15	72 879	137.77	2 497 766	29.28
32-33	72 614	544	7.49	33.39	72 342	132.98	2 424 887	29.95
33-34	72 070	563	7.82	32.64	71 789	127.51	2 352 545	30.64
34-35	71 507	585	8.17	31.90	71 215	121.74	2 280 756	31.35
35-36	70 922	604	8.52	31.15	70 620	116.92	2 209 541	32.10
36-37	70 318	625	8.88	30.42	70 006	112.01	2 138 921	32.87
37-38	69 693	639	9.18	29.69	69 373	108.56	2 068 915	33.68
38-39	69 054	649	9.39	28.96	68 729	105.90	1 999 542	34.53
39-40	68 405	653	9.55	28.23	68 079	104.26	1 930 813	35.42
40-41	67 752	661	9.75	27.49	67 422	102.00	1 862 734	36.38
41-42	67 091	669	9.97	26.76	66 757	99.79	1 795 312	37.37
42-43	66 422	680	10.25	26.02	66 082	97.18	1 728 555	38.43
43-44	65 742	697	10.60	25.29	65 394	93.82	1 662 473	39.54
44-45	65 045	718	11.03	24.55	64 686	90.09	1 597 079	40.73

THE CITY OF PHILADELPHIA: 1910. TABLE 74

REPORTED DEATHS IN 1909 (12,053), IN 1910 (12,790), AND IN 1911 (12,381).

illustrative examples, showing how to use the tables, are given on pages 29 to 49.

AGE INTERVAL.	Of 100,000 Females Born Alive:		Rate of Mortality per Thousand.	Complete Expectation of Life.	STATIONARY FEMALE POPULATION, Unaffected by Emigration and Immigration, which, Assuming the Mortality Rates in Column 4, would result if 100,000 Females were Born Alive Uniformly Throughout Each Year.			
					Population in current age interval.	Measure of vitality.	Population in current and all older age intervals.	Death rate per thousand.
Period of lifetime between two exact ages.	Number alive at beginning of age interval.	Number dying in age interval.	Number dying in age interval among 1,000 alive at beginning of age interval.	Average length of life remaining to each one alive at beginning of age interval.	Including only those in current month or year of age.	Population per death in age interval.	Sum of numbers in column 6 in current and all older age intervals.	Average annual death rate per thousand of population in current and all older age intervals.
x to $x+1$	l_x	d_x	$1000q_x$	$\mathring{e}_x$	L_x	L_x/d_x	T_x	$1000l_x/T_x$
1	2	3	4	5	6	7	8	9
LIFE TABLE FOR WHOLE RANGE OF LIFE BY AGE INTERVALS OF ONE YEAR—Continued.								
Years.			Annual rate.	In years.		Per year.		Annual rate.
45-46	64 327	739	11.50	23.82	63 958	86.55	1 532 393	41.98
46-47	63 588	763	11.99	23.09	63 207	82.84	1 468 435	43.31
47-48	62 825	794	12.64	22.37	62 428	78.62	1 405 228	44.70
48-49	62 031	836	13.49	21.65	61 613	73.70	1 342 800	46.19
49-50	61 195	886	14.48	20.94	60 752	68.57	1 281 187	47.76
50-51	60 309	937	15.53	20.24	59 840	63.86	1 220 435	49.41
51-52	59 372	989	16.66	19.55	58 878	59.53	1 160 595	51.15
52-53	58 383	1 038	17.78	18.87	57 864	55.75	1 101 717	52.99
53-54	57 345	1 083	18.89	18.20	56 803	52.45	1 043 853	54.95
54-55	56 262	1 133	20.13	17.54	55 695	49.16	987 050	57.01
55-56	55 129	1 192	21.62	16.89	54 533	45.75	931 355	59.21
56-57	53 937	1 262	23.39	16.26	53 306	42.24	876 822	61.50
57-58	52 675	1 346	25.55	15.63	52 002	38.63	823 516	63.98
58-59	51 329	1 432	27.90	15.03	50 613	35.34	771 514	66.53
59-60	49 897	1 506	30.19	14.45	49 144	32.63	720 901	69.20
60-61	48 391	1 572	32.47	13.88	47 605	30.28	671 757	72.05
61-62	46 819	1 624	34.70	13.33	46 007	28.33	624 152	75.02
62-63	45 195	1 671	36.96	12.79	44 359	26.55	578 145	78.19
63-64	43 524	1 720	39.53	12.26	42 664	24.80	533 786	81.57
64-65	41 804	1 779	42.55	11.75	40 914	23.00	491 122	85.11
65-66	40 025	1 834	45.81	11.25	39 108	21.32	450 208	88.89
66-67	38 191	1 888	49.44	10.76	37 247	19.73	411 100	92.94
67-68	36 303	1 932	53.22	10.30	35 337	18.29	373 853	97.09
68-69	34 371	1 950	56.74	9.85	33 396	17.13	338 516	101.52
69-70	32 421	1 944	59.96	9.41	31 449	16.18	305 120	106.27
70-71	30 477	1 931	63.35	8.98	29 512	15.28	273 671	111.36
71-72	28 546	1 913	67.03	8.55	27 590	14.42	244 159	116.96
72-73	26 633	1 906	71.57	8.13	25 680	13.47	216 569	123.00
73-74	24 727	1 898	76.74	7.72	23 778	12.53	190 889	129.53
74-75	22 829	1 885	82.58	7.32	21 886	11.61	167 111	136.61
75-76	20 944	1 866	89.09	6.93	20 011	10.72	145 225	144.30
76-77	19 078	1 835	96.18	6.56	18 160	9.90	125 214	152.44
77-78	17 243	1 789	103.74	6.21	16 349	9.14	107 054	161.03
78-79	15 454	1 725	111.67	5.87	14 591	8.46	90 705	170.36
79-80	13 729	1 647	119.93	5.54	12 905	7.84	76 114	180.51
80-81	12 082	1 553	128.56	5.23	11 305	7.28	63 209	191.20
81-82	10 529	1 450	137.69	4.93	9 804	6.76	51 904	202.84
82-83	9 079	1 339	147.51	4.64	8 409	6.28	42 100	215.52
83-84	7 740	1 225	158.29	4.35	7 127	5.82	33 691	229.89
84-85	6 515	1 110	170.32	4.08	5 960	5.37	26 564	245.10
85-86	5 405	993	183.81	3.81	4 908	4.94	20 604	262.47
86-87	4 412	878	198.90	3.56	3 973	4.53	15 696	280.90
87-88	3 534	762	215.54	3.32	3 153	4.14	11 723	301.20
88-89	2 772	647	233.59	3.09	2 449	3.78	8 570	323.62
89-90	2 125	537	252.77	2.88	1 856	3.46	6 121	347.22
90-91	1 588	433	272.82	2.69	1 371	3.17	4 265	371.75
91-92	1 155	339	293.50	2.51	985	2.91	2 894	398.41
92-93	816	257	314.75	2.34	687	2.68	1 909	427.35
93-94	559	188	336.67	2.18	465	2.47	1 222	458.72
94-95	371	133	359.44	2.04	304	2.28	757	490.20
95-96	238	92	383.30	1.90	192	2.11	453	526.32
96-97	146	59	408.49	1.77	117	1.95	261	564.97
97-98	87	38	435.19	1.65	68	1.80	144	606.06
98-99	49	23	463.43	1.53	38	1.66	76	653.59
99-100	26	13	493.11	1.42	20	1.53	38	704.23
100-101	13	7	524.10	1.32	10	1.41	18	757.58
101-102	6	3	556.07	1.23	5	1.30	8	813.01
102-103	3	2	588.97	1.14	2	1.20	3	877.19
103-104	1	1	622.76	1.06	1	1.11	1	943.40

PART III

LIFE TABLES OF FOREIGN COUNTRIES
MORTALITY TABLES BASED ON EXPERIENCE OF LIFE INSURANCE COMPANIES

PART III.—LIFE TABLES OF FOREIGN COUNTRIES.

FOREIGN COUNTRIES AND EPOCHS.

87. Life tables for twelve foreign countries are included in this part; the countries and the epochs for these tables are: Australia, 1901–1910; Denmark, 1906–1910; England, 1901–1910; France, 1898–1903; Germany, 1901–1910; Holland, 1900–1909; India, 1901–1910; Italy, 1901–1910; Japan, 1898–1903; Norway, 1901–1910; Sweden, 1901–1910; and Switzerland, 1901–1910. The United States life tables for white males and white females in the original registration states, 1901–1910, are shown for comparison with the life tables of these foreign countries. It will be observed that the countries are chosen which show mortality conditions in various sections of Europe. The life tables for India and Japan make it possible to compare mortality in this country and Europe with that of other races in the Orient. The life tables for Australia are the only ones given for persons living in the Southern Hemisphere. The tables are given by sex; those for males appear in Tables 75, 77, 79, 81, and 83, and those for females in Tables 76, 78, 80, 82, and 84, pages 204 to 223.

MORTALITY FUNCTIONS AND GRAPHS.

88. The mortality functions of foreign countries are not presented in the same form as the United States life tables. Only five of the columns appearing in the latter are shown for the life tables of foreign countries. These are the rate of mortality per thousand, the number of survivors out of 100,000 born alive, the number of deaths out of 100,000 born alive, the complete expectation of life,* and the measure of vitality.†

In addition to the columns of figures giving the numerical values, graphs of the mortality functions are shown in Part IV. These graphs do not include curves for all the countries shown in the tables of mortality functions of foreign countries, but only for Australia, England, Germany, India, Italy, Sweden, and the United States. In every case where graphs are shown the epoch covered is the decennium 1901–1910. These graphs make it easy to study the comparative rates of mortality, expectations of life, and other mortality functions of the different countries represented. The important differences and striking variations occurring in these tables and graphs are pointed out in sections 69–74 in the Questions and Answers of Part I of this text, page 44, which relate to foreign countries.

TABULAR FORM FACILITATES COMPARISON OF VALUES.

89. The values of the mortality functions of the foreign countries shown are taken from the published life tables of these countries,‡ based on their official population and death statistics, and are exhibited here in tabular form so that a comparison may be made at each age. For example, the rates of mortality per thousand for males in the twelve foreign countries and the United States are brought together on one page, so that it is easy to make a comparison of the rate of mortality at a given age in one country with that in any other country, or with that in the United States.

The number of survivors in all these tables is based upon the same radix, namely, 100,000 at birth. This enables one to tell the number of survivors at each age in every table and to make interesting comparisons between different countries. For example, a glance at Table 76, page 206, shows that in India less than half of the males born alive survive to age 11, while it is not until after age 58 in this country and age 65 in Sweden that half of the males born alive have died. Many interesting comparisons could be pointed out in connection with these tables and graphs, but the reader is referred for some of these to sections 69–74 in the Questions and Answers on pages 44 and 45.

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* The complete expectation of life, based on the graduated rates of mortality for Norway, was computed in the Bureau of the Census according to the formula $\frac{1}{2}+\left(\sum_{x+1}^{\omega} l_x\right)/l_x$. The l_x used to compute the values in Tables 81 and 82, pp. 216 to 219, were taken from Tables 77 and 78, respectively, pp. 208 to 211.

† The measure of vitality for the twelve foreign countries was computed in the Bureau of the Census according to the formula $l_x/d_x-\frac{1}{2}$. The l_x and d_x used to compute the values in Table 83, p. 220, were taken from Tables 77 and 79, pp. 208 and 212; those used to compute the values in Table 84, p. 222, from Tables 78 and 80, pp. 210 and 214. The values for the United States were copied from Tables 8 and 11, pp. 66 and 72 of this volume.

‡ Australian Life Table, 1901–1910, pp. 1, 2, 39, and 40, Commonwealth Bureau of Census and Statistics, Melbourne, 1914.

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Sveriges Officiella Statistik, Dödlighets-och Livslängdstabeller för årtiondet 1901–1910, pp. 44 to 61, Stockholm, 1916.

Table Suisse de Survie pour les années 1901–1910, Résultats Statistiques du Recensement Général de la Population du 1er Decembre, 1910, deuxième volume, pp. 52* to 57*. Bumpliz-Berné, 1917.

(United States) Tables 8 and 11 of this volume, pp. 66, 67, 72, 73.

TABLE 75 FOREIGN COUNTRIES. MALES. ANNUAL

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909	INDIA: 1901–1910 *	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MALES.	RATE OF MORTALITY PER THOUSAND, $1000q_x$.												
0	95.10	120.67	144.34	163.26	202.34	140.46	289.98	167.71	156.86	81.45	92.55	138.40	127.38
1	17.80	16.62	40.39	33.88	39.88	35.55	91.20	70.40	36.86	18.36	22.77	21.98	30.19
2	6.75	6.79	15.95	18.91	14.92	16.65	65.70	30.80	25.91	8.62	10.90	9.78	13.75
3	4.39	4.48	10.02	11.91	9.47	9.16	48.30	17.43	17.00	6.35	7.87	6.52	8.80
4	3.49	3.17	7.40	8.59	6.91	6.54	36.00	11.72	11.19	5.16	6.10	5.17	6.47
5	2.81	2.85	5.42	6.35	5.28	4.96	27.50	7.68	7.87	4.38	5.02	4.13	5.24
6	2.35	2.52	3.98	5.06	4.25	3.96	21.70	4.98	5.85	3.86	4.35	3.26	4.43
7	2.09	2.28	2.97	4.29	3.56	3.29	17.70	3.33	4.75	3.53	4.01	2.95	3.75
8	1.96	2.08	2.33	3.70	3.03	2.80	15.20	2.47	4.12	3.31	3.54	2.67	3.23
9	1.84	1.92	1.96	3.30	2.67	2.47	13.50	2.18	3.64	3.12	3.23	2.46	2.85
10	1.79	1.81	1.82	3.03	2.44	2.26	12.50	2.26	3.31	2.98	3.22	2.25	2.61
11	1.79	1.77	1.83	2.86	2.24	2.08	12.00	2.56	3.16	2.87	2.96	2.10	2.51
12	1.84	1.77	1.95	2.84	2.11	2.01	11.90	2.97	3.17	2.84	2.80	2.02	2.54
13	1.98	1.85	2.14	2.94	2.15	2.07	12.20	3.39	3.54	2.96	2.76	2.06	2.67
14	2.25	2.08	2.37	3.25	2.38	2.28	12.60	3.78	4.14	3.35	2.85	2.28	2.90
15	2.55	2.48	2.61	3.75	2.77	2.60	13.20	4.12	4.75	4.08	3.22	2.70	3.19
16	2.81	2.80	2.85	4.37	3.27	3.01	14.00	4.43	5.51	5.13	3.88	3.28	3.56
17	3.03	3.03	3.09	5.04	3.82	3.52	14.70	4.76	6.33	6.33	4.52	3.92	3.99
18	3.31	3.28	3.32	5.70	4.36	4.16	15.50	5.20	7.13	7.47	5.33	4.49	4.45
19	3.49	3.56	3.55	6.37	4.81	4.75	16.20	5.70	7.81	8.46	5.94	4.91	4.94
20	3.70	3.86	3.78	6.99	5.04	5.07	16.90	6.19	8.30	9.07	6.41	5.16	5.46
21	3.91	4.05	4.00	7.51	5.07	5.14	17.60	6.61	8.60	9.32	6.53	5.29	5.85
22	4.04	4.20	4.19	7.80	5.04	5.11	18.20	6.89	8.72	9.38	6.46	5.35	6.03
23	4.18	4.33	4.34	7.82	5.03	5.08	18.90	6.99	8.70	9.28	6.49	5.40	6.08
24	4.34	4.18	4.44	7.70	5.07	5.02	19.60	6.96	8.56	9.06	6.38	5.47	6.16
25	4.48	4.04	4.54	7.52	5.13	4.92	20.30	6.85	8.38	8.78	6.28	5.56	6.22
26	4.64	4.10	4.66	7.35	5.18	4.81	21.00	6.73	8.18	8.48	6.28	5.70	6.33
27	4.78	4.15	4.83	7.33	5.22	4.76	21.60	6.67	8.00	8.21	6.14	5.84	6.52
28	4.94	4.22	5.07	7.44	5.30	4.76	22.30	6.66	7.89	7.95	6.14	5.98	6.79
29	5.03	4.30	5.35	7.61	5.42	4.79	23.00	6.65	7.85	7.74	6.14	6.08	7.04
30	5.19	4.47	5.66	7.86	5.56	4.75	23.50	6.67	7.87	7.57	6.04	6.20	7.31
31	5.40	4.63	5.99	8.14	5.71	4.66	24.40	6.70	7.95	7.42	6.06	6.36	7.62
32	5.58	4.78	6.32	8.46	5.91	4.72	25.20	6.76	8.08	7.35	6.05	6.60	7.97
33	5.79	4.96	6.64	8.76	6.21	4.95	26.10	6.84	8.25	7.31	6.00	6.89	8.34
34	6.04	5.15	6.98	9.09	6.60	5.18	26.90	6.94	8.45	7.31	6.07	7.22	8.73
35	6.33	5.28	7.32	9.42	6.97	5.37	27.80	7.06	8.69	7.35	6.37	7.54	9.14
36	6.63	5.48	7.69	9.76	7.34	5.59	28.70	7.23	8.96	7.40	6.39	7.89	9.49
37	6.98	5.77	8.07	10.09	7.78	5.84	29.60	7.45	9.27	7.47	6.54	8.29	9.75
38	7.36	6.11	8.47	10.37	8.27	6.11	30.50	7.74	9.61	7.55	6.74	8.77	9.95
39	7.78	6.47	8.88	10.68	8.73	6.45	31.40	8.09	9.99	7.67	7.15	9.28	10.18
40	8.16	6.89	9.31	11.04	9.22	6.79	32.30	8.48	10.40	7.78	7.57	9.83	10.40
41	8.60	7.37	9.79	11.47	9.80	7.10	33.20	8.88	10.87	7.94	7.79	10.38	10.70
42	9.10	7.84	10.32	11.94	10.41	7.42	34.20	9.27	11.38	8.12	8.03	11.00	11.16
43	9.65	8.32	10.91	12.46	10.99	7.83	35.20	9.62	11.94	8.36	8.30	11.67	11.74
44	10.24	8.89	11.55	13.03	11.66	8.44	36.10	9.96	12.58	8.63	8.54	12.39	12.37
45	10.83	9.38	12.23	13.63	12.44	8.98	37.20	10.31	13.28	8.92	9.25	13.08	13.10
46	11.42	9.75	12.98	14.29	13.19	9.40	38.20	10.72	14.04	9.26	9.42	13.79	13.76
47	12.04	10.15	13.79	14.96	13.97	9.94	39.30	11.25	14.87	9.64	10.01	14.57	14.22
48	12.61	10.61	14.66	15.64	14.89	10.61	40.40	11.90	15.77	10.07	9.86	15.53	14.54
49	13.27	11.16	15.58	16.32	15.88	11.18	41.60	12.64	16.73	10.58	10.92	16.65	14.92

* $1000q_x$ is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

RATE OF MORTALITY PER THOUSAND. TABLE 75

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909	INDIA: 1901–1910 *	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
RATE OF MORTALITY PER THOUSAND, $1000q_x$.													MALES
50	13.95	11.87	16.57	17.01	16.93	11.77	42.80	13.45	17.75	11.11	11.24	17.88	15.28
51	14.63	12.66	17.66	17.73	18.09	12.46	44.00	14.32	18.87	11.67	12.13	19.16	15.85
52	15.38	13 57	18.85	18.48	19.30	13.29	45.40	15.21	20.09	12.29	12.75	20.50	16.83
53	16.22	14.61	20.16	19.31	20.54	14.38	46.80	16.05	21.41	12.88	13.46	21.91	18.18
54	17.14	15.83	21.56	20.32	21.95	15.61	48.30	16.85	22.88	13.50	14.45	23.35	19.66
55	18.16	17.07	23.08	21.53	23.57	16.86	49.90	17.73	24.48	14.16	15.26	24.85	21.38
56	19.34	18.44	24.72	22.99	25.12	18.07	51.50	18.83	26.24	14.89	15.69	26.49	23.18
57	20.71	19.78	26.49	24.72	26.62	19.44	53.40	20.28	28.16	15.71	16.64	28.40	24.83
58	22.29	21.41	28.39	26.61	28.37	20.90	55.40	22.11	30.27	16.67	17.89	30.62	26.37
59	24.00	22.74	30.44	28.64	30.39	22.47	57.50	24.25	32.56	17.81	19.38	32.99	28.09
60	25.84	23.89	32.62	30.84	32.60	24.29	59.80	26.62	35.06	19.14	20.66	35.43	29.90
61	27.88	25.57	34.96	33.16	35.11	25.93	62.40	29.17	37.78	20.66	22.89	37.88	31.93
62	30.12	27.46	37.45	35.64	37.87	28.26	65.30	31.84	40.74	22.40	23.13	40.52	34.32
63	32.57	29.48	40.03	38.28	40.83	31.20	68.30	34.44	43.97	24.34	26.22	43.44	37.04
64	35.37	31.55	42.69	41.14	43.91	33.95	71.70	37.01	47.46	26.47	27.87	46.75	39.88
65	38.59	34.03	45.57	44.30	47.06	37.20	75.50	39.83	51.21	28.80	30.04	50.42	42.92
66	42.30	37.04	48.80	47.93	50.73	40.73	79.80	43.19	55.22	31.27	32.21	54.46	46.05
67	46.44	40.44	52.53	52.04	55.13	44.05	84.30	47.38	59.52	33.85	36.54	58.82	49.22
68	51.06	44.14	56.85	56.76	59.67	47.91	89.50	52.43	64.14	36.58	38.69	63.54	52.53
69	56.11	48.46	61.72	62.20	64.20	52.51	95.50	58.15	69.10	39.51	41.96	68 57	56.11
70	61.62	53.63	67.08	68.32	69.36	57.43	101.70	64.49	74.45	42.76	46.40	73.93	59.90
71	67.60	58.19	72.87	75.05	75.60	62.11	109.10	71.38	80.22	46.46	50.54	79.58	64.31
72	74.15	62.37	79.02	82.28	82.63	67.95	117.30	78.78	86.40	50.71	55.49	85.73	69.63
73	81.22	67.48	85.66	89.69	89.91	74.97	126.30	86.35	92.96	55.57	60.56	92.47	75.79
74	88.62	73.67	92.90	99.08	97.71	81.81	136.60	94.13	99.84	60.97	67.43	100.16	82.54
75	96.10	80.79	100.62	108.70	106.40	89.21	148.00	102.62	107.50	66.91	74.60	108.89	90.15
76	103.69	89.22	108.67	119.40	115.35	97.54	160 90	112.31	115.80	73.38	81.03	118.91	98.03
77	111.58	99.60	116.88	131.00	124.63	106.10	174.80	123.69	124.70	80.48	89.86	130.00	105.76
78	119.88	110.13	125.00	143.90	135.09	114.50	191.40	137.38	134.30	88.26	101.02	142.01	113.64
79	128.68	120.22	133.12	156.60	146.19	125.40	209.20	153.05	144.70	96.89	109.43	154.33	122.81
80	137.95	131.97	141.63	167.80	157.87	137.00	228.70	169.78	155.80	106.34	120.81	166.92	133.66
81	147.74	144.32	150.95	177.60	170.82	148.10	251.30	186.64	167.80	116.61	130.97	179.37	145.39
82	158.76	156.49	161.58	188.90	184.77	159.80	275.20	202.71	180.70	127.55	146.57	192.02	156.97
83	170.91	170.00	173.92	202.30	199.62	173.50	300.90	218.56	194.60	139.11	159.08	204 55	169.30
84	183.66	181.95	187.87	218.20	215.41	188.30	331.10	234.71	209.60	151.27	176.99	217.86	182.08
85	197.01	191.64	203.15	230.50	231.60	204.00	366 30	251.60	225.80	164.09	192.27	232.16	195.04
86	210.92	202.22	219.44	239.20	248.05	217.00	398.40	269.62	243.20	177.47	210.76	248.87	208.05
87	225.73	224.32	236.32	248.00	265.12	229.00	428.60	289.10	261.90	191.23	225.22	267.12	221.09
88	241.82	257.39	254.59	257.20	283.07	244.00	477.30	310.32	282.10	205.42	244.96	286.27	234.23
89	259.07	281.58	274.75	266.90	301.51	260.00	521.70	333.49	303.80	220.14	269.07	303.04	247.63
90	277.36	290.48	295.66	276.80	320.02	290.00	545.50	358.74	327.20	235.78	286.99	317.20	261.48
91	296.60	.....	315.91	287.70	338.74	350.00	600.00	386.18	352.40	252.33	304.41	329.24	275.88
92	316.72	.....	333.81	299.50	357.67	410.00	500.00	415.82	379.50	270.46	325.43	344.21	290.92
93	337.57	.....	348.60	312.20	376.61	470.00	1000.00	447.65	408.70	290.03	340.11	364.63	306.60
94	359.07	.....	360.31	326.10	395.43	530.00	.....	481.56	440.20	309.61	369.10	392.39	322.91
95	381.11	.....	369.66	341.50	413.99	600.00	.....	517.41	474.00	329.32	398.02	425.31	339.81
96	403.60	.....	378.06	358.20	432.13	700.00	.....	554.99	510.60	349.30	416.98	463.23	357.34
97	426.41	.....	387.50	376.80	449.67	800.00	.....	594.01	549.80	371.00	419.11	506.15	375.58
98	449.46	.....	400.59	400.00	466.41	900.00	.....	634.16	592.20	395.00	428.93	555.88	394.71
99	480.02	.....	420.31	425.00	482.16	1000.00	.....	675.03	637.80	419.00	480.71	612.53	414.95
100	525.36	.....	449.69	460.00	496.68	.....	.....	.....	686.90	458.00	495.00	675.97	436.52

* $1000q_x$ is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 76 FOREIGN COUNTRIES. FEMALES. ANNUAL

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901-1910	DENMARK: 1906-1910	ENGLAND: 1901-1910 *	FRANCE: 1898-1903	GERMANY: 1901-1910	HOLLAND: 1900-1909	INDIA: 1901-1910 *	ITALY: 1901-1910	JAPAN: 1898-1903	NORWAY: 1901-1910	SWEDEN: 1901-1910	SWITZERLAND: 1901-1910	UNITED STATES: 1901-1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
FEMALES.					RATE OF MORTALITY PER THOUSAND, $1000q_x$.								
0	79.53	97.71	117.43	136.49	170.48	117.69	284.60	152.11	140.92	66.79	75.98	112.58	105.51
1	16.65	15.99	37.64	31.66	38.47	34.22	86.20	71.36	35.98	16.76	21.21	21.61	27.43
2	6.29	6.29	15.26	17.54	14.63	15.71	61.60	31.85	26.02	9.03	10.32	9.45	12.61
3	4.11	4.41	10.05	11.57	9.25	8.20	45.10	17.89	17.32	6.18	7.58	6.25	8.28
4	3.24	3.19	7.48	8.67	6.84	5.95	33.70	12.43	11.68	4.91	6.14	4.82	6.10
5	2.58	2.57	5.53	6.49	5.31	4.63	26.20	8.50	8.10	4.28	5.16	4.06	5.00
6	2.14	2.34	4.12	5.26	4.38	3.76	21.20	5.83	5.96	3.83	4.36	3.20	4.16
7	1.91	2.23	3.13	4.45	3.73	3.16	17.80	4.14	4.81	3.50	3.79	2.94	3.47
8	1.75	2.15	2.50	3.88	3.19	2.74	15.40	3.22	4.22	3.29	3.66	2.67	2.94
9	1.63	2.10	2.14	3.50	2.80	2.46	14.00	2.87	3.91	3.18	3.31	2.44	2.57
10	1.59	2.08	1.99	3.28	2.56	2.28	12.90	2.90	3.77	3.19	3.25	2.26	2.36
11	1.63	2.11	1.98	3.23	2.42	2.22	12.40	3.19	3.85	3.29	3.16	2.24	2.29
12	1.75	2.21	2.07	3.34	2.41	2.28	12.30	3.60	4.21	3.53	3.20	2.40	2.34
13	1.84	2.31	2.22	3.63	2.54	2.45	12.40	4.06	4.81	3.83	3.56	2.75	2.51
14	2.00	2.55	2.40	4.03	2.75	2.79	12.80	4.50	5.56	4.19	3.82	3.24	2.76
15	2.19	2.91	2.58	4.47	3.02	3.21	13.40	4.89	6.38	4.58	4.19	3.81	3.09
16	2.44	3.18	2.74	4.89	3.34	3.52	14.10	5.22	7.24	4.96	4.61	4.35	3.45
17	2.69	3.36	2.89	5.27	3.61	3.61	14.80	5.53	8.06	5.33	4.84	4.79	3.80
18	2.90	3.52	3.02	5.62	3.81	3.60	15.60	5.86	8.76	5.64	5.00	5.08	4.15
19	3.10	3.67	3.14	5.95	4.01	3.66	16.30	6.18	9.29	5.91	5.05	5.26	4.51
20	3.29	3.78	3.25	6.27	4.22	3.84	17.00	6.48	9.64	6.13	5.26	5.40	4.90
21	3.49	3.88	3.37	6.54	4.44	4.05	17.60	6.74	9.85	6.31	5.53	5.56	5.21
22	3.70	4.00	3.49	6.80	4.70	4.16	18.20	6.96	9.94	6.44	5.68	5.73	5.43
23	3.88	4.15	3.61	7.03	4.98	4.22	18.80	7.12	9.96	6.54	5.61	5.91	5.59
24	4.09	4.31	3.73	7.22	5.21	4.31	19.40	7.24	9.95	6.61	5.70	6.06	5.75
25	4.30	4.44	3.86	7.35	5.37	4.48	20.00	7.33	9.92	6.66	5.96	6.18	5.91
26	4.48	4.55	4.00	7.42	5.50	4.68	20.60	7.39	9.90	6.71	6.06	6.27	6.07
27	4.69	4.69	4.17	7.42	5.64	4.79	21.20	7.46	9.90	6.75	5.96	6.36	6.25
28	4.89	4.77	4.37	7.45	5.78	4.88	21.80	7.52	9.90	6.79	5.95	6.45	6.45
29	5.03	4.83	4.60	7.52	5.87	5.01	22.40	7.55	9.93	6.85	6.01	6.54	6.65
30	5.19	4.87	4.84	7.59	5.97	5.17	23.10	7.58	9.98	6.93	6.12	6.63	6.87
31	5.40	4.97	5.10	7.68	6.11	5.36	23.70	7.61	10.06	7.03	6.01	6.74	7.07
32	5.58	5.10	5.36	7.78	6.28	5.58	24.40	7.66	10.17	7.14	6.01	6.84	7.26
33	5.79	5.19	5.62	7.92	6.45	5.75	25.10	7.73	10.31	7.26	6.18	6.96	7.43
34	5.99	5.35	5.89	8.06	6.65	5.84	25.80	7.81	10.48	7.37	6.36	7.08	7.60
35	6.17	5.50	6.17	8.20	6.86	5.97	26.60	7.89	10.67	7.43	6.50	7.22	7.77
36	6.38	5.58	6.46	8.32	7.01	6.20	27.40	7.99	10.87	7.48	6.52	7.38	7.93
37	6.59	5.70	6.76	8.45	7.15	6.40	28.20	8.10	11.05	7.53	6.73	7.58	8.07
38	6.77	5.84	7.06	8.56	7.35	6.62	29.10	8.23	11.21	7.58	6.86	7.80	8.22
39	6.98	6.01	7.36	8.65	7.55	6.87	30.00	8.38	11.32	7.65	6.87	8.03	8.38
40	7.18	6.23	7.66	8.79	7.71	7.10	30.80	8.54	11.38	7.73	7.00	8.22	8.54
41	7.36	6.47	8.00	8.96	7.88	7.21	31.70	8.68	11.39	7.81	7.15	8.35	8.76
42	7.57	6.69	8.38	9.18	8.01	7.31	32.60	8.80	11.38	7.88	7.22	8.44	9.05
43	7.73	6.92	8.79	9.44	8.09	7.39	33.50	8.84	11.35	7.92	7.27	8.54	9.41
44	7.87	7.19	9.23	9.71	8.24	7.43	34.40	8.82	11.38	7.97	7.50	8.74	9.81
45	8.07	7.34	9.70	10.03	8.54	7.64	35.30	8.80	11.49	8.06	7.68	9.07	10.27
46	8.25	7.48	10.22	10.39	8.90	8.07	36.30	8.87	11.71	8.20	7.73	9.56	10.75
47	8.51	7.73	10.78	10.79	9.33	8.33	37.20	9.10	12.04	8.42	8.44	10.18	11.24
48	8.80	8.01	11.38	11.27	9.90	8.55	38.30	9.50	12.51	8.71	8.40	10.88	11.71
49	9.15	8.35	11.99	11.83	10.54	9.28	39.40	10.03	13.10	9.07	8.95	11.59	12.24

* $1000q_x$ is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

RATE OF MORTALITY PER THOUSAND. TABLE 76

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909	INDIA: 1901–1910 *	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
RATE OF MORTALITY PER THOUSAND, $1000q_x$.													FEMALES.
50	9.56	8.97	12.67	12.44	11.26	10.09	40.60	10.66	13.80	9.46	9.11	12.34	12.78
51	9.99	9.63	13.44	13.10	12.18	10.71	41.80	11.37	14.58	9.88	9.56	13.13	13.45
52	10.54	10.23	14.36	13.80	13.17	11.29	43.10	12.13	15.44	10.32	9.83	14.05	14.34
53	11.17	10.88	15.43	14.56	14.08	11.97	44.40	12.87	16.37	10.83	10.54	15.06	15.44
54	11.92	11.50	16.65	15.37	15.00	12.59	45.80	13.60	17.39	11.36	11.46	16.23	16.67
55	12.77	11.87	17.98	16.32	16.19	13.37	47.40	14.44	18.52	11.94	11.96	17.53	18.08
56	13.70	12.48	19.39	17.44	17.64	14.61	49.10	15.52	19.77	12.61	12.59	19.08	19.58
57	14.76	13.45	20.84	18.80	19.21	15.94	50.90	16.95	21.18	13.33	13.37	20.82	21.03
58	16.06	14.51	22.30	20.48	20.88	17.09	53.00	18.77	22.77	14.12	14.46	22.76	22.42
59	17.53	15.80	23.80	22.36	22.68	18.68	55.20	20.88	24.53	15.05	15.21	24.80	23.94
60	19.20	17.44	25.39	24.36	24.73	20.75	57.80	23.26	26.50	16.11	16.60	27.01	25.53
61	21.01	19.18	27.11	26.48	27.24	22.83	60.60	25.87	28.69	17.35	17.84	29.52	27.33
62	22.97	21.02	29.03	28.78	30.11	24.86	63.50	28.67	31.10	18.78	19.06	32.45	29.49
63	25.12	23.11	31.02	31.18	33.11	27.12	66.80	31.50	33.76	20.39	20.98	35.79	31.97
64	27.45	25.52	33.06	33.79	36.25	29.70	70.40	34.37	36.68	22.17	22.85	39.44	34.57
65	29.98	28.20	35.34	36.64	39.60	32.36	74.40	37.54	39.57	24.12	24.92	43.27	37.33
66	32.72	30.99	38.04	39.79	43.24	35.46	78.80	41.28	43.37	26.24	27.14	47.28	40.28
67	35.77	34.32	41.41	43.61	47.40	39.13	83.60	45.82	47.17	28.57	29.95	51.54	43.43
68	39.16	37.99	45.66	48.01	52.00	43.27	88.90	51.23	51.30	31.12	32.97	56.27	46.84
69	43.14	41.68	50.75	52.97	56.78	47.59	94.80	57.34	55.81	33.94	36.17	61.48	50.59
70	47.77	46.18	56.43	58.50	62.06	51.74	101.20	64.07	60.72	37.13	40.32	67.14	54.72
71	53.04	50.86	62.42	64.63	68.39	56.58	108.20	71.32	66.05	40.74	43.49	73.20	59.23
72	58.87	54.83	68.39	71.32	75.31	62.62	116.30	79.02	71.83	44.88	49.84	79.80	64.09
73	65.02	59.48	74.26	78.44	82.13	69.26	125.10	86.89	78.11	49.59	53.85	87.18	69.29
74	71.35	65.51	80.23	86.15	89.69	75.21	135.00	95.00	84.94	54.91	59.00	95.31	74.95
75	77.79	72.06	86.43	94.54	98.31	81.62	146.00	103.74	92.00	60.72	67.02	104.03	81.13
76	84.31	79.76	93.00	103.60	106.97	89.86	158.30	113.52	99.65	66.99	73.76	112.97	87.71
77	91.01	89.67	100.09	113.40	116.27	98.67	172.20	124.72	107.90	73.69	83.32	122.30	94.77
78	98.01	98.59	107.68	123.90	126.60	107.60	188.90	137.87	116.90	80.74	87.93	132.16	102.56
79	105.42	107.32	115.70	135.10	136.45	117.70	205.20	152.69	126.60	88.22	99.58	143.02	111.52
80	113.33	119.06	124.29	146.70	146.50	127.80	224.90	168.42	137.20	96.29	109.48	154.71	122.14
81	121.85	129.80	133.62	157.60	158.97	137.40	246.90	184.29	148.60	105.20	120.77	167.26	133.54
82	131.00	139.87	143.86	169.20	173.18	148.30	271.60	199.52	160.90	115.13	131.15	180.16	144.41
83	140.91	152.26	155.37	181.40	187.43	161.70	299.00	214.76	174.30	126.15	144.98	193.35	154.51
84	151.97	162.71	168.19	194.40	202.01	175.80	329.00	230.53	188.80	137.95	161.70	206.62	165.91
85	164.59	170.35	182.03	206.70	217.39	188.30	362.80	247.27	204.50	150.31	173.55	220.16	178.61
86	178.70	182.99	196.51	213.40	233.55	201.00	399.30	265.37	221.50	162.99	189.31	234.50	191.60
87	193.81	200.53	211.15	220.20	249.89	216.00	440.00	285.16	239.90	175.63	205.52	250.30	204.46
88	209.38	224.08	226.13	227.00	265.24	231.00	485.00	306.89	259.80	188.64	220.95	268.83	217.43
89	225.38	246.09	241.80	233.90	280.15	242.00	535.00	330.77	281.40	202.73	238.04	288.98	231.75
90	242.21	257.06	257.81	240.60	295.66	270.00	590.70	356.92	304.80	218.48	252.73	309.20	246.87
91	260.17	.....	273.76	247.40	311.24	300.00	653.00	385.41	330.10	235.96	269.20	325.04	262.65
92	279.16	.....	289.18	254.20	326.38	350.00	723.90	416.25	357.60	255.32	292.83	337.43	278.76
93	299.06	.....	303.83	261.10	341.07	400.00	803.40	449.38	387.30	275.32	312.27	348.51	294.77
94	319.75	.....	317.70	268.40	355.18	470.00	.....	484.69	419.50	294.50	326.80	374.66	310.26
95	341.45	.....	330.96	275.70	368.57	560.00	.....	521.98	454.40	311.60	360.75	402.96	324.90
96	364.71	.....	343.96	283.30	381.13	660.00	.....	561.01	492.10	328.41	386.04	432.44	338.69
97	389.62	.....	357.21	292.00	392.74	780.00	.....	601.47	533.00	344.32	392.59	468.80	351.88
98	415.84	.....	371.35	302.00	403.28	800.00	.....	642.98	577.30	358.00	394.38	506.72	365.07
99	450.50	.....	387.15	314.00	412.66	900.00	.....	685.10	625.30	374.00	417.30	546.98	378.85
100	500.73	.....	405.44	329.00	420.77	1,000.00	.....	.....	677.30	396.00	440.00	590.07	393.81

* $1000q_x$ is copied in each case to the nearest second decimal. When only the first decimal was given a cipher was added.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 77 FOREIGN COUNTRIES. MALES. NUMBER OF

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MALES.					NUMBER OF SURVIVORS, l_x.								
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	90,490	87,933	85,566	83,674	79,766	85,954	71,002	83,229	84,314	91,855	90,745	86,160	87,262
2	88,879	86,472	82,110	80,839	76,585	82,898	64,529	77,370	81,206	90,169	88,679	84,266	84,628
3	88,280	85,884	80,800	79,310	75,442	81,518	60,288	74,987	79,102	89,392	87,712	83,442	83,464
4	87,892	85,500	79,990	78,365	74,727	80,771	57,375	73,680	77,757	88,824	87,022	82,898	82,730
5	87,585	85,229	79,398	77,692	74,211	80,243	55,308	72,816	76,887	88,366	86,491	82,469	82,195
6	87,339	84,986	78,967	77,199	73,820	79,845	53,785	72,257	76,282	87,979	86,057	82,129	81,764
7	87,134	84,772	78,653	76,808	73,506	79,529	52,617	71,897	75,836	87,639	85,682	81,861	81,403
8	86,952	84,578	78,419	76,478	73,244	79,267	51,684	71,658	75,476	87,330	85,339	81,620	81,097
9	86,782	84,402	78,237	76,195	73,023	79,045	50,898	71,481	75,165	87,041	85,037	81,402	80,835
10	86,622	84,240	78,083	75,944	72,827	78,850	50,212	71,325	74,891	86,769	84,762	81,201	80,605
11	86,467	84,088	77,941	75,714	72,650	78,672	49,586	71,164	74,643	86,510	84,489	81,019	80,394
12	86,312	83,939	77,798	75,497	72,487	78,508	48,993	70,982	74,407	86,262	84,239	80,849	80,192
13	86,153	83,790	77,647	75,283	72,334	78,350	48,408	70,771	74,171	86,017	84,003	80,685	79,989
14	85,982	83,635	77,480	75,062	72,179	78,188	47,818	70,531	73,908	85,762	83,771	80,519	79,775
15	85,789	83,461	77,297	74,818	72,007	78,010	47,213	70,264	73,602	85,475	83,533	80,335	79,544
16	85,570	83,254	77,095	74,537	71,808	77,807	46,587	69,975	73,252	85,126	83,264	80,119	79,291
17	85,330	83,021	76,875	74,211	71,573	77,573	45,936	69,665	72,848	84,689	82,941	79,856	79,009
18	85,071	82,770	76,638	73,837	71,300	77,300	45,260	69,333	72,387	84,153	82,566	79,543	78,694
19	84,789	82,498	76,384	73,416	70,989	76,978	44,557	68,972	71,871	83,524	82,126	79,186	78,344
20	84,493	82,205	76,113	72,948	70,647	76,612	43,833	68,579	71,310	82,817	81,638	78,797	77,957
21	84,180	81,887	75,825	72,438	70,291	76,224	43,091	68,154	70,718	82,066	81,115	78,390	77,532
22	83,851	81,556	75,521	71,894	69,935	75,832	42,333	67,704	70,110	81,301	80,585	77,975	77,078
23	83,512	81,213	75,205	71,333	69,582	75,444	41,560	67,238	69,499	80,538	80,064	77,558	76,614
24	83,163	80,861	74,879	70,775	69,232	75,061	40,773	66,768	68,894	79,791	79,545	77,140	76,148
25	82,802	80,523	74,546	70,230	68,881	74,684	39,973	66,303	68,304	79,068	79,037	76,718	75,679
26	82,431	80,198	74,208	69,702	68,528	74,317	39,156	65,849	67,732	78,374	78,541	76,291	75,208
27	82,048	79,869	73,862	69,190	68,173	73,960	38,331	65,406	67,178	77,709	78,048	75,856	74,732
28	81,656	79,537	73,505	68,683	67,817	73,608	37,502	64,970	66,641	77,071	77,568	75,413	74,245
29	81,253	79,202	73,132	68,172	67,458	73,258	36,669	64,537	66,115	76,458	77,092	74,962	73,741
30	80,844	78,862	72,741	67,653	67,092	72,907	35,831	64,108	65,596	75,866	76,619	74,506	73,222
31	80,425	78,509	72,329	67,121	66,719	72,561	34,988	63,680	65,080	75,292	76,156	74,044	72,687
32	79,991	78,146	71,896	66,575	66,338	72,223	34,135	63,253	64,563	74,733	75,694	73,574	72,133
33	79,544	77,772	71,442	66,012	65,946	71,882	33,274	62,825	64,041	74,184	75,237	73,088	71,558
34	79,082	77,386	70,967	65,434	65,536	71,526	32,406	62,395	63,513	73,642	74,785	72,584	70,961
35	78,607	76,988	70,472	64,839	65,104	71,155	31,533	61,962	62,976	73,104	74,331	72,060	70,342
36	78,109	76,581	69,956	64,228	64,650	70,773	30,656	61,525	62,429	72,567	73,858	71,517	69,699
37	77,591	76,162	69,418	63,601	64,175	70,377	29,776	61,080	61,870	72,030	73,386	70,953	69,038
38	77,050	75,722	68,858	62,959	63,676	69,966	28,896	60,625	61,296	71,492	72,906	70,365	68,365
39	76,482	75,260	68,275	62,306	63,149	69,539	28,015	60,156	60,707	70,952	72,414	69,747	67,685
40	75,887	74,773	67,668	61,641	62,598	69,090	27,136	59,669	60,101	70,408	71,897	69,100	66,996
41	75,268	74,257	67,038	60,960	62,021	68,621	26,260	59,163	59,476	69,860	71,352	68,421	66,299
42	74,621	73,710	66,382	60,261	61,413	68,134	25,387	58,638	58,829	69,305	70,797	67,711	65,590
43	73,942	73,132	65,697	59,541	60,773	67,628	24,519	58,094	58,160	68,742	70,228	66,966	64,858
44	73,228	72,524	64,980	58,799	60,105	67,098	23,657	57,535	57,466	68,167	69,645	66,184	64,097
45	72,479	71,879	64,230	58,033	59,405	66,532	22,803	56,962	56,743	67,579	69,050	65,364	63,304
46	71,694	71,205	63,444	57,242	58,666	65,935	21,955	56,375	55,989	66,976	68,412	64,509	62,475
47	70,875	70,511	62,621	56,424	57,892	65,315	21,116	55,771	55,203	66,356	67,767	63,620	61,615
48	70,021	69,795	61,757	55,580	57,084	64,666	20,287	55,144	54,382	65,716	67,089	62,693	60,739
49	69,139	69,054	60,851	54,711	56,233	63,980	19,467	54,488	53,524	65,054	66,427	61,719	59,856

* These derived values were all copied to the nearest integer when the radix is 100,000.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

SURVIVORS OUT OF 100,000 BORN ALIVE. TABLE 77

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910.	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
NUMBER OF SURVIVORS, l_x.													MALES.
50	68,221	68,284	59,903	53,818	55,340	63,265	18,658	53,799	52,629	64,366	65,702	60,692	58,963
51	67,270	67,473	58,910	52,903	54,403	62,520	17,860	53,075	51,695	63,651	64,963	59,607	58,062
52	66,286	66,619	57,870	51,965	53,419	61,741	17,074	52,315	50,720	62,908	64,175	58,464	57,142
53	65,266	65,715	56,779	51,005	52,388	60,920	16,299	51,519	49,700	62,135	63,357	57,266	56,180
54	64,208	64,755	55,635	50,020	51,312	60,044	15,537	50,692	48,636	61,335	62,504	56,011	55,159
55	63,107	63,730	54,435	49,004	50,186	59,107	14,787	49,838	47,523	60,507	61,601	54,703	54,075
56	61,961	62,642	53,179	47,949	49,003	58,110	14,049	48,954	46,360	59,650	60,661	53,344	52,919
57	60,763	61,487	51,864	46,847	47,772	57,060	13,325	48,032	45,144	58,762	59,709	51,931	51,692
58	59,505	60,271	50,490	45,689	46,500	55,951	12,613	47,058	43,873	57,839	58,716	50,456	50,409
59	58,178	58,980	49,057	44,473	45,180	54,782	11,914	46,018	42,545	56,875	57,665	48,911	49,079
60	56,782	57,639	47,564	43,199	43,807	53,551	11,229	44,902	41,160	55,862	56,548	47,298	47,701
61	55,315	56,262	46,012	41,867	42,379	52,250	10,557	43,707	39,717	54,793	55,380	45,622	46,275
62	53,772	54,823	44,404	40,479	40,892	50,895	9,898	42,432	38,216	53,661	54,112	43,894	44,797
63	52,153	53,318	42,741	39,036	39,343	49,457	9,252	41,081	36,659	52,459	52,860	42,115	43,260
64	50,455	51,746	41,030	37,542	37,737	47,914	8,620	39,666	35,047	51,182	51,474	40,286	41,658
65	48,670	50,114	39,278	35,998	36,079	46,287	8,002	38,198	33,384	49,827	50,040	38,402	39,996
66	46,792	48,408	37,488	34,403	34,381	44,565	7,398	36,677	31,674	48,392	48,537	36,466	38,279
67	44,813	46,615	35,659	32,754	32,637	42,750	6,808	35,093	29,925	46,879	46,973	34,480	36,517
68	42,732	44,730	33,786	31,049	30,838	40,867	6,234	33,430	28,144	45,292	45,257	32,452	34,720
69	40,550	42,756	31,865	29,287	28,998	38,909	5,676	31,677	26,339	43,635	43,506	30,390	32,896
70	38,275	40,684	29,898	27,465	27,136	36,866	5,134	29,835	24,519	41,911	41,680	28,306	31,050
71	35,916	38,502	27,893	25,589	25,254	34,749	4,612	27,911	22,694	40,119	39,746	26,213	29,190
72	33,488	36,261	25,860	23,669	23,345	32,591	4,109	25,919	20,873	38,255	37,738	24,127	27,313
73	31,005	34,000	23,817	21,722	21,416	30,376	3,627	23,877	19,070	36,315	35,644	22,059	25,411
74	28,487	31,705	21,777	19,774	19,490	28,099	3,169	21,815	17,297	34,297	33,485	20,019	23,486
75	25,962	29,370	19,754	17,815	17,586	25,800	2,736	19,762	15,570	32,206	31,227	18,014	21,547
76	23,467	26,997	17,766	15,879	15,715	23,498	2,331	17,734	13,896	30,051	28,898	16,052	19,605
77	21,034	24,588	15,836	13,984	13,902	21,206	1,956	15,742	12,287	27,846	26,556	14,144	17,683
78	18,687	22,139	13,985	12,152	12,169	18,956	1,611	13,795	10,755	25,605	24,170	12,305	15,813
79	16,447	19,701	12,237	10,403	10,525	16,786	1,305	11,900	9,311	23,345	21,728	10,558	14,016
80	14,330	17,333	10,608	8,774	8,987	14,681	1,032	10,079	7,964	21,083	19,350	8,928	12,295
81	12,354	15,045	9,105	7,302	7,568	12,670	796	8,368	6,723	18,841	17,013	7,438	10,651
82	10,528	12,874	7,731	6,005	6,275	10,794	596	6,806	5,595	16,644	14,784	6,104	9,103
83	8,857	10,859	6,482	4,871	5,116	9,069	432	5,426	4,584	14,521	12,618	4,932	7,674
84	7,343	9,013	5,354	3,885	4,094	7,496	302	4,240	3,692	12,501	10,610	3,923	6,375
85	5,995	7,373	4,349	3,037	3,212	6,085	202	3,245	2,918	10,610	8,732	3,068	5,214
86	4,814	5,960	3,465	2,337	2,468	4,844	128	2,429	2,259	8,869	7,053	2,356	4,197
87	3,798	4,755	2,705	1,778	1,856	3,793	77	1,774	1,710	7,295	5,567	1,770	3,324
88	2,941	3,688	2,066	1,337	1,364	2,924	44	1,261	1,262	5,900	4,313	1,297	2,589
89	2,230	2,739	1,540	993	978	2,211	23	870	906	4,688	3,257	926	1,983
90	1,652	1,968	1,117	728	683	1,636	11	580	631	3,656	2,380	645	1,492
91	1,194	.....	787	526	464	1,162	5	372	425	2,794	1,697	441	1,102
92	840	.....	538	375	307	755	2	228	275	2,089	1,181	295	798
93	574	.....	358	263	197	445	1	133	171	1,524	796	194	566
94	380	.....	234	181	123	236	.....	73	101	1,082	526	123	392
95	244	.....	149	122	74	111	.....	38	57	747	332	75	266
96	151	.....	94	80	44	44	.....	18	30	501	200	43	175
97	90	.....	59	51	25	13	.....	8	15	326	116	23	113
98	52	.....	36	32	14	3	.....	3	7	205	67	11	70
99	28	.....	22	19	7	.....	.....	1	3	124	39	5	43
100	15	.....	13	11	4	.....	.....	.....	1	72	20	2	25

* These derived values were all copied to the nearest integer when the radix is 100,000.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 78 FOREIGN COUNTRIES. FEMALES. NUMBER OF

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
FEMALES.					NUMBER OF SURVIVORS, l_x.								
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	92,047	90,229	88,257	86,351	82,952	88,231	71,540	84,789	85,908	93,321	92,402	88,742	89,449
2	90,515	88,786	84,934	83,617	79,761	85,212	65,375	78,738	82,817	91,757	90,442	86,824	86,996
3	89,946	88,228	83,638	82,150	78,594	83,873	61,348	76,230	80,662	90,928	89,509	86,004	85,899
4	89,576	87,839	82,797	81,200	77,867	83,185	58,582	74,866	79,265	90,366	88,830	85,466	85,188
5	89,285	87,558	82,178	80,496	77,334	82,690	56,608	73,935	78,339	89,922	88,285	85,054	84,668
6	89,055	87,333	81,723	79,974	76,924	82,307	55,123	73,307	77,704	89,537	87,829	84,709	84,245
7	88,865	87,129	81,387	79,553	76,587	81,998	53,954	72,880	77,241	89,194	87,446	84,438	83,895
8	88,695	86,935	81,132	79,199	76,301	81,739	52,995	72,578	76,869	88,882	87,115	84,190	83,603
9	88,540	86,748	80,929	78,892	76,058	81,515	52,178	72,344	76,545	88,590	86,796	83,965	83,357
10	88,395	86,566	80,756	78,616	75,845	81,314	51,450	72,136	76,245	88,308	86,509	83,760	83,143
11	88,255	86,386	80,595	78,358	75,651	81,129	50,787	71,927	75,958	88,026	86,228	83,571	82,947
12	88,111	86,203	80,436	78,105	75,467	80,949	50,160	71,698	75,666	87,736	85,955	83,384	82,757
13	87,957	86,013	80,269	77,844	75,285	80,764	49,545	71,440	75,347	87,426	85,680	83,183	82,563
14	87,795	85,814	80,090	77,561	75,094	80,566	48,931	71,150	74,985	87,091	85,375	82,955	82,356
15	87,619	85,596	79,898	77,248	74,887	80,341	48,304	70,830	74,568	86,726	85,049	82,686	82,129
16	87,428	85,346	79,692	76,903	74,661	80,083	47,658	70,484	74,092	86,329	84,693	82,371	81,875
17	87,215	85,075	79,473	76,527	74,411	79,801	46,988	70,116	73,556	85,901	84,302	82,013	81,593
18	86,980	84,789	79,244	76,124	74,143	79,513	46,293	69,728	72,963	85,443	83,894	81,620	81,283
19	86,728	84,491	79,004	75,696	73,861	79,227	45,571	69,319	72,324	84,961	83,475	81,205	80,946
20	86,459	84,180	78,756	75,246	73,564	78,937	44,828	68,891	71,652	84,459	83,053	80,778	80,581
21	86,175	83,862	78,500	74,774	73,254	78,634	44,067	68,445	70,961	83,941	82,616	80,342	80,186
22	85,874	83,537	78,235	74,285	72,929	78,316	43,293	67,984	70,262	83,411	82,159	79,895	79,768
23	85,556	83,203	77,962	73,780	72,586	77,990	42,507	67,511	69,564	82,874	81,693	79,437	79,335
24	85,224	82,857	77,681	73,261	72,225	77,661	41,709	67,030	68,871	82,332	81,235	78,968	78,891
25	84,875	82,500	77,391	72,732	71,849	77,326	40,901	66,545	68,186	81,788	80,771	78,489	78,437
26	84,510	82,134	77,092	72,197	71,463	76,980	40,083	66,057	67,510	81,243	80,290	78,004	77,974
27	84,132	81,760	76,784	71,661	71,070	76,620	39,258	65,569	66,842	80,698	79,804	77,515	77,500
28	83,738	81,377	76,462	71,129	70,669	76,253	38,426	65,080	66,180	80,153	79,328	77,022	77,016
29	83,328	80,989	76,129	70,599	70,261	75,881	37,588	64,591	65,525	79,609	78,856	76,525	76,519
30	82,909	80,598	75,779	70,068	69,848	75,501	36,745	64,103	64,874	79,064	78,382	76,025	76,009
31	82,478	80,205	75,412	69,536	69,432	75,111	35,897	63,617	64,227	78,516	77,902	75,521	75,488
32	82,033	79,806	75,028	69,002	69,008	74,708	35,045	63,133	63,581	77,964	77,434	75,012	74,954
33	81,576	79,399	74,626	68,465	68,575	74,291	34,190	62,649	62,934	77,407	76,969	74,499	74,409
34	81,104	78,987	74,206	67,923	68,132	73,864	33,332	62,165	62,285	76,845	76,493	73,980	73,856
35	80,618	78,565	73,769	67,377	67,679	73,433	32,471	61,679	61,632	76,279	76,007	73,456	73,295
36	80,120	78,133	73,314	66,825	67,215	72,995	31,608	61,192	60,974	75,712	75,512	72,926	72,725
37	79,609	77,697	72,840	66,269	66,744	72,542	30,743	60,703	60,311	75,146	75,020	72,388	72,149
38	79,084	77,253	72,347	65,709	66,266	72,078	29,876	60,211	59,645	74,580	74,515	71,839	71,566
39	78,549	76,803	71,837	65,147	65,779	71,601	29,008	59,715	58,976	74,015	74,004	71,279	70,978
40	78,001	76,341	71,308	64,583	65,283	71,109	28,139	59,215	58,308	73,449	73,496	70,706	70,383
41	77,441	75,865	70,762	64,015	64,779	70,604	27,271	58,709	57,644	72,881	72,981	70,125	69,782
42	76,871	75,375	70,196	63,441	64,269	70,095	26,406	58,199	56,987	72,312	72,459	69,540	69,171
43	76,289	74,870	69,608	62,859	63,754	69,583	25,545	57,687	56,338	71,742	71,936	68,953	68,545
44	75,699	74,352	68,996	62,266	63,238	69,069	24,689	57,177	55,699	71,174	71,413	68,364	67,901
45	75,103	73,818	68,359	61,661	62,717	68,556	23,839	56,673	55,065	70,607	70,878	67,766	67,235
46	74,497	73,276	67,696	61,043	62,181	68,032	22,997	56,174	54,432	70,038	70,333	67,152	66,544
47	73,882	72,728	67,005	60,409	61,628	67,483	22,163	55,676	53,795	69,464	69,790	66,510	65,828
48	73,254	72,165	66,282	59,757	61,053	66,921	21,338	55,169	53,147	68,879	69,201	65,833	65,088
49	72,609	71,587	65,528	59,084	60,449	66,349	20,522	54,645	52,482	68,279	68,619	65,116	64,326

*These derived values were all copied to the nearest integer when the radix is 100,000.

†Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

SURVIVORS OUT OF 100,000 BORN ALIVE. TABLE 78

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
					NUMBER OF SURVIVORS, l_x.								FEMALES.
50	71,945	70,990	64,742	58,385	59,812	65,733	19,714	54,097	51,794	67,660	68,005	64,362	63,539
51	71,257	70,353	63,922	57,659	59,138	65,070	18,914	53,520	51,079	67,020	67,386	63,567	62,727
52	70,546	69,675	63,063	56,904	58,418	64,373	18,123	52,911	50,334	66,358	66,741	62,733	61,883
53	69,802	68,963	62,157	56,119	57,648	63,646	17,342	52,269	49,557	65,673	66,085	61,851	60,996
54	69,022	68,212	61,198	55,302	56,837	62,884	16,572	51,596	48,746	64,962	65,389	60,920	60,054
55	68,199	67,428	60,179	54,452	55,984	62,092	15,813	50,894	47,898	64,224	64,639	59,931	59,053
56	67,329	66,628	59,097	53,563	55,077	61,262	15,064	50,159	47,011	63,457	63,866	58,881	57,985
57	66,406	65,796	57,951	52,629	54,106	60,367	14,325	49,381	46,082	62,657	63,062	57,757	56,850
58	65,426	64,911	56,743	51,640	53,067	59,405	13,596	48,544	45,106	61,822	62,219	56,555	55,654
59	64,375	63,969	55,478	50,572	51,959	58,390	12,876	47,633	44,079	60,949	61,319	55,268	54,407
60	63,247	62,958	54,157	49,441	50,780	57,299	12,165	46,638	42,998	60,032	60,387	53,897	53,104
61	62,033	61,861	52,782	48,237	49,524	56,110	11,462	45,553	41,859	59,065	59,384	52,441	51,748
62	60,730	60,674	51,351	46,960	48,176	54,829	10,768	44,375	40,658	58,040	58,325	50,893	50,334
63	59,335	59,399	49,860	45,609	46,725	53,466	10,084	43.103	39,394	56,950	57,213	49,242	48,850
64	57,844	58,026	48,314	44,187	45,178	52,016	9,410	41,745	38,064	55,789	56,013	47,479	47,288
65	56,256	56,545	46,716	42,694	43,540	50,471	8,747	40,310	36,668	54,552	54,733	45,607	45,654
66	54,570	54,951	45,066	41,130	41,816	48,838	8,096	38,797	35,206	53,236	53,369	43,633	43,949
67	52,784	53,248	43,351	39,493	40,007	47,106	7,458	37,195	33,679	51,839	51,921	41,570	42,179
68	50,896	51,420	41,556	37,771	38,111	45,263	6,835	35,491	32,090	50,358	50,366	39,428	40,348
69	48,902	49,467	39,659	35,958	36,129	43,304	6,227	33,673	30,444	48,791	48,705	37,209	38,458
70	46,793	47,405	37,646	34,053	34,078	41,243	5,637	31,742	28,745	47,135	46,943	34,922	36,512
71	44,557	45,216	35,522	32,061	31,963	39,109	5,067	29,708	27,000	45,385	45,051	32,577	34,514
72	42,194	42,916	33,304	29,989	29,777	36,896	4,519	27,589	25,217	43,536	43,091	30,192	32,470
73	39,710	40,563	31,027	27,850	27,535	34,586	3,994	25,409	23,406	41,582	40,944	27,783	30,389
74	37,128	38,150	28,723	25,665	25,273	32,191	3,494	23,201	21,578	39,520	38,739	25,361	28,283
75	34,479	35,651	26,418	23,454	23,006	29,770	3,022	20,997	19,745	37,350	36,453	22,944	26,163
76	31,797	33,082	24,135	21,237	20,745	27,340	2,581	18,819	17,928	35,082	34,010	20,557	24,041
77	29,116	30,443	21,891	19,036	18,526	24,883	2,172	16,683	16,141	32,732	31,502	18,235	21,932
78	26,466	27,714	19,699	16,878	16,372	22,428	1,798	14,602	14,399	30,320	28,877	16,004	19,854
79	23,872	24,981	17,578	14,787	14,299	20,015	1,458	12,589	12,716	27,872	26,338	13,889	17,817
80	21,356	22,300	15,545	12,789	12,348	17,659	1,159	10,667	11,106	25,413	23,715	11,903	15,831
81	18,935	19,645	13,613	10,913	10,539	15,402	898	8,870	9,582	22,966	21,119	10,061	13,897
82	16,628	17,095	11,794	9,194	8,864	13,286	676	7,235	8,158	20,550	18,568	8,378	12,041
83	14,450	14,704	10,097	7,638	7,329	11,316	492	5,791	6,845	18,184	16,133	6,869	10,302
84	12,414	12,465	8,528	6,253	5,955	9,486	345	4,547	5,652	15,890	13,794	5,541	8,710
85	10,527	10,437	7,094	5,037	4,752	7,818	231	3,499	4,585	13,698	11,564	4,396	7,265
86	8,795	8,659	5,803	3,996	3,719	6,346	147	2,634	3,647	11,639	9,557	3,428	5,968
87	7,223	7,075	4,662	3,143	2,850	5,070	88	1,935	2,839	9,742	7,748	2,624	4,824
88	5,823	5,656	3,678	2,451	2,138	3,975	49	1,383	2,158	8,031	6,155	1,967	3,838
89	4,604	4,389	2,846	1,895	1,571	3,057	25	959	1,597	6,516	4,795	1,439	3,003
90	3,566	3,309	2,158	1,452	1,131	2,317	12	642	1,148	5,195	3,654	1,023	2,307
91	2,703	.....	1,602	1,103	797	1,691	5	413	798	4,060	2,730	707	1,738
92	1,999	.....	1,163	830	549	1,184	2	254	535	3,102	1,995	477	1,281
93	1,441	.....	827	619	370	770	1	148	344	2,310	1,411	316	924
94	1,010	.....	576	457	244	462	.....	81	211	1,674	970	206	652
95	687	.....	393	334	157	245	.....	42	122	1,181	653	129	450
96	453	.....	263	242	99	108	.....	20	67	813	418	77	303
97	288	.....	172	173	61	37	.....	9	34	546	256	44	201
98	175	.....	111	123	37	8	.....	4	16	358	156	23	130
99	103	.....	70	86	22	2	.....	1	7	230	95	11	83
100	56	.....	43	59	13	.....	.....	.....	3	144	55	5	51

* These derived values were all copied to the nearest integer when the radix is 100,000.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey Indiana, Michigan, and the District of Columbia.

TABLE 79 FOREIGN COUNTRIES. MALES. NUMBER

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910 *	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910 *	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MALES.						NUMBER OF DEATHS, d_x.							
0	9,510	12,067	14,434	16,326	20,234	14,046	28,998	16,771	15,686	8,145	9,255	13,840	12,738
1	1,611	1,461	3,456	2,835	3,181	3,056	6,473	5,859	3,108	1,686	2,066	1,894	2,634
2	599	588	1,310	1,529	1,143	1,380	4,241	2,383	2,104	777	967	824	1,164
3	388	384	810	945	715	747	2,913	1,307	1,345	568	690	544	734
4	307	271	592	673	516	528	2,069	864	870	458	531	429	535
5	246	243	431	493	391	398	1,523	559	605	387	434	340	431
6	205	214	314	391	314	316	1,168	360	446	340	375	268	361
7	182	194	234	330	262	262	933	239	360	309	343	241	306
8	170	176	182	283	221	222	786	177	311	289	302	218	262
9	160	162	154	251	196	195	686	156	274	272	275	201	230
10	155	152	142	230	177	178	626	161	248	259	273	182	211
11	155	149	143	217	163	164	593	182	236	248	250	170	202
12	159	149	151	214	153	158	585	211	236	245	236	164	203
13	171	155	167	221	155	162	590	240	263	255	232	166	214
14	193	174	183	244	172	178	605	267	306	287	238	184	231
15	219	207	202	281	199	203	626	289	350	349	269	216	253
16	240	233	220	326	235	234	651	310	404	437	323	263	282
17	259	251	237	374	273	273	676	332	461	536	375	313	315
18	282	272	254	421	311	322	703	361	516	629	440	357	350
19	296	293	271	468	342	366	724	393	561	707	488	389	387
20	313	318	288	510	356	388	742	425	592	751	523	407	425
21	329	331	304	544	356	392	758	450	608	765	530	415	454
22	339	343	316	561	353	388	773	466	611	763	521	417	464
23	349	352	326	558	350	383	787	470	605	747	519	418	466
24	361	338	333	545	351	377	800	465	590	723	508	422	469
25	371	325	338	528	353	367	817	454	572	694	496	427	471
26	383	329	346	512	355	357	825	443	554	665	493	435	476
27	392	332	357	507	356	352	829	436	537	638	480	443	487
28	403	335	373	511	359	350	833	433	526	613	476	451	504
29	409	340	391	519	366	351	838	429	519	592	473	456	519
30	419	353	412	532	373	346	843	428	516	574	463	462	535
31	434	363	433	546	381	338	853	427	517	559	462	470	554
32	447	374	454	563	392	341	861	428	522	549	457	486	575
33	462	386	475	578	410	356	868	430	528	542	452	504	597
34	475	398	495	595	432	371	873	433	537	538	454	524	619
35	498	407	516	611	454	382	877	437	547	537	473	543	643
36	518	419	538	627	475	396	880	445	559	537	472	564	661
37	541	440	560	642	499	411	880	455	574	538	480	588	673
38	568	462	583	653	527	427	881	469	589	540	492	618	680
39	595	487	607	665	551	449	879	487	606	544	517	647	689
40	619	516	630	681	577	469	876	506	625	548	545	679	697
41	647	547	656	699	608	487	873	525	647	555	555	710	709
42	679	578	685	720	640	506	868	544	669	563	569	745	732
43	714	608	717	742	668	530	862	559	694	575	583	782	761
44	749	645	750	766	700	566	854	573	723	588	595	820	793
45	785	674	786	791	739	597	848	587	754	603	638	855	820
46	819	694	823	818	774	620	839	604	786	620	645	889	860
47	854	716	864	844	808	649	829	627	821	640	678	927	876
48	882	741	906	869	851	686	820	656	858	662	662	974	883
49	918	770	948	893	893	715	809	689	895	688	725	1,027	893

* These derived values agree with those for l_x in Table 77, p. 208. See footnote to that table.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

OF DEATHS OUT OF 100,000 BORN ALIVE. TABLE 79

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910 *	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910 *	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
					NUMBER OF DEATHS, d_x.								MALES.
50	951	811	993	915	937	745	798	724	934	715	739	1,085	901
51	984	854	1,040	938	984	779	786	760	975	743	788	1,143	920
52	1,020	904	1,091	960	1,031	821	775	796	1,020	773	818	1,198	962
53	1,058	960	1,144	985	1,076	876	762	827	1,064	800	853	1,255	1,021
54	1,101	1,025	1,200	1,016	1,126	937	750	854	1,113	828	903	1,308	1,084
55	1,146	1,088	1,256	1,055	1,183	997	738	884	1,163	857	940	1,359	1,156
56	1,198	1,155	1,315	1,102	1,231	1,050	724	922	1,216	888	952	1,413	1,227
57	1,258	1,216	1,374	1,158	1,272	1,109	712	974	1,271	923	993	1,475	1,283
58	1,327	1,291	1,433	1,216	1,320	1,169	699	1,040	1,328	964	1,051	1,545	1,330
59	1,396	1,341	1,493	1,274	1,373	1,231	685	1,116	1,385	1,013	1,117	1,613	1,378
60	1,467	1,377	1,552	1,332	1,428	1,301	672	1,195	1,443	1,069	1,168	1,676	1,426
61	1,543	1,439	1,608	1,388	1,487	1,355	659	1,275	1,501	1,132	1,268	1,728	1,478
62	1,619	1,505	1,663	1,443	1,549	1,438	646	1,351	1,557	1,202	1,252	1,779	1,537
63	1,698	1,572	1,711	1,494	1,606	1,543	632	1,415	1,612	1,277	1,386	1,829	1,602
64	1,785	1,632	1,752	1,544	1,658	1,627	618	1,468	1,663	1,355	1,434	1,884	1,662
65	1,878	1,706	1,790	1,595	1,698	1,722	604	1,521	1,710	1,435	1,503	1,936	1,717
66	1,979	1,793	1,829	1,649	1,744	1,815	590	1,584	1,749	1,513	1,564	1,986	1,762
67	2,081	1,885	1,873	1,705	1,799	1,883	574	1,663	1,781	1,587	1,716	2,028	1,797
68	2,182	1,974	1,921	1,762	1,840	1,958	558	1,753	1,805	1,657	1,751	2,062	1,824
69	2,275	2,072	1,967	1,822	1,862	2,043	542	1,842	1,820	1,724	1,826	2,084	1,846
70	2,359	2,182	2,005	1,876	1,882	2,117	522	1,924	1,825	1,792	1,934	2,093	1,860
71	2,428	2,241	2,033	1,920	1,909	2,158	503	1,992	1,821	1,864	2,008	2,086	1,877
72	2,483	2,261	2,043	1,947	1,929	2,215	482	2,042	1,803	1,940	2,094	2,068	1,902
73	2,518	2,295	2,040	1,948	1,926	2,277	458	2,062	1,773	2,018	2,159	2,040	1,925
74	2,525	2,335	2,023	1,959	1,904	2,299	433	2,053	1,727	2,091	2,258	2,005	1,939
75	2,495	2,373	1,988	1,936	1,871	2,302	405	2,028	1,674	2,155	2,329	1,962	1,942
76	2,433	2,409	1,930	1,895	1,813	2,292	375	1,992	1,609	2,205	2,342	1,908	1,922
77	2,347	2,449	1,851	1,832	1,733	2,250	342	1,947	1,532	2,241	2,386	1,839	1,870
78	2,240	2,438	1,748	1,749	1,644	2,170	309	1,895	1,444	2,260	2,442	1,747	1,797
79	2,117	2,368	1,629	1,629	1,538	2,105	273	1,821	1,347	2,262	2,378	1,630	1,721
80	1,976	2,288	1,503	1,472	1,419	2,011	236	1,711	1,241	2,242	2,337	1,490	1,644
81	1,826	2,171	1,374	1,297	1,293	1,876	200	1,562	1,128	2,197	2,229	1,334	1,548
82	1,671	2,015	1,249	1,134	1,159	1,725	164	1,380	1,011	2,123	2,166	1,172	1,429
83	1,514	1,846	1,128	986	1,022	1,573	130	1,186	892	2,020	2,008	1,009	1,299
84	1,348	1,640	1,005	848	882	1,411	100	995	774	1,891	1,878	855	1,161
85	1,181	1,413	884	700	744	1,241	74	816	659	1,741	1,679	712	1,017
86	1,016	1,205	760	559	612	1,051	51	655	549	1,574	1,486	586	873
87	857	1,067	639	441	492	869	33	513	448	1,395	1,254	473	735
88	711	949	526	344	386	713	21	391	356	1,212	1,056	371	606
89	578	771	423	265	295	575	12	290	275	1,032	877	281	491
90	458	.....	330	202	219	474	6	208	206	862	683	204	390
91	354	.....	249	151	157	407	3	144	150	705	516	146	304
92	266	.....	180	112	110	310	1	95	104	565	385	101	232
93	194	.....	124	82	74	209	1	60	70	442	270	71	174
94	136	.....	85	59	49	125	.....	35	44	335	194	48	126
95	93	.....	55	42	30	67	.....	20	27	246	132	32	91
96	61	.....	35	29	19	31	.....	10	15	175	84	20	62
97	38	.....	23	19	11	10	.....	5	8	121	49	12	43
98	24	.....	14	13	7	3	.....	2	4	81	28	6	27
99	13	.....	9	8	3	.....	.....	1	2	52	19	3	18
100	8	.....	6	5	.....	.....	.....	.....	1	33	10	1	11

* These derived values agree with those for l_x in Table 77, p. 208. See footnote to that table.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 80 FOREIGN COUNTRIES. FEMALES. NUMBER

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910 *	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910 *	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
FEMALES.					NUMBER OF DEATHS, d_x.								
0	7,953	9,771	11,743	13,649	17,048	11,769	28,460	15,211	14,092	6,679	7,598	11,258	10,551
1	1,532	1,443	3,323	2,734	3,191	3,019	6,165	6,051	3,091	1,564	1,960	1,918	2,453
2	569	558	1,296	1,467	1,167	1,339	4,027	2,508	2,155	829	933	820	1,097
3	370	389	841	950	727	688	2,766	1,364	1,397	562	679	538	711
4	291	281	619	704	533	495	1,974	931	926	444	545	412	520
5	230	225	455	522	410	383	1,485	628	635	385	456	345	423
6	190	204	336	421	337	309	1,169	427	463	343	383	271	350
7	170	194	255	354	286	259	959	302	372	312	331	248	292
8	155	187	203	307	243	224	817	234	324	292	319	225	246
9	145	182	173	276	213	201	728	208	300	282	287	205	214
10	140	180	161	258	194	185	663	209	287	282	281	189	196
11	144	183	159	253	184	180	627	229	292	290	273	187	190
12	154	190	167	261	182	185	615	258	319	310	275	201	194
13	162	199	179	283	191	198	614	290	362	335	305	228	207
14	176	218	192	313	207	225	627	320	417	365	326	269	227
15	191	250	206	345	226	258	646	346	476	397	356	315	254
16	213	271	219	376	250	282	670	368	536	428	391	358	282
17	235	286	229	403	268	288	695	388	593	458	408	393	310
18	252	298	240	428	282	286	722	409	639	482	419	415	337
19	269	311	248	450	297	290	743	428	672	502	422	427	365
20	284	318	256	472	310	303	761	446	691	518	437	436	395
21	301	325	265	489	325	318	774	461	699	530	457	447	418
22	318	334	273	505	343	326	786	473	698	537	466	458	433
23	332	346	281	519	361	329	798	481	693	542	458	469	444
24	349	357	290	529	376	335	808	485	685	544	464	479	454
25	365	366	299	535	386	346	818	488	676	545	481	485	463
26	378	374	308	536	393	360	825	488	668	545	486	489	474
27	394	383	321	532	401	367	832	489	662	545	476	493	484
28	410	388	334	530	408	372	838	489	655	544	472	497	497
29	419	391	350	531	413	380	843	488	651	545	474	500	510
30	431	393	367	532	416	390	848	486	647	548	480	504	521
31	445	399	384	534	424	403	852	484	646	552	468	509	534
32	457	407	402	537	433	417	855	484	647	557	465	513	545
33	472	412	420	542	443	427	858	484	649	562	476	519	553
34	486	422	437	546	453	431	861	486	653	566	486	524	561
35	498	432	455	552	464	438	863	487	658	567	495	530	570
36	511	436	474	556	471	453	865	489	663	566	492	538	576
37	525	444	493	560	478	464	867	492	666	566	505	549	583
38	535	450	510	562	487	477	868	496	669	565	511	560	588
39	548	462	529	564	496	495	869	500	668	566	508	573	595
40	560	476	546	568	504	503	868	506	664	568	515	581	601
41	570	490	566	574	510	509	865	510	657	569	522	585	611
42	582	505	588	582	515	512	861	512	649	570	523	587	626
43	590	518	612	593	516	514	856	510	639	568	523	589	644
44	596	534	637	605	521	513	850	504	634	567	535	598	666
45	606	542	663	618	536	524	842	499	633	569	545	614	691
46	615	548	691	634	553	549	834	498	637	574	543	642	716
47	628	563	723	652	575	562	825	507	648	585	589	677	740
48	645	578	754	673	604	572	816	521	665	600	582	717	762
49	664	597	786	699	637	616	808	548	688	619	614	754	787

* These derived values agree with those for l_x in Table 78, p. 210. See footnote to that table.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

OF DEATHS OUT OF 100,000 BORN ALIVE. TABLE 80

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910 *	FRANCE: 1898–1903	GERMANY: 1901–1910 *	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910 *	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910 *	SWITZERLAND: 1901–1910 *	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
						NUMBER OF DEATHS, d_x.							FEMALES.
50	688	637	820	726	674	663	800	577	715	640	619	795	812
51	711	678	859	755	720	697	791	609	745	662	645	834	844
52	744	712	906	785	770	727	781	642	777	685	656	882	887
53	780	751	959	817	811	762	770	673	811	711	696	931	942
54	823	784	1,019	850	853	792	759	702	848	738	750	989	1,001
55	870	800	1,082	889	907	830	749	735	887	767	773	1,050	1,068
56	923	832	1,146	934	971	895	739	778	929	800	804	1,124	1,135
57	980	885	1,208	989	1,039	962	729	837	976	835	843	1,202	1,196
58	1,051	942	1,265	1,068	1,108	1,015	720	911	1,027	873	900	1,287	1,247
59	1,128	1,011	1,321	1,131	1,179	1,091	711	995	1,081	917	932	1,371	1,303
60	1,214	1,097	1,375	1,204	1,256	1,189	703	1,085	1,139	967	1,003	1,456	1,356
61	1,303	1,187	1,431	1,277	1,348	1,281	694	1,178	1,201	1,025	1,059	1,548	1,414
62	1,395	1,275	1,491	1,351	1,451	1,363	684	1,272	1,264	1,090	1,112	1,651	1,484
63	1,491	1,373	1,546	1,422	1,547	1,450	674	1,358	1,330	1,161	1,200	1,763	1,562
64	1,588	1,481	1,598	1,493	1,638	1,545	663	1,435	1,396	1,237	1,280	1,872	1,634
65	1,686	1,594	1,650	1,564	1,724	1,633	651	1,513	1,462	1,316	1,364	1,974	1,705
66	1,786	1,703	1,715	1,637	1,809	1,732	638	1,602	1,527	1,397	1,448	2,063	1,770
67	1,888	1,828	1,795	1,722	1,896	1,843	623	1,704	1,589	1,481	1,555	2,142	1,831
68	1,994	1,953	1,897	1,813	1,982	1,959	608	1,818	1,646	1,567	1,661	2,219	1,890
69	2,109	2,062	2,013	1,905	2,051	2,061	590	1,931	1,699	1,656	1,762	2,287	1,946
70	2,236	2,189	2,124	1,992	2,115	2,134	570	2,034	1,745	1,750	1,892	2,345	1,998
71	2,363	2,300	2,218	2,072	2,186	2,213	548	2,119	1,783	1,849	1,960	2,385	2,044
72	2,484	2,353	2,277	2,139	2,242	2,310	525	2,180	1,811	1,954	2,147	2,409	2,081
73	2,582	2,413	2,304	2,185	2,262	2,395	500	2,208	1,828	2,062	2,205	2,422	2,106
74	2,649	2,499	2,305	2,211	2,267	2,421	472	2,204	1,833	2,170	2,286	2,417	2,120
75	2,682	2,569	2,283	2,217	2,261	2,430	441	2,178	1,817	2,268	2,443	2,387	2,122
76	2,681	2,639	2,244	2,201	2,219	2,457	409	2,136	1,787	2,350	2,508	2,322	2,109
77	2,650	2,729	2,192	2,158	2,154	2,455	374	2,081	1,742	2,412	2,625	2,231	2,078
78	2,594	2,733	2,121	2,091	2,073	2,413	340	2,013	1,683	2,448	2,539	2,115	2,037
79	2,516	2,681	2,033	1,998	1,951	2,356	299	1,922	1,610	2,459	2,623	1,986	1,986
80	2,421	2,655	1,932	1,876	1,809	2,257	261	1,797	1,524	2,447	2,596	1,842	1,934
81	2,307	2,550	1,819	1,719	1,675	2,116	222	1,635	1,424	2,416	2,551	1,683	1,856
82	2,178	2,391	1,697	1,556	1,535	1,970	184	1,444	1,313	2,366	2,435	1,509	1,739
83	2,036	2,239	1,569	1,385	1,374	1,830	147	1,244	1,193	2,294	2,339	1,328	1,592
84	1,887	2,028	1,434	1,216	1,203	1,668	114	1,048	1,067	2,192	2,230	1,145	1,445
85	1,732	1,778	1,291	1,041	1,033	1,472	84	865	938	2,059	2,007	968	1,297
86	1,572	1,584	1,141	853	869	1,276	59	699	808	1,897	1,809	804	1,144
87	1,400	1,419	984	692	712	1,095	39	552	681	1,711	1,593	657	986
88	1,219	1,267	832	556	567	918	24	424	561	1,515	1,360	528	835
89	1,038	1,080	688	443	440	740	13	317	449	1,321	1,141	416	696
90	863	.....	556	349	334	626	7	229	350	1,135	924	316	569
91	704	.....	439	273	248	507	3	159	263	958	735	230	457
92	558	.....	336	211	179	414	1	106	191	792	584	161	357
93	431	.....	251	162	126	308	1	67	133	636	441	110	272
94	323	.....	183	123	87	217	.....	39	89	493	317	77	202
95	234	.....	130	92	58	137	.....	22	55	368	235	52	147
96	165	.....	91	69	38	71	.....	11	33	267	162	33	102
97	113	.....	61	50	24	29	.....	5	18	188	100	21	71
98	72	.....	41	37	15	6	.....	3	9	128	61	12	47
99	47	.....	27	27	9	2	.....	1	4	86	40	6	32
100	28	.....	18	19	.....	.....	.....	.....	2	57	24	3	20

* These derived values agree with those for l_x in Table 78, p. 210. See footnote to that table.
† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 81 FOREIGN COUNTRIES. MALES. COMPLETE

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909 *	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910 †	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 ‡
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MALES.					COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.								
0	55.20	54.9	48.53	45.74	44.82	51.0	22.59	44.24	43.97	54.84	54.53	49.25	49.32
1	59.96	61.5	55.68	53.59	55.12	58.2	30.72	52.05	51.11	58.66	59.06	56.08	55.48
2	60.04	61.5	57.00	54.43	56.39	59.3	32.76	54.95	52.04	58.75	59.43	56.32	56.19
3	59.45	60.9	56.92	54.47	56.24	59.3	34.03	55.68	52.41	58.25	59.08	55.88	55.97
4	58.71	60.2	56.49	54.11	55.77	58.9	34.73	55.66	52.31	57.62	58.54	55.24	55.46
5	57.91	59.4	55.90	53.57	55.15	58.3	35.01	55.32	51.90	56.92	57.90	54.52	54.82
6	57.08	58.6	55.21	52.91	54.44	57.6	34.99	54.74	51.31	56.17	57.19	53.75	54.11
7	56.21	57.7	54.42	52.17	53.67	56.8	34.76	54.01	50.60	55.38	56.43	52.92	53.34
8	55.33	56.8	53.59	51.39	52.86	56.0	34.38	53.19	49.84	54.58	55.66	52.08	52.54
9	54.43	55.9	52.71	50.58	52.02	55.1	33.90	52.32	49.05	53.76	54.86	51.22	51.71
10	53.53	55.1	51.81	49.75	51.16	54.3	33.36	51.44	48.23	52.92	54.03	50.34	50.86
11	52.63	54.2	50.91	48.89	50.28	53.4	32.77	50.55	47.38	52.08	53.21	49.45	49.99
12	51.72	53.2	50.00	48.03	49.40	52.5	32.16	49.68	46.53	51.23	52.36	48.56	49.11
13	50.82	52.3	49.09	47.16	48.50	51.6	31.54	48.83	45.68	50.37	51.51	47.65	48.24
14	49.92	51.4	48.20	46.31	47.60	50.7	30.93	47.99	44.84	49.52	50.65	46.75	47.37
15	49.03	50.5	47.31	45.45	46.71	49.8	30.32	47.17	44.02	48.69	49.79	45.86	46.50
16	48.15	49.7	46.43	44.62	45.84	48.9	29.72	46.36	43.23	47.88	48.95	44.98	45.65
17	47.28	48.8	45.57	43.81	44.99	48.1	29.13	45.57	42.47	47.13	48.14	44.13	44.81
18	46.43	48.0	44.71	43.03	44.16	47.3	28.56	44.78	41.74	46.43	47.36	43.30	43.99
19	45.58	47.1	43.85	42.27	43.35	46.5	28.00	44.02	41.03	45.77	46.61	42.49	43.18
20	44.74	46.3	43.01	41.53	42.56	45.7	27.46	43.27	40.35	45.16	45.88	41.70	42.39
21	43.90	45.5	42.17	40.82	41.77	44.9	26.92	42.53	39.69	44.57	45.18	40.91	41.62
22	43.07	44.6	41.34	40.12	40.98	44.1	26.39	41.81	39.03	43.98	44.47	40.13	40.87
23	42.25	43.8	40.51	39.42	40.19	43.4	25.87	41.10	38.36	43.39	43.75	39.34	40.11
24	41.42	43.0	39.68	38.73	39.39	42.6	25.36	40.38	37.70	42.80	43.04	38.55	39.35
25	40.60	42.2	38.86	39.03	38.59	41.8	24.86	39.66	37.02	42.18	42.31	37.76	38.59
26	39.78	41.4	38.03	37.30	37.78	41.0	24.37	38.93	36.33	41.55	41.57	36.97	37.83
27	38.96	40.5	37.21	36.57	36.98	40.2	23.88	38.19	35.62	40.90	40.83	36.18	37.07
28	38.15	39.7	36.39	35.83	36.17	39.4	23.39	37.45	34.90	40.24	40.08	35.39	36.31
29	37.33	38.9	35.57	35.10	35.36	38.6	22.92	36.69	34.18	39.56	39.33	34.60	35.55
30	36.52	38.0	34.76	34.35	34.55	37.8	22.44	35.94	33.44	38.86	38.57	33.80	34.80
31	35.71	37.2	33.95	33.63	33.74	36.9	21.97	35.17	32.71	38.15	37.80	33.01	34.05
32	34.90	36.4	33.15	32.89	32.93	36.1	21.51	34.41	31.96	37.43	37.03	32.22	33.31
33	34.09	35.5	32.36	32.16	32.12	35.3	21.05	33.64	31.22	36.71	36.25	31.43	32.58
34	33.29	34.7	31.57	31.44	31.32	34.4	20.60	32.87	30.48	35.97	35.46	30.65	31.85
35	32.49	33.9	30.79	30.71	30.53	33.6	20.16	32.09	29.73	35.24	34.68	29.87	31.12
36	31.69	33.1	30.02	30.00	29.74	32.8	19.72	31.32	28.99	34.49	33.90	29.09	30.40
37	30.90	32.2	29.25	29.28	28.95	32.0	19.29	30.54	28.24	33.75	33.11	28.32	29.69
38	30.11	31.4	28.48	28.57	28.18	31.2	18.86	29.77	27.50	33.00	32.33	27.55	28.98
39	29.33	30.6	27.72	27.84	27.41	30.4	18.44	29.00	26.77	32.24	31.54	26.79	28.26
40	28.56	29.7	26.96	27.15	26.64	29.5	18.02	28.23	26.03	31.49	30.77	26.03	27.55
41	27.79	29.0	26.21	26.44	25.89	28.7	17.61	27.47	25.30	30.73	30.00	25.29	26.83
42	27.03	28.2	25.47	25.74	25.14	27.9	17.19	26.71	24.57	29.97	29.23	24.55	26.12
43	26.27	27.4	24.72	25.04	24.40	27.2	16.78	25.95	23.85	29.22	28.46	23.81	25.41
44	25.52	26.7	23.99	24.34	23.66	26.4	16.38	25.20	23.13	28.46	27.70	23.09	24.70
45	24.78	25.9	23.27	23.64	22.94	25.6	15.97	24.45	22.42	27.70	26.93	22.37	24.01
46	24.04	25.1	22.55	22.96	22.22	24.8	15.57	23.70	21.72	26.95	26.18	21.66	23.32
47	23.32	24.4	21.84	22.28	21.51	24.0	15.17	22.95	21.02	26.19	25.42	20.96	22.64
48	22.59	23.6	21.14	21.60	20.81	23.3	14.77	22.20	20.33	25.44	24.67	20.26	21.96
49	21.88	22.9	20.44	20.93	20.11	22.5	14.37	21.47	19.64	24.70	23.91	19.57	21.27

* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.
† See first footnote on p. 203.
‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

EXPECTATION OF LIFE IN YEARS. TABLE 81

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909 *	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910 †	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 ‡
1	2	3	4	5	6	7	8	9	10	11	12	13	14
COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.													MALES.
50	21.16	22.1	19.76	20.26	19.43	21.8	13.97	20.73	18.97	23.96	23.17	18.90	20.59
51	20.46	21.4	19.08	19.59	18.76	21.0	13.58	20.01	18.30	23.22	22.43	18.23	19.90
52	19.75	20.7	18.42	18.93	18.09	20.3	13.18	19.29	17.65	22.49	21.70	17.58	19.21
53	19.05	19.9	17.76	18.27	17.44	19.5	12.78	18.58	17.00	21.76	20.97	16.93	18.53
54	18.36	19.2	17.12	17.61	16.80	18.8	12.38	17.88	16.36	21.04	20.25	16.30	17.87
55	17.67	18.5	16.48	16.95	16.16	18.1	11.99	17.18	15.73	20.32	19.54	15.68	17.21
56	16.99	17.8	15.86	16.30	15.54	17.4	11.59	16.48	15.11	19.60	18.84	15.07	16.58
57	16.31	17.2	15.25	15.66	14.93	16.7	11.19	15.79	14.51	18.89	18.13	14.46	15.96
58	15.65	16.5	14.65	15.03	14.32	16.1	10.79	15.10	13.91	18.19	17.43	13.87	15.35
59	14.99	15.9	14.07	14.42	13.72	15.4	10.40	14.43	13.33	17.49	16.74	13.29	14.76
60	14.35	15.2	13.49	13.81	13.14	14.7	10.00	13.78	12.76	16.79	16.06	12.73	14.17
61	13.72	14.6	12.93	13.22	12.56	14.1	9.61	13.14	12.21	16.11	15.38	12.18	13.59
62	13.09	13.9	12.38	12.64	12.00	13.4	9.21	12.52	11.67	15.44	14.73	11.64	13.02
63	12.49	13.3	11.84	12.07	11.46	12.8	8.82	11.92	11.14	14.78	14.07	11.11	12.47
64	11.89	12.7	11.31	11.51	10.92	12.2	8.43	11.32	10.63	14.14	13.44	10.59	11.93
65	11.31	12.1	10.80	10.96	10.40	11.6	8.04	10.74	10.14	13.51	12.81	10.09	11.40
66	10.74	11.5	10.29	10.42	9.89	11.1	7.66	10.16	9.66	12.90	12.19	9.60	10.89
67	10.19	10.9	9.79	9.90	9.39	10.5	7.28	9.60	9.19	12.30	11.58	9.12	10.39
68	9.66	10.4	9.31	9.39	8.91	10.0	6.90	9.05	8.74	11.71	11.00	8.66	9.90
69	9.16	9.8	8.84	8.89	8.45	9.4	6.53	8.53	8.31	11.14	10.42	8.21	9.42
70	8.67	9.3	8.39	8.42	7.99	8.9	6.17	8.02	7.89	10.57	9.85	7.78	8.96
71	8.21	8.8	7.95	7.96	7.55	8.5	5.81	7.54	7.48	10.02	9.31	7.36	8.49
72	7.77	8.3	7.54	7.52	7.13	8.0	5.46	7.08	7.09	9.49	8.78	6.96	8.04
73	7.35	7.8	7.14	7.11	6.72	7.5	5.12	6.64	6.71	8.97	8.26	6.56	7.61
74	6.95	7.4	6.76	6.71	6.34	7.1	4.79	6.22	6.35	8.47	7.76	6.18	7.19
75	6.58	6.9	6.41	6.34	5.97	6.7	4.47	5.82	6.00	7.98	7.29	5.81	6.79
76	6.23	6.5	6.07	5.99	5.62	6.3	4.16	5.43	5.66	7.52	6.84	5.46	6.42
77	5.89	6.1	5.74	5.67	5.29	5.9	3.86	5.05	5.33	7.08	6.40	5.13	6.06
78	5.57	5.7	5.44	5.37	4.97	5.6	3.57	4.69	5.02	6.65	5.98	4.82	5.72
79	5.26	5.4	5.14	5.11	4.67	5.2	3.30	4.36	4.72	6.25	5.59	4.53	5.39
80	4.96	5.1	4.86	4.87	4.38	4.9	3.04	4.06	4.44	5.86	5.22	4.27	5.07
81	4.68	4.8	4.58	4.64	4.11	4.6	2.79	3.79	4.17	5.50	4.87	4.03	4.77
82	4.40	4.3	4.30	4.44	3.85	4.3	2.56	3.54	3.90	5.16	4.53	3.80	4.50
83	4.14	4.1	4.03	4.24	3.61	4.0	2.34	3.31	3.66	4.84	4.22	3.58	4.25
84	3.89	3.9	3.78	4.06	3.39	3.7	2.13	3.10	3.42	4.54	3.92	3.37	4.01
85	3.65	3.7	3.53	3.91	3.18	3.5	1.94	2.90	3.19	4.26	3.66	3.18	3.79
86	3.43	3.4	3.31	3.78	2.99	3.3	1.77	2.71	2.98	4.00	3.41	2.98	3.59
87	3.22	3.0	3.10	3.66	2.81	3.0	1.62	2.52	2.77	3.76	3.19	2.81	3.40
88	3.01	2.8	2.90	3.54	2.64	2.8	1.45	2.34	2.58	3.53	2.97	2.65	3.22
89	2.82	2.7	2.72	3.41	2.49	2.5	1.33	2.17	2.39	3.31	2.77	2.51	3.06
90	2.64	2.6	2.56	3.29	2.35	2.2	1.23	2.01	2.22	3.11	2.60	2.38	2.90
91	2.47	.....	2.43	3.18	2.22	1.9	1.10	1.85	2.05	2.91	2.45	2.25	2.75
92	2.31	.....	2.32	3.05	2.10	1.6	1.00	1.70	1.90	2.73	2.30	2.12	2.60
93	2.16	.....	2.22	2.92	1.99	1.4	.50	1.56	1.75	2.55	2.16	1.96	2.47
94	2.02	.....	2.15	2.80	1.89	1.2	.....	1.43	1.62	2.39	2.02	1.80	2.34
95	1.88	.....	2.07	2.66	1.80	1.0	.....	1.29	1.48	2.24	1.89	1.63	2.21
96	1.76	.....	2.00	2.54	1.72	0.9	.....	1.17	1.37	2.09	1.80	1.48	2.09
97	1.63	.....	1.91	2.41	1.65	0.7	.....	1.00	1.23	1.95	1.75	1.33	1.98
98	1.50	.....	1.80	2.25	1.59	0.5	.....	.83	1.07	1.81	1.65	1.23	1.87
99	1.35	.....	1.67	2.11	1.54	.....	.....	.50	.83	1.66	1.51	1.10	1.77
100	1.18	.....	1.53	1.93	1.50	.....	.....	.....	.50	1.50	1.45	1.00	1.66

* These values were copied to the nearest second decimal. Only the first decimal was shown in tables for Denmark and Holland.
† See first footnote on p. 203.
‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 82 FOREIGN COUNTRIES. FEMALES. COMPLETE

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES, BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909 *	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910 †	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 ‡
1	2	3	4	5	6	7	8	9	10	11	12	13	14
FEMALES.					COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.								
0	58.84	57.9	52.38	49.13	48.33	53.4	23.31	44.83	44.85	57.72	56.98	52.15	52.54
1	62.89	63.2	58.31	55.84	57.20	59.5	31.49	51.78	51.17	60.81	60.64	57.71	57.70
2	62.95	63.2	59.58	56.63	58.47	60.6	33.42	54.72	52.06	60.84	60.95	57.97	58.32
3	62.34	62.6	59.49	56.63	58.33	60.5	34.58	55.51	52.44	60.39	60.58	57.52	58.05
4	61.60	61.9	59.09	56.28	57.87	60.0	35.19	55.51	52.36	59.76	60.03	56.88	57.53
5	60.80	61.1	58.53	55.75	57.27	59.4	35.40	55.20	51.97	59.06	59.40	56.15	56.89
6	59.95	60.2	57.85	55.12	56.57	58.7	35.34	54.67	51.39	58.31	58.71	55.38	56.17
7	59.08	59.4	57.09	54.41	55.82	57.9	35.10	53.99	50.69	57.53	57.96	54.55	55.40
8	58.19	58.5	56.27	53.65	55.03	57.1	34.73	53.21	49.94	56.73	57.18	53.71	54.59
9	57.29	57.6	55.41	52.85	54.20	56.2	34.26	52.38	49.15	55.91	56.39	52.86	53.75
10	56.39	56.7	54.53	52.03	53.35	55.4	33.74	51.53	48.34	55.09	55.58	51.98	52.89
11	55.47	55.9	53.64	51.20	52.49	54.5	33.17	50.68	47.52	54.27	54.75	51.10	52.01
12	54.56	55.0	52.74	50.36	51.61	53.6	32.58	49.84	46.70	53.44	53.93	50.21	51.13
13	53.66	54.1	51.85	49.53	50.74	52.7	31.98	49.02	45.90	52.63	53.10	49.33	50.25
14	52.76	53.2	50.96	48.71	49.87	51.9	31.38	48.22	45.12	51.83	52.29	48.47	49.38
15	51.86	52.4	50.08	47.90	49.00	51.0	30.78	47.43	44.36	51.05	51.48	47.62	48.51
16	50.97	51.5	49.21	47.11	48.15	50.2	30.19	46.66	43.65	50.28	50.70	46.80	47.66
17	50.10	50.7	48.35	46.33	47.31	49.3	29.61	45.90	42.96	49.53	49.93	46.01	46.82
18	49.23	49.8	47.49	45.58	46.48	48.5	29.05	45.16	42.31	48.79	49.17	45.23	46.00
19	48.37	49.0	46.63	44.83	45.65	47.7	28.50	44.42	41.69	48.07	48.42	44.45	45.19
20	47.52	48.2	45.77	44.02	44.84	46.9	27.96	43.69	41.06	47.35	47.66	43.69	44.39
21	46.68	47.4	44.92	43.37	44.02	46.0	27.44	42.98	40.46	46.64	46.91	42.92	43.61
22	45.84	46.6	44.07	42.64	43.22	45.2	26.92	42.26	39.85	45.93	46.17	42.16	42.83
23	45.01	45.8	43.22	41.92	42.42	44.4	26.41	41.56	39.25	45.23	45.43	41.40	42.06
24	44.18	44.9	42.38	41.22	41.63	43.6	25.90	40.85	38.64	44.52	44.68	40.64	41.30
25	43.36	44.1	41.54	40.51	40.84	42.8	25.40	40.14	38.02	43.81	43.93	39.89	40.53
26	42.55	43.3	40.69	39.81	40.06	42.0	24.91	39.44	37.40	43.10	43.20	39.13	39.77
27	41.73	42.5	39.86	39.09	39.28	41.2	24.43	38.73	36.77	42.39	42.46	38.37	39.01
28	40.93	41.8	39.02	38.37	38.50	40.4	23.94	38.01	36.13	41.68	41.71	37.62	38.25
29	40.13	40.9	38.19	37.66	37.72	39.6	23.47	37.30	35.49	40.96	40.95	36.86	37.50
30	39.33	40.1	37.36	36.93	36.94	38.8	22.99	36.58	34.84	40.24	40.20	36.10	36.75
31	38.53	39.3	36.54	36.21	36.16	38.0	22.53	35.85	34.18	39.51	39.44	35.33	36.00
32	37.74	38.5	35.73	35.49	35.38	37.2	22.06	35.13	33.52	38.79	38.68	34.57	35.25
33	36.94	37.7	34.92	34.75	34.60	36.4	21.60	34.39	32.86	38.06	37.91	33.81	34.51
34	36.16	36.9	34.11	34.02	33.82	35.6	21.14	33.66	32.20	37.34	37.14	33.04	33.76
35	35.37	36.1	33.31	33.29	33.04	34.8	20.69	32.92	31.54	36.61	36.38	32.27	33.01
36	34.59	35.3	32.52	32.56	32.27	34.0	20.24	32.18	30.87	35.88	35.61	31.50	32.27
37	33.81	34.5	31.72	31.82	31.49	33.2	19.80	31.43	30.21	35.15	34.84	30.73	31.52
38	33.03	33.7	30.94	31.08	30.72	32.4	19.36	30.68	29.54	34.41	34.07	29.96	30.78
39	32.25	32.9	30.15	30.35	29.94	31.6	18.92	29.93	28.87	33.67	33.31	29.20	30.03
40	31.47	32.0	29.37	29.60	29.16	30.8	18.49	29.18	28.19	32.93	32.53	28.43	29.28
41	30.70	31.2	28.59	28.85	28.39	30.1	18.06	28.43	27.51	32.18	31.76	27.66	28.52
42	29.92	30.4	27.82	28.11	27.61	29.3	17.64	27.68	26.82	31.43	30.98	26.89	27.77
43	29.15	29.6	27.05	27.36	26.83	28.5	17.22	26.92	26.13	30.68	30.21	26.11	27.02
44	28.37	28.9	26.29	26.61	26.04	27.7	16.80	26.15	25.42	29.92	29.42	25.33	26.27
45	27.59	28.1	25.53	25.86	25.25	26.9	16.38	25.38	24.71	29.15	28.64	24.55	25.53
46	26.81	27.3	24.77	25.11	24.47	26.1	15.96	24.60	23.99	28.38	27.86	23.77	24.79
47	26.03	26.5	24.02	24.36	23.68	25.3	15.54	23.82	23.27	27.62	27.07	23.00	24.05
48	25.25	25.7	23.28	23.62	22.90	24.5	15.12	23.03	22.54	26.85	26.30	22.23	23.32
49	24.47	24.9	22.54	22.88	22.12	23.7	14.70	22.25	21.82	26.08	25.52	21.47	22.59

* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.
† See first footnote on p. 203.
‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

EXPECTATION OF LIFE IN YEARS. TABLE 82

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901–1910 *	DENMARK: 1906–1910 *	ENGLAND: 1901–1910	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909 *	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910 †	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 ‡
1	2	3	4	5	6	7	8	9	10	11	12	13	14
COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.													FEMALES.
50	23.69	24.1	21.81	22.14	21.35	22.9	14.28	21.47	21.11	25.31	24.74	20.71	21.86
51	22.91	23.3	21.08	21.41	20.59	22.2	13.87	20.69	20.39	24.55	23.97	19.97	21.14
52	22.14	22.5	20.36	20.67	19.84	21.4	13.45	19.93	19.69	23.79	23.19	19.22	20.42
53	21.37	22.0	19.65	19.95	19.10	20.6	13.03	19.16	18.99	23.03	22.42	18.49	19.71
54	20.61	21.0	18.95	19.23	18.36	19.9	12.62	18.41	18.30	22.28	21.65	17.77	19.01
55	19.85	20.2	18.27	18.52	17.64	19.1	12.20	17.65	17.61	21.53	20.90	17.05	18.33
56	19.10	19.4	17.59	17.81	16.92	18.4	11.78	16.91	16.94	20.78	20.14	16.35	17.65
57	18.36	18.7	16.93	17.11	16.21	17.6	11.36	16.16	16.27	20.04	19.39	15.66	17.00
58	17.62	17.9	16.28	16.41	15.52	16.9	10.94	15.43	15.61	19.30	18.65	14.98	16.35
59	16.90	17.2	15.64	15.74	14.84	16.2	10.53	14.72	14.96	18.57	17.92	14.31	15.71
60	16.20	16.5	15.01	15.08	14.17	15.5	10.11	14.02	14.32	17.85	17.19	13.67	15.09
61	15.50	15.7	14.39	14.43	13.52	14.8	9.70	13.35	13.70	17.13	16.47	13.03	14.47
62	14.82	15.1	13.77	13.79	12.88	14.2	9.30	12.69	13.09	16.43	15.76	12.41	13.86
63	14.16	14.5	13.17	13.32	12.27	13.5	8.89	12.05	12.49	15.73	15.05	11.81	13.27
64	13.51	13.7	12.58	12.56	11.67	12.9	8.49	11.42	11.91	15.05	14.37	11.23	12.69
65	12.88	13.0	11.99	11.97	11.09	12.3	8.10	10.81	11.35	14.38	13.69	10.67	12.13
66	12.26	12.4	11.41	11.38	10.53	11.6	7.71	10.21	10.80	13.72	13.03	10.13	11.58
67	11.66	11.8	10.84	10.81	9.98	11.1	7.33	9.63	10.26	13.08	12.38	9.61	11.04
68	11.07	11.2	10.29	10.26	9.45	10.5	6.95	9.07	9.75	12.45	11.74	9.11	10.52
69	10.50	10.6	9.76	9.73	8.95	9.9	6.58	8.53	9.25	11.83	11.13	8.62	10.01
70	9.96	10.0	9.25	9.21	8.45	9.4	6.22	8.02	8.77	11.23	10.53	8.15	9.52
71	9.43	9.5	8.77	8.73	7.98	8.9	5.86	7.54	8.30	10.64	9.95	7.70	9.04
72	8.93	8.9	8.32	8.26	7.53	8.4	5.51	7.08	7.85	10.08	9.38	7.27	8.58
73	8.46	8.5	7.90	7.82	7.10	7.9	5.17	6.64	7.42	9.53	8.84	6.86	8.13
74	8.01	8.0	7.49	7.40	6.69	7.5	4.84	6.22	7.01	9.00	8.32	6.46	7.70
75	7.59	7.5	7.10	7.00	6.30	7.0	4.52	5.83	6.61	8.49	7.81	6.09	7.29
76	7.18	7.1	6.73	6.63	5.94	6.6	4.20	5.44	6.23	8.01	7.33	5.74	6.88
77	6.80	6.6	6.36	6.28	5.59	6.2	3.90	5.08	5.86	7.55	6.87	5.41	6.50
78	6.43	6.2	6.02	5.96	5.26	5.9	3.61	4.73	5.51	7.11	6.45	5.09	6.13
79	6.07	5.8	5.68	5.66	4.95	5.5	3.33	4.40	5.18	6.69	6.03	4.79	5.77
80	5.73	5.5	5.36	5.38	4.65	5.2	3.06	4.11	4.85	6.29	5.64	4.51	5.43
81	5.40	5.2	5.05	5.14	4.36	4.9	2.81	3.84	4.55	5.90	5.27	4.24	5.12
82	5.08	4.9	4.75	4.91	4.09	4.6	2.57	3.59	4.25	5.54	4.93	4.00	4.83
83	4.77	4.6	4.47	4.71	3.84	4.3	2.34	3.36	3.97	5.19	4.60	3.76	4.56
84	4.47	4.3	4.20	4.53	3.61	4.0	2.12	3.14	3.70	4.87	4.29	3.55	4.30
85	4.19	4.0	3.94	4.39	3.40	3.7	1.93	2.94	3.45	4.57	4.02	3.34	4.05
86	3.92	3.8	3.71	4.27	3.20	3.5	1.74	2.74	3.21	4.29	3.76	3.14	3.83
87	3.66	3.5	3.49	4.16	3.03	3.2	1.56	2.54	2.98	4.03	3.52	2.95	3.62
88	3.42	3.3	3.30	4.05	2.87	3.0	1.40	2.36	2.76	3.78	3.30	2.77	3.42
89	3.20	3.1	3.11	3.94	2.73	2.7	1.24	2.18	2.56	3.54	3.10	2.60	3.23
90	2.99	2.9	2.94	3.84	2.59	2.4	1.10	2.01	2.36	3.31	2.91	2.45	3.05
91	2.79	.....	2.79	3.74	2.47	2.2	.96	1.85	2.18	3.10	2.72	2.33	2.89
92	2.60	.....	2.66	3.64	2.36	1.9	.84	1.70	2.00	2.90	2.54	2.21	2.74
93	2.43	.....	2.53	3.53	2.26	1.6	.72	1.56	1.84	2.72	2.39	2.08	2.60
94	2.26	.....	2.42	3.43	2.17	1.4	.....	1.44	1.68	2.57	2.25	1.92	2.48
95	2.10	.....	2.32	3.33	2.10	1.1	.....	1.31	1.55	2.43	2.10	1.76	2.37
96	1.94	.....	2.22	3.21	2.03	0.9	.....	1.20	1.41	2.30	2.00	1.62	2.27
97	1.78	.....	2.12	3.09	1.98	0.8	.....	1.06	1.29	2.18	1.95	1.45	2.17
98	1.62	.....	2.01	2.94	1.93	0.7	.....	.75	1.19	2.07	1.89	1.33	2.08
99	1.44	.....	1.91	2.78	1.90	0.5	.....	.50	1.07	1.94	1.79	1.23	1.99
100	1.24	.....	1.80	2.59	1.87	.....	.....	.....	.83	1.81	1.70	1.10	1.90

* These values were copied to the nearest second decimal. Only the first decimal was shown in the tables for Denmark and Holland.
† See first footnote on p. 203.
‡ Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 83 FOREIGN COUNTRIES. MALES.

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES,* BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901–1910	DENMARK: 1906–1910	ENGLAND: 1901–1910	FRANCE: 1898–1903	GERMANY: 1901–1910	HOLLAND: 1900–1909	INDIA: 1901–1910	ITALY: 1901–1910	JAPAN: 1898–1903	NORWAY: 1901–1910	SWEDEN: 1901–1910	SWITZERLAND: 1901–1910	UNITED STATES: 1901–1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MALES.					MEASURE OF VITALITY, λ_x.								
0	10.02	7.79	6.43	5.63	4.44	6.62	2.95	5.46	5.88	11.78	10.30	6.73	7.14
1	55.67	59.69	24.26	29.01	24.58	27.63	10.47	13.71	26.63	53.98	43.42	44.99	32.54
2	147.88	146.56	62.19	52.37	66.50	59.57	14.72	31.97	38.10	115.55	91.21	101.76	72.17
3	227.03	223.16	99.31	83.43	105.01	108.63	20.20	56.87	58.31	156.88	126.62	152.89	113.19
4	285.79	315.00	134.55	115.94	144.32	152.48	27.23	84.78	88.88	193.44	163.38	192.74	154.12
5	355.54	350.24	183.85	157.09	189.30	201.12	35.82	129.76	126.59	227.84	198.79	242.06	190.21
6	425.54	396.63	250.83	196.94	234.60	252.17	45.55	200.21	170.54	258.26	228.99	305.95	225.99
7	478.26	436.47	335.62	232.25	280.06	303.05	55.90	300.32	210.16	283.12	249.30	339.17	265.52
8	510.98	480.06	429.19	269.74	330.92	356.56	65.26	404.35	242.19	301.68	282.08	373.90	309.03
9	541.89	520.50	508.19	303.07	372.07	404.86	73.70	457.71	273.82	319.50	308.73	404.49	350.96
10	558.35	553.71	549.77	329.69	410.95	442.48	79.71	442.51	301.48	334.52	309.98	445.66	381.52
11	557.35	563.85	546.07	348.41	445.21	479.21	83.12	390.51	315.78	348.33	337.46	476.08	397.49
12	542.34	562.85	512.01	352.29	473.27	496.39	83.25	335.91	314.78	351.59	356.44	492.48	394.54
13	503.32	540.08	466.69	340.15	466.17	483.14	81.55	294.38	281.52	336.82	361.58	485.55	373.28
14	445.00	480.16	421.51	307.13	419.15	438.76	78.54	263.66	241.03	298.32	351.48	437.10	344.85
15	391.23	402.69	382.54	265.76	361.34	383.79	74.92	242.63	209.79	244.41	310.03	371.42	313.91
16	356.04	356.81	350.09	228.14	305.07	332.01	71.06	225.23	180.82	194.30	257.28	304.13	280.67
17	328.96	330.26	323.59	197.93	261.67	283.65	67.45	209.33	157.52	157.50	220.68	254.63	250.32
18	301.17	303.80	300.99	174.88	228.76	239.56	63.88	191.56	139.78	133.29	187.15	222.31	224.34
19	285.95	281.06	281.15	156.37	207.07	209.82	61.04	175.00	127.61	117.64	167.79	203.06	201.94
20	269.45	258.01	263.78	142.54	197.95	196.95	58.57	160.86	119.96	109.78	155.60	193.10	182.93
21	255.37	246.89	249.58	132.66	196.95	193.95	56.35	150.95	115.81	106.78	152.55	188.39	170.28
22	246.85	237.27	238.19	127.65	197.62	194.94	54.26	144.79	114.25	106.05	154.17	186.49	165.62
23	238.79	230.22	230.12	127.34	198.31	196.48	52.31	142.56	114.37	107.32	153.77	185.05	163.91
24	229.87	238.73	224.70	129.36	196.74	198.60	50.47	143.09	116.27	109.86	156.08	182.30	161.86
25	222.69	247.26	219.79	132.51	194.63	203.00	48.43	145.54	118.91	113.43	158.85	179.17	160.18
26	214.72	243.26	214.10	135.64	192.54	207.67	46.96	148.14	121.76	117.36	158.81	174.88	157.50
27	208.81	240.07	206.34	135.97	191.00	209.61	45.74	149.51	124.60	121.30	162.10	170.73	152.95
28	202.12	236.92	196.67	133.91	188.41	209.81	44.52	149.55	126.19	125.23	162.46	166.71	146.81
29	198.16	232.45	186.30	130.85	183.81	208.21	43.26	149.94	126.89	128.65	162.49	163.89	141.58
30	192.45	222.91	176.06	126.67	179.37	210.21	42.00	149.29	126.62	131.67	164.98	160.77	136.36
31	184.81	215.78	166.50	122.43	174.62	214.18	40.52	148.63	125.38	134.19	164.34	157.04	130.70
32	178.45	208.45	157.83	117.75	168.73	211.30	39.15	147.29	123.18	135.63	165.13	150.89	124.95
33	171.67	200.98	150.06	113.71	160.34	201.42	37.83	145.60	120.79	136.37	165.95	144.52	119.36
34	165.99	193.94	142.87	109.47	151.20	192.29	36.62	143.60	117.77	136.38	164.22	138.02	114.14
35	157.35	188.66	136.07	105.62	142.90	185.77	35.46	141.29	114.63	135.63	156.65	132.21	108.90
36	150.29	182.27	129.60	101.94	135.61	178.22	34.34	137.76	111.18	134.63	155.98	126.30	104.95
37	142.92	172.60	123.37	98.57	128.11	170.73	33.34	133.74	107.29	133.38	152.39	120.17	102.08
38	135.15	163.40	117.55	95.92	120.33	163.35	32.30	128.76	103.57	131.89	147.68	113.36	100.04
39	128.04	154.04	112.13	93.19	114.11	154.38	31.37	123.02	99.68	129.93	139.57	107.30	97.74
40	122.10	144.41	106.89	90.02	107.99	146.81	30.48	117.42	95.66	127.98	131.42	101.27	95.62
41	115.83	135.25	101.69	86.71	101.51	140.41	29.58	112.19	91.43	125.37	128.06	95.87	93.01
42	109.40	127.03	96.39	83.20	95.46	134.15	28.75	107.29	87.44	122.60	123.92	90.39	89.10
43	103.06	119.78	91.15	79.74	90.48	127.10	27.94	103.42	83.30	119.05	119.96	85.13	84.73
44	97.27	111.94	86.12	76.26	85.36	118.05	27.20	99.91	78.98	115.43	116.55	80.21	80.33
45	91.83	106.15	81.23	72.87	79.89	110.94	26.39	96.54	74.76	111.57	107.73	75.95	75.86
46	87.04	102.10	76.54	69.48	75.30	105.85	25.67	92.84	70.73	107.53	105.57	72.06	72.15
47	82.49	97.98	71.99	66.35	71.15	100.14	24.97	88.45	66.74	103.18	99.45	68.13	69.84
48	78.89	93.69	67.70	63.46	66.58	93.77	24.24	83.56	62.88	98.77	100.84	63.87	68.29
49	74.81	89.18	63.68	60.77	62.47	88.98	23.56	78.58	59.30	94.06	91.12	59.60	66.53

* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

MEASURE OF VITALITY.* TABLE 83

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901-1910	DENMARK: 1906-1910	ENGLAND: 1901-1910	FRANCE: 1898-1903	GERMANY: 1901-1910	HOLLAND: 1900-1909	INDIA: 1901-1910	ITALY: 1901-1910	JAPAN: 1898-1903	NORWAY: 1901-1910	SWEDEN: 1901-1910	SWITZERLAND: 1901-1910	UNITED STATES: 1901-1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
						MEASURE OF VITALITY, λ_x.							MALES.
50	71.24	83.70	59.83	58.32	58.56	84.42	22.88	73.81	55.85	89.52	88.41	55.44	64.94
51	67.86	78.51	56.13	55.90	54.79	79.76	22.22	69.34	52.52	85.17	81.94	51.65	62.61
52	64.49	73.19	52.54	53.63	51.31	74.70	21.53	65.22	49.23	80.88	77.95	48.30	58.90
53	61.19	67.95	49.11	51.28	48.19	69.04	20.89	61.80	46.21	77.17	73.78	45.13	54.52
54	57.82	62.68	45.88	48.73	45.07	63.58	20.22	58.86	43.20	73.58	68.72	42.32	50.38
55	54.57	58.08	42.83	45.95	41.92	58.78	19.54	55.88	40.36	70.10	65.03	39.75	46.28
56	51.22	53.74	39.96	43.01	39.31	54.84	18.90	52.60	37.63	66.67	63.22	37.25	42.63
57	47.80	50.06	37.26	39.96	37.06	50.95	18.21	48.81	35.02	63.16	59.63	34.71	39.79
58	44.34	46.19	34.72	37.07	34.73	47.36	17.54	44.75	32.54	59.50	55.37	32.16	37.40
59	41.17	43.48	32.36	34.41	32.41	44.00	16.89	40.73	30.22	55.65	51.12	29.82	35.12
60	38.21	41.36	30.16	31.93	30.18	40.66	16.21	37.07	28.02	51.76	47.91	27.72	32.95
61	35.35	38.60	28.11	29.66	28.00	38.06	15.52	33.78	25.96	47.90	43.18	25.90	30.81
62	32.71	35.93	26.20	27.55	25.90	34.89	14.82	30.91	24.04	44.14	42.72	24.17	28.65
63	30.21	33.42	24.48	25.63	24.00	31.55	14.14	28.53	22.24	40.58	37.64	22.53	26.50
64	27.77	31.21	22.92	23.81	22.26	28.95	13.45	26.52	20.57	37.27	35.40	20.88	24.56
65	25.42	28.88	21.44	22.07	20.75	26.38	12.75	24.61	19.02	34.22	32.79	19.34	22.79
66	23.14	26.50	19.99	20.36	19.21	24.05	12.04	22.65	17.61	31.48	30.53	17.86	21.22
67	21.03	24.23	18.54	18.71	17.64	22.20	11.36	20.60	16.30	29.04	26.87	16.50	19.82
68	19.08	22.16	17.09	17.12	16.26	20.37	10.67	18.57	15.09	26.83	25.35	15.24	18.54
69	17.32	20.14	15.70	15.57	15.07	18.55	9.97	16.70	13.97	24.81	23.33	14.08	17.32
70	15.73	18.15	14.41	14.14	13.92	16.91	9.34	15.01	12.94	22.89	21.05	13.02	16.19
71	14.29	16.68	13.22	12.83	12.73	15.60	8.67	13.51	11.96	21.02	19.29	12.07	15.05
72	12.99	15.54	12.16	11.66	11.60	14.21	8.02	12.19	11.08	19.22	17.52	11.17	13.86
73	11.81	14.31	11.17	10.65	10.62	12.84	7.42	11.08	10.26	17.50	16.01	10.31	12.70
74	10.78	13.08	10.26	9.59	9.74	11.72	6.82	10.13	9.52	15.90	14.33	9.48	11.61
75	9.91	11.88	9.44	8.70	8.90	10.71	6.26	9.24	8.80	14.44	12.91	8.68	10.60
76	9.15	10.71	8.70	7.88	8.17	9.75	5.72	8.40	8.14	13.13	11.84	7.91	9.70
77	8.46	9.54	8.06	7.13	7.52	8.92	5.22	7.59	7.52	11.93	10.63	7.19	8.96
78	7.84	8.58	7.50	6.45	6.90	8.24	4.72	6.78	6.95	10.83	9.40	6.54	8.30
79	7.27	7.82	7.01	5.89	6.34	7.47	4.28	6.03	6.41	9.82	8.64	5.98	7.64
80	6.75	7.08	6.56	5.46	5.83	6.80	3.87	5.39	5.92	8.90	7.78	5.49	6.98
81	6.27	6.43	6.12	5.13	5.35	6.25	3.48	4.86	5.46	8.08	7.13	5.08	6.38
82	5.80	5.89	5.69	4.80	4.91	5.76	3.13	4.43	5.03	7.34	6.33	4.71	5.87
83	5.35	5.38	5.25	4.44	4.51	5.27	2.82	4.08	4.64	6.69	5.78	4.39	5.41
84	4.94	5.00	4.82	4.08	4.14	4.81	2.52	3.76	4.27	6.11	5.15	4.09	4.99
85	4.58	4.72	4.42	3.84	3.82	4.40	2.23	3.48	3.93	5.59	4.70	3.81	4.63
86	4.24	4.45	4.06	3.68	3.53	4.11	2.01	3.21	3.61	5.13	4.25	3.52	4.31
87	3.93	3.96	3.73	3.53	3.27	3.86	1.83	2.96	3.32	4.73	3.94	3.24	4.02
88	3.64	3.39	3.43	3.39	3.03	3.60	1.60	2.73	3.04	4.37	3.58	3.00	3.77
89	3.36	3.05	3.14	3.25	2.82	3.35	1.42	2.50	2.79	4.04	3.21	2.80	3.54
90	3.11	.....	2.88	3.10	2.62	2.95	1.33	2.29	2.56	3.74	2.98	2.66	3.32
91	2.87	.....	2.66	2.98	2.46	2.36	1.17	2.08	2.33	3.46	2.79	2.52	3.12
92	2.66	.....	2.50	2.85	2.29	1.94	1.50	1.90	2.14	3.20	2.57	2.42	2.94
93	2.46	.....	2.37	2.71	2.16	1.63	.50	1.72	1.94	2.95	2.45	2.23	2.76
94	2.29	.....	2.28	2.57	2.03	1.39	.....	1.59	1.80	2.73	2.21	2.06	2.60
95	2.12	.....	2.20	2.40	1.92	1.16	.....	1.40	1.61	2.54	2.02	1.84	2.44
96	1.98	.....	2.15	2.26	1.81	.92	.....	1.30	1.50	2.36	1.88	1.65	2.30
97	1.85	.....	2.08	2.18	1.73	.80	.....	1.10	1.38	2.19	1.89	1.42	2.16
98	1.72	.....	1.99	1.96	1.65	.50	.....	1.00	1.25	2.03	1.83	1.33	2.07
99	1.58	.....	1.89	1.88	1.57	.....	.....	.50	1.00	1.88	1.58	1.17	1.91
100	1.40	.....	1.73	1.70	.....	.....	.....	.....	.50	1.68	1.52	.....	1.79

* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 84 FOREIGN COUNTRIES. FEMALES.

TAKEN FROM THE PUBLISHED LIFE TABLES OF VARIOUS COUNTRIES,* BASED ON THEIR OFFICIAL MAY BE MADE

AGE.	AUSTRALIA: 1901-1910	DENMARK: 1906-1910	ENGLAND: 1901-1910	FRANCE: 1898-1903	GERMANY: 1901-1910	HOLLAND: 1900-1909	INDIA: 1901-1910	ITALY: 1901-1910	JAPAN: 1898-1903	NORWAY: 1901-1910	SWEDEN: 1901-1910	SWITZERLAND: 1901-1910	UNITED STATES: 1901-1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
FEMALES.					MEASURE OF VITALITY, λ_x.								
0	12 07	9.73	8.02	6.83	5.37	8.00	3.01	6.07	6.60	14 47	12.66	8 38	8.79
1	59.58	62 03	26.07	31.08	25.50	28 73	11 10	13 51	27.29	59.17	46.64	45.77	35.88
2	158.58	158 61	65.01	56.50	67.85	63.14	15.73	30.89	37.93	110 18	96.44	105.38	78.77
3	212 60	226 31	99.01	85.97	107.61	121.41	21.68	55.39	57.24	161.29	131 32	159.36	120.29
4	307.32	312.09	133.24	114.84	145.59	167.55	29.18	79.91	85.10	203 03	162.49	206.94	163.30
5	387 70	388.65	180.15	153.71	188.12	215.40	37.62	117.23	122 87	233.06	193.11	246.03	199.66
6	468.21	427.60	242 43	189.46	227.76	265.87	46 65	171.18	167.33	260.54	228 82	312.08	240.20
7	522.24	448.62	318 54	224.23	267.29	316.09	55.76	240.82	207.14	285.38	263 69	339.98	286 81
8	571 73	464.39	399.36	257 48	313.50	364.41	64.37	309.66	236 75	303.89	272.59	373.68	339.35
9	610.12	476.14	466 49	285 34	356.58	405.05	71.17	347.31	254 65	313.65	301.93	409.09	389.02
10	630.89	480.42	502.96	304.21	390.45	439.04	77.10	344.65	265.16	312.65	307.36	442.67	423.70
11	612.38	471.55	504.17	309 22	410 65	450.22	80 50	313.59	259.63	303 04	315.35	446.40	436.06
12	571.65	453.20	481.73	298 75	414.15	437.06	81.06	277.40	236.70	282.52	312.06	414 35	426.08
13	542.44	431.73	449 18	274.57	393.66	407 40	80.19	245 84	207.64	260.47	280.42	364 34	398.36
14	498.34	393 14	416.20	247.31	362.27	357.57	77.54	221.84	179.32	238.11	261.39	307.88	362.30
15	458.24	341.88	387.35	223 41	330.86	310 90	74.27	204.21	156.16	217.95	238.40	262.00	322.84
16	409.96	314.43	364.06	204.03	298.14	283.48	70.63	191.03	137.73	201.20	216.11	229.59	289.84
17	370.63	296.97	345.34	189.39	277.15	276.59	67.11	180 21	123.54	187.06	206.12	208.18	262.70
18	344.66	284.03	330.23	177.36	262.42	277.52	63 62	169.98	113 68	176.77	199.72	196.17	240.70
19	321.91	271.18	317.81	167.71	248.19	272.70	60 83	161.46	107.13	168.75	197.31	189.68	221.27
20	303 93	264.22	306.78	158 92	236.80	260.02	58.41	153 96	103 19	162.55	189.55	184 77	203 50
21	285.80	257 54	296.51	152 41	224.90	246 78	56.43	147.97	101.02	157.88	180.28	179.24	191.33
22	269.54	249.61	286.18	146 60	212 12	239.73	54.58	143 23	100 16	154.83	175.81	173.94	183.72
23	257.20	239.97	276 45	141.66	200.57	236.55	52 77	139 86	99.88	152 40	177.87	168.88	178.18
24	243.69	231.59	267.46	137.99	191.59	231.32	51 12	137.71	100.04	150.85	174.58	164.36	173.27
25	232 03	224.91	258.68	135.45	185.64	222.99	49.50	135.86	100.37	149.57	167.42	161.33	168.91
26	223 07	219 11	249.31	134.20	181 34	213.33	48.09	134.86	100.56	148.57	164.71	159.02	164.00
27	213 03	212.97	239.22	134.20	176.73	208.27	46.69	133.59	100.47	147.57	167.16	156 73	159 62
28	203 74	209 23	228.16	133.71	172.71	204.48	45.35	132.59	100.54	146.84	167.57	154.47	154 46
29	198 37	206 63	216.95	132.45	169.62	199.19	44 09	131.86	100.15	145.57	165.86	152.55	149.54
30	191.86	204.58	206.04	131.21	167.40	193.09	42.83	131.40	99.77	143.78	162.80	150.34	145.39
31	184.84	200.52	195.68	129 72	163.25	185 88	41.63	130.94	98.92	141.74	165.96	147.87	140.86
32	179.00	195.58	186.23	128.00	158.87	178.66	40.49	129.94	97.77	139.47	166.02	145.72	137.03
33	172.33	192.22	177.43	125.82	154.30	173.48	39 35	128.94	96.47	137.23	161.20	143.04	134.06
34	166 38	186.67	169.23	123.90	149.90	170.88	38.21	127.41	94.88	135.27	156.89	140.68	131.15
35	161.38	181.36	161.45	121.56	145 36	167.16	37.13	126.15	93.17	134.03	153.05	138.10	128.09
36	156.29	178.70	154.20	119.69	142 21	160.64	36 04	124.64	91.47	133.27	152.98	135.05	125 76
37	151.14	174 49	147 40	117 84	139.13	155.84	34 96	122 88	90 06	132.27	148.05	131.35	123.25
38	147.32	171 17	141.16	116.42	135.57	150.61	33.92	120.89	88.66	131 50	145.32	127.78	121 21
39	142.84	165.74	135 45	115.01	132.12	144 15	32.88	118.93	87.79	130.27	145.18	123.90	118.79
40	138.79	159.88	129.98	113.20	129.03	140.87	31.92	116.53	87.31	128.81	142 21	121.20	116.61
41	135.36	154.33	124.50	111.02	126.52	138.21	31 03	114.62	87 24	127 59	139.31	119.37	113.71
42	131.58	148.76	118 88	108 51	124 29	136 40	30.17	113.17	87 31	126.36	138.04	117.97	110.00
43	128.80	144.04	113 29	105 50	123.05	134.88	29.34	112.61	87.67	125 81	137.04	116.57	105 94
44	126.51	138 74	107.88	102.42	120 88	134.14	28.55	112.95	87.35	125.03	132.98	113.82	101.45
45	123.43	135.70	102.59	99.28	116.51	130.33	27.81	113.07	86.49	123.59	129.55	109.87	96.80
46	120.63	133.22	97.40	95 78	111 94	123.42	27 07	112.30	84.95	121.52	129.03	104.10	92.44
47	117.15	128.68	92.24	92.15	106.68	119.58	26 36	109 31	82 52	118.24	117.99	97.74	88 46
48	113.07	124.35	87.41	88.29	100.58	116.49	25 65	104.78	79 42	114.30	118 40	91.32	84 92
49	108.85	119.41	82.89	84.03	94.40	107.21	24.90	99.22	75.78	109.81	111.26	85.86	81.24

* See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

MEASURE OF VITALITY.* TABLE 84

POPULATION AND DEATH STATISTICS, AND EXHIBITED HERE IN TABULAR FORM SO THAT A COMPARISON AT EACH AGE.

AGE.	AUSTRALIA: 1901-1910	DENMARK: 1906-1910	ENGLAND: 1901-1910	FRANCE: 1898-1903	GERMANY: 1901-1910	HOLLAND: 1900-1909	INDIA: 1901-1910	ITALY: 1901-1910	JAPAN: 1898-1903	NORWAY: 1901-1910	SWEDEN: 1901-1910	SWITZERLAND: 1901-1910	UNITED STATES: 1901-1910 †
1	2	3	4	5	6	7	8	9	10	11	12	13	14
						MEASURE OF VITALITY, λ_x.							FEMALES.
50	104.07	110.94	78.42	79.92	88.24	98.64	24.14	93.26	71.94	105.22	109.36	80.46	77.75
51	99.72	103.27	73.89	75.87	81.64	92.86	23.41	87.38	68.06	100.74	103.97	75.72	73.82
52	94.32	97.36	69.16	71.99	75.37	88.05	22.70	81.92	64.28	96.37	101.24	70.63	69.27
53	88.99	91.33	64.29	68.19	70.58	83.02	22.02	77.17	60.61	91.87	94.45	65.94	64.25
54	83.37	86.51	59.56	64.56	66.13	78.90	21.33	73.00	56.98	87.52	86.69	61.10	59.49
55	77.89	83.79	55.11	60.75	61.22	74.31	20.61	68.74	53.50	83.23	83.12	56.58	54.79
56	72.45	79.58	51.07	56.85	56.22	67.95	19.88	63.97	50.10	78.82	78.94	51.89	50.59
57	67.26	73.85	47.48	52.71	51.58	62.25	19.15	58.50	46.72	74.54	74.31	47.55	47.03
58	61.75	68.41	44.34	47.85	47.39	58.03	18.38	52.79	43.42	70.32	68.63	43.44	44.13
59	56.57	62.77	41.51	44.21	43.57	53.02	17.61	47.37	40.28	65.97	65.29	39.81	41.25
60	51.60	56.89	38.88	40.56	39.93	47.69	16.80	42.48	37.25	61.58	59.71	36.52	38.66
61	47.11	51.62	36.38	37.27	36.24	43.30	16.02	38.17	34.35	57.12	55.58	33.38	36.10
62	43.03	47.09	33.95	34.26	32.70	39.73	15.24	34.39	31.67	52.75	51.95	30.33	33.42
63	39.30	42.76	31.74	31.57	29.70	36.37	14.46	31.24	29.12	48.55	47.18	27.43	30.77
64	35.93	38.68	29.75	29.10	27.08	33.17	13.69	28.59	26.77	44.60	43.26	24.86	28.44
65	32.87	34.97	27.80	26.80	24.76	30.41	12.94	26.14	24.58	40.95	39.63	22.60	26.28
66	30.05	31.77	25.78	24.63	22.62	27.70	12.19	23.72	22.56	37.61	36.36	20.65	24.33
67	27.46	28.63	23.65	22.43	20.60	25.06	11.47	21.33	20.70	34.50	32.89	18.91	22.54
68	25.02	25.83	21.40	20.33	18.73	22.61	10.74	19.02	19.00	31.64	29.82	17.27	20.85
69	22.69	23.49	19.20	18.38	17.12	20.51	10.05	16.94	17.42	28.96	27.14	15.77	19.26
70	20.43	21.16	17.22	16.59	15.61	18.83	9.39	15.11	15.97	26.43	24.31	14.39	17.77
71	18.36	19.16	15.52	14.97	14.12	17.17	8.75	13.52	14.64	24.05	22.49	13.16	16.39
72	16.49	17.74	14.12	13.52	12.78	15.47	8.11	12.16	13.42	21.78	19.57	12.03	15.10
73	14.88	16.31	12.97	12.25	11.67	13.94	7.49	11.01	12.30	19.67	18.07	10.97	13.93
74	13.52	14.77	11.96	11.11	10.65	12.80	6.90	10.03	11.27	17.71	16.45	9.99	12.84
75	12.36	13.38	11.07	10.08	9.68	11.75	6.35	9.14	10.37	15.97	14.42	9.11	11.83
76	11.36	12.04	10.25	9.15	8.85	10.63	5.81	8.31	9.53	14.43	13.06	8.35	10.90
77	10.49	10.66	9.49	8.32	8.10	9.64	5.31	7.52	8.77	13.07	11.50	7.67	10.05
78	9.70	9.64	8.79	7.57	7.40	8.79	4.79	6.75	8.06	11.89	10.87	7.07	9.25
79	8.99	8.82	8.14	6.90	6.83	8.00	4.38	6.05	7.40	10.83	9.54	6.49	8.47
80	8.32	7.90	7.55	6.32	6.33	7.32	3.94	5.44	6.79	9.89	8.64	5.96	7.69
81	7.71	7.20	6.98	5.85	5.79	6.78	3.55	4.93	6.23	9.01	7.78	5.48	6.99
82	7.13	6.65	6.45	5.41	5.27	6.24	3.17	4.51	5.71	8.19	7.13	5.05	6.42
83	6.60	6.07	5.94	5.01	4.83	5.68	2.85	4.16	5.24	7.43	6.40	4.67	5.97
84	6.08	5.65	5.45	4.64	4.45	5.19	2.53	3.84	4.80	6.75	5.69	4.34	5.53
85	5.58	5.37	4.99	4.34	4.10	4.81	2.25	3.55	4.39	6.15	5.26	4.04	5.10
86	5.10	4.97	4.59	4.18	3.78	4.47	1.99	3.27	4.01	5.64	4.78	3.76	4.72
87	4.66	4.49	4.24	4.04	3.50	4.13	1.76	3.01	3.67	5.19	4.36	3.49	4.39
88	4.28	3.96	3.92	3.91	3.27	3.83	1.54	2.76	3.35	4.80	4.03	3.23	4.10
89	3.94	3.56	3.64	3.78	3.07	3.63	1.42	2.53	3.06	4.43	3.70	2.96	3.81
90	3.63	.....	3.38	3.66	2.89	3.20	1.21	2.30	2.78	4.08	3.45	2.74	3.55
91	3.34	.....	3.15	3.54	2.71	2.84	1.17	2.10	2.53	3.74	3.21	2.57	3.31
92	3.08	.....	2.96	3.43	2.57	2.36	1.50	1.90	2.30	3.42	2.92	2.46	3.09
93	2.84	.....	2.79	3.32	2.44	2.00	.50	1.71	2.09	3.13	2.70	2.37	2.89
94	2.63	.....	2.65	3.22	2.30	1.63	.....	1.58	1.87	2.90	2.56	2.18	2.72
95	2.43	.....	2.52	3.13	2.22	1.29	.....	1.41	1.72	2.71	2.28	1.98	2.58
96	2.24	.....	2.41	3.01	2.12	1.02	.....	1.32	1.53	2.54	2.08	1.83	2.45
97	2.07	.....	2.30	2.96	2.05	.78	.....	1.30	1.39	2.40	2.06	1.60	2.34
98	1.90	.....	2.20	2.82	1.97	.83	.....	.83	1.28	2.30	2.04	1.42	2.24
99	1.72	.....	2.08	2.69	1.93	.50	.....	.50	1.25	2.17	1.90	1.33	2.14
100	1.50	.....	1.97	2.61	.....	.....	.....	.....	1.00	2.03	1.78	1.17	2.04

*See second footnote on p. 203.

† Whites in the original registration states, which include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

MORTALITY TABLES BASED ON EXPERIENCE OF LIFE INSURANCE COMPANIES.

DESCRIPTION OF TABLES.

90. Four of these tables are based on experience for the most part on insured lives in the United States, one on that in the United States and Canada, while five others are based on experience on insured lives in Great Britain, France, Germany, Japan, and Sweden, respectively; the life table for white males in the original registration states, 1910, is based on census statistics.

The American Experience Mortality Table was constructed by Sheppard Homans about 1860 and was first published under its present name in a schedule attached to an act passed by the legislature of the state of New York in 1868. It has for its basis the experience on insured lives in the Mutual Life Insurance Company, of New York, but it is not an accurate representation of the individual experience of that company. The table was intended to represent the death rate among insured lives residing in healthful districts after the effects of medical selection were eliminated. It is quite generally prescribed by state laws for valuation purposes and is employed by practically all the old-line companies in this country to calculate their premiums and reserves and also by the United States Government for insurance on soldiers.

The Thirty American Offices Tables were compiled by Levi W. Meech and are based upon the experience of thirty American life insurance companies on insured lives. The experience closed with the year 1874. The tables were prepared with great care and in considerable detail, but they have never been used to any extent by insurance companies. The table included in this volume is for males.

The most recent investigation of mortality rates based upon the experience of insured lives in the United States and Canada is known as the American-Canadian Mortality Investigation. It was conducted by the Actuarial Society of America, with the cooperation of the American Institute of Actuaries and the National Convention of Insurance Commissioners, and was based on the experience of life insurance companies of the United States and Canada during the years 1900 to 1915, inclusive, with policies issued from 1843 to 1914, inclusive. This investigation undoubtedly shows very closely the rates of mortality now existing among insured lives in this country and Canada.

The table included in this volume is for American men and represents the experience on men who had been insured at least five years. It is what is known as a "truncated" table of mortality, the first five years of insurance having been excluded from the observations used in its construction. The result of excluding the first five years of insurance experience is practically to eliminate the effect of medical selection. The rates of mortality by this table are much lower than those shown by the American Experience or the Thirty American Offices Life Table for nearly all ages.

The symbol for the American-Canadian Table included in this volume is $AM^{(5)}$; the AM denotes American Men, and the superscript $^{(5)}$ denotes that it is a truncated table based on insured lives where the first five insurance years are excluded.

The British Offices Life Tables were prepared under the supervision of a joint committee of the Institute of Actuaries of Great Britain and the Faculty of Actuaries of Scotland. They comprise the experience of practically all the British and Scotch companies on insured lives during the period 1863–1893. The table included herein is based upon the experience with whole life participating insurance on men, and the symbol used to designate it is $O^{M(5)}$. The superscript $^{(5)}$ indicates that it is a truncated table, policies of duration of less than five years having been excluded from the observations used in its construction. This table is quite generally employed by life insurance companies in England and Canada for the calculation of premiums and reserves.

The Four French Offices Mortality Experience is based on the experience on insured lives in four French companies, and the observations extended from 1819 to the end of 1887. It includes the experience on both male and female lives, and is used at the present time by French insurance companies for the calculation of premiums and reserves. It is designated by the symbol AF, the A referring to Assurance and the F to French, the combination meaning French insurance. This table runs very near the British Offices Life Table from age 17 to about age 45, after which it shows higher mortality rates.

The Twenty-three German Offices Life Tables are based upon the experience on insured lives of twenty-three German life insurance companies. The experience closed in 1875 and included tables for male lives, female lives, and for both sexes combined. The table included in this volume and used by German life insurance companies is the one based on the combined experience on men and women. It shows rates of mortality considerably above those in the American Experience, American-Canadian, British Offices, and French Offices Tables.

The Three Japanese Offices Life Tables are based upon the experience on insured lives in three Japanese companies, the Neiji, established in 1881; the Teikoku, established in 1888; and the Nippon, established in 1888. The observations covered all their insured risks from date of organization to the close of 1905, with some exceptions in connection with military service and emigrants. The table included herein is based on the experience on insured Japanese men and is designated by the symbol $J^{M(5)}$. This indicates that it is a truncated table for Japanese males, the first five years of insurance experience having been excluded. This table is used by Japanese companies for the calculation of premiums and reserves. It shows a much higher mortality than any of the other insurance tables for most ages.

The Seventeen Swedish Offices Life Tables are based on insured lives from 1895 to 1906 in seventeen Swed-

ish life insurance companies. Numerous tables were constructed from this experience, some based on the medical examination as the unit, some on the amount insured as the unit, and some on the life insured. The table included is based on male lives, the person or life being the unit. It also includes the aggregate experience; in other words, it is not a truncated table. The symbol for this table is ${}^{p}M_{a}^{h}$; M means that the table relates to men; the subscript $_a$ means that it is an aggregate table, including all years of insurance experience; the superscript ^{p}, that the person or life is the unit; and the superscript ^{h}, that the table in question is based on the entire experience on men and not on any special class of policies, as whole life policies alone or endowment policies alone.

The National Fraternal Congress Table of Mortality was prepared in 1898 by a joint committee appointed by the National Fraternal Congress, a representative association of fraternal societies in this country. According to the committee, "the experience examined and available embraced the mortality experience of old-line companies in the United States, England, Canada, and Australia; of the fraternals, the experience of the two oldest and largest in this country." This table is employed by many fraternal societies in this country as a basis for their assessment rates and to measure the present value of benefits promised in their certificates and the present value of the future contributions of their members. The rates of mortality are between those of the American-Canadian and the American Experience from age 20 to age 49, but from age 50 to age 80 they are lower than the rates in both these tables.

The Standard Industrial Mortality Table is based on the industrial insurance experience of the Metropolitan Life during the ten years 1896-1905. It has been adopted as the legal basis for industrial insurance in the state of New York and is employed by most of the industrial companies as a basis for their premiums and reserves. It is based on the entire experience on all the male lives and is an aggregate table, no insurance years having been excluded. The rates of mortality from age 2 to age 20 are somewhat higher than those in most of the census life tables and from age 30 to age 50 much higher than those in the other insurance tables; from age 50 to age 93 they run very close to those in the Three Japanese Offices Tables.

MORTALITY FUNCTIONS APPEARING IN TABLES AND GRAPHS.

91. Tables 85 to 89 on pages 226 to 235 exhibit the rate of mortality per thousand, the number of survivors out of 79,116 alive at age 20, the number of deaths out of 79,116 alive at age 20, the complete expectation of life,* and the measure of vitality.† The common radix, 79,116, is the number of survivors at age 20 in the life table for white males in the original registration states for 1910, and was chosen in order to compare the number of survivors and number of deaths in the various insurance tables. Tables 90 and 91 on pages 236 to 239 show the number of survivors and number of deaths out of the number alive according to the original radix of each table. (See sec. 77, p. 46.)

DIFFERENCE BETWEEN MORTALITY TABLES BASED ON INSURED LIVES AND LIFE TABLES BASED ON CENSUS STATISTICS.

92. It is shown in Part VI on the Mathematical Theory of Construction of Life Tables that the rates of mortality in the life tables are derived by the application of certain formulas to the original census statistics, that is, to the enumerated populations, the reported deaths, and the birth registration statistics. All persons living are taken into account, as well as all the births and deaths. The case is quite different in the construction of mortality tables based on insured lives. The individual does not come under observation until accepted as a risk by the insurance company. Before the policy is issued the applicant is required to pass a satisfactory medical examination, and this constitutes the chief distinction between the aggregate of policyholders in an insurance company and the aggregate of persons in the general unselected population. The former is said to constitute a selected group, the basis of selection being the medical examination. It has been found that the rates of mortality during the first five insurance years among insured lives are much lower than the rates of mortality at the same ages in the general population, and actuaries have shown that the effect of this medical selection does not entirely pass away until after ten or more years; some actuaries contend that its effect never entirely disappears. The effect of medical selection should be borne in mind when comparing insurance tables with census tables.

Attention has been called to some of the mortality tables which were constructed by excluding the first five insurance years from the observations, and it is evident that the truncated tables so obtained are more nearly comparable with census life tables because the effect of medical selection has been eliminated to some extent. Even in these cases, however, great caution should be used in making comparisons, because the composition of the general population is likely to be quite different from that of the policyholders in an insurance company. It should also be remembered, in comparing insurance tables, that they are not based on the same kind of experience; for example, some are aggregate tables, some truncated tables, some based on male lives, some on male and female lives, some based on the class of policyholders who take industrial insurance, and others on the class of policyholders who take the more expensive forms of insurance. In addition to all these varying factors some of the tables are based on insured lives in different countries.

* The complete expectation of life for the Seventeen Swedish Offices Life Tables and for the Standard Industrial Mortality Tables was computed in the Bureau of the Census according to the formula $\frac{1}{2}+\left(\sum_{x+1}^{\omega} l_x\right)/l_x$. The l_x used to compute these values were taken from Table 90, p. 236.

† The measure of vitality for the ten tables based on insured lives was computed in the Bureau of the Census according to the formula $l_x/d_x-\frac{1}{2}$. The l_x and d_x used to compute the values in Table 89, p. 234, were taken from Tables 90 and 91, respectively, pp. 236 to 239. Those for the United States were taken from Table 9, p. 68.

TABLE 85 INSURED LIVES. ANNUAL RATES

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS MALES IN THE ORIGINAL

AGE.	American Experience Mortality Table: 1860. *	Thirty American Offices Life Tables: 1874. Males. *	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. O^M(5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M(5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_a^h$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males. *	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
	ANNUAL RATE OF MORTALITY PER THOUSAND, $1000q_x$.										
0	.....	.....	.....	.....	36.02	.....	.....	.....	.....	.....	123.26
1	.....	.....	.....	.....	27.49	.....	.....	.....	.....	.....	28.21
2	.....	.....	.....	.....	20.85	.....	.....	.....	.....	34.67	12.73
3	.....	.....	.....	.....	15.75	.....	.....	.....	.....	22.47	7.93
4	.....	.....	.....	.....	11.87	.....	.....	.....	.....	13.23	5.72
5	.....	.....	.....	.....	8.97	.....	.....	.....	.....	9.46	4.71
6	.....	.....	.....	.....	6.87	.....	.....	.....	.....	7.20	4.00
7	.....	.....	.....	.....	5.40	.....	.....	.....	.....	5.95	3.40
8	.....	.....	.....	.....	4.43	.....	.....	.....	.....	4.89	2.93
9	.....	.....	.....	.....	3.88	.....	.....	.....	.....	4.06	2.59
10	7.49	6.48	.....	6.13	3.64	.....	7.05	.....	.....	3.44	2.38
11	7.52	6.50	.....	6.17	3.66	.....	7.15	.....	.....	3.05	2.28
12	7.54	6.52	.....	6.19	3.87	.....	7.36	.....	.....	2.88	2.29
13	7.57	6.54	.....	6.22	4.22	.....	7.64	.....	.....	2.94	2.41
14	7.60	6.57	.....	6.25	4.66	.....	8.05	.....	.....	3.17	2.59
15	7.63	6.59	3.46	6.29	5.15	.....	8.62	2.77	.....	3.58	2.83
16	7.66	6.61	3.53	6.33	5.65	.....	9.32	2.81	.....	4.11	3.15
17	7.69	6.65	3.63	6.38	6.10	8.86	10.11	2.86	.....	4.78	3.55
18	7.73	6.68	3.71	6.42	6.48	9.20	10.89	2.91	.....	5.50	3.98
19	7.77	6.72	3.81	6.46	6.75	9.34	11.56	2.96	.....	6.21	4.42
20	7.81	6.76	3.92	6.52	6.90	9.20	11.99	3.02	5.00	6.91	4.89
21	7.86	6.81	4.02	6.59	6.92	9.17	12.15	3.09	5.04	7.56	5.24
22	7.91	6.86	4.12	6.65	6.81	9.03	11.98	3.16	5.07	8.15	5.39
23	7.96	6.91	4.18	6.72	6.62	8.84	11.54	3.24	5.11	8.64	5.42
24	8.01	6.97	4.25	6.80	6.41	8.66	10.92	3.33	5.15	9.09	5.48
25	8.07	7.03	4.31	6.89	6.28	8.54	10.24	3.42	5.20	9.53	5.54
26	8.13	7.12	4.35	6.98	6.40	8.48	9.56	3.52	5.26	9.94	5.63
27	8.20	7.19	4.39	7.09	6.53	8.48	9.03	3.64	5.32	10.35	5.82
28	8.26	7.28	4.41	7.21	6.67	8.54	8.60	3.76	5.39	10.81	6.07
29	8.35	7.39	4.43	7.32	6.82	8.67	8.36	3.89	5.47	11.24	6.33
30	8.43	7.49	4.46	7.47	6.98	8.83	8.20	4.04	5.55	11.60	6.60
31	8.51	7.60	4.48	7.62	7.17	9.01	8.12	4.20	5.65	11.97	6.93
32	8.61	7.73	4.51	7.77	7.36	9.23	8.10	4.38	5.75	12.26	7.31
33	8.72	7.87	4.59	7.96	7.58	9.45	8.10	4.57	5.87	12.49	7.70
34	8.83	8.03	4.68	8.16	7.81	9.70	8.14	4.78	6.00	12.74	8.10
35	8.95	8.21	4.78	8.37	8.07	9.98	8.18	5.01	6.15	12.99	8.52
36	9.09	8.39	4.94	8.60	8.35	10.27	8.31	5.26	6.31	13.22	8.90
37	9.23	8.59	5.12	8.86	8.66	10.59	8.53	5.53	6.49	13.53	9.23
38	9.41	8.83	5.32	9.15	8.99	10.95	8.86	5.83	6.70	13.87	9.54
39	9.59	9.08	5.56	9.45	9.36	11.33	9.32	6.16	6.92	14.23	9.87
40	9.79	9.36	5.84	9.78	9.75	11.77	9.92	6.52	7.17	14.65	10.22
41	10.01	9.65	6.16	10.15	10.19	12.29	10.67	6.92	7.45	15.09	10.60
42	10.25	10.00	6.54	10.56	10.66	12.79	11.56	7.34	7.77	15.57	11.04
43	10.52	10.35	6.94	10.99	11.18	13.32	12.56	7.81	8.11	16.11	11.52
44	10.83	10.76	7.42	11.46	11.74	13.85	13.66	8.33	8.48	16.71	12.05
45	11.16	11.20	7.94	12.00	12.36	14.37	14.85	8.89	8.87	17.35	12.64
46	11.56	11.69	8.52	12.56	13.03	14.89	16.10	9.50	9.29	18.07	13.25
47	12.00	12.23	9.18	13.20	13.76	15.50	17.41	10.17	9.75	18.82	13.83
48	12.51	12.81	9.89	13.88	14.56	16.21	18.79	10.91	10.27	19.69	14.37
49	13.11	13.46	10.70	14.63	15.43	17.06	20.24	11.71	10.82	20.62	14.95

* $1000q_x$ was copied to the nearest second decimal.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

OF MORTALITY PER THOUSAND. TABLE 85

COUNTRIES; ALSO THE RATE OF MORTALITY PER THOUSAND TAKEN FROM THE LIFE TABLE FOR WHITE REGISTRATION STATES: 1910.

AGE.	American Experience Mortality Table: 1860. *	Thirty American Offices Life Tables: 1874. Males. *	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. OM(5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. JM(5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_a^h$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males. *	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
ANNUAL RATE OF MORTALITY PER THOUSAND, $1000q_x$.											
50	13.78	14.18	11.58	15.45	16.38	18.14	21.71	12.59	11.44	21.64	15.53
51	14.54	14.96	12.54	16.34	17.42	19.31	23.19	13.55	12.15	22.77	16.24
52	15.39	15.81	13.62	17.31	18.55	20.61	24.70	14.60	12.90	24.02	17.21
53	16.33	16.75	14.78	18.39	19.78	21.99	26.29	15.75	13.75	25.34	18.45
54	17.40	17.78	16.08	19.56	21.12	23.49	28.02	17.00	14.68	26.83	19.85
55	18.57	18.93	17.47	20.83	22.59	25.05	30.04	18.37	15.71	28.46	21.50
56	19.89	20.17	19.02	22.22	24.20	26.80	32.36	19.88	16.86	30.23	23.30
57	21.34	21.56	20.69	23.75	25.92	28.67	35.07	21.52	18.12	32.20	25.08
58	22.94	23.06	22.51	25.41	27.82	30.73	38.09	23.31	19.50	34.32	26.81
59	24.72	24.71	24.49	27.22	29.88	32.89	41.40	25.27	21.05	36.66	28.71
60	26.69	26.53	26.68	29.21	32.13	35.36	44.90	27.42	22.75	39.22	30.75
61	28.88	28.53	29.03	31.38	34.58	37.82	48.54	29.76	24.64	42.03	32.95
62	31.29	30.70	31.58	33.73	37.25	40.42	52.08	32.33	26.72	45.09	35.41
63	33.94	33.11	34.37	36.32	40.15	43.17	55.32	35.13	29.03	48.44	38.09
64	36.87	35.74	37.38	39.12	43.31	46.13	58.26	38.20	31.57	52.11	40.88
65	40.13	38.64	40.66	42.21	46.74	49.43	60.84	41.56	34.39	56.13	43.79
66	43.71	41.79	44.18	45.54	50.48	53.29	63.43	45.22	37.52	60.53	46.87
67	47.65	45.28	48.03	49.18	54.55	57.62	66.39	49.23	40.96	65.31	50.23
68	52.00	49.04	52.16	53.17	58.96	62.26	70.35	53.62	44.78	70.53	53.92
69	56.76	53.24	56.64	57.48	63.76	67.31	75.77	58.41	48.98	76.22	57.88
70	61.99	57.78	61.47	62.19	68.97	72.76	82.83	63.66	53.65	82.47	62.14
71	67.67	62.78	66.70	67.31	74.62	78.56	91.47	69.39	58.81	89.26	66.90
72	73.73	68.22	72.33	72.90	80.76	84.59	101.32	75.66	64.49	96.66	72.30
73	80.18	74.15	78.39	78.96	87.41	91.30	111.84	82.51	70.81	104.69	78.33
74	87.03	80.71	84.92	85.53	94.61	98.54	122.63	90.01	77.78	113.40	84.99
75	94.37	87.79	91.94	92.67	102.41	106.49	133.35	98.20	85.48	122.97	92.53
76	102.31	95.50	99.51	100.43	110.85	114.51	143.94	107.17	93.99	133.28	100.34
77	111.06	104.00	107.65	108.85	119.97	123.12	154.42	116.97	103.40	144.44	108.04
78	120.83	113.18	116.31	117.94	129.82	132.33	165.43	127.68	113.83	156.57	115.88
79	131.73	123.19	125.69	127.81	140.45	142.19	177.27	139.40	125.35	169.62	124.98
80	144.47	134.07	135.74	138.50	151.90	155.14	190.44	152.21	138.09	183.80	135.75
81	158.61	145.83	146.42	150.00	164.24	169.74	205.18	166.22	152.20	199.02	147.28
82	174.30	158.70	157.87	162.40	177.49	184.51	220.98	181.54	167.77	215.57	158.33
83	191.56	172.46	170.05	175.73	191.72	198.25	238.22	198.30	184.96	233.15	168.54
84	211.36	187.52	183.15	190.14	206.98	211.12	255.99	216.62	204.04	251.98	179.56
85	235.55	203.63	197.07	205.69	223.30	222.00	275.74	236.65	225.08	272.32	191.11
86	265.68	220.84	211.80	222.13	240.74	228.05	295.97	258.55	248.35	293.83	203.07
87	303.02	239.89	227.29	240.01	259.33	233.68	317.48	282.50	274.15	316.00	215.45
88	346.69	259.55	244.08	258.87	279.11	237.88	339.97	308.69	302.57	341.46	228.30
89	395.86	292.60	261.70	278.81	300.10	243.16	364.22	337.32	334.18	366.01	241.57
90	454.55	328.15	280.35	300.75	322.31	.....	389.83	.....	368.79	395.19	255.17
91	532.47	358.54	299.46	322.58	345.75	.....	416.67	.....	407.67	420.46	268.87
92	634.26	389.74	321.08	347.88	370.43	.....	447.62	.....	449.74	450.98	282.56
93	734.18	425.00	341.88	371.20	396.30	.....	465.52	.....	498.45	464.29	296.24
94	857.14	462.45	363.64	400.00	423.33	.....	516.13	.....	549.38	500.00	310.21
95	1,000.00	500.00	387.76	424.73	451.46	.....	533.33	.....	602.74	533.33	324.86
96	.....	558.82	411.11	457.94	480.60	.....	571.43	.....	655.17	571.43	340.85
97	.....	600.00	443.40	482.76	510.65	.....	666.67	.....	700.00	666.67	358.73
98	.....	666.67	457.63	500.00	541.48	.....	1,000.00	.....	1,000.00	1,000.00	379.05
99	.....	1,000.00	500.00	533.33	572.92	.....	.....	.....	.....	.....	401.97
100	.....	.....	562.50	571.43	604.78	.....	.....	.....	.....	.....	427.46

* $1000q_x$ was copied to the nearest second decimal.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 86 INSURED LIVES. NUMBER OF SUR

BASED ON MORTALITY TABLES* DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^M (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. ^PM^h_a	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF SURVIVORS, l_x.						
0	.....	.....	.....	.....	95,996	.....	.....	.....	.....	.....	100,000
1	.....	.....	.....	.....	92,539	.....	.....	.....	.....	.....	87,674
2	.....	.....	.....	.....	89,995	.....	.....	.....	.....	91,254	85,201
3	.....	.....	.....	.....	88,119	.....	.....	.....	.....	88,090	84,117
4	.....	.....	.....	.....	86,731	.....	.....	.....	.....	86,111	83,449
5	.....	.....	.....	.....	85,702	.....	.....	.....	.....	84,972	82,972
6	.....	.....	.....	.....	84,933	.....	.....	.....	.....	84,168	82,581
7	.....	.....	.....	.....	84,349	.....	.....	.....	.....	83,562	82,251
8	.....	.....	.....	.....	83,894	.....	.....	.....	.....	83,065	81,971
9	.....	.....	.....	.....	83,522	.....	.....	.....	.....	82,658	81,731
10	85,404	84,520	.....	84,262	83,198	.....	86,406	.....	.....	82,323	81,519
11	84,765	83,973	.....	83,745	82,895	.....	85,797	.....	.....	82,040	81,325
12	84,128	83,427	.....	83,228	82,592	.....	85,183	.....	.....	81,790	81,140
13	83,493	82,883	.....	82,713	82,273	.....	84,557	.....	.....	81,554	80,954
14	82,861	82,341	.....	82,199	81,926	.....	83,911	.....	.....	81,314	80,759
15	82,232	81,800	80,567	81,686	81,543	.....	83,235	80,258	.....	81,057	80,549
16	81,604	81,261	80,288	81,172	81,123	.....	82,518	80,036	.....	80,767	80,321
17	80,979	80,724	80,005	80,659	80,665	81,321	81,749	79,811	.....	80,435	80,068
18	80,356	80,187	79,715	80,145	80,173	80,602	80,922	79,583	.....	80,050	79,785
19	79,735	79,651	79,419	79,630	79,654	79,861	80,041	79,351	.....	79,611	79,467
20	79,116	79,116	79,116	79,116	79,116	79,116	79,116	79,116	79,116	79,116	79,116
21	78,499	78,581	78,806	78,600	78,570	78,389	78,167	78,877	78,720	78,569	78,729
22	77,882	78,046	78,489	78,082	78,026	77,671	77,217	78,632	78,324	77,975	78,316
23	77,266	77,511	78,166	77,563	77,495	76,969	76,292	78,384	77,927	77,340	77,894
24	76,651	76,975	77,839	77,042	76,982	76,288	75,412	78,130	77,529	76,672	77,472
25	76,037	76,438	77,508	76,518	76,488	75,627	74,589	77,870	77,129	75,975	77,047
26	75,424	75,901	77,174	75,990	76,008	74,981	73,825	77,604	76,728	75,251	76,621
27	74,811	75,361	76,838	75,460	75,521	74,345	73,119	77,331	76,325	74,503	76,189
28	74,198	74,819	76,500	74,925	75,028	73,715	72,459	77,049	75,919	73,732	75,746
29	73,584	74,275	76,162	74,385	74,528	73,086	71,836	76,760	75,510	72,935	75,286
30	72,970	73,726	75,825	73,840	74,020	72,453	71,235	76,461	75,097	72,116	74,810
31	72,355	73,174	75,486	73,288	73,503	71,814	70,651	76,152	74,680	71,279	74,316
32	71,740	72,618	75,148	72,730	72,976	71,166	70,077	75,832	74,258	70,426	73,801
33	71,122	72,057	74,809	72,165	72,439	70,509	69,510	75,500	73,831	69,563	73,261
34	70,502	71,490	74,466	71,590	71,890	69,844	68,947	75,154	73,397	68,694	72,697
35	69,880	70,916	74,117	71,006	71,329	69,166	68,385	74,795	72,957	67,819	72,108
36	69,254	70,334	73,762	70,411	70,753	68,476	67,826	74,420	72,508	66,938	71,494
37	68,625	69,744	73,398	69,806	70,162	67,772	67,262	74,028	72,051	66,053	70,858
38	67,991	69,144	73,023	69,187	69,555	67,056	66,688	73,619	71,583	65,160	70,204
39	67,352	68,534	72,634	68,555	68,929	66,321	66,097	73,190	71,104	64,256	69,534
40	66,706	67,912	72,231	67,907	68,284	65,570	65,481	72,739	70,612	63,342	68,848
41	66,053	67,276	71,809	67,243	67,618	64,798	64,832	72,264	70,105	62,414	68,144
42	65,392	66,627	71,366	66,560	66,929	64,002	64,140	71,764	69,583	61,472	67,422
43	64,721	65,961	70,900	65,858	66,216	63,184	63,399	71,238	69,043	60,515	66,678
44	64,040	65,278	70,408	65,134	65,476	62,343	62,603	70,682	68,483	59,540	65,909
45	63,347	64,576	69,885	64,387	64,707	61,479	61,748	70,093	67,902	58,546	65,115
46	62,640	63,852	69,330	63,615	63,907	60,595	60,830	69,470	67,300	57,530	64,292
47	61,916	63,106	68,740	62,815	63,075	59,693	59,851	68,810	66,675	56,491	63,440
48	61,173	62,335	68,109	61,986	62,207	58,768	58,809	68,110	66,025	55,427	62,563
49	60,407	61,536	67,435	61,126	61,301	57,816	57,704	67,367	65,347	54,336	61,663

* The method of obtaining these values is explained in sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

VIVORS OUT OF 79,116 ALIVE AT AGE 20.* TABLE 86

COUNTRIES; ALSO THE NUMBER OF SURVIVORS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE TION STATES: 1910.

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^M (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_{a}^{h}$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF SURVIVORS, l_x.						
50	59,616	60,707	66,714	60,232	60,355	56,830	56,536	66,578	64,639	53,215	60,741
51	58,794	59,847	65,941	59,301	59,367	55,799	55,309	65,740	63,900	52,064	59,798
52	57,939	58,952	65,114	58,332	58,333	54,721	54,026	64,849	63,123	50,878	58,827
53	57,048	58,020	64,227	57,323	57,251	53,594	52,692	63,902	62,309	49,657	57,815
54	56,116	57,048	63,278	56,268	56,119	52,415	51,307	62,896	61,453	48,398	56,748
55	55,140	56,034	62,261	55,168	54,933	51,184	49,869	61,827	60,551	47,100	55,622
56	54,116	54,973	61,173	54,018	53,693	49,902	48,371	60,691	59,600	45,759	54,426
57	53,039	53,864	60,010	52,818	52,394	48,564	46,806	59,485	58,595	44,376	53,158
58	51,908	52,703	58,768	51,563	51,036	47,172	45,164	58,205	57,533	42,947	51,825
59	50,717	51,487	57,445	50,253	49,617	45,723	43,444	56,848	56,411	41,473	50,435
60	49,464	50,215	56,038	48,885	48,134	44,220	41,645	55,412	55,224	39,953	48,987
61	48,143	48,883	54,543	47,457	46,588	42,656	39,775	53,892	53,967	38,386	47,481
62	46,753	47,489	52,960	45,968	44,977	41,044	37,845	52,289	52,637	36,772	45,916
63	45,290	46,031	51,287	44,417	43,301	39,385	35,874	50,599	51,231	35,114	44,291
64	43,753	44,507	49,525	42,804	41,563	37,685	33,889	48,821	49,743	33,413	42,604
65	42,139	42,916	47,673	41,129	39,763	35,946	31,915	46,956	48,173	31,672	40,862
66	40,448	41,258	45,735	39,393	37,904	34,169	29,973	45,004	46,516	29,895	39,073
67	38,680	39,533	43,714	37,599	35,991	32,348	28,072	42,969	44,771	28,085	37,241
68	36,837	37,743	41,614	35,750	34,028	30,485	26,208	40,853	42,937	26,251	35,371
69	34,922	35,892	39,444	33,849	32,021	28,587	24,365	38,663	41,015	24,399	33,464
70	32,940	33,981	37,210	31,904	29,979	26,663	22,518	36,404	39,006	22,540	31,527
71	30,898	32,018	34,923	29,920	27,912	24,723	20,653	34,086	36,913	20,681	29,568
72	28,807	30,008	32,593	27,906	25,829	22,781	18,764	31,721	34,742	18,835	27,590
73	26,683	27,961	30,236	25,872	23,743	20,853	16,863	29,321	32,502	17,014	25,595
74	24,543	25,888	27,866	23,829	21,668	18,950	14,977	26,903	30,200	15,233	23,590
75	22,408	23,798	25,499	21,791	19,618	17,083	13,140	24,481	27,851	13,506	21,585
76	20,293	21,709	23,155	19,772	17,609	15,264	11,388	22,077	25,471	11,845	19,588
77	18,217	19,636	20,851	17,786	15,657	13,515	9,749	19,711	23,077	10,266	17,622
78	16,194	17,594	18,606	15,850	13,778	11,852	8,244	17,406	20,690	8,783	15,718
79	14,237	15,602	16,442	13,981	11,990	10,283	6,880	15,183	18,335	7,408	13,897
80	12,361	13,680	14,376	12,194	10,306	8,821	5,660	13,067	16,037	6,151	12,160
81	10,576	11,846	12,424	10,505	8,740	7,453	4,582	11,078	13,822	5,021	10,509
82	8,898	10,119	10,605	8,929	7,305	6,188	3,642	9,237	11,719	4,022	8,962
83	7,347	8,513	8,931	7,479	6,008	5,046	2,837	7,560	9,753	3,155	7,543
84	5,940	7,045	7,412	6,165	4,856	4,046	2,161	6,061	7,949	2,419	6,272
85	4,684	5,724	6,055	4,993	3,851	3,192	1,608	4,748	6,327	1,810	5,145
86	3,581	4,558	4,861	3,966	2,991	2,483	1,165	3,624	4,903	1,317	4,162
87	2,630	3,552	3,832	3,085	2,271	1,917	820	2,687	3,685	930	3,317
88	1,833	2,700	2,961	2,344	1,682	1,469	560	1,928	2,675	636	2,602
89	1,197	1,999	2,238	1,737	1,213	1,119	369	1,333	1,866	419	2,008
90	723	1,414	1,652	1,253	849	.....	235	.....	1,242	266	1,523
91	395	950	1,189	876	575	.....	143	.....	784	161	1,134
92	184	609	833	594	376	.....	84	.....	464	93	829
93	67	372	566	387	237	.....	46	.....	256	51	595
94	18	214	372	243	143	.....	25	.....	128	27	419
95	3	115	237	146	82	.....	12	.....	58	14	289
96	.....	57	145	84	45	.....	6	.....	23	6	195
97	.....	25	85	46	24	.....	2	.....	8	3	129
98	.....	10	48	24	12	.....	1	.....	2	1	82
99	.....	3	26	12	5	.....	.....	.....	.....	.....	51
100	.....	.....	13	5	2	.....	.....	.....	.....	.....	31

* The method of obtaining these values is explained in sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 87 INSURED LIVES. NUMBER OF DEATHS

BASED ON MORTALITY TABLES* DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation. 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^M (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. ^PM^b_a	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF DEATHS, d_x.						
0	.....	.....	.....	.....	3,457	.....	.....	.....	.....	.....	12,326
1	.....	.....	.....	.....	2,544	.....	.....	.....	.....	.....	2,473
2	.....	.....	.....	.....	1,876	.....	.....	.....	.....	3,164	1,084
3	.....	.....	.....	.....	1,388	.....	.....	.....	.....	1,979	668
4	.....	.....	.....	.....	1,029	.....	.....	.....	.....	1,139	477
5	.....	.....	.....	.....	769	.....	.....	.....	.....	804	391
6	.....	.....	.....	.....	584	.....	.....	.....	.....	606	330
7	.....	.....	.....	.....	455	.....	.....	.....	.....	497	280
8	.....	.....	.....	.....	372	.....	.....	.....	.....	407	240
9	.....	.....	.....	.....	324	.....	.....	.....	.....	335	212
10	639	547	.....	517	303	.....	609	.....	.....	283	194
11	637	546	.....	517	303	.....	614	.....	.....	250	185
12	635	544	.....	515	319	.....	626	.....	.....	236	186
13	632	542	.....	514	347	.....	646	.....	.....	240	195
14	629	541	.....	513	383	.....	676	.....	.....	257	210
15	628	539	279	514	420	.....	717	222	.....	290	228
16	625	537	283	513	458	.....	769	225	.....	332	253
17	623	537	290	514	492	719	827	228	.....	385	283
18	621	536	296	515	519	741	881	232	.....	439	318
19	619	535	303	514	538	745	925	235	.....	495	351
20	617	535	310	516	546	727	949	239	396	547	387
21	617	535	317	518	544	718	950	245	396	594	413
22	616	535	323	519	531	702	925	248	397	635	422
23	615	536	327	521	513	681	880	254	398	668	422
24	614	537	331	524	494	661	823	260	400	697	425
25	613	537	334	528	480	646	764	266	401	724	426
26	613	540	336	530	487	636	706	273	403	748	432
27	613	542	338	535	493	630	660	282	406	771	443
28	614	544	338	540	500	629	623	289	409	797	460
29	614	549	337	545	508	633	601	299	413	819	476
30	615	552	339	552	517	639	584	309	417	837	494
31	615	556	338	558	527	648	574	320	422	853	515
32	618	561	339	565	537	657	567	332	427	863	540
33	620	567	343	575	549	665	563	346	434	869	564
34	622	574	349	584	561	678	562	359	440	875	589
35	626	582	355	595	576	690	559	375	449	881	614
36	629	590	364	605	591	704	564	392	457	885	636
37	634	600	375	619	607	716	574	409	468	893	654
38	639	610	389	632	626	735	591	429	479	904	670
39	646	622	403	648	645	751	616	451	492	914	686
40	653	636	422	664	666	772	649	475	507	928	704
41	661	649	443	683	689	796	692	500	522	942	722
42	671	666	466	702	713	818	741	526	540	957	744
43	681	683	492	724	740	841	796	556	560	975	769
44	693	702	523	747	769	864	855	589	581	994	794
45	707	724	555	772	800	884	918	623	602	1,016	823
46	724	746	590	800	832	902	979	660	625	1,039	852
47	743	771	631	829	868	925	1,042	700	650	1,064	877
48	766	799	674	860	906	952	1,105	743	678	1,091	900
49	791	829	721	894	946	986	1,168	789	708	1,121	922

*These values were derived from Table 86, p. 228 See first footnote of that table.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

OUT OF 79,116 ALIVE AT AGE 20.* TABLE 87

COUNTRIES; ALSO THE NUMBER OF DEATHS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE TION STATES: 1910.

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^{M} (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^{M} (5)	Seventeen Swedish Offices Life Tables: 1805–1906. Aggregate males. $^{n}M^{h}_{a}$	National Fraternal Congress Mortalty Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF DEATHS, d_x.						
50	822	860	773	931	988	1,031	1,227	838	739	1,151	943
51	855	895	827	969	1,034	1,078	1,283	891	777	1,186	971
52	891	932	887	1,009	1,082	1,127	1,334	947	814	1,221	1,012
53	932	972	949	1,055	1,132	1,179	1,385	1,006	856	1,259	1,067
54	976	1,014	1,017	1,100	1,186	1,231	1,438	1,069	902	1,298	1,126
55	1,024	1,061	1,088	1,150	1,240	1,282	1,498	1,136	951	1,341	1,196
56	1,077	1,109	1,163	1,200	1,299	1,338	1,565	1,206	1,005	1,383	1,268
57	1,131	1,161	1,242	1,255	1,358	1,392	1,642	1,280	1,062	1,429	1,333
58	1,191	1,216	1,323	1,310	1,419	1,449	1,720	1,357	1,122	1,474	1,390
59	1,253	1,272	1,407	1,368	1,483	1,503	1,799	1,436	1,187	1,520	1,448
60	1,321	1,332	1,495	1,428	1,546	1,564	1,870	1,520	1,257	1,567	1,506
61	1,390	1,394	1,583	1,489	1,611	1,612	1,930	1,603	1,330	1,614	1,565
62	1,463	1,458	1,673	1,551	1,676	1,659	1,971	1,690	1,406	1,658	1,625
63	1,537	1,524	1,762	1,613	1,738	1,700	1,985	1,778	1,488	1,701	1,687
64	1,614	1,591	1,852	1,675	1,800	1,739	1,974	1,865	1,570	1,741	1,742
65	1,691	1,658	1,938	1,736	1,859	1,777	1,942	1,952	1,657	1,777	1,789
66	1,768	1,725	2,021	1,794	1,913	1,821	1,901	2,035	1,745	1,810	1,832
67	1,843	1,790	2,100	1,849	1,963	1,863	1,864	2,116	1,834	1,834	1,870
68	1,915	1,851	2,170	1,901	2,007	1,898	1,843	2,190	1,922	1,852	1,907
69	1,982	1,911	2,234	1,945	2,042	1,924	1,847	2,259	2,009	1,859	1,937
70	2,042	1,963	2,287	1,984	2,067	1,940	1,865	2,318	2,093	1,859	1,959
71	2,091	2,010	2,330	2,014	2,083	1,942	1,889	2,365	2,171	1,846	1,978
72	2,124	2,047	2,357	2,034	2,086	1,928	1,901	2,400	2,240	1,821	1,995
73	2,140	2,073	2,370	2,043	2,075	1,903	1,886	2,418	2,302	1,781	2,005
74	2,135	2,090	2,367	2,038	2,050	1,867	1,837	2,422	2,349	1,727	2,005
75	2,115	2,089	2,344	2,019	2,009	1,819	1,752	2,404	2,380	1,661	1,997
76	2,076	2,073	2,304	1,986	1,952	1,749	1,639	2,366	2,394	1,579	1,966
77	2,023	2,042	2,245	1,936	1,879	1,663	1,505	2,305	2,387	1,483	1,904
78	1,957	1,992	2,164	1,869	1,788	1,569	1,364	2,223	2,355	1,375	1,821
79	1,876	1,922	2,066	1,787	1,684	1,462	1,220	2,116	2,298	1,257	1,737
80	1,785	1,834	1,952	1,689	1,566	1,368	1,078	1,989	2,215	1,130	1,651
81	1,678	1,727	1,819	1,576	1,435	1,265	940	1,841	2,103	999	1,547
82	1,551	1,606	1,674	1,450	1,297	1,142	805	1,677	1,966	867	1,419
83	1,407	1,468	1,519	1,314	1,152	1,000	676	1,499	1,804	736	1,271
84	1,256	1,321	1,357	1,172	1,005	854	553	1,313	1,622	609	1,127
85	1,103	1,166	1,194	1,027	860	709	443	1,124	1,424	493	983
86	951	1,006	1,029	881	720	566	345	937	1,218	387	845
87	797	852	871	741	589	448	260	759	1,010	294	715
88	636	701	723	607	469	350	191	595	809	217	594
89	474	585	586	484	364	.....	134	.....	624	153	485
90	328	464	463	377	274	.....	92	.....	458	105	389
91	211	341	356	282	199	.....	59	.....	320	68	305
92	117	237	267	207	139	.....	38	.....	208	42	234
93	49	158	194	144	94	.....	21	.....	128	24	176
94	15	99	135	97	61	.....	13	.....	70	13	130
95	3	58	92	62	37	.....	6	.....	35	8	94
96	.....	32	60	38	21	.....	4	.....	15	3	66
97	.....	15	37	22	12	.....	1	.....	6	2	47
98	.....	7	22	12	7	.....	1	.....	2	1	31
99	.....	3	13	7	3	.....	.....	.....	.....	.....	20
100	.....	.....	7	3	1	.....	.....	.....	.....	.....	13

* These values were derived from Table 86, p. 228. See first footnote of that table.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 88 INSURED LIVES. COMPLETE EXPEC

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS THE ORIGINAL REGIS

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males. *	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. O^M(5) *	Four French Offices Mortality Experience: 1819–1887. Males and females. AF *	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M(5) *	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. P^M_a^b †	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males. †	United States. Original Registration States: 1909–1911. White males. ‡
1	2	3	4	5	6	7	8	9	10	11	12
COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.											
0	.....	.....	.....	.....	52.02	.....	.....	.....	.....	.....	50.23
1	.....	.....	.....	.....	52.94	.....	.....	.....	.....	.....	56.26
2	.....	.....	.....	.....	53.43	.....	.....	.....	.....	48.83	56.88
3	.....	.....	.....	.....	53.55	.....	.....	.....	.....	49.56	56.60
4	.....	.....	.....	.....	53.40	.....	.....	.....	.....	49.69	56.05
5	.....	.....	.....	.....	53.04	.....	.....	.....	.....	49.35	55.37
6	.....	.....	.....	.....	52.51	.....	.....	.....	.....	48.82	54.63
7	.....	.....	.....	.....	51.87	.....	.....	.....	.....	48.17	53.85
8	.....	.....	.....	.....	51.15	.....	.....	.....	.....	47.45	53.03
9	.....	.....	.....	.....	50.38	.....	.....	.....	.....	46.68	52.19
10	48.72	49.99	.....	49.49	49.57	.....	44.55	.....	.....	45.87	51.32
11	48.08	49.32	.....	48.80	48.75	.....	43.86	.....	.....	45.03	50.44
12	47.45	48.64	.....	48.10	47.93	.....	43.18	.....	.....	44.16	49.56
13	46.80	47.95	.....	47.39	47.11	.....	42.49	.....	.....	43.29	48.67
14	46.16	47.26	.....	46.69	46.31	.....	41.82	.....	.....	42.42	47.79
15	45.50	46.57	50.06	45.98	45.52	.....	41.15	49.01	.....	41.55	46.91
16	44.85	45.88	49.23	45.26	44.76	.....	40.50	49.04	.....	40.70	46.04
17	44.19	45.18	48.40	44.55	44.01	41.59	39.88	48.18	.....	39.86	45.18
18	43.53	44.48	47.58	43.83	43.28	40.96	39.28	47.32	.....	39.05	44.34
19	42.87	43.78	46.75	43.11	42.55	40.34	38.71	46.45	.....	38.26	43.52
20	42.20	43.07	45.93	42.39	41.84	39.71	38.16	45.59	45.64	37.50	42.71
21	41.53	42.36	45.11	41.66	41.13	39.08	37.61	44.73	44.87	36.76	41.92
22	40.85	41.65	44.29	40.94	40.41	38.43	37.07	43.86	44.09	36.03	41.13
23	40.17	40.93	43.47	40.21	39.68	37.78	36.51	43.00	43.32	35.33	40.36
24	39.49	40.21	42.65	39.48	38.95	37.11	35.93	42.14	42.54	34.63	39.57
25	38.81	39.49	41.83	38.74	38.19	36.43	35.33	41.28	41.75	33.94	38.79
26	38.12	38.77	41.01	38.01	37.43	35.74	34.69	40.42	40.97	33.26	38.00
27	37.43	38.04	40.18	37.27	36.67	35.04	34.02	39.56	40.18	32.59	37.21
28	36.73	37.31	39.36	36.53	35.91	34.34	33.32	38.70	39.40	31.93	36.43
29	36.03	36.58	38.53	35.80	35.14	33.63	32.61	37.85	38.61	31.27	35.65
30	35.33	35.85	37.70	35.06	34.38	32.92	31.88	36.99	37.82	30.62	34.87
31	34.63	35.12	36.87	34.32	33.62	32.21	31.14	36.14	37.02	29.97	34.10
32	33.92	34.38	36.03	33.58	32.86	31.49	30.39	35.29	36.23	29.33	33.33
33	33.21	33.65	35.19	32.83	32.10	30.78	29.63	34.45	35.44	28.69	32.58
34	32.50	32.91	34.35	32.09	31.34	30.07	28.87	33.60	34.64	28.05	31.82
35	31.78	32.17	33.51	31.35	30.58	29.36	28.10	32.76	33.85	27.40	31.08
36	31.07	31.43	32.67	30.61	29.83	28.65	27.33	31.92	33.06	26.76	30.34
37	30.35	30.70	31.83	29.88	29.08	27.94	26.55	31.09	32.26	26.11	29.61
38	29.62	29.96	30.99	29.14	28.33	27.24	25.78	30 26	31.47	25.46	28.88
39	28.90	29.22	30.15	28.40	27.58	26.53	25.00	29.43	30.68	24.81	28.16
40	28.18	28.48	29.32	27.67	26.83	25.83	24.23	28.61	29.89	24.16	27.43
41	27.45	27.75	28.49	26.94	26.09	25.13	23.47	27.80	29.10	23.51	26.71
42	26.72	27.01	27.66	26.21	25.36	24.44	22.72	26.99	28.32	22.86	25.99
43	26.00	26.28	26.84	25.48	24.62	23.75	21.98	26.18	27.53	22.22	25.27
44	25.27	25.55	26.03	24.76	23.90	23.06	21.25	25.39	26.76	21.57	24.56
45	24.54	24.82	25.22	24.04	23.17	22.38	20.54	24.59	25.98	20.93	23.86
46	23.81	24.09	24.41	23.33	22.46	21.70	19.84	23.81	25.21	20.29	23.16
47	23.08	23.38	23.62	22.62	21.75	21.02	19.16	23.03	24.44	19.66	22.46
48	22.36	22.66	22.83	21.91	21.04	20.34	18.49	22.27	23.68	19.02	21.77
49	21.63	21.95	22.06	21.22	20.35	19.67	17.83	21.51	22.92	18.40	21.08

* These values were copied to the nearest second decimal, and when the published values were expectation of life instead of *complete* expectation of life, .5 was added to the published values at each age.

† See first footnote on p. 225.

‡ The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TATION OF LIFE IN YEARS. TABLE 88

COUNTRIES; ALSO THE COMPLETE EXPECTATION OF LIFE TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN TRATION STATES: 1910.

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males. *	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. OM(5) *	Four French Offices Mortality Experience: 1819–1887. Males and females. AF *	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. JM(5) *	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_a^b$ †	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males. †	United States. Original Registration States: 1909–1911. White males. ‡
1	2	3	4	5	6	7	8	9	10	11	12
COMPLETE EXPECTATION OF LIFE IN YEARS, $\mathring{e}_x$.											
50	20.91	21.24	21.29	20.52	19.66	19.00	17.19	20.75	22.16	17.77	20.39
51	20.20	20.54	20.53	19.84	18.98	18.35	16.56	20.01	21.41	17.16	19.70
52	19.49	19.84	19.79	19.16	18.31	17.70	15.94	19.28	20.67	16.54	19.02
53	18.79	19.15	19.05	18.49	17.64	17.06	15.33	18.56	19.93	15.94	18.35
54	18.09	18.47	18.33	17.82	16.99	16.43	14.74	17.85	19.20	15.34	17.68
55	17.40	17.80	17.62	17.17	16.34	15.81	14.15	17.15	18.48	14.75	17.03
56	16.72	17.13	16.93	16.52	15.71	15.21	13.57	16.46	17.77	14.17	16.39
57	16.05	16.47	16.25	15.89	15.09	14.61	13.01	15.78	17.07	13.59	15.77
58	15.39	15.83	15.58	15.26	14.48	14.03	12.46	15.12	16.37	13.03	15.16
59	14.74	15.19	14.93	14.65	13.88	13.46	11.93	14.47	15.69	12.47	14.57
60	14.10	14.56	14.29	14.04	13.29	12.90	11.43	13.83	15.01	11.93	13.98
61	13.47	13.94	13.67	13.45	12.71	12.35	10.94	13.21	14.35	11.39	13.41
62	12.86	13.34	13.06	12.87	12.15	11.82	10.47	12.60	13.70	10.87	12.85
63	12.26	12.74	12.47	12.30	11.60	11.30	10.02	12.00	13.06	10.36	12.31
64	11.67	12.16	11.90	11.75	11.06	10.78	9.58	11.42	12.44	9.86	11.77
65	11.10	11.60	11.34	11.20	10.54	10.28	9.14	10.85	11.83	9.38	11.25
66	10.54	11.04	10.80	10.68	10.03	9.79	8.70	10.30	11.23	8.91	10.75
67	10.00	10.50	10.28	10.16	9.54	9.31	8.26	9.77	10.65	8.45	10.25
68	9.47	9.97	9.77	9.66	9.06	8.85	7.81	9.25	10.08	8.00	9.77
69	8.97	9.46	9.28	9.18	8.60	8.40	7.36	8.74	9.53	7.57	9.29
70	8.48	8.97	8.81	8.71	8.15	7.97	6.92	8.25	9.00	7.16	8.83
71	8.00	8.49	8.35	8.25	7.72	7.56	6.50	7.78	8.48	6.76	8.39
72	7.55	8.02	7.91	7.81	7.30	7.16	6.11	7.32	7.98	6.37	7.95
73	7.11	7.57	7.49	7.38	6.90	6.78	5.74	6.88	7.49	6.00	7.53
74	6.68	7.14	7.08	6.97	6.51	6.41	5.40	6.45	7.03	5.64	7.13
75	6.27	6.72	6.69	6.58	6.14	6.05	5.08	6.04	6.58	5.30	6.75
76	5.88	6.32	6.32	6.20	5.78	5.72	4.79	5.65	6.15	4.97	6.38
77	5.49	5.93	5.96	5.84	5.44	5.39	4.51	5.26	5.73	4.66	6.04
78	5.11	5.57	5.62	5.49	5.11	5.08	4.24	4.90	5.33	4.36	5.71
79	4.74	5.21	5.30	5.15	4.80	4.77	3.98	4.54	4.96	4.08	5.39
80	4.39	4.87	4.99	4.84	4.50	4.48	3.73	4.19	4.59	3.81	5.09
81	4.05	4.55	4.69	4.53	4.22	4.21	3.49	3.86	4.25	3.55	4.81
82	3.71	4.24	4.41	4.25	3.95	3.97	3.27	3.53	3.92	3.31	4.56
83	3.39	3.95	4.14	3.97	3.70	3.76	3.05	3.20	3.61	3.08	4.32
84	3.08	3.67	3.89	3.71	3.46	3.56	2.85	2.86	3.32	2.87	4.10
85	2.77	3.40	3.65	3.47	3.23	3.38	2.66	2.52	3.04	2.67	3.88
86	2.47	3.14	3.42	3.23	3.01	3.21	2.48	2.14	2.78	2.48	3.68
87	2.18	2.89	3.21	3.01	2.81	3.01	2.31	1.71	2.54	2.30	3.49
88	1.91	2.64	3.00	2.81	2.62	2.77	2.15	1.19	2.31	2.14	3.31
89	1.66	2.39	2.81	2.61	2.44	2.48	2.00	.50	2.09	1.98	3.15
90	1.42	2.17	2.63	2.43	2.27	.....	1.86	.....	1.89	1.84	2.99
91	1.19	1.98	2.46	2.26	2.11	.....	1.72	.....	1.70	1.72	2.84
92	.98	1.81	2.30	2.10	1.97	.....	1.60	.....	1.52	1.60	2.70
93	.80	1.64	2.15	1.95	1.83	.....	1.48	.....	1.36	1.50	2.57
94	.64	1.49	2.01	1.81	1.70	.....	1.34	.....	1.21	1.37	2.44
95	.50	1.34	1.87	1.69	1.58	.....	1.23	.....	1.08	1.23	2.31
96	.....	1.18	1.74	1.57	1.47	.....	1.07	.....	.95	1.07	2.19
97	.....	1.03	1.61	1.47	1.37	.....	.83	.....	.80	.83	2.06
98	.....	.83	1.50	1.37	1.27	.....	.50	.....	.50	.50	1.93
99	.....	.50	1.34	1.23	1.19	.....	.....	.....	.....	.....	1.80
100	.....	.....	1.19	1.07	1.10	.....	.....	.....	.....	.....	1.68

* These values were copied to the nearest second decimal, and when the published values were expectation of life instead of *complete* expectation of life, .5 was added to the published values at each age.

† See first footnote on p. 225.

‡ The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 89 INSURED LIVES. MEAS

BASED ON MORTALITY TABLES* DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^{M} (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^{M} (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M^{h}_{a}$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
MEASURE OF VITALITY, λ_x.											
0	.....	.....	.....	.....	27.27	.....	.....	.....	.....	.....	7.39
1	.....	.....	.....	.....	35.88	.....	.....	.....	.....	.....	34.86
2	.....	.....	.....	.....	47.46	.....	.....	.....	.....	28.34	78.07
3	.....	.....	.....	.....	63.01	.....	.....	.....	.....	44.01	125.40
4	.....	.....	.....	.....	83.77	.....	.....	.....	.....	75.11	174.43
5	.....	.....	.....	.....	110.94	.....	.....	.....	.....	105.19	211.71
6	.....	.....	.....	.....	145.07	.....	.....	.....	.....	138.41	249.75
7	.....	.....	.....	.....	184.72	.....	.....	.....	.....	167.52	293.25
8	.....	.....	.....	.....	224.97	.....	.....	.....	.....	204.05	341.05
9	.....	.....	.....	.....	257.52	.....	.....	.....	.....	245.64	385.02
10	133.01	153.82	.....	162.61	274.20	.....	141.38	.....	.....	290.51	419.70
11	132.54	153.30	.....	161.61	272.94	.....	139.28	.....	.....	327.61	439.09
12	132.08	153.01	.....	161.10	258.02	.....	135.46	.....	.....	346.90	435.74
13	131.61	152.48	.....	160.34	236.45	.....	130.47	.....	.....	339.31	414.65
14	131.14	151.72	.....	159.59	213.93	.....	123.65	.....	.....	315.49	384.07
15	130.50	151.20	288.52	158.59	193.57	.....	115.54	360.51	.....	278.83	352.79
16	130.03	150.67	282.61	157.59	176.63	.....	106.80	355.65	.....	242.65	316.98
17	129.57	149.91	275.34	156.35	163.46	112.58	98.43	349.65	.....	208.87	282.42
18	128.92	149.14	269.10	155.35	153.85	108.34	91.32	342.61	.....	181.50	250.40
19	128.28	148.38	261.67	154.35	147.59	106.66	86.02	336.94	.....	160.46	225.90
20	127.63	147.38	254.56	152.88	144.39	108.31	82.87	330.30	199.50	144.24	203.93
21	126.80	146.38	248.39	151.19	144.06	108.62	81.80	322.79	198.10	131.76	190.13
22	125.98	145.38	242.45	149.96	146.27	110.18	82.97	315.55	196.71	122.27	185.08
23	125.15	144.15	238.47	148.28	150.53	112.49	86.15	308.57	195.32	115.28	184.08
24	124.33	142.92	234.57	146.62	155.52	114.98	91.11	299.96	193.55	109.48	181.79
25	123.50	141.70	231.31	144.53	158.67	116.64	97.20	291.74	191.79	104.49	180.36
26	122.50	140.04	229.21	142.68	155.76	117.38	104.05	283.89	189.66	100.07	176.86
27	121.50	138.60	227.12	140.64	152.71	117.40	110.29	274.01	187.55	96.12	171.49
28	120.50	136.96	226.12	138.21	149.51	116.70	115.74	265.43	185.11	92.05	164.17
29	119.33	134.91	225.12	136.02	146.18	114.97	119.18	256.60	182.34	88.50	157.66
30	118.17	133.08	223.58	133.28	142.69	112.84	121.41	246.95	179.61	85.68	150.94
31	117.00	131.07	222.58	130.79	139.05	110.47	122.59	237.30	176.60	83.04	143.80
32	115.68	128.89	221.05	128.16	135.32	107.75	122.96	227.72	173.31	81.08	136.17
33	114.21	126.56	217.46	125.07	131.45	105.47	123.00	218.27	169.79	79.57	129.40
34	112.74	124.07	212.96	122.06	127.49	102.63	122.35	208.52	166.06	78.00	122.92
35	111.28	121.28	208.58	118.97	123.40	99.64	121.69	199.06	162.14	76.51	116.94
36	109.53	118.72	202.05	115.82	119.25	96.86	119.84	189.51	158.06	75.12	111.91
37	107.79	115.89	195.00	112.33	115.00	94.05	116.68	180.36	153.59	73.44	107.85
38	105.79	112.81	187.54	108.83	110.73	90.83	112.40	170.95	148.81	71.63	104.28
39	103.81	109.67	179.45	105.34	106.38	87.74	106.77	161.77	143.99	69.77	100.86
40	101.60	106.35	170.59	101.74	102.03	84.50	100.30	152.85	138.95	67.75	97.30
41	99.42	103.14	161.85	98.06	97.66	80.91	93.21	144.03	133.76	65.78	93.88
42	97.04	99.54	152.49	94.22	93.30	77.66	86.04	135.81	128.27	63.72	90.12
43	94.58	96.09	143.53	90.48	88.97	74.63	79.14	127.58	122.76	61.59	86.21
44	91.85	92.44	134.36	86.74	84.66	71.66	72.72	119.48	117.43	59.36	82.51
45	89.08	88.76	125.40	82.84	80.43	69.07	66.83	112.04	112.28	57.14	78.62
46	85.99	85.06	116.90	79.09	76.26	66.68	61.62	104.80	107.18	54.85	74.96
47	82.83	81.28	108.47	75.27	72.18	64.04	56.93	97.82	102.02	52.64	71.84
48	79.44	77.54	100.62	71.54	68.19	61.20	52.72	91.15	96.88	50.29	69.01
49	75.80	73.79	92.92	67.85	64.30	58.15	48.91	84.89	91.89	47.99	66.38

* See second footnote on p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

URE OF VITALITY.* TABLE 89

COUNTRIES; ALSO THE MEASURE OF VITALITY TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE TION STATES: 1910.

AGE.	American Experiene Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. OM(6)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offics Life Tables: 1905. Males. JM(6)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_{a}^{b}$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					MEASURE OF VITALITY, λ_x.						
50	72.06	70.06	85.85	64.24	60.55	54.63	45.56	78.96	86.88	45.71	63.91
51	68.27	66.36	79.27	60.71	56.92	51.28	42.63	73.29	81.83	43.42	61.08
52	64.48	62.74	72.91	57.27	53.42	48.04	39.99	67.98	77.04	41.14	57.63
53	60.73	59.19	67.17	53.86	50.06	44.96	37.54	62.99	72.22	38.96	53.68
54	56.99	55.75	61.69	50.62	46.84	42.08	35.19	58.33	67.64	36.77	49.90
55	53.35	52.33	56.74	47.50	43.78	39.41	32.78	53.94	63.17	34.64	46.01
56	49.79	49.07	52.08	44.50	40.85	36.80	30.41	49.81	58.82	32.58	42.42
57	46.37	45.88	47.83	41.60	38.08	34.40	28.01	45.97	54.69	30.55	39.38
58	43.10	42.86	43.92	38.85	35.45	32.05	25.75	42.41	50.78	28.64	36.78
59	39.95	39.98	40.34	36.24	32.97	29.92	23.66	39.07	47.00	26.78	34.33
60	36.96	37.20	36.98	33.73	30.62	27.79	21.77	35.97	43.46	25.00	32.03
61	34.13	34.55	33.95	31.36	28.42	25.96	20.10	33.11	40.08	23.29	29.84
62	31.46	32.07	31.16	29.15	26.35	24.24	18.70	30.44	36.92	21.68	27.76
63	28.96	29.71	28.59	27.03	24.41	22.66	17.58	27.96	33.94	20.14	25.75
64	26.62	27.48	26.25	25.06	22.59	21.18	16.66	25.67	31.17	18.69	23.96
65	24.42	25.38	24.09	23.19	20.89	19.73	15.94	23.56	28.58	17.32	22.34
66	22.38	23.43	22.13	21.46	19.31	18.26	15.27	21.61	26.15	16.02	20.83
67	20.49	21.58	20.32	19.84	17.83	16.86	14.56	19.81	23.91	14.81	19.41
68	18.73	19.89	18.67	18.31	16.46	15.56	13.71	18.15	21.83	13.68	18.05
69	17.12	18.28	17.16	16.90	15.18	14.36	12.70	16.62	19.92	12.62	16.78
70	15.63	16.81	15.77	15.58	14.00	13.24	11.57	15.21	18.14	11.63	15.59
71	14.28	15.43	14.49	14.36	12.90	12.23	10.43	13.91	16.50	10.70	14.45
72	13.06	14.16	13.33	13.22	11.88	11.32	9.37	12.72	15.01	9.85	13.33
73	11.97	12.99	12.26	12.16	10.94	10.46	8.44	11.62	13.62	9.05	12.27
74	10.99	11.89	11.28	11.19	10.07	9.65	7.65	10.61	12.36	8.32	11.27
75	10.10	10.89	10.38	10.29	9.26	8.89	7.00	9.68	11.20	7.63	10.31
76	9.27	9.97	9.55	9.46	8.52	8.23	6.45	8.83	10.14	7.00	9.46
77	8.50	9.12	8.79	8.69	7.84	7.62	5.98	8.05	9.17	6.42	8.76
78	7.78	8.34	8.10	7.98	7.20	7.06	5.54	7.33	8.28	5.89	8.13
79	7.09	7.62	7.46	7.32	6.62	6.53	5.14	6.67	7.48	5.40	7.50
80	6.42	6.96	6.87	6.72	6.08	5.95	4.75	6.07	6.74	4.94	6.87
81	5.80	6.36	6.33	6.17	5.59	5.39	4.37	5.52	6.07	4.52	6.29
82	5.24	5.80	5.83	5.66	5.13	4.92	4.03	5.01	5.46	4.14	5.82
83	4.72	5.30	5.38	5.19	4.72	4.55	3.70	4.54	4.91	3.79	5.43
84	4.23	4.83	4.96	4.76	4.33	4.24	3.41	4.12	4.40	3.47	5.07
85	3.75	4.41	4.57	4.36	3.98	4.00	3.13	3.73	3.94	3.17	4.73
86	3.26	4.03	4.22	4.00	3.65	3.89	2.88	3.37	3.53	2.90	4.42
87	2.80	3.67	3.90	3.67	3.36	3.78	2.65	3.04	3.15	2.66	4.14
88	2.38	3.35	3.60	3.36	3.08	3.70	2.44	2.74	2.80	2.43	3.88
89	2.03	2.92	3.32	3.09	2.83	3.61	2.25	.....	2.49	2.23	3.64
90	1.70	2.55	3.07	2.83	2.60	.....	2.07	.....	2.21	2.03	3.42
91	1.38	2.29	2.84	2.60	2.39	.....	1.90	.....	1.95	1.88	3.22
92	1.08	2.07	2.61	2.37	2.20	.....	1.73	.....	1.72	1.72	3.04
93	.86	1.85	2.43	2.19	2.02	.....	1.65	.....	1.51	1.65	2.88
94	.67	1.66	2.25	2.00	1.86	.....	1.44	.....	1.32	1.50	2.72
95	.50	1.50	2.08	1.85	1.71	.....	1.38	.....	1.16	1.38	2.58
96	.....	1.29	1.93	1.68	1.58	.....	1.25	.....	1.03	1.25	2.43
97	.....	1.17	1.76	1.57	1.46	.....	1.00	.....	.93	1.00	2.29
98	.....	1.00	1.69	1.50	1.35	.....	.50	.....	.50	.50	2.14
99	.....	.50	1.50	1.38	1.22	.....	.....	.....	.....	.....	1.99
100	.....	.....	1.28	1.25	1.14	.....	.....	.....	.....	.....	1.84

* See second footnote on p. 225.
† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 90 INSURED LIVES.* NUMBER OF SURVIVORS OUT OF

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. OM(5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. JM(5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. $^{P}M_{a}^{h}$	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
NUMBER OF SURVIVORS, l_x.											
0	.....	.....	.....	.....	1,000,000	.....	.....	.....	.....	.....	100,000
1	.....	.....	.....	.....	963,985	.....	.....	.....	.....	.....	87,674
2	.....	.....	.....	.....	937,488	.....	.....	.....	.....	100,000	85,201
3	.....	.....	.....	.....	917,939	.....	.....	.....	.....	96,533	84,117
4	.....	.....	.....	.....	903,486	.....	.....	.....	.....	94,364	83,449
5	.....	.....	.....	.....	892,765	.....	.....	.....	.....	93,116	82,972
6	.....	.....	.....	.....	884,754	.....	.....	.....	.....	92,235	82,581
7	.....	.....	.....	.....	878,676	.....	.....	.....	.....	91,571	82,251
8	.....	.....	.....	.....	873,932	.....	.....	.....	.....	91,026	81,971
9	.....	.....	.....	.....	870,056	.....	.....	.....	.....	90,581	81,731
10	100,000	100,000	.....	107,324	866,684	.....	108,537	.....	.....	90,213	81,519
11	99,251	99,352	.....	106,666	863,529	.....	107,772	.....	.....	89,903	81,325
12	98,505	98,706	.....	106,008	860,371	.....	107,001	.....	.....	89,629	81,140
13	97,762	98,063	.....	105,352	857,043	.....	106,214	.....	.....	89,371	80,954
14	97,022	97,422	.....	104,697	853,426	.....	105,403	.....	.....	89,108	80,759
15	96,285	96,782	100,000	104,043	849,446	.....	104,554	100,000	.....	88,826	80,549
16	95,550	96,144	99,654	103,389	845,069	.....	103,653	99,723	.....	88,508	80,321
17	94,818	95,508	99,302	102,735	840,298	102,787	102,687	99,443	.....	88,144	80,068
18	94,089	94,873	98,942	102,080	835,173	101,878	101,649	99,159	.....	87,723	79,785
19	93,362	94,239	98,575	101,425	829,762	100,942	100,542	98,870	.....	87,241	79,467
20	92,637	93,606	98,199	100,770	824,159	100,000	99,380	98,577	100,000	86,699	79,116
21	91,914	92,973	97,814	100,113	818,471	99,081	98,188	98,279	99,500	86,100	78,729
22	91,192	92,340	97,421	99,453	812,809	98,173	96,995	97,975	98,999	85,449	78,316
23	90,471	91,707	97,020	98,792	807,271	97,286	95,833	97,665	98,497	84,753	77,894
24	89,751	91,073	96,614	98,128	801,926	96,425	94,727	97,349	97,994	84,021	77,472
25	89,032	90,438	96,203	97,461	796,786	95,590	93,693	97,025	97,489	83,257	77,047
26	88,314	89,802	95,788	96,789	791,780	94,774	92,734	96,693	96,982	82,464	76,621
27	87,596	89,163	95,371	96,113	786,713	93,970	91,847	96,353	96,472	81,644	76,189
28	86,878	88,522	94,952	95,432	781,578	93,173	91,018	96,002	95,959	80,799	75,746
29	86,160	87,878	94,533	94,744	776,368	92,378	90,235	95,641	95,442	79,926	75,286
30	85,441	87,229	94,114	94,050	771,075	91,578	89,481	95,269	94,920	79,028	74,810
31	84,721	86,576	93,694	93,347	765,690	90,770	88,747	94,884	94,393	78,111	74,316
32	84,000	85,918	93,274	92,636	760,203	89,952	88,026	94,485	93,860	77,176	73,801
33	83,277	85,254	92,853	91,916	754,606	89,121	87,313	94,071	93,320	76,230	73,261
34	82,551	84,583	92,427	91,184	748,887	88,280	86,606	93,641	92,772	75,278	72,697
35	81,822	83,904	91,994	90,440	743,036	87,424	85,901	93,193	92,215	74,319	72,108
36	81,090	83,215	91,554	89,683	737,039	86,551	85,198	92,726	91,648	73,354	71,494
37	80,353	82,517	91,102	88,912	730,884	85,662	84,490	92,238	91,070	72,384	70,858
38	79,611	81,808	90,636	88,124	724,556	84,756	83,769	91,728	90,479	71,405	70,204
39	78,862	81,086	90,154	87,318	718,042	83,828	83,027	91,193	89,873	70,415	69,534
40	78,106	80,350	89,653	86,493	711,324	82,878	82,253	90,631	89,251	69,413	68,848
41	77,341	79,598	89,129	85,647	704,386	81,903	81,437	90,040	88,611	68,396	68,144
42	76,567	78,830	88,580	84,778	697,210	80,897	80,568	89,417	87,951	67,364	67,422
43	75,782	78,042	88,001	83,883	689,777	79,862	79,637	88,761	87,268	66,315	66,678
44	74,985	77,234	87,390	82,961	682,067	78,799	78,637	88,068	86,560	65,247	65,909
45	74,173	76,403	86,742	82,010	674,058	77,707	77,563	87,334	85,826	64,157	65,115
46	73,345	75,547	86,053	81,026	665,729	76,590	76,411	86,558	85,065	63,044	64,292
47	72,497	74,664	85,320	80,008	657,056	75,450	75,181	85,736	84,275	61,905	63,440
48	71,627	73,751	84,537	78,952	648,015	74,281	73,872	84,864	83,453	60,740	62,563
49	70,731	72,806	83,701	77,856	638,581	73,077	72,484	83,938	82,596	59,544	61,663

*See sec. 91, p. 225.

†The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

NUMBER ALIVE BY ORIGINAL RADIX OF EACH TABLE.* TABLE 90

COUNTRIES; ALSO THE NUMBER OF SURVIVORS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE TION STATES: 1910.

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^M (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. PM^h_a	National Fraternal Congress Mortality Table: 1898.	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
	NUMBER OF SURVIVORS, l_x.										
50	69,804	71,826	82,805	76,717	628,727	71,831	71,017	82,955	81,702	58,316	60,741
51	68,842	70,808	81,846	75,532	618,429	70,528	69,475	81,911	80,767	57,054	59,798
52	67,841	69,749	80,820	74,298	607,659	69,166	67,864	80,801	79,786	55,755	58,827
53	66,797	68,646	79,719	73,012	596,389	67,741	66,188	79,621	78,757	54,416	57,815
54	65,706	67,496	78,541	71,669	584,594	66,251	64,448	78,367	77,674	53,037	56,748
55	64,563	66,296	77,278	70,267	572,246	64,695	62,642	77,035	76,534	51,614	55,622
56	63,364	65,041	75,928	68,803	559,322	63,074	60,760	75,620	75,332	50,145	54,426
57	62,104	63,729	74,484	67,274	545,797	61,383	58,794	74,117	74,062	48,629	53,158
58	60,779	62,355	72,943	65,676	531,649	59,624	56,732	72,522	72,720	47,063	51,825
59	59,385	60,917	71,301	64,007	516,861	57,792	54,571	70,832	71,302	45,448	50,435
60	57,917	59,412	69,555	62,265	501,417	55,892	52,312	69,042	69,801	43,782	48,987
61	56,371	57,836	67,699	60,446	485,307	53,916	49,963	67,149	68,213	42,065	47,481
62	54,743	56,186	65,734	58,549	468,525	51,878	47,538	65,151	66,532	40,297	45,916
63	53,030	54,461	63,658	56,574	451,075	49,781	45,062	63,045	64,754	38,480	44,291
64	51,230	52,658	61,470	54,519	432,964	47,632	42,569	60,830	62,874	36,616	42,604
65	49,341	50,776	59,172	52,386	414,214	45,435	40,089	58,506	60,889	34,708	40,862
66	47,361	48,814	56,766	50,175	394,851	43,189	37,650	56,074	58,795	32,760	39,073
67	45,291	46,774	54,258	47,890	374,918	40,887	35,262	53,538	56,589	30,777	37,241
68	43,133	44,656	51,652	45,535	354,468	38,532	32,921	50,902	54,271	28,767	35,371
69	40,890	42,466	48,958	43,114	333,567	36,133	30,605	48,173	51,841	26,738	33,464
70	38,569	40,205	46,185	40,636	312,299	33,701	28,286	45,359	49,302	24,700	31,527
71	36,178	37,882	43,346	38,109	290,759	31,249	25,943	42,471	46,657	22,663	29,568
72	33,730	35,504	40,455	35,544	269,062	28,794	23,570	39,524	43,913	20,640	27,590
73	31,243	33,082	37,529	32,953	247,333	26,358	21,182	36,534	41,081	18,645	25,595
74	28,738	30,629	34,587	30,351	225,714	23,952	18,813	33,520	38,172	16,693	23,590
75	26,237	28,157	31,650	27,755	204,359	21,592	16,506	30,503	35,203	14,800	21,585
76	23,761	25,685	28,740	25,183	183,430	19,293	14,305	27,508	32,194	12,980	19,588
77	21,330	23,232	25,880	22,654	163,096	17,083	12,246	24,560	29,168	11,250	17,622
78	18,961	20,816	23,094	20,188	143,530	14,980	10,355	21,687	26,152	9,625	15,718
79	16,670	18,460	20,408	17,807	124,896	12,998	8,642	18,918	23,175	8,118	13,897
80	14,474	16,186	17,843	15,531	107,354	11,150	7,110	16,281	20,270	6,741	12,160
81	12,383	14,016	15,421	13,380	91,047	9,420	5,756	13,803	17,471	5,502	10,509
82	10,419	11,972	13,163	11,373	76,094	7,821	4,575	11,509	14,812	4,407	8,962
83	8,603	10,072	11,085	9,526	62,588	6,378	3,564	9,420	12,327	3,457	7,543
84	6,955	8,335	9,200	7,852	50,588	5,114	2,715	7,552	10,047	2,651	6,272
85	5,485	6,772	7,515	6,359	40,118	4,034	2,020	5,916	7,997	1,983	5,145
86	4,193	5,393	6,034	5,051	31,159	3,138	1,463	4,516	6,197	1,443	4,162
87	3,079	4,202	4,756	3,929	23,658	2,423	1,030	3,348	4,658	1,019	3,317
88	2,146	3,194	3,675	2,986	17,523	1,857	703	2,402	3,381	697	2,602
89	1,402	2,365	2,778	2,213	12,632	1,415	464	1,661	2,358	459	2,008
90	847	1,673	2,051	1,596	8,841	.....	295	.....	1,570	291	1,523
91	462	1,124	1,476	1,116	5,992	.....	180	.....	991	176	1,134
92	216	721	1,034	756	3,920	.....	105	.....	587	102	829
93	79	440	702	493	2,468	.....	58	.....	323	56	595
94	21	253	462	310	1,490	.....	31	.....	162	30	419
95	3	136	294	186	859	.....	15	.....	73	15	289
96	.....	68	180	107	471	.....	7	.....	29	7	195
97	.....	30	106	58	245	.....	3	.....	10	3	129
98	.....	12	59	30	120	.....	1	.....	3	1	82
99	.....	4	32	15	55	.....	.....	.....	.....	.....	51
100	.....	.....	16	7	23	.....	.....	.....	.....	.....	31

* See sec. 91, p. 225.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

TABLE 91 INSURED LIVES. NUMBER OF DEATHS OUT OF

BASED ON MORTALITY TABLES DERIVED FROM THE EXPERIENCE OF LIFE INSURANCE COMPANIES IN VARIOUS ORIGINAL REGISTRA

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality. Investigation: 1900–1915. American men. AM (5)	British Offices Life Tables: 1863–1893. Males. O^M (5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. J^M (5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. *P^M_a^b	National Fraternal Congress Mortality Table: 1898. *	Standard Industrial Mortality Table: 1896–1905. Males.	United States. Original Registration States: 1909–1911. White males. †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF DEATHS, d_x.						
0	.....	.....	.....	.....	36,015	.....	.....	.....	.....	.....	12,326
1	.....	.....	.....	.....	26,497	.....	.....	.....	.....	.....	2,473
2	.....	.....	.....	.....	19,549	.....	.....	.....	.....	3,467	1,084
3	.....	.....	.....	.....	14,453	.....	.....	.....	.....	2,169	668
4	.....	.....	.....	.....	10,721	.....	.....	.....	.....	1,248	477
5	.....	.....	.....	.....	8,011	.....	.....	.....	.....	881	391
6	.....	.....	.....	.....	6,078	.....	.....	.....	.....	664	330
7	.....	.....	.....	.....	4,744	.....	.....	.....	.....	545	280
8	.....	.....	.....	.....	3,876	.....	.....	.....	.....	445	240
9	.....	.....	.....	.....	3,372	.....	.....	.....	.....	368	212
10	749	648	.....	658	3,155	.....	765	.....	.....	310	194
11	746	646	.....	658	3,158	.....	771	.....	.....	274	185
12	743	643	.....	656	3,328	.....	787	.....	.....	258	186
13	740	641	.....	655	3,617	.....	811	.....	.....	263	195
14	737	640	.....	654	3,980	.....	849	.....	.....	282	210
15	735	638	346	654	4,377	.....	901	277	.....	318	228
16	732	636	352	654	4,771	.....	966	280	.....	364	253
17	729	635	360	655	5,125	909	1,038	284	.....	421	283
18	727	634	367	655	5,411	936	1,107	289	.....	482	318
19	725	633	376	655	5,603	942	1,162	293	.....	542	351
20	723	633	385	657	5,688	919	1,192	298	500	599	387
21	722	633	393	660	5,662	908	1,193	304	501	651	413
22	721	633	401	661	5,538	887	1,162	310	502	696	422
23	720	634	406	664	5,345	861	1,106	316	503	732	422
24	719	635	411	667	5,140	835	1,034	324	505	764	425
25	718	636	415	672	5,006	816	959	332	507	793	426
26	718	639	417	676	5,067	804	887	340	510	820	432
27	718	641	419	681	5,135	797	829	351	513	845	443
28	718	644	419	688	5,210	795	783	361	517	873	460
29	719	649	419	694	5,293	800	754	372	522	898	476
30	720	653	420	703	5,385	808	734	385	527	917	494
31	721	658	420	711	5,487	818	721	399	533	935	515
32	723	664	421	720	5,597	831	713	414	540	946	540
33	726	671	426	732	5,719	841	707	430	548	952	564
34	729	679	433	744	5,851	856	705	448	557	959	589
35	732	689	440	757	5,997	873	703	467	567	965	614
36	737	698	452	771	6,155	889	708	488	578	970	636
37	742	709	466	788	6,328	906	721	510	591	979	654
38	749	722	482	806	6,514	928	742	535	606	990	670
39	756	736	501	825	6,718	950	774	562	622	1,002	686
40	765	752	524	846	6,938	975	816	591	640	1,017	704
41	774	768	549	869	7,176	1,006	869	623	660	1,032	722
42	785	788	579	895	7,433	1,035	931	656	683	1,049	744
43	797	808	611	922	7,710	1,063	1,000	693	708	1,068	769
44	812	831	648	951	8,009	1,092	1,074	734	734	1,090	794
45	828	856	689	984	8,329	1,117	1,152	776	761	1,113	823
46	848	883	733	1,018	8,673	1,140	1,230	822	790	1,139	852
47	870	913	783	1,056	9,041	1,169	1,309	872	822	1,165	877
48	896	945	836	1,096	9,434	1,204	1,388	926	857	1,196	900
49	927	980	896	1,139	9,854	1,246	1,467	983	894	1,228	922

* Not published; derived from l_x in Table 90, p. 236.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

NUMBER ALIVE BY ORIGINAL RADIX OF EACH TABLE. TABLE 91

COUNTRIES; ALSO THE NUMBER OF DEATHS TAKEN FROM THE LIFE TABLE FOR WHITE MALES IN THE TION STATES: 1910.

AGE.	American Experience Mortality Table: 1860.	Thirty American Offices Life Tables: 1874. Males.	American-Canadian Mortality Investigation: 1900–1915. American men. AM(5)	British Offices Life Tables: 1863–1893. Males. OM(5)	Four French Offices Mortality Experience: 1819–1887. Males and females. AF	Twenty-three German Offices Life Tables: 1875. Males and females.	Three Japanese Offices Life Tables: 1905. Males. JM(5)	Seventeen Swedish Offices Life Tables: 1895–1906. Aggregate males. * $^{P}M_{a}^{h}$	National Fraternal Congress Mortality Table: 1898. *	Standard Industrial Mortality Table: 1896–1905. Males.	United States Original Registration States: 1909–1911. White males †
1	2	3	4	5	6	7	8	9	10	11	12
					NUMBER OF DEATHS, d_x.						
50	962	1,018	959	1,185	10,298	1,303	1,542	1,044	935	1,262	943
51	1,001	1,059	1,026	1,234	10,770	1,362	1,611	1,110	981	1,299	971
52	1,044	1,103	1,101	1,286	11,270	1,425	1,676	1,180	1,029	1,339	1,012
53	1,091	1,150	1,178	1,343	11,795	1,490	1,740	1,254	1,083	1,379	1,067
54	1,143	1,200	1,263	1,402	12,348	1,556	1,806	1,332	1,140	1,423	1,126
55	1,199	1,255	1,350	1,464	12,924	1,621	1,882	1,415	1,202	1,469	1,196
56	1,260	1,312	1,444	1,529	13,525	1,691	1,966	1,503	1,270	1,516	1,268
57	1,325	1,374	1,541	1,598	14,148	1,759	2,062	1,595	1,342	1,566	1,333
58	1,394	1,438	1,642	1,669	14,788	1,832	2,161	1,690	1,418	1,615	1,390
59	1,468	1,505	1,746	1,742	15,444	1,900	2,259	1,790	1,501	1,666	1,448
60	1,546	1,576	1,856	1,819	16,110	1,976	2,349	1,893	1,588	1,717	1,506
61	1,628	1,650	1,965	1,897	16,782	2,038	2,425	1,998	1,681	1,768	1,565
62	1,713	1,725	2,076	1,975	17,450	2,097	2,476	2,106	1,778	1,817	1,625
63	1,800	1,803	2,188	2,055	18,111	2,149	2,493	2,215	1,880	1,864	1,687
64	1,889	1,882	2,298	2,133	18,750	2,197	2,480	2,324	1,985	1,908	1,742
65	1,980	1,962	2,406	2,211	19,363	2,246	2,439	2,432	2,094	1,948	1,789
66	2,070	2,040	2,508	2,285	19,933	2,302	2,388	2,536	2,206	1,983	1,832
67	2,158	2,118	2,606	2,355	20,450	2,355	2,341	2,636	2,318	2,010	1,870
68	2,243	2,190	2,694	2,421	20,901	2,399	2,316	2,729	2,430	2,029	1,907
69	2,321	2,261	2,773	2,478	21,268	2,432	2,319	2,814	2,539	2,038	1,937
70	2,391	2,323	2,839	2,527	21,540	2,452	2,343	2,888	2,645	2,037	1,959
71	2,448	2,378	2,891	2,565	21,697	2,455	2,373	2,947	2,744	2,023	1,978
72	2,487	2,422	2,926	2,591	21,729	2,436	2,388	2,990	2,832	1,995	1,995
73	2,505	2,453	2,942	2,602	21,619	2,406	2,369	3,014	2,909	1,952	2,005
74	2,501	2,472	2,937	2,596	21,355	2,360	2,307	3,017	2,969	1,893	2,005
75	2,476	2,472	2,910	2,572	20,929	2,299	2,201	2,995	3,009	1,820	1,997
76	2,431	2,453	2,860	2,529	20,334	2,210	2,059	2,948	3,026	1,730	1,966
77	2,369	2,416	2,786	2,466	19,566	2,103	1,891	2,873	3,016	1,625	1,904
78	2,291	2,356	2,686	2,381	18,634	1,982	1,713	2,769	2,977	1,507	1,821
79	2,196	2,274	2,565	2,276	17,542	1,848	1,532	2,637	2,905	1,377	1,737
80	2,091	2,170	2,422	2,151	16,307	1,730	1,354	2,478	2,799	1,239	1,651
81	1,964	2,044	2,258	2,007	14,953	1,599	1,181	2,294	2,659	1,095	1,547
82	1,816	1,900	2,078	1,847	13,506	1,443	1,011	2,089	2,485	950	1,419
83	1,648	1,737	1,885	1,674	12,000	1,264	849	1,868	2,280	806	1,271
84	1,470	1,563	1,685	1,493	10,470	1,080	695	1,636	2,050	668	1,127
85	1,292	1,379	1,481	1,308	8,959	896	557	1,400	1,800	540	983
86	1,114	1,191	1,278	1,122	7,501	715	433	1,168	1,539	424	845
87	933	1,008	1,081	943	6,135	566	327	946	1,277	322	715
88	744	829	897	773	4,891	442	239	741	1,023	238	594
89	555	692	727	617	3,791	344	169	.....	788	168	485
90	385	549	575	480	2,849	.....	115	.....	579	115	389
91	246	403	442	360	2,072	.....	75	.....	404	74	305
92	137	281	332	263	1,452	.....	47	.....	264	46	234
93	58	187	240	183	978	.....	27	.....	161	26	176
94	18	117	168	124	631	.....	16	.....	89	15	130
95	3	68	114	79	388	.....	8	.....	44	8	94
96	.....	38	74	49	226	.....	4	.....	19	4	66
97	.....	18	47	28	125	.....	2	.....	7	2	47
98	.....	8	27	15	65	.....	1	.....	3	1	31
99	.....	4	16	8	32	.....	.....	.....	.....	.....	20
100	.....	.....	9	4	14	.....	.....	.....	.....	.....	13

* Not published; derived from l_x in Table 90, p. 236.

† The original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

PART IV

GRAPHS OF LIFE TABLE FUNCTIONS

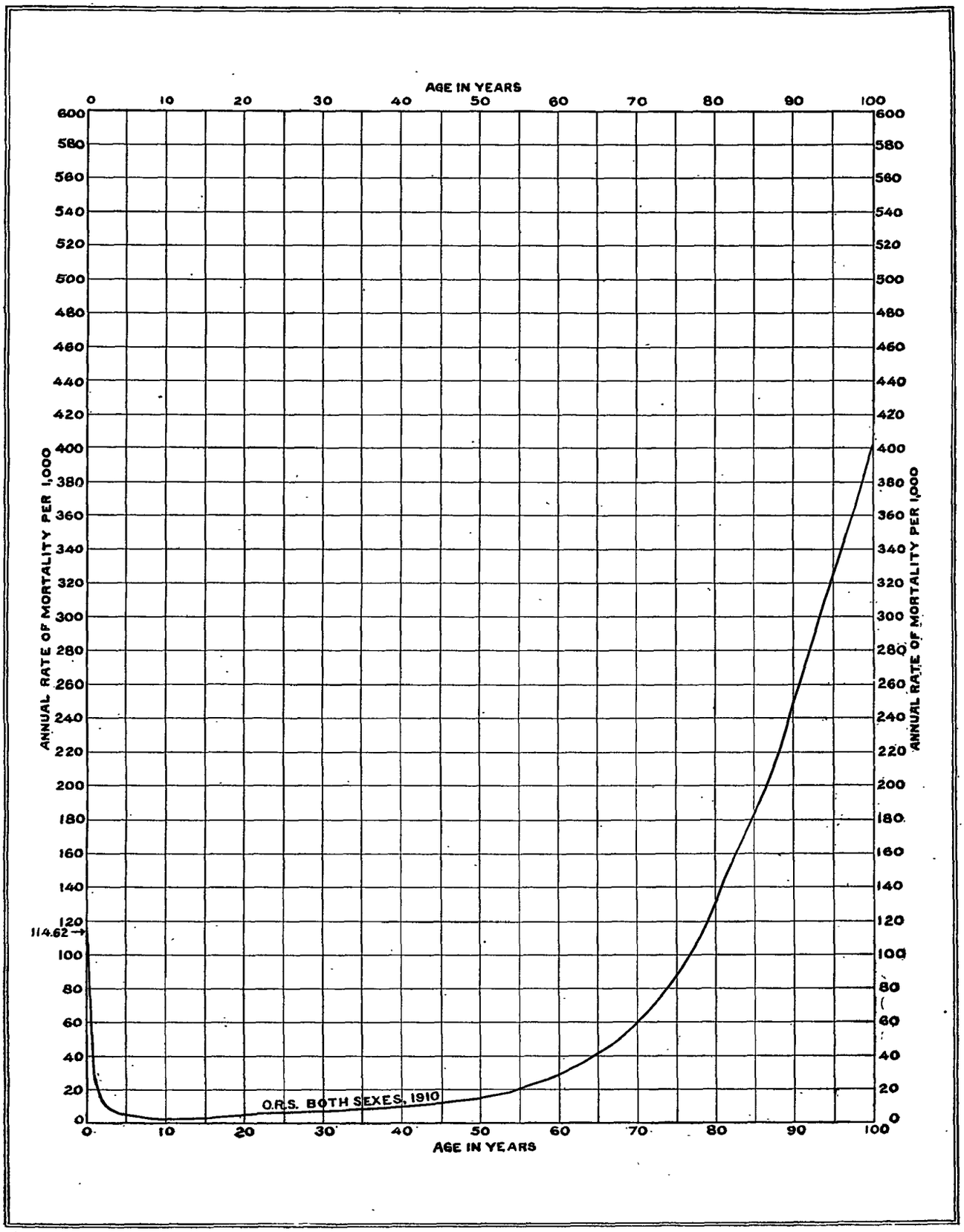
GRAPH 1

ANNUAL RATE OF MORTALITY PER THOUSAND

THE ORIGINAL REGISTRATION STATES

BOTH SEXES: 1910

The values on which this graph is based may be found in column 4, page 54.

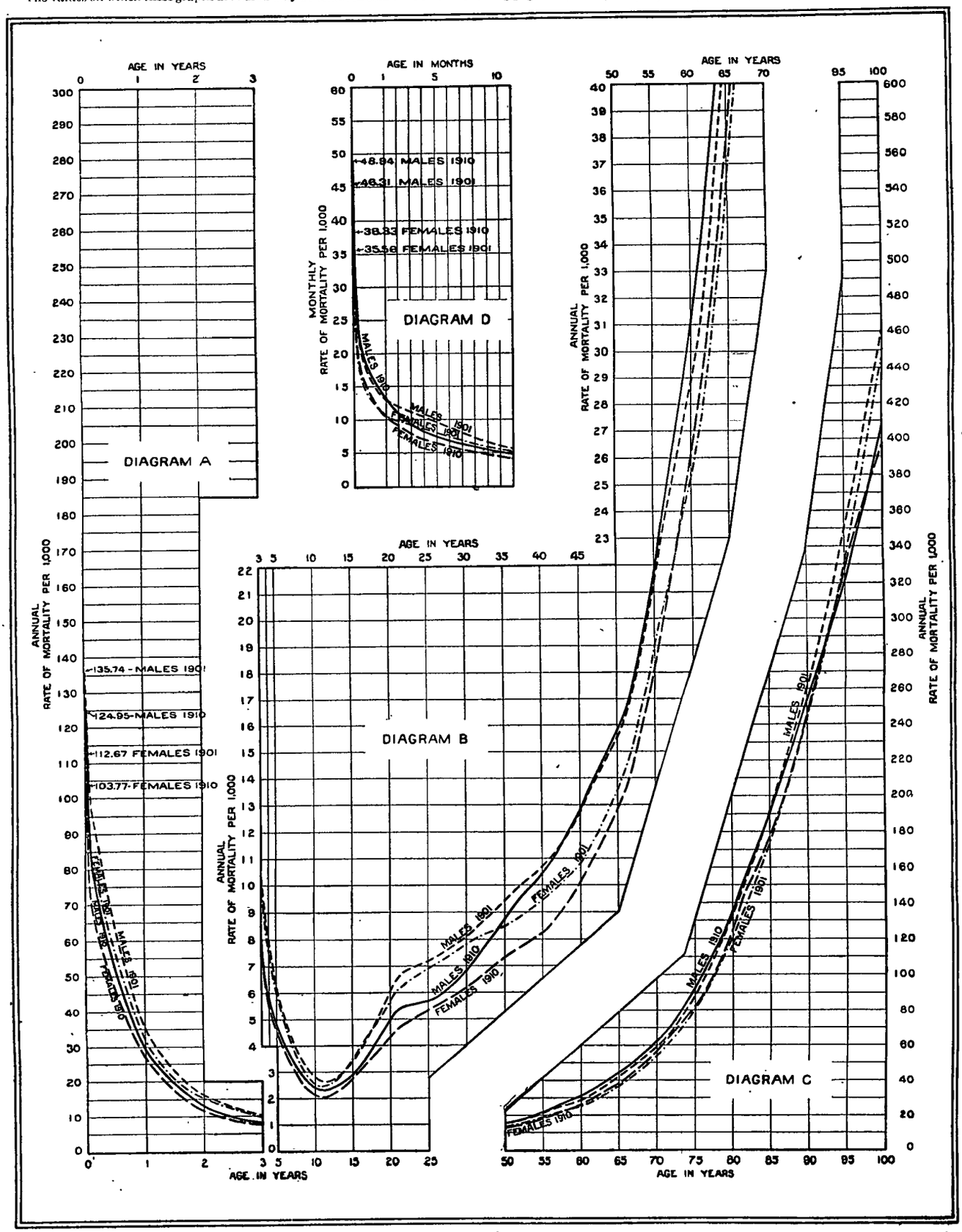


GRAPH 2 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910.

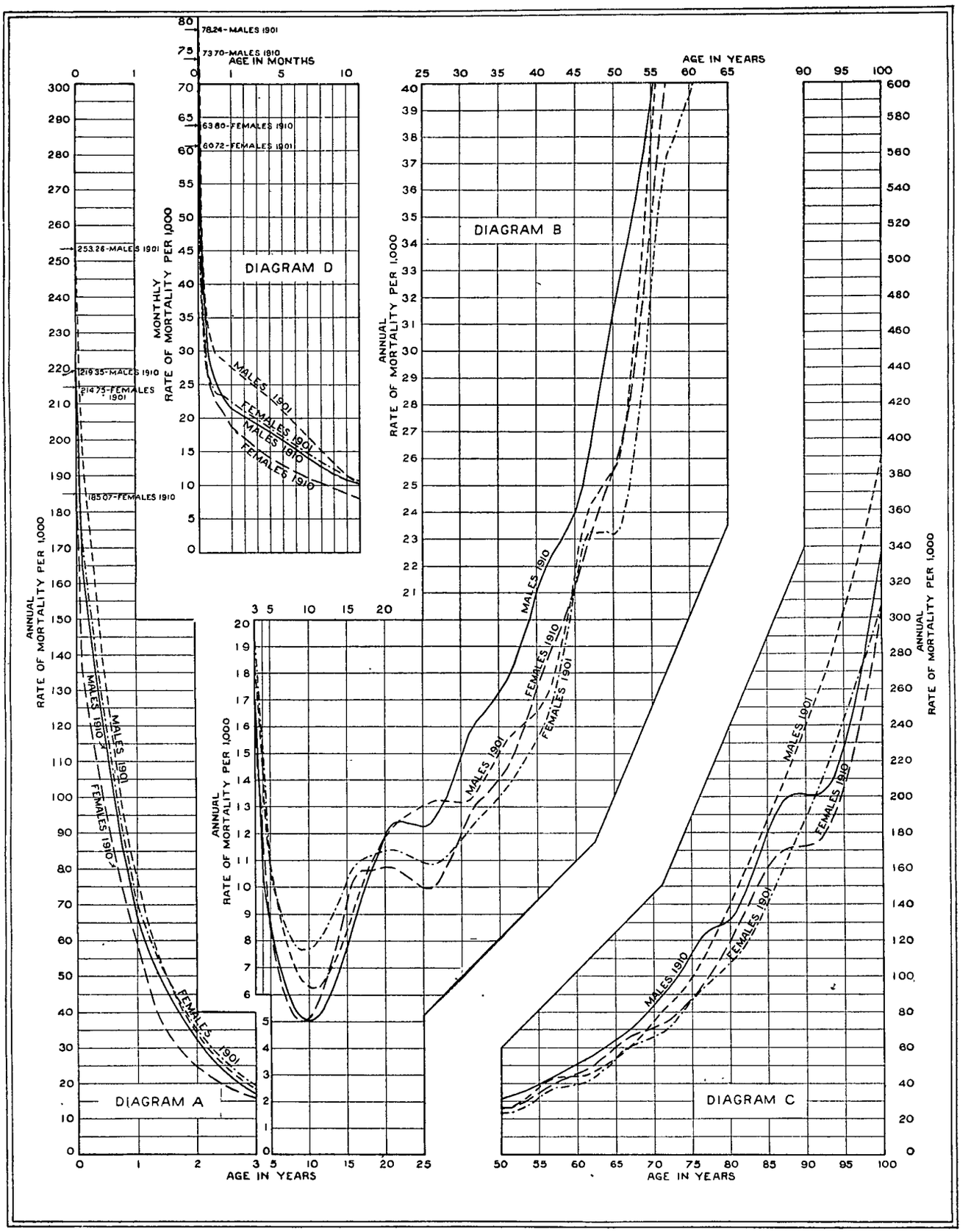


GRAPH 3 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901. 86, females, 1910.

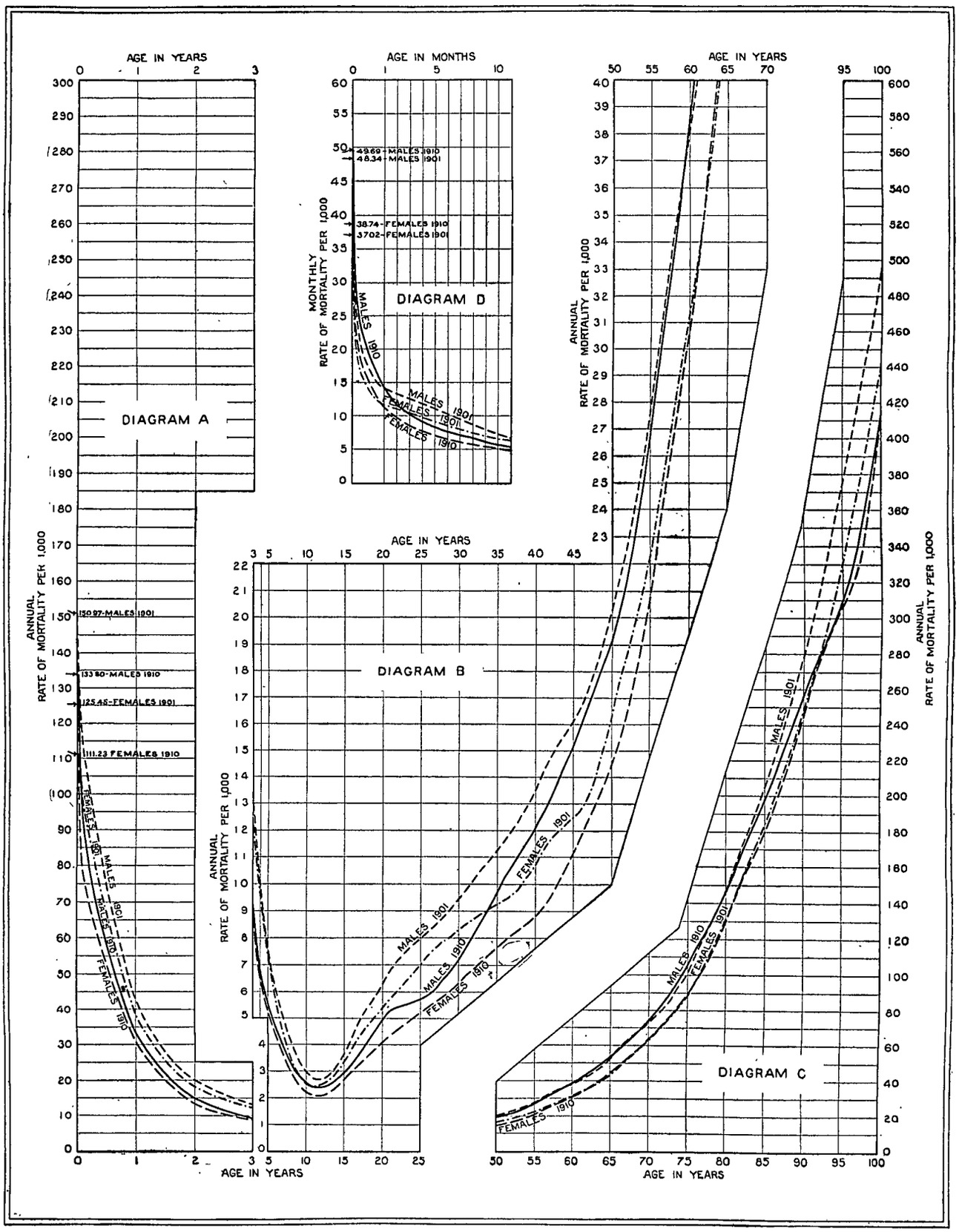


GRAPH 4 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910.

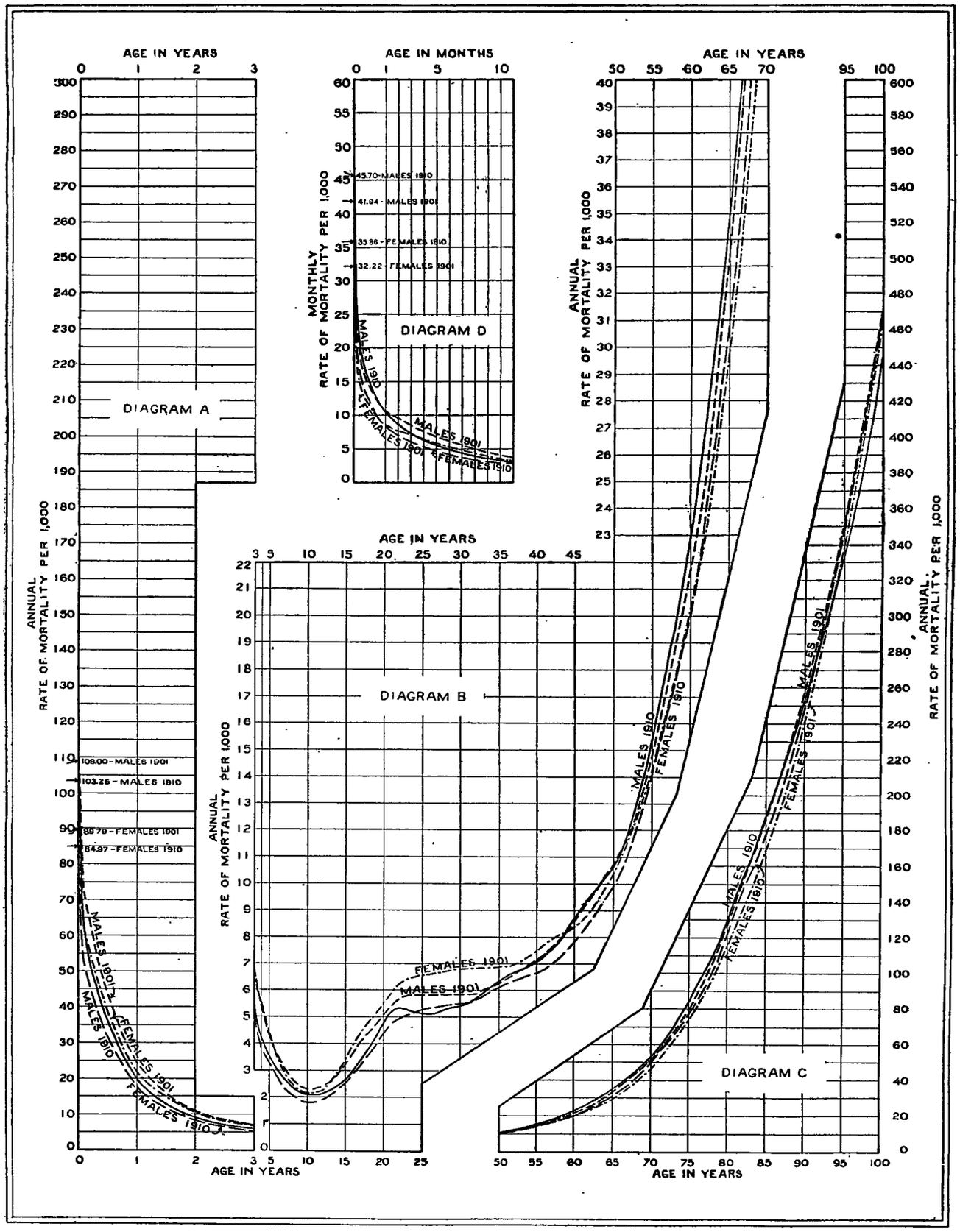


GRAPH 5 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

WHITES IN THE RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910.

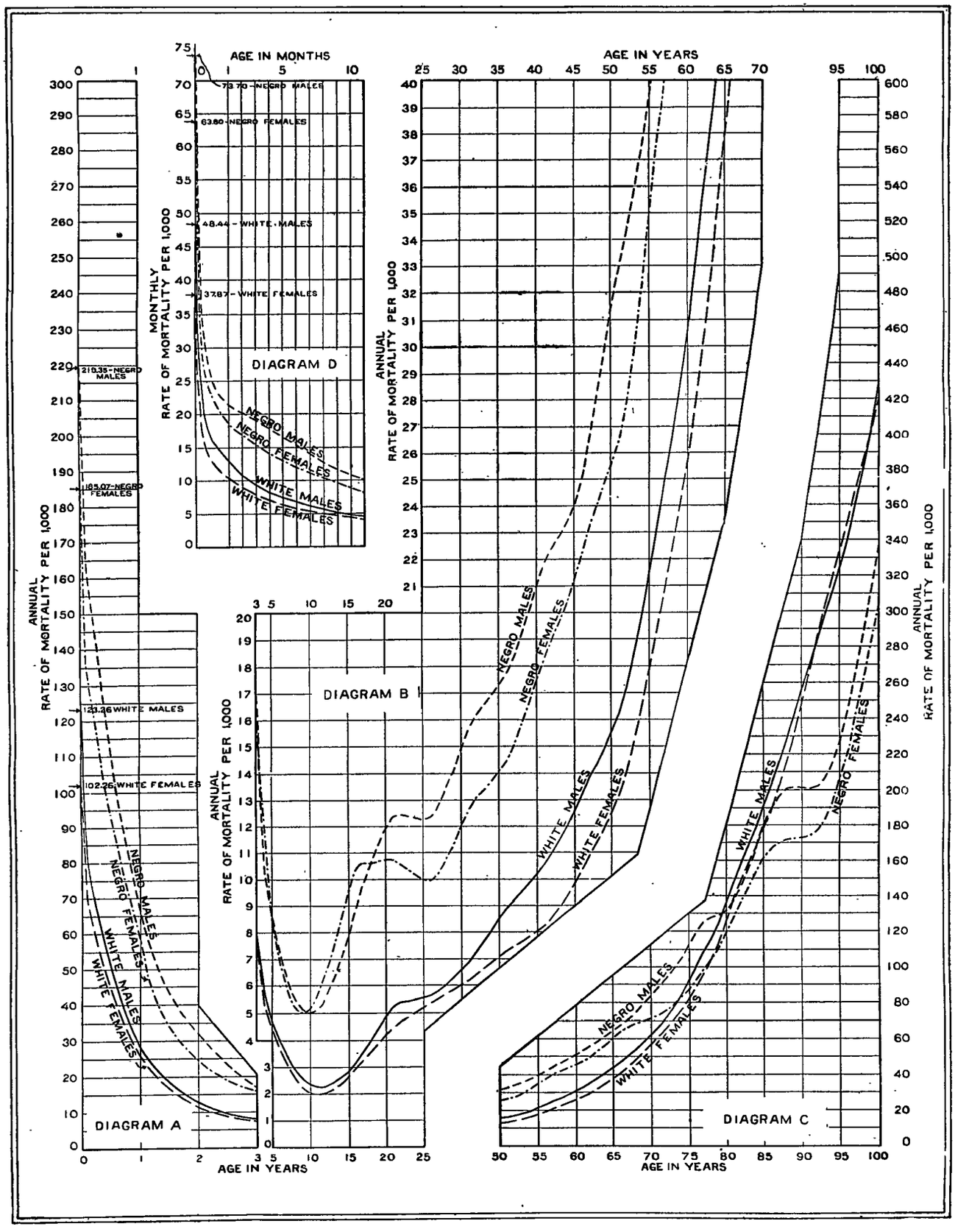


GRAPH 6 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 4 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females.

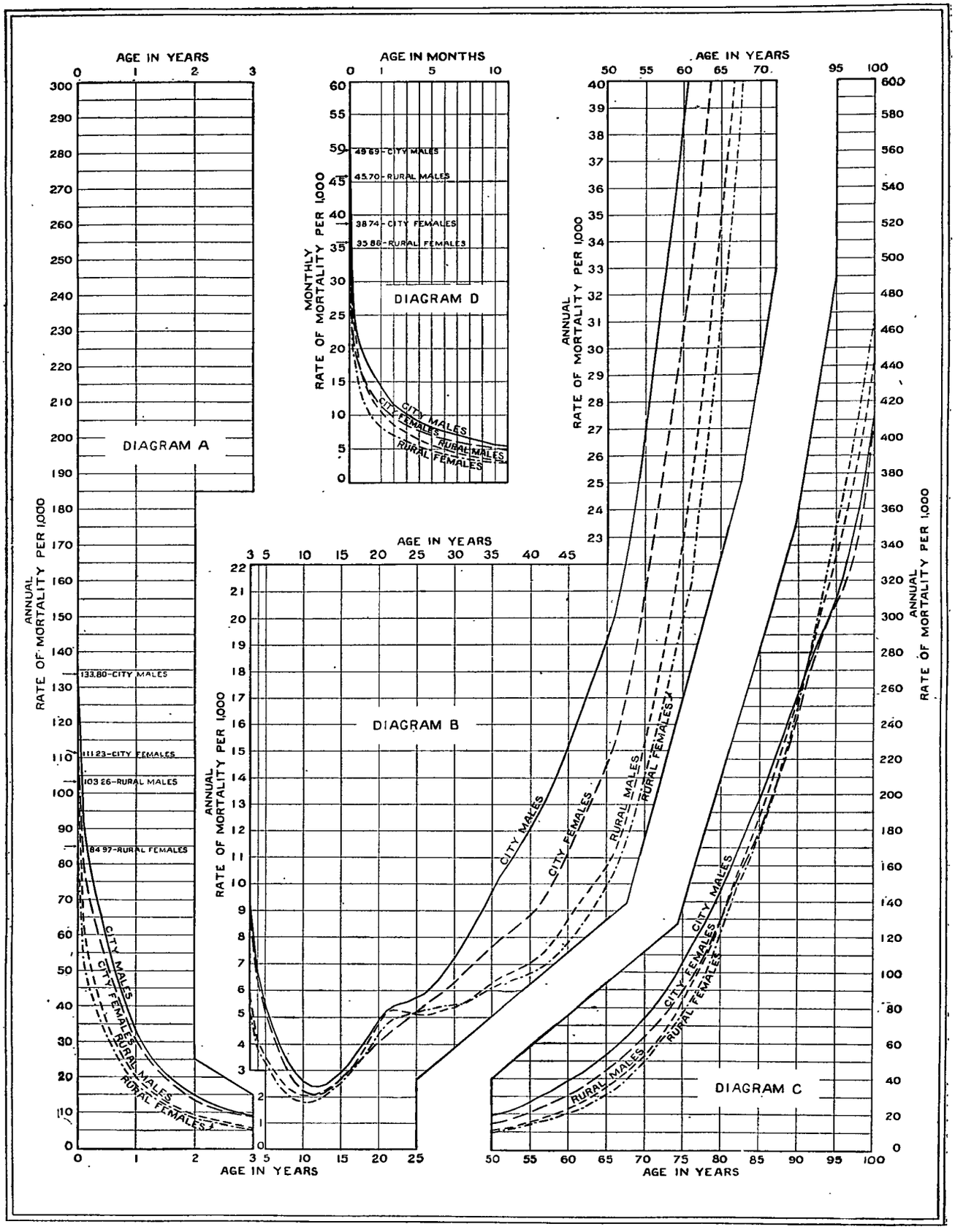


GRAPH 7 **ANNUAL AND MONTHLY RATES OF MORTALITY PER THOUSAND**

WHITES IN CITIES AND RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 4 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females.

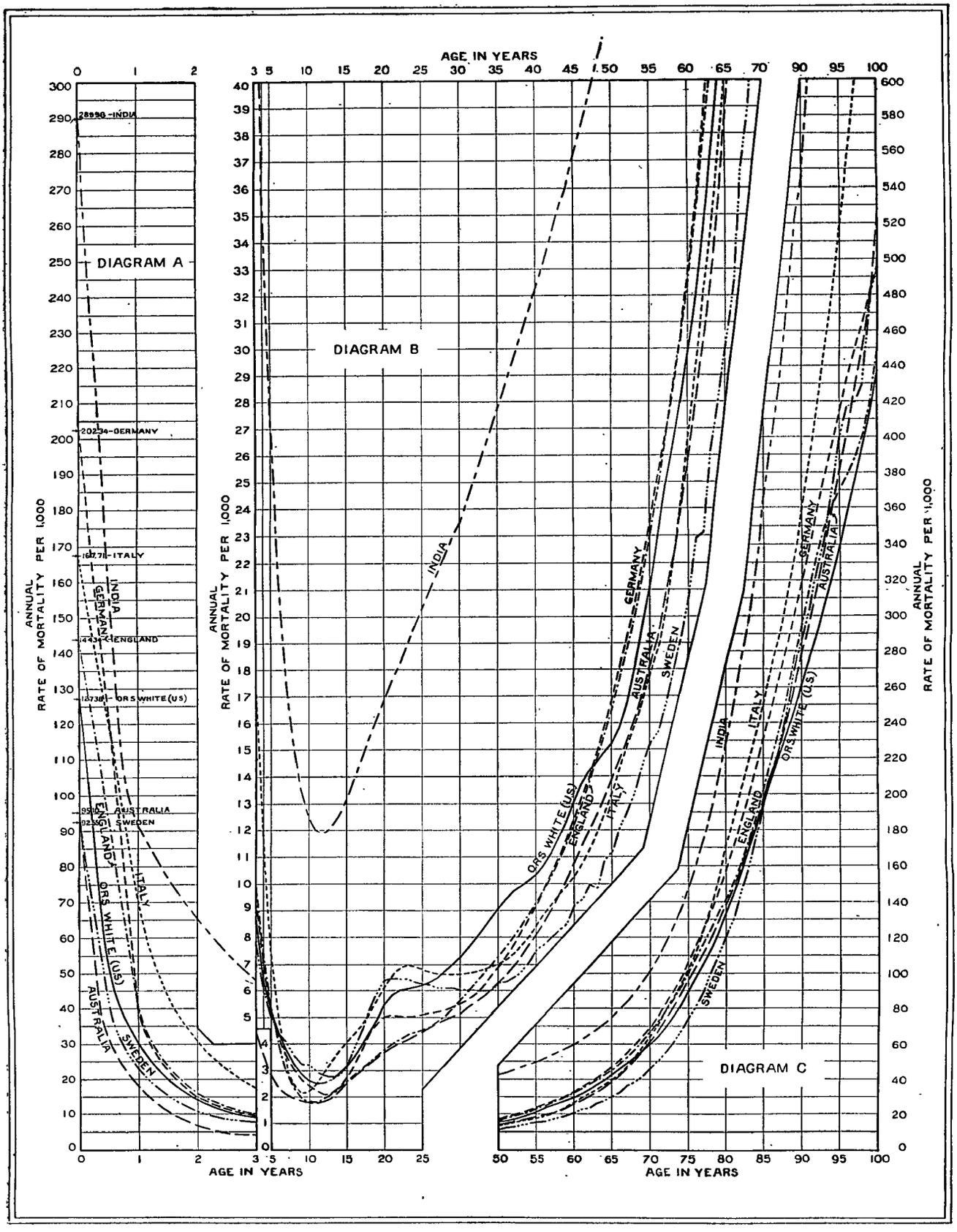


GRAPH 8 **ANNUAL RATE OF MORTALITY PER THOUSAND**

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901–1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 75, page 204.



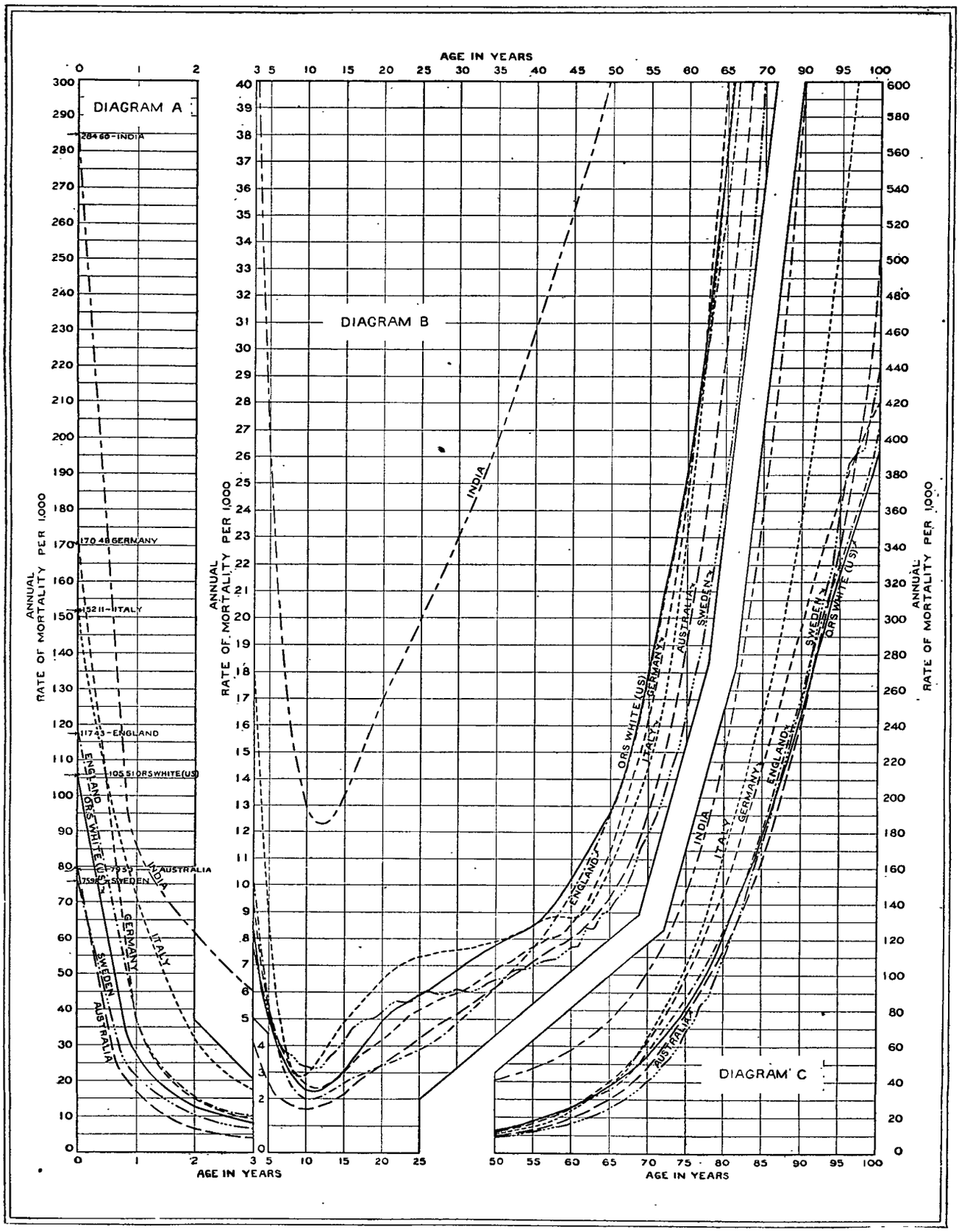
GRAPH 9

ANNUAL RATE OF MORTALITY PER THOUSAND

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901–1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 76, page 206.

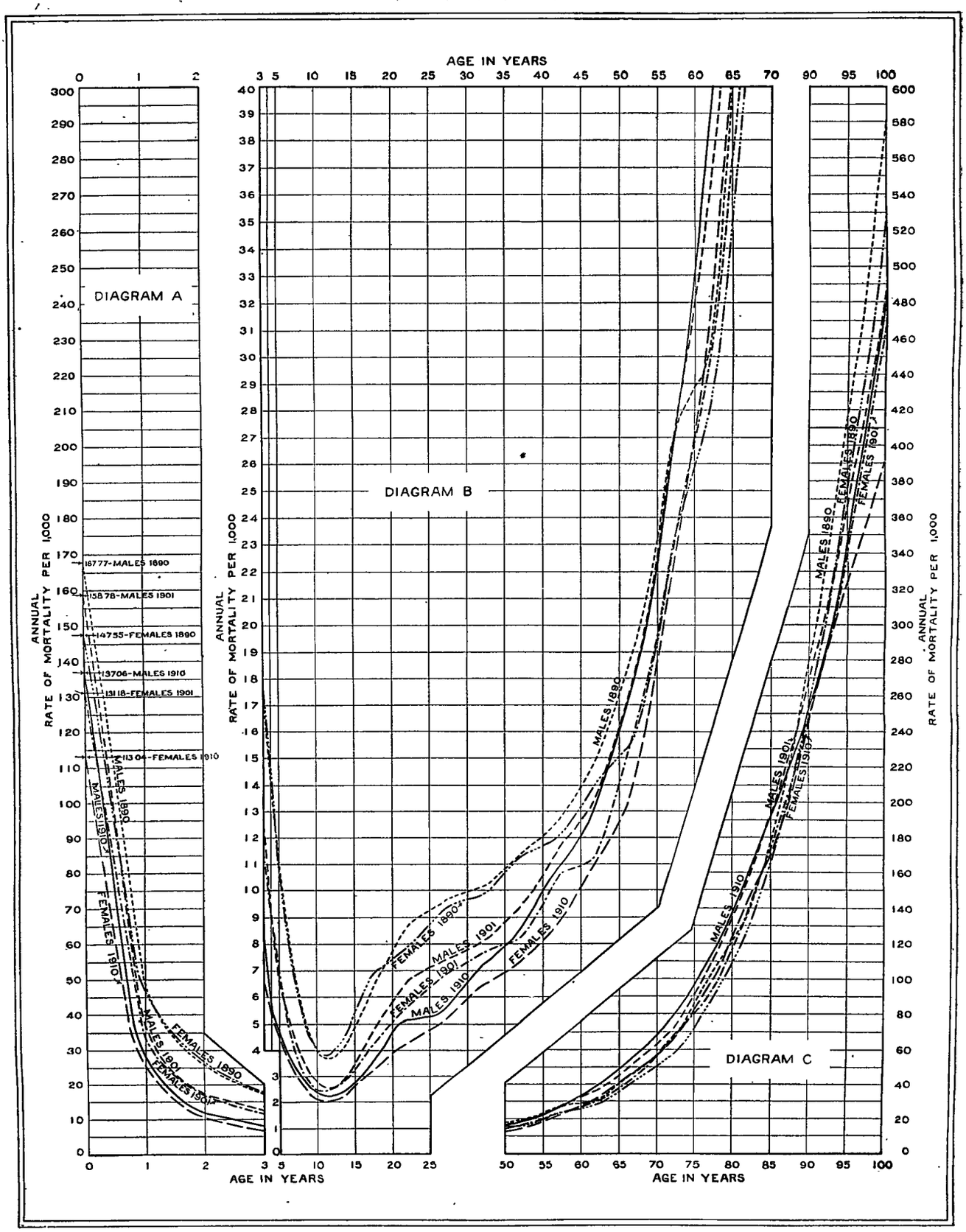


GRAPH 10 **ANNUAL RATE OF MORTALITY PER THOUSAND**

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910 FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 4 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

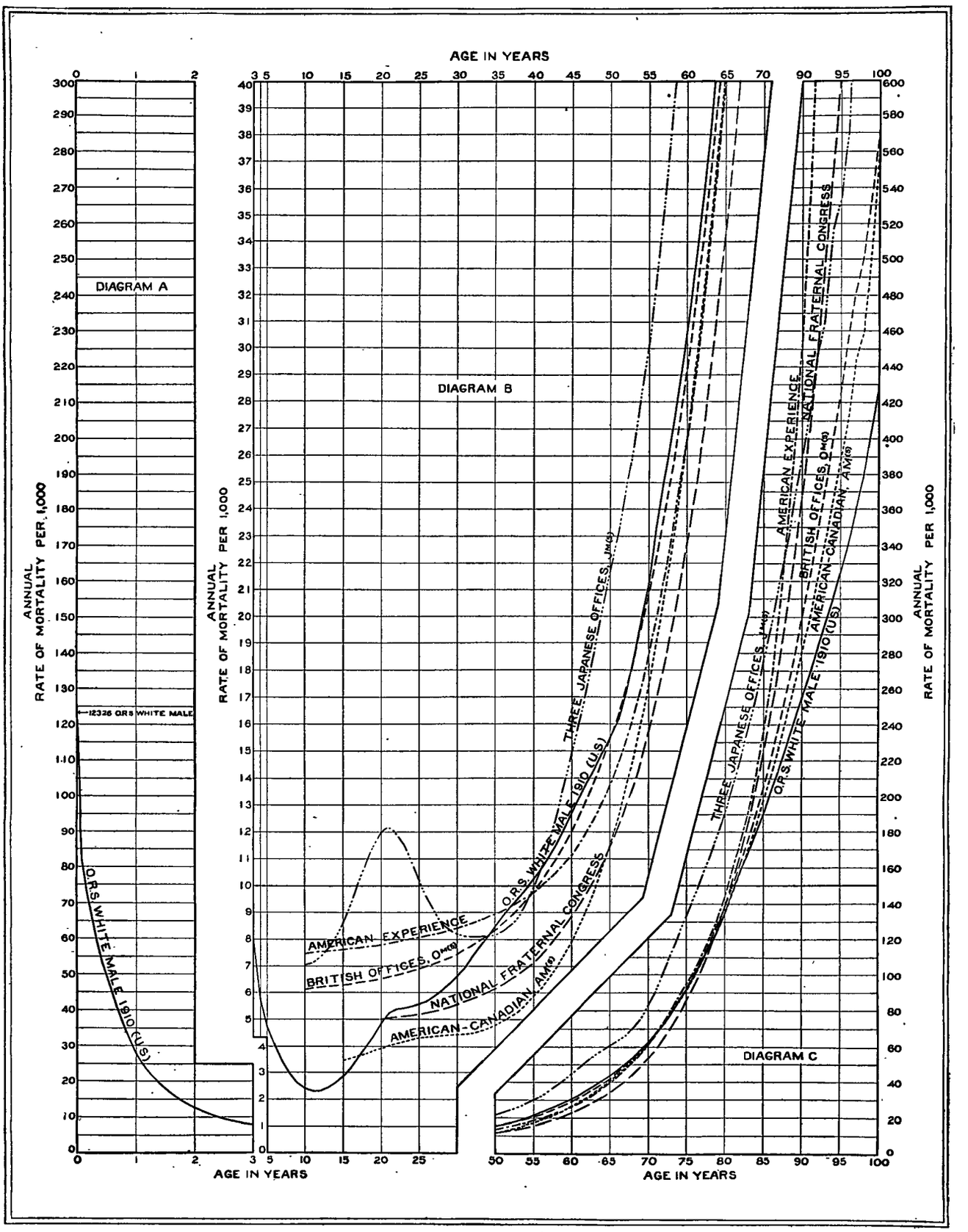


GRAPH 11

ANNUAL RATE OF MORTALITY PER THOUSAND

AMERICAN EXPERIENCE MORTALITY TABLE: 1860
AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900–1915. AMERICAN MEN. AM(5)
BRITISH OFFICES LIFE TABLES: 1863–1893. MALES. O^M(5)
THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. J^M(5)
NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898
UNITED STATES. ORIGINAL REGISTRATION STATES: 1909–1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 85, page 226.

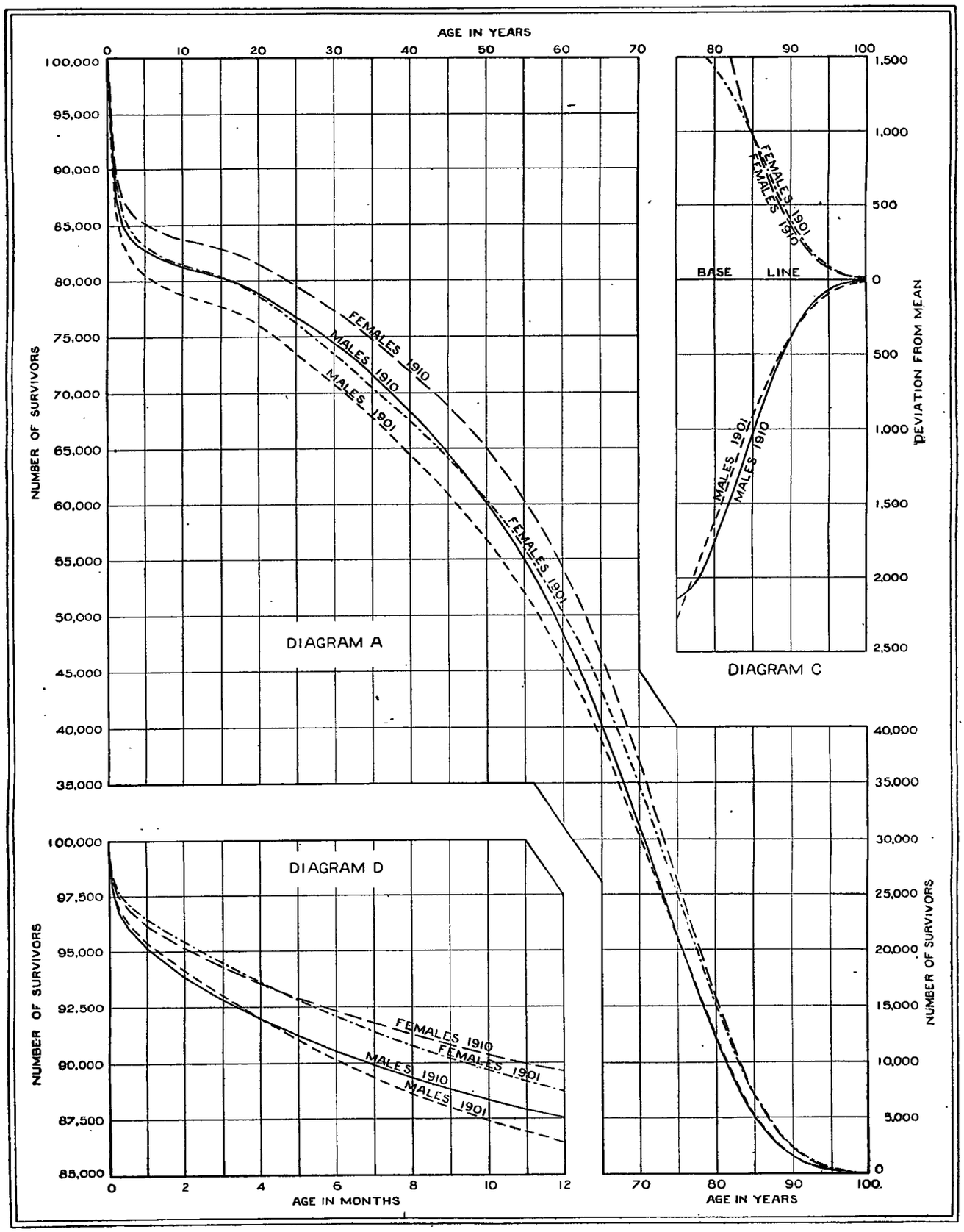


GRAPH 12 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.

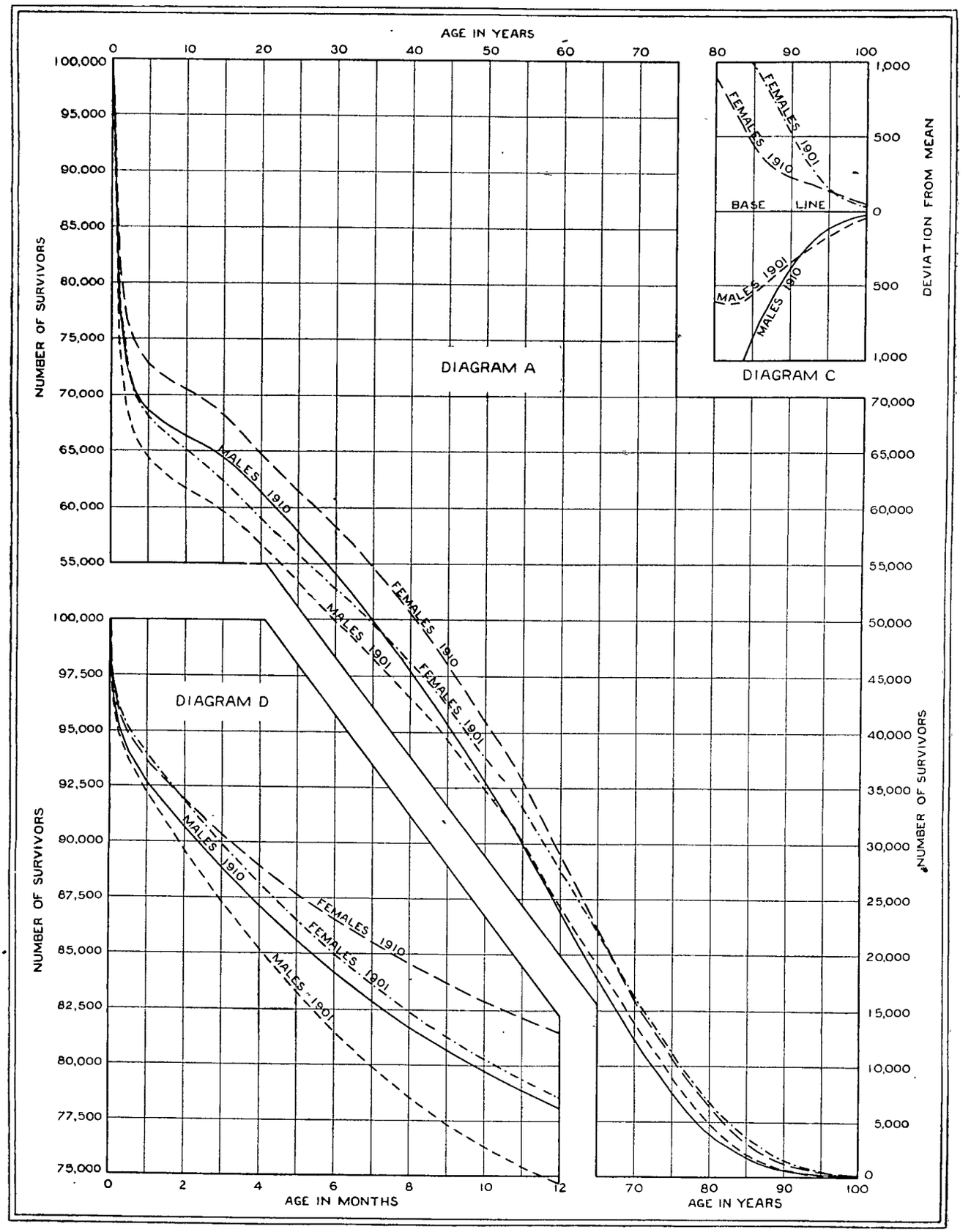


GRAPH 13 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.

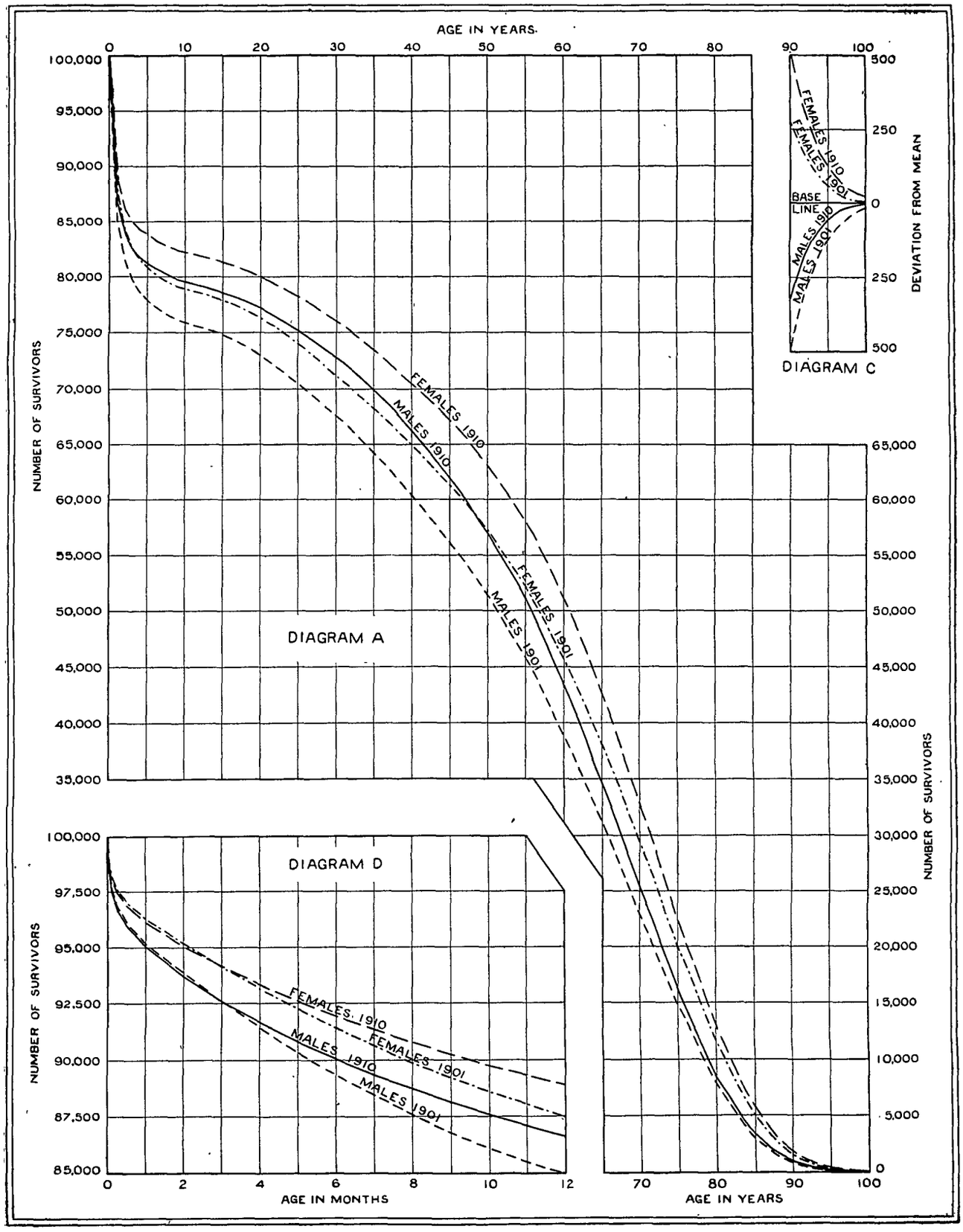


GRAPH 14 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.

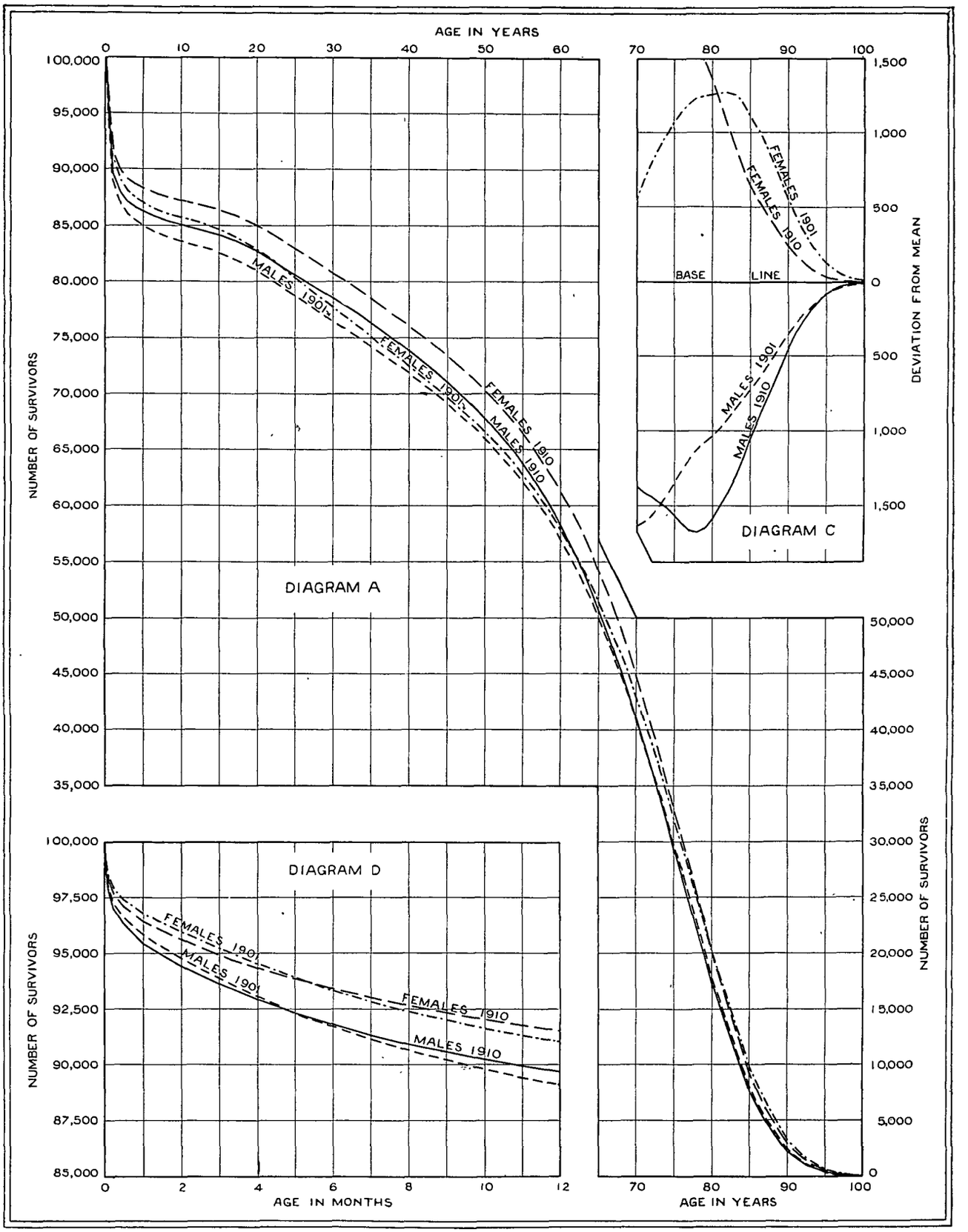


GRAPH 15 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 2 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.

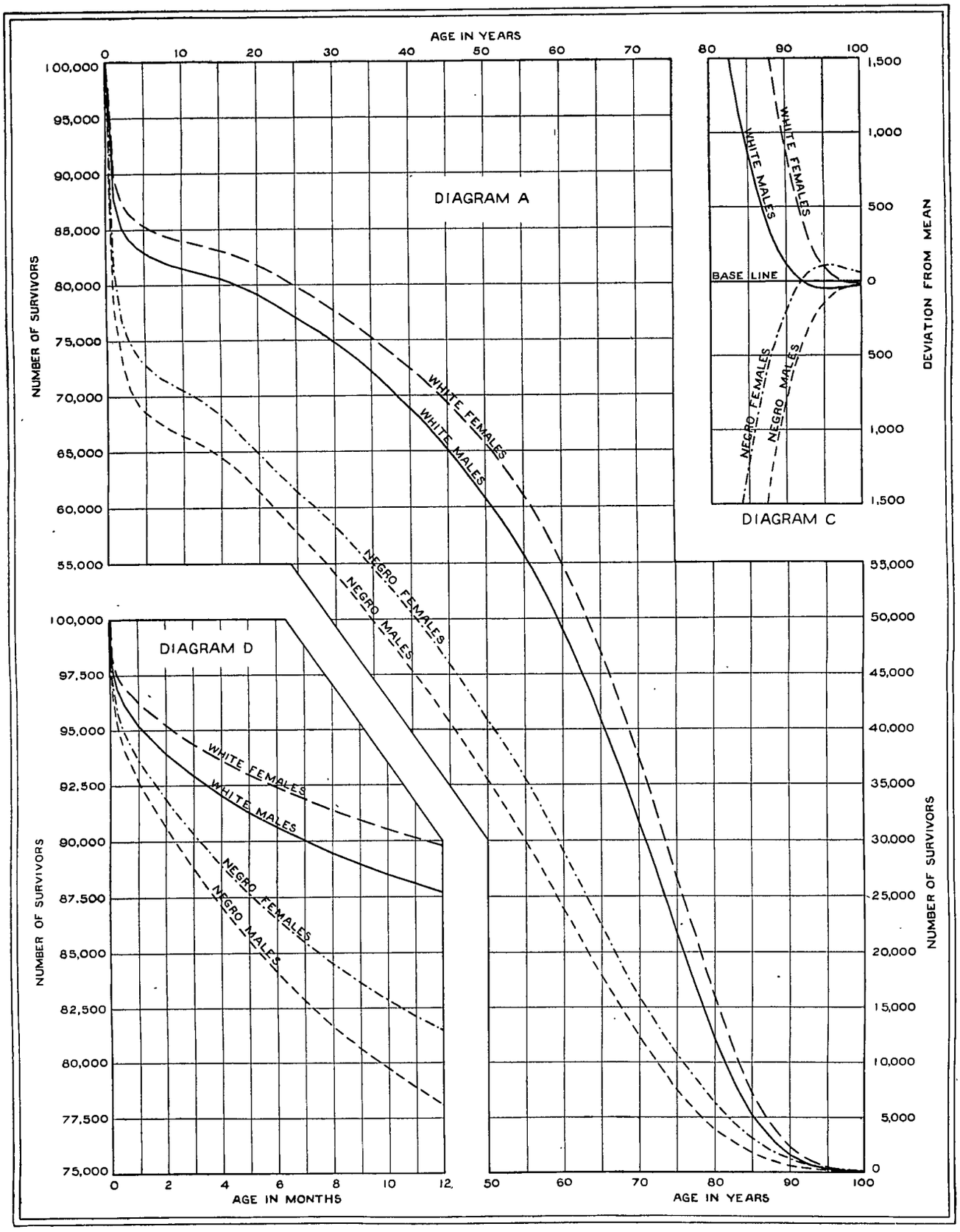


GRAPH 16 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 2 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. Values on the base line in Diagram C are the mean of the values of the curves represented.

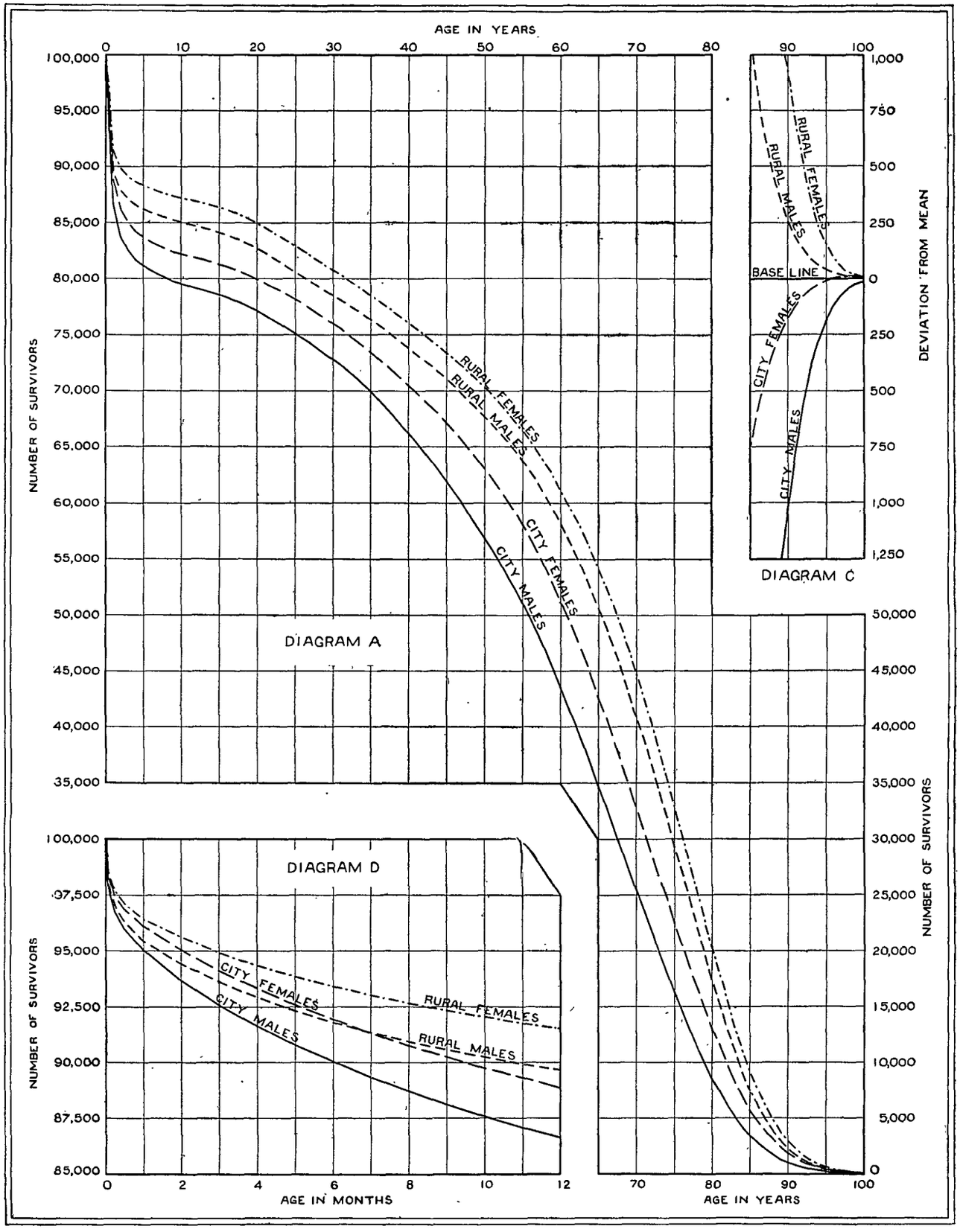


GRAPH 17 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 2 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females. Values on the base line in Diagram C are the mean of the values of the curves represented.

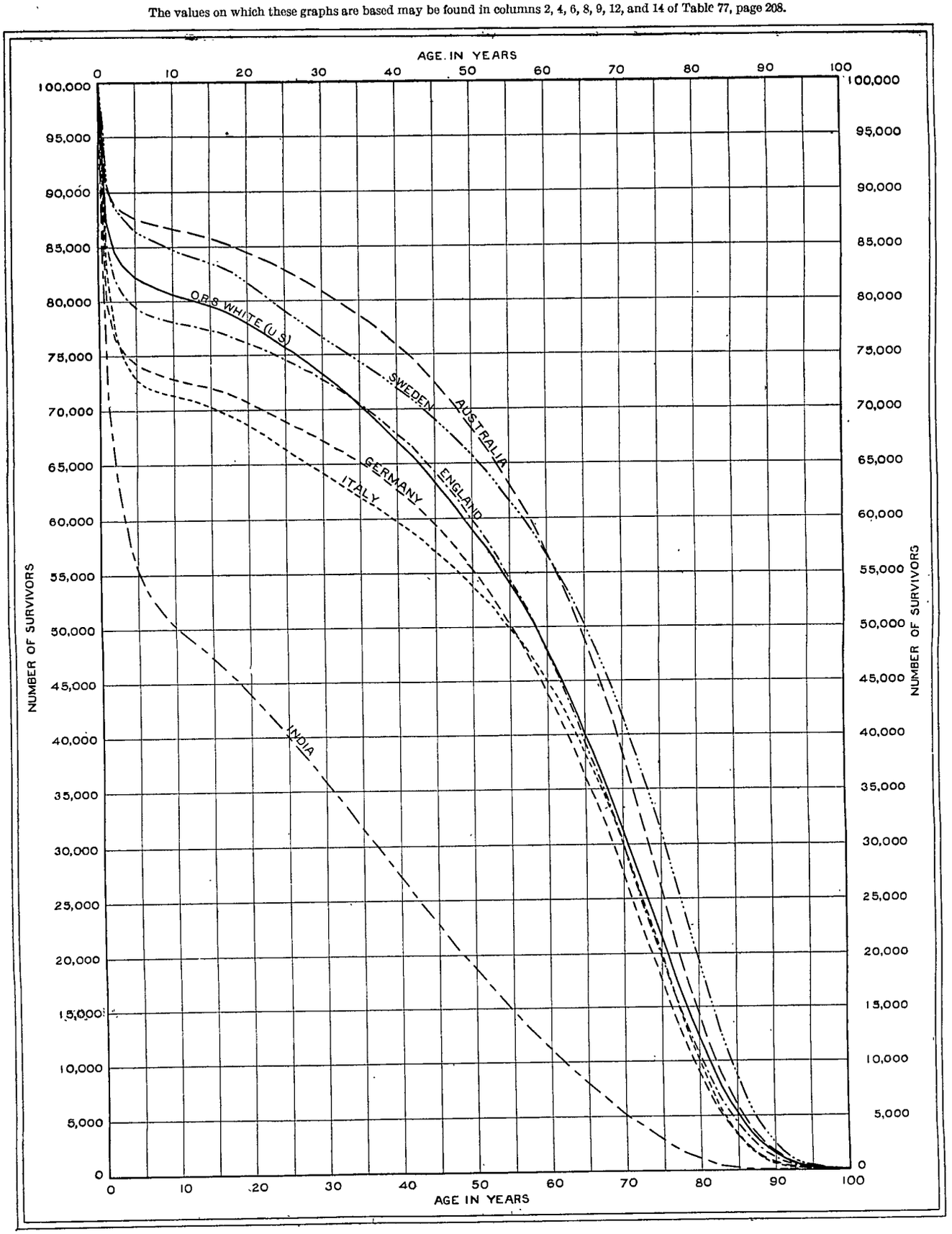


GRAPH 18 NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 77, page 208.

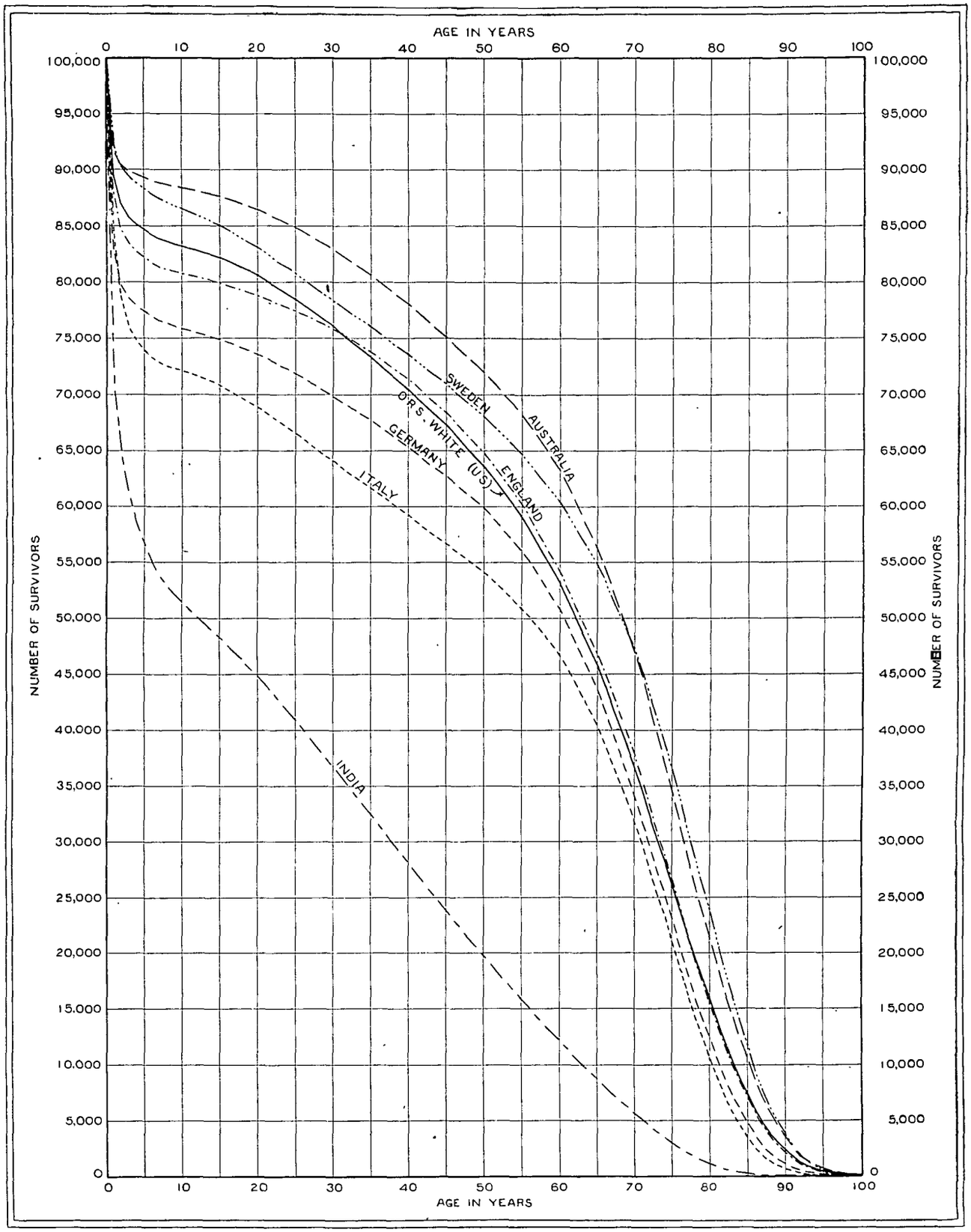


GRAPH 19 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901–1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 78, page 210.

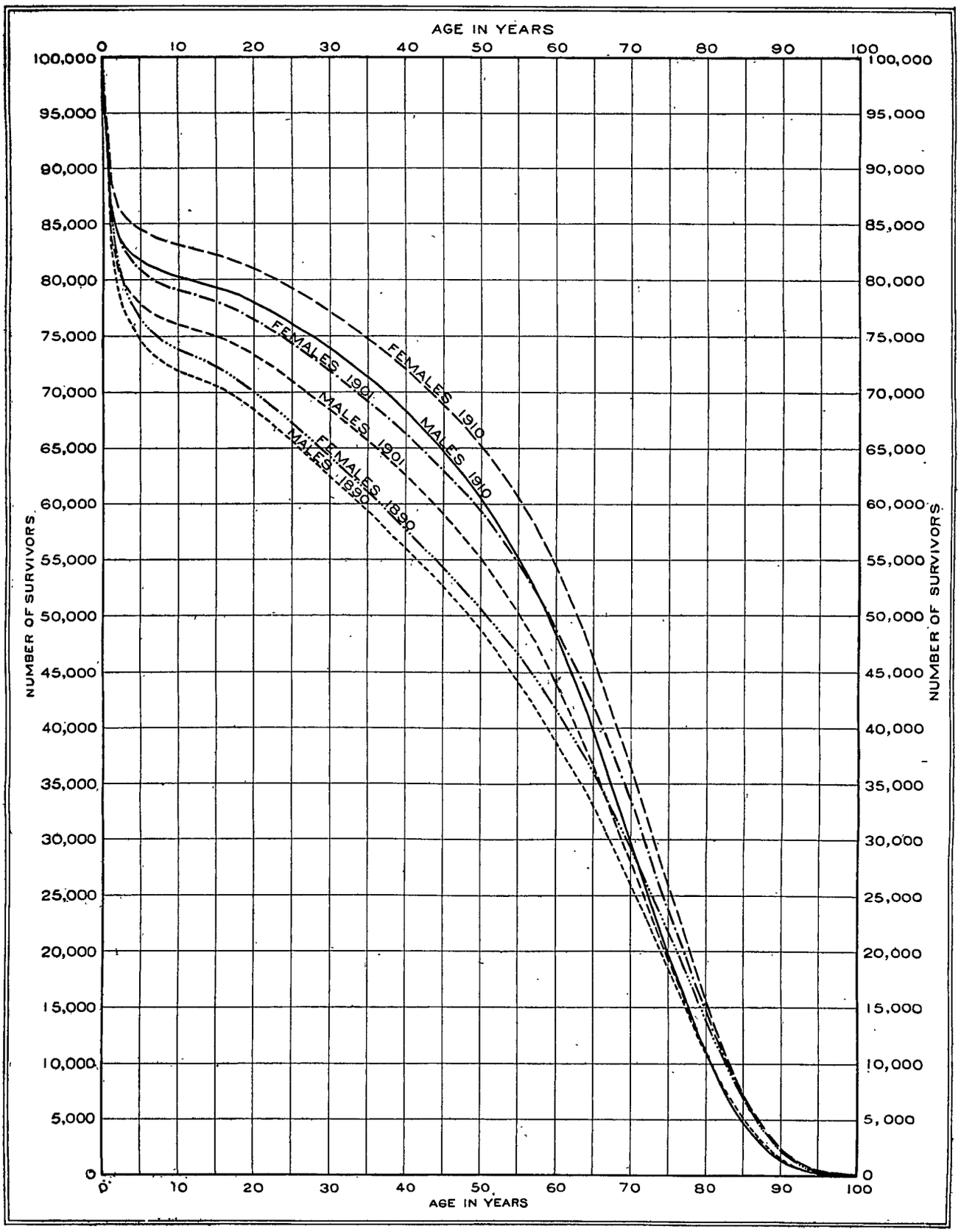


GRAPH 20 **NUMBER OF SURVIVORS OUT OF 100,000 BORN ALIVE**

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910 FEMALES: 1890, 1901, 1910

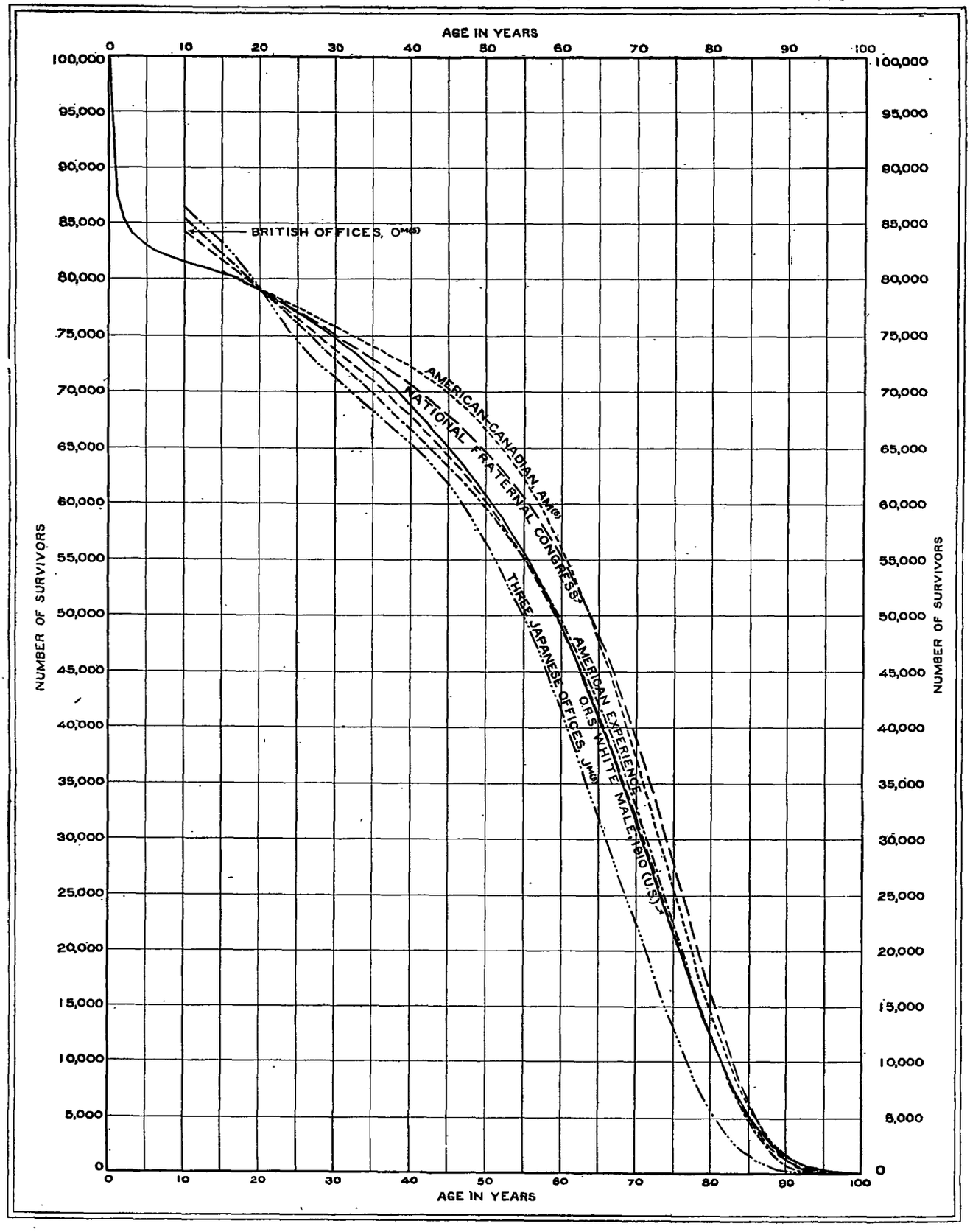
The values on which these graphs are based may be found in column 2 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.



GRAPH 21 **NUMBER OF SURVIVORS OUT OF 79,116 AT AGE 20**

AMERICAN EXPERIENCE MORTALITY TABLE: 1860
AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900–1915. AMERICAN MEN. AM(5)
BRITISH OFFICES LIFE TABLES: 1863–1893. MALES. $O^{M(5)}$
THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. $J^{M(5)}$
NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898
UNITED STATES. ORIGINAL REGISTRATION STATES: 1909–1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 86, page 228. See section 79, page 46.



GRAPH 22

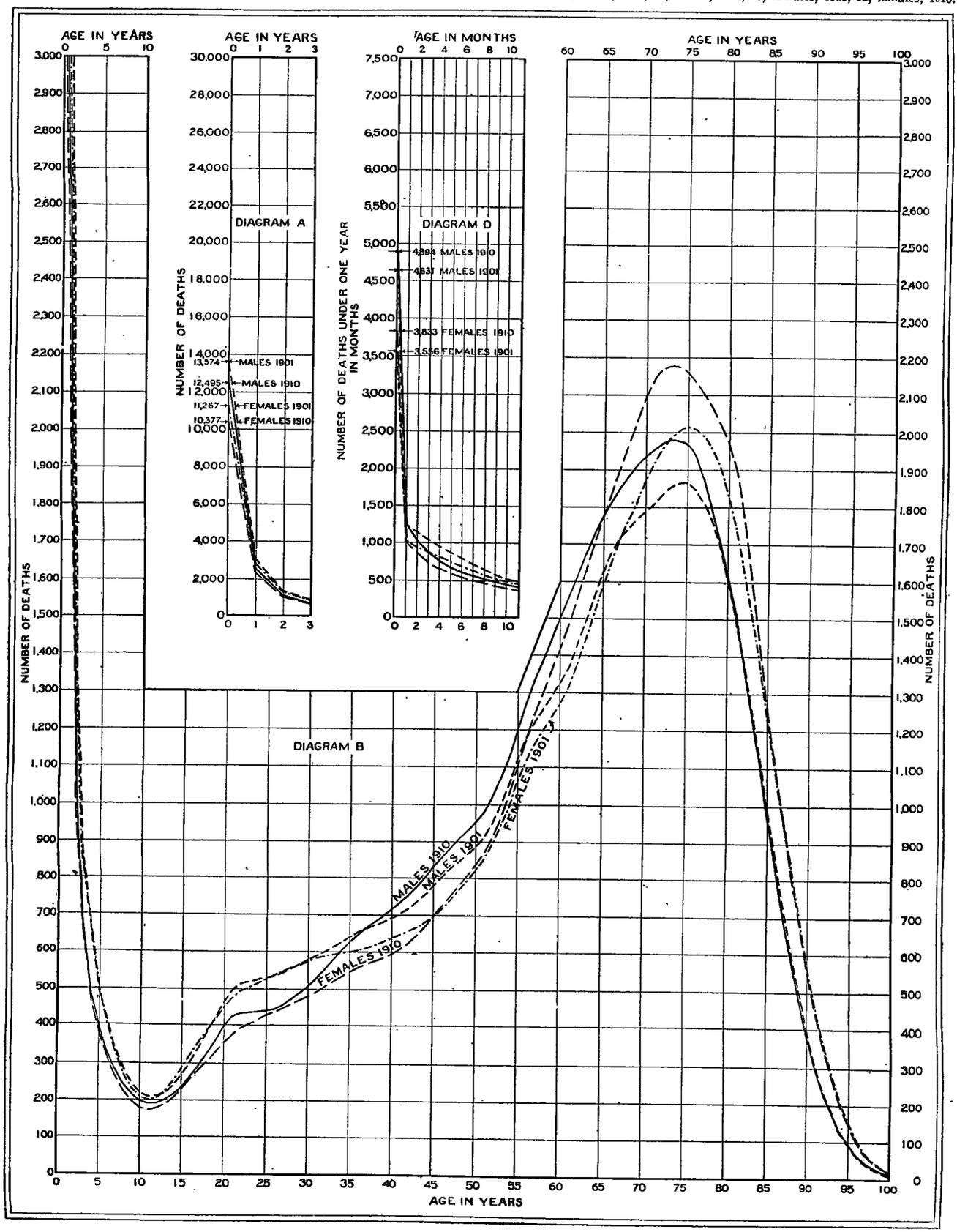
NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910

FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910.



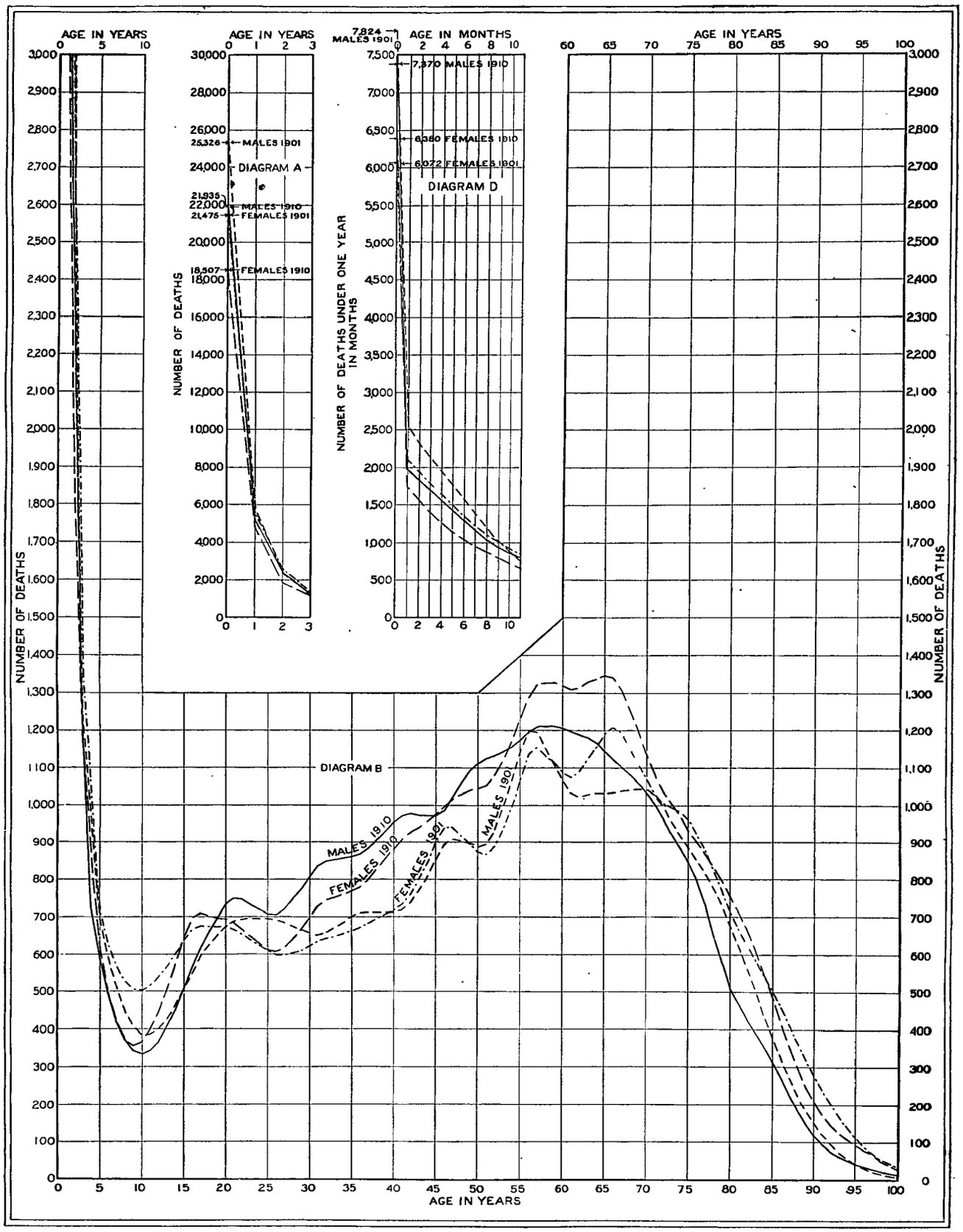
GRAPH 23

NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910.

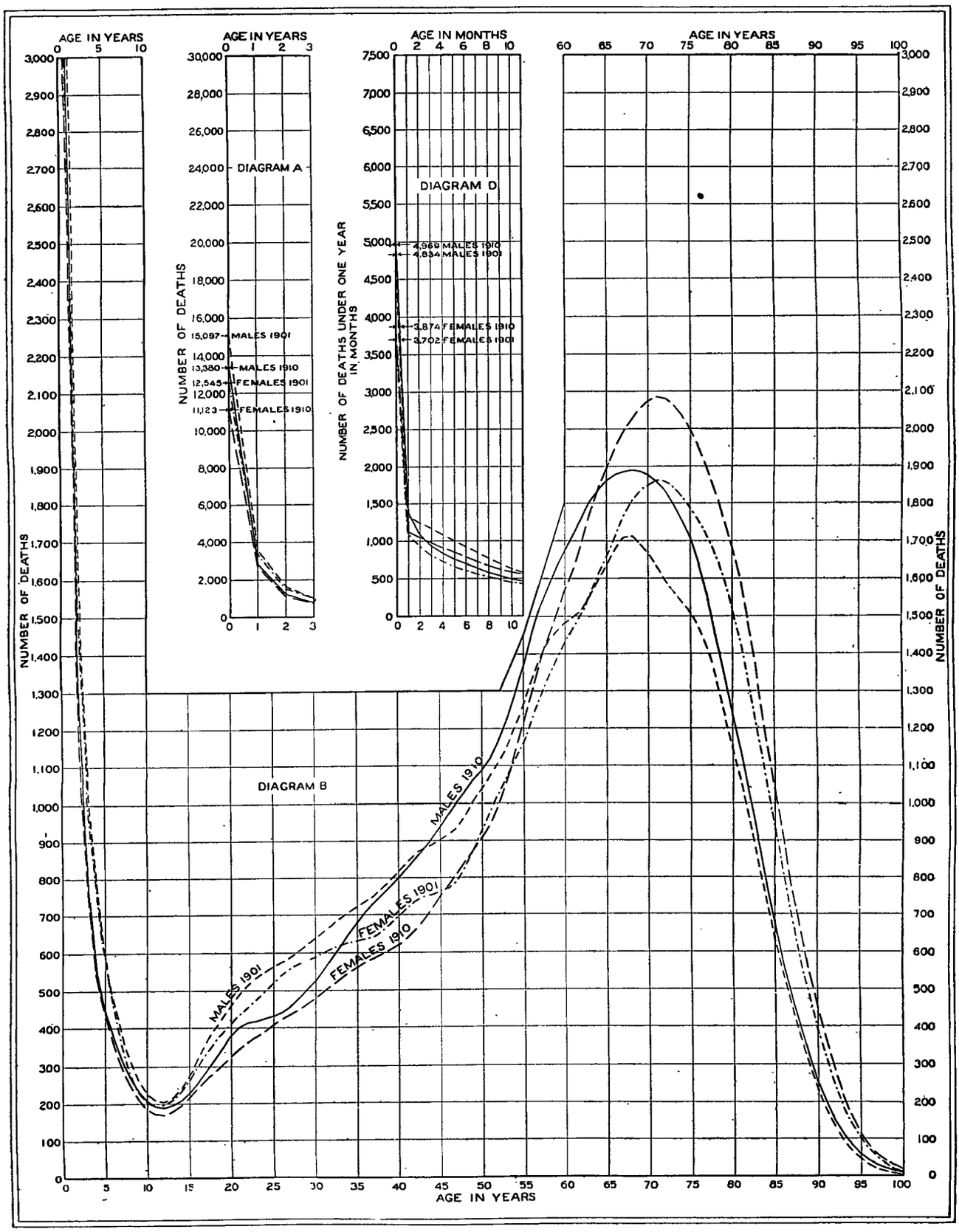


GRAPH 24 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910.



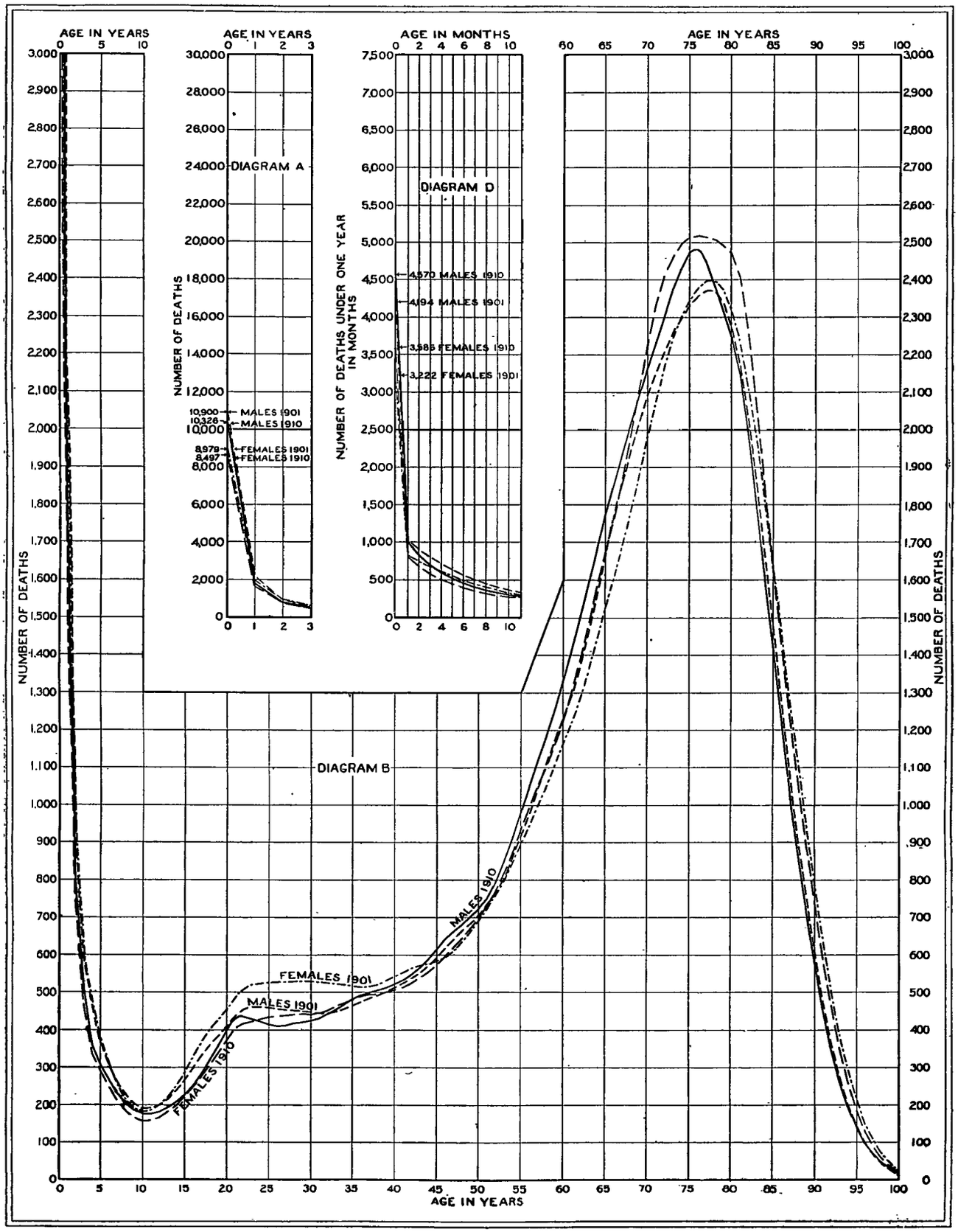
GRAPH 25

NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE

WHITES IN THE RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910.

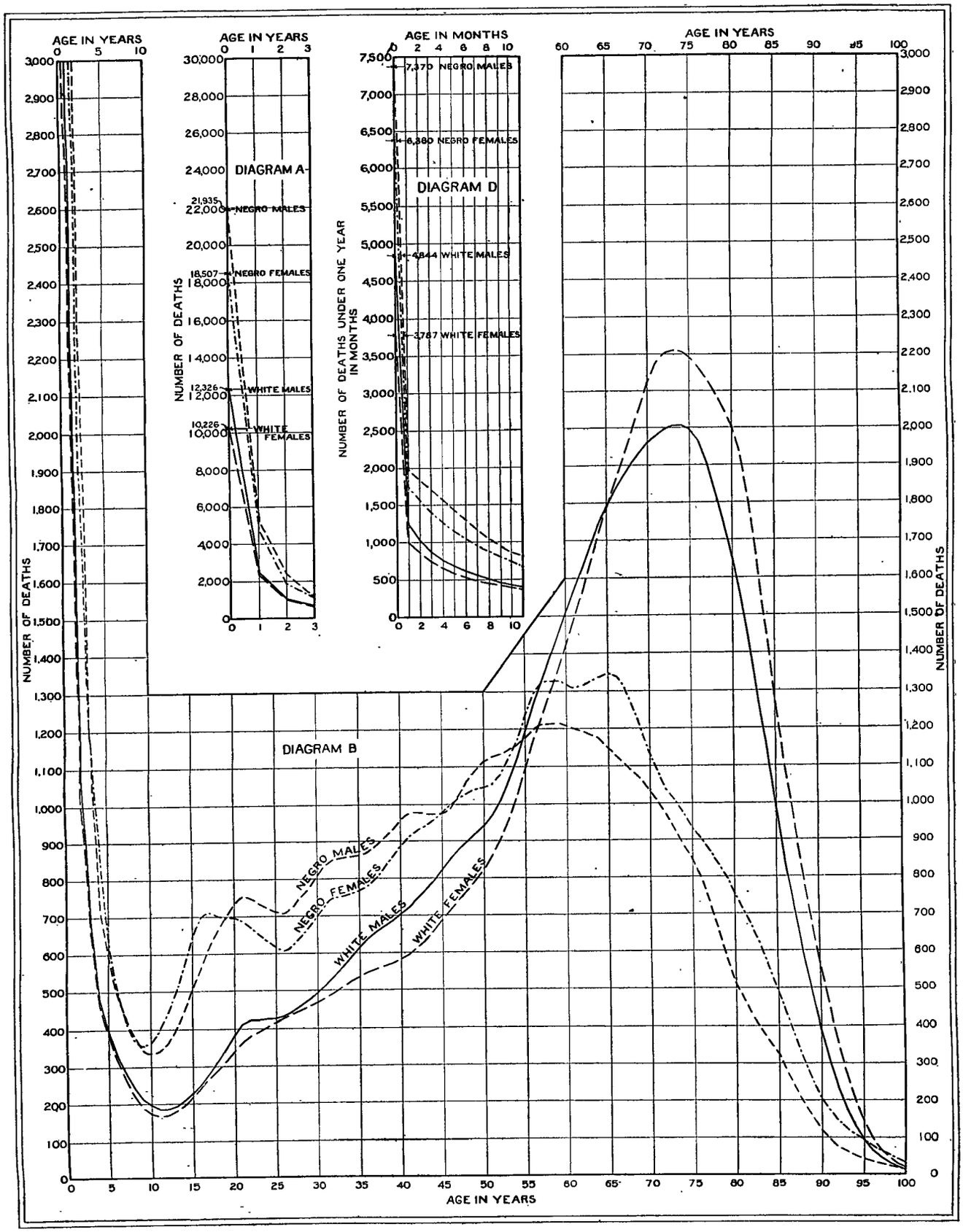


GRAPH 26 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 3 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females.

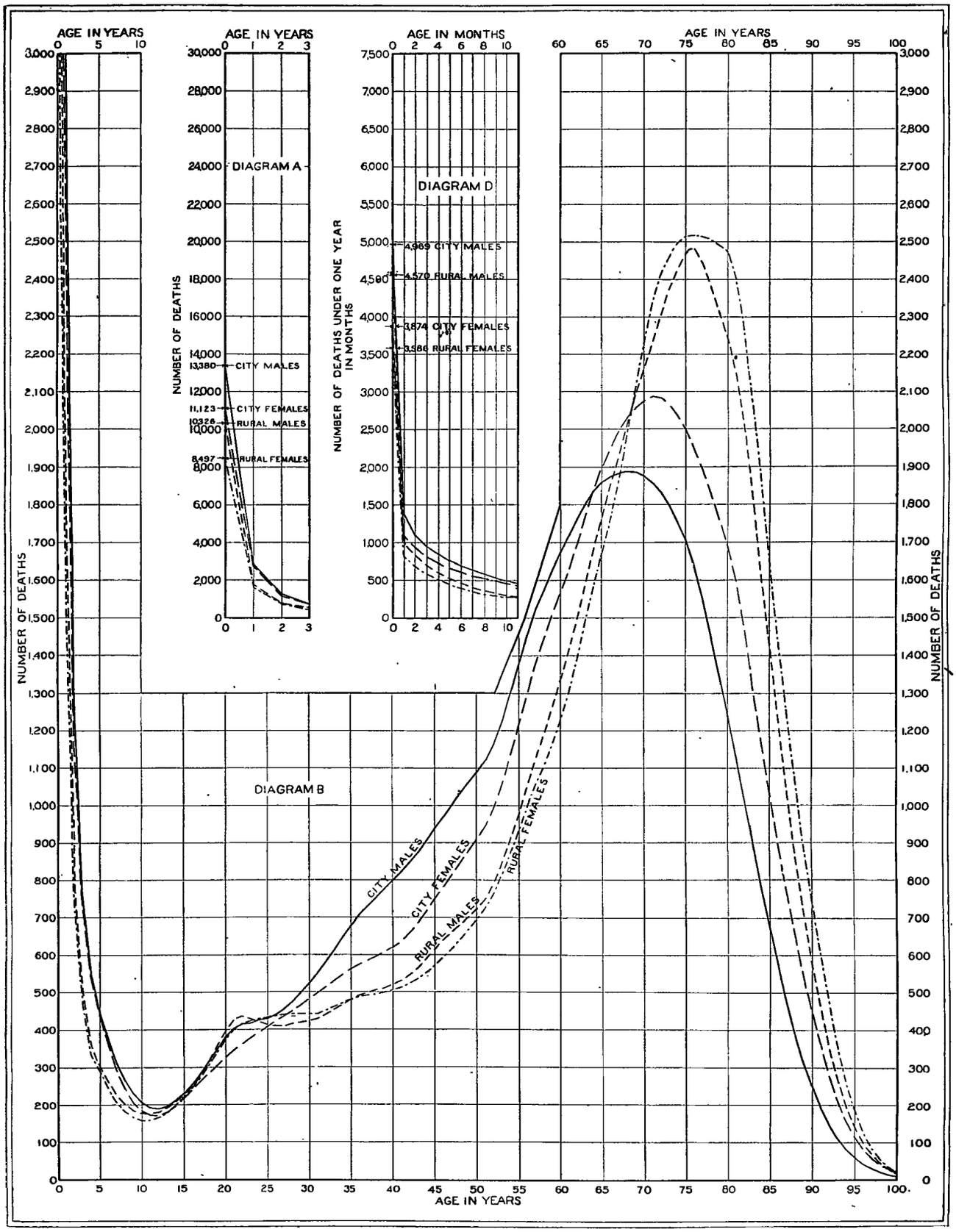


GRAPH 27 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 3 on the following pages: 106, city males; 110, city females; 114, rural males, 118, rural females.

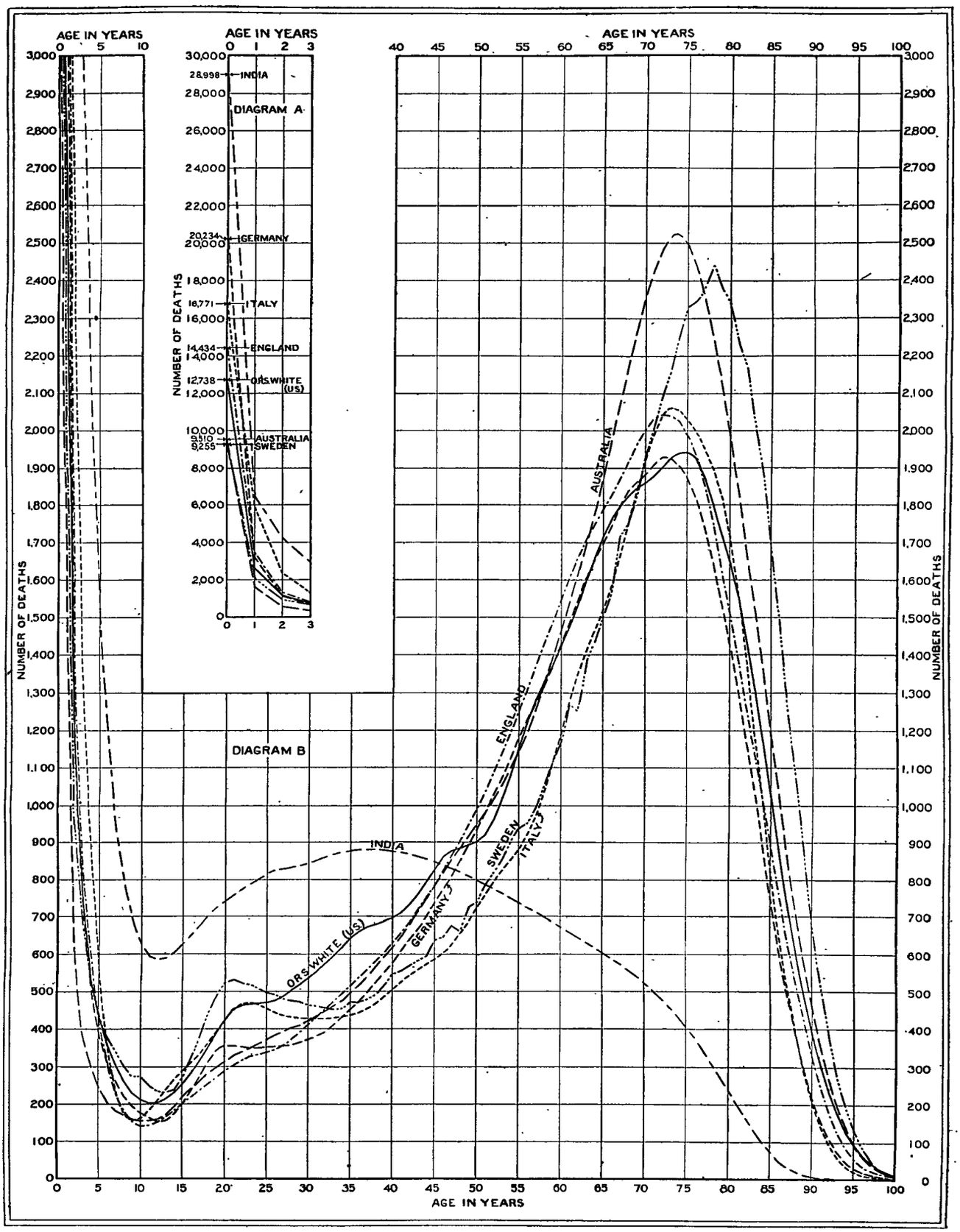


GRAPH 28 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES· 1901–1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 79, page 212.

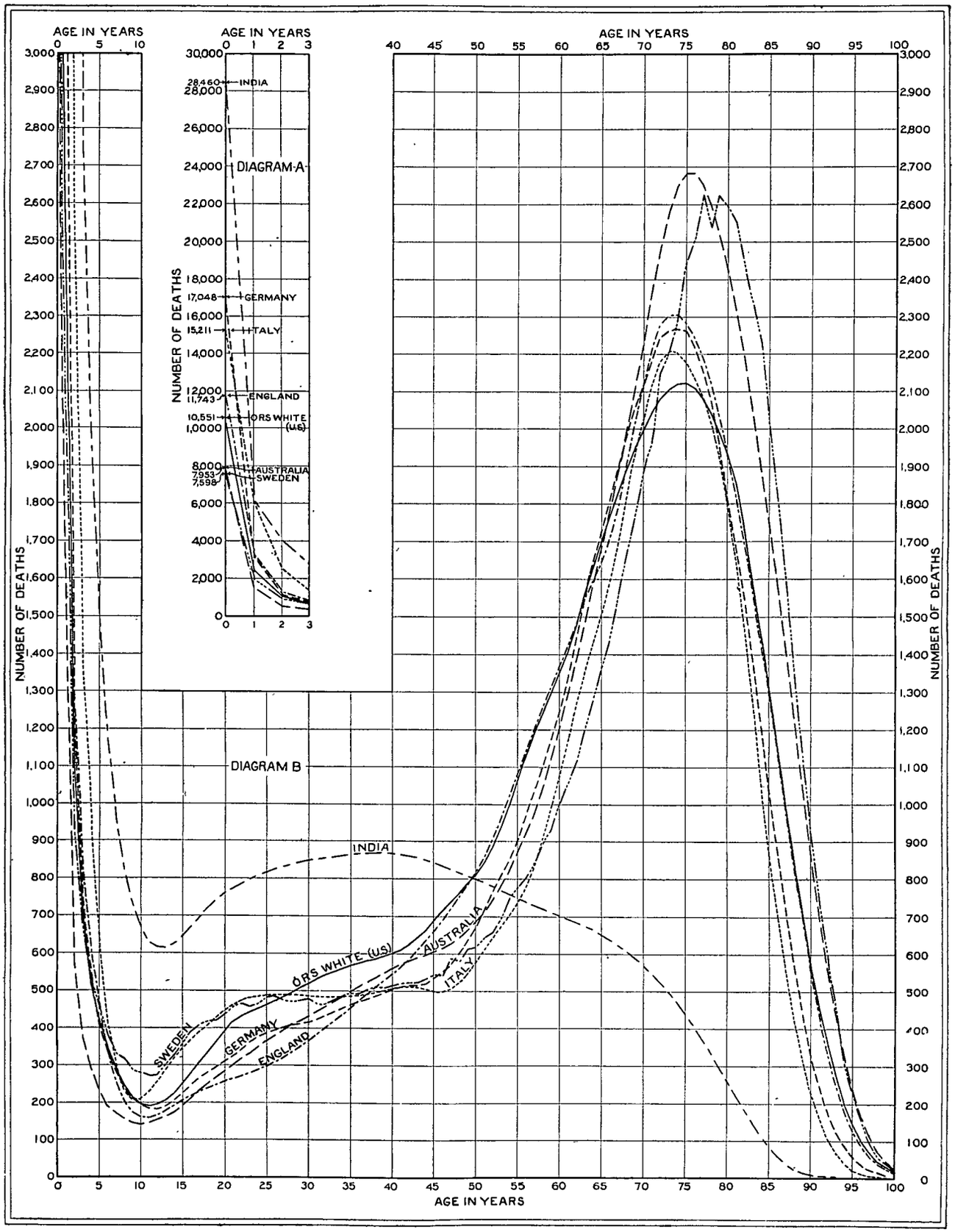


GRAPH 29 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The value on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 80, page 214.

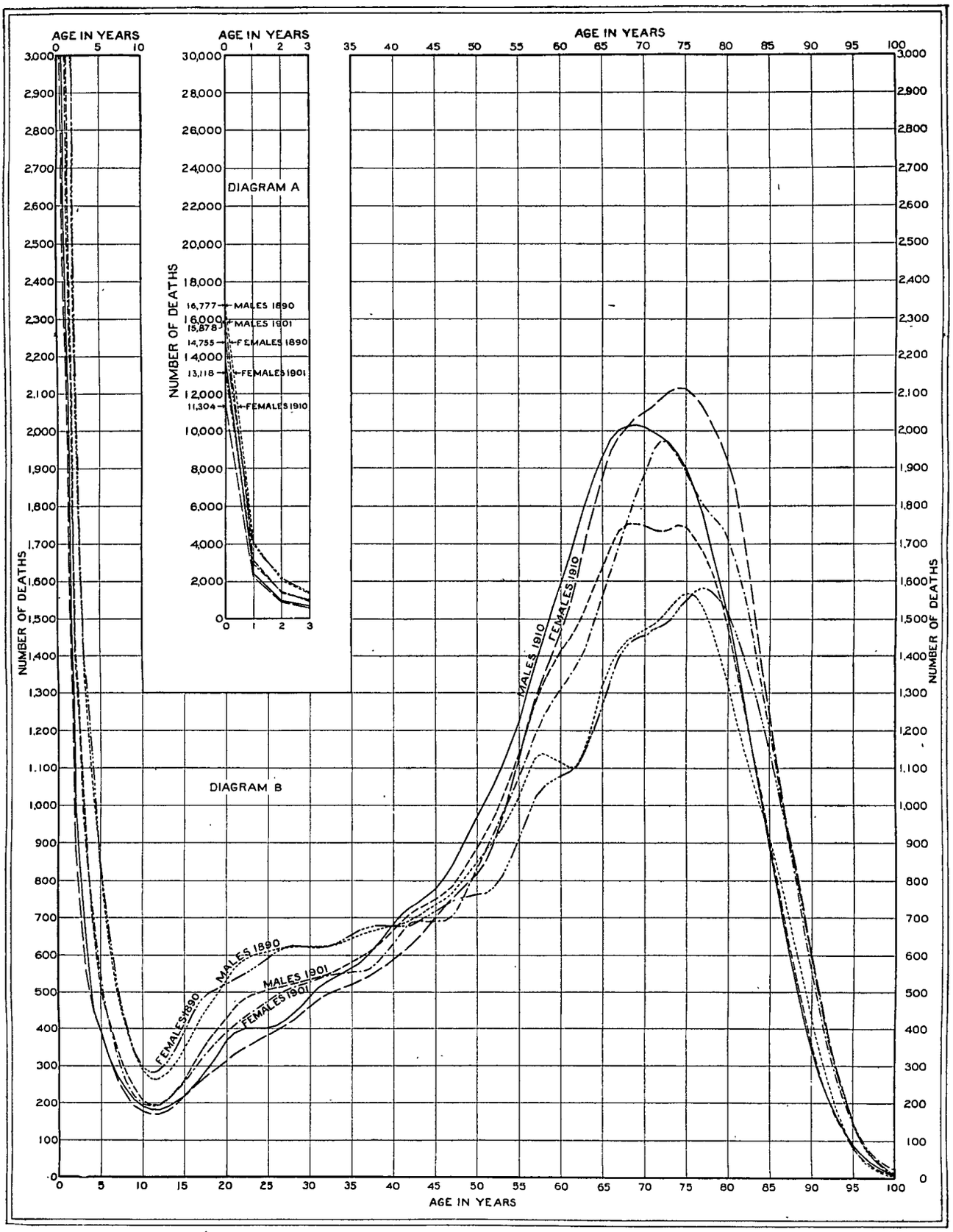


GRAPH 30 **NUMBER OF DEATHS OUT OF 100,000 BORN ALIVE**

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910 FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 3 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

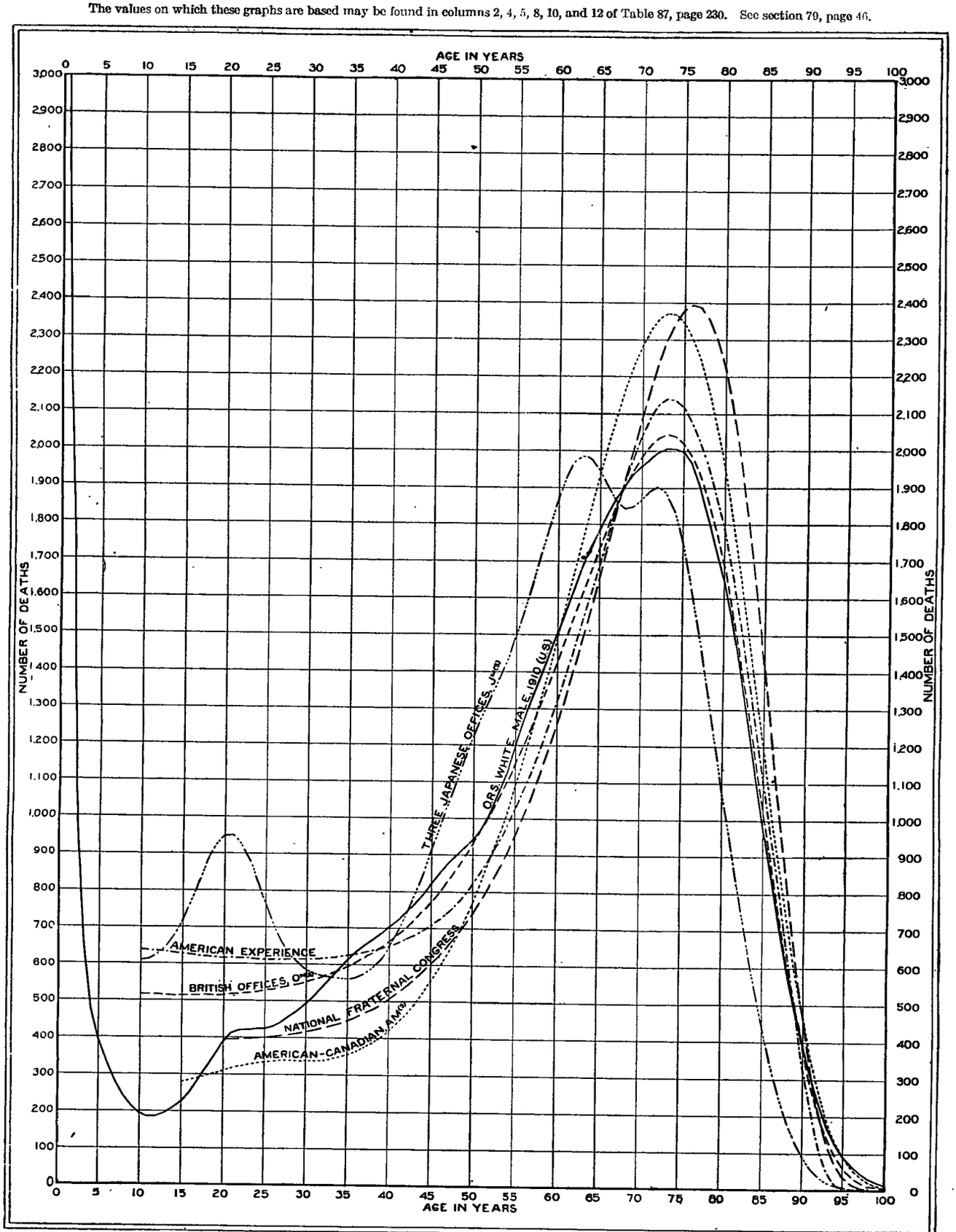


GRAPH 31

NUMBER OF DEATHS OUT OF 79,116 ALIVE AT AGE 20

AMERICAN EXPERIENCE MORTALITY TABLE: 1860
AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900–1915. AMERICAN MEN. AM(5)
BRITISH OFFICES LIFE TABLES: 1863–1893. MALES. O^M(5)
THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. J^M(5)
NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898
UNITED STATES. ORIGINAL REGISTRATION STATES: 1909–1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 87, page 230. See section 79, page 46.



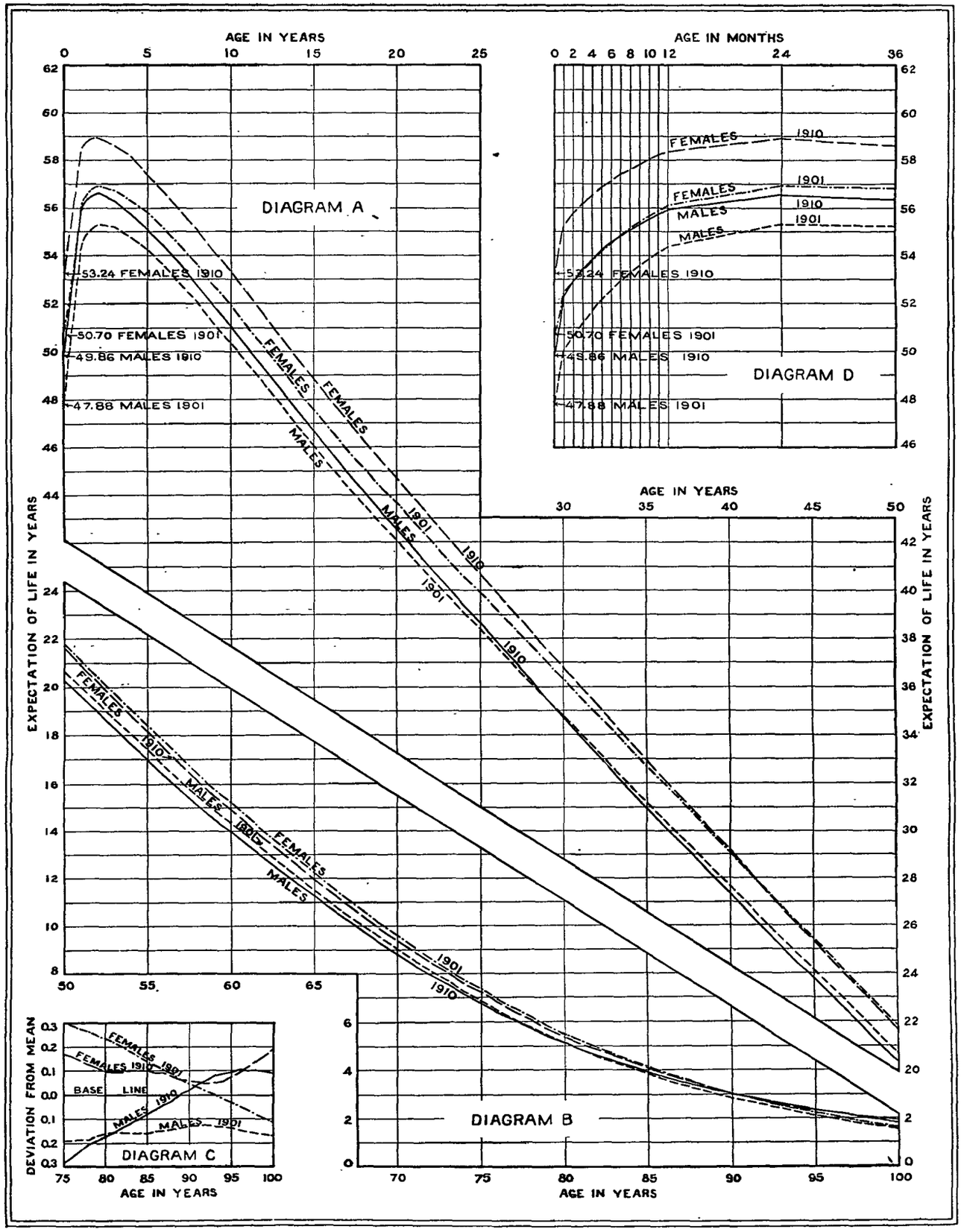
GRAPH 32

COMPLETE EXPECTATION OF LIFE

ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



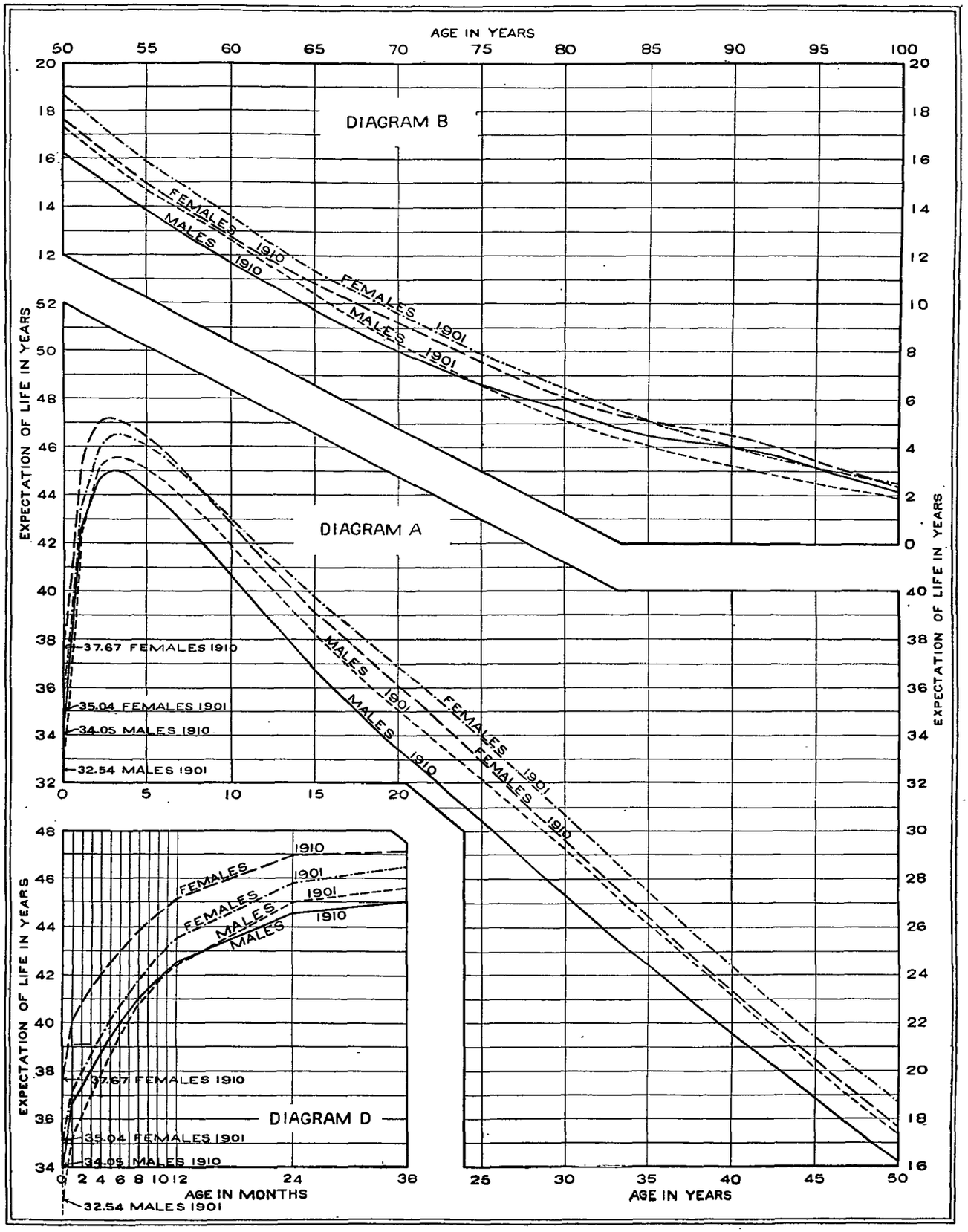
GRAPH 33

COMPLETE EXPECTATION OF LIFE

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910. See last question in section 50, page 38.



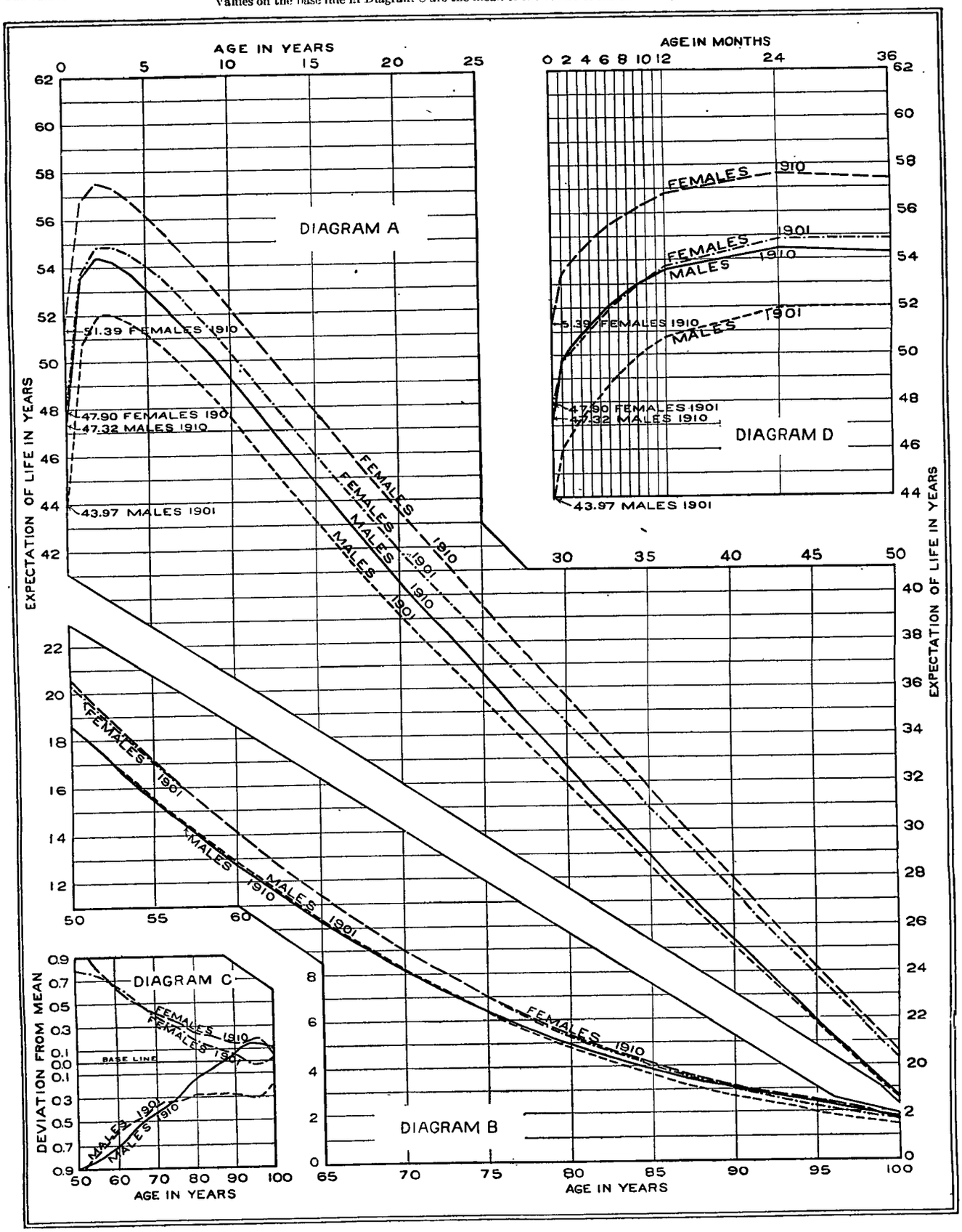
GRAPH 34

COMPLETE EXPECTATION OF LIFE

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



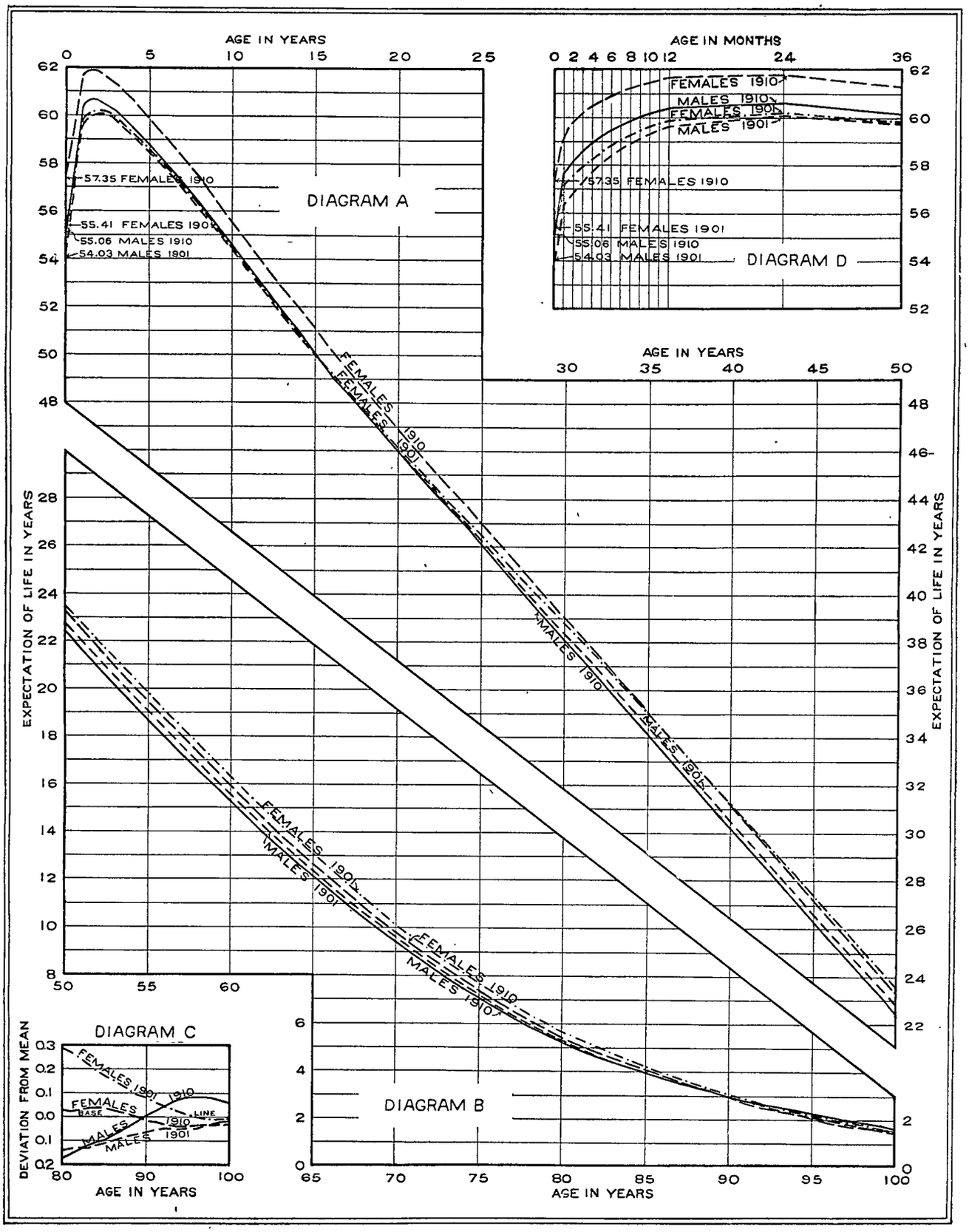
GRAPH 35

COMPLETE EXPECTATION OF LIFE

WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



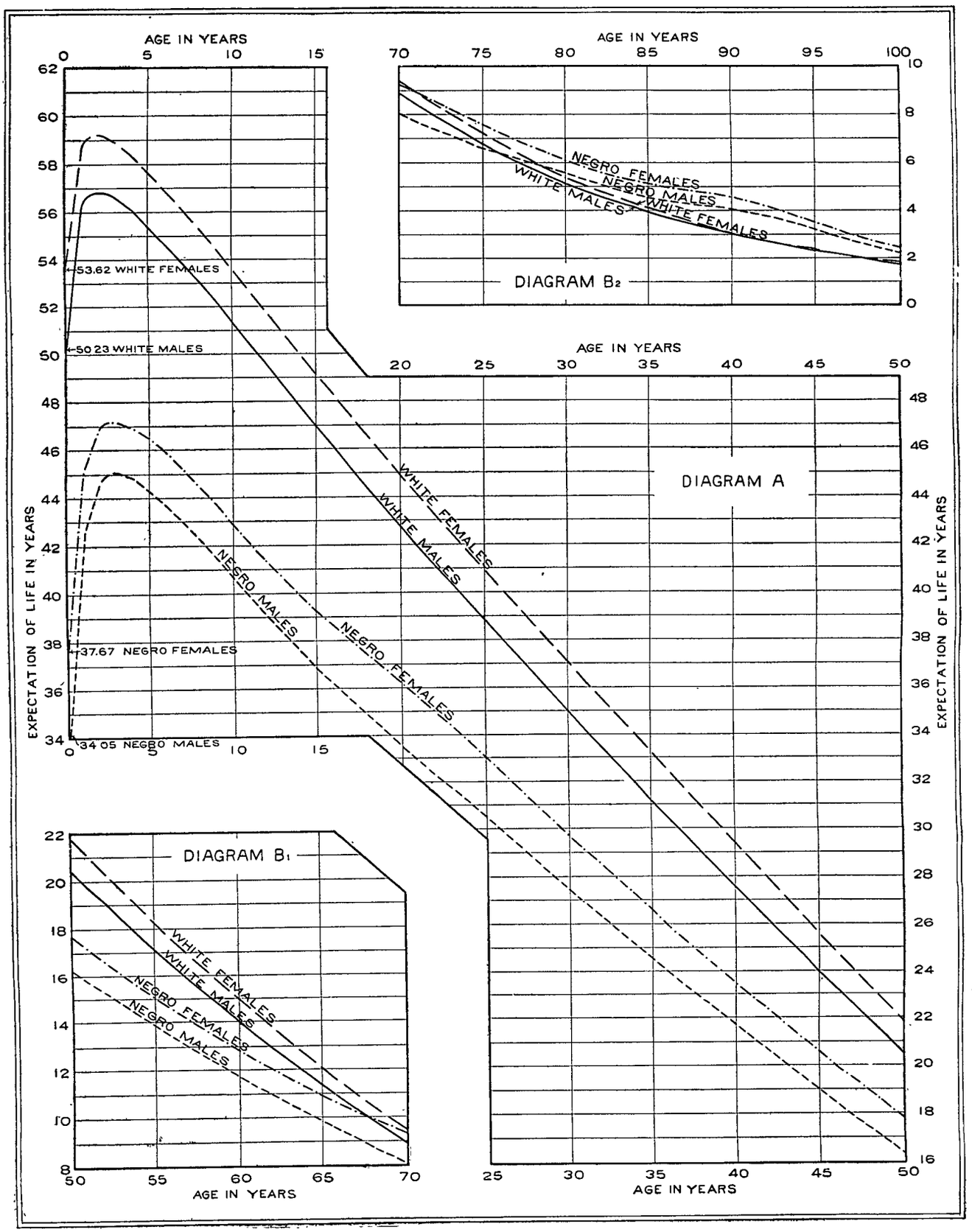
GRAPH 36

COMPLETE EXPECTATION OF LIFE

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 5 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. See second question in section 53, page 39.

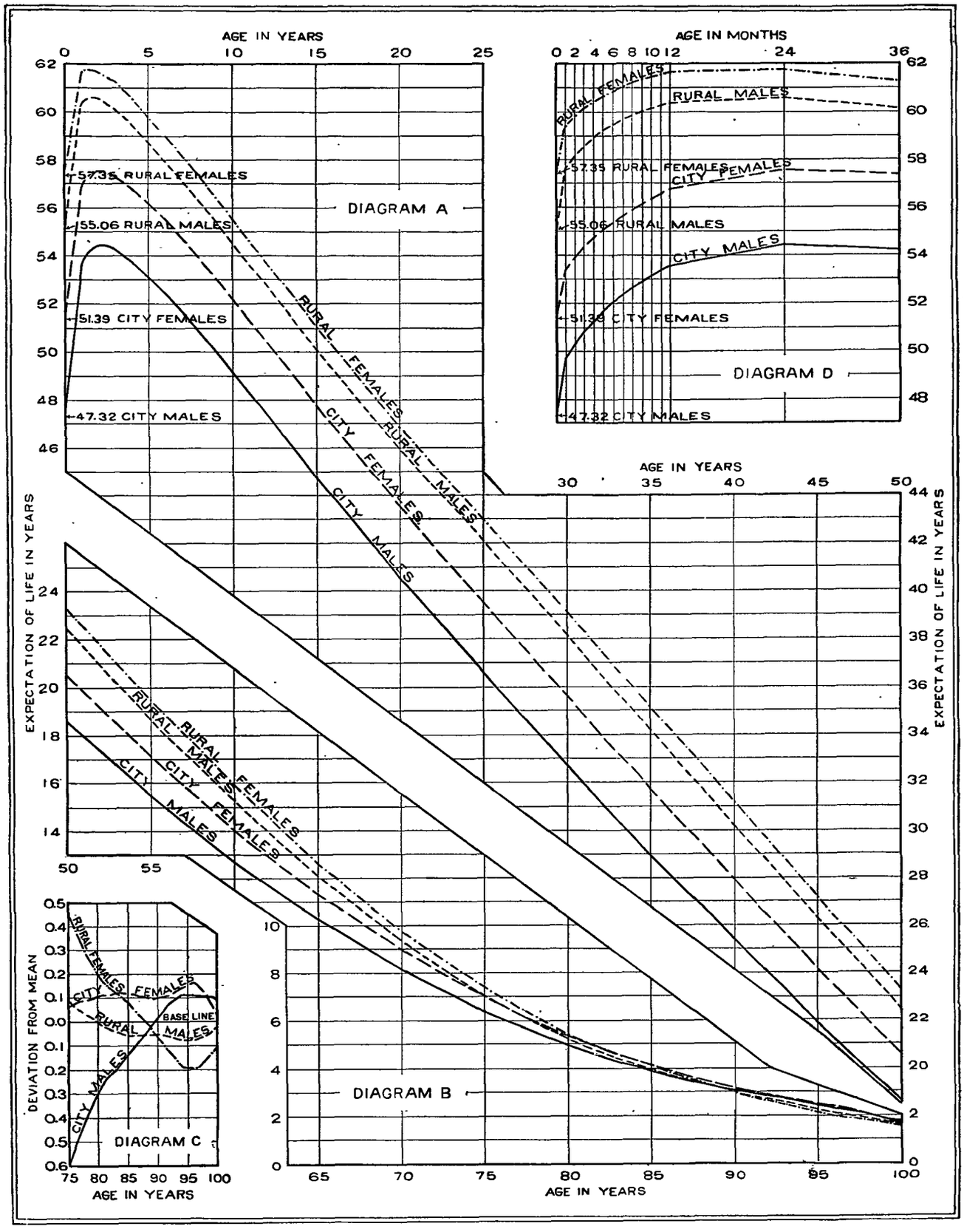


GRAPH 37 **COMPLETE EXPECTATION OF LIFE**

WHITES IN CITIES AND IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 5 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females. Values on the base line in Diagram C are the mean of the values of the curves represented.



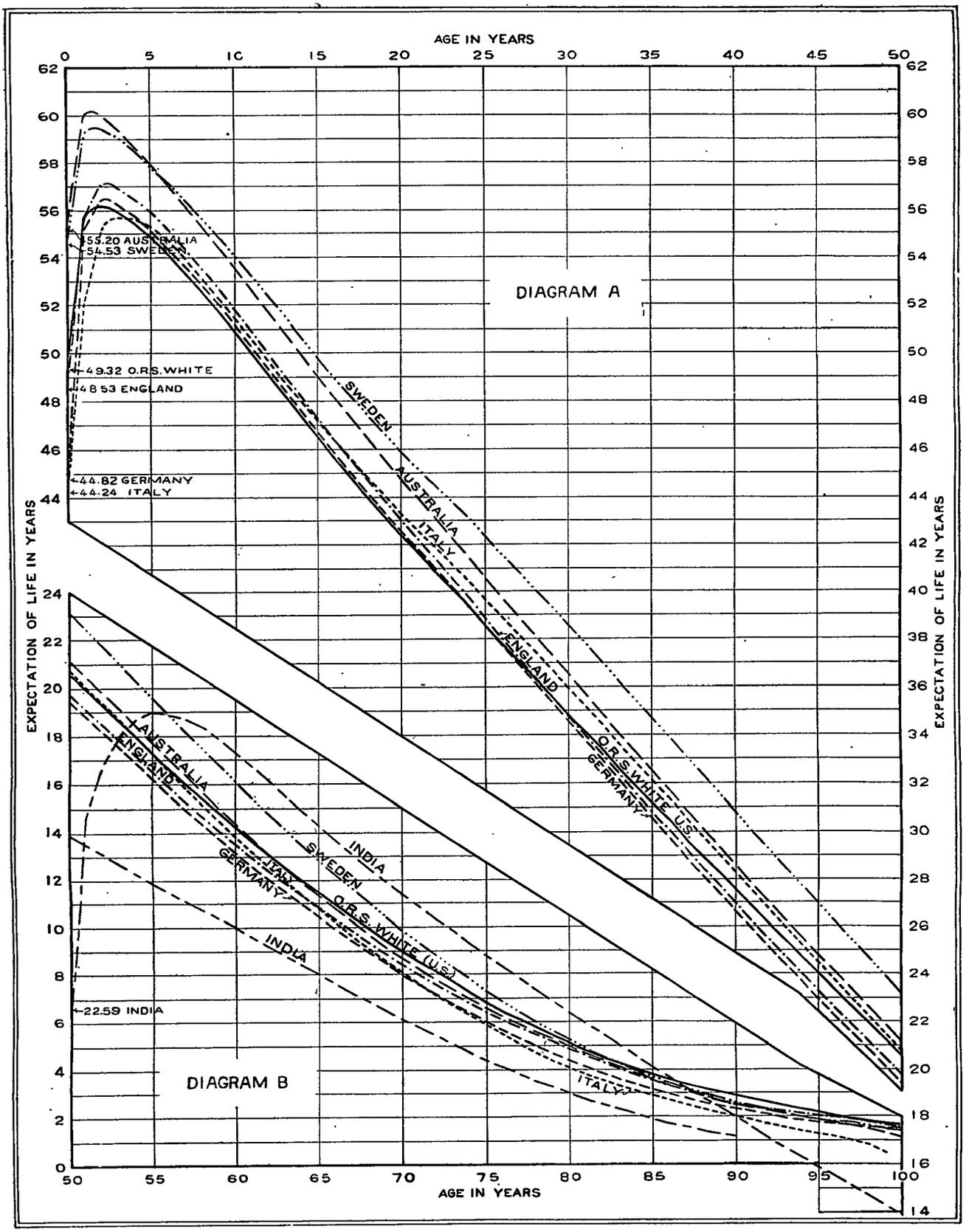
GRAPH 38

COMPLETE EXPECTATION OF LIFE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 81, page 216. See next to last question in section 50, page 38.



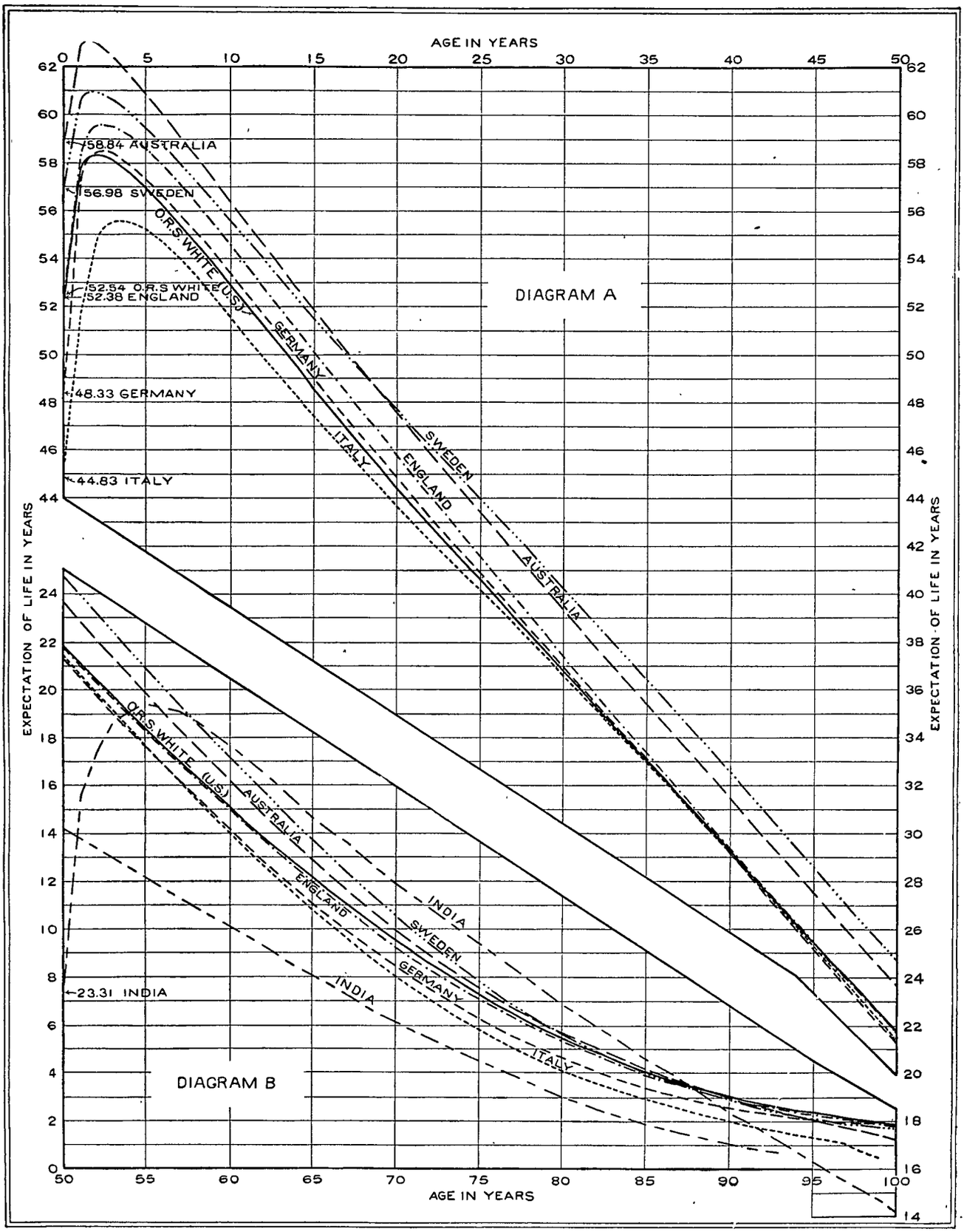
GRAPH 39

COMPLETE EXPECTATION OF LIFE

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 82, page 218. See next to last question in section 50, page 38.

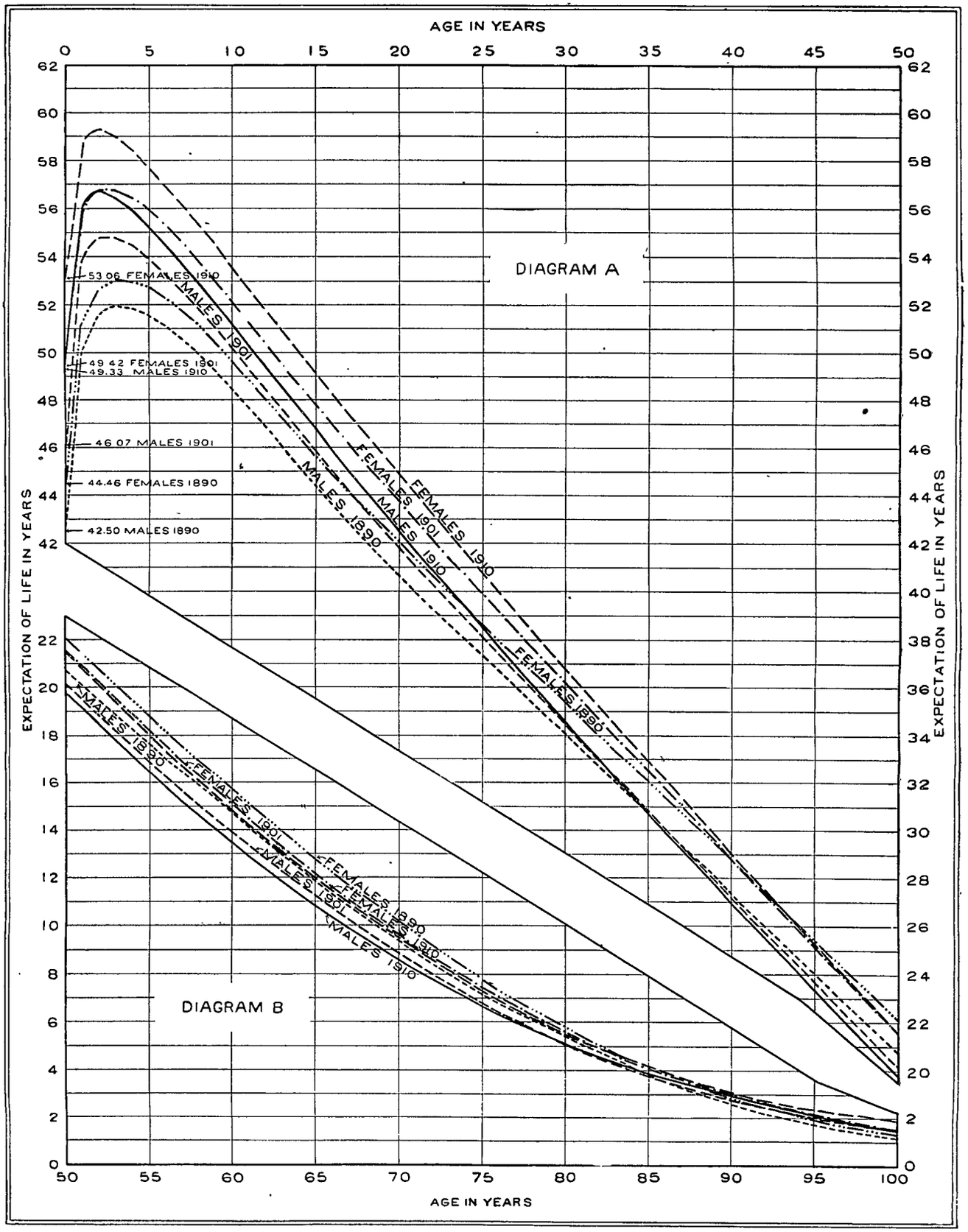


GRAPH 40 **COMPLETE EXPECTATION OF LIFE**

STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910 FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 5 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

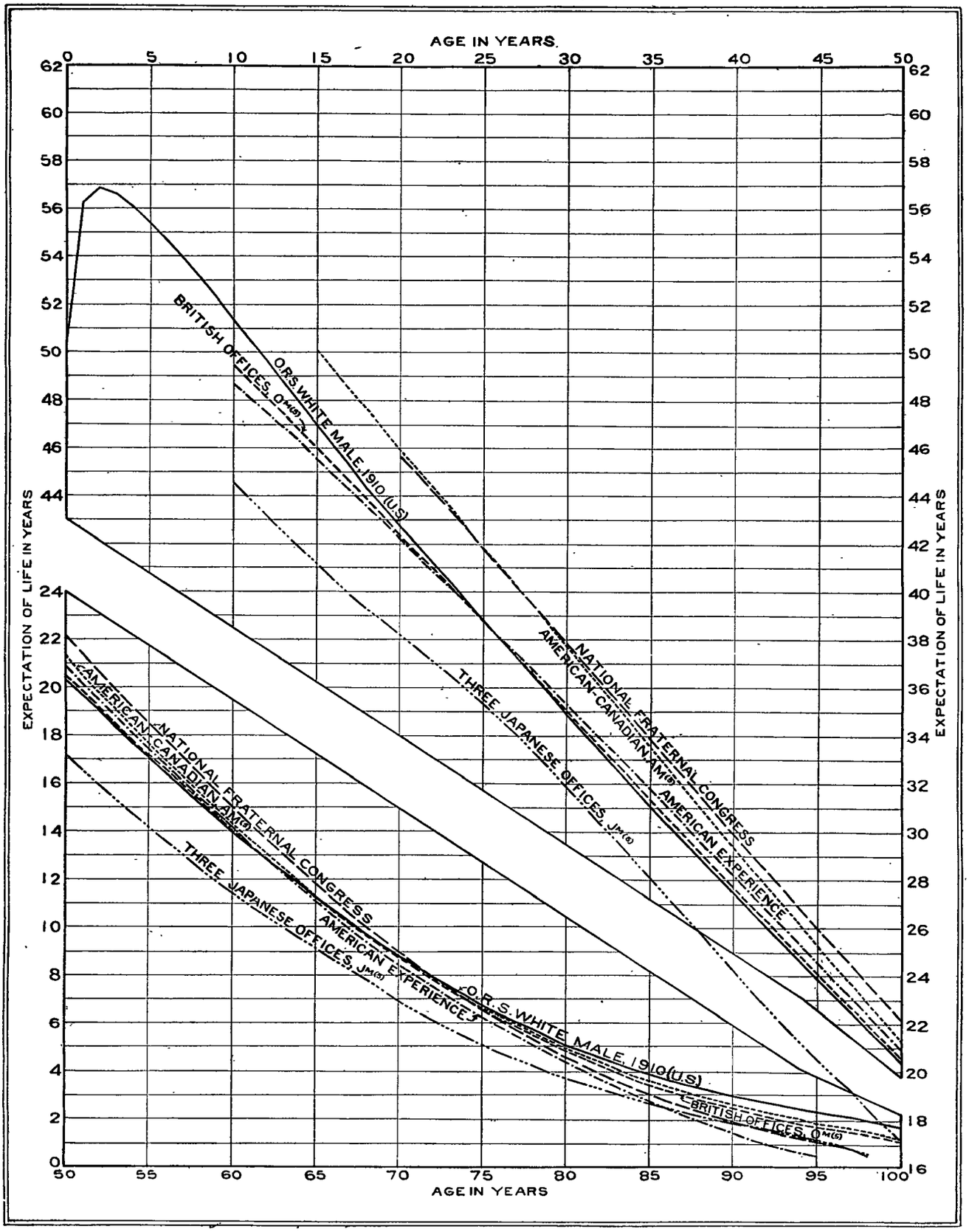


GRAPH 41

COMPLETE EXPECTATION OF LIFE

AMERICAN EXPERIENCE MORTALITY TABLE: 1860
AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900–1915. AMERICAN MEN. AM(5)
BRITISH OFFICES LIFE TABLES: 1863–1893. MALES. O^M(5)
THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. J^M(5)
NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898
UNITED STATES. ORIGINAL REGISTRATION STATES: 1909–1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 88, page 232.



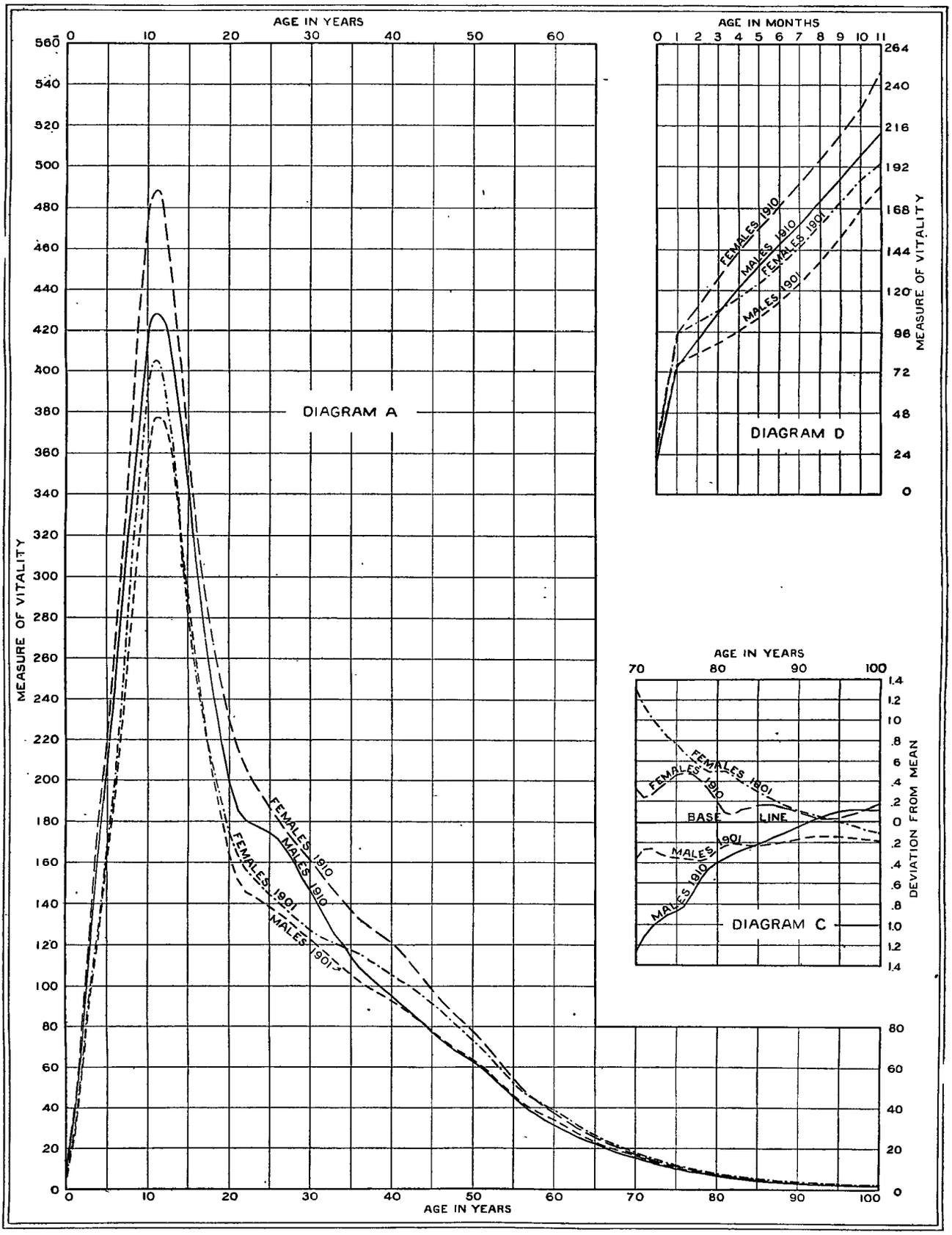
GRAPH 42

MEASURE OF VITALITY

THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 56, males, 1901; 58, males, 1910; 60, females, 1901; 62, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



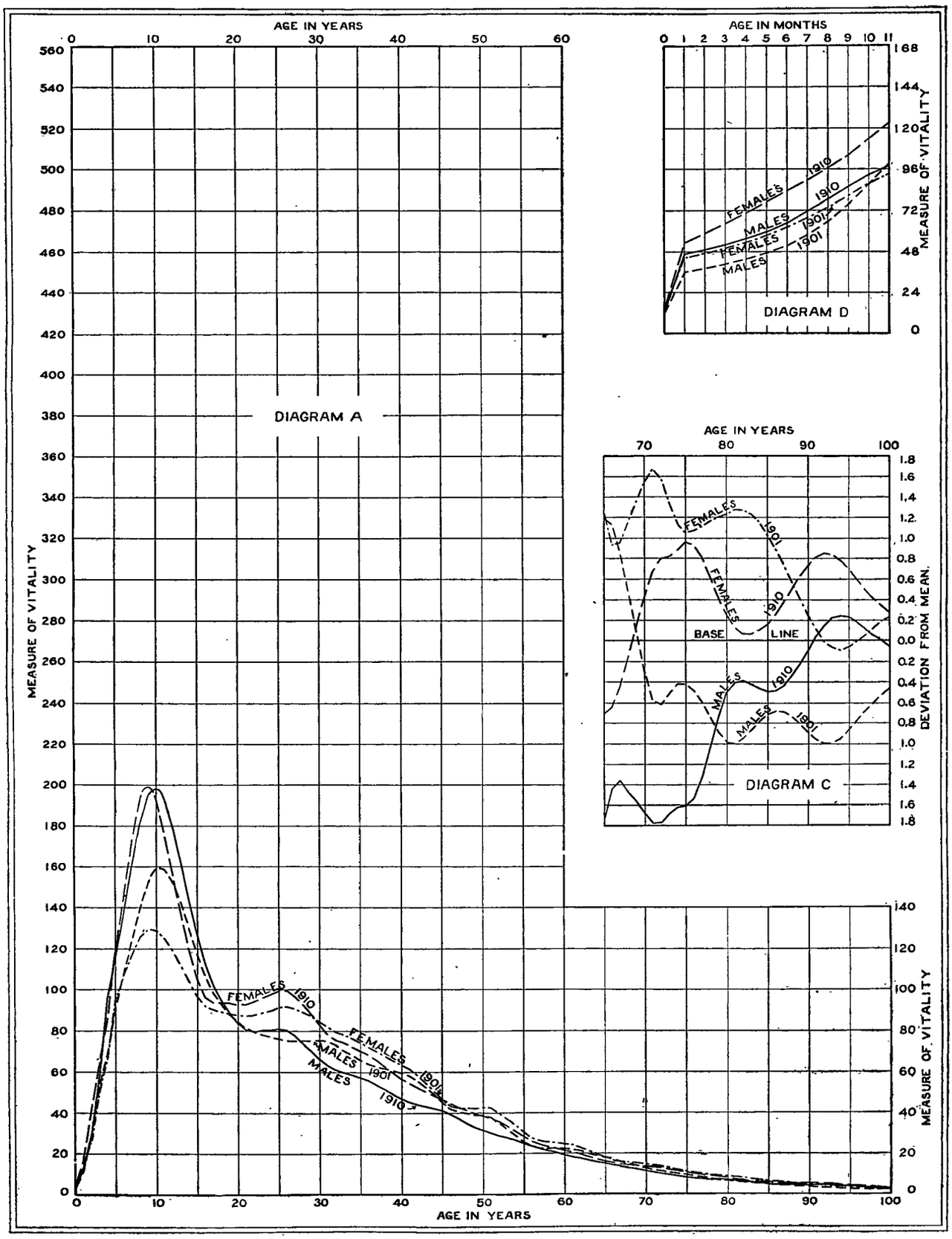
GRAPH 43

MEASURE OF VITALITY

NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 76, males, 1901; 80, males, 1910; 82, females, 1901; 86, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



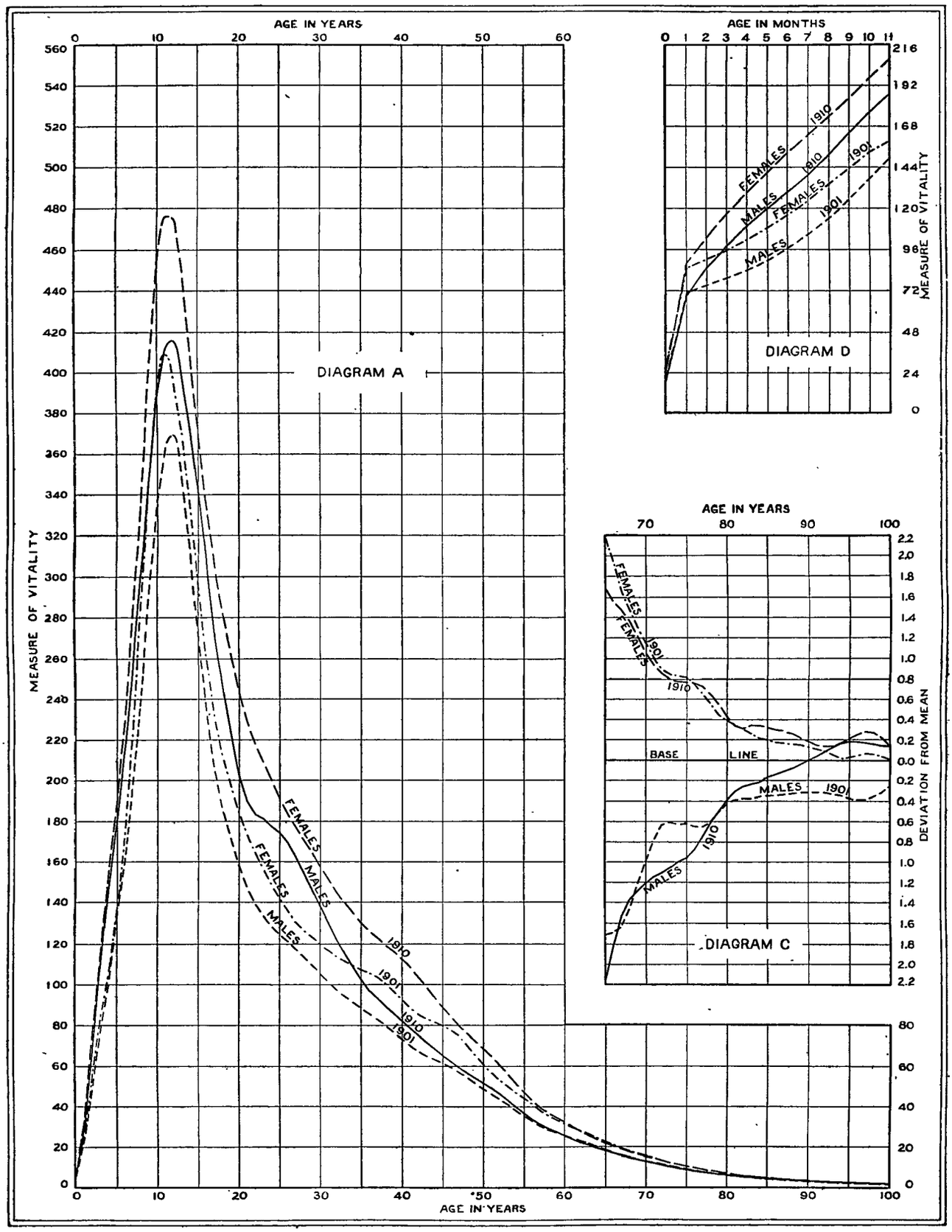
GRAPH 44

MEASURE OF VITALITY

WHITES IN CITIES OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 104, males, 1901; 106, males, 1910; 108, females, 1901; 110, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



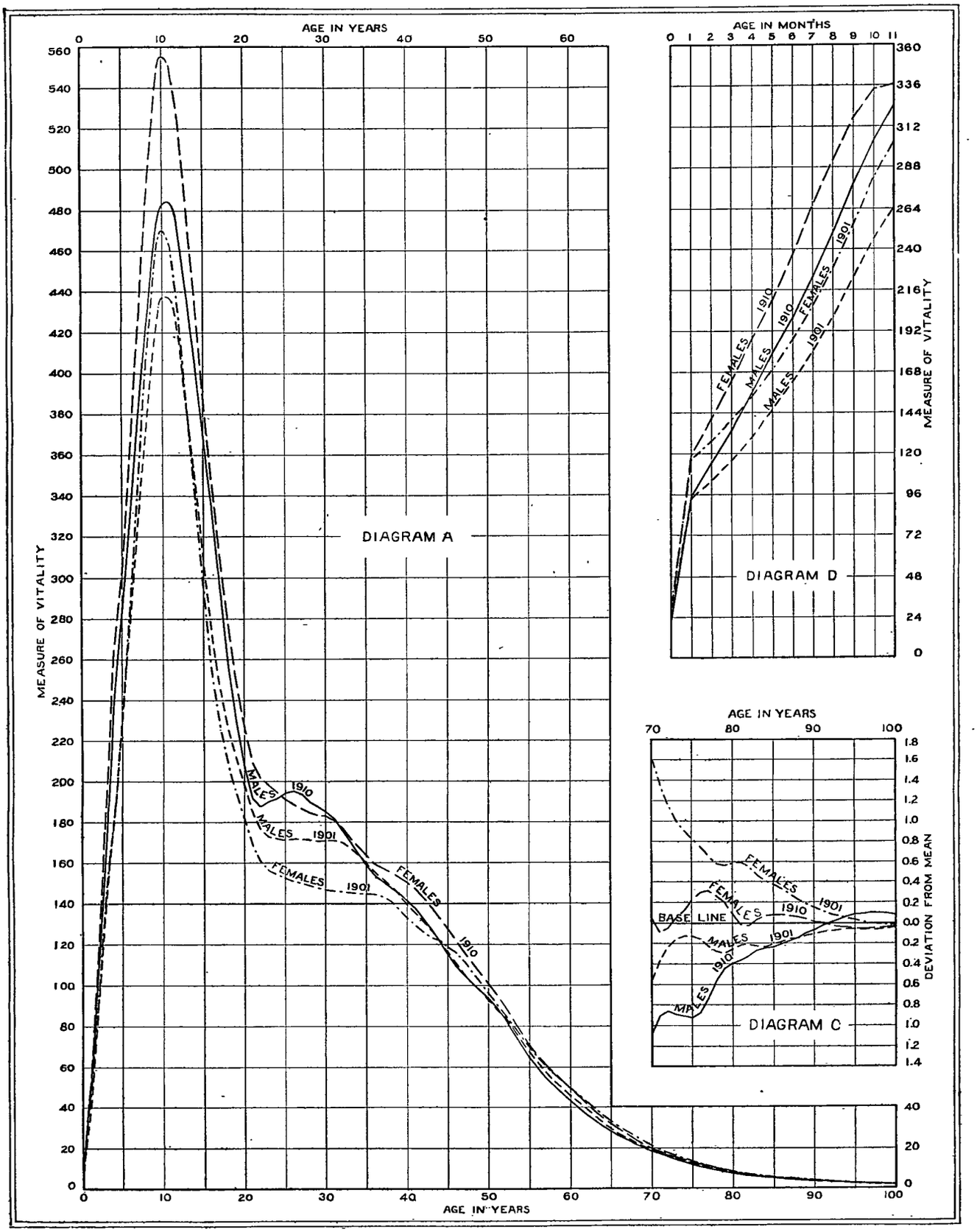
GRAPH 45

MEASURE OF VITALITY

WHITES IN RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1901, 1910 FEMALES: 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 112, males, 1901; 114, males, 1910; 116, females, 1901; 118, females, 1910. Values on the base line in Diagram C are the mean of the values of the curves represented.



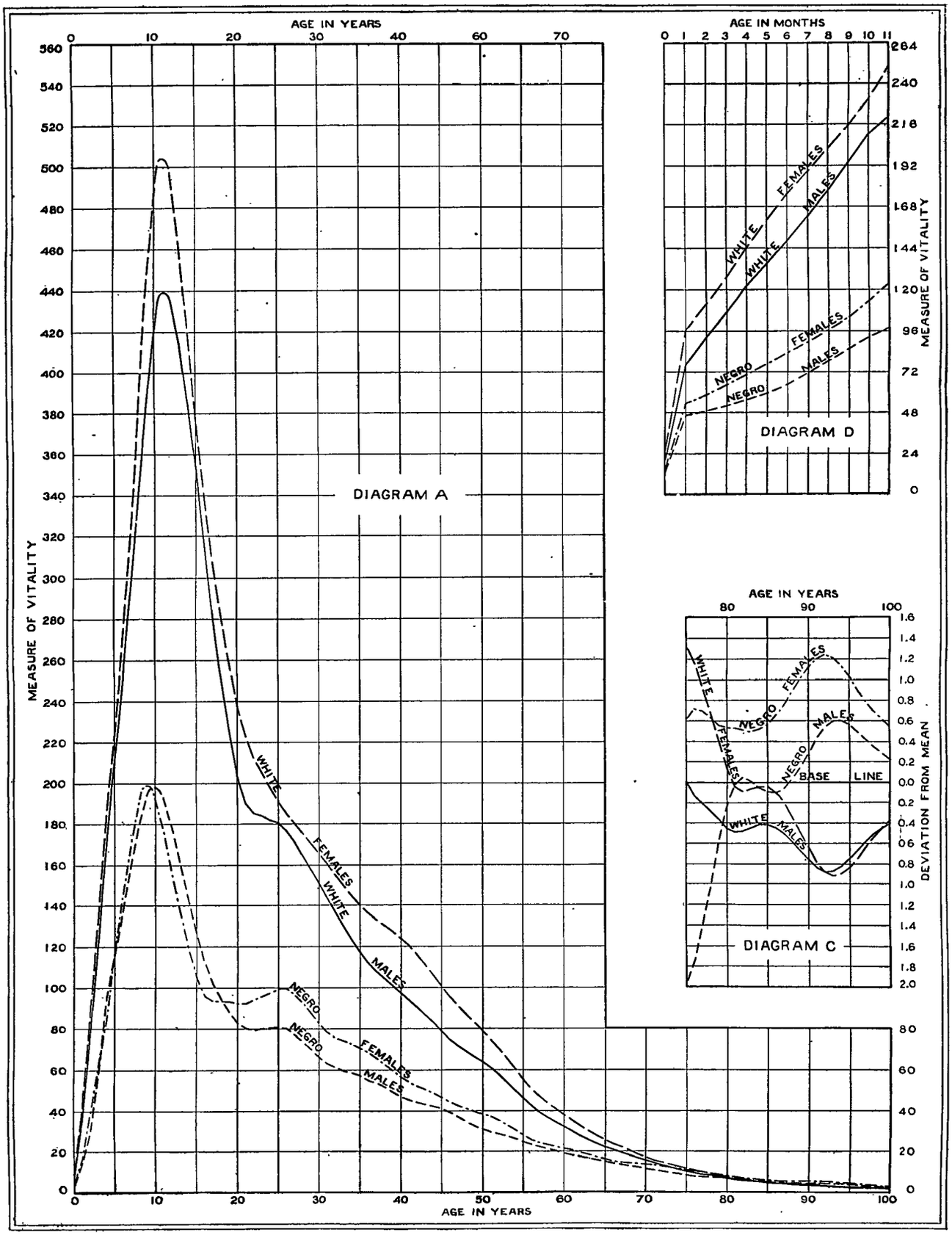
GRAPH 46

MEASURE OF VITALITY

WHITES AND NEGROES IN THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 7 on the following pages: 68, white males; 74, white females; 80, Negro males; 86, Negro females. Values on the base line in Diagram C are the mean of the values of the curves represented.



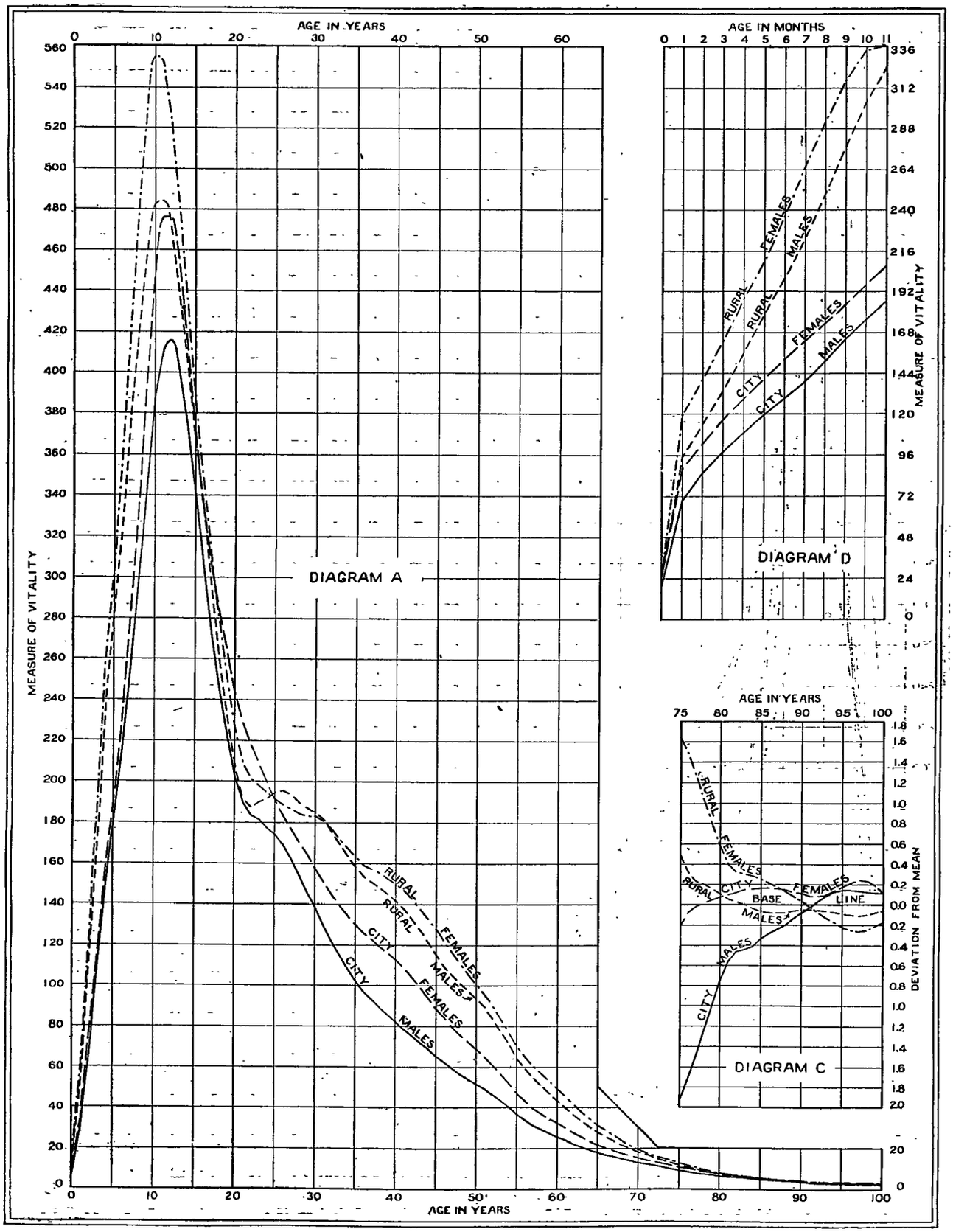
GRAPH 47

MEASURE OF VITALITY

WHITES IN CITIES AND RURAL PART OF THE ORIGINAL REGISTRATION STATES

MALES: 1910 FEMALES: 1910

The values on which these graphs are based may be found in column 7 on the following pages: 106, city males; 110, city females; 114, rural males; 118, rural females. Values on the base line in Diagram C are the mean of the values of the curves represented.



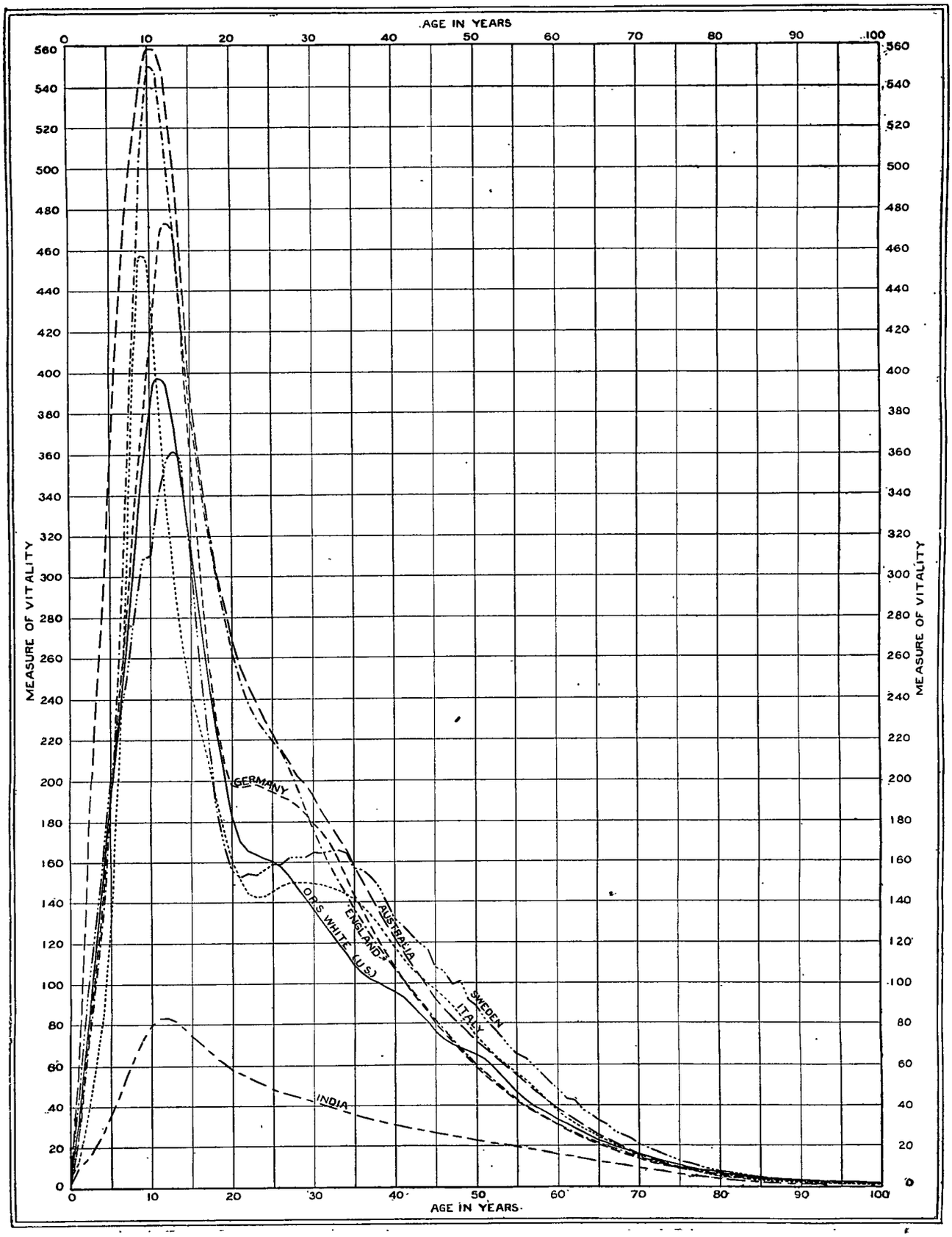
GRAPH 48

MEASURE OF VITALITY

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

MALES: 1901–1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 83, page 220.



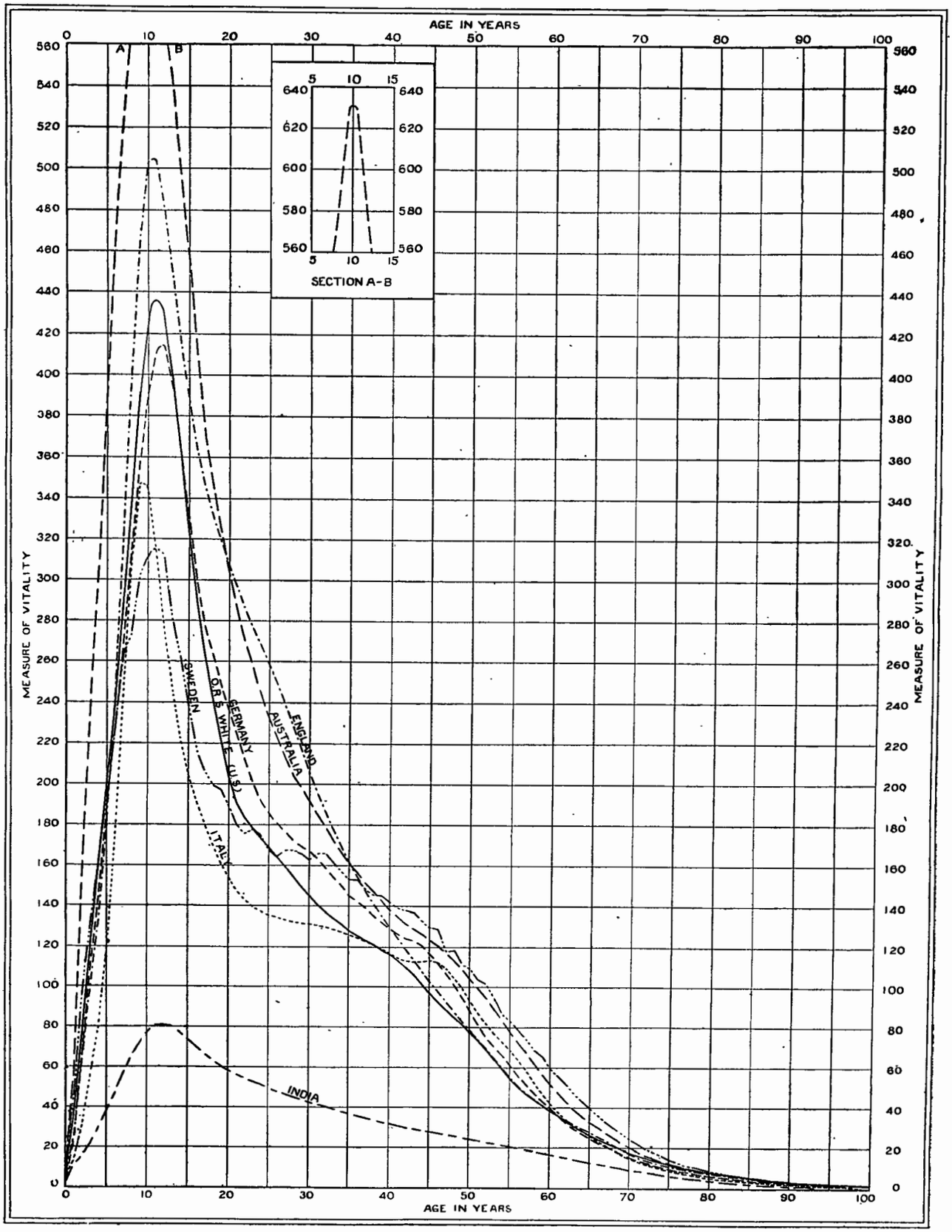
GRAPH 49

MEASURE OF VITALITY

AUSTRALIA, ENGLAND, GERMANY, INDIA, ITALY, SWEDEN, AND WHITES IN THE ORIGINAL REGISTRATION STATES

FEMALES: 1901-1910

The values on which these graphs are based may be found in columns 2, 4, 6, 8, 9, 12, and 14 of Table 84, page 222.



GRAPH 50

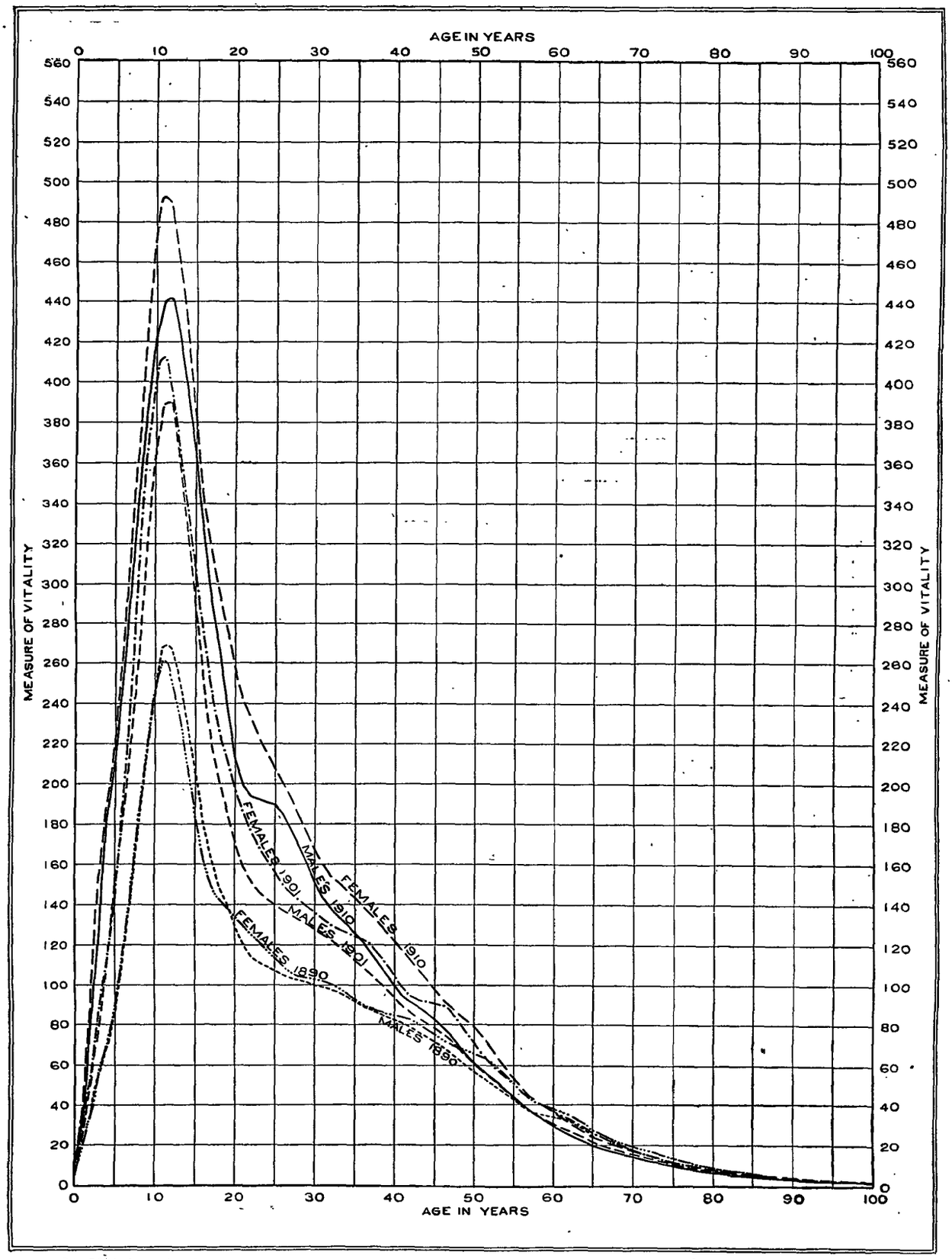
MEASURE OF VITALITY

THE STATE OF MASSACHUSETTS

MALES: 1890, 1901, 1910

FEMALES: 1890, 1901, 1910

The values on which these graphs are based may be found in column 7 on the following pages: 132, males, 1890; 134, males, 1901; 136, males, 1910; 138, females, 1890; 140, females, 1901; 142, females, 1910.

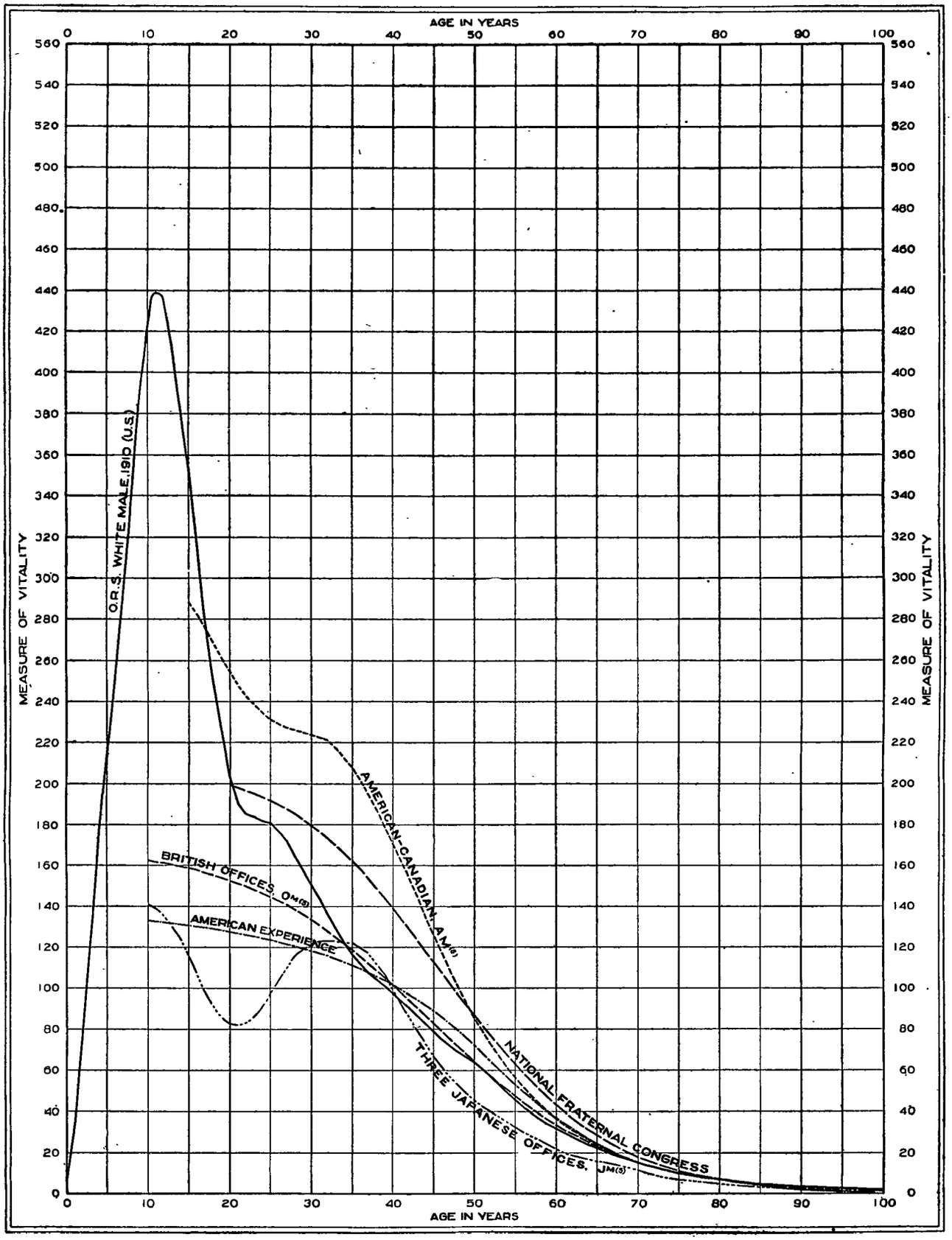


GRAPH 51

MEASURE OF VITALITY

AMERICAN EXPERIENCE MORTALITY TABLE: 1860
AMERICAN-CANADIAN MORTALITY INVESTIGATION: 1900–1915. AMERICAN MEN. AM(5)
BRITISH OFFICES LIFE TABLES: 1863–1893. MALES. OM(5)
THREE JAPANESE OFFICES LIFE TABLES: 1905. MALES. JM(5)
NATIONAL FRATERNAL CONGRESS MORTALITY TABLE: 1898
UNITED STATES. ORIGINAL REGISTRATION STATES: 1909–1911. WHITE MALES

The values on which these graphs are based may be found in columns 2, 4, 5, 8, 10, and 12 of Table 89, page 234.



PART V

TABLES OF LIFE ANNUITIES, ANNUAL PREMIUMS, SINGLE PREMIUMS, AND COMMUTATION COLUMNS BASED ON LIFE TABLES FOR WHITE MALES AND FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910

PART V.—TABLES OF LIFE ANNUITIES, ANNUAL PREMIUMS, SINGLE PREMIUMS, AND COMMUTATION COLUMNS BASED ON LIFE TABLES FOR WHITE MALES AND FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

PRACTICAL USES SERVED BY THESE TABLES.

93. This part consists of tables of life annuities and other tables useful in connection with problems involving life contingencies. Values of life table functions based on the rates of mortality experienced among white men and women in this country are needed frequently in legal and business practice. For example, in the settlement of estates and division of wills, the present values of life annuities based on one or more lives of different ages and sexes are often required. The only way to obtain this information is to consult the available life or mortality tables. Until the appearance of the United States Life Tables there were practically no reliable life tables available which faithfully represented mortality conditions as they now exist in the general population. In lieu of such tables it has been the practice to employ the American Experience Mortality Table, the Northampton, the Carlisle, or some of the English Life Tables. Since these tables differ materially from the United States Life Tables for white males and white females, the values obtained by their use were correspondingly in error. A direct comparison of the rate of mortality, expectation of life, and other functions by these tables may be made with various other tables based on the experience of life insurance companies by referring to Tables 85 to 89 on pages 226 to 235.

In addition to the uses mentioned above, these tables may be employed in the valuation of pension funds and for other purposes in connection with the setting up of pension systems where the mortality is likely to be in accordance with that of the general population. They may also be used to measure the present value of income and the present value of charitable bequests based upon the lives of individuals. The application of the tables in the latter case in connection with deductions in computing the income tax is obvious.

It is sometimes necessary in legal practice, when determining the measure of damages, to have the present value at a given rate of interest of a life annuity to a male or female of a given age. For this purpose these tables will be found particularly useful because they extend down to the infant ages, which usually is not the case in tables based on insurance experience.

LIFE ANNUITIES, NET PREMIUMS, COMMUTATION COLUMNS, AT DIFFERENT RATES OF INTEREST.

94. To meet the increasing need for accurate values of mortality functions based on the experience of the general population in this country, tables of this character are given in Part V. Two life tables were chosen for this purpose, one for white males in the original registration states, 1910, pages 68 and 69, and the other for white females in the original registration states, 1910, pages 74 and 75. Each of these tables is based on a population of about twelve millions and reported deaths of over half a million in the original registration states; they should, therefore, portray with great faithfulness the rates of mortality as they now exist among white males and white females in this country.

It is upon these life tables that the tabulated life annuities, net premiums, and commutation columns are based. They are divided into two sets, those for males in Tables 92 to 98, pages 298 to 311, and those for females in Tables 99 to 105, pages 312 to 325.

The values of the life annuities are given for each age at rates of interest 3, 3½, 4, 5, and 6 per cent. The tabulated annuities give the present value of $1 per year throughout life, the first payment to be made at once. An annuity of this character is called a life annuity due. The method of using these annuities is explained in section 83 in the Questions and Answers of Part I of this text, pages 47 and 48.

The tables of annuities are followed by tables of net single and net annual premiums per $1,000 of ordinary whole life insurance at 3, 3½, and 4 per cent.

To facilitate actuarial calculations, commutation columns are given at 3, 3½, 4, 5, and 6 per cent. These columns include values of the six functions D_x, N_x, S_x, C_x, M_x, R_x. They make it possible for the actuary to calculate all the values on single lives which would be required in practice.

The values given in this part are on one life. If values based on two or more lives are required, there is sufficient information contained in the tables to enable the actuary to make the necessary calculations. It would, of course, be desirable to have the life tables graduated to Makeham's formula, and thus facilitate the calculation of values on multiple lives; it has not been found feasible, however, to present such tables at this time.

TABLE 92 LIFE ANNUITY DUE. WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	$a_x = N_x/D_x$.		LIFE ANNUITY DUE.		WHITE MALES.
x	3%	3½%	4%	5%	6%
Years.					
0	23.0056	20.8292	18.9969	16.1086	13.9600
1	25.8523	23.4086	21.3481	18.0943	15.6690
2	26.3408	23.8661	21.7763	18.4700	16.0004
3	26.4374	23.9714	21.8858	18.5799	16.1054
4	26.4103	23.9657	21.8951	18.6066	16.1399
5	26.3231	23.9062	21.8558	18.5933	16.1405
6	26.2062	23.8201	21.7928	18.5604	16.1249
7	26.0666	23.7136	21.7112	18.5124	16.0967
8	25.9068	23.5889	21.6133	18.4508	16.0572
9	25.7293	23.4481	21.5008	18.3772	16.0075
10	25.5374	23.2943	21.3762	18.2935	15.9493
11	25.3339	23.1296	21.2418	18.2015	15.8841
12	25.1210	22.9564	21.0995	18.1027	15.8131
13	24.9017	22.7770	20.9515	17.9991	15.7380
14	24.6782	22.5937	20.7997	17.8922	15.6600
15	24.4522	22.4077	20.6453	17.7830	15.5801
16	24.2243	22.2199	20.4892	17.6722	15.4988
17	23.9966	22.0320	20.3328	17.5611	15.4173
18	23.7705	21.8453	20.1774	17.4508	15.3365
19	23.5475	21.6612	20.0243	17.3425	15.2575
20	23.3270	21.4792	19.8731	17.2358	15.1800
21	23.1098	21.3002	19.7245	17.1313	15.1047
22	22.8932	21.1215	19.5761	17.0272	15.0298
23	22.6722	20.9386	19.4238	16.9198	14.9522
24	22.4439	20.7488	19.2652	16.8068	14.8699
25	22.2091	20.5528	19.1006	16.6887	14.7831
26	21.9668	20.3497	18.9292	16.5647	14.6914
27	21.7183	20.1405	18.7521	16.4356	14.5951
28	21.4646	19.9262	18.5702	16.3022	14.4951
29	21.2073	19.7083	18.3847	16.1655	14.3922
30	20.9460	19.4863	18.1951	16.0251	14.2861
31	20.6809	19.2605	18.0018	15.8812	14.1769
32	20.4128	19.0316	17.8052	15.7343	14.0650
33	20.1426	18.8002	17.6062	15.5850	13.9509
34	19.8698	18.5661	17.4045	15.4331	13.8345
35	19.5947	18.3295	17.2000	15.2785	13.7157
36	19.3170	18.0900	16.9927	15.1212	13.5944
37	19.0359	17.8470	16.7817	14.9604	13.4699
38	18.7500	17.5990	16.5659	14.7949	13.3412
39	18.4586	17.3455	16.3445	14.6243	13.2077
40	18.1616	17.0862	16.1173	14.4480	13.0691
41	17.8590	16.8212	15.8844	14.2663	12.9255
42	17.5508	16.5503	15.6455	14.0788	12.7764
43	17.2375	16.2742	15.4013	13.8859	12.6222
44	16.9198	15.9932	15.1521	13.6881	12.4633
45	16.5973	15.7072	14.8977	13.4850	12.2993
46	16.2709	15.4168	14.6386	13.2770	12.1305
47	15.9402	15.1218	14.3746	13.0640	11.9568
48	15.6042	14.8209	14.1046	12.8447	11.7770
49	15.2618	14.5135	13.8277	12.6185	11.5904
50	14.9127	14.1987	13.5433	12.3846	11.3962
51	14.5560	13.8761	13.2508	12.1424	11.1938
52	14.1932	13.5467	12.9511	11.8926	10.9838
53	13.8268	13.2132	12.6467	11.6374	10.7680
54	13.4601	12.8783	12.3403	11.3793	10.5488

[1] This table appears on pages 68 and 69.

TABLE 92 LIFE ANNUITY DUE. WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	$a_x=N_x/D_x$.		LIFE ANNUITY DUE.		WHITE MALES.
x	3%	3½%	4%	5%	6%
Years.					
55	13.0937	12.5429	12.0327	11.1189	10.3266
56	12.7302	12.2095	11.7261	10.8583	10.1035
57	12.3703	11.8786	11.4213	10.5981	9.8798
58	12.0127	11.5489	11.1169	10.3373	9.6547
59	11.6557	11.2190	10.8115	10.0743	9.4269
60	11.2997	10.8893	10.5056	9.8097	9.1965
61	10.9452	10.5601	10.1994	9.5436	8.9639
62	10.5927	10.2319	9.8935	9.2765	8.7294
63	10.2430	9.9056	9.5886	9.0092	8.4938
64	9.8973	9.5823	9.2858	8.7426	8.2580
65	9.5549	9.2614	8.9846	8.4763	8.0214
66	9.2150	8.9420	8.6842	8.2096	7.7835
67	8.8777	8.6244	8.3847	7.9424	7.5442
68	8.5430	8.3084	8.0861	7.6749	7.3036
69	8.2120	7.9953	7.7895	7.4081	7.0626
70	7.8848	7.6849	7.4949	7.1419	6.8212
71	7.5611	7.3773	7.2022	6.8763	6.5793
72	7.2425	7.0737	6.9128	6.6124	6.3380
73	6.9309	6.7763	6.6286	6.3524	6.0993
74	6.6280	6.4866	6.3512	6.0977	5.8647
75	6.3353	6.2061	6.0822	5.8497	5.6356
76	6.0557	5.9376	5.8244	5.6114	5.4146
77	5.7883	5.6806	5.5771	5.3821	5.2016
78	5.5294	5.4312	5.3368	5.1586	4.9932
79	5.2766	5.1873	5.1013	4.9387	4.7874
80	5.0341	4.9529	4.8747	4.7264	4.5882
81	4.8079	4.7340	4.6627	4.5274	4.4010
82	4.5991	4.5318	4.4668	4.3431	4.2273
83	4.4045	4.3431	4.2837	4.1706	4.0645
84	4.2172	4.1613	4.1071	4.0038	3.9067
85	4.0396	3.9886	3.9392	3.8449	3.7560
86	3.8702	3.8238	3.7788	3.6926	3.6113
87	3.7095	3.6672	3.6261	3.5475	3.4732
88	3.5576	3.5191	3.4817	3.4099	3.3419
89	3.4136	3.3786	3.3445	3.2789	3.2168
90	3.2777	3.2458	3.2147	3.1549	3.0981
91	3.1508	3.1217	3.0934	3.0388	2.9868
92	3.0304	3.0039	2.9781	2.9283	2.8809
93	2.9137	2.8897	2.8663	2.8210	2.7778
94	2.7991	2.7774	2.7562	2.7153	2.6760
95	2.6866	2.6672	2.6481	2.6112	2.5758
96	2.5747	2.5573	2.5403	2.5072	2.4755
97	2.4517	2.4364	2.4214	2.3923	2.3643
98	2.3524	2.3389	2.3256	2.2998	2.2750
99	2.2396	2.2280	2.2166	2.1944	2.1729
100	2.1005	2.0910	2.0816	2.0633	2.0455
101	1.9522	1.9447	1.9373	1.9228	1.9085
102	1.7655	1.7600	1.7546	1.7440	1.7335
103	1.5768	1.5732	1.5695	1.5623	1.5554
104	1.4854	1.4830	1.4806	1.4764	1.4711
105	1.0000	1.0000	1.0000	1.0000	1.0000

[1] This table appears on pages 68 and 69.

TABLE 93 SINGLE AND ANNUAL NET PREMIUMS. WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF $1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

$1000A_x=1000M_x/D_x$	WHITE MALES.					$1000P_x=1000M_x/N_x$
AGE.	3%		3½%		4%	
x	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$
Years.						
0	329.9349	14.3415	295.6292	14.1930	269.3504	14.1787
1	247.0207	9.5551	208.4041	8.9029	178.9178	8.3810
2	232.7909	8.8376	192.9335	8.0840	162.4500	7.4599
3	229.9777	8.6989	189.3727	7.8999	158.2383	7.2302
4	230.7683	8.7378	189.5649	7.9098	157.8804	7.2108
5	233.3089	8.8633	191.5786	8.0138	159.3906	7.2928
6	236.7112	9.0326	194.4880	8.1649	161.8163	7.4252
7	240.7786	9.2371	198.0906	8.3535	164.9520	7.5975
8	245.4333	9.4737	202.3082	8.5764	168.7203	7.8063
9	250.6021	9.7399	207.0674	8.8309	173.0479	8.0485
10	256.1909	10.0320	212.2715	9.1126	177.8372	8.3194
11	262.1206	10.3467	217.8396	9.4182	183.0064	8.6154
12	268.3198	10.6811	223.6980	9.7445	188.4806	8.9329
13	274.7068	11.0316	229.7618	10.0874	194.1726	9.2677
14	281.2166	11.3953	235.9631	10.4438	200.0125	9.6161
15	287.8011	11.7700	242.2514	10.8111	205.9482	9.9755
16	294.4380	12.1547	248.6033	11.1883	211.9555	10.3448
17	301.0696	12.5463	254.9577	11.5722	217.9705	10.7202
18	307.6546	12.9427	261.2702	11.9600	223.9463	11.0989
19	314.1506	13.3411	267.4950	12.3490	229.8345	11.4778
20	320.5742	13.7427	273.6491	12.7402	235.6518	11.8579
21	326.8989	14.1455	279.7035	13.1315	241.3670	12.2369
22	333.2080	14.5549	285.7462	13.5287	247.0719	12.6211
23	339.6459	14.9808	291.9320	13.9423	252.9293	13.0216
24	346.2938	15.4293	298.3484	14.3790	259.0322	13.4456
25	353.1340	15.9004	304.9777	14.8387	265.3634	13.8930
26	360.1905	16.3970	311.8471	15.3244	271.9524	14.3668
27	367.4297	16.9180	318.9217	15.8349	278.7641	14.8657
28	374.8174	17.4621	326.1660	16.3687	285.7618	15.3882
29	382.3108	18.0273	333.5344	16.9235	292.8981	15.9317
30	389.9228	18.6156	341.0418	17.5016	300.1894	16.4984
31	397.6428	19.2275	348.6773	18.1032	307.6249	17.0886
32	405.4521	19.8626	356.4211	18.7279	315.1843	17.7018
33	413.3229	20.5199	364.2440	19.3745	322.8369	18.3365
34	421.2672	21.2014	372.1591	20.0450	330.5968	18.9949
35	429.2811	21.9081	380.1627	20.7405	338.4609	19.6779
36	437.3688	22.6417	388.2594	21.4626	346.4342	20.3872
37	445.5577	23.4062	396.4797	22.2155	354.5497	21.1272
38	453.8838	24.2072	404.8635	23.0049	362.8510	21.9035
39	462.3694	25.0489	413.4357	23.8353	371.3656	22.7211
40	471.0217	25.9351	422.2057	24.7103	380.1047	23.5837
41	479.8336	26.8678	431.1664	25.6323	389.0616	24.4933
42	488.8124	27.8513	440.3273	26.6054	398.2483	25.4544
43	497.9366	28.8868	449.6659	27.6307	407.6416	26.4680
44	507.1911	29.9762	459.1668	28.7101	417.2261	27.5358
45	516.5831	31.1245	468.8386	29.8486	427.0127	28.6630
46	526.0909	32.3333	478.6587	31.0479	436.9771	29.8510
47	535.7207	33.6081	488.6351	32.3133	447.1291	31.1054
48	545.5096	34.9592	498.8087	33.6557	457.5151	32.4373
49	555.4802	36.3967	509.2070	35.0852	468.1651	33.8570
50	565.6502	37.9308	519.8498	36.6124	479.1031	35.3756
51	576.0374	39.5738	530.7596	38.2499	490.3550	37.0058
52	586.6060	41.3301	541.8975	40.0020	501.8807	38.7520
53	597.2761	43.1968	553.1772	41.8655	513.5882	40.6104
54	607.9591	45.1676	564.5012	43.8334	525.3723	42.5736

[1] This table appears on pages 68 and 69.

TABLE 93 SINGLE AND ANNUAL NET PREMIUMS. WHITE MALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF $1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

$1000A_x=1000M_x/D_x$ WHITE MALES. $1000P_x=1000M_x/N_x$

AGE.	3%		3½%		4%	
x	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$
Years.						
55	618.6310	47.2465	575.8425	45.9097	537.2043	44.6454
56	629.2171	49.4271	587.1191	48.0872	548.9949	46.8181
57	639.6994	51.7124	598.3098	50.3689	560.7205	49.0944
58	650.1167	54.1193	609.4573	52.7719	572.4274	51.4917
59	660.5148	56.6690	620.6128	55.3179	584.1716	54.0322
60	670.8812	59.3713	631.7621	58.0167	595.9377	56.7256
61	681.2070	62.2378	642.8954	60.8797	607.7153	59.5834
62	691.4740	65.2782	653.9921	63.9167	619.4817	62.6152
63	701.6598	68.5013	665.0268	67.1362	631.2093	65.8294
64	711.7296	71.9116	675.9605	70.5425	642.8543	69.2299
65	721.7025	75.5323	686.8134	74.1589	654.4391	72.8402
66	731.6026	79.3928	697.6129	78.0152	665.9934	76.6905
67	741.4271	83.5160	708.3551	82.1343	677.5127	80.8037
68	751.1757	87.9291	719.0396	86.5437	688.9968	85.2077
69	760.8155	92.6467	729.6291	91.2578	700.4039	89.9165
70	770.3468	97.7008	740.1238	96.3087	711.7346	94.9625
71	779.7729	103.1292	750.5264	101.7347	722.9914	100.3844
72	789.0546	108.9485	760.7927	107.5523	734.1248	106.1986
73	798.1291	115.1553	770.8509	113.7575	745.0553	112.4006
74	806.9505	121.7481	780.6475	120.3485	755.7218	118.9880
75	815.4757	128.7185	790.1330	127.3162	766.0673	125.9515
76	823.6216	136.0087	799.2113	134.6014	775.9849	133.2302
77	831.4094	143.6366	807.9030	142.2220	785.4949	140.8421
78	838.9509	151.7265	816.3355	150.3042	794.7367	148.9150
79	846.3138	160.3915	824.5846	158.9626	803.7949	157.5657
80	853.3765	169.5205	832.5103	168.0851	812.5123	166.6803
81	859.9652	178.8665	839.9125	177.4208	820.6639	176.0048
82	866.0450	188.3066	846.7501	186.8454	828.2004	185.4129
83	871.7142	197.9154	853.1318	196.4338	835.2411	194.9801
84	877.1685	207.9970	859.2803	206.4938	842.0337	205.0176
85	882.3420	218.4232	865.1183	216.8954	848.4904	215.3941
86	887.2748	229.2564	870.6919	227.7020	854.6618	226.1734
87	891.9578	240.4550	875.9884	238.8714	860.5326	237.3131
88	896.3805	251.9618	880.9958	250.3458	866.0886	248.7547
89	900.5748	263.8185	885.7491	262.1673	871.3671	260.5407
90	904.5334	275.9661	890.2393	274.2759	876.3579	272.6102
91	908.2296	288.2542	894.4345	286.5195	881.0237	284.8092
92	911.7374	300.8675	898.4183	299.0825	885.4577	297.3222
93	915.1347	314.0774	902.2798	312.2368	889.7583	310.4209
94	918.4733	328.1309	906.0772	326.2289	893.9914	324.3520
95	921.7493	343.0857	909.8066	341.1146	898.1507	339.1692
96	925.0105	359.2716	913.5223	357.2225	902.2987	355.1994
97	928.5923	378.7472	917.6099	376.6192	906.8681	374.5172
98	931.4884	395.9799	920.9103	393.7437	910.5513	391.5342
99	934.7709	417.3807	924.6583	415.0141	914.7488	412.6777
100	938.8228	446.9426	929.2959	444.4268	919.9413	441.9416
101	943.1437	483.1061	934.2325	480.4021	925.5012	477.7369
102	948.5789	537.2969	940.4905	534.3724	932.5358	531.4923
103	954.0510	605.0396	946.8115	601.8466	939.6659	598.7114
104	956.7380	644.0949	949.7137	640.4006	942.9838	636.8715
105	971.0339	971.0339	966.2838	966.2838	961.8931	961.8931

[1] This table appears on pages 68 and 69.

TABLE 94 COMMUTATION COLUMNS, 3%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	2 300 556.89	51 237 889.36	11 966.99	32 993.49	808 191.19
1	85 120.39	2 200 556.89	48 937 332.47	2 331.040	21 026.499	775 197.702
2	80 310.11	2 115 436.50	46 736 775.58	992.0136	18 695.4595	754 171.2032
3	76 978.97	2 035 126.39	44 621 339.08	593.5093	17 703.4459	735 475.7437
4	74 143.36	1 958 147.42	42 586 212.69	411.4644	17 109.9366	717 772.2978
5	71 572.38	1 884 004.06	40 628 065.27	327.4563	16 698.4722	700 662.3612
6	69 160.29	1 812 431.68	38 744 061.21	268.3202	16 371.0159	683 963.8890
7	66 877.59	1 743 271.39	36 931 629.53	221.0346	16 102.6957	667 592.8731
8	64 708.66	1 676 393.80	35 188 358.14	183.9400	15 881.6611	651 490.1774
9	62 640.01	1 611 685.14	33 511 964.34	157.7479	15 697.7211	635 608.5163
10	60 657.79	1 549 045.13	31 900 279.20	140.1497	15 539.9732	619 910.7952
11	58 750.91	1 488 387.34	30 351 234.07	129.7553	15 399.8235	604 370.8220
12	56 909.96	1 429 636.43	28 862 846.73	126.6569	15 270.0682	588 970.9985
13	55 125.73	1 372 726.47	27 433 210.30	128.9180	15 143.4113	573 700.9303
14	53 391.21	1 317 600.74	26 060 483.83	134.7910	15 014.4933	558 557.5190
15	51 701.34	1 264 209.53	24 742 883.09	142.0821	14 879.7023	543 543.0257
16	50 053.39	1 212 508.19	23 478 673.56	153.0692	14 737.6202	528 663.3234
17	48 442.46	1 162 454.80	22 266 165.37	166.2327	14 584.5510	513 925.7032
18	46 865.28	1 114 012.34	21 103 710.57	181.3510	14 418.3183	499 341.1522
19	45 318.92	1 067 147.06	19 989 698.23	194.3402	14 236.9673	484 922.8339
20	43 804.61	1 021 828.14	18 922 551.17	208.0316	14 042.6271	470 685.8666
21	42 320.72	978 023.53	17 900 723.03	215.5416	13 834.5955	456 643.2395
22	40 872.53	935 702.81	16 922 699.50	213.8239	13 619.0539	442 808.6440
23	39 468.25	894 830.28	15 986 996.69	207.5960	13 405.2300	429 189.5901
24	38 111.09	855 362.03	15 092 166.41	202.9824	13 197.6340	415 784.3601
25	36 798.08	817 250.94	14 236 804.38	197.5340	12 994.6516	402 586.7261
26	35 528.75	780 452.86	13 419 553.44	194.4817	12 797.1176	389 592.0745
27	34 299.45	744 924.11	12 639 100.58	193.6250	12 602.6359	376 794.9569
28	33 106.82	710 624.66	11 894 176.47	195.1993	12 409.0109	364 192.3210
29	31 947.34	677 517.84	11 183 551.81	196.1057	12 213.8116	351 783.3101
30	30 820.73	645 570.50	10 506 033.97	197.5937	12 017.7059	339 569.4985
31	29 725.45	614 749.77	9 860 463.47	199.9936	11 820.1122	327 551.7926
32	28 659.66	585 024.32	9 245 713.70	203.5942	11 620.1186	315 731.6804
33	27 621.32	556 364.66	8 660 689.38	206.4493	11 416.5244	304 111.5618
34	26 610.37	528 743.34	8 104 324.72	209.3208	11 210.0751	292 695.0374
35	25 625.99	502 132.97	7 575 581.38	211.8499	11 000.7543	281 484.9623
36	24 667.75	476 506.98	7 073 448.41	213.0491	10 788.9044	270 484.2080
37	23 736.22	451 839.23	6 596 941.43	212.6979	10 575.8553	259 695.3036
38	22 832.18	428 103.01	6 145 102.20	211.5549	10 363.1574	249 119.4483
39	21 955.61	405 270.83	5 716 999.19	210.2980	10 151.6025	238.756.2909
40	21 105.83	383 315.22	5 311 728.36	209.5301	9 941.3045	228 604.6884
41	20 281.56	362 209.39	4 928 413.14	208.6286	9 731.7744	218 663.3839
42	19 482.21	341 927.83	4 566 203.75	208.7239	9 523.1458	208 931.6095
43	18 706.04	322 445.62	4 224 275.92	209.4539	9 314.4219	199 408.4637
44	17 951.75	303 739.58	3 901 830.30	209.9643	9 104.9680	190 094.0418
45	17 218.92	285 787.83	3 598 090.72	211.2942	8 895.0037	180 989.0738
46	16 506.10	268 568.91	3 312 302.89	212.3685	8 683.7095	172 094.0701
47	15 812.98	252 062.81	3 043 733.98	212.2329	8 471.3410	163 410.3606
48	15 140.17	236 249.83	2 791 671.17	211.4553	8 259.1081	154 939.0196
49	14 487.74	221 109.66	2 555 421.34	210.3147	8 047.6528	146 679.9115
50	13 855.45	206 621.92	2 334 311.68	208.8398	7 837.3381	138 632.2587
51	13 243.06	192 766.47	2 127 689.76	208.7774	7 628.4983	130 794.9206
52	12 648.56	179 523.41	1 934 923.29	211.2553	7 419.7209	123 166.4223
53	12 068.90	166 874.85	1 755 399.88	216.2491	7 208.4656	115 746.7014
54	11 501.13	154 805.95	1 588 525.03	221.5598	6 992.2165	108 538.2358

[1] This table appears on pages 68 and 69.

TABLE 94 COMMUTATION COLUMNS, 3%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	10 944.58	143 304.82	1 433 719.08	228.4792	6 770.6567	101 546.0193
56	10 397.33	132.360.24	1 290 414.26	235.1784	6 542.1775	94 775.3626
57	9 859.317	121 962.913	1 158 054.017	240.0331	6 306.9991	88 233.1851
58	9 332.119	112 103.596	1 036 091.104	243.0069	6 066.9660	81 926.1860
59	8 817.303	102 771.477	923 987.508	245.7735	5 823.9591	75 859.2200
60	8 314.715	93 954.174	821 216.031	248.1729	5 578.1856	70 035.2609
61	7 824.366	85 639.459	727 261.857	250.3839	5 330.0127	64 457.0753
62	7 346 088	77 815.093	641 622.398	252.4110	5 079.6288	59 127.0626
63	6 879.713	70 469.005	563 807.305	254.4091	4 827.2178	54 047.4338
64	6 424 924	63 589.292	493 338.300	255.0519	4 572.8087	49 220.2160
65	5 982.738	57 164.368	429 749.008	254.3042	4 317.7568	44 647.4073
66	5 554.180	51 181.630	372 584.640	252.8316	4 063.4526	40 329.6505
67	5 139.576	45 627.450	321 403.010	250.5592	3 810.6210	36 266.1979
68	4 739.320	40 487.874	275 775.560	248.0745	3 560.0618	32 455.5769
69	4 353.207	35 748.554	235 287.686	244.6380	3 311.9873	28 895.5151
70	3 981.777	31 395.347	199 539.132	240.2102	3 067.3493	25 583.5278
71	3 625.593	27 413.570	168 143.785	235.4757	2 827.1391	22 516.1785
72	3 284.517	23 787.977	140 730.215	230.5821	2 591.6634	19 689.0394
73	2 958.270	20 503.460	116 942.238	224.9882	2 361.0813	17 097.3760
74	2 647.118	17 545.190	96 438.778	218.4351	2 136.0931	14 736.2947
75	2 351.582	14 898.072	78 893.588	211.2268	1 917.6580	12 600.2016
76	2 071.863	12 546.490	63 995.516	201.8911	1 706.4312	10 682.5436
77	1 809.626	10 474.627	51 449.026	189.8294	1 504.5401	8 976.1124
78	1 567.089	8 665.001	40 974.399	176.2663	1 314.7107	7 471.5723
79	1 345.180	7 097.912	32 309.398	163.2382	1 138.4444	6 156.8616
80	1 142.762	5 752.732	25 211.486	150.6371	975.2062	5 018.4172
81	958.8401	4 609.9705	19 458.7540	137.0370	824.5691	4 043.2110
82	793.8757	3 651.1304	14 848.7835	122.0373	687.5321	3 218.6419
83	648.7158	2 857.2547	11 197.6531	106.1252	565.4948	2 531.1098
84	523.6959	2 208.5389	8 340.3984	91.36078	459.36955	1.965.61504
85	417.0818	1 684.8430	6 131.8595	77.36637	368.00877	1 506.24549
86	327.5675	1 267.7612	4 447.0165	64.56812	290.64240	1 138.23672
87	253.4585	940.1937	3 179.2553	53.04327	226.07428	847.59432
88	193 0330	686.7352	2 239.0616	42.78322	173.03101	621.52004
89	144.6274	493.7022	1 552.3264	33.91498	130.24779	448.48903
90	106.5000	349.0748	1 058.6242	26.40962	96.33281	318.24124
91	76.98845	242.57475	709.54936	20.10366	69.92319	221.90843
92	54.64241	165.58630	466.97461	14.97456	49.81953	151.98524
93	38.07633	110.94389	301.38831	10.93487	34.84497	102.16571
94	26.03244	72.86756	190.44442	7.84164	23.91010	67.32074
95	17.43257	46.83512	117.57686	5.50496	16.06846	43.41064
96	11.41987	29.40255	70.74174	3.75261	10.56350	27.34218
97	7.33464	17.98268	41.33919	2.59448	6.81089	16.77868
98	4.52653	10.64804	23.35651	1.66141	4.21641	9.96779
99	2.73329	6.12151	12.70847	1.04066	2.55500	5.75138
100	1.61302	3.38822	6.58696	.65673	1.51434	3.19638
101	.90931	1.77520	3.19874	.39237	.85761	1.68204
102	.49046	.86589	1.42354	.23809	.46524	.82443
103	.23809	.37543	.55765	.13869	.22715	.35919
104	.09246	.13734	.18222	.04488	.08846	.13204
105	.04488	.04488	.04488	.04358	.04358	.04358

[1] This table appears on pages 68 and 69.

TABLE 95 COMMUTATION COLUMNS, 3½%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	2 082 924.98	43 308 482.48	11 909.18	29 562.92	618 386.92
1	84 709.18	1 982 924.98	41 225 557.50	2 308.572	17 653.744	588 823.996
2	79 536.05	1 898 215.80	39 242 632.52	977.7059	15 345.1719	571 170.2518
3	75 868.71	1 818 679.75	37 344 416.72	582.1234	14 367.4660	555 825.0799
4	72 720.98	1 742 811.04	35 525 736.97	401.6212	13 785.3426	541 457.6139
5	69 860.20	1 670 090.06	33 782 925.93	318.0788	13 383.7214	527 672.2713
6	67 179.70	1 600 229.86	32 112 835.87	259.3770	13 065.6426	514 288.5499
7	64 648.54	1 533 050.16	30 512 606.01	212.6352	12 806.2656	501 222.9073
8	62 249.72	1 468 401.62	28 979 555.85	176.0954	12 593.6304	488 416.6417
9	59 968.57	1 406 151.90	27 511 154.23	150.2908	12 417.5350	475 823.0113
10	57 790.35	1 346 183.33	26 105 002.33	132.8795	12 267.2442	463 405.4763
11	55 703.21	1 288 392.98	24 758 819.00	122.4299	12 134.3647	451 138.2321
12	53 697.10	1 232 689.77	23 470 426.02	118.9292	12 011.9348	439 003.8674
13	51 762.32	1 178 992.67	22 237 736.25	120.4674	11 893.0056	426 991.9326
14	49 891.44	1 127 230.35	21 058 743.58	125.3470	11 772.5382	415 098.9270
15	48 078.94	1 077 338.91	19 931 513.23	131.4889	11 647.1912	403 326.3888
16	46 321.60	1 029 259.97	18 854 174.32	140.9726	11 515.7023	391 679.1976
17	44 614.19	982 938.37	17 824 914.35	152.3562	11 374.7297	380 163.4953
18	42 953.14	938 324.18	16 841 975.98	165.4095	11 222.3735	368 788.7656
19	41 335.21	895 371.04	15 903 651.80	176.4006	11 056.9640	357 566.3921
20	39 761.00	854 035.83	15 008 280.76	187.9159	10 880.5634	346 509.4281
21	38 228.51	814 274.83	14 154 244.93	193.7592	10 692.6475	335 628.8647
22	36 742.00	776 046.32	13 339 970.10	191.2865	10 498.8883	324 936.2172
23	35 308.23	739 304.32	12 563 923.78	184.8179	10 307.6018	314 437.3289
24	33 929.41	703 996.09	11 824 619.46	179.8375	10 122.7839	304 129.7271
25	32 602.21	670 066.68	11 120 623.37	174.1648	9 942.9464	294 006.9432
26	31 325.55	637 464.47	10 450 556.69	170.6453	9 768.7816	284 063.9968
27	30 095.59	606 138.92	9 813 092.22	169.0729	9 598.1363	274 295.2152
28	28 908.79	576 043.33	9 206 953.30	169.6241	9 429.0634	264 697.0789
29	27 761.57	547 134.54	8 630 909.97	169.5885	9 259.4393	255 268.0155
30	26 653.19	519 372.97	8 083 775.43	170.0498	9 089.8508	246 008.5762
31	25 581.82	492 719.78	7 564 402.46	171.2837	8 919.8010	236 918.7254
32	24 545.45	467 137.96	7 071 682.68	173.5251	8 748.5173	227 998.9244
33	23 541.89	442 592.51	6 604 544.72	175.1085	8 574.9922	219 250.4071
34	22 570.68	419 050.62	6 161 952.21	176.6864	8 399.8837	210 675.4149
35	21 630.73	396 479.94	5 742 901.59	177.9573	8 223.1973	202 275.5312
36	20 721.30	374 849.21	5 346 421.65	178.1001	8 045.2400	194 052.3339
37	19 842.48	354 127.91	4 971 572.44	176.9475	7 867.1399	186 007.0939
38	18 994.53	334 285.43	4 617 444.53	175.1464	7 690.1924	178 139.9540
39	18 177.06	315 290.90	4 283 159.10	173.2647	7 515.0460	170 449.7616
40	17 389.11	297 113.84	3 967 868.20	171.7981	7 341.7813	162 934.7156
41	16 629.27	279 724.73	3 670 754.36	170.2325	7 169.9832	155 592.9343
42	15 896.70	263 095.46	3 391 029.63	169.4876	6 999.7507	148 422.9511
43	15 189.64	247 198.76	3 127 934.17	169.2587	6 830.2631	141 423.2004
44	14 506.72	232 009.12	2 880 735.41	168.8514	6 661.0044	134 592.9373
45	13 847.31	217 502.40	2 648 726.29	169.1001	6 492.1530	127 931.9329
46	13 209.94	203 655.09	2 431 223.89	169.1388	6 323.0529	121 439.7799
47	12 594.09	190 445.15	2 227 568.80	168.2143	6 153.9141	115 116.7270
48	11 999.99	177 851.06	2 037 123.65	166.7882	5 985.6998	108 962.8129
49	11 427.40	165 851.07	1 859 272.59	165.0872	5 818.9116	102 977.1131
50	10 875.88	154 423.67	1 693 421.52	163.1375	5 653.8244	97 158.2015
51	10 344.96	143 547.79	1 538 997.85	162.3009	5 490.6869	91 504.3771
52	9 832.830	133 202.826	1 395 450.055	163.4338	5 328.3860	86 013.6902
53	9 336.885	123 369.996	1 262 247.229	166.4890	5 164.9522	80 685.3042
54	8 854.655	114 033.111	1 138 877.233	169.7537	4 998.4632	75 520.3520

[1] This table appears on pages 68 and 69.

TABLE 95 COMMUTATION COLUMNS, 3½%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	8 385.469	105 178.456	1 024 844.122	174.2094	4 828.7095	70 521.8888
56	7 927.693	96 792.987	919 665.666	178.4511	4 654.5001	65 693.1793
57	7 481.156	88 865.294	822 872.679	181.2549	4 476.0490	61 038.6792
58	7 046.915	81 384.138	734 007.385	182.6140	4 294.7941	56 562.6302
59	6 625.999	74 337.223	652 623.247	183.8009	4 112.1801	52 267.8361
60	6 218.131	67 711.224	578 286.024	184.6986	3 928.3792	48 155.6560
61	5 823.157	61 493.093	510 574.800	185.4439	3 743.6806	44 227.2768
62	5 440.795	55 669.936	449 081.707	186.0421	3 558.2367	40 483.5962
63	5 070.765	50 229.141	393 411.771	186.6090	3 372.1946	36 925.3595
64	4 712.680	45 158.376	343 182.630	186.1767	3 185.5856	33 553.1649
65	4 367.138	40 445.696	298 024.254	184.7342	2 999.4089	30 367.5793
66	4 034.723	36 078.558	257 578.558	182.7772	2 814.6747	27 368.1704
67	3 715.506	32 043.835	221 500.000	180.2594	2 631.8975	24 553.4957
68	3 409.601	28 328.329	189 456.165	177.6096	2 451.6381	21 921.5982
69	3 116.691	24 918.728	161 127.836	174.3031	2 274.0285	19 469.9601
70	2 836.992	21 802.037	136 209.108	170.3216	2 099.7254	17 195.9316
71	2 570.734	18 965.045	114 407.071	166.1579	1 929.4038	15 096.2062
72	2 317.643	16 394.311	95 442.026	161.9188	1 763.2459	13 166.8024
73	2 077.350	14 076.668	79 047.715	157.2275	1 601.3271	11 403.5565
74	1 849.874	11 999.318	64 971.047	151.9106	1 444.0996	9 802.2294
75	1 635.407	10 149.444	52 971.729	146.1879	1 292.1890	8 358.1298
76	1 433.915	8 514.037	42 822.285	139.0518	1 146.0011	7 065.9408
77	1 246.374	7 080.122	34 308.248	130.1127	1 006.9493	5 919.9397
78	1 074.113	5 833.748	27 228.126	120.2326	876.8366	4 912.9904
79	917.5578	4 759.6351	21 394.3784	110.8082	756.6040	4 036.1538
80	775.7211	3 842.0773	16 634.7433	101.7604	645.7958	3 279.5498
81	647.7286	3 066.3562	12 792.6660	92.12588	544.03538	2 633.75396
82	533.6988	2 418.6276	9 726.3098	81.64571	451.90950	2 089.71858
83	434.0054	1 884.9288	7 307.6822	70.65715	370.26379	1 637.80908
84	348.6716	1 450.9234	5 422.7534	60.53328	299.60664	1 267.54529
85	276.3476	1 102.2518	3 971.8300	51.01331	239.07336	967.93865
86	215.9892	825.9042	2 869.5782	42.36881	188.06005	728.86529
87	166.3164	609.9150	2 043.6740	34.63820	145.69124	540.80524
88	126.0540	443.5986	1 433.7590	27.80323	111.05304	395.11400
89	93.98803	317.54462	990.16043	21.93362	83.24981	284.06096
90	68.87608	223.55659	672.61581	16.99721	61.31619	200.81115
91	49.54972	154.68051	449.05922	12.87620	44.31898	139.49496
92	34.99793	105.13079	294.37871	9.54472	31.44278	95.17598
93	24.26970	70.13286	189.24792	6.93617	21.89806	63.73320
94	16.51282	45.86316	119.11506	4.95006	14.96189	41.83514
95	11.00435	29.35034	73.25190	3.45823	10.01183	26.87325
96	7.17399	18.34599	43.90156	2.34601	6.55360	16.86142
97	4.58538	11.17200	25.55557	1.61415	4.20759	10.30782
98	2.81617	6.58662	14.38357	1.02865	2.59344	6.10023
99	1.69229	3.77045	7.79695	.64120	1.56479	3.50679
100	.99386	2.07816	4.02650	.40269	.92359	1.94200
101	.55757	1.08430	1.94834	.23943	.52090	1.01841
102	.29928	.52673	.86404	.14458	.28147	.49751
103	.14458	.22745	.33731	.08382	.13689	.21604
104	.05588	.08287	.10986	.02699	.05307	.07915
105	.02699	.02699	.02699	.02608	.02608	.02608

[1] This table appears on pages 68 and 69.

TABLE 96 COMMUTATION COLUMNS, 4%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 899 688.97	36 933 985.45	11 851.92	26 935.04	479 151.09
1	84 301.92	1 799 688.97	35 034 296.48	2 286.428	15 083.117	452 216.049
2	78 773.11	1 715 387.05	33 234 607.51	963.6721	12 796.6893	437 132.9325
3	74 779.71	1 636 613.94	31 519 220.46	571.0092	11 833.0172	424 336.2432
4	71 332.55	1 561 834.23	29 882 606.52	392.0592	11 262.0080	412 503.2260
5	68 196.94	1 490 501.68	28 320 772.29	309.0130	10 869.9488	401 241.2180
6	65 264.96	1 422 304.74	26 830 270.61	250.7729	10 560.9358	390 371.2692
7	62 504.00	1 357 039.78	25 407 965.87	204.5933	10 310.1629	379 810.3334
8	59 895.41	1 294 535.78	24 050 926.09	168.6208	10 105.5696	369 500.1705
9	57 423.12	1 234 640.37	22 756 390.31	143.2196	9 936.9488	359 394.6009
10	55 071.32	1 177 217.25	21 521 749.94	126.0187	9 793.7292	349 457.6521
11	52 827.17	1 122 145.93	20 344 532.69	115.5505	9 667.7105	339 663.9229
12	50 679.80	1 069 318.76	19 222 386.76	111.7068	9 552.1600	329 996.2124
13	48 618.87	1 018 638.96	18 153 068.00	112.6076	9 440.4532	320 444.0524
14	46 636.31	970 020.09	17 134 429.04	116.6055	9 327.8456	311 003.5992
15	44 726.00	923 383.78	16 164 408.95	121.7311	9 211.2401	301 675.7536
16	42 884.04	878 657.78	15 241 025.17	129.8834	9 089 5090	292 464.5135
17	41 104.77	835 773.74	14 362 367.39	139.6968	8 959.6256	283 375.0045
18	39 384.12	794 668.97	13 526 593.65	150.9363	8 819.9288	274 415.3789
19	37 718.41	755 284.85	12 731 924.68	160.1918	8 668.9925	265 595.4501
20	36 107.51	717 566.44	11 976 639.83	169.8286	8 508.8007	256 926.4576
21	34 548.93	681 458.93	11 259 073.39	174.2676	8 338 9721	248 417.6569
22	33 045.86	646 910.00	10 577 614.46	171.2165	8 164.7045	240 078.6848
23	31 603.65	613 864.14	9 930 704.46	164.6313	7 993.4880	231 913.9803
24	30 223.49	582 260.49	9 316 840.32	159.4246	7 828.8567	223 920.4923
25	28 901.62	552 037.00	8 734 579.83	153.6536	7 669.4321	216 091.6356
26	27 636.37	523 135.38	8 182 542.83	149.8248	7 515.7785	208 422.2035
27	26 423.61	495 499.01	7 659 407.45	147.7305	7 365.9537	200 906.4250
28	25 259.58	469 075.40	7 163 908.44	147.4996	7 218.2232	193 540.4713
29	24 140.56	443 815.82	6 694 833.04	146.7597	7 070.7236	186 322.2481
30	23 065.32	419 675.26	6 251 017.22	146.4514	6 923.9639	179 251.5245
31	22 031.74	396 609.94	5 831 341.96	146.8048	6 777.5125	172 327.5606
32	21 037.56	374 578.20	5 434 732.02	148.0109	6 630.7077	165 550.0481
33	20 080.41	353 540.64	5 060 153.82	148.6434	6 482.6968	158 919.3404
34	19 159.45	333 460.23	4 706 613.18	149.2617	6 334.0534	152 436.6436
35	18 273.28	314 300.78	4 373 152.95	149.6126	6 184.7917	146 102.5902
36	17 420.85	296 027.50	4 058 852.17	149.0128	6 035.1791	139 917.7985
37	16 601.81	278 606.65	3 762 824.67	147.3367	5 886.1663	133 882.6194
38	15 815.94	262 004.84	3 484 218.02	145.1358	5 738.8296	127 996.4531
39	15 062.50	246 188.90	3 222 213.18	142.8863	5 593.6938	122 257.6235
40	14 340.28	231 126.40	2 976 024.28	140.9957	5 450.8075	116 663.9297
41	13 647.74	216 786.12	2 744 897.88	139.0391	5 309.8118	111 213.1222
42	12 983.79	203.138.38	2 528 111.76	137.7651	5 170.7727	105 903.3104
43	12 346.65	190 154.59	2 324 973.38	136.9176	5 033.0076	100 732.5377
44	11 734.86	177.807.94	2 134 818.79	135.9315	4 896.0900	95 699.5301
45	11 147.58	166 073.08	1 957 010.85	135.4772	4 760.1585	90 803.4401
46	10 583.35	154 925.50	1 790 937.77	134.8567	4 624.6813	86 043.2816
47	10 041.45	144 342.15	1 636 012.27	133.4748	4 489.8246	81 418.6003
48	9 521.761	134 300.697	1 491 670.118	131.7070	4 356.3498	76 928.7757
49	9 023.832	124 778.936	1 357 369.421	129.7370	4 224.6428	72 572.4259
50	8 547.025	115 755.104	1 232 590.485	127.5885	4 094.9058	68 347.7831
51	8 090.705	107 208.079	1 116 835.381	126.3239	3 967.3173	64 252.8773
52	7 653.200	99 117.374	1 009 627.302	126.5941	3 840.9934	60 285.5600
53	7 232 252	91 464.174	910 509.928	128.3406	3 714.3993	56 444.5666
54	6 825.748	84 231.922	819 045.754	130.2281	3 586.0587	52 730.1673

[1] This table appears on pages 68 and 69.

TABLE 96 COMMUTATION COLUMNS, 4%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	6 432.991	77 406.174	734 813.832	133.0038	3 455.8306	49 144.1086
56	6 052.564	70 973.183	657 407.658	135.5873	3 322.8268	45 688.2780
57	5 684.186	64 920.619	586 434.475	137.0555	3 187.2395	42 365.4512
58	5 328.508	59 236.433	521 513.856	137.4193	3 050.1840	39 178.2117
59	4 986.146	53 907.925	462 277.423	137.6475	2 912.7647	36 128.0277
60	4 656.724	48 921.779	408 369.498	137.6548	2 775.1172	33 215.2630
61	4 339.964	44 265.055	359 447.719	137.5458	2 637.4624	30 440.1458
62	4 035.497	39 925.091	315 182.664	137.3261	2 499.9166	27 802.6834
63	3 742.959	35 889.594	275 257.573	137.0823	2 362.5905	25 302.7668
64	3 461.917	32 146.635	239 367.979	136.1072	2 225.5082	22 940.1763
65	3 192.659	28 684.718	207 221.344	134.4033	2 089.4010	20 714.6681
66	2 935.461	25 492.059	178 536.626	132.3402	1 954.9977	18 625.2671
67	2 690.219	22 556.598	153 044.567	129.8896	1 822.6575	16 670.2694
68	2 456.859	19 866.379	130 487.969	127.3651	1 692.7679	14 847.6119
69	2 235.000	17 409.520	110 621.590	124.3930	1 565.4028	13 154.8440
70	2 024.645	15 174.520	93 212.070	120.9671	1 441.0098	11 589.4412
71	1 825.807	13 149.875	78 037.550	117.4427	1 320.0427	10 148.4314
72	1 638.141	11 324.068	64 887.675	113.8962	1 202.6000	8 828.3887
73	1 461.239	9 685.927	53 563.607	110.0645	1 088.7038	7 625.7887
74	1 294.973	8 224.688	43 877.680	105.8313	978.6393	6 537.0849
75	1 139.336	6 929.715	35 652.992	101.3548	872.8080	5 558.4456
76	994.1601	5 790.3792	28 723.2770	95.94369	771.45318	4 685.63755
77	859.9795	4 796.2191	22 932.8978	89.34423	675.50949	3 914.18437
78	737.5591	3 936.2396	18 136.6787	82.16297	586.16526	3 238.67488
79	627.0285	3 198.6805	14 200.4391	75.35858	504.00229	2 652.50962
80	527.5535	2 571.6520	11 001.7586	68.87262	428.64371	2 148.50733
81	438.3903	2 044.0985	8 430.1066	62.05210	359.77109	1 719.86362
82	359.4770	1 605.7082	6 386.0081	54.72872	297.71899	1 360.09253
83	290.9223	1 246.2312	4 780.2999	47.13516	242.99027	1 062.37354
84	232.5977	955.3089	3 534.0687	40.18741	195.85511	819.38327
85	183.4643	722.7112	2 578.7598	33.70438	155.66770	623.52816
86	142.7036	539.2469	1 856.0486	27.85840	121.96332	467.86046
87	109.3566	396.5433	1 316.8017	22.66586	94.10492	345.89714
88	82.48470	287.18673	920.25839	18.10586	71.43906	251.79222
89	61.20635	204.70203	633.07166	14.21482	53.33320	180.35316
90	44.63745	143.49568	428.36963	10.96265	39.11838	127.01996
91	31.95797	98.85823	284.87395	8.26480	28.15573	87.90158
92	22.46401	66.90026	186.01572	6.09699	19.89093	59.74585
93	15.50302	44.43625	119.11546	4.40939	13.79394	39.85492
94	10.49736	28.93323	74.67921	3.13167	9.38455	26.06098
95	6.96195	18.43587	45.74598	2.17735	6.25288	16.67643
96	4.51683	11.47392	27.31011	1.46998	4.07553	10.42355
97	2.87313	6.95709	15.83619	1.00654	2.60555	6.34802
98	1.75609	4.08396	8.87910	.63835	1.59901	3.74247
99	1.05019	2.32787	4.79514	.39600	.96066	2.14346
100	.61380	1.27768	2.46727	.24750	.56466	1.18280
101	.34269	.66388	1.18959	.14645	.31716	.61814
102	.18306	.32119	.52571	.08801	.17071	.30098
103	.08801	.13813	.20452	.05078	.08270	.13027
104	.03385	.05012	.06639	.01627	.03192	.04757
105	.01627	.01627	.01627	.01565	.01565	.01565

[1] This table appears on pages 68 and 69.

TABLE 97 COMMUTATION COLUMNS, 5%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 610 857.13	27 542 464.87	11 739.05	23 292.52	299 311.18
1	83 499.05	1 510 857.13	25 931 607.74	2 243.084	11 553.469	276 018.664
2	77 279.82	1 427 358.08	24 420 750.61	936.4000	9 310.3852	264 465.1948
3	72 663.43	1 350 078.26	22 993 392.53	549.5652	8 373.9852	255 154.8096
4	68 653.70	1 277 414.83	21 643 314.27	373.7420	7 824.4200	246 780.8244
5	65 010.73	1 208 761.13	20 365 899.44	291.7702	7 450.6780	238 956.4044
6	61 623.21	1 143 750.40	19 157 138.31	234.5248	7 158.9078	231 505.7264
7	58 454.25	1 082 127.19	18 013 387.91	189.5150	6 924.3830	224 346.8186
8	55 481.20	1 023 672.94	16 931 260.72	154.7061	6 734.8680	217 422.4356
9	52 684.53	968 191.74	15 907 587.78	130.1496	6 580.1619	210 687.5676
10	50 045.59	915 507.21	14 939 396.04	113.4278	6 450.0123	204 107.4057
11	47 549.04	865 461.62	14 023 888.83	103.0149	6 336.5845	197 657.3934
12	45 181.79	817 912.58	13 158 427.21	98.6398	6 233.5696	191 320.8089
13	42 931.63	772 730.79	12 340 514.63	98.4883	6 134.9298	185 087.2393
14	40 788.78	729 799.16	11 567 783.84	101.0136	6 036.4415	178 952.3095
15	38 745.45	689 010.38	10 837 984.68	104.4494	5 935.4279	172 915.8680
16	36 795.98	650 264.93	10 148 974.30	110.3831	5 830.9785	166 980.4401
17	34 933.40	613 468.95	9 498 709.37	117.5923	5 720.5954	161 149.4616
18	33 152.32	578 535.55	8 885 240.42	125.8434	5 603.0031	155 428.8662
19	31 447.79	545 383.23	8 306 704.87	132.2882	5 477.1597	149 825.8631
20	29 817.99	513 935.44	7 761 321.64	138.9107	5 344.8715	144 348.7034
21	28 259.17	484 117.45	7 247 386.20	141.1840	5 205.9608	139 003.8319
22	26 772.31	455 858.28	6 763 268.75	137.3911	5 064.7768	133 797.8711
23	25 360.05	429 085.97	6 307 410.47	130.8487	4 927.3857	128 733.0943
24	24 021.58	403 725.92	5 878 324.50	125.5037	4 796.5370	123 805.7086
25	22 752.19	379 704.34	5 474 598.58	119.8086	4 671.0333	119 009.1716
26	21 548.95	356 952.15	5 094 894.24	115.7105	4 551.2247	114 338.1383
27	20 407.10	335 403.20	4 737 942.09	113.0065	4 435.5142	109 786.9136
28	19 322.32	314 996.10	4 402 538.89	111.7553	4 322.5077	105 351.3994
29	18 290.46	295 673.78	4 087 542.79	110.1357	4 210.7524	101 028.8917
30	17 309.35	277 383.32	3 791 869.01	108.8576	4 100.6167	96 818.1393
31	16 376.23	260 073.97	3 514 485.69	108.0811	3 991.7591	92 717.5226
32	15 488.33	243 697.74	3 254 411.72	107.9312	3 883.6780	88 725.7635
33	14 642.86	228 209.41	3 010 713.98	107.3601	3 775.7468	84 842.0855
34	13 838.22	213 566.55	2 782 504.57	106.7800	3 668.3867	81 066.3387
35	13 072.48	199 728.33	2 568 938.02	106.0116	3 561.6067	77 397.9520
36	12 343.97	186 655.85	2 369 209.69	104.5811	3 455.5951	73 836.3453
37	11 651.58	174 311.88	2 182 553.84	102.4199	3 351.0140	70 380.7502
38	10 994.32	162 660.30	2 008 241.96	99.92914	3 248.59412	67 029.73622
39	10 370.85	151 665.98	1 845 581.66	97.44334	3 148.66498	63 781.14210
40	9 779.561	141 295.127	1 693 915.685	95.23825	3 051.22164	60 632.47712
41	9 218.629	131 515.566	1 552 620.558	93.02221	2 955.98339	57 581.25548
42	8 686.625	122 296.937	1 421 104.992	91.29207	2 862.96118	54 625.27209
43	8 181.684	113 610.312	1 298 808.055	89.86636	2 771.66911	51 762.31091
44	7 702.213	105 428.628	1 185 197.743	88.36943	2 681.80275	48 990.64180
45	7 247.072	97 726.415	1 079 769.115	87.23527	2 593.43332	46 308.83905
46	6 814.739	90 479.343	982 042.700	86.00873	2 506.19805	43 715.40573
47	6 404.218	83 664.604	891 563.357	84.31663	2 420.18932	41 209.20768
48	6 014.939	77 260.386	807 898.753	82.40752	2 335.87269	38 789.01836
49	5 646.105	71 245.447	730 638.367	80.40184	2 253.46517	36 453.14567
50	5 296.842	65 599.342	659 392.920	78.31725	2 173.06333	34 199.68050
51	4 966.294	60 302.500	593 793.578	76.80256	2 094.74608	32 026.61717
52	4 653.001	55 336.206	533 491.078	76.23382	2 017.94352	29 931.87109
53	4 355.196	50 683.205	478 154.872	76.54948	1 941.70970	27 913.92757
54	4 071.256	46 328.009	427 471.667	76.93553	1 865.16022	25 972.21787

[1] This table appears on pages 68 and 69.

TABLE 97 COMMUTATION COLUMNS, 5%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	3 800. 451	42 256. 753	381 143. 658	77. 82702	1 788. 22469	24 107. 05765
56	3 541. 650	38 456. 302	338 886. 905	78. 58311	1 710. 39767	22 318. 83296
57	3 294. 417	34 914. 652	300 430. 603	78. 67754	1 631. 81456	20 608. 43529
58	3 058. 862	31 620. 235	265 515. 951	78. 13510	1 553. 13702	18 976. 62073
59	2 835. 067	28 561. 373	233 895. 716	77. 51943	1 475. 00192	17 423. 48371
60	2 622. 545	25 726. 306	205 334. 343	76. 78523	1 397. 48249	15 948. 48179
61	2 420. 876	23 103. 761	179 608. 037	75. 99374	1 320. 69726	14 550. 99930
62	2 229. 603	20 682. 885	156 504. 276	75. 14975	1 244. 70352	13 230. 30204
63	2 048. 282	18 453. 282	135 821. 391	74. 30191	1 169. 55377	11 985. 59852
64	1 876. 442	16 405. 000	117 368. 109	73. 07077	1 095. 25186	10 816. 04475
65	1 714. 017	14 528. 558	100 963. 109	71. 46881	1 022. 18109	9 720. 79289
66	1 560. 928	12 814. 541	86 434. 551	69. 70155	950. 71228	8 698. 61180
67	1 416. 897	11 253. 613	73 620. 010	67. 75936	881. 01073	7 747. 89952
68	1 281. 666	9 836. 716	62 366. 397	65. 80958	813. 25137	6 866. 88879
69	1 154. 825	8 555. 050	52 529. 681	63. 66177	747. 44179	6 053. 63742
70	1 036. 172	7 400. 225	43 974. 631	61. 31887	683. 78002	5 306. 19563
71	925. 5112	6 364. 0531	36 574. 4056	58. 96533	622. 46115	4 622. 41561
72	822. 4739	5 438. 5419	30 210. 3525	56. 64010	563. 49582	3 999. 95446
73	726. 6684	4 616. 0680	24 771. 8106	54. 21336	506. 85572	3 436. 45864
74	637. 8519	3 889. 3996	20 155. 7426	51. 63176	452. 64236	2 929. 60292
75	555. 8461	3 251. 5477	16 266. 3430	48. 97690	401. 01060	2 476. 96056
76	480. 4004	2 695. 7016	13 014. 7953	45. 92059	352. 03370	2 075. 94996
77	411. 6036	2 215. 3012	10 319. 0937	42. 35471	306. 11311	1 723. 91626
78	349. 6488	1 803. 6976	8 103. 7925	38. 57938	263. 75840	1 417. 80315
79	294. 4193	1 454. 0488	6 300. 0949	35. 04741	225. 17902	1 154. 04475
80	245. 3521	1 159. 6295	4 846. 0461	31. 72590	190. 13161	928. 86573
81	201. 9427	914. 2774	3 686. 4166	28. 31182	158. 40571	738. 73412
82	164. 0145	712. 3347	2 772. 1392	24. 73264	130. 09389	580. 32841
83	131. 4717	548. 3202	2 059. 8045	21. 09816	105. 36125	450. 23452
84	104. 1130	416. 8485	1 511. 4843	17. 81696	84. 26309	344. 87327
85	81. 33828	312. 73547	1 094. 63582	14. 80041	66. 44613	260. 61018
86	62. 66461	231. 39719	781. 90035	12. 11679	51. 64572	194. 16405
87	47. 56379	168. 73258	550. 50316	9. 76445	39. 52893	142. 51833
88	35. 53440	121. 16879	381. 77058	7. 72572	29. 76448	102. 98940
89	26. 11657	85. 63439	260. 60179	6. 00765	22. 03876	73. 22492
90	18. 86526	59. 51782	174. 96740	4. 58906	16. 03111	51. 18616
91	13. 37787	40. 65256	115. 44958	3. 42677	11. 44205	35. 15505
92	9. 31406	27. 27469	74. 79702	2. 50387	8. 01528	23. 71300
93	6. 36667	17. 96063	47. 52233	1. 79357	5. 51141	15. 69772
94	4. 26992	11. 59396	29. 56170	1. 26171	3. 71784	10. 18631
95	2. 80488	7. 32404	17. 96774	. 86887	2. 45613	6. 46847
96	1. 80245	4. 51916	10. 64370	. 58101	1. 58726	4. 01234
97	1. 13561	2. 71671	6. 12454	. 39405	1. 00625	2. 42508
98	. 68748	1. 58110	3. 40783	. 24753	. 61220	1. 41883
99	. 40722	. 89362	1. 82673	. 15209	. 36467	. 80663
100	. 23574	. 48640	. 93311	09415	. 21258	. 44196
101	. 13036	. 25066	. 44671	. 05518	. 11843	. 22938
102	. 06898	. 12030	. 19605	. 03285	. 06325	. 11095
103	. 03285	. 05132	. 07575	. 01877	. 03040	. 04770
104	. 01251	. 01847	. 02443	. 00596	. 01163	. 01730
105	. 00596	. 00596	. 00596	. 00567	. 00567	. 00567

[1] This table appears on pages 68 and 69.

TABLE 98 COMMUTATION COLUMNS, 6%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 396 001.57	21 172 927.98	11 628.30	20 981.04	197 533.95
1	82 711.32	1 296 001.57	19 776 926.41	2 200.961	9 352.740	176 552.914
2	75 828.59	1 213 290.25	18 480 924.84	910.1473	7 151.7786	167 200.1738
3	70 626.25	1 137 461.66	17 267 634.59	529.1186	6 241.6313	160 048.3952
4	66 099.42	1 066 835.41	16 130 172.93	356.4421	5 712.5127	153 806.7639
5	62 001.50	1 000 735.99	15 063 337.52	275.6396	5 356.0706	148 094.2512
6	58 216.35	938 734.49	14 062 601.53	219.4688	5 080.4310	142 738.1806
7	54 701.61	880 518.14	13 123 867.04	175.6755	4 860.9622	137 657.7496
8	51 429.62	825 816.53	12 243 348.90	142.0556	4 685.2867	132 796.7874
9	48 376.45	774 386.91	11 417 532.37	118.3797	4 543.2311	128 111.5007
10	45 519.78	726 010.46	10 643 145.46	102.1968	4 424.8514	123 568.2696
11	42 841.00	680 490.68	9 917 135.00	91.9393	4 322.6546	119 143.4182
12	40 324.09	637 649.68	9 236 644.32	87.2041	4 230.7153	114 820.7636
13	37 954.39	597 325.59	8 598 994.64	86.2487	4 143.5112	110 590.0483
14	35 719.78	559 371.20	8 001 669.05	87.6257	4 057.2625	106 446.5371
15	33 610.28	523 651.42	7 442 297.85	89.7514	3 969.6368	102 389.2746
16	31 618.06	490 041.14	6 918 646.43	93.9552	3 879.8854	98 419.6378
17	29 734.41	458 423.08	6 428 605.29	99.1473	3 785.9302	94 539.7524
18	27 952.18	428 688.67	5 970 182.21	105.1031	3 686.7829	90 753.8222
19	26 264.88	400 736.49	5 541 493.54	109.4435	3 581.6798	87 067.0393
20	24 668.74	374 471.61	5 140 757.05	113.8381	3 472.2363	83 485.3595
21	23 158.56	349 802.87	4 766 285.44	114.6096	3 358.3982	80 013.1232
22	21 733.09	326 644.31	4 416 482.57	110.4784	3 243.7886	76 654.7250
23	20 392.44	304 911.22	4 089 838.26	104.2249	3 133.3102	73 410.9364
24	19 133.92	284 518.78	3 784 927.04	99.02442	3 029.08525	70 277.62621
25	17 951.85	265 384.86	3 500 408.26	93.63907	2 930.06083	67 248.54096
26	16 842.06	247 433.01	3 235 023.40	89.58295	2 836.42176	64 318.48013
27	15 799.16	230 590.95	2 987 590.39	86.66415	2 746.83881	61 482.05837
28	14 818.20	214 791.79	2 756 999.44	84.89610	2 660.17466	58 735.21956
29	13 894.54	199 973.59	2 542 207.65	82.87642	2 575.27856	56 075.04490
30	13 025.18	186 079.05	2 342 234.06	81.14189	2 492.40214	53 499.76634
31	12 206.76	173 053.87	2 156 155.01	79.80306	2 411.26025	51 007.36420
32	11 436.01	160 847.11	1 983 101.14	78.94056	2 331.45719	48 596.10395
33	10 709.75	149 411.10	1 822 254.03	77.78210	2 252.51663	46 264.64676
34	10 025.75	138 701.35	1 672 842.93	76.63197	2 174.73453	44 012.13013
35	9 381.627	128 675.599	1 534 141.581	75.36283	2 098.10256	41 837.39560
36	8 775.229	119 293.972	1 405 465.982	73.64446	2 022.73973	39 739.29304
37	8 204.873	110 518.743	1 286 172.010	71.44221	1 949.09527	37 716.55331
38	7 669.004	102 313.870	1 175 653.267	69.04720	1 877.65306	35 767.45804
39	7 165.863	94 644.866	1 073 339.397	66.69442	1 808.60586	33 889.80498
40	6 693.553	87 479.003	978 694.531	64.57021	1 741.91144	32 081.19912
41	6 250.103	80 785.450	891 215.528	62.47278	1 677.34123	30 339.28768
42	5 833.850	74 535.347	810 430.078	60.73244	1 614.86845	28 661.94645
43	5 442.900	68 701.497	735 894.731	59.21998	1 554.13601	27 047.07800
44	5 075.591	63 258.597	667 193.234	57.68416	1 494.91603	25 492.94199
45	4 730.609	58 183.006	603 934.637	56.40662	1 437.23187	23 998.02596
46	4 406.433	53 452.397	545 751.631	55.08888	1 380.82525	22 560.79409
47	4 101.923	49 045.964	492 299.234	53.49560	1 325.73637	21 179.96884
48	3 816.243	44 944.041	443 253.270	51.79109	1 272.24077	19 854.23247
49	3 548.438	41 127.798	398 309.229	50.05387	1 220.44968	18 581.99170
50	3 297.529	37 579.360	357 181.431	48.29616	1 170.39581	17 361.54202
51	3 062.581	34 281.831	319 602.071	46.91527	1 122.09965	16 191.14621
52	2 842.312	31 219.250	285 320.240	46.12854	1 075.18438	15 069.04656
53	2 635.298	28 376.938	254 100.990	45.88257	1 029.05584	13 993.86218
54	2 440.247	25 741.640	225 724.052	45.67891	983.17327	12 964.80634

[1] This table appears on pages 68 and 69.

TABLE 98 COMMUTATION COLUMNS, 6%. WHITE MALES

BASED ON LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE MALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	2 256. 441	23 301. 393	199 982. 412	45. 77230	937. 49436	11 981. 63307
56	2 082. 946	21 044. 952	176 681. 019	45. 78096	891. 72206	11 044. 13871
57	1 919. 262	18 962. 006	155 636. 067	45. 40357	845. 94110	10 152. 41665
58	1 765. 221	17 042. 744	136 674. 061	44. 66515	800. 53753	9 306. 47555
59	1 620. 638	15 277. 523	119 631. 317	43. 89516	755. 87238	8 505. 93802
60	1 485. 009	13 656. 885	104 353. 794	43. 06924	711. 97722	7 750. 06564
61	1 357. 882	12 171. 876	90 696. 909	42. 22315	668. 90798	7 038. 08842
62	1 238. 798	10 813. 994	78 525. 033	41. 36031	626. 68483	6 369. 18044
63	1 127. 317	9 575. 196	67 711. 039	40. 50789	585. 32452	5 742. 49561
64	1 022. 998	8 447. 879	58 135. 843	39. 46090	544. 81663	5 157. 17109
65	925. 6322	7 424. 8811	49 687. 9641	38. 23166	505. 35573	4 612. 35446
66	835. 0060	6 499. 2489	42 263. 0830	36. 93453	467. 12407	4 106. 99873
67	750. 8072	5 664. 2429	35 763. 8341	35. 56663	430. 18954	3 639. 87466
68	672. 7419	4 913. 4357	30 099. 5912	34. 21732	394. 62291	3 209. 68512
69	600. 4449	4 240. 6938	25 186. 1555	32. 78832	360. 40559	2 815. 06221
70	533. 6692	3 640. 2489	20 945. 4617	31. 28368	327. 61727	2 454. 65662
71	472. 1776	3 106. 5797	17 305. 2128	29. 79916	296. 33359	2 127. 03935
72	415. 6516	2 634. 4021	14 198. 6331	28. 35402	266. 53443	1 830. 70576
73	363. 7700	2 218. 7505	11 564. 2310	26. 88316	238. 18041	1 564. 17133
74	316. 2961	1 854. 9805	9 345. 4805	25. 36147	211. 29725	1 325. 99092
75	273. 0310	1 538. 6844	7 490. 5000	23. 83046	185. 93578	1 114. 69367
76	233. 7462	1 265. 6534	5 951. 8156	22. 13258	162. 10532	928. 75789
77	198. 3827	1 031. 9072	4 686. 1622	20. 22132	139. 97274	766. 65257
78	166. 9321	833. 5245	3 654. 2550	18. 24511	119. 75142	626. 67983
79	139. 2379	666. 5924	2 820. 7305	16. 41838	101. 50631	506. 92841
80	114. 9381	527. 3545	2 154. 1381	14. 72218	85. 08793	405. 42210
81	93. 71012	412. 41636	1 626. 78362	13. 01395	70. 36575	320. 33417
82	75. 39175	318. 70624	1 214. 36726	11. 26148	57. 35180	249. 96842
83	59. 86283	243. 31449	895. 66102	9. 51596	46. 09032	192. 61662
84	46. 95840	183. 45166	652. 34653	7. 96023	36. 57436	146. 52630
85	36. 34016	136. 49326	468. 89487	6. 55012	28. 61413	109. 95194
86	27. 73307	100. 15310	332. 40161	5. 31186	22. 06401	81. 33781
87	20. 85139	72. 42003	232. 24851	4. 24024	16. 75215	59. 27380
88	15. 43090	51. 56864	159. 82848	3. 32326	12. 51191	42. 52165
89	11. 23420	36. 13774	108. 25984	2. 55984	9. 18865	30. 00974
90	8. 03844	24. 90354	72. 12210	1. 93694	6. 62881	20. 82109
91	5. 64650	16. 86510	47. 21856	1. 43272	4. 69187	14. 19228
92	3. 89417	11. 21860	30. 35346	1. 03698	3. 25915	9. 50041
93	2. 63677	7. 32443	19. 13486	. 73580	2. 22217	6. 24126
94	1. 75171	4. 68766	11. 81043	. 51273	1. 48637	4. 01909
95	1. 13983	2. 93595	7. 12277	. 34976	. 97364	2. 53272
96	. 72556	1. 79612	4. 18682	. 23167	. 62388	1. 55908
97	. 45281	1. 07056	2. 39070	. 15564	. 39221	. 93520
98	. 27154	. 61775	1. 32014	. 09685	. 23657	. 54299
99	. 15933	. 34621	. 70239	. 05894	. 13972	. 30642
100	. 09136	. 18688	. 35618	. 03615	. 08078	. 16670
101	. 05005	. 09552	. 16930	. 02098	. 04463	. 08592
102	. 02623	. 04547	. 07378	. 01237	. 02365	. 04129
103	. 01237	. 01924	. 02831	. 00700	. 01128	. 01764
104	. 00467	. 00687	. 00907	. 00220	. 00428	. 00636
105	. 00220	. 00220	. 00220	. 00208	. 00208	. 00208

[1] This table appears on pages 68 and 69.

TABLE 99 LIFE ANNUITY DUE. WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	$a_x = N_x/D_x$.	LIFE ANNUITY DUE.			WHITE FEMALES.
x	3%	3½%	4%	5%	6%
Years.					
0	23.9867	21.6681	19.7231	16.6717	14.4142
1	26.3732	23.8281	21.6900	18.3297	15.8387
2	26.8274	24.2536	22.0882	18.6787	16.1461
3	26.9096	24.3456	22.1852	18.7771	16.2404
4	26.8872	24.3440	22.1979	18.8061	16.2761
5	26.8085	24.2921	22.1654	18.7978	16.2805
6	26.7022	24.2157	22.1110	18.7717	16.2701
7	26.5721	24.1180	22.0374	18.7299	16.2468
8	26.4211	24.0014	21.9468	18.6742	16.2117
9	26.2521	23.8687	21.8416	18.6064	16.1666
10	26.0686	23.7226	21.7244	18.5286	16.1130
11	25.8739	23.5665	21.5978	18.4430	16.0528
12	25.6710	23.4027	21.4642	18.3515	15.9876
13	25.4626	23.2337	21.3259	18.2560	15.9191
14	25.2512	23.0619	21.1849	18.1582	15.8486
15	25.0379	22.8882	21.0420	18.0588	15.7768
16	24.8248	22.7144	20.8991	17.9593	15.7050
17	24.6120	22.5408	20.7561	17.8598	15.6333
18	24.3998	22.3675	20.6135	17.7606	15.5620
19	24.1876	22.1941	20.4706	17.6613	15.4906
20	23.9761	22.0212	20.3282	17.5624	15.4198
21	23.7651	21.8486	20.1860	17.4638	15.3494
22	23.5537	21.6755	20.0433	17.3648	15.2789
23	23.3400	21.5002	19.8986	17.2642	15.2071
24	23.1226	21.3213	19.7505	17.1608	15.1331
25	22.9015	21.1390	19.5992	17.0547	15.0568
26	22.6769	20.9532	19.4447	16.9459	14.9784
27	22.4482	20.7635	19.2864	16.8339	14.8974
28	22.2148	20.5692	19.1238	16.7183	14.8133
29	21.9765	20.3703	18.9569	16.5988	14.7261
30	21.7332	20.1664	18.7853	16.4754	14.6355
31	21.4849	19.9578	18.6090	16.3478	14.5414
32	21.2315	19.7440	18.4280	16.2160	14.4437
33	20.9737	19.5260	18.2428	16.0806	14.3428
34	20.7112	19.3033	18.0530	15.9410	14.2385
35	20.4437	19.0757	17.8585	15.7972	14.1304
36	20.1708	18.8427	17.6587	15.6486	14.0181
37	19.8917	18.6034	17.4529	15.4945	13.9010
38	19.6055	18.3573	17.2403	15.3343	13.7784
39	19.3117	18.1036	17.0205	15.1673	13.6498
40	19.0101	17.8420	16.7929	14.9932	13.5147
41	18.7006	17.5727	16.5576	14.8118	13.3730
42	18.3836	17.2957	16.3148	14.6233	13.2248
43	18.0605	17.0125	16.0656	14.4287	13.0707
44	17.7318	16.7232	15.8104	14.2280	12.9110
45	17.3977	16.4284	15.5494	14.0216	12.7459
46	17.0587	16.1282	15.2828	13.8095	12.5752
47	16.7148	15.8227	15.0107	13.5917	12.3990
48	16.3652	15.5112	14.7322	13.3675	12.2166
49	16.0094	15.1929	14.4468	13.1362	12.0272
50	15.6474	14.8681	14.1545	12.8978	11.8308
51	15.2793	14.5366	13.8553	12.6521	11.6271
52	14.9055	14.1989	13.5493	12.3992	11.4163
53	14.5283	13.8569	13.2387	12.1410	11.1998
54	14.1499	13.5129	12.9253	11.8792	10.9791

[1] This table appears on pages 74 and 75.

TABLE 99 LIFE ANNUITY DUE. WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF A LIFE ANNUITY OF ONE DOLLAR PER ANNUM, FIRST PAYMENT TO BE MADE AT ONCE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	$a_x=N_x/D_x$	LIFE ANNUITY DUE.			WHITE FEMALES.
x	3%	3½%	4%	5%	6%
Years.					
55	13.7713	13.1679	12.6101	11.6146	10.7551
56	13.3945	12.8235	12.2948	11.3486	10.5291
57	13.0202	12.4807	11.9802	11.0821	10.3017
58	12.6467	12.1377	11.6646	10.8136	10.0716
59	12.2724	11.7931	11.3467	10.5416	9.8374
60	11.8978	11.4472	11.0268	10.2665	9.5993
61	11.5223	11.0995	10.7043	9.9878	9.3570
62	11.1471	10.7511	10.3803	9.7064	9.1110
63	10.7746	10.4043	10.0571	9.4243	8.8634
64	10.4061	10.0606	9.7359	9.1427	8.6153
65	10.0410	9.7191	9.4161	8.8611	8.3661
66	9.6787	9.3794	9.0972	8.5790	8.1154
67	9.3197	9.0419	8.7796	8.2968	7.8634
68	8.9654	8.7082	8.4648	8.0158	7.6115
69	8.6177	8.3799	8.1545	7.7377	7.3613
70	8.2772	8.0577	7.8494	7.4632	7.1134
71	7.9456	7.7434	7.5511	7.1938	6.8693
72	7.6224	7.4364	7.2592	6.9294	6.6288
73	7.3056	7.1349	6.9720	6.6681	6.3903
74	6.9933	6.8370	6.6877	6.4084	6.1524
75	6.6859	6.5431	6.4065	6.1505	5.9152
76	6.3831	6.2530	6.1284	5.8943	5.6786
77	6.0856	5.9674	5.8539	5.6404	5.4432
78	5.7949	5.6877	5.5847	5.3904	5.2104
79	5.5145	5.4174	5.3239	5.1473	4.9833
80	5.2487	5.1607	5.0759	4.9154	4.7659
81	5.0059	4.9260	4.8489	4.7028	4.5664
82	4.7876	4.7149	4.6446	4.5112	4.3864
83	4.5846	4.5185	4.4545	4.3327	4.2185
84	4.3858	4.3257	4.2675	4.1567	4.0525
85	4.1919	4.1375	4.0848	3.9842	3.8894
86	4.0010	3.9519	3.9042	3.8131	3.7272
87	3.8147	3.7705	3.7276	3.6454	3.5677
88	3.6331	3.5934	3.5549	3.4809	3.4108
89	3.4584	3.4228	3.3882	3.3217	3.2586
90	3.2937	3.2618	3.2307	3.1709	3.1141
91	3.1395	3.1108	3.0829	3.0292	2.9780
92	2.9985	2.9727	2.9476	2.8991	2.8529
93	2.8691	2.8459	2.8232	2.7794	2.7376
94	2.7516	2.7306	2.7101	2.6704	2.6325
95	2.6438	2.6248	2.6062	2.5703	2.5358
96	2.5426	2.5255	2.5086	2.4760	2.4448
97	2.4425	2.4271	2.4119	2.3825	2.3542
98	2.3473	2.3334	2.3198	2.2933	2.2678
99	2.2622	2.2497	2.2375	2.2136	2.1906
100	2.1570	2.1460	2.1352	2.1141	2.0938
101	2.0973	2.0875	2.0778	2.0589	2.0407
102	2.0183	2.0099	2.0017	1.9854	1.9700
103	1.8355	1.8292	1.8230	1.8108	1.7990
104	1.7211	1.7165	1.7120	1.7030	1.6938
105	1.4855	1.4831	1.4808	1.4757	1.4727
106	1.0000	1.0000	1.0000	1.0000	1.0000

[1] This table appears on pages 74 and 75.

TABLE 100 SINGLE AND ANNUAL NET PREMIUMS. WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF $1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

$1000A_x=1000M_x/D_x$	WHITE FEMALES.					$1000P_x=1000M_x/N_x$
AGE.	3%		3½%		4%	
x	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$
Years.						
0	301.3578	12.5635	267.2631	12.3344	241.4196	12.2405
1	231.8472	8.7910	194.2181	8.1508	165.7678	7.6426
2	218.6184	8.1491	179.8294	7.4145	150.4534	6.8115
3	216.2238	8.0352	176.7191	7.2588	146.7245	6.6136
4	216.8772	8.0662	176.7722	7.2614	146.2339	6.5877
5	219.1705	8.1754	178.5269	7.3492	147.4835	6.6538
6	222.2647	8.3238	181.1102	7.4790	149.5766	6.7648
7	226.0542	8.5072	184.4159	7.6464	152.4074	6.9158
8	230.4541	8.7224	188.3583	7.8478	155.8911	7.1031
9	235.3743	8.9659	192.8467	8.0795	159.9367	7.3226
10	240.7216	9.2342	197.7854	8.3374	164.4481	7.5698
11	246.3908	9.5227	203.0662	8.6167	169.3147	7.8394
12	252.3015	9.8283	208.6059	8.9138	174.4521	8.1276
13	258.3720	10.1471	214.3196	9.2245	179.7729	8.4298
14	264.5284	10.4759	220.1297	9.5452	185.1969	8.7419
15	270.7393	10.8132	226.0036	9.8742	190.6906	9.0624
16	276.9472	11.1561	231.8800	10.2085	196.1901	9.3875
17	283.1450	11.5043	237.7515	10.5476	201.6872	9.7170
18	289.3257	11.8577	243.6104	10.8913	207.1737	10.0504
19	295.5078	12.2173	249.4758	11.2407	212.6692	10.3890
20	301.6671	12.5820	255.3220	11.5944	218.1464	10.7312
21	307.8129	12.9523	261.1583	11.9531	223.6147	11.0777
22	313.9713	13.3300	267.0123	12.3186	229.1029	11.4304
23	320.1945	13.7187	272.9397	12.6947	234.6690	11.7932
24	326.5274	14.1216	278.9886	13.0849	240.3641	12.1700
25	332.9660	14.5390	285.1554	13.4896	246.1846	12.5610
26	339.5063	14.9714	291.4361	13.9089	252.1271	12.9664
27	346.1692	15.4208	297.8538	14.3451	258.2160	13.3885
28	352.9678	15.8889	304.4232	14.8000	264.4677	13.8292
29	359.9077	16.3769	311.1508	15.2748	270.8897	14.2898
30	366.9944	16.8864	318.0437	15.7710	277.4902	14.7717
31	374.2258	17.4181	325.1002	16.2894	284.2682	15.2758
32	381.6080	17.9737	332.3278	16.8318	291.2326	15.8038
33	389.1151	18.5525	339.6993	17.3973	298.3552	16.3547
34	396.7608	19.1568	347.2303	17.9881	305.6534	16.9309
35	404.5511	19.7885	354.9280	18.6063	313.1355	17.5343
36	412.5001	20.4503	362.8088	19.2547	320.8199	18.1678
37	420.6306	21.1460	370.8983	19.9371	328.7349	18.8356
38	428.9658	21.8799	379.2227	20.6579	336.9101	19.5420
39	437.5222	22.6558	387.8018	21.4213	345.3674	20.2913
40	446.3091	23.4775	396.6470	22.2311	354.1210	21.0876
41	455.3214	24.3479	405.7543	23.0901	363.1682	21.9336
42	464.5539	25.2700	415.1198	24.0013	372.5069	22.8324
43	473.9648	26.2431	424.6994	24.9640	382.0909	23.7831
44	483.5408	27.2698	434.4801	25.9806	391.9080	24.7880
45	493.2694	28.3525	444.4490	27.0536	401.9454	25.8496
46	503.1449	29.4949	454.6011	28.1867	412.1996	26.9715
47	513.1620	30.7011	464.9318	29.3838	422.6666	28.1577
48	523.3439	31.9791	475.4681	30.6533	433.3762	29.4169
49	533.7078	33.3372	486.2296	32.0037	444.3524	30.7578
50	544.2508	34.7822	497.2152	33.4418	455.5945	32.1872
51	554.9704	36.3216	508.4233	34.9753	467.1032	33.7129
52	565.8580	37.9629	519.8458	36.6118	478.8714	35.3428
53	576.8448	39.7048	531.4079	38.3496	490.8196	37.0746
54	587.8672	41.5457	543.0410	40.1868	502.8736	38.9062

[1] This table appears on pages 74 and 75.

TABLE 100 SINGLE AND ANNUAL NET PREMIUMS. WHITE FEMALES

PRESENT VALUE, AT EACH AGE AND VARIOUS RATES OF INTEREST, OF $1,000 WHOLE LIFE INSURANCE AND THE ANNUAL PAYMENT OF AN EQUIVALENT LIFE ANNUITY DUE, BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

$1000A_x=1000M_x/D_x$	WHITE FEMALES.					$1000P_x=1000M_x/N_x$
AGE.	3%		3½%		4%	
x	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$	SINGLE PREMIUM. $1000A_x$	ANNUAL PREMIUM. $1000P_x$
Years.						
55	598.8927	43.4883	554.7091	42.1259	514.9958	40.8399
56	609.8691	45.5313	566.3535	44.1651	527.1222	42.8735
57	620.7716	47.6776	577.9473	46.3073	539.2235	45.0096
58	631.6503	49.9460	589.5460	48.5714	551.3602	47.2677
59	642.5508	52.3573	601.2000	50.9790	563.5875	49.6696
60	653.4623	54.9230	612.8978	53.5415	575.8936	52.2269
61	664.3980	57.6617	624.6545	56.2777	588.2956	54.9587
62	675.3271	60.5832	636.4362	59.1973	600.7569	57.8746
63	686.1781	63.6851	648.1629	62.2974	613.1900	60.9711
64	696.9087	66.9710	659.7870	65.5814	625.5425	64.2511
65	707.5442	70.4656	671.3359	69.0741	637.8443	67.7401
66	718.0955	74.1933	682.8221	72.8001	650.1086	71.4627
67	728.5536	78.1739	694.2345	76.7795	662.3236	75.4390
68	738.8721	82.4138	705.5210	81.0183	674.4311	79.6749
69	748.9998	86.9144	716.6229	85.5172	686.3659	84.1703
70	758.9159	91.6873	727.5157	90.2877	698.0997	88.9366
71	768.5755	96.7300	738.1475	95.3266	709.5739	93.9699
72	777.9890	102.0664	748.5282	100.6576	720.7986	99.2939
73	787.2160	107.7555	758.7248	106.3405	731.8455	104.9690
74	796.3110	113.8674	768.7969	112.4464	742.7815	111.0671
75	805.2652	120.4423	778.7347	119.0156	753.5946	117.6289
76	814.0847	127.5376	788.5450	126.1061	764.2917	124.7129
77	822.7505	135.1971	798.2054	133.7620	774.8483	132.3637
78	831.2159	143.4386	807.6619	142.0014	785.2043	140.5996
79	839.3836	152.2137	816.8043	150.7752	795.2344	149.3705
80	847.1265	161.3986	825.4855	159.9575	804.7740	158.5489
81	854.1966	170.6378	833.4199	169.1877	813.5021	167.7689
82	860.5558	179.7478	840.5600	178.2786	821.3596	176.8400
83	866.4667	188.9935	847.2018	187.4980	828.6743	186.0322
84	872.2590	198.8836	853.7203	197.3599	835.8637	195.8652
85	877.9048	209.4269	860.0829	207.8726	842.8910	206.3464
86	883.4674	220.8142	866.3619	219.2284	849.8369	217.6700
87	888.8918	233.0161	872.4939	231.3974	856.6296	229.8054
88	894.1812	246.1201	878.4826	244.4681	863.2740	242.8421
89	899.2705	260.0260	884.2525	258.3400	869.6841	256.6793
90	904.0680	274.4875	889.6983	272.7655	875.7419	271.0683
91	908.5595	289.4008	894.8027	287.6409	881.4259	285.9053
92	912.6660	304.3768	899.4730	302.5751	886.6309	300.7975
93	916.4336	319.4130	903.7618	317.5660	891.4144	315.7430
94	919.8573	334.3027	907.6609	332.4053	895.7665	330.5323
95	922.9960	349.1143	911.2376	347.1610	899.7595	345.2320
96	925.9431	364.1669	914.5974	362.1519	903.5132	360.1616
97	928.8584	380.2853	917.9239	378.2055	907.2340	376.1508
98	931.6319	396.8911	921.0891	394.7399	910.7778	392.6159
99	934.1112	412.9192	923.9194	410.6825	913.9447	408.4748
100	937.1811	434.4926	927.4301	432.1731	917.8834	429.8854
101	938.9198	447.6740	929.4034	445.2259	920.0983	442.8142
102	941.2210	466.3420	932.0286	463.7179	923.0169	461.1216
103	946.5533	515.6963	938.1403	512.8678	929.9105	510.0888
104	949.9243	551.9213	942.0134	548.7957	934.2688	545.7291
105	956.7784	644.0945	949.8055	640.4396	943.1644	636.9295
106	970.8582	970.8582	966.2577	966.2577	961.6613	961.6613

[1] This table appears on pages 74 and 75.

TABLE 101 COMMUTATION COLUMNS, 3%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	2 398 671.57	54 635 739.24	9 928.155	30 135.780	807 339.357
1	87 159.22	2 298 671.57	52 237 067.67	2 185.880	20 207.625	777 203.577
2	82 434.73	2 211 512.35	49 938 396.10	914.2265	18 021.7449	756 995.9525
3	79 119.49	2 129 077.62	47 726 883.75	572.1857	17 107.5184	738 974.2076
4	76 242.85	2 049 958.13	45 597 806.13	399.3879	16 535.3327	721 866.6892
5	73 622.80	1 973 715.28	43 547 848.00	319.9190	16 135.9448	705 331.3565
6	71 158.53	1 900 092.48	41 574 132.72	256.9369	15 816.0258	689 195.4117
7	68 829.01	1 828 933.95	39 674 040.24	206.8252	15 559.0889	673 379.3859
8	66 617.46	1 760 104.94	37 845 106.29	168.6117	15 352.2637	657 820.2970
9	64 508.53	1 693 487.48	36 085 001.35	141.3778	15 183.6520	642 468.0333
10	62 488.26	1 628 978.95	34 391 513.87	124.9789	15 042.2742	627 284.3813
11	60 543.24	1 566 490.69	32 762 534.92	116.4291	14 917.2953	612 242.1071
12	58 663.41	1 505 947.45	31 196 044.23	115.0808	14 800.8662	597 324.8118
13	56 839.69	1 447 284.04	29 690 096.78	119.6623	14 685.7854	582 523.9456
14	55 064.50	1 390 444.35	28 242 812.74	126.4468	14 566.1231	567 838.1602
15	53 334.24	1 335 379.85	26 852 368.39	137.0967	14 439.6763	553 272.0371
16	51 643.71	1 282 045.61	25 516 988.54	147.6240	14 302.5796	538 832.3608
17	49 991.90	1 230 401.90	24 234 942.93	158.0092	14 154.9556	524 529.7812
18	48 377.82	1 180 410.00	23 004 541.03	166.5235	13 996.9464	510 374.8256
19	46 802.23	1 132 032.18	21 824 131.03	176.0689	13 830.4229	496 377.8792
20	45 262.99	1 085 229.95	20 692 098.85	184.3794	13 654.3540	482 547.4563
21	43 760.27	1 039 966.96	19 606 868.90	190.4908	13 469.9746	468 893.1023
22	42 295.21	996 206.69	18 566 901.94	193.0496	13 279.4838	455 423.1277
23	40 870.26	953 911.48	17 570 695.25	192.8380	13 086.4342	442 143.6439
24	39 487.03	913 041.22	16 616 783.77	192.9527	12 893.5962	429 057.2097
25	38 143.97	873 554.19	15 703 742.55	193.3607	12 700.6435	416 163.6135
26	36 839.62	835 410.22	14 830 188.36	192.6809	12 507.2828	403 462.9700
27	35 573.94	798 570.60	13 994 778.14	191.4396	12 314.6019	390 955.6872
28	34 346.37	762 996.66	13 196 207.54	190.1072	12 123.1623	378 641.0853
29	33 155.88	728 650.29	12 433 210.88	188.6899	11 933.0551	366 517.9230
30	32 001.48	695 494.41	11 704 560.59	187.5940	11 744.3652	354 584.8679
31	30 881.81	663 492.93	11 009 066.18	186.4018	11 556.7712	342 840.5027
32	29 795.94	632 611.12	10 345 573.25	186.6280	11 370.3694	331 283.7315
33	28 741.47	602 815.18	9 712 962.13	186.3169	11 183.7414	319 913.3621
34	27 718.02	574 073.71	9 110 146.95	185.8655	10 997.4245	308 729.6207
35	26 724.83	546 355.69	8 536 073.24	184.9374	10 811.5590	297 732.1962
36	25 761.50	519 630.86	7 989 717.55	183.2357	10 626.6216	286 920.6372
37	24 827.93	493 869.36	7 470 086.69	180.8257	10 443.3859	276 294.0156
38	23 923.96	469 041.43	6 976 217.33	178.0850	10 262.5602	265 850.6297
39	23 049.06	445 117.47	6 507 175.90	175.3505	10 084.4752	255 588.0695
40	22 202.38	422 068.41	6 062 058.43	173.2195	9 909.1247	245 503.5943
41	21 382.49	399 866.03	5 639 990.02	171.6418	9 735.9052	235 594.4696
42	20 538.06	378 483.54	5 240 123.99	171.9728	9 564.2634	225 858.5644
43	19 816.43	357 895.48	4 861 640.45	172.9561	9 392.2906	216 294.3010
44	19 066.30	338 079.05	4 503 744.97	174.5295	9 219.3345	206 902.0104
45	18 336.44	319 012.75	4 165 665.92	176.3780	9 044.8050	197 682.6759
46	17 625.99	300 676.31	3 846 653.17	178.4693	8 868.4270	188 637.8709
47	16 934.14	283 050.32	3 545 976.86	179.8051	8 689.9577	179 769.4439
48	16 261.11	266 116.18	3 262 926.54	180.6768	8 510.1526	171 079.4862
49	15 606.81	249 855.07	2 996 810.36	181.8013	8 329.4758	162 569.3336
50	14 970.44	234 248.26	2 746 955.29	183.1500	8 147.6745	154 239.8578
51	14 351.26	219 277.82	2 512 707.03	184.9110	7 964.5245	146 092.1833
52	13 748.35	204 926.56	2 293 429.21	188.9190	7 779.6135	138 127.6588
53	13 158.99	191 178.21	2 088 502.65	194.7661	7 590.6945	130 348.0453
54	12 580.95	178 019.22	1 897 324.44	201.2928	7 395.9284	122 757.3508

[1] This table appears on pages 74 and 75.

TABLE 101 COMMUTATION COLUMNS, 3%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	12 013.23	165 438.27	1 719 305.22	208.9935	7 194.6356	115 361.4224
56	11 454.33	153 425.04	1 553 866.95	216.8167	6 985.6421	108 166.7868
57	10 903.89	141 970.71	1 400 441.91	222.5663	6 768.8254	101 181.1447
58	10 363.74	131 066.82	1 258 471.20	226.5733	6 546.2591	94 412.3193
59	9 835.309	120 703.082	1 127 404.384	230.4975	6 319.6858	87 866.0602
60	9 318.347	110 867.773	1 006 701.302	233 6714	6 089.1883	81 546.3744
61	8 813.267	101 549.426	895 833.529	237.2648	5 855.5169	75 457.1861
62	8 319.305	92 736.159	794 284.103	242.1592	5 618.2521	69 601.6692
63	7 834.836	84 416.854	701 547.944	247.3213	5 376.0929	63 983.4171
64	7 359.316	76 582.018	617 131.090	250.9523	5 128.7716	58 607.3242
65	6 894.014	69 222.702	540 549.072	253.4513	4 877.8193	53 478.5526
66	6 439.767	62 328.688	471 326.370	255.3158	4 624.3680	48 600.7333
67	5 996.885	55 888.921	408 997.682	257.2586	4 369.0522	43 976.3653
68	5 564.960	49 892.036	353 108.761	259.1319	4 111.7936	39 607.3131
69	5 143.742	44 327.076	303 216.725	260.0463	3 852.6617	35 495.5195
70	4 733.878	39 183.334	258 889.649	260.3197	3 592.6154	31 642.8578
71	4 335.678	34 449.456	219 706.315	258.6899	3 332.2957	28 050.2424
72	3 950.706	30 113.778	185 256.859	254.3915	3 073.6058	24 717.9467
73	3 581.246	26 163.072	155 143.081	247.8798	2 819.2143	21 644.3409
74	3 229.058	22 581.826	128 980.009	240.4421	2 571.3345	18 825.1266
75	2 894.565	19 352.768	106 398.183	231.8523	2 330.8924	16 253.7921
76	2 578.405	16 458.203	87 045.415	222.5321	2 099.0401	13 922.8997
77	2 280.774	13 879.798	70 587.212	212.7604	1 876.5080	11 823.8596
78	2 001.583	11 599.024	56 707.414	202.8853	1 663.7476	9 947.3516
79	1 740.399	9 597.441	45 108.390	192.7470	1 460.8623	8 283.6040
80	1 496.961	7 857.042	35 510.949	182.8448	1 268.1153	6 822.7417
81	1 270.516	6 360.081	27 653.907	170.4326	1 085.2705	5 554.6264
82	1 063.078	5 089.565	21 293.826	153.8582	914.8379	4 469.3559
83	878.2561	4 026.4866	16 204.2611	134.8483	760.9797	3 554.5180
84	717.8274	3 148.2305	12 177.7745	117.1396	626.1314	2 793.5383
85	579.7802	2 430.4031	9 029.5440	100.3480	508.9918	2 167.4069
86	462.5454	1 850.6229	6 599.1409	85.19936	408.64378	1 658.41505
87	363.8738	1 388.0775	4 748.5180	71.36731	323.44442	1 249.77127
88	281.9083	1 024.2037	3 360.4405	59.06101	252.07711	926.32685
89	214.6363	742.2954	2 336.2368	48.18025	193.01610	674.24974
90	160.2046	527.6591	1 593.9414	38.49423	144.83585	481.23364
91	117.0442	367.4545	1 066.2823	30.12253	106.34162	336.39779
92	83.51258	250.41028	698.82783	22.90979	76.21909	230.05617
93	58.17039	166.89770	448.41755	16.96147	53.30930	153.83708
94	39.51464	108.72731	281.51985	12.18470	36.34783	100.52778
95	26.17902	69.21267	172.79254	8.49170	24.16313	64.17995
96	16.92483	43.03365	103.57987	5.74263	15.67143	40.01682
97	10.68925	26.10882	60.54622	3.80891	9.92880	24.34539
98	6.56900	15.41957	34.43740	2.46532	6.11989	14.41659
99	3.91235	8.85057	19.01783	1.50895	3.65457	8.29670
100	2.28944	4.93822	10.16726	.95983	2.14562	4.64213
101	1.26293	2.64878	5.22904	.53951	1.18579	2.49651
102	.68664	1.38585	2.58026	.28570	.64628	1.31072
103	.38094	.69921	1.19441	.18492	.36058	.66444
104	.18492	.31827	.49520	.08977	.17566	.30386
105	.08977	.13335	.17693	.04358	.08589	.12820
106	.04358	.04358	.04358	.04231	.04231	.04231

[1] This table appears on pages 74 and 75.

TABLE 102 COMMUTATION COLUMNS, 3½%. WHITE FEMALES.

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	2 166 807.60	46 002 274.69	9 880.193	26 726.312	611 175.112
1	86 738.16	2 066 807.60	43 835 467.09	2 164.811	16 846.119	584 448.800
2	81 640.18	1 980 069.44	41 768 659.49	901.0408	14 681.3079	567 602.6815
3	77 978.36	1 898 429.26	39 788 590.05	561.2088	13 780.2671	552 921.3736
4	74 780.20	1 820 450.90	37 890 160.79	389.8336	13 219 0583	539 141.1065
5	71 861.57	1 745 670.70	36 069 709.89	310.7572	12 829.2247	525 922.0482
6	69 120.71	1 673 809.13	34 324 039.19	248.3731	12 518.4675	513 092.8235
7	66 534.92	1 604 688.42	32 650 230.06	198.9658	12 270.0944	500 574.3560
8	64 085.98	1 538 153.50	31 045 541.64	161.4208	12 071.1286	488 304.2616
9	61 757.40	1 474 067.52	29 507 388.14	134.6946	11 909.7078	476 233.1330
10	59 534.29	1 412 310.12	28 033 320.62	118.4956	11 775.0132	464 323.4252
11	57 402.56	1 352 775.83	26 621 010.50	109.8560	11 656.5176	452 548.4120
12	55 351.56	1 295 373.27	25 268 234.67	108.0593	11 546.6616	440 891.8944
13	53 371.70	1 240 021.71	23 972 861.40	111.8185	11 438.6023	429 345.2328
14	51 455.05	1 186 650.01	22 732 839.69	117.5875	11 326.7838	417 906.6305
15	49 597.43	1 135 194.96	21 546 189.68	126.8753	11 209.1963	406 579.8467
16	47 793.35	1 085 597.53	20 410 994.72	135.9577	11 082.3210	395 370.6504
17	46 041.19	1 037 804.18	19 325 397.19	144.8191	10 946.3633	384 288.3294
18	44 339.42	991 762.99	18 287 593.01	151.8855	10 801.5442	373 341.9661
19	42 688.14	947 423.57	17 295 830.02	159.8159	10 649.6587	362 540.4219
20	41 084.76	904 735.43	16 348 406.45	166.5508	10 489.8428	351 890.7632
21	39 528.87	863 650.67	15 443 671.02	171.2400	10 323.2920	341 400.9204
22	38 020.91	824 121.80	14 580 020.35	172.7018	10 152.0520	331 077.6284
23	36 562.47	786 100.89	13 755 898.55	171.6792	9 979.3502	320 925.5764
24	35 154.38	749 538.42	12 969 797.66	170.9514	9 807.6710	310 946.2262
25	33 794.63	714 384.04	12 220 259.24	170.4853	9 636.7196	301 138.5552
26	32 481.34	680 589.41	11 505 875.20	169.0652	9 466.2343	291 501.8356
27	31 213.87	648 108.07	10 825 285.79	167.1646	9 297.1691	282 035.6013
28	29 991.16	616 894.20	10 177 177.72	165.1992	9 130.0045	272 738.4322
29	28 811.77	586 903.04	9 560 283.52	163.1755	8 964.8053	263 608.4277
30	27 674.28	558 091.27	8 973 380.48	161.4440	8 801.6298	254 643.6224
31	26 576.99	530 416.99	8 415 289.21	159.6431	8 640.1858	245 841.9926
32	25 518.61	503 840.00	7 884 872.22	159.0646	8 480.5427	237 201.8068
33	24 496.60	478 321.39	7 381 032.22	158.0323	8 321.4781	228 721.2641
34	23 510.18	453 824.79	6 902 710.83	156.8879	8 163.4458	220 399.7860
35	22 558.26	430 314.61	6 448 886.04	155.3503	8 006.5579	212 236.3402
36	21 640.07	407 756.35	6 018 571.43	153.1773	7 851.2076	204 229.7823
37	20 755.10	386 116.28	5 610 815.08	150.4324	7 698.0303	196 378.5747
38	19 902.81	365 361.18	5 224 698.80	147.4367	7 547.5979	188 680.5444
39	19 082.33	345 458.37	4 859 337.62	144.4715	7 400.1612	181 132.9465
40	18 292.56	326 376.04	4 513 879.25	142.0263	7 255.6897	173 732.7853
41	17 531.95	308 083.48	4 187 503.21	140.0528	7 113.6634	166 477.0956
42	16 799.03	290 551.53	3 879 419.73	139.6450	6 973.6106	159 363.4322
43	16 091.30	273 752.50	3 588 868.20	139.7650	6 833.9656	152 389.8216
44	15 407.38	257 661.20	3 315 115.70	140.3551	6 694.2006	145 555.8560
45	14 746.00	242 253.82	3 057 454.50	141.1564	6 553.8455	138 861.6554
46	14 106.19	227 507.82	2 815 200.68	142.1401	6 412.6891	132 307.8099
47	13 487.03	213 401.63	2 587 692.86	142.5122	6 270.5490	125 895.1208
48	12 888.43	199 914.60	2 374 291.23	142.5113	6 128.0368	119 624.5718
49	12 310.08	187 026.17	2 174 376.63	142.7055	5 985.5255	113 496.5350
50	11 751.09	174 716.09	1 987 350.46	143.0697	5 842.8200	107 511.0095
51	11 210.64	162 965.00	1 812 634.37	143.7475	5 699.7503	101 668.1895
52	10 687.79	151 754.36	1 649 669.37	146.1538	5 556.0028	95 968.4392
53	10 180.22	141 066.57	1 497 915.01	149.9493	5 409.8490	90 412.4364
54	9 686.008	130 886.351	1 356 848.438	154.2256	5 259.8997	85 002.5874

[1] This table appears on pages 74 and 75.

TABLE 102 COMMUTATION COLUMNS, 3½%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	9 204.237	121 200.343	1 225 962.087	159.3521	5 105.6741	79 742.6877
56	8 733.630	111 996.106	1 104 761.744	164.5184	4 946.3220	74 637.0136
57	8 273.771	103 262.476	992 765.638	168.0653	4 781.8036	69 690.6916
58	7 825.917	94 988.705	889 503.162	170.2646	4 613.7383	64 908.8880
59	7 391.008	87 162.788	794 514.457	172.3768	4 443.4737	60 295.1497
60	6 968.694	79 771.780	707 351.669	173.9061	4 271.0969	55 851.6760
61	6 559.131	72 803.086	627 579.889	175.7274	4 097.1908	51 580.5791
62	6 161.597	66 243.955	554 776.803	178.4860	3 921.4634	47 483.3883
63	5 774.748	60 082.358	488 532.848	181.4101	3 742.9774	43 561.9249
64	5 398.056	54 307.610	428 450.490	183.1842	3 561.5673	39 818.9475
65	5 032.329	48 909.554	374 142.880	184.1146	3 378.3831	36 257.3802
66	4 678.039	43 877.225	325 233.326	184.5731	3 194.2685	32 878.9971
67	4 335.272	39 199.186	281 356.101	185.0791	3 009.6954	29 684.7286
68	4 003.589	34 863.914	242 156.915	185.5262	2 824.6163	26 675.0332
69	3 682.676	30 860.325	207 293.001	185.2814	2 639.0901	23 850.4169
70	3 372.860	27 177.649	176 432.676	184.5802	2 453.8087	21 211.3268
71	3 074.221	23 804.789	149 255.027	182.5385	2 269.2285	18 757.5181
72	2 787.724	20 730.568	125 450.238	178.6383	2 086.6900	16 488.2896
73	2 514.814	17 942.844	104 719.670	173.2247	1 908.0517	14 401.5996
74	2 256.548	15 428.030	86 776.826	167.2153	1 734.8270	12 493.5479
75	2 013.024	13 171.482	71 348.796	160.4626	1 567.6117	10 758.7209
76	1 784.488	11 158.458	58 177.314	153.2682	1 407.1491	9 191.1092
77	1 570.875	9 373.970	47 018.856	145.8301	1 253.8809	7 783.9601
78	1 371.924	7 803.095	37 644.886	138.3897	1 108.0508	6 530.0792
79	1 187.140	6 431.171	29 841.791	130.8391	969.6611	5 422.0284
80	1 016.156	5 244.031	23 410.620	123.5178	838.8220	4 452.3673
81	858.2759	4 227.8746	18 166.5894	114.5767	715.3042	3 613.5453
82	714.6753	3 369.5987	13 938.7148	102.9346	600.7275	2 898.2411
83	587.5730	2 654.9234	10 569.1161	89.78072	497.79288	2 297.51356
84	477.9225	2 067.3504	7 914.1927	77.61365	408.01216	1 799.72068
85	384.1473	1 589.4279	5 846.8423	66.16680	330.39851	1 391.70852
86	304.9900	1 205.2806	4 257.4144	55.90677	264.23171	1 061.31001
87	238.7695	900.2906	3 052.1338	46.60412	208.32494	797.07830
88	184.0911	661.5211	2 151.8432	38.38157	161.72082	588.75336
89	139.4842	477.4300	1 490.3221	31.15930	123.33925	427.03254
90	103.6081	337.9458	1 012.8921	24.77486	92.17995	303.69329
91	75.32956	234.33768	674.94628	19.29319	67.40509	211.51334
92	53.48899	159.00812	440.60860	14.60261	48.11190	144.10825
93	37.07757	105.51913	281.60048	10.75895	33.50929	95.99635
94	25.06480	68.44156	176.08135	7.69162	22.75034	62.48706
95	16.52557	43.37676	107.63979	5.33451	15.05872	39.73672
96	10.63223	26.85119	64.26303	3.59011	9.72421	24.67800
97	6.68258	16.21896	37.41184	2.36971	6.13410	14.95379
98	4.08689	9.53638	21.19288	1.52638	3.76439	8.81969
99	2.42230	5.44949	11.65650	.92974	2.23801	5.05530
100	1.41064	3.02719	6.20701	.58854	1.30827	2.81729
101	.77440	1.61655	3.17982	.32921	.71973	1.50902
102	.41900	.84215	1.56327	.17350	.39052	.78929
103	.23133	.42315	.72112	.11175	.21702	.39877
104	.11175	.19182	.29797	.05399	.10527	.18175
105	.05399	.08007	.10615	.02608	.05128	.07648
106	.02608	.02608	.02608	.02520	.02520	.02520

[1] This table appears on pages 74 and 75.

TABLE 103 COMMUTATION COLUMNS, 4%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 972 309.08	39 093 971.56	9 832.692	24 141.958	468 694.802
1	86 321.15	1 872 309.08	37 121 662.48	2 144.046	14 309.266	444 552.844
2	80 857.06	1 785 987.93	35 249 353.40	888.1074	12 165.2198	430 243.5780
3	76 859.07	1 705 130.87	33 463 365.47	550.4939	11 277.1124	418 078.3582
4	73 352.46	1 628 271.80	31 758 234.60	380.5523	10 726.6185	406 801.2458
5	70 150.66	1 554 919.34	30 129 962.80	301.9002	10 346.0662	396 074.6273
6	67 150.65	1 484 768.68	28 575 043.46	240.1340	10 044.1660	385 728.5611
7	64 327.80	1 417 618.03	27 090 274.78	191.4408	9 804.0320	375 684.3951
8	61 662.22	1 353 290.23	25 672 656.75	154.5691	9 612.5912	365 880.3631
9	59 136.02	1 291 628.01	24 319 366.52	128.3572	9 458.0221	356 267.7719
10	56 733.20	1 232 491.99	23 027 738.51	112.3775	9 329.6649	346 809.7498
11	54 438.78	1 175 758.79	21 795 246.52	103.6831	9 217.2874	337 480.0849
12	52 241.30	1 121 320.01	20 619 487.73	101.4970	9 113.6043	328 262.7975
13	50 130.52	1 069 078.71	19 498 167.72	104.5230	9 012.1073	319 149.1932
14	48 097.90	1 018 948.19	18 429 089.01	109.3871	8 907.5843	310 137.0859
15	46 138.59	970 850.29	17 410 140.82	117.4598	8 798.1972	301 229.5016
16	44 246.57	924 711.70	16 439 290.53	125.2631	8 680.7374	292 431.3044
17	42 419.52	880 465.13	15 514 578.83	132.7860	8 555.4743	283 750.5670
18	40 655.21	838 045.61	14 634 113.70	138.5956	8 422.6883	275 195.0927
19	38 952.95	797 390.40	13 796 068.09	145.1311	8 284.0927	266 772.4044
20	37 309.63	758 437.45	12 998 677.69	150.5199	8 138.9616	258 488.3117
21	35 724.13	721 127.82	12 240 240.24	154.0137	7 988.4417	250 349.3501
22	34 196.11	685 403.69	11 519 112.42	154.5817	7 834.4280	242 360.9084
23	32 726.29	651 207.58	10 833 708.73	152.9276	7 679.8463	234 526.4804
24	31 314.66	618 481.29	10 182 501.15	151.5472	7 526.9187	226 846.6341
25	29 958.70	587 166.63	9 564 019.86	150.4074	7 375.3715	219 319.7154
26	28 656.04	557 207.93	8 976 853.23	148.4375	7 224.9641	211 944.3439
27	27 405.45	528 551.89	8 419 645.30	146.0631	7 076.5266	204 719.3798
28	26 205.33	501 146.44	7 891 093.41	143.6518	6 930.4635	197 642.8532
29	25 053.78	474 941.11	7 389 946.97	141.2100	6 786.8117	190 712.3897
30	23 948.96	449 887.33	6 915 005.86	139.0399	6 645.6017	183 925.5780
31	22 888.81	425 938.37	6 465 118.53	136.8278	6 506.5618	177 279.9763
32	21 871.64	403 049.56	6 039 180.16	135.6766	6 369.7340	170 773.4145
33	20 894.75	381 177.92	5 636 130.60	134.1480	6 234.0574	164 403.6805
34	19 956.95	360 283.17	5 254 952.68	132.5363	6 099.9094	158 169.6231
35	19 056.84	340 326.22	4 894 669.51	130.6064	5 967.3731	152 069.7137
36	18 193.28	321 269.38	4 554 343.29	128.1604	5 836.7667	146 102.3406
37	17 365.38	303 076.10	4 233 073.91	125.2587	5 708.6063	140 265.5739
38	16 572.22	285 710.72	3 929 997.81	122.1740	5 583.3476	134 556.9676
39	15 812.65	269 138.50	3 644 287.09	119.1413	5 461.1736	128 973.6200
40	15 085.33	253 325.85	3 375 148.59	116.5618	5 342.0323	123 512.4464
41	14 388.57	238 240.52	3 121 822.74	114.3895	5 225.4705	118 170.4141
42	13 720.77	223 851.95	2 883 582.22	113.5081	5 111.0810	112 944.9436
43	13 079.54	210 131.18	2 659 730.27	113.0594	4 997.5729	107 833.8626
44	12 463.42	197 051.64	2 449 599.09	112.9910	4 884.5135	102 836.2897
45	11 871.07	184 588.22	2 252 547.45	113.0897	4 771.5225	97 951.7762
46	11 301.40	172 717.15	2 067 959.23	113.3303	4 658.4328	93 180.2537
47	10 753.40	161 415.75	1 895 242.08	113.0807	4 545.1025	88 521.8209
48	10 226.73	150 662.35	1 733 826.33	112.5363	4 432.0218	83 976.7184
49	9 720.855	140 435.617	1 583 163.983	112.1480	4 319.4855	79 544.6966
50	9 234.829	130 714.762	1 442 728.366	111.8936	4 207.3375	75 225.2111
51	8 767.749	121 479.933	1 312 013.604	111.8832	4 095.4439	71 017.8736
52	8 318.644	112 712.184	1 190 533.671	113.2092	3 983.5607	66 922.4297
53	7 885.487	104 393.540	1 077 821.487	115.5907	3 870.3515	62 938.8690
54	7 466.609	96 508.053	973 427.947	118.3156	3 754.7608	59 068.5175

[1] This table appears on pages 74 and 75.

TABLE 103 COMMUTATION COLUMNS, 4%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	7 061.116	89 041.444	876 919.894	121.6607	3 636.4452	55 313.7567
56	6 667.874	81 980.328	787 878.450	125.0012	3 514.7845	51 677.3115
57	6 286.416	75 312.454	705 898.122	127.0822	3 389.7833	48 162.5270
58	5 917.549	69 026.038	630 585.668	128.1262	3 262.7011	44 772.7437
59	5 561.825	63 108.489	561 559.630	129.0920	3 134.5749	41 510.0426
60	5 218.816	57 546.664	498 451.141	129.6112	3 005.4829	38 375.4677
61	4 888.481	52 327.848	440 904.477	130.3389	2 875.8717	35 369.9848
62	4 570.123	47 439.367	388 576.629	131.7485	2 745.5328	32 494.1131
63	4 262.601	42 869.244	341 137.262	133.2632	2 613.7843	29 748.5803
64	3 965.392	38 606.643	298 268.018	133.9195	2 480.5211	27 134.7960
65	3 678.957	34 641.251	259 661 375	133.9525	2 346.6016	24 654.2749
66	3 403.507	30 962 294	225 020.124	133.6405	2 212.6491	22 307.6733
67	3 138.962	27 558.787	194 057.830	133.3626	2 079.0086	20 095.0242
68	2 884.870	24 419.825	166 499 043	133.0421	1 945.6460	18 016.0156
69	2 640.871	21 534.955	142 079.218	132.2277	1 812.6039	16 070.3696
70	2 407.072	18 894.084	120 544.263	131.0940	1 680.3762	14 257.7657
71	2 183.398	16 487.012	101 650.179	129.0207	1 549.2822	12 577.3895
72	1 970.400	14 303.614	85 163.167	125.6569	1 420.2615	11 028.1073
73	1 768.959	12 333.214	70 859.553	121.2631	1 294.6046	9 607.8458
74	1 579.659	10 564.255	58 526.339	116.4936	1 173 3415	8 313.2412
75	1 402.409	8 984.596	47 962.084	111.2517	1 056.8479	7 139.8997
76	1 237.219	7 582.187	38 977.488	105.7528	945.5962	6 083.0518
77	1 083.881	6 344.968	31 395 301	100 1369	839.8434	5 137.4556
78	942.0561	5 261.0867	25 050.3331	94.57089	739.70652	4 297.61216
79	811.2522	4 319.0306	19 789.2464	88.98126	645.13563	3 557.90564
80	691.0690	3 507.7784	15 470.2158	83.59826	556.15437	2 912.77001
81	580.8911	2 816.7094	11 962.4374	77.17405	472.55611	2 356.61564
82	481.3751	2 235.8183	9 145.7280	68.99906	395.38206	1 884.05953
83	393 8616	1 754.4432	6 909.9097	59.89244	326.38300	1 488.67747
84	318.8206	1 360.5816	5 155.4665	51.52689	266.49056	1 162.29447
85	255.0314	1 041.7610	3 794.8849	43.71626	214.96367	895.80391
86	201.5062	786.7296	2 753.1239	36.75990	171.24741	680.84024
87	156.9961	585.2234	1 966.3943	30.49588	134.48751	509.59283
88	120.4619	428.2273	1 381 1709	24.99463	103.99163	375.10532
89	90.83413	307.76535	952.94360	20.19383	78.99700	271.11369
90	67.14669	216.93122	645.17825	15.97898	58.80317	192.11669
91	48.58513	149.78453	428.24703	12.38366	42.82419	133.31352
92	34.33281	101.19940	278.46250	9.32787	30.44053	90.48933
93	23.68445	66.86659	177.26310	6.83957	21.11266	60.04880
94	15.93394	43.18214	110.39651	4.86614	14.27309	38.93614
95	10.45496	27.24820	67.21437	3.35867	9.40695	24.66305
96	6.69418	16.79324	39.96617	2.24951	6.04828	15.25610
97	4.18720	10.09906	23.17293	1.47768	3.79877	9.20782
98	2.54847	5.91186	13.07387	.94723	2.32109	5.40905
99	1.50322	3.36339	7.16201	.57420	1.37386	3.08796
100	.87120	1.86017	3.79862	.36173	.79966	1.71410
101	.47596	.98897	1.93845	.20137	.43793	.91444
102	.25629	.51301	.94948	.10561	.23656	.47651
103	.14082	.25672	.43647	.06770	.13095	.23995
104	.06770	.11590	.17975	.03255	.06325	.10900
105	.03255	.04820	.06385	.01565	.03070	.04575
106	.01565	.01565	.01565	.01505	.01505	.01505

[1] This table appears on pages 74 and 75.

TABLE 104 COMMUTATION COLUMNS, 5%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 667 172.65	28 978 991.97	9 739.048	20 610.825	287 220.646
1	85 499.05	1 567 172.65	27 311 819.32	2 103.401	10 871.777	266 609.821
2	79 324.26	1 481 673.60	25 744 646.67	862.9738	8 768.3761	255 738.0439
3	74 683.94	1 402 349.34	24 262 973.07	529.8204	7 905.4023	246 969.6678
4	70 597.74	1 327 665.40	22 860 623.73	362.7726	7 375.5819	239 064.2655
5	66 873.18	1 257 067.66	21 532 958.33	285.0543	7 012.8093	231 688.6836
6	63 403.68	1 190 194.48	20 275 890.67	224.5753	6 727.7550	224 675.8743
7	60 159.89	1 126 790.80	19 085 696.19	177.3319	6 503.1797	217 948.1193
8	57 117.80	1 066 630.91	17 958 905.39	141.8140	6 325.8478	211 444.9396
9	54 256.09	1 009 513.11	16 892 274.48	116.6435	6 184.0338	205 119.0918
10	51 555.82	955 257.02	15 882 761.37	101.1495	6 067.3903	198 935.0580
11	48 999.63	903 701.20	14 927 504.35	92.4350	5 966.2408	192 867.6677
12	46 573.88	854 701.57	14 023 803.15	89.6243	5 873.8058	186 901.4269
13	44 266.45	808 127.69	13 169 101.58	91.4173	5 784.1815	181 027.6211
14	42 067.11	763 861.24	12 360 973.89	94.7604	5 692.7642	175 243.4396
15	39 969.15	721 794.13	11 597 112.65	100.7845	5 598.0038	169 550.6754
16	37 965.08	681 824.98	10 875 318.52	106.4564	5 497.2193	163 952.6716
17	36 050.76	643 859.90	10 193 493.54	111.7751	5 390.7629	158 455.4523
18	34 222.28	607 809.14	9 549 633.64	115.5543	5 278.9878	153 064.6894
19	32 477.09	573 586.86	8 941 824.50	119.8509	5 163.4335	147 785.7016
20	30 810.71	541 109.77	8 368 237.64	123.1172	5 043.5826	142 622.2681
21	29 220.42	510 299.06	7 827 127.87	124.7752	4 920.4654	137 578.6855
22	27 704.20	481 078.64	7 316 828.81	124.0427	4 795.6902	132 658.2201
23	26 260.91	453 374.44	6 835 750.17	121.5466	4 671.6475	127 862.5299
24	24 888.84	427 113.53	6 382 375.73	119.3023	4 550.1009	123 190.8824
25	23 584.36	402 224.69	5 955 262.20	117.2774	4 430.7986	118 640.7815
26	22 344.01	378 640.33	5 553 037.51	114.6391	4 313.5212	114 209.9829
27	21 165.37	356 296.32	5 174 397.18	111.7310	4 198.8821	109 896.4617
28	20 045.77	335 130.95	4 818 100.86	108.8400	4 087.1511	105 697.5796
29	18 982.37	315 085.18	4 482 969.91	105.9709	3 978.3111	101 610.4285
30	17 972.47	296 102.81	4 167 884.73	103.3486	3 872.3402	97 632.1174
31	17 013.29	278 130.34	3 871 781.92	100.7358	3 768.9916	93 759.7772
32	16 102.40	261 117.05	3 593 651.58	98.93691	3 668.25584	89 990.78555
33	15 236.68	245 014.65	3 332 534.53	96.89059	3 569.31893	86 322.52971
34	14 414.24	229 777.97	3 087 519.88	94.81482	3 472.42834	82 753.21078
35	13 633.03	215 363.73	2 857 741.91	92.54437	3 377.61352	79 280.78244
36	12 891.29	201 730.70	2 642 378.18	89.94629	3 285.06915	75 903.16892
37	12 187.48	188 839.41	2 440 647.48	87.07258	3 195.12286	72 618.09977
38	11 520.05	176 651.93	2 251 808.07	84.11946	3 108.05028	69 422.97691
39	10 887.35	165 131.88	2 075 156.14	81.25013	3 023.93082	66 314.92663
40	10 287.66	154 244.53	1 910 024.26	78.73389	2 942.68069	63 290.99581
41	9 719.036	143 956.874	1 755 779.733	76.53073	2 863.94680	60 348.31512
42	9 179.694	134 237.838	1 611 822.859	75.21780	2 787.41607	57 484.36832
43	8 667.348	125 058.144	1 477 585.021	74.20694	2 712.19827	54 696.95225
44	8 180.410	116 390.796	1 352 526.877	73.45570	2 637.99133	51 984.75398
45	7 717.411	108 210.386	1 236 136.081	72.81972	2 564.53563	49 346.76265
46	7 277.096	100 492.975	1 127 925.695	72.27963	2 491.71591	46 782.22702
47	6 858.287	93 215.879	1 027 432.720	71.43359	2 419.43628	44 290.51111
48	6 460.269	86 357.592	934 216.841	70.41265	2 348.00269	41 871.07483
49	6 082.224	79 897.323	847 859.249	69.50137	2 277.59004	39 523.07214
50	5 723.094	73 815.099	767 961.926	68.68332	2 208.08867	37 245.48210
51	5 381.882	68 092.005	694 146.827	68.02286	2 139.40535	35 037.39343
52	5 057.579	62 710.123	626 054.822	68.17352	2 071.38249	32 897.98808
53	4 748.568	57 652.544	563 344.699	68.94475	2 003.20897	30 826.60559
54	4 453.501	52 903.976	505 692.155	69.89791	1 934.26422	28 823.39662

[1] This table appears on pages 74 and 75.

TABLE 104 COMMUTATION COLUMNS, 5%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	4 171.532	48 450.475	452 788.179	71.18960	1 864.36631	26 889.13240
56	3 901.698	44 278.943	404 337.704	72.44768	1 793.17671	25 024.76609
57	3 643.455	40 377.245	360 058.761	72.95232	1 720.72903	23 231.58938
58	3 397.005	36 733.790	319 681.516	72.85114	1 647.77671	21 510.86035
59	3 162.392	33 336.785	282 947.726	72.70124	1 574.92557	19 863.08364
60	2 939.100	30 174.393	249 610.941	72.29845	1 502.22433	18 288.15807
61	2 726.844	27 235.293	219 436.548	72.01196	1 429.92588	16 785.93374
62	2 524.983	24 508.449	192 201.255	72.09751	1 357.91392	15 356.00786
63	2 332.648	21 983.466	167 692.806	72.23185	1 285.81641	13 998.09394
64	2 149.338	19 650.818	145 709.340	71.89627	1 213.58456	12 712.27753
65	1 975.092	17 501.480	126 058.522	71.22912	1 141.68829	11 498.69297
66	1 809.811	15 526.388	108 557.042	70.38640	1 070.45917	10 357.00468
67	1 653.243	13 716.577	93 030.654	69.57110	1 000.07277	9 286.54551
68	1 504.946	12 063.334	79 314.077	68.74288	930.50167	8 286.47274
69	1 364.539	10 558.388	67 250.743	67.67144	861.75879	7 355.97107
70	1 231.890	9 193.849	56 692.355	66.45226	794.08735	6 494.21228
71	1 106.776	7 961.959	47 498.506	64.77839	727.63509	5 700.12493
72	989.2939	6 855.1831	39 536.5470	62.48866	662.85670	4 972.48984
73	879.6961	5 865.8892	32 681.3639	59.72933	600.36804	4 309.63314
74	778.0766	4 986.1931	26 815.4747	56.83356	540.63871	3 709.26510
75	684.1916	4 208.1165	21 829.2816	53.75933	483.80515	3 168.62639
76	597.8518	3 523.9249	17 621.1651	50.61542	430.04582	2 684.82124
77	518.7672	2 926.0731	14 097.2402	47.47109	379.43040	2 254.77542
78	446.5930	2 407.3059	11 171.1671	44.40548	331.95931	1 875.34502
79	380.9210	1 960.7129	8 763.8612	41.38299	287.55383	1 543.38571
80	321.3991	1 579.7919	6 803.1483	38.50920	246.17084	1 255.83188
81	267.5852	1 258.3928	5 223.3564	35.21134	207.66164	1 009.66104
82	219.6316	990.8076	3 964.9636	31.18161	172.45030	801.99940
83	177.9914	771.1760	2 974.1560	26.80843	141.26869	629.54910
84	142.7072	593.1846	2 202.9800	22.84428	114.46026	488.28041
85	113.0673	450.4774	1 609.7954	19.19687	91.61598	373.82015
86	88.48629	337.41010	1 159.31796	15.98843	72.41911	282.20417
87	68.28422	248.92381	821.90786	13.13762	56.43068	209.78506
88	51.89497	180.63959	572.98405	10.66513	43.29306	153.35438
89	38.75865	128.74462	392.34446	8.53458	32.62793	110.06132
90	28.37841	89.98597	263.59984	6.68893	24.09335	77.43339
91	20.33813	61.60756	173.61387	5.13453	17.40442	53.34004
92	14.23513	41.26943	112.00631	3.83070	12.26989	35.93562
93	9.72655	27.03430	70.73688	2.78207	8.43919	23.66573
94	6.48131	17.30775	43.70258	1.96050	5.65712	15.22654
95	4.21217	10.82644	26.39483	1.34028	3.69662	9.56942
96	2.67132	6.61427	15.56839	.88912	2.35634	5.87280
97	1.65499	3.94295	8.95412	.57849	1.46722	3.51646
98	.99769	2.28796	5.01117	.36730	.88873	2.04924
99	.58288	1.29027	2.72321	.22053	.52143	1.16051
100	.33460	.70739	1.43294	.13761	.30090	.63908
101	.18106	.37279	.72555	.07587	.16329	.33818
102	.09657	.19173	.35276	.03941	.08742	.17489
103	.05255	.09516	.16103	.02502	.04801	.08747
104	.02502	.04261	.06587	.01192	.02299	.03946
105	.01192	.01759	.02326	.00567	.01107	.01647
106	.00567	.00567	.00567	.00540	.00540	.00540

[1] This table appears on pages 74 and 75.

TABLE 105 COMMUTATION COLUMNS, 6%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
0	100 000.00	1 441 420.18	22 171 083.68	9 647.170	18 410.180	186 453.196
1	84 692.45	1 341 420.18	20 729 663.50	2 063.902	8 763.010	168 043.016
2	77 834.64	1 256 727.73	19 388 243.32	838.7797	6 699.1084	159 280.0063
3	72 590.12	1 178 893.09	18 131 515.59	510.1083	5 860.3287	152 580.8979
4	67 971.14	1 106 302.97	16 952 622.50	345.9805	5 350.2204	146 720.5692
5	63 777.74	1 038 331.83	15 846 319.53	269.2949	5 004.2399	141 370.3488
6	59 898.38	974 554.09	14 807 987.70	210.1580	4 734.9450	136 366.1089
7	56 297.75	914 655.71	13 833 433.61	164.3820	4 524.7870	131 631.1639
8	52 946.70	858 357.96	12 918 777.90	130.2177	4 360.4050	127 106.3769
9	49 819.50	805 411.26	12 060 419.94	106.0950	4 230.1873	122 745.9719
10	46 893.44	755 591.76	11 255 008.68	91.1342	4 124.0923	118 515.7846
11	44 147.96	708 698.32	10 499 416.92	82.4969	4 032.9581	114 391.6923
12	41 566.52	664 550.36	9 790 718.60	79.2338	3 950.4612	110 358.7342
13	39 134.46	622 983.84	9 126 168.24	80.0565	3 871.2274	106 408.2730
14	36 839.25	583 849.38	8 503 184.40	82.2012	3 791.1709	102 537.0456
15	34 671.81	547 010.13	7 919 335.02	86.6022	3 708.9697	98 745.8747
16	32 622.65	512 338.32	7 372 324.89	90.6129	3 622.3675	95 036.9050
17	30 685.47	479 715.67	6 859 986.57	94.2425	3 531.7546	91 414.5375
18	28 854.31	449 030.20	6 380 270.90	96.5098	3 437.5121	87 882.7829
19	27 124.54	420 175.89	5 931 240.70	99.1539	3 341.0023	84 445.2708
20	25 490.04	393 051.35	5 511 064.81	100.8953	3 241.8484	81 104.2685
21	23 946.31	367 561.31	5 118 013.46	101.2894	3 140.9531	77 862.4201
22	22 489.57	343 615.00	4 750 452.15	99.74476	3 039.66369	74 721.46702
23	21 116.83	321 125.43	4 406 837.15	96.81559	2 939.91893	71 681.80333
24	19 824.72	300 008.60	4 085 711.72	94.13145	2 843.10334	68 741.88440
25	18 608.44	280 183.88	3 785 703.12	91.66078	2 748.97189	65 898.78106
26	17 463.47	261 575.44	3 505 519.24	88.75348	2 657.31111	63 149.80917
27	16 386.22	244 111.97	3 243 943.80	85.68600	2 568.55763	60 492.49806
28	15 373.01	227 725.75	2 999 831.83	82.68142	2 482.87163	57 923.94043
29	14 420.16	212 352.74	2 772 106.08	79.74244	2 400.19021	55 441.06880
30	13 524.18	197 932.58	2 559 753.34	77.03552	2 320.44777	53 040.87859
31	12 681.62	184 408.40	2 361 820.76	74.37955	2 243.41225	50 720.43082
32	11 889.42	171 726.78	2 177 412.36	72.36218	2 169.03270	48 477.01857
33	11 144.07	159 837.36	2 005 685.58	70.19697	2 096.67052	46 307.98587
34	10 443.07	148 693.29	1 845 848.22	68.04503	2 026.47355	44 211.31535
35	9 783.913	138 250.217	1 697 154.926	65.78905	1 958.42852	42 184.84180
36	9 164.317	128 466.304	1 558 904.709	63.33887	1 892.63947	40 226.41328
37	8 582.243	119 301.987	1 430 438.405	60.73680	1 829.30060	38 333.77381
38	8 035.719	110 719.744	1 311 136.418	58.12331	1 768.56380	36 504.47321
39	7 522.744	102 684.025	1 200 416.674	55.61109	1 710.44049	34 735.90941
40	7 041.317	95 161.281	1 097 732.649	53.38049	1 654.82940	33 025.46892
41	6 589.372	88 119.964	1 002 571.368	51.39728	1 601.44891	31 370.63952
42	6 164.991	81 530.592	914 451.404	50.03896	1 550.05163	29 769.19061
43	5 765.990	75 365.601	832 920.812	48.90077	1 500.01267	28 219.13898
44	5 390.713	69 599.611	757 555.211	47.94905	1 451.11190	26 719.12631
45	5 037.629	64 208.898	687 955.600	47.08548	1 403.16285	25 268.01441
46	4 705.395	59 171.269	623 746.702	46.29535	1 356.07737	23 864.85156
47	4 392.756	54 465.874	564.575.433	45.32181	1 309.78202	22 508.77419
48	4 098.787	50 073.118	510 109.559	44.25261	1 264.46021	21 198.99217
49	3 822.528	45 974.331	460 036.441	43.26782	1 220.20760	19 934.53196
50	3 562.891	42 151.803	414 062.110	42.35517	1 176.93978	18 714.32436
51	3 318.863	38 588.912	371 910.307	41.55215	1 134.58461	17 537.38458
52	3 089.450	35 270.049	333 321.395	41.25131	1 093.03246	16 402.79997
53	2 873.325	32 180.599	298 051.346	41.32441	1 051.78115	15 309.76751
54	2 669.359	29 307.274	265 870.747	41.50047	1 010.45674	14 257.98636

[1] This table appears on pages 74 and 75.

TABLE 105 COMMUTATION COLUMNS, 6%. WHITE FEMALES

BASED ON LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.[1]

AGE.	WHITE FEMALES.					
x	D_x	N_x	S_x	C_x	M_x	R_x
Years.						
55	2 476.763	26 637.915	236 563.473	41.86864	968.95627	13 247.52962
56	2 294.700	24 161.152	209 925.558	42.20658	927.08763	12 278.57335
57	2 122.605	21 866.452	185 764.406	42.09963	884.88105	11 351.48572
58	1 960 358	19 743.847	163 897.954	41.64463	842.78142	10 466.60467
59	1 807.750	17 783.489	144 154.107	41.16687	801.13679	9 623.82325
60	1 664.257	15 975.739	126 370.618	40.55257	759.96992	8 822.68646
61	1 529.501	14 311.482	110 394.879	40.01082	719.41735	8 062.71654
62	1 402.915	12 781.981	96 083.397	39.68045	679.40653	7 343.29919
63	1 283.824	11 379.066	83 301.416	39.37934	639.72608	6 663.89266
64	1 171.775	10 095.242	71 922.350	38.82662	600.34674	6 024.16658
65	1 066.622	8 923.467	61 827.108	38.10344	561.52012	5 423.81984
66	968.1437	7 856.8452	52 903.6412	37.29742	523.41668	4 862.29972
67	876.0459	6 888.7015	45 046.7960	36.51761	486.11926	4 338.88304
68	789.9406	6 012.6556	38 158.0945	35.74248	449.60165	3 852.76378
69	709.4846	5 222.7150	32 145.4389	34.85345	413.85917	3 403.16213
70	634.4717	4 513.2304	26 922.7239	33.90263	379.00572	2 989.30296
71	564.6553	3 878.7587	22 409.4935	32.73690	345.10309	2 610.29724
72	499 9570	3 314.1034	18 530.7348	31.28180	312.36619	2 265.19415
73	440.3756	2 814.1464	15 216.6314	29.61840	281.08439	1 952.82796
74	385.8303	2 373.7708	12 402.4850	27.91659	251.46599	1 671.74357
75	336.0742	1 987.9405	10 028.7142	26.15742	223.54940	1 420.27758
76	290.8939	1 651.8663	8 040.7737	24.39537	197.39198	1 196.72818
77	250.0329	1 360.9724	6 388.9074	22.66402	172.99661	999.33620
78	213.2160	1 110.9395	5 027.9350	21.00041	150.33259	826.33959
79	180.1467	897.7235	3 916.9955	19.38636	129.33218	676.00700
80	150.5633	717.5768	3 019.2720	17.86993	109.94582	546.67482
81	124.1710	567.0135	2 301.6952	16.18542	92.07589	436.72900
82	100.9570	442.8425	1 734.6817	14.19788	75.89047	344.65311
83	81.04458	341.88551	1 291.83920	12.09149	61.69259	268.76264
84	64.36565	260.84093	949.95369	10.20632	49.60110	207.07005
85	50.51601	196.47528	689.11276	8.49584	39.39478	157.46895
86	39.16080	145.95927	492.63748	7.00914	30.89894	118.07417
87	29.93498	106.79847	346.67821	5.70504	23.88980	87.17523
88	22.53552	76.86349	239.87974	4.58767	18.18476	63.28543
89	16.67227	54.32797	163.01625	3.63656	13.59709	45.10067
90	12.09197	37.65570	108.68828	2.82325	9.96053	31.50358
91	8.58428	25.56373	71.03258	2.14673	7.13728	21.54305
92	5.95164	16.97945	45.46885	1.58649	4.99055	14.40577
93	4.02827	11.02781	28.48940	1.14133	3.40406	9.41522
94	2.65893	6.99954	17.46159	.79670	2.26273	6.01116
95	1.71172	4.34061	10.46205	.53952	1.46603	3.74843
96	1.07531	2.62889	6.12144	.35453	.92651	2.28240
97	.65992	1.55358	3.49255	.22849	.57198	1.35589
98	.39407	.89366	1.93897	.14371	.34349	.78391
99	.22806	.49959	1.04531	.08547	.19978	.44042
100	.12968	.27153	.54572	.05283	.11431	.24064
101	.06951	.14185	.27419	.02885	.06148	.12633
102	.03672	.07234	.13234	.01485	.03263	.06485
103	.01980	.03562	.06000	.00934	.01778	.03222
104	.00934	.01582	.02438	.00440	.00844	.01444
105	.00440	.00648	.00856	.00208	.00404	.00600
106	.00208	.00208	.00208	.00196	.00196	.00196

[1] This table appears on pages 74 and 75.

PART VI

MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES

PART VI.—MATHEMATICAL THEORY OF CONSTRUCTION OF LIFE TABLES.

DIVISION INTO THREE MAIN SECTIONS FOR CONSTRUCTION.

95. These life tables are constructed from the population and mortality returns of the Bureau of the Census; in some cases the birth registration returns have been employed. The construction may be broadly classified into three sections, the treatment varying greatly in these respective sections. The first section includes the early years of life, ranging from birth to about age 5; the second or middle range runs from about age 5 to about age 85; and the third range takes in the ages from about 85 to 115. Age 116 was assumed to be the limit of human life, and the tables are so calculated that the rate of mortality at age 115 is unity. Each of these sections presents its own peculiar problems which will be considered in detail.

GRAPHICAL REPRESENTATION OF FLOW OF POPULATION.[1]

96. The work of analyzing the problems of life table construction is much simplified by the choice of a suitable graphical representation. This representation should show for each individual the date of birth, the age on any given date, the date of death, and the age at death. Various plans have been proposed to show graphically the above facts; of these the one described below will be employed.

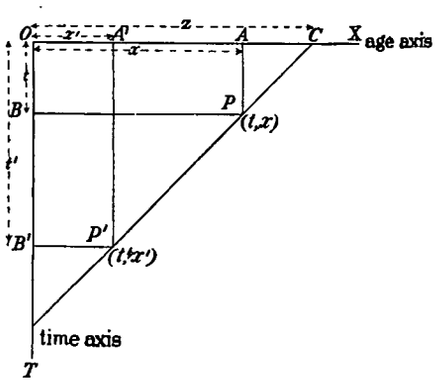


DIAGRAM 1.—CONNECTION BETWEEN FLOW OF A POPULATION AND TIME AND AGE.

Rectangular axes OX and OT are chosen as in Diagram 1. OT is the *time* axis and OX the *age* axis, and the origin O is taken as some definite point or date in time. Then (t,x) represents the individual now aged x years who was born at B just t years after the time O. If the line PC is drawn through P perpendicular to the bisector of angle TOX it appears that $OB = AC = t$ and $OC = t + x = z$. It is evident that z is the *current* time because P was born t years after the time O and is now x years of age. The figure also shows that P′ was born t' years after the time O and is now x' years of age. Since P and P′ are on the *same diagonal line*, it follows that at the time z they are both living, but are not of the same age. A line such as BP may be termed very properly the *life line* of the individual P. It starts at B with his birth and moves continuously to the right, and its length at any time represents his age. Three lines, particularly important in this method of graphical representation, are drawn through the point P; the one parallel to OT cuts OX at A, and OA is the age x at the time z; the one parallel to OX cuts OT at B, and OB is the time of birth measured from the origin O; the line through P perpendicular to the bisector of angle TOX intersects OX at C, and OC represents the *present or current time* $= z = t + x$, measured from O. Consider the lines PA, PB, and PC all produced indefinitely, each dividing the plane in two regions; then another way of stating it is that all points to the left of the line PA represent persons *less* than x years of age, and all points to the right of PA persons *more* than x years of age; all points above PB represent persons born *before* the time t, and all points below PB persons born *after* the time t; all points to the left of PC represent persons living *before* the time z, and all points to the right of PC persons living *after* the time z. When a person dies the life line comes to an end, and the aggregate of these end points of terminated life lines may be considered as representing an aggregate of the dead.

Suppose now a definite area, as some state or country, is fixed upon, and an origin, as January 1, 1910, selected, and all the individuals or persons born in that country represented by appropriate life lines in a diagram such as above described.

In Diagram 2 lines are drawn parallel to the axes a unit or year apart, and diagonal lines are also drawn, passing through the vertices of the unit squares and parallel to the bisector of the external angle. Let the vertical set be designated as the x lines, the horizontal as the t lines, and the diagonal as the z lines. The x and t lines divide the plane into unit squares, the t and z and the z and x lines into elemen-

[1] The graphical representation and mathematical theory outlined in sections 96 to 106 are the outcome of a gradual development with which may be connected the names of a number of writers on mathematical statistics—Knapp, Zeuner, Becker, Lexis, Perozzo, and others. For a systematic treatment of this subject the reader is referred to Wahrscheinlichkeitsrechnung, by E. Czuber, vol. 2, p. 90. This work was freely consulted in preparing the above-mentioned sections.

tary parallelograms. A study of what happens in each of these elementary areas will throw a great deal of light on the flow of a population or an aggregate of individuals.

The upper triangle of the upper left-hand unit square, containing the origin in Diagram 2, includes individuals born in 1910 and living or dying in the age interval 0–1. Four life lines are drawn representing individuals born January 1, April 1, July 1, and October 1, in the calendar year 1910. The arrowheads ending on the first diagonal line show that on January 1, 1911, they were, respectively, 1 year, 9 months, 6 months, and 3 months old. If life lines were drawn to represent every individual born in the world during the calendar year 1910, the variable points tracing the life lines of those living on January 1, 1911, would all lie at that time on the first diagonal z line and a count or enumeration of the population of the world in the age interval 0–1 on this date would comprehend or include every life line actually reaching this diagonal. Deaths in this aggregate would correspond to the life lines *ending* within the triangle and not extending to the diagonal line.

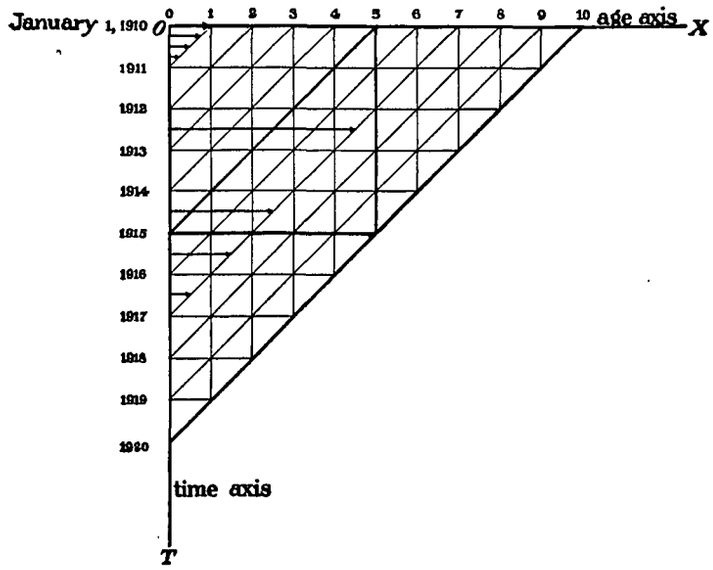


DIAGRAM 2.—FLOW OF A POPULATION MEASURED BY LIFE LINES.

If all the births in the world during the next calendar year, 1911, were entered in the form of life lines and a census taken January 1, 1912, the population would include all living individuals between 0 and 2 years of age, that is, living in the age intervals 0–1 and 1–2. The diagram plainly shows that a count of life lines extending to the lower half of the second diagonal would give the 0–1 population, and a count of the life lines extending to the upper half of the second diagonal would give the population living in the age interval 1–2. The first group is seen, by following the life lines back to the OT axis, to have been born in 1911, the second group in 1910.

It is evident that the process above described is one of continuous flow and that the *front* of the moving diagonal line corresponds to the persons alive *now* who were born since January 1, 1910. The plane may be considered as filled, first, with an aggregate of points, the *ends* of life lines which have ended or broken off, representing the number of deaths, and the ages and the dates at which deaths have occurred; and, second, life lines which have not ended or broken off and which represent various things, such as the number of persons living at the present moment, their dates of birth, and their ages. All the life lines, those broken off and those unbroken, represent the number born.

MATHEMATICAL THEORY OF FLOW OF POPULATION.

97. A sufficient explanation has now been made of the graphical representation to pass to the general theory of the movement or flow of a population in time. If a large group or aggregate is taken, it may be assumed that the births, counting from a given time, are continuous; likewise for the deaths. Let the function $F(t,x)$ denote the number of persons, born after the fixed date selected as the origin and before the time t, who are living at age x. This is a definite aggregate as soon as an area of observation has been chosen. For example, all the persons born in the world after January 1, 1800, and before January 1, 1860, who reached age 35 would be represented by $F(60, 35)$, if January 1, 1800, were selected as the origin and the entire world were the area under consideration.

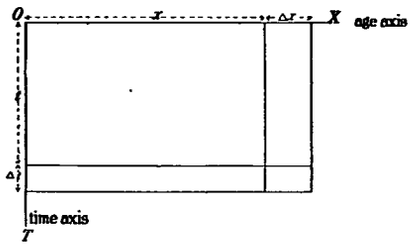


DIAGRAM 3.—VARIATION OF RATES WITH TIME AND WITH AGE.

Referring to Diagram 3, it is evident that

$$F(t+\Delta t,x)-F(t,x) \tag{1}$$

is the number born in the interval Δt who survived to age x and that when this is divided by Δt and the limit is taken the result is the partial derivative of $F(t,x)$ with respect to t. In other words,

$$\lim_{\Delta t=0}\frac{F(t+\Delta t,x)-F(t,x)}{\Delta t}=\frac{\partial F(t,x)}{\partial t}=f(t,x)=y. \tag{2}$$

This limit, which may be denoted by $y=f(t,x)$, is clearly the *rate* at which persons born at the time t survive to age x. If now t remains constant and an increment Δx is given to x in the function $f(t,x)$,

$$f(t,x)-f(t,x+\Delta x)$$

is the excess of the rate of survival to age x over that to age $x+\Delta x$. Dividing by Δx and taking the limit, it follows that

$$\lim_{\Delta x=0}\left[-\frac{f(t,x+\Delta x)-f(t,x)}{\Delta x}\right]=-\frac{\partial f(t,x)}{\partial x}$$
$$=-\frac{\partial y}{\partial x}=-\frac{\partial^2 F(t,x)}{\partial t\partial x}=\varphi(t,x), \tag{3}$$

which is the rate at which persons in the aggregate in question, born at the time t, die at the age x.

TWO IMPORTANT THEOREMS.

98. There are several important theorems concerning the functions above described which are needed to establish certain useful relations between various types of aggregates. The first may be stated as follows:

If $g(t)$ is a single valued function and $x=g(t)$ is the equation of a curve in the (t,x) plane, the integral of $f(t,x)$ taken along any section of this curve is equal to the aggregate or number of persons born in the interval (t_1,t_2) who are surviving at the ages corresponding to the curve $x=g(t)$.

A diagram will assist in the proof and understanding of this theorem.

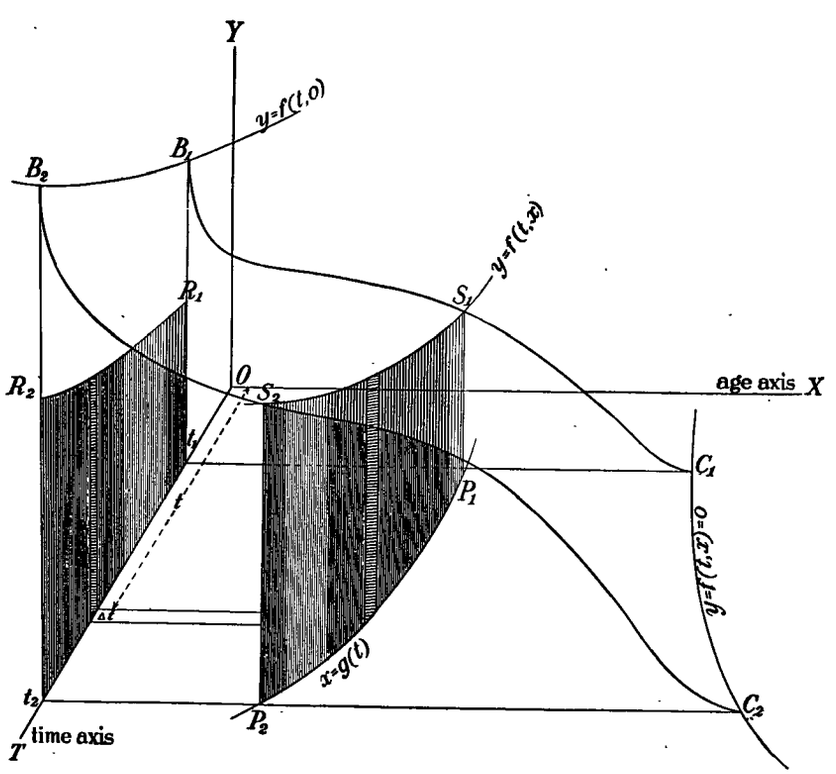


DIAGRAM 4.—VARIATION IN NUMBER OF SURVIVORS WITH TIME AND WITH AGE.

Taking the axis y perpendicular to the (t,x) plane, Diagram 4, the function $y=f(t,x)$ is erected at each point in the plane, the end points thus describing a surface. The perpendiculars erected on any curve as $x=g(t)$ in the plane will form a cylindrical surface, and it is evident that the integral

$$\int_{\widehat{P_1P_2}} f(t,x)dt = \int_{t_1}^{t_2} f(t,x)dt = \int_{t_1}^{t_2} f[t,g(t)]dt \qquad (4)$$

can be represented by the shaded projection $t_1R_1t_2R_2$ on the YT plane of the cylindrical surface $P_1S_1P_2S_2$. It thus appears that the projection of the cylindrical surface on the YT plane represents the aggregate or number of persons born in the interval (t_1,t_2) who attained the corresponding ages along the curve $x=g(t)$ between the age limits P_1 and P_2. This same number would also be given by enumerating the life lines starting between t_1 and t_2 and intersecting the curve $x=g(t)$.

Another important result can be obtained by an application of Green's theorem in space of two dimensions. It may be stated as follows:

The surface integral of $\varphi(t,x)$ extended over any simple closed area A is equal to the line integral of $f(t,x)$ taken along the boundary of A in the counterclockwise direction.

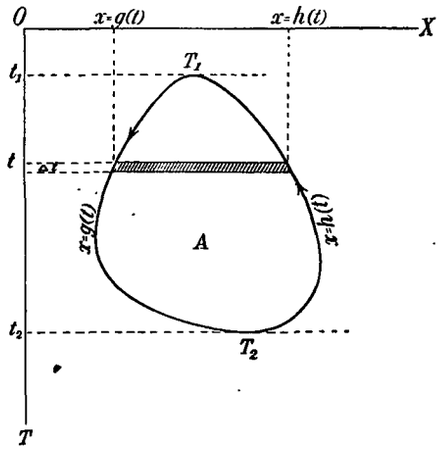


DIAGRAM 5.—NUMBER OF DEATHS IN CLOSED AREA.

Let t_1 and t_2 be tangent to the boundary of the simple closed area A at points T_1 and T_2, respectively, and $x=g(t)$ be the equation of the left side of the boundary of A between the points of tangency and $x=h(t)$, the equation of the right side. Since $\varphi(t,x) = -\dfrac{\partial f(t,x)}{\partial x}$,

$$\iint_A \varphi(t,x)dtdx = -\int_{t_1}^{t_2} dt \int_{g(t)}^{h(t)} \frac{\partial f(t,x)}{\partial x} dx$$

$$= -\int_{t_1}^{t_2} f[t,h(t)]dt + \int_{t_1}^{t_2} f[t,g(t)]dt$$

$$= \int_{t_1}^{t_2} f[t,g(t)]dt + \int_{t_2}^{t_1} f[t,h(t)]dt, \qquad (5)$$

which is evidently equal to the integral of $f(t,x)$ with respect to t extended around the boundary in the positive direction.

On account of the definition of $\varphi(t,x)$ the integral of the function extended over the surface area A is equal to the number of deaths falling within the area. It is therefore equal to the number of life lines starting between t_1 and t_2 and ending somewhere within the area A.

AGGREGATE OF THOSE SURVIVING TO SAME AGE.

99. It is now possible to define some of the more important aggregates of the living and dead and to establish equations connecting them. One of the most useful aggregates of the living for purposes of life table construction is that of persons of the *same age.* This aggregate is readily observed in the graphical representation already explained.

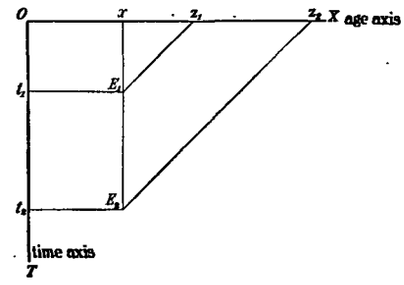


DIAGRAM 6.—BIRTH AND TIME INTERVALS COVERED BY THOSE SURVIVING TO SAME AGE.

Referring to Diagram 6, the enumeration of life lines crossing E_1 E_2 would give the number of persons born in the interval (t_1,t_2) who actually lived to age x. It is evident they did not attain this age at the same time; the figure shows that the first one, born at time t_1, attained age x at time

$$z_1 = t_1 + x$$

and the last born at time t_2 attained age x at time

$$z_2 = t_2 + x.$$

By subtraction

$$z_2 - z_1 = t_2 - t_1,$$

whence it appears that if the birth interval is one year the same is true of the interval of time between which the first and last members of the aggregate attain age x. This aggregate, by the first theorem in section 98, may be represented analytically by the integral

$$E_x^{t_1/t_2} = \int_{t_1}^{t_2} f(t,x)dt. \qquad (6)$$

This is a special case where the curve $x=g(t)$ reduces to a line, $x=$constant, parallel to the time axis. In the particular case where the constant is zero the aggregate

$$E_0^{t_1/t_2} = \int_{t_1}^{t_2} f(t,0)dt \qquad (7)$$

is equal to the number born in the interval of time (t_1,t_2). This is a statistical aggregate and would be derived directly from accurate birth registration. Unfortunately, for most areas, reliable birth registration statistics were not available for the construction of the present life tables, and the number of births had to be obtained by another method explained in the text. The function $E_x^{t_1/t_2}$ is in general not a statistical aggregate and is not given in the publications of the bureau. Its value must be derived from other statistical aggregates which have been obtained by actual enumeration.

AGGREGATE OF THOSE LIVING AT SAME TIME.

100. Another important aggregate of the living consists of those persons living at the *same time*. It is made up of individuals of different ages and is a statistical aggregate, that is, ordinarily obtainable from collected and published data.

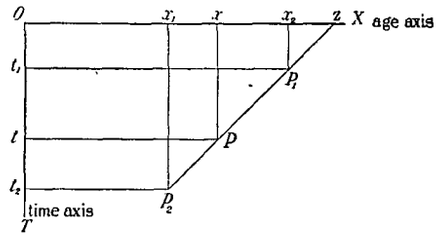


DIAGRAM 7.—BIRTH AND AGE INTERVALS COVERED BY THOSE LIVING AT SAME TIME.

This aggregate would be determined by the number of life lines, shown in Diagram 7, crossing the diagonal line P_1P_2, among those who were born in the time interval (t_1,t_2). The diagram shows that

$$z=t+x$$

is the date of observation, and a count, enumeration, or census taken at time z along the line P_1P_2 would give the population or number of persons then living in the age interval (x_1,x_2). The youngest person in this aggregate is aged

$$x_1=z-t_2,$$

and the oldest

$$x_2=z-t_1,$$

and the general relation existing between the time of enumeration z, time of birth t, and age at enumeration is

$$x=z-t.$$

This is the equation of the diagonal line, and employing the first theorem in section 98 with $g(t)=z-t$, the following is the result:

$$P_z^{x_1/x_2}=\int_{\widehat{P_1P_2}} g(t,x)dt=\int_{t_1}^{t_2} f(t,z-t)dt. \qquad (8)$$

This integral has for its value the population at time z of all persons in the aggregate living between ages $x_1=z-t_2$ and $x_2=z-t_1$ who were born in the time interval (t_1,t_2). By subtraction

$$x_2-x_1=t_2-t_1,$$

whence it appears that the age interval included in the aggregate is the same as the time of birth interval; in particular, if the latter is one year the age interval will be one year. This aggregate is taken every ten years in this country and the results tabulated and published by the Bureau of the Census. An enumeration was made on April 15, 1910, and the next preceding one on June 1, 1900.[1] The symbol $P_z^{x_1/x_2}$ will be employed to represent explicitly the population between ages x_1 and x_2 enumerated at time z, born in the interval (t_1,t_2), where $t_1=z-x_2$ and $t_2=z-x_1$. For example, if the origin is June 1, 1870, then $P_{40}^{26\cdot27}$ would denote the number of persons living on June 1, 1910, between ages 26 and 27; the youngest in the aggregate was born June 1, 1884, and the oldest June 1, 1883, and all the others between these dates.

FIRST AGGREGATE OF THE DEAD: TYPE ONE.

101. There are three mortality or death aggregates to which attention will be called. The first aggregate of the dead, $D_{x_1/x_2}^{t_1/t_2}$, referred to as *type one*, includes those persons who were born in the time interval (t_1,t_2) and who lived to age x_1, but not to age x_2, that is, died in the age interval (x_1,x_2).

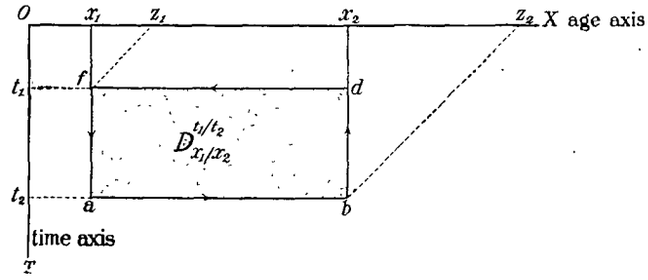


DIAGRAM 8.—AGGREGATE OF THE DEAD WHO WERE BORN IN SAME TIME INTERVAL AND WHO DIED IN SAME AGE INTERVAL.

Let the dots or points in the area $D_{x_1/x_2}^{t_1/t_2}$ represent the ends or terminations of life lines which started in time interval (t_1,t_2) and ended in age interval (x_1,x_2); then a count of these points would correspond to the registration of deaths, occurring after time z_1 and before time z_2, of persons between ages x_1 and x_2 who were born in the time interval (t_1,t_2). The first death at f occurs at the time

$$z_1=t_1+x_1$$

and the last at b at the time

$$z_2=t_2+x_2.$$

Since

$$z_2-z_1=(t_2-t_1)+(x_2-x_1),$$

it appears that if the generation or birth interval

[1] The last enumeration was made as of Jan. 1, 1920.

(t_1,t_2) and the age interval (x_1,x_2) are each *one* year, the observation interval (z_1,z_2) is *two* years. For example, if the persons in this aggregate were born in the calendar year 1880 and died in the age interval (25,26), that is, after reaching age 25 but before attaining age 26, the deaths must have been distributed over the *two* calendar years 1905 and 1906.

The second theorem in section 98, when applied to the area $D^{t_1/t_2}_{x_1/x_2}$, leads to the following result:

$$D^{t_1/t_2}_{x_1/x_2}=\int_{t_1}^{t_2}\int_{x_1}^{x_2}\varphi(t,x)dtdx$$

$$=\int_{t_1}^{t_2}f(t,x_1)dt-\int_{t_1}^{t_2}f(t,x_2)dt$$

$$=E^{t_1/t_2}_{x_1}-E^{t_1/t_2}_{x_2}. \qquad (9)$$

In taking the integral along the boundary of area $D^{t_1/t_2}_{x_1/x_2}$, Diagram 8, in the direction indicated by the arrows, it is evident that the integrals along the lines df and ab vanish, because they are normal to the time axis. The result

$$D^{t_1/t_2}_{x_1/x_2}=E^{t_1/t_2}_{x_1}-E^{t_1/t_2}_{x_2} \qquad (10)$$

might have been inferred at once because the number of deaths must be the excess of life lines in generation (t_1,t_2) which cross the x_1 line over those which cross the x_2 line.

SECOND AGGREGATE OF THE DEAD: TYPE TWO.

102. The second aggregate of the dead, $D^{t_1/t_2}_{z_1/z_2}$, referred to as *type two*, includes persons in the generation (t_1,t_2) who die after the time z_1 and before the time z_2.

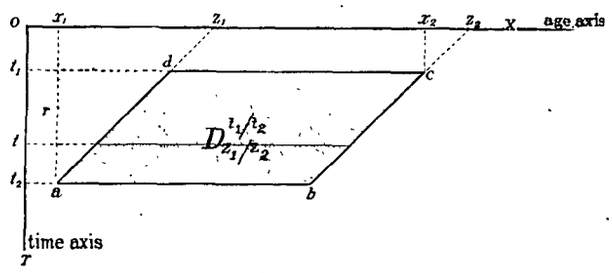


DIAGRAM 9.—AGGREGATE OF THE DEAD WHO WERE BORN IN SAME TIME INTERVAL AND WHO DIED IN SAME TIME INTERVAL.

Diagram 9 shows that the deaths are distributed in the age interval (x_1,x_2), where

$$x_1=z_1-t_2$$

and

$$x_2=z_2-t_1.$$

Since

$$x_2-x_1=(t_2-t_1)+(z_2-z_1),$$

it appears that the age interval will cover a period of *two* years if the generation and observation periods are each *one* year. For example, when the observation period for deaths is the calendar year 1910 and is confined to persons born in the calendar year 1880, the ages of the decedents will be from 29 to 31. By means of the second theorem in section 98 the surface integral extended over the area $D^{t_1/t_2}_{z_1/z_2}$ is equal to the boundary integral along *abcd*, the integrals along *ab* and *cd* vanishing as these lines are normal to the time axis. This gives, since $x=z_1-t$ on *ad* and $x=z_2-t$ on *bc*,

$$D^{t_1/t_2}_{z_1/z_2}=\int_{t_1}^{t_2}\int_{z_1-t}^{z_2-t}\varphi(t,x)dtdx=\int_{t_1}^{t_2}dt\int_{z_1-t}^{z_2-t}-\frac{\partial f(t,x)}{\partial x}dx$$

$$=\int_{t_1}^{t_2}f(t,z_1-t)dt-\int_{t_1}^{t_2}f(t,z_2-t)dt$$

$$=P^{x_1/z_1-t_1}_{z_1}-P^{z_2-t_2/x_2}_{z_2}. \qquad (11)$$

The expression for $D^{t_1/t_2}_{z_1/z_2}$ in terms of population aggregates could be verified at once from the diagram, because the terminated life lines or deaths in $D^{t_1/t_2}_{z_1/z_2}$ must be the excess of the life lines of generation (t_1,t_2) which cross the z_1 line over those which cross the z_2 line.

THIRD AGGREGATE OF THE DEAD: TYPE THREE.

103. The third aggregate of the dead, $D^{z_1/z_2}_{x_1/x_2}$, referred to as *type three*, includes those persons who die within the period (z_1,z_2) and in the age interval (x_1,x_2).

Diagram 10 shows that

$$t_1=z_1-x_2$$

and

$$t_2=z_2-x_1,$$

whence

$$t_2-t_1=(z_2-z_1)+(x_2-x_1),$$

and it follows that the generation interval is the sum of the observation period and the age interval. If the last two are *one* year intervals, the generation interval will cover *two* years. In other words, if the deaths for a calendar year are arranged by age intervals of one year, the persons dying in any age interval are distributed over two calendar years of birth. For example, the deaths for the calendar year 1916 of persons in the age interval 49–50 are distributed over two calendar years of birth, namely, 1866 and 1867.

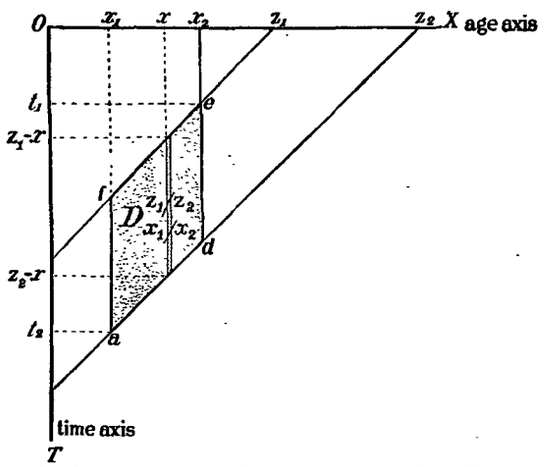


DIAGRAM 10.—AGGREGATE OF THE DEAD WHO DIED IN SAME TIME INTERVAL AND IN SAME AGE INTERVAL.

The integral expressing the value of $D^{z_1/z_2}_{x_1/x_2}$ is by the second theorem in section 98,

$$\begin{aligned} D^{z_1/z_2}_{x_1/x_2} &= \int_{x_1}^{x_2}\int_{z_1-x}^{z_2-x} \varphi(t,x)dxdt \\ &= E^{t_1+(x_2-x_1)/t_2}_{x_1} - P^{x_1/x_2}_{z_2} \\ &\quad - E^{t_1/t_2-(x_2-x_1)}_{x_2} + P^{x_1/x_2}_{z_1} \\ &= E^{z_1-x_1/z_2-x_1}_{x_1} - P^{x_1/x_2}_{z_2} \\ &\quad - E^{z_1-x_2/z_2-x_2}_{x_2} + P^{x_1/x_2}_{z_1}. \end{aligned} \tag{12}$$

This result may also be obtained by breaking up the parallelogram *adef*, Diagram 11, into the upper triangle *fne*, the middle rectangle *mdnf*, and the lower triangle *adm*, and applying the second theorem of section 98 directly to each part and taking the sum. The integrals are as follows:

$$\begin{aligned} D^{z_1/z_2}_{x_1/x_2} &= \iint_{fne} \varphi(t,x)dtdx + \iint_{mdnf} \varphi(t,x)dtdx + \iint_{adm} \varphi(t,x)dtdx \\ &= \int_{z_1-x_2}^{z_1-x_1} dt \int_{z_1-t}^{x_2} -\frac{\partial f(t,x)}{\partial x}dx + \int_{z_1-x_1}^{z_2-x_2} dt \int_{x_1}^{x_2} -\frac{\partial f(t,x)}{\partial x}dx \\ &\quad + \int_{z_2-x_2}^{z_2-x_1} dt \int_{x_1}^{z_2-t} -\frac{\partial f(t,x)}{\partial x}dx \\ &= \int_{z_1-x_2}^{z_1-x_1} [f(t,z_1-t)-f(t,x_2)]\,dt + \int_{z_1-x_1}^{z_2-x_2} [f(t,x_1)-f(t,x_2)]\,dt \\ &\quad + \int_{z_2-x_2}^{z_2-x_1} [f(t,x_1)-f(t,z_2-t)]dt \\ &= \int_{z_1-x_1}^{z_2-x_1} f(t,x_1)dt - \int_{z_2-x_2}^{z_2-x_1} f(t,z_2-t)dt - \int_{z_1-x_2}^{z_2-x_2} f(t,x_2)dt \\ &\quad + \int_{z_1-x_2}^{z_1-x_1} f(t,z_1-t)dt \\ &= E^{z_1-x_1/z_2-x_1}_{x_1} - P^{x_1/x_2}_{z_2} - E^{z_1-x_2/z_2-x_2}_{x_2} + P^{x_1/x_2}_{z_1}. \end{aligned}$$

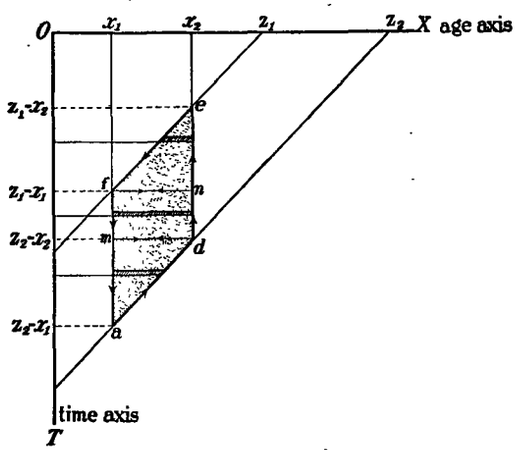


DIAGRAM 11.—INTEGRATION TO DETERMINE NUMBER OF DEAD IN TYPE THREE AGGREGATE.

From Diagram 10 it can be seen that the life lines which terminate in $D^{z_1/z_2}_{x_1/x_2}$ entered through *af* and *fe*, and that the life lines which passed through it left through *ad* and *de*. Accordingly, the life lines which terminate in this area must be expressed by

$$D^{z_1/z_2}_{x_1/x_2} = \left(P^{x_1/x_2}_{z_1} + E^{z_1-x_1/z_2-x_1}_{x_1}\right) - \left(P^{x_1/x_2}_{z_2} + E^{z_1-x_2/z_2-x_2}_{x_2}\right),$$

which agrees with equation (12).

In the special case where the observation period and the age interval are each *one* year, this reduces to

$$D^{z/z+1}_{x/x+1} = E^{t/t+1}_{x} - E^{t-1/t}_{x+1} + P^{x/x+1}_{z} - P^{x/x+1}_{z+1} \tag{13}$$

and the generation interval covers *two* years. This relation might have been written down directly by referring to parallelogram *adef* in Diagram 12.

RELATIONS BETWEEN AGGREGATES OF THE LIVING AND OF THE DEAD.

104. It will be observed in the case of the three types of aggregates of the dead that, when any two of the three variables t, x, and z are given a unit increment, the remaining one takes on an increment of double that amount.

Diagram 12 shows the two types of aggregates of the living,

$$E^{t/t+1}_{z} \quad \text{and} \quad P^{x/x+1}_{z},$$

and the three types of aggregates of the dead:

Type one, $D^{t/t+1}_{x/x+1}$ in *abdf*
$= D_{x,z+1,t} + D_{z+1,t+1,z+1}$ or $D_\alpha + D_\beta$;

Type two, $D^{t/t+1}_{z+1/z+2}$ in *abcd*
$= D_{z+1,t+1,z+1} + D_{z+1,z+2,t}$ or $D_\beta + D_\gamma$;

Type three, $D^{z/z+1}_{x/x+1}$ in *adef*
$= D_{z,t,z+1} + D_{z,z+1,t}$ or $D_\delta + D_\alpha$.

The last, $D^{z/z+1}_{x/x+1}$, is the only statistical aggregate of the dead available for this country; it is given in the form of deaths for the calendar year according to age intervals. If, in addition, these deaths were classified according to year of birth, then the aggregates of the dead in each elementary *triangle* would be known, and it would be a simple matter to obtain the probability of living and hence the rate of mortality at each age. For example, if D_α and D_β were known, Diagram 12 shows that

$$E^{t/t+1}_x = D_\alpha + P^{x/x+1}_{z+1}$$

and

$$P^{x/x+1}_{z+1} = D_\beta + E^{t/t+1}_{x+1}$$

whence

$$\frac{E^{t/t+1}_{x+1}}{E^{t/t+1}_x} = p^{t/t+1}_x = \frac{P^{x/x+1}_{z+1} - D_\beta}{P^{x/x+1}_{z+1} + D_\alpha}$$

and

$$q^{t/t+1}_x = 1 - p^{t/t+1}_x = \frac{D_\alpha + D_\beta}{P^{x/x+1}_{z+1} + D_\alpha}. \qquad (14)$$

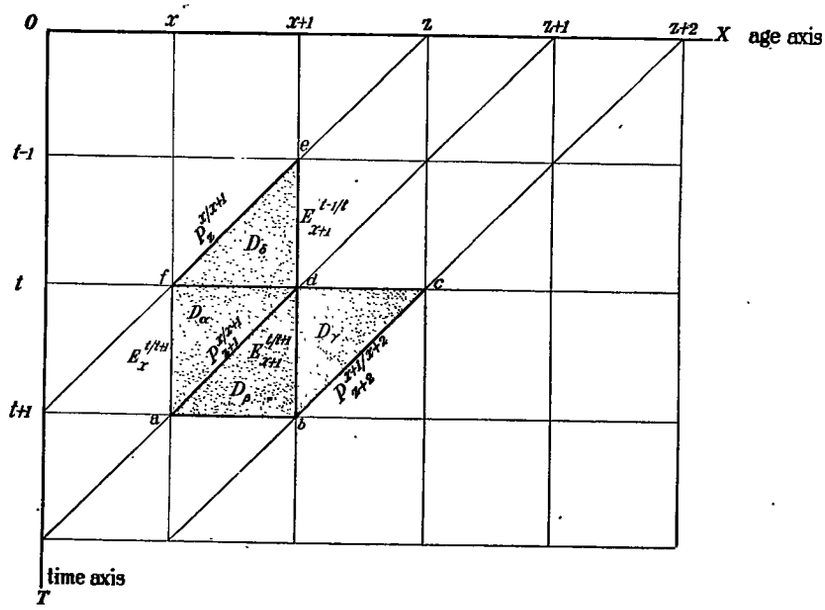


DIAGRAM 12.—RELATIONS BETWEEN AGGREGATES OF THE LIVING AND OF THE DEAD.

EXPRESSION OF RATE OF MORTALITY IN TERMS OF STATISTICAL AGGREGATES.

105. In order to calculate the rapidly changing rate of mortality for ages under 5 years it is necessary to take into account the force of mortality which is defined as follows, ξ being a variable measured from x:

$$\mu_{x+\xi} = -\frac{1}{l_{x+\xi}}\frac{dl_{x+\xi}}{d(x+\xi)} = -\frac{d\log l_{x+\xi}}{d(x+\xi)} = -\frac{d\log l_{x+\xi}}{d\xi}. \qquad (15)$$

Therefore,

$$-\int_0^\xi \mu_{x+\xi}d\xi = \int_0^\xi d\log l_{x+\xi} = \log l_{x+\xi} - \log l_x = \log {}_\xi p_x$$

and

$${}_\xi p_x = e^{-\int_0^\xi \mu_{x+\xi}d\xi} \text{ and } {}_{|\xi}q_x = 1 - e^{-\int_0^\xi \mu_{x+\xi}d\xi}.$$

In particular, when $\xi = 1$,

$$p_x = e^{-\int_0^1 \mu_{x+\xi}d\xi} \text{ and } q_x = 1 - e^{-\int_0^1 \mu_{x+\xi}d\xi}. \qquad (16)$$

By referring to Diagram 13 it will be observed that an application of the second theorem in section 98 leads to the equation

$$D^{z_1/z_2}_{x/x+\xi} = E^{z_1-x/z_2-x}_x - P^{x/x+\xi}_{z_2} - E^{z_1-x-\xi/z_2-x-\xi}_{x+\xi} + P^{x/x+\xi}_{z_1},$$

or, dropping superscripts, setting

$$\delta_{x/x+\xi} = P^{x/x+\xi}_{z_2} - P^{x/x+\xi}_{z_1}, \qquad (17)$$

and solving for $E_{x+\xi}$, to

$$E_{x+\xi} = E_x - \delta_{x/x+\xi} - D_{x/x+\xi}. \qquad (18)$$

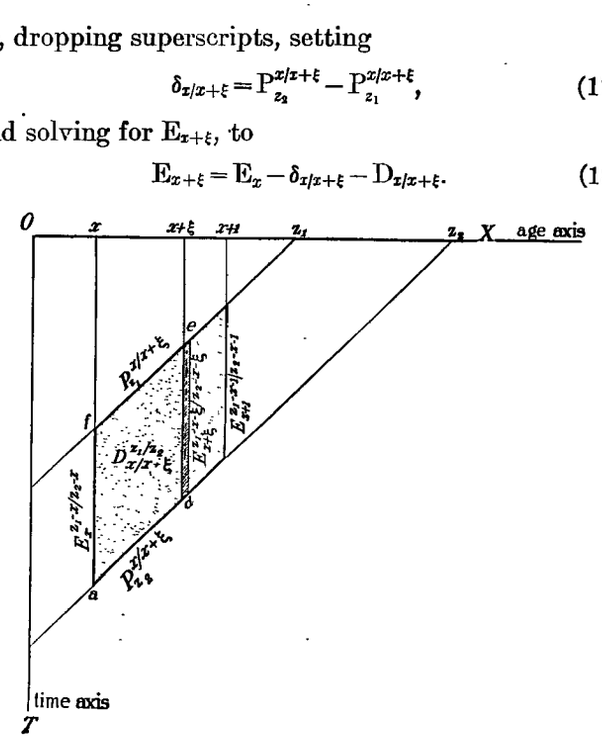


DIAGRAM 13.—VARIATION OF AGGREGATES OF THE LIVING AND TYPE THREE AGGREGATES OF THE DEAD WITH AGE AND TIME.

The number of deaths in the differential strip $dD_{x/x+\xi}$ is the product of the number exposed, the

force of mortality, and the element of time, or

$$dD_{x/x+\xi} = E_{x+\xi}\mu_{x+\xi}d\xi.$$

It follows by eliminating $E_{x+\xi}$ from this and the preceding equation that

$$dD_{x/x+\xi} = (E_x - \delta_{x/x+\xi} - D_{x/x+\xi})\mu_{x+\xi}d\xi;$$

hence

$$\frac{d(D_{x/x+\xi} - E_x)}{d\xi} + \mu_{x+\xi}(D_{x/x+\xi} - E_x) = -\delta_{x/x+\xi}\mu_{x+\xi}. \quad (19)$$

This is a linear differential equation of the first order and degree, with $D_{x/x+\xi} - E_x$ for dependent variable and ξ for independent variable. Its integrating factor is

$$e^{\int \mu_{x+\xi}d\xi},$$

and the solution may be expressed in the following form:

$$(D_{x/x+\xi} - E_x)e^{\int \mu_{x+\xi}d\xi} = C - \int \delta_{x/x+\xi}e^{\int \mu_{x+\xi}d\xi}\mu_{x+\xi}d\xi.$$

When the limits of integration are taken as $\xi = 0$ and $\xi = \xi$, the constant is determined as $C = -E_x$, and solving for the number of deaths in the interval $(x, x+\xi)$,

$$D_{x/x+\xi} = E_x\left(1 - e^{-\int_0^\xi \mu_{x+\xi}d\xi}\right)$$
$$- e^{-\int_0^\xi \mu_{x+\xi}d\xi}\int_0^\xi \delta_{x/x+\xi}e^{\int_0^\xi \mu_{x+\xi}d\xi}\mu_{x+\xi}d\xi. \quad (20)$$

The latter integral may be simplified as follows:

$$\int_0^\xi \delta_{x/x+\xi}\, e^{\int_0^\xi \mu_{x+\xi}d\xi}\mu_{x+\xi}d\xi$$
$$= \int_0^\xi \delta_{x/x+\xi}de^{\int_0^\xi \mu_{x+\xi}d\xi} = \int_{v_0}^{v_\xi} \delta_{x/x+\xi}dv,$$

where

$$v_0 = 1 \text{ and } v_\xi = e^{\int_0^\xi \mu_{x+\xi}d\xi}$$

are the values of v corresponding to $\xi = 0$ and $\xi = \xi$. It is evident that the base range

$$v_\xi - v_0 = e^{\int_0^\xi \mu_{x+\xi}d\xi} - 1$$

for the variable v corresponds to the base range $\xi - 0 = \xi$ for the variable ξ; hence, applying the theorem of the mean, where $\bar{\delta}_{x/x+\xi}$ is the mean value of $\delta_{x/x+\xi}$ in the interval $(x, x+\xi)$, it appears that

$$\int_0^\xi \delta_{x/x+\xi}\, e^{\int_0^\xi \mu_{x+\xi}d\xi}\mu_{x+\xi}\, d\xi = \bar{\delta}_{x/x+\xi}\left(e^{\int_0^\xi \mu_{x+\xi}d\xi} - 1\right),$$

from which follows directly

$$D_{x/x+\xi} = (E_x - \bar{\delta}_{x/x+\xi})\left(1 - e^{-\int_0^\xi \mu_{x+\xi}d\xi}\right). \quad (21)$$

Assuming a uniform increase in the population from time z_1 to time z_2, or a mean value of $\delta_{x/x+\xi}$, that is, $\bar{\delta}_{x/x+\xi} = \frac{1}{2}\delta_{z/x+\xi}$, and taking $\xi = 1$, it follows directly from equations (16) and (21) that

$$q_x = \frac{D_{x/x+1}}{E_x - \frac{1}{2}\delta_{x/x+1}}$$
$$= \frac{D^{z/z+1}_{x/x+1}}{E^{t/t+1}_x - \frac{1}{2}\left(P^{x/x+1}_{z+1} - P^{x/x+1}_z\right)}. \quad (22)$$

This important equation can be modified so as to take the usual form for the rate of mortality, q_x, expressed in terms of the central death rate, m_x:

Referring to Diagram 14, it follows from equation (22) that

$$q^{t/t+1}_x = \frac{D^{z/z+1}_{x/x+1}}{\left(P^{x/x+1}_{z+1} - \frac{1}{2}\delta_{x/x+1}\right) + \left(E^{t/t+1}_x - P^{x/x+1}_{z+1}\right)}$$
$$= \frac{D^{z/z+1}_{x/x+1}}{P^{x/x+1}_{z+\frac{1}{2}} + D_\alpha},$$

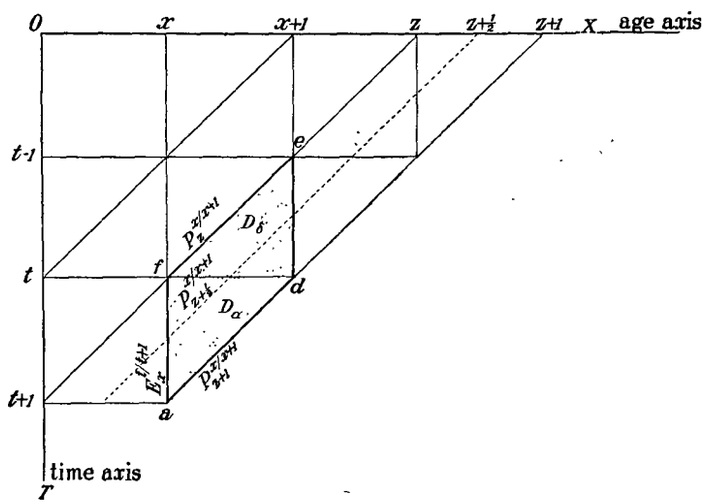


DIAGRAM 14.—RELATION BETWEEN RATE OF MORTALITY AND AGGREGATES OF THE LIVING AND OF THE DEAD.

since, by assumption, the population $P_z^{x/x+1}$ varies uniformly from z to $z+1$. If now with respect to the type three parallelogram *adef* the additional assumption is made that the number of deaths in the age interval $(x, x+1)$ in the lower triangle, D_α, is equal to the number of deaths in the upper triangle, D_δ, or, in other words, that the deaths in each age interval of any calendar year are equally divided between the two generations to which they belong, then

$$D_\alpha = D_\delta = \tfrac{1}{2} D_{x/x+1}^{z/z+1}, \tag{23}$$

and it follows directly that

$$q_x^{t/t+1} = \frac{D_{x/x+1}^{z/z+1}}{P_{z+\frac{1}{2}}^{x/x+1} + \frac{1}{2} D_{x/x+1}^{z/z+1}}$$

$$= \frac{D_{x/x+1}^{z/z+1} / P_{z+\frac{1}{2}}^{x/x+1}}{1 + \frac{1}{2} D_{x/x+1}^{z/z+1} / P_{z+\frac{1}{2}}^{x/x+1}} = \frac{m_x}{1 + \frac{1}{2} m_x}, \tag{24}$$

where m_x, the central death rate, is defined as the ratio of the deaths during the year to the population in the middle of the year. This is the usual formula employed to calculate the rate of mortality from the statistical aggregates, and it is now clear what assumptions are implied. It is also evident that the formula can not be applied during the early years of life, because D_α and D_δ are not even approximately equal under age 5.

CALCULATION OF NUMBER OF BIRTHS.

106. In order to employ equations (18) and (22) to calculate the rate of mortality during the first five years of life it is necessary to know the number of births, E_0. Unfortunately, birth registration statistics for most of the areas for which life tables were to be constructed were not sufficiently reliable for this purpose, and it was necessary to determine the number of births from the population and mortality statistics. The method employed is explained by considering the actual process for males in the state of New York. Table 106 gives the reported deaths in the years 1909, 1910, and 1911 for certain age intervals under 5 years.

Table 106

NUMBER OF REPORTED DEATHS AMONG MALES IN THE STATE OF NEW YORK USED IN COMPUTING NUMBER OF BIRTHS.

Calendar year in which death occurs.	Age interval in which death occurs.				
	0-1	1-2	2-3	3-4	4-5
1909	14,569				
1910	15,234	3,401			
1911	14,040	2,993	1,320		
1912	13,746	2,929	1,263	725	
1913	.....	2,973	1,305	803	615

When these deaths of type $D_{x_1/x_2}^{z_1/z_2}$ are represented graphically and the numbers inserted in the corresponding parallelograms, the results are as shown in Diagram 15.

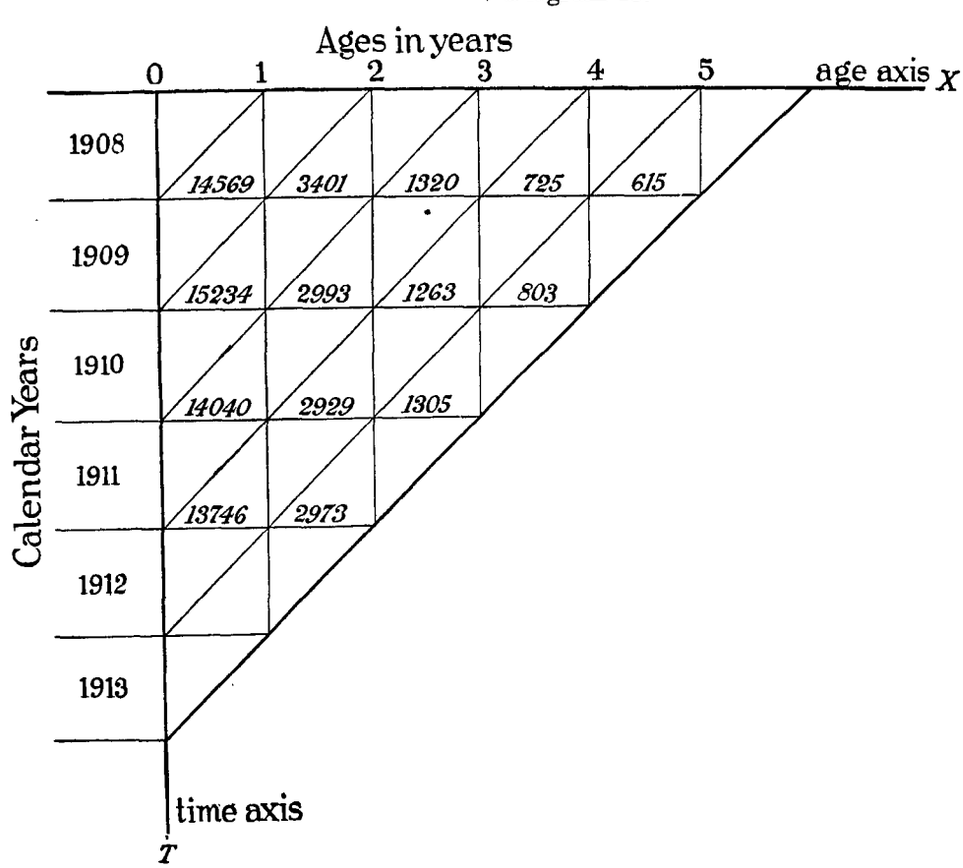


DIAGRAM 15.—GRAPHIC REPRESENTATION OF NUMBER OF DEATHS GIVEN IN TABLE 106.

From the diagram it appears that 14,569 males died under 1 year in 1909, that 2,929 died in 1912 aged 1 year last birthday, 615 died in 1913 aged 4 last birthday, and so on. These aggregates are of type $D^{z_1/z_2}_{x_1/x_2}$ described in section 103, and it will be observed that there are *two* generations corresponding to the deaths in each calendar year. The numbers at the left margin show the calendar year of birth and also the calendar year belonging to each strip beginning at the left-hand edge and running diagonally up and to the right.

The next problem is to determine for each $D^{z_1/z_2}_{x_1/x_2}$ the number of deaths belonging to the later generation and to the earlier generation, respectively. For example, how many of the 14,569 decedents in 1909 under 1 year were born in 1909, the later year, and how many in 1908, the earlier year?

PERCENTAGE OF DECEDENTS BORN IN EARLIER AND LATER CALENDAR YEARS DERIVED FROM GERMAN MORTALITY STATISTICS.

107. This question was first answered by investigating the mortality statistics of the German Empire, where, for many states, the deaths are reported for the calendar year by single years of age and by calendar year of birth. On pages 10* to 13* of Statistik des Deutschen Reichs, Band 200, there are several tables, based on the actual enumeration of a large number of deaths, showing in graduated form the percentage of deaths belonging to each of the two years of birth. Sections of these tables are reproduced here.

Table 107

GRADUATED PERCENTAGES OF DEATHS IN CALENDAR YEAR ACCORDING TO LATER AND EARLIER CALENDAR YEARS OF BIRTH FOR FIRST TEN YEARLY AGE INTERVALS, BASED ON DEATHS IN PRUSSIA IN YEARS 1901–1905.

Age interval in which death occurs.	Difference between calendar year of death and year of birth.	Percentage of decedents born in *later* calendar year.		Difference between calendar year of death and year of birth.	Percentage of decedents born in *earlier* calendar year.	
		Males.	Females.		Males.	Females.
		Per cent.	*Per cent.*		*Per cent.*	*Per cent.*
0–1	0	71.34	70.38	1	28.66	29.62
1–2	1	60.71	61.21	2	39.29	38.79
2–3	2	53.98	54.22	3	46.02	45.78
3–4	3	52.47	53.15	4	47.53	46.85
4–5	4	52.32	52.34	5	47.68	47.66
5–6	5	51.81	51.56	6	48.19	48.44
6–7	6	51.52	50.94	7	48.48	49.06
7–8	7	51.29	50.43	8	48.71	49.57
8–9	8	51.10	50.22	9	48.90	49.78
9–10	9	50.80	50.23	10	49.20	49.77

Referring to Diagram 15, it may be said that if $D^{z/z+1}_{x/x+1}$, or type three parallelogram, is divided into its lower and upper elementary triangles the above Table 107 gives the values of ratios of the deaths in the lower and upper triangles, respectively, to the deaths in the parallelogram. Accordingly, when the number of deaths in the parallelogram is known, the numbers in the elementary triangles can be obtained by applying the above ratios or percentages.

A similar investigation of the returns of 20 states in 1910 [1] and of 14 states in 1911 [2] gives the following percentages of deaths in the calendar year falling in the *later* year of birth:

Table 108

Age interval in which death occurs.	Difference between calendar year of death and year of birth.	PERCENTAGE OF DECEDENTS WHO WERE BORN IN *LATER* CALENDAR YEAR.			
		Deaths in 1910.		Deaths in 1911.	
		Males.	Females.	Males.	Females.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
0–1	0	72.13	71.01	72.88	71.73
1–2	1	60.81	60.59	63.34	63.40
2–3	2	54.62	54.53	56.20	55.35
3–4	3	51.74	53.49	54.46	54.40
4–5	4	53.31	52.91	53.21	53.92
5–6	5	51.44	50.05	54.90	52.32
6–7	6	51.16	50.27	52.02	51.91
7–8	7	51.41	48.54	53.59	52.03
8–9	8	50.55	49.24	51.10	51.33
9–10	9	49.50	51.57	51.39	55.13

These values have not been graduated and are accordingly not so smooth in their progression as those shown in Table 107. However, the tendency and general range is about the same.

METHOD EMPLOYED TO VERIFY THESE PERCENTAGES.

108. In order to test these ratios by returns made in this country the following method was employed. Let $d_1, d_2, d_3, \ldots d_{24}$ represent the deaths occurring in the corresponding areas in Diagram 16.

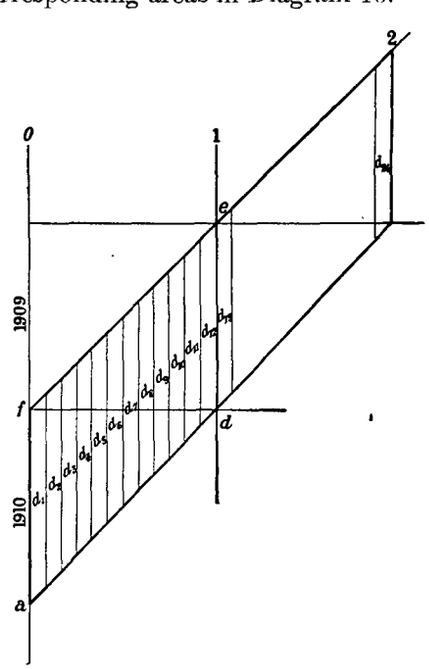


DIAGRAM 16.—DIVISION OF ELEMENTARY PARALLELOGRAM INTO MONTHS OF AGE.

[1] Statistik des Deutschen Reichs, Band 246, pp. 67–69.
[2] Ibid, Band 256, pp. 65–67.

Evidently if the deaths are assumed to be evenly distributed in these elementary strips, $\frac{23}{24}d_1$ occur among the 1910 generation and $\frac{1}{24}d_1$ among the 1909 generation. The distribution of d_2 would be $\frac{21}{24}d_2$ for 1910 and $\frac{3}{24}d_2$ for 1909, and similarly for the other elementary strips. This leads to the following formula for the number of deaths in the lower triangle *adf:*

$$\frac{1}{24}\sum_{n=1}^{n=12}(25-2n)d_n=\frac{23d_1+21d_2+19d_3+\cdots+d_{12}}{24}. \quad (25)$$

When the strips are taken as weeks the formula becomes

$$\frac{1}{104}\sum_{n=1}^{n=52}(105-2n)d_n=\frac{103d_1+101d_2+\cdots+d_{52}}{104}, \quad (26)$$

and when the strips are taken as days it becomes

$$\frac{1}{730}\sum_{n=1}^{n=365}(731-2n)d_n=\frac{729d_1+727d_2+\cdots+d_{365}}{730}. \quad (27)$$

The formula can easily be derived in a similar manner for any combination of days, weeks, months, or other intervals. It is evident that the narrower the elementary strip the better will be the approximation to the true value. The percentage itself is, of course, obtained by dividing formulas (25), (26), and (27) by the total number of deaths in the parallelogram. For monthly strips the formula for the percentage born in the *later* calendar year is

$$\frac{1}{24}\frac{\sum_{n=1}^{n=12}(25-2n)d_n}{\sum_{n=1}^{n=12}d_n}=\frac{1}{24}\frac{23d_1+21d_2+\cdots+d_{12}}{d_1+d_2+\cdots+d_{12}}. \quad (28)$$

For every year since 1900, with the exception of 1902, 1903, and 1904, mortality statistics by sex for each month of age during the first year of life are available for the original registration states;[1] for the calendar year 1910 this information is given by months of age through the second year of life, although not for males and females separately, for the registration area of 1910.[2] Numerous tests were made by the above method with these statistics and the percentages found to be in substantial agreement for the first and second years with those derived from the German statistics. The percentage factors for decedents born in the later calendar year among native white, both parents native, derived from equation (28) applied to total deaths by months under 1 year for the calendar years 1900 to 1901 and 1905 to 1910, are for males 72.12 and for females 70.65. The factor for age interval 1–2 derived from both sexes in the registration area in 1910 is 59.68. The factor for Ohio is 58.84 and for Pennsylvania 59.09. No statistics are given, however, which could be employed to test the percentages for the third, fourth, and fifth years of life.

[1] For the years 1900, 1901, and 1905 this information is given on pp. 630 to 660 of Mortality Statistics, 1908; for the years 1906, 1907, 1908, and 1909, on pp. 780 to 792 of Mortality Statistics, 1909; for the year 1910, on pp. 598–599 of Mortality Statistics, 1910. After 1910 these statistics were obtained from manuscript.

[2] Bureau of the Census, Bulletin 109, Mortality Statistics: 1910, pp. 154, 155.

PERCENTAGES ADOPTED AND CALCULATION OF NUMBER OF BIRTHS FROM POPULATION AND DEATH STATISTICS.

109. As a result of the investigations just described the following percentages were chosen as representing mortality distribution in this country during the first five years of life. It will be observed that a small variation one way or the other in the choice of these figures would make very little difference in the results obtained by their use in deriving the number of births in the various areas for which life tables are constructed.

Table 109

PERCENTAGES OF DEATHS IN CALENDAR YEAR ACCORDING TO *LATER* AND *EARLIER* YEARS OF BIRTH FOR FIRST FIVE YEARLY AGE INTERVALS, EMPLOYED IN COMPUTING BIRTHS FOR UNITED STATES LIFE TABLES.

Age interval in which death occurs.	Difference between calendar year of death and year of birth.	Percentage of decedents born in *later* calendar year.		Difference between calendar year of death and year of birth.	Percentage of decedents born in *earlier* calendar year.	
		Males.	Females.		Males.	Females.
		Per cent.	*Per cent.*		*Per cent.*	*Per cent.*
0–1	0	72	71	1	28	29
1–2	1	59	59	2	41	41
2–3	2	53	53	3	47	47
3–4	3	52	52	4	48	48
4–5	4	52	52	5	48	48

When these percentages are applied to the deaths in the parallelograms of Diagram 15 the result is to apportion them to their corresponding elementary triangles. For example, 28 per cent of 14,569 is 4,079 to the nearest integer, and 72 per cent of 14,569 is 10,490.

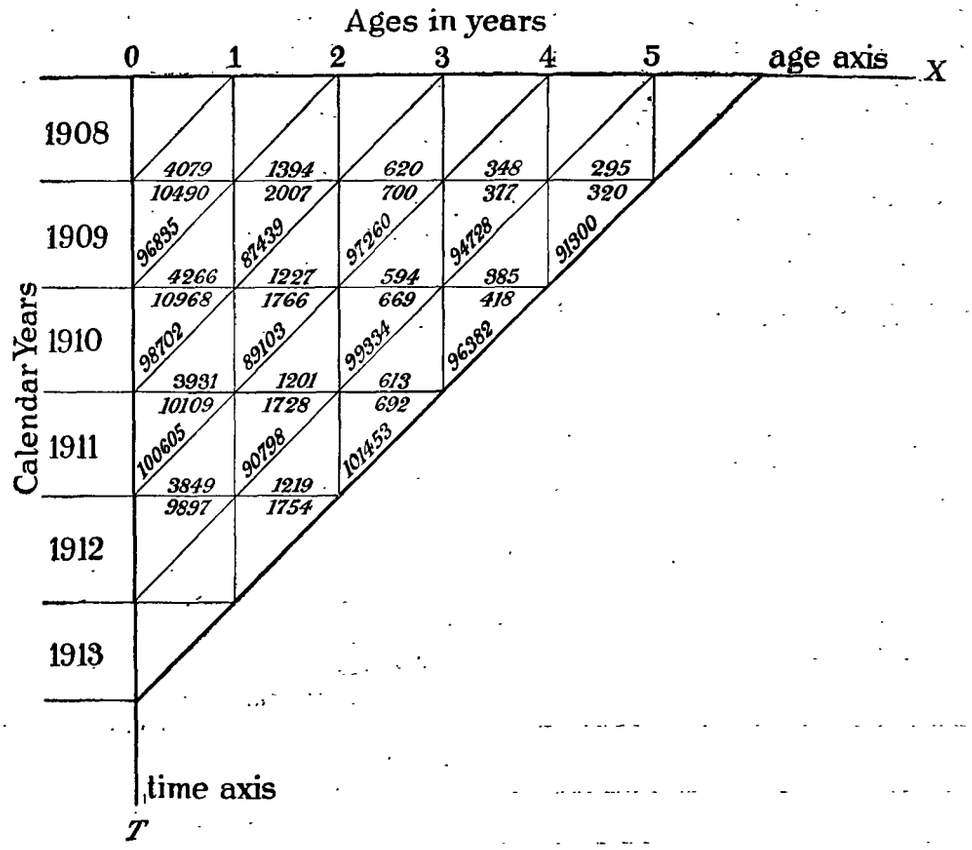


DIAGRAM 17.—APPLICATION OF FACTORS IN TABLE 109 TO DEATHS IN DIAGRAM 15; ALSO INSERTION OF CORRESPONDING POPULATIONS FROM TAPE 139, PAGE 373.

Diagram 17 shows the new distribution; 4,079 is entered just above and 10,490 just below the horizontal line which divides the corresponding parallelogram into its two elementary triangles. A study of this diagram shows that it is possible to follow the progress of each generation. For example, of the 14,569 deaths that occurred in 1909 under 1 year, 10,490 were born in 1909; of the 15,234 deaths in 1910 under 1 year, 4,266 were born in 1909. Likewise, of the 3,401 deaths in 1910 aged 1 last birthday, 2,007 were of persons belonging to the 1909 generation; and of the 2,993 deaths in 1911 between 1 and 2 years of age, 1,227 belonged to the 1909 generation. In short, all the deaths occurring among persons born in 1909 must be in the triangles lying between the two horizontal lines inclosing the year 1909.

In order to determine the number of births in a given calendar year, it is necessary to know the number of deaths among those born in that calendar year and the number of survivors at the end of the calendar year. Accordingly, on the lower of the two diagonal lines, between which the calendar year is written, the populations on December 31 of that year are entered. The population between any two years of age, that is, in any age interval, is written on that section of the diagonal line intercepted between the two vertical lines inclosing the age interval. For example, the population on December 31, 1909, taken from tape 139, page 373, between birth and 1 year of age is 96,835, and this number appears in Diagram 17 on the lower of the two diagonal lines between which 1909 is written and on the section inclosed by the two vertical lines at whose tops appear the ages 0 and 1, respectively. Likewise, the population on December 31, 1910, between 1 and 2 years of age, that is, in age interval 1–2, is 87,439, and this number appears in Diagram 17 on the lower of the two diagonal lines between which 1910 is written and between the two vertical lines at whose tops appear the ages 1 and 2, respectively.

Since on December 31, 1909, there were 96,835 infants under 1 year of age still alive, while 10,490 of those born in 1909 died during that year, the total number of births during 1909 should be the sum of 96,835 and 10,490, or 107,325. This determines the number of births in 1909 from the population and deaths under 1 year of age. The number of births in 1909 may also be determined from the population aged 1 to 2 years on December 31, 1910, and the deaths under 2 years of age among males who were born in 1909. Diagram 17 shows the number of births in this case to be $87,439+10,490+4,266+2,007=104,202$. Similarly, from the population between 2 and 3 years of age on December 31, 1911, and the deaths among

males under 3 years of age who were born in 1909, the number of male births in 1909 appears to be 97,260 + 10,490 + 4,266 + 2,007 + 1,227 + 700 = 115,950. Starting with the male population in age interval 3–4 on December 31, 1912, and again with the male population in age interval 4–5 on December 31, 1913, and adding the corresponding deaths occurring in the 1909 generation, the male births in 1909 are found to be 114,389 and 111,666, respectively.

POPULATIONS UNDER 2 YEARS NOT EMPLOYED TO CALCULATE NUMBER OF BIRTHS.

110. Since the deaths for 1914 were not available when these calculations were made, the births for 1910 could be derived only from the populations in age intervals 0–1, 1–2, 2–3, and 3–4 years, and these births were, respectively, 109,670, 105,766, 117,869, and 115,948. Likewise, the births for 1911 could be derived only from the populations in age intervals 0–1, 1–2, and 2–3, and these births were, respectively, 110,714, 106,484, and 119,050. Table 110 sets forth the results in systematic form.

Table 110

NUMBER OF MALE BIRTHS IN THE STATE OF NEW YORK IN 1909, 1910, AND 1911, DERIVED FROM THE POPULATION AND MORTALITY STATISTICS.

Calendar year of birth.	Age interval of population from which births were derived.				
	0–1	1–2	2–3	3–4	4–5
1909	107,325	104,202	115,950	114,389	111,666
1910	109,670	105,768	117,869	115,948	
1911	110,714	106,484	119,050		

A study of this table shows that the numbers of births derived from the populations aged 2–3, 3–4, and 4–5 years, respectively, are considerably higher than those derived from populations in age intervals 0–1 and 1–2, respectively. A review of the population statistics of the United States and also those of many foreign countries shows that the populations under 2 years of age are generally understated, especially the population between 1 and 2 years of age. In the Supplement to the Seventy-fifth Annual Report of the Registrar-General, Part I, Life Tables, pages 10 to 13, it is shown that in the populations enumerated in England and Wales on March 31, 1901, and on April 2, 1911, those for ages 2–3, 3–4, and 4–5 are substantially in agreement with those derived from births and deaths alone, while those for ages 0–1 and 1–2 fall far short of those derived from births and deaths alone, the conclusion being that many infants under 2 years of age are not enumerated in the census. It is not intended to discuss here the reasons for these understatements of infant populations.

Accordingly it was decided to use only the number of births derived from populations aged 2–3, 3–4, and 4–5 years in determining the number of births for the period 1909–1911. In order to give equal weight in this determination to the populations at these three ages, the sum of the births in 1909 derived from populations aged 4–5, in 1910 derived from populations aged 3–4, and in 1911 derived from populations aged 2–3 was used as the number of births during the three-year period. Referring to Table 110, this sum is seen to be 111,666 + 115,948 + 119,050 = 346,664.

For each of the three calendar years 1900, 1901, and 1902 the average number of births computed from the populations aged 2–3, 3–4, and 4–5 was taken as the number of births for the year. Then the number of births for the three calendar years was taken as the sum of these values. In the same way, for each of the calendar years in the decennium 1901 to 1910, the computed number of births was taken as the average of the three computed from the populations aged 2–3, 3–4, and 4–5, respectively. Then the sum of these averaged computed number of births for each of the ten calendar years was used in the calculation of rates of mortality for the life tables.

The same method was adopted for the two 1890 Massachusetts tables, and it was assumed that populations and deaths remained the same for the five calendar years beginning June 1, 1889. This assumption was made necessary because there were no original statistics upon which to estimate the change in the number of deaths year by year from 1889 to 1894.

For males and females, Massachusetts in 1901 and 1910, Boston in 1901 and 1910, New York City in 1910, and Philadelphia in 1910, the birth registration statistics were employed instead of computed number of births based on population and mortality statistics. In all these cases the registered and computed number of births were in close agreement. Table 136, showing the computed number of births and the number of births registered, when reported, and the difference between them, is shown on page 425.

CALCULATION OF RATES OF MORTALITY FOR SINGLE YEARS UNDER 5 YEARS OF AGE.

111. In determining the rates of infant mortality by months under 1 year and by single years under 5 years of age, equation (18), slightly modified for purposes of computation, was employed. When $\xi = 1$ and $\frac{1}{2}\delta^{z_1/z_2}_{x+1/x+2}$ is subtracted from both sides of equation (18), it becomes

$$E^{t_1/t_2}_{x+1} - \tfrac{1}{2}\delta^{z_1/z_2}_{x+1/x+2} = E^{t_1/t_2}_{x} - \tfrac{1}{2}\delta^{z_1/z_2}_{x/x+1} - D^{z_1/z_2}_{x/x+1} - \frac{\delta^{z_1/z_2}_{x/x+1} + \delta^{z_1/z_2}_{x+1/x+2}}{2}. \qquad (29)$$

The interval (z_1, z_2) is the same as that of mortality statistics upon which the life table is based. With all superscripts and the second subscripts of δ and D

dropped for brevity, and with $x=0$, 1, 2, 3, and 4, the equations are as follows:

$$
\begin{aligned}
E_1-\tfrac{1}{2}\delta_1 &= E_0-\tfrac{1}{2}\delta_0-D_0-\frac{\delta_0+\delta_1}{2}\\
E_2-\tfrac{1}{2}\delta_2 &= E_1-\tfrac{1}{2}\delta_1-D_1-\frac{\delta_1+\delta_2}{2}\\
E_3-\tfrac{1}{2}\delta_3 &= E_2-\tfrac{1}{2}\delta_2-D_2-\frac{\delta_2+\delta_3}{2}\\
E_4-\tfrac{1}{2}\delta_4 &= E_3-\tfrac{1}{2}\delta_3-D_3-\frac{\delta_3+\delta_4}{2}.
\end{aligned}
\tag{30}
$$

Beginning with the known value of E_0, the number of births registered or the computed number of births, the left-hand members of (30) are readily determined, since δ_0, δ_1, δ_2, δ_3, δ_4, and D_0, D_1, D_2, D_3, D_4 are known. When these are found, equation (22) is employed to compute the rate of mortality. Table 111 exhibits the process of the calculation.

Table 111

COMPUTATION OF RATE OF MORTALITY BY SINGLE YEARS OF AGE UNDER 5 FOR MALES IN THE STATE OF NEW YORK, 1909–1911.

Age interval x to $x+1$ years.	Estimated population, December 31—		Increase in population δ_x	$\frac{\delta_x+\delta_{x+1}}{2}$	Deaths in the three-year period 1909–1911 D_x	$E_x-\frac{1}{2}\delta_x$	$q_x=\frac{D_x}{E_x-\frac{1}{2}\delta_x}$
	1908	1911					
0–1	95,004	100,605	5,601	5,250	43,843	343,863	.127501
1–2	84,205	89,103	4,898	5,433	9,917	294,770	.033643
2–3	91,293	97,260	5,967	5,338	4,349	279,420	.015564
3–4	88,394	93,103	4,709	4,204	2,510	269,733	.009305
4–5	85,046	88,745	3,699	.....	1,723	263,019	.006551

The value of $E_0=346{,}664$, found in the preceding section, when reduced by $\frac{1}{2}\delta_0=2{,}801$, gives 343,863 for $E_0-\frac{1}{2}\delta_0$. Then $E_1-\frac{1}{2}\delta_1$ is determined by the first equation in (30) to be equal to $343{,}863-43{,}843-5{,}250=294{,}770$, and in a similar manner the remaining values in this column are obtained, and the numbers in the preceding column divided by the corresponding ones in this column give the mortality rates in the last column.

CALCULATION OF MONTHLY RATES OF MORTALITY UNDER 1 YEAR.

112. In calculating the monthly rates of mortality under 1 year the same method was employed. The census returns for June 1, 1900, and for April 15, 1910, do not show the population by months under 1 year of age. Consequently, for ages by months under 1 year, the increase in population in the three-year interval was assumed to be uniformly distributed under 1 year of age, and the monthly increase, $\delta_x^{(12)}$, was taken to be one-twelfth of the δ_x previously employed for the age interval 0–1 year. Since 5,601 is not exactly divisible by 12, the quotient being $466\frac{9}{12}$, $\delta_x^{(12)}$ for months 0, 1, 2, . . . 8 was taken as 467, while that for months 9 to 11 was taken equal to 466. Hence $\frac{1}{2}\left(\delta_x^{(12)}+\delta_{x+1}^{(12)}\right)$ equals 467 up to and including the ninth month, since $(467+466)/2$ is set equal to 467.

The sum of the deaths for the three-year period 1909–1911 for age intervals of 1 month under 1 year of age were needed in this computation, but the original statistics in most cases were so rough that some adjustment was found necessary. This adjustment was made graphically instead of employing a mathematical formula, and in such manner that the sum of the deaths under 1 year was left unchanged. The original statistics were plotted on a large sheet, the ordinates being the number of deaths for monthly age intervals under 1 year. This work is shown in Graph 136, page 371. Beginning with the age interval 1–2 months, in which the number of deaths was left unchanged, a smooth curve was drawn in such manner with respect to the remaining ten ordinates as to leave the sum of the deaths under 1 year unchanged. Table 112 gives the original and adjusted number of deaths and indicates the process used in obtaining the monthly rates of mortality.

Table 112

COMPUTATION OF RATE OF MORTALITY BY MONTHS OF AGE UNDER 1 YEAR FOR MALES IN THE STATE OF NEW YORK, 1909–1911.

Age interval x to $x+1$ months.	Increase in population $\delta_x^{(12)}$	$\frac{\delta_x^{(12)}+\delta_{x+1}^{(12)}}{2}$	Deaths in the three-year period 1909–1911. Original $D_x^{(12)}$	Deaths in the three-year period 1909–1911. Adjusted $D_x^{(12)}$	$E_x^{(12)}-\frac{1}{2}\delta_x^{(12)}$	$q_x^{(12)}=\frac{D_x^{(12)}}{E_x^{(12)}-\frac{1}{2}\delta_x^{(12)}}$
0–1	467	467	16,404	16,404	346,430	.047352
1–2	467	467	4,449	4,449	329,559	.013500
2–3	467	467	3,571	3,715	324,643	.011443
3–4	467	467	3,045	3,151	320,461	.009833
4–5	467	467	2,671	2,740	316,843	.008648
5–6	467	467	2,383	2,424	313,636	.007729
6–7	467	467	2,272	2,168	310,745	.006977
7–8	467	467	2,038	1,978	308,110	.006420
8–9	467	467	1,939	1,835	305,665	.006003
9–10	466	466	1,849	1,729	303,363	.005699
10–11	466	466	1,580	1,650	301,168	.005479
11–12	466	.....	1,642	1,600	299,052	.005350

Eleven equations of the same type as (30) are now employed to determine the monthly rates of mortality, where the symbols $E^{(12)}$, $\delta^{(12)}$, and $D^{(12)}$ refer to months instead of to years. As before, $E_0^{(12)}=346{,}664$, and this reduced by $\frac{1}{2}\delta_0^{(12)}=234$ gives the number exposed to risk, $E_0^{(12)}-\frac{1}{2}\delta_0^{(12)}=346{,}430$. Then $E_1^{(12)}-\frac{1}{2}\delta_1^{(12)}=346{,}430-16{,}404-467=329{,}559$.

Similarly, $E_2^{(12)} - \frac{1}{2}\delta_2^{(12)} = 329{,}559 - 4{,}449 - 467 = 324{,}643$, and finally, $E_{11}^{(12)} - \frac{1}{2}\delta_{11}^{(12)} = 301{,}168 - 1{,}650 - 466 = 299{,}052$. Monthly rates of mortality are then obtained by means of equation (22). It will be seen that this rate is about 47.35 per 1,000 for the first monthly age interval, 0–1, and that it reduces to 5.35 per 1,000 for the last or twelfth monthly age interval, 11–12. It is evident that if the original unadjusted rates of mortality had been used in this computation the rate would have been rough and uneven and the rate for the twelfth month would have been higher than that for the eleventh month. It is on this account that the observed deaths were first adjusted by a graphical process.

DERIVATION OF THE OSCULATORY FIFTH DIFFERENCE FORMULA.[1]

113. In determining the rates of mortality for single years of age from 4 years to about 100 years, the populations and deaths in each of the single years of age were first obtained by application of the fifth difference osculatory interpolation formula to the populations and deaths summed in quinquennial age groups. From these interpolated and graduated populations and deaths for single ages the rates of mortality were computed by equation (24).

One of the chief difficulties met with in adjusting rough data by the usual interpolation formulas is that at points where the interpolation curves meet there are sudden breaks in the values of the first differences. Various methods have been employed to effect a smooth junction or welding of these interpolation curves. The osculatory method of interpolation is based on certain fundamental assumptions which necessarily assure a smooth junction. The idea is to join two successive interpolation curves so that for a certain abscissa they shall have a common ordinate, tangent, and radius of curvature. This is accomplished by making their first and second derivatives equal, respectively, at the point of intersection determined by the abscissa and common ordinate. Since the chief part of the life table construction has been based on this method, the derivation of the fifth difference osculatory formula is given here.

It is proposed to determine an osculatory interpolation curve of the fifth degree of the form

$$y_x = (1 - c_x)u_x + c_x v_x, \tag{31}$$

where c_x is a rational algebraic function of x, and u_x and v_x are defined as follows:

$$u_x = u_{-2+(x+2)} = u_{-2} + \frac{x+2}{\lfloor 1}\Delta u_{-2} + \frac{(x+2)(x+1)}{\lfloor 2}\Delta^2 u_{-2}$$
$$+ \frac{(x+2)(x+1)x}{\lfloor 3}\Delta^3 u_{-2} + \frac{(x+2)(x+1)x(x-1)}{\lfloor 4}\Delta^4 u_{-2}, \tag{32}$$

and

$$v_x = v_{-1+(x+1)} = u_{-1} + \frac{x+1}{\lfloor 1}\Delta u_{-1} + \frac{(x+1)x}{\lfloor 2}\Delta^2 u_{-1}$$
$$+ \frac{(x+1)x(x-1)}{\lfloor 3}\Delta^3 u_{-1} + \frac{(x+1)x(x-1)(x-2)}{\lfloor 4}\Delta^4 u_{-1}. \tag{33}$$

Since $u_{-1} = u_{-2} + \Delta u_{-2}$ and $\Delta^s u_{-1} = \Delta^s u_{-2} + \Delta^{s+1} u_{-2}$, it follows readily that

$$v_x = u_x + \frac{(x+1)x(x-1)(x-2)}{\lfloor 4}\Delta^5 u_{-2}. \tag{34}$$

Referring to equations (32) and (33) and to Diagram (18), it appears that u_x and v_x are rational integral functions of x of the fourth degree, passing through the ends of the first and last five, respectively, of the six ordinates u_{-2}, u_{-1}, u_0, u_1, u_2, and u_3. These two curves, therefore, intersect in the four points $(-1, u_{-1})$, $(0, u_0)$, $(1, u_1)$, and $(2, u_2)$. Since by equation (31) the curve y_x passes through any point common to u_x and v_x, it must also pass through the above four points.

Let

$$y_x = u_x + \psi_x, \tag{35}$$

where ψ_x is a rational integral function of x of the fifth degree. Then at the origin, $x = 0$, assume that y_x and u_x, together with their first and second derivatives, are equal, respectively, and also at the point $x = 1$ that y_x and v_x, together with their first and second derivatives, are equal, respectively. Accordingly,

$$y_0 = u_0, \quad y_0' = u_0', \quad y_0'' = u_0'' \tag{36}$$

and

$$y_1 = v_1, \quad y_1' = v_1', \quad y_1'' = v_1''. \tag{37}$$

The relations (35) and (36) show that $\psi_0 = \psi_0' = \psi_0'' = 0$. Hence ψ_x contains the factor x^3, while equations (34), (35), and the first one in (37) show that $\psi_1 = 0$, so that ψ_x contains the factor $x - 1$.

[1] For a full treatment of the theory of osculatory interpolation the following references are given:

Explanation of a New Formula for Interpolation. Thomas Bond Sprague. Journal of the Institute of Actuaries, vol. 22, p. 270.

On a New Mechanical Method of Graduation. Johannes Karup. Transactions of the Second International Actuarial Congress, p. 78.

On the Construction of Mortality Tables from Census Returns and Records of Deaths. George King. Journal of the Institute of Actuaries, vol. 42, p. 225.

On a New Method of Constructing and of Graduating Mortality and Other Tables. George King. Journal of the Institute of Actuaries, vol. 43, p. 109.

Osculatory Interpolation by Central Differences; with an Application to Life Table Construction. James Buchanan. Journal of the Institute of Actuaries, vol. 42, p. 369.

Alternative Demonstration of the Formula for Osculatory Interpolation. George J. Lidstone. Journal of the Institute of Actuaries, vol. 42, p. 394.

Derivation of the United States Mortality Table by Osculatory Interpolation. James W. Glover. Quarterly Publication of the American Statistical Association, vol. 12 p. 85.

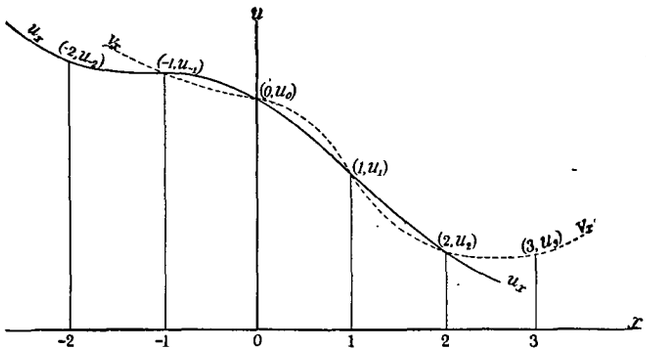


DIAGRAM 18.—ILLUSTRATING PROOF OF FORMULA FOR OSCULATORY INTERPOLATION.

From equations (34) and (35)

$$y_x - v_x = \psi_x - \frac{(x+1)x(x-1)(x-2)}{\lfloor 4}\Delta^5 u_{-2}$$

$$= \psi_x - (x^4 - 2x^3 - x^2 + 2x)\frac{\Delta^5 u_{-2}}{\lfloor 4},$$

and since by (37), $y_1' - v_1' = 0$ and $y_1'' - v_1'' = 0$,

$$\psi_1' = (4x^3 - 6x^2 - 2x + 2)_{x=1}\frac{\Delta^5 u_{-2}}{\lfloor 4} = -\frac{2\Delta^5 u_{-2}}{\lfloor 4},$$

$$\psi_1'' = (12x^2 - 12x - 2)_{x=1}\frac{\Delta^5 u_{-2}}{\lfloor 4} = -\frac{2\Delta^5 u_{-2}}{\lfloor 4},$$

it follows, if

$$\psi_x = x^3(x-1)(a_0 x + a_1)\frac{\Delta^5 u_{-2}}{\lfloor 4},$$

that

$$a_0 + a_1 = -2 \text{ and } 4a_0 + 3a_1 = -1.$$

Hence

$$\psi_x = x^3(x-1)(5x-7)\frac{\Delta^5 u_{-2}}{\lfloor 4},$$

and the required osculatory interpolation curve of the fifth degree is

$$y_x = u_{-2} + \frac{x+2}{\lfloor 1}\Delta u_{-2} + \frac{(x+2)(x+1)}{\lfloor 2}\Delta^2 u_{-2}$$
$$+ \frac{(x+2)(x+1)x}{\lfloor 3}\Delta^3 u_{-2} + \frac{(x+2)(x+1)x(x-1)}{\lfloor 4}\Delta^4 u_{-2}$$
$$+ \frac{x^3(x-1)(5x-7)}{\lfloor 4}\Delta^5 u_{-2}. \qquad (38)$$

An examination of the steps in the derivation of the osculatory fifth difference formula shows that when the original statistical ordinates are given, u_{-2}, u_{-1}, u_0, u_1, u_2, u_3, u_4, . . . u_t, successive groups of five, beginning with u_{-2}, determine a corresponding succession of curves u_x, v_x, w_x, and so on, which in turn are employed to fix the values of the tangent and the radius of curvature at certain points on the fifth difference osculatory curve y_x. Moreover, since v_x, for example, is employed with u_x to define these values at the point $(1,u_1)$ on the osculatory fifth difference interpolation curve y_x for the interval (0,1) and with w_x to define these values at the point $(1,u_1)$ on the osculatory fifth difference interpolation curve y_x for the next interval (1,2), it follows that these two y_x curves will have a smooth junction at $(1,u_1)$ because they have a common ordinate, u_1, a common tangent, same as v_x, and a common radius, same as v_x, at this point.

In order to adapt the notation to this succession of y_x curves, the equation (38) is written in the following form:

$$y_z = y_{n+x+2} = y_n + \frac{x+2}{\lfloor 1}\Delta y_n + \frac{(x+2)(x+1)}{\lfloor 2}\Delta^2 y_n$$
$$+ \frac{(x+2)(x+1)x}{\lfloor 3}\Delta^3 y_n + \frac{(x+2)(x+1)x(x-1)}{\lfloor 4}\Delta^4 y_n$$
$$+ \frac{x^3(x-1)(5x-7)}{\lfloor 4}\Delta^5 y_n, \qquad (39)$$

where $z = n+2+x$ and the symbol n denotes any integral number, including 0, and x any fraction less than unity. This is the osculatory formula for writing the values of the function for fractional values of z, which lie between the integral values $n+2$ and $n+3$, in terms of y_n and its five leading integral differences. Five years is taken as the unit of time, and the values of T_x and l_x at ages 4, 9, 14 . . . years are used as the known values of the function at the integral values of time between which four values of the function are to be interpolated at the fractional values of time .2, .4, .6, and .8, or, in other words, T_x and l_x for the four single years within each quinquennial group, such as 4–8, 9–13, and so on.

LEADING FRACTIONAL DIFFERENCES IN TERMS OF LEADING INTEGRAL DIFFERENCES.

114. To obtain the equations for the function at these four fractional values of z, these values, .2, .4, .6, and .8, are substituted for x in equation (39). These four equations, together with the two equations for the boundary values, $x=0$ and $x=1$, when differenced five times, give five leading fractional differences of y_n in terms of its leading integral differences, and the results are set forth in Table 113.

Table 113

DERIVATION OF LEADING FRACTIONAL DIFFERENCES IN TERMS OF LEADING INTEGRAL DIFFERENCES.

		y_n	Δy_n	$\Delta^2 y_n$	$\Delta^3 y_n$	$\Delta^4 y_n$	$\Delta^5 y_n$
y_{n+2}	=	+1	+2.0	+1.00	0.000	0.0000	0.0000
$y_{n+2.2}$	=	+1	+2.2	+1.32	+0.088	−0.0176	+0.0016
$y_{n+2.4}$	=	+1	+2.4	+1.68	+0.224	−0.0336	+0.0080
$y_{n+2.6}$	=	+1	+2.6	+2.08	+0.416	−0.0416	+0.0144
$y_{n+2.8}$	=	+1	+2.8	+2.52	+0.672	−0.0336	+0.0128
y_{n+3}	=	+1	+3.0	+3.00	+1.000	0.0000	0.0000
First differences.							
δy_{n+2}	=	0	+0.2	+0.32	+0.088	−0.0176	+0.0016
$\delta y_{n+2.2}$	=	0	+0.2	+0.36	+0.136	−0.0160	+0.0064
$\delta y_{n+2.4}$	=	0	+0.2	+0.40	+0.192	−0.0080	+0.0064
$\delta y_{n+2.6}$	=	0	+0.2	+0.44	+0.256	+0.0080	−0.0016
$\delta y_{n+2.8}$	=	0	+0.2	+0.48	+0.328	+0.0336	−0.0128
Second differences.							
$\delta^2 y_{n+2}$	=	0	0	+0.04	+0.048	+0.0016	+0.0048
$\delta^2 y_{n+2.2}$	=	0	0	+0.04	+0.056	+0.0080	0.0000
$\delta^2 y_{n+2.4}$	=	0	0	+0.04	+0.064	+0.0160	−0.0080
$\delta^2 y_{n+2.6}$	=	0	0	+0.04	+0.072	+0.0256	−0.0112
Third differences.							
$\delta^3 y_{n+2}$	=	0	0	0	+0.008	+0.0064	−0.0048
$\delta^3 y_{n+2.2}$	=	0	0	0	+0.008	+0.0080	−0.0080
$\delta^3 y_{n+2.4}$	=	0	0	0	+0.008	+0.0096	−0.0032
Fourth differences.							
$\delta^4 y_{n+2}$	=	0	0	0	0	+0.0016	−0.0032
$\delta^4 y_{n+2.2}$	=	0	0	0	0	+0.0016	+0.0048
Fifth difference.							
$\delta^5 y_{n+2}$	=	0	0	0	0	0	+0.0080

In this table y_n and each of its first five leading integral differences head columns in which are written the corresponding coefficients in the equations for the fractional differences appearing on the left. For example,

$$\delta^2 y_{n+2.4} = .04\Delta^2 y_n + .064\Delta^3 y_n + .0160\Delta^4 y_n - .0080\Delta^5 y_n.$$

Table 113 shows that the leading fractional differences of y_{n+2} can be expressed in terms of the leading unit differences of y_n. These equations are so important that they are brought together for reference.

Equations (40)

		Δy_n	$\Delta^2 y_n$	$\Delta^3 y_n$	$\Delta^4 y_n$	$\Delta^5 y_n$
δy_{n+2}	=	+.2	+.32	+.088	−.0176	+.0016
$\delta^2 y_{n+2}$	=		+.04	+.048	+.0016	+.0048
$\delta^3 y_{n+2}$	=			+.008	+.0064	−.0048
$\delta^4 y_{n+2}$	=				+.0016	−.0032
$\delta^5 y_{n+2}$	=					+.0080

They are frequently employed in connection with life tables to calculate the leading single year differences in terms of the leading quinquennial differences of an age ten years younger. If third difference formulas are employed, as in the case of the construction of the recent English Life Tables,[1] the leading single year differences are given in terms of the leading quinquennial differences of an age five years younger. These formulas require the calculation of the leading differences for every fifth year for the entire range of the table considered. The question arises as to whether the proper correction to the fifth difference, where fifth difference formulas are employed, can not be found so as to make the process of calculation continuous without computing the leading differences for every quinquennial set. The fifth difference correction can be determined in the following manner.

[1] Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, pp. 50–52.

DETERMINATION OF THE FIFTH DIFFERENCE CORRECTION.

115. In Table 113 only one fifth fractional difference appears, namely, $\delta^5 y_{n+2} = .0080\Delta^5 y_n$. Evidently then, equations of the function for values of z between $n+3$ and $n+4$ are necessary to obtain the formulas for the fifth fractional differences of the function for other values of z between $n+2$ and $n+3$. In other words, the values $\delta^5 y_{n+2.2}$, $\delta^5 y_{n+2.4}$, $\delta^5 y_{n+2.6}$, $\delta^5 y_{n+2.8}$, and $\delta^5 y_{n+3}$ are required, in addition to the above value of $\delta^5 y_{n+2}$ given in Table 113. Employing equation (39) with $z = n+3+x = (n+1)+x+2$, a table precisely similar to Table 113 can be constructed, except that n is replaced throughout by $n+1$. The numerical coefficients in this table would be the same as those in Table 113, the effect being merely to deal with the next unit interval to the right. However, since $y_{n+1} = y_n + \Delta y_n$, any equation in terms of y_{n+1} and its five leading integral differences can readily be transformed into an equation in terms of y_n and its six leading integral differences. For example, since

$$y_{n+1} = y_n + \Delta y_n, \quad \Delta y_{n+1} = \Delta y_n + \Delta^2 y_n,$$

$$\Delta^2 y_{n+1} = \Delta^2 y_n + \Delta^3 y_n, \quad \Delta^3 y_{n+1} = \Delta^3 y_n + \Delta^4 y_n,$$

$$\Delta^4 y_{n+1} = \Delta^4 y_n + \Delta^5 y_n, \quad \Delta^5 y_{n+1} = \Delta^5 y_n + \Delta^6 y_n,$$

it appears that, when the y_{n+2} to y_{n+3} interpolations are expressed in terms of y_n and its leading differences, the coefficient of y_n will be unchanged, the coefficient of Δy_n will be algebraically increased by that of y_n, the coefficient of $\Delta^2 y_n$ will be algebraically increased by that of Δy_n, of $\Delta^3 y_n$ by that of $\Delta^2 y_n$, of $\Delta^4 y_n$ by that of $\Delta^3 y_n$, of $\Delta^5 y_n$ by that of $\Delta^4 y_n$, and finally $\Delta^6 y_n$ will have the same coefficient as $\Delta^5 y_n$ in Table 113.

As an example, by Table 113,

$$\delta^4 y_{n+3} = +.0016\Delta^4 y_{n+1} - .0032\Delta^5 y_{n+1}.$$

When $y_n + \Delta y_n$ is substituted for y_{n+1}, this equation becomes

$$\delta^4 y_{n+3} = (.0016\Delta^4 y_n + .0016\Delta^5 y_n)$$
$$- (.0032\Delta^5 y_n + .0032\Delta^6 y_n)$$
$$= +.0016\Delta^4 y_n - .0016\Delta^5 y_n - .0032\Delta^6 y_n.$$

Hence it appears that any coefficient of $\Delta^p y_n$ in an equation for $\delta^r y_{n+3}$ may be obtained by adding to the coefficient of $\Delta^p y_n$ in the equation for $\delta^r y_{n+2}$ the co-

efficient of $\Delta^{p-1}y_n$ immediately preceding it. By this process the equations (40) lead to the equations (41).

Equations (41)

		Δy_n	$\Delta^2 y_n$	$\Delta^3 y_n$	$\Delta^4 y_n$	$\Delta^5 y_n$	$\Delta^6 y_n$
δy_{n+3}	=	+.2	+.52	+.408	+.0704	−.0160	+.0016
$\delta^2 y_{n+3}$	=		+.04	+.088	+.0496	+.0064	+.0048
$\delta^3 y_{n+3}$	=			+.008	+.0144	+.0016	−.0048
$\delta^4 y_{n+3}$	=				+.0016	−.0016	−.0032
$\delta^5 y_{n+3}$	=					+.0080	+.0080

With these equations and others taken from Table 113 the differencing necessary to obtain the formulas for the fifth fractional differences of the function for values of x between $n+2$ and $n+3$ can be continued. In the scheme of differencing shown below the equations are grouped according to the order of differences. In each group the first equation is taken from Table 113 and the last equation from the equations (41). The intermediate equations, inclosed in braces, are derived by differencing those in the groups just above.

Table 114

DERIVATION OF COEFFICIENTS FOR CORRECTED FIFTH DIFFERENCES IN THE OSCULATORY INTERPOLATION FORMULA.

		Δy_n	$\Delta^2 y_n$	$\Delta^3 y_n$	$\Delta^4 y_n$	$\Delta^5 y_n$	$\Delta^6 y_n$
				First differences.			
$\delta y_{n+2.6}$	=	+.2	+.48	+.328	+.0336	−.0128	.0000
δy_{n+3}	=	+.2	+.52	+.408	+.0704	−.0160	+.0016
				Second differences.			
$\delta^2 y_{n+2.6}$	=	0	+.04	+.072	+.0256	−.0112	.0000
$\{\delta^2 y_{n+2.8}$	=	0	+.04	+.080	+.0368	−.0032	+.0016$\}$
$\delta^2 y_{n+3}$	=	0	+.04	+.088	+.0496	+.0064	+.0048
				Third differences.			
$\delta^3 y_{n+2.4}$	=	0	0	+.008	+.0096	−.0032	.0000
$\{\delta^3 y_{n+2.6}$	=	0	0	+.008	+.0112	+.0080	+.0016$\}$
$\{\delta^3 y_{n+2.8}$	=	0	0	+.008	+.0128	+.0096	+.0032$\}$
$\delta^3 y_{n+3}$	=	0	0	+.008	+.0144	+.0016	−.0048
				Fourth differences.			
$\delta^4 y_{n+2.2}$	=	0	0	0	+.0016	+.0048	.0000
$\{\delta^4 y_{n+2.4}$	=	0	0	0	+.0016	+.0112	+.0016$\}$
$\{\delta^4 y_{n+2.6}$	=	0	0	0	+.0016	+.0016	+.0016$\}$
$\{\delta^4 y_{n+2.8}$	=	0	0	0	+.0016	−.0080	−.0080$\}$
$\delta^4 y_{n+3}$	=	0	0	0	+.0016	−.0016	−.0032
				Fifth differences.			
$\delta^5 y_{n+3}$	=	0	0	0	0	+.0080	.0000
$\{\delta^5 y_{n+2.2}$	=	0	0	0	0	+.0064	+.0016$\}$
$\{\delta^5 y_{n+2.4}$	=	0	0	0	0	−.0096	.0000$\}$
$\{\delta^5 y_{n+2.6}$	=	0	0	0	0	−.0096	−.0096$\}$
$\{\delta^5 y_{n+2.8}$	=	0	0	0	0	+.0064	+.0048$\}$
$\delta^5 y_{n+3}$	=	0	0	0	0	+.0080	+.0080

Since $\Delta^6 y_n = \Delta^5 y_{n+1} - \Delta^5 y_n$, these fifth fractional differences may all be written in terms of the fifth integral differences of y_n and y_{n+1}. In these transformed equations it is evident that the coefficients of $\Delta^5 y_{n+1}$ are the same as those of $\Delta^6 y_n$ in the original equations and that any coefficient of $\Delta^5 y_n$ in a transformed equation may be obtained by subtracting the coefficient of $\Delta^6 y_n$ algebraically from that of $\Delta^5 y_n$ in the corresponding original equation. Therefore, the fractional differences may be expressed as shown in Table 115.

Table 115

FIFTH DIFFERENCES OF THE OSCULATORY INTERPOLATION FORMULA FROM $n+2.0$ to $n+3.0$ IN TERMS OF $.0016\,\Delta^5 y_n$ AND $.0016\,\Delta^5 y_{n+1}$.

		$\Delta^5 y_n$	$\Delta^5 y_{n+1}$		$+.0016\Delta^5 y_n$	$+.0016\Delta^5 y_{n+1}$
$\delta^5 y_{n+2}$	=	+.0080	.0000	=	+5	0
$\delta^5 y_{n+2.2}$	=	+.0048	+.0016	=	+3	+1
$\delta^5 y_{n+2.4}$	=	−.0096	.0000	=	−6	0
$\delta^5 y_{n+2.6}$	=	.0000	−.0096	=	0	−6
$\delta^5 y_{n+2.8}$	=	+.0016	+.0048	=	+1	+3
$\delta^5 y_{n+3}$	=	.0000	+.0080	=	0	+5

It will be noticed that all the coefficients are multiples of +.0016. As the actual computation is materially shortened by working with $+.0016\Delta^5 y_n$ instead of with just $\Delta^5 y_n$, the transformation of these equations, shown at the right in Table 115, was made.

FOURTH DIFFERENCE INTERPOLATION CURVES EMPLOYED AT BEGINNING AND END OF FIFTH DIFFERENCE OSCULATORY INTERPOLATION.

116. It appears from equations (32) and (38) or (39) that when $\Delta^5 y_{-2} = 0$ the osculatory fifth difference interpolation curve $y_x = u_x + \psi_x$ reduces to $y_x = u_x$. Therefore, if it is desired to start the interpolation from y_0 with a fourth difference equation $y_x = u_x$ for the first two quinquennial age groups, the method in Table 115 will apply if $\Delta^5 y_{-10}$ and $\Delta^5 y_{-5}$ are taken equal to zero. This will make the corrected unit fifth differences

$$\delta^5 y_0 = \delta^5 y_1 = \delta^5 y_2 = \delta^5 y_3 = \delta^5 y_4 = 0,$$

and since y_0 is given and its leading unit differences can be directly calculated in terms of the leading quinquennial differences of y_0 by the equations (42), it follows that the first ten interpolated values u_0, u_1, . . . u_9 are derived by continuous addition.

Equations (42)

		Δy_0	$\Delta^2 y_0$	$\Delta^3 y_0$	$\Delta^4 y_0$
δy_0	=	+.2	−.08	+.048	−.0336
$\delta^2 y_0$	=		+.04	−.032	+.0256
$\delta^3 y_0$	=			+.008	−.0096
$\delta^4 y_0$	=				+.0016

The next pair of quinquennial fifth differences, $\Delta^5 y_{-5} = 0$ and $\Delta^5 y_0$, furnish the next five values of the corrected unit fifth differences, and these in turn lead to the next five interpolated values, u_{10}, u_{11}, u_{12}, u_{13}, u_{14}, on the first osculatory fifth difference interpolation curve. It should be carefully noted that by the process of continuous addition any five successive unit fifth differences lead to five values of the function at the next five higher ages. The steps are illustrated in Table 116.

Table 116

JUNCTION OF FOURTH DIFFERENCE INTERPOLATION CURVES WITH FIFTH DIFFERENCE INTERPOLATION CURVES AT BEGINNING AND END OF RANGE OF INTERPOLATION.

FOURTH DIFFERENCE INTERPOLATION CURVE $y_x=u_x$						FIFTH DIFFERENCE INTERPOLATION CURVE $y_x=u_x+\psi_x$												FOURTH DIFFERENCE INTERPOLATION CURVE $y_x=u_x$		
The interpolated values of y_x lie within the age intervals indicated in next row.																				
0-5	5-10			10-15			15-20			20-25			25-30			30-35				
	Multipliers, a and b, to obtain values of $\delta^5 y_x = ac\Delta^5 y_{x-10} + bc\Delta^5 y_{x-5}$, where $c=.0016$.																			
Interpolated values in this age interval are derived from y_0 and its leading unit differences, δy_0, $\delta^2 y_0$, $\delta^3 y_0$, $\delta^4 y_0$, which are calculated by equations (42).	x	$c\Delta^5 y_{-10}=0$	$c\Delta^5 y_{-5}=0$	x	$c\Delta^5 y_{-5}=0$	$c\Delta^5 y_0$	x	$c\Delta^5 y_0$	$c\Delta^5 y_5$	x	$c\Delta^5 y_5$	$c\Delta^5 y_{10}$	x	$c\Delta^5 y_{10}$	$c\Delta^5 y_{15}=0$	x	$c\Delta^5 y_{15}=0$	$c\Delta^5 y_{20}=0$	
		a	b		a	b		a	b		a	b		a	b		a	b	
	0	5	0	5	5	0	10	5	0	15	5	0	20	5	0	25	5	0	
	1	3	1	6	3	1	11	3	1	16	3	1	21	3	1	26	3	1	
	2	−6	0	7	−6	0	12	−6	0	17	−6	0	22	−6	0	27	−6	0	
	3	0	−6	8	0	−6	13	0	−6	18	0	−6	23	0	−6	28	0	−6	
	4	1	3	9	1	3	14	1	3	19	1	3	24	1	3	29	1	3	

An examination of this table shows how the unit fifth differences are obtained and the corresponding range of the interpolated unit ordinates. The table illustrates an interpolation running from y_0 to y_{34}. The fourth difference interpolation curve $y_x=u_x$ is employed in the first two quinquennial groups, followed by three successive fifth difference osculatory curves of the type $y_x=u_x+\psi_x$, covering the next three quinquennial age groups, and finally a fourth difference curve of type $y_x=u_x$ furnishing the interpolations for the last two quinquennial age groups. It will be observed that $\Delta^5 y_{15}$ and $\Delta^5 y_{20}$ are taken equal to zero, so that the corrected fifth differences for the last ten years, 20 to 29, lead to the values of ordinates on a fourth difference curve in the range 25 to 34. To summarize, the interpolations are by a fourth difference curve in range 0 to 9, by three fifth difference osculatory curves in range 10 to 24, and by a fourth difference curve in range 25 to 34. The curves of type $y_x=u_x$ necessarily make a smooth junction with the first and last osculatory curves because by equations (36) and (37) they have a common ordinate, tangent, and radius of curvature, respectively, at the junction $(10,u_{10})$ and $(25,u_{25})$. The application of this theory is shown in the description of the calculation of the life table for males in the state of New York, 1910, section 158 on pages 378 to 386.

WITTSTEIN'S FORMULA MODIFIED FOR THE RATES OF MORTALITY AT ADVANCED AGES.

117. Where the census returns and mortality statistics furnished populations and deaths by single years of age to the end of life, it was possible to extend the calculation of the rates of mortality to ages 100 and over. These statistics were available for more than half the life tables shown in this volume, but for thirty-two life tables the populations and deaths were available only in the quinquennial age groups 0–4, 5–9, and so on, up to 90–94, 95 and over, or 95–99, 100 and over. For these thirty-two tables the calculation of rates of mortality could not be extended satisfactorily beyond ages 94 or 99 by the usual interpolation methods. Moreover, in all the life tables the rates of mortality for ages beyond 80 became irregular, sometimes even decreasing with increasing age. Accordingly, some method had to be devised to determine the rates from about age 80 to the end of life so that they would form a smooth table and at the same time keep as close as possible to the original data.

Obviously the only recourse was to make some assumption as to the rates of mortality near the end of life so that from this assumption and rates of mortality at older ages already determined it would be possible to calculate the rates of mortality up to some limiting age. After many preliminary experiments with various formulas, it was decided to employ Wittstein's formula, namely,

$$q_x = a^{-(M-x)^n} + \frac{1}{m} a^{-(mx)^n}.$$

Since the value of the last term of this equation is practically zero at the older ages, only the first term of the second member of the equation was employed. In this formula, M was taken equal to 115 where $q_{115}=1$, making $\omega=116$, the limiting age. This left a and n as the constants to be determined in the equation

$$q_x = a^{-(M-x)^n}. \qquad (43)$$

The details of this calculation are described in section 119.

After the rates of mortality had been calculated according to equation (43) they were joined to the main table of rates by the smoothing process described in section 121.

OLD AGE RATES EMPLOYED TO DETERMINE CONSTANTS.

118. It is shown in section 119 that the constants a and n in equation (43) are based upon ten or more rates of mortality at older ages which have already been determined. From experiments made in determining rates from the five possible quinquennial groups it was found that the accumulated deviations of the expected deaths from the actual were smallest when the rates were made to depend upon a combination of all the groups. Hence, where the population and deaths by single years were available the rates from which the above constants were determined were made to depend upon all the groups. In the case of the thirty-two tables mentioned above, where only one group is available, more than ten rates were used in the determination of the constants when this was necessary.

The formula used to graduate the population and death statistics by all the different groups is the one for obtaining the graduated value of the central term of a series of fifteen values of a function. It was employed by Mr. George King to obtain graduated quinquennial pivotal values and is derived by him as follows:[1]

Let there be a series of fifteen values of u, the function to be dealt with, from u_0 to u_{14}. To find the graduated value of u_7, the central term of the series.

Let y be the finite integral of the function u, so that $y_x = \sum_0^{x-1} u$; and let Δy, $\Delta^2 y$, etc., be the differences of y for quinquennial intervals, so that $\Delta y_0 = \sum_0^4 u$, $\Delta y_5 = \sum_5^9 u$, and so on. Then

$$u_7 = y_8 - y_7,$$
$$y_8 = y_0 + \frac{8}{5}\Delta y_0 + \frac{24}{50}\Delta^2 y_0 - \frac{8}{125}\Delta^3 y_0,$$
$$y_7 = y_0 + \frac{7}{5}\Delta y_0 + \frac{14}{50}\Delta^2 y_0 - \frac{7}{125}\Delta^3 y_0;$$

hence

$$u_7 = \frac{1}{5}\Delta y_0 + \frac{1}{5}\Delta^2 y_0 - \frac{1}{125}\Delta^3 y_0$$
$$= .2\Delta y_5 - .008\Delta^3 y_0.$$

The differences, Δ, of y are the sums of five values of the function u, and may be represented by the symbol w, so that

$$w_x = u_x + u_{x+1} + u_{x+2} + u_{x+3} + u_{x+4}. \qquad (44)$$

Accordingly,

$$u_7 = .2w_5 - .008\Delta^2 w_0. \qquad (45)$$

When

$$w_x = \mathrm{L}_x + \mathrm{L}_{x+1} + \mathrm{L}_{x+2} + \mathrm{L}_{x+3} + \mathrm{L}_{x+4} = -\Delta \mathrm{T}_x,$$

then

$$\mathrm{L}_{x+2} = .2w_x - .008\Delta^2 w_{x-5}, \qquad (46)$$

[1] Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, Appendix II, sec. 2, p. 49.

and when

$$w_x = d_x + d_{x+1} + d_{x+2} + d_{x+3} + d_{x+4} = -\Delta l_x,$$

then

$$d_{x+2} = .2w_x - .008\Delta^2 w_{x-5}. \qquad (47)$$

The populations and deaths from about age 80 to the end of life were summed in each of the five possible quinquennial groups and equations (46) and (47), respectively, applied to the original data summed in each group. The graduated populations and deaths thus obtained were from all the different groups, only populations and deaths five years apart being from the same groups. After the rates of mortality had been computed they were summed in fives, and the average of each sum was taken as the value for the central age in that sum. Thus these mean rates of mortality are based upon original data grouped in each of the five possible quinquennial groups.

DETERMINATION OF CONSTANTS IN WITTSTEIN'S FORMULA.

119. The constants employed to determine the rates of mortality for older ages through age 114 were the arithmetic means, $\bar{n}$ and $\overline{\log \log a}$, of five sets of values for n and $\log \log a$, which were derived from the rates of mortality for ten consecutive ages, as follows:

the first set from q_x and q_{x+5},
the second set from q_{x+1} and q_{x+6},
the third set from q_{x+2} and q_{x+7},
the fourth set from q_{x+3} and q_{x+8},
the fifth set from q_{x+4} and q_{x+9}.

The method of selecting the ten consecutive rates of mortality upon which are based $\bar{n}$ and $\overline{\log \log a}$ is shown in section 188, page 392, for life table for males in the state of New York, 1910.

In order to obtain any one of the sets of values, equation (43) was written in the logarithmic form

$$\log q_x = -(\mathrm{M} - x)^n \log a$$

and two equations formed by substituting for x the two ages b and $b+5$. Accordingly,

$$\log q_b = -(\mathrm{M} - b)^n \log a$$

and

$$\log q_{b+5} = -(\mathrm{M} - b - 5)^n \log a;$$

from which

$$\frac{\log q_b}{\log q_{b+5}} = \frac{(\mathrm{M} - b)^n}{(\mathrm{M} - b - 5)^n};$$

whence,

$$n = \frac{\log(-\log q_b) - \log(-\log q_{b+5})}{\log(\mathrm{M} - b) - \log(\mathrm{M} - b - 5)}. \qquad (48)$$

After n was determined the value of a was derived from the equations

$$\log \log a = \log(-\log q_b) - n \log(\mathrm{M} - b)$$

$$\log \log a = \log(-\log q_{b+5}) - n \log(\mathrm{M} - b - 5). \qquad (49)$$

THE OVERLAPPING SERIES OF RATES OF MORTALITY.

120. For the older ages there are now three sets of overlapping rates of mortality, namely, those near the end of the table determined by the osculatory process, those determined by the group process described in section 118, and those determined by Wittstein's formula. The first two sets are based upon the original population and death data but derived by different methods, and the third is based upon the second set and upon an hypothesis as to the variation of the rates of mortality as the age approaches the limit of life. These three sets of rates of mortality for males in the state of New York, 1910, are shown in tape 205, page 397. The method of selecting a fourth set of rates of mortality from these three which will be fairly representative of all three, and yet be less irregular than any one of them, is set forth in section 205, page 396.

For the thirty-two tables mentioned in section 117 there were only two overlapping sets of rates of mortality at the older ages, but the derivation of a third set from these two was made in the same way.

SPENCER'S 21-TERM FORMULA.[1]

121. A number of smoothing processes were tried upon this fourth set of rates of mortality, and finally it was decided to use the results obtained by the application of Spencer's 21-term formula, that is, where $\bar{u}$ represents the smoothed central value and u the unsmoothed values,

$$\bar{u}_0 = [5]^2[7]\{-u_{-3}+u_{-1}+2u_0+u_1-u_3\}/350. \qquad (50)$$

This formula is based upon the assumption that the smoothed values shall have a constant third difference. Since the operand requires seven terms, that is, six more than the central term, while adding twice in fives and once in sevens requires fifteen more terms, twenty-one terms in all are required to give one smoothed central term. Hence the table of smoothed values will begin at an age 10 years older than the unsmoothed one.

SUMMARY OF METHODS EMPLOYED TO OBTAIN THE RATES OF MORTALITY.

122. To summarize, the rates of mortality upon which any life table was based were obtained in the following manner:

1. Monthly rates of mortality under 1 year, when the statistics were available, and annual rates of mortality by single years of age under 5 were computed from mortality statistics and from the number exposed to risk of death determined from births, deaths, and increase in population according to census returns. The deaths by months under 1 year were adjusted by a graphical process explained in section 136, page 370.
2. When the rates under 5 years of age, worked according to the process described in paragraph 1 of this section, did not form a smooth junction with rates for ages following 5, worked according to the method described in paragraph 3, a special process was applied to from six to fourteen rates beginning with age 3 to produce a smooth junction. The rates thus obtained, beginning with age 4, were used for the life table. This process is described in sections 250 to 263, pages 408 to 410.
3. Annual rates of mortality from the last age computed according to paragraph 2 up to the old ages were obtained from graduated interpolated values of populations and deaths by single ages, obtained by the application of the fifth difference osculatory formula to population and death statistics summed in the quinquennial age groups 4–8, 9–13, or 5–9, 10–14, and so on.
4. Annual rates of mortality from about age 80 to some age near 100 were obtained by the application of Spencer's 21-term formula to a set of rates of mortality selected from the following sources:
   (*a*) Rates described in paragraph 3.
   (*b*) Rates, each of which was the arithmetic mean of five consecutive rates of mortality, obtained from populations and deaths derived by the application of the formula
   $$u_{x+7} = .2 \sum_{x=5}^{x=9} u_x - .008\Delta^2 \sum_{x=0}^{x=4} u_x$$
   to population and death statistics summed in each of the five quinquennial groups, respectively.
   (*c*) Rates described in paragraph 5.

   For the thirty-two tables mentioned in section 117, only (*a*) and (*c*) were available.
5. Annual rates of mortality from some age near 100 through age 115 were obtained by the application of Wittstein's formula for old ages to the rates of mortality obtained as described in paragraph 4 (*b*).

CALCULATION OF THE DERIVED MORTALITY FUNCTIONS.

123. The rates of mortality were obtained from the statistical data by methods already described. The derived columns,

$$l_x,\ d_x,\ \mathring{e}_x,\ \mathrm{L}_x,\ \mathrm{L}_x/d_x,\ \mathrm{T}_x,\ 1000l_x/\mathrm{T}_x,$$

appearing in each life table were then calculated from these rates of mortality with the further assumption of a stationary population supported by l_0 persons born alive uniformly throughout each year.

[1] On the Graduation of the Rates of Sickness and Mortality presented by the Experience of the Manchester Unity of Oddfellows during the period 1893–1897. John Spencer. Journal of the Institute of Actuaries, vol. 38, p. 334.

This population was also assumed to be unaffected by emigration and immigration. Under these conditions the formulas derived in this text, establishing relations between the various aggregates of the living and dead, are considerably simplified. For example, all generations are alike, the populations for each age interval remain constant, and the elementary areas *abdf*, Diagram 12, page 336, together with their corresponding elementary triangles *abd*, *dfa*, respectively, are unchanged from generation to generation. In other words, for all values of t

$$E_x^{t/t+1}=l_x,\quad P_{x+1}^{x/x+1}=L_x,\quad \text{and}\quad D_{x/x+1}^{t/t+1}=d_x.$$

Equation (14) becomes

$$\frac{E_{x+1}^{t/t+1}}{E_x^{t/t+1}}=\frac{l_{x+1}}{l_x}=p_x,\quad \text{and}\quad l_{x+1}=p_x l_x. \tag{51}$$

Accordingly, when the radix of the table, l_0, was taken as 100,000, the number of survivors at each age was obtained by multiplying the products of the p_x up to that age by 100,000. These products were copied to the nearest fourth decimal place, and the multiplications were performed upon a ten-place computing machine. The d_x were obtained by differencing the l_x.

CALCULATION OF THE DERIVED MORTALITY FUNCTIONS UNDER 5 YEARS.

124. It is also evident that

$$D_\delta=D_\beta=k\ (D_\alpha+D_\beta)=kD_{x/x+1}^{t/t+1}=kd_x,$$

where k is the percentage of deaths in D_β to the total deaths, d_x, in *abdf*. Hence, by section 104,

$$L_x=l_{x+1}+D_\beta=l_{x+1}+kd_x,$$

and with the percentages shown in Table 109, page 340, the formulas for ages 1, 2, 3, and 4 become

$$L_1=l_2+.41d_1=(41l_1+59l_2)/100,$$

$$L_2=l_3+.47d_2=(47l_2+53l_3)/100,$$

$$L_3=l_4+.48d_3=(48l_3+52l_4)/100,$$

$$L_4=l_5+.48d_4=(48l_4+52l_5)/100. \tag{52}$$

Beyond age 4 it is assumed that $D_\alpha=D_\beta$; in other words, $k=.50$. Hence for such values of x

$$L_x=l_{x+1}+.50d_x=(l_x+l_{x+1})/2. \tag{53}$$

For the age interval 0–1 the formula for males was

$$L_0=l_1+.28d_0$$

and for females

$$L_0=l_1+.29d_0,$$

except in those cases where there was an infant mortality table, when L_0 for the yearly age interval 0–1 was necessarily taken as the sum of the populations for the twelve monthly age intervals under 1 year.

For ages under 1 year, where the values are given by months, the formula employed for the first month is

$$L_0^{(12)}=(l_1^{(12)}+.25d_0^{(12)})/12=(l_0^{(12)}+3l_1^{(12)})/48, \tag{54}$$

the superscript $^{(12)}$ referring to the monthly values. This result is based on the assumption that when the plane is divided up into monthly instead of annual elementary parallelograms and triangles, as in Diagram 12, page 336,

$$D_\delta^{(12)}=.25D_{0/\frac{1}{12}}^{t/t+\frac{1}{12}}.$$

In other words, the deaths in the first month of life during any month of time are divided between the earlier and later monthly generations in the ratio of 1 to 3. In the publication of the Bureau of the Census, Bulletin 109, Mortality Statistics, 1910, Table 10, pages 154 to 191, there are given for the calendar year 1910 the number of deaths by days for the first week of life and by weeks for the remaining three weeks of the first month of life. By employing the theory developed in section 108, in connection with formulas (25) and (26), it was possible to calculate for various areas the ratio of the number of deaths $D_\delta^{(12)}$ in the upper elementary monthly triangle to the number of deaths in the parallelogram $D_{0/\frac{1}{12}}^{t/t+\frac{1}{12}}$. For example, the deaths in the original registration states gave the ratio as .2400; Massachusetts, .2378; New York, .2531; and New York City, .2747. This led to the adoption of $k=.25$ for the first month of life. The following table exhibits the calculation of k for the state of New York.

Table 117

DETERMINATION OF PERCENTAGE OF DEATHS UNDER 1 MONTH TO BE ADDED TO THOSE SURVIVING TO AGE 1 MONTH TO OBTAIN POPULATION UNDER 1 MONTH.

Age interval.	Factor.	Number of deaths.	(2) × (3)
(1)	(2)	(3)	(4)
In days			
0–1	1	2,395	2,395
1–2	3	1,474	4,422
2–3	5	714	3,570
3–4	7	532	3,724
4–5	9	397	3,573
5–6	11	336	3,696
6–7	13	232	3,016
Total			24,396
24,396÷730			33.42
In weeks.			
1–2	3	1,382	4,146
2–3	5	1,244	6,220
3–4	7	1,094	7,658
Total		9,800	18,024
18,024÷104			173.31

$$\text{Ratio}=\frac{33.42+173.31}{9800/12}=.2531$$

As there were no statistics upon which to base the value of this ratio for the remaining months under 1 year of age, k was taken as .50, leading to the equation

$$L_x^{(12)} = (l_{x+1}^{(12)} + .50 d_x^{(12)})/12 = (l_x^{(12)} + l_{x+1}^{(12)})/24. \quad (55)$$

To obtain the population aged x and over, T_x, the following equation was used:

$$T_x = \sum_{x}^{x=\sigma} L_x, \quad (56)$$

where σ represents the last age in the life table.

The expectation of life was derived according to the equation

$$\mathring{e}_x = T_x/l_x, \quad (57)$$

while the measure of vitality or population per death was obtained from the equations

$$\lambda_x^{(12)} = 12 L_x^{(12)}/d_x^{(12)} \quad \text{and} \quad \lambda_x = L_x/d_x, \quad (58)$$

for values under 1 year the ratio, $L_x^{(12)}/d_x^{(12)}$, being multiplied by 12. The values of both $\mathring{e}_x$ and λ_x were determined to the nearest second decimal place from the integral values of T_x and l_x, L_x and d_x, respectively, up to age 80. From age 80 to the end of life they were determined from the values of T_x and l_x, L_x and d_x, respectively, taken to the nearest fourth decimal place.

The average death rate per thousand of the population aged x and over was computed to the nearest second decimal place by the equation

$$1000/\mathring{e}_x = 1000 l_x/T_x. \quad (59)$$

SPECIAL FORMULAS AND PROCESSES.

125. The theory of life table construction developed in the text up to this point embodies chiefly methods and processes which were quite generally employed on all the life tables, and, in particular, in the calculation of the life table for males in the state of New York, 1910. The details of the arithmetic processes in computing this table are fully explained on pages 370 to 408. For example, the method of obtaining the rates of mortality for single years of age under 5, the osculatory fifth difference interpolation formula, and Wittstein's old-age formula are employed in calculations for every life table. In some cases, however, special methods had to be devised to secure satisfactory results, and these will now be described.

JUNCTION OF RATES OF MORTALITY UNDER AGE 5 WITH RATES BY OSCULATORY INTERPOLATION.

126. The rates of mortality, ages 0 to 4 years, obtained by the method described in section 111 from populations calculated from births and deaths, and those for ages 4 and over, obtained from populations and deaths graduated by the fifth difference osculatory formula, do not always form a smooth junction. In these cases the rates of mortality were regraduated near the age at which the two sets of tables were joined. The smoothing process selected for this purpose is based on a modification of Lagrange's theorem, namely,

$$m_x = \frac{(x-b)\ (x-c)}{(a-b)\ (a-c)} m_a + \frac{(x-c)\ (x-a)}{(b-c)\ (b-a)} m_b + \frac{(x-a)(x-b)}{(c-a)(c-b)} m_c + (x-a)(x-b)(x-c)K, \quad (60)$$

where m_x is the central death rate and a, b, and c are the abscissas of rates of mortality already determined.

In order to shorten the work, equation (60) was transformed by moving the origin a distance a to the right so that the new age variable is $y = x - a$ and the abscissas of the three known rates of mortality are 0, $e = b - a$, $f = c - a$, respectively. When the products of the constants in each of the first three terms in the right-hand member of equation (60) are denoted by U_a, U_b, and U_c, respectively, this equation becomes

$$m_x = (y-e)(y-f)U_a + (y-f)yU_b + y(y-e)U_c + Ky(y-e)(y-f).$$

Whence, expanding,

$$m_x = (U_a + U_b + U_c)y^2 - [(e+f)U_a + fU_b + eU_c]y + efU_a + K[y^3 - (e+f)y^2 + efy], \quad (61)$$

or,

$$m_x = Uy^2 - Vy + efU_a + K[y^3 - (e+f)y^2 + efy], \quad (62)$$

where the constants for which U and V are substituted are obvious.

In order to determine the value of K the condition was made that the sum of the expected deaths for the ages under consideration must equal the sum of the actual deaths at these ages; that is,

$$\Sigma L_x m_x = M, \quad (63)$$

where M is the sum of the actual deaths at the ages under consideration. Substituting in equation (63) the value of m_x in equation (62) and solving for K, the following equation is obtained:

$$K = \frac{M - U\Sigma y^2 L_x + V\Sigma y L_x - efU_a \Sigma L_x}{\Sigma y^3 L_x - (e+f)\Sigma y^2 L_x + ef\Sigma y L_x}. \quad (64)$$

Table 118 furnishes a convenient outline to calculate the values of U and V.

Table 118

FIRST OUTLINE USED IN CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION.

x	u_x	v_x	q_x	$2q_x$	$2-q_x$	$m_x = \frac{2q_x}{2-q_x}$	$U_x = \frac{m_x}{u_x v_x}$	Items whose sum = V
1	2	3	4	5	6	7	8	9
a	$a-b$	$a-c$	.....	.....	.....	.....	.....	$(e+f)U_a$
b	$b-c$	$b-a$	.....	.....	.....	.....	.....	fU_b
c	$c-a$	$c-b$	.....	.....	.....	.....	.....	eU_c
Totals.....							U	V

In applying the above formulas to join the two sets of tables of rates of mortality, a was always taken as the age immediately preceding the n ages whose rates of mortality were to be determined, while b and c immediately follow these n ages. To determine the products of the powers of y by L_x, a second table was formed.

Table 119

SECOND OUTLINE USED IN CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION.

x	$y=x-a$	y^2	y^3	L_x	yL_x	y^2L_x	y^3L_x
1	2	3	4	5	6	7	8
a	0	0	0	.....	.....	.....	.....
$a+1$	1	1	1	.....	.....	.....	.....
$a+2$	2	4	8	.....	.....	.....	.....
$a+3$	3	9	27	.....	.....	.....	.....
etc.	etc.	etc.	etc.				
$a+n-1$	$n-1$	$(n-1)^2$	$(n-1)^3$	.....	.....	.....	.....
$a+n$	n	n^2	n^3	.....	.....	.....	.....
b	$b-a=e$	e^2	e^3	.....	.....	.....	.....
c	$c-a=f$	f^2	f^3	.....	.....	.....	.....
Totals.....				ΣL_x	ΣyL_x	Σy^2L_x	Σy^3L_x

After the determination of K the first and second differences of m_a and the constant third difference were computed, and the values of m_x from $a+1$ to c were obtained by continuous addition, the check on the work being, of course, that the values for m_b and m_c obtained by this process were the same as those in the first table. To obtain the equations for the three leading differences of m_a, equation (62) was differenced three times. Since the values of y are the natural numbers and when $x=a$, $y=0$, the first difference of all three powers of y is one, the second difference of y^2 is two, and the second and third differences of y^3 are each six when $x=a$. Hence

$$\begin{aligned} \delta\, m_a &= U - V + K[1-(e+f)+ef] \\ \delta^2 m_a &= 2U + K[6-2(e+f)] \\ \delta^3 m_a &= 6K. \end{aligned} \tag{65}$$

When several tables are to be computed, having the same ages for a, b, and c, the first four columns in the second table and the coefficients of K in equation (65) need be computed only once. An example of an application of this method to the life table for white females in cities of the original registration states, 1901, appears in sections 250 to 263, pages 408 and 410, and in the corresponding tapes, page 409.

DETERMINATION OF MEAN POPULATION.

127. In order to compare the rates of mortality in this country with those in others where life tables had been constructed from statistics covering the ten-year period 1901–1910, similar tables were prepared for white males and white females in the original registration states. These two life tables are based on the census enumerations of June 1, 1900, and April 15, 1910, and the reported deaths for the ten calendar years 1901 to 1910, shown in Tables 173 and 174 on pages 464 and 465. The details of this work are explained in sections 264 to 274 on pages 410, 413, and 414 and in the corresponding tapes on pages 411 and 412.

The formula [1] used in determining the mean population for the ten-year period 1901–1910 is a modification of those employed for the English Life Tables.[2] The assumption is made that the population as a whole increases by geometrical progression, so that, if e be the time between the taking of two censuses in which the total populations were P_0 and P_e, respectively, then

$$P_e = r^{e/u} P_0, \tag{66}$$

where u is the unit of time on which the constant r is based. Also after any time interval t the entire population is

$$P_t = r^{t/u} P_0. \tag{67}$$

When the total population has been determined in this way it is assumed that any subdivision of the population at the time t is

$$\pi_t = m\pi_0 + n\pi_e, \tag{68}$$

where π_0 and π_e are the populations of these same subdivisions at the first and second censuses, respectively. If $m+n=1$, it follows that when $\pi_0=\pi_e$, then $\pi_t=\pi_0$; also, since the total population is equal to the sum of the subdivisions, that

$$\Sigma\pi_t = m\Sigma\pi_0 + (1-m)\Sigma\pi_e = P_t = mP_0 + (1-m)P_e. \tag{69}$$

Accordingly,

$$m = \frac{P_e - P_t}{P_e - P_0}, \quad \text{and} \quad 1-m = \frac{P_t - P_0}{P_e - P_0}. \tag{70}$$

Substituting in equations (70) the values of P_e and P_t from equations (66) and (67), respectively, they become

$$m = \frac{r^{e/u} - r^{t/u}}{r^{e/u} - 1} \quad \text{and} \quad 1-m = \frac{r^{t/u} - 1}{r^{e/u} - 1}. \tag{71}$$

If $\Delta = \pi_e - \pi_0$, then $\pi_e = \pi_0 + \Delta$. Substituting this value for π_e in equation (68), this equation becomes

$$\pi_t = m\pi_0 + (1-m)(\pi_0 + \Delta) = \pi_0 + (1-m)\Delta, \tag{72}$$

and substituting the expression for $1-m$ in equation (71) for $1-m$ in equation (72), this equation becomes

$$\pi_t = \pi_0 + \frac{r^{t/u} - 1}{r^{e/u} - 1}\Delta. \tag{73}$$

[1] Note upon Estimates of Population. Alfred C. Waters. Seventieth Annual Report of the Registrar-General, 1907, p. CXXXII.

[2] Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, p. 47.

Then the mean population over a period l, which begins an interval h after the taking of the first census, is the integral of $\pi_t dt$, between the limits of time $t=h$ and $t=h+l$, divided by the length of the period. In other words, if $\bar{\pi}_l$ be the mean population over the period l in any subdivision, then

$$\bar{\pi}_l=\frac{1}{l}\int_h^{h+l}\pi_t dt=\frac{1}{l}\int_h^{h+l}\left[\pi_0+\frac{(r^{t/u}-1)}{(r^{e/u}-1)}\Delta\right]dt$$

$$=\frac{1}{l}\left[l\pi_0+\left\{\frac{u(r^{(h+l)/u}-r^{h/u})}{\lambda r}-l\right\}\frac{\Delta}{r^{e/u}-1}\right]$$

$$=\pi_0+\left\{\frac{u}{l}\cdot\frac{r^{h/u}(r^{l/u}-1)}{\lambda r}-1\right\}\frac{\Delta}{r^{e/u}-1}, \qquad (74)$$

where λr denotes the Naperian logarithm of r.

The total mean population for the period l is

$$\bar{P}_l=\frac{1}{l}\int_h^{h+l}P_t dt=\frac{P_0}{l}\int_h^{h+l}r^{t/u}dt=\frac{uP_0}{l}\cdot\frac{r^{h/u}(r^{l/u}-1)}{\lambda r}. \qquad (75)$$

The results obtained from equation (74) for the different subdivisions, $\bar{\pi}_l$, are checked when their sum equals the value for $\bar{P}_l$ obtained from equation (75).

In this case the first census was taken on June 1, 1900, and the second on April 15, 1910, so that the time between the taking of the two censuses was $e=118.5$ months. The period of time for which the mean population was desired was from December 31, 1900, to December 31, 1910, or $l=10$ years $=120$ months, and $h=7$ months. The unit of time on which the ratio r was based is l, or $u=l=120$ months. Hence, equation (74) may be written

$$\bar{\pi}_l=\pi_0+\left\{\frac{r^{7/120}(r-1)}{\lambda r}-1\right\}\frac{\Delta}{r^{118.5/120}-1}=\pi_0+\beta\Delta, \qquad (76)$$

and equation (75) becomes

$$\bar{P}_l=\frac{P_0}{\lambda r}r^{7/120}(r-1)=\alpha P_0. \qquad (77)$$

This formula was also employed to determine the mean population for the following four tables for the ten-year period 1901–1910: Negro males and Negro females in the original registration states and in the District of Columbia. The original statistics from which these life tables were constructed appear in Tables 175 to 178, pages 466 to 469.

RATES OF MORTALITY CALCULATED FOR LIFE TABLES TESTED FOR SMOOTHNESS AND CONFORMITY TO ORIGINAL STATISTICS.

128. It is the practice of actuaries and statisticians to test the goodness of graduation by an examination of the third differences. This test requires that the differences be small and that they oscillate frequently and regularly from positive to negative and negative to positive. This means that the absolute sum of the differences and accumulated or net differences must be small. Table 120 shows such a test of the rates of mortality upon which were based the life tables for white males and for white females in the original registration states in 1910. The totals for this table include the sum of the positive differences, the sum of the negative differences, and the accumulated or algebraic sum of the positive and negative differences, denoted as *net*, and the sum of the positive and negative differences irrespective of signs, denoted as *absolute*. Totals are given for all ages and also for those with ages 0–1 and 1–2 excluded. It will be observed that after age 2 the differences are small and frequently change signs. This is verified by the totals for white males, net, −106, and absolute, 1,878; for white females, net, +34, and absolute, 2,060. The third differences are also shown for the infant mortality section of the tables.

It is not to be expected that the differences will be small for the first two or three years of life because it is well known that the rate of mortality at these ages does not even approximate a third degree curve.

TABLE 120.—THIRD DIFFERENCES OF RATES OF MORTALITY, TAKEN TO FIVE DECIMALS, AMONG WHITES IN THE ORIGINAL REGISTRATION STATES, 1910.

$10^5\delta^3 q_x$

AGE.	Males.		Females.	
	MONTHLY AGE INTERVALS.			
Months.	+	−	+	−
0		3,235		2,595
1		40		10
2		2	4	
3		21		1
4		8		11
5		1		2
6	0			3
7	3			4
8	11			2
9				
10				
11				
	YEARLY AGE INTERVALS.			
Years.				
0		6,889		5,161
1		809		850
2		139		78
3		90		97
4		19		5
5	2		3	
7	0			2
6	0		2	
8		2		3
9	0		0	
10	0			2
11		5		3
12	0		0	
13	2			5
14	0			2
15		5	0	
16		2	2	
17	2			1
18		15		6
19		8		1

AGE.	Males.		Females.	
	YEARLY AGE INTERVALS.			
Years.	+	−	+	−
20	8		0	
21	15		8	
22		3		2
23	3			1
24	7			1
25		4	3	
26		5		1
27	0		1	
28	5		2	
29		1		1
30		4		1
31	0			2
32	1		2	
33		6		4
34		1	0	
35	3		2	
36	4		3	
37	0			1
38	1		5	
39	3		1	
40		2	0	
41	1			3
42	1		2	
43		4		3
44		5		4
45		1	1	
46	8		5	
47		4		3
48	13		9	
49	13		7	
50	1		4	
51		11		7
52	9		6	
53		10		9
54		17		16

AGE.	Males.		Females.	
	YEARLY AGE INTERVALS.			
Years.	+	−	+	−
55		3		1
56	22		19	
57		3		6
58	2		13	
59	10		11	
60		4		1
61		11		23
62	1		3	
63	5		14	
64	11		12	
65	5		3	
66		6		8
67	3		11	
68	20			19
69	14			20
70		1	2	
71	0		37	
72	25			4
73		61	13	
74		38	31	
75	25		27	
76	112		19	
77	41		78	
78		91		142
79		124		216
80		36		41
81	165		282	
82		28		57
83		12	72	
84	1		2	
85	5		21	
86		5	16	
87		9		12
88		23		43
89		11		58

AGE.	Males.		Females.	
	YEARLY AGE INTERVALS.			
Years.	+	−	+	−
90	0			49
91	30			30
92	39			7
93	66		15	
94	55		47	
95	55		55	
96	16		37	
97		3	20	
98		30	12	
99		24	7	
100		43		10
101		63		2
102	56		8	
103	.....	.....	90	

TOTALS.		
Positive	886	1,047
Negative	8,690	7,024
Net	−7,804	−5,977
Absolute	9,576	8,071

TOTALS, EXCLUDING AGES 0–1 AND 1–2.		
Positive	886	1,047
Negative	992	1,013
Net	−106	+34
Absolute	1,878	2,060

In Table 124, page 359, in column headed group 4–8, a similar test is given for the rates of mortality between ages 15 and 85 upon which the life table for males in the state of New York, 1910, was based. These rates of mortality were derived from population and death statistics graduated by the application of the fifth difference osculatory formula to the original statistics summed in the 4–8 group.

A very satisfactory test of the success of the graduated rates of mortality is to apply them to the original population statistics to determine the expected number of deaths and compare these with the actual number of deaths as recorded in the mortality statistics. If the deviations of the expected deaths from the actual deaths are small, both as to net and absolute totals, where the population is large, the life table may be regarded as faithfully representing mortality conditions in the original population. In Table 121 this test is applied to measure the deviations of expected from actual deaths in the large populations for white males and white females in the original registration states in 1910. Each of these populations numbers over eleven and one-half millions, and during the three-year period 1909–1911 there were 567,661 deaths among males and 496,378 deaths among females. The expected number of deaths among males by the life table rates of mortality is 556,913, or about 98 per cent of the actual number; the expected number of deaths among females is 487,895, also about 98 per cent of the actual number of deaths. If the first two age intervals, namely, 0–1 and 1–2, are excluded, the expected number of deaths in both cases is less than two-tenths of 1 per cent of the actual. To put it in another way, the total number of deaths of white males over age 2 in the three-year period 1909–1911 was 434,594, while the expected number which would be predicted by making use of the table is 434,216, a difference of 378, or less than one-tenth of 1 per cent, in about 400,000 deaths. Among females in the same period the actual number of deaths was

389,206, the expected number by the table, 388,630, a difference of only 576, or less than two-tenths of 1 per cent.

The expected deaths in Table 121 are shown for five-year groups after the first four age intervals. They were calculated by applying the reciprocal of the measure of vitality, $1/\lambda_x$, to three times the estimated population on July 1, 1910.

This test is also applied in Table 125, page 360, to the graduations by the different quinquennial age groups for males in the state of New York in 1910, and with very satisfactory results.

TABLE 121.—DEVIATIONS OF EXPECTED DEATHS FROM ACTUAL DEATHS AMONG WHITES IN THE ORIGINAL REGISTRATION STATES, 1910.

AGE INTERVAL.	MALES.					FEMALES.				
	Estimated population July 1, 1910.	Deaths during 1909–1911.		Deviations of expected from actual deaths.		Estimated population July 1, 1910.	Deaths during 1909–1911.		Deviations of expected from actual deaths.	
		Expected.	Actual.	+	−		Expected.	Actual.	+	−
0–1	254,307	103,237	111,131		7,894	247,817	81,878	87,613		5,735
1–2	226,129	19,460	21,936		2,476	220,930	17,387	19,559		2,172
2–3	247,391	9,507	9,470	37		241,481	8,326	8,303	23	
3–4	241,985	5,789	5,726	63		237,435	5,326	5,261	65	
4–8	1,114,968	14,010	13,907	103		1,097,420	12,813	12,826		13
9–13	1,045,357	7,503	7,504		1	1,031,712	6,499	6,499	0	
14–18	1,072,282	10,431	10,400	31		1,089,794	9,735	9,700	35	
19–23	1,137,579	17,373	17,373	0		1,157,307	15,396	15,394	2	
24–28	1,138,468	19,547	19,528	19		1,102,933	17,814	17,816		2
29–33	986,363	20,624	20,670		46	933,762	17,519	17,535		16
34–38	939,670	25,049	25,047	2		897,869	19,739	19,732	7	
39–43	822,563	26,300	26,351		51	772,143	19,338	19,371		33
44–48	677,916	27,020	27,012	8		643,864	20,218	20,189	29	
49–53	602,619	29,779	29,904		125	564,219	22,686	22,815		129
54–58	441,362	30,883	30,929		46	424,910	24,827	24,877		50
59–63	343,000	34,371	34,486		115	346,327	29,208	29,372		164
64–68	264,114	37,808	37,935		127	275,303	34,317	34,443		126
69–73	182,916	37,736	37,845		109	194,365	36,445	36,575		130
74–78	111,158	34,467	34,580		113	125,259	34,568	34,712		144
79–83	54,051	25,041	25,060		19	63,453	27,254	27,272		18
84–88	21,856	14,412	14,451		39	27,991	17,196	17,213		17
89–93	5,827	5,218	5,149	69		8,140	7,135	7,100	35	
94–98	954	1,136	1,066	70		1,565	1,913	1,888	25	
99–103	112	183	172	11		192	306	261	45	
104 and over	16	29	29	0		30	52	52	0	
TOTALS.										
Positive	11,932,963	556,913	567,661	413		11,706,221	487,895	496,378	266	
Negative	.....	.....	.....	11,161		.....	.....	.....	8,749	
Net	.....	.....	.....	−10,748		.....	.....	.....	−8,483	
Absolute	.....	.....	.....	11,574		.....	.....	.....	9,015	
TOTALS, EXCLUDING THOSE FOR AGES 0–1 AND 1–2.										
Positive	11,452,527	434,216	434,594	413		11,237,474	388,630	389,206	266	
Negative	.....	.....	.....	791		.....	.....	.....	842	
Net	.....	.....	.....	−378		.....	.....	.....	−576	
Absolute	.....	.....	.....	1,204		.....	.....	.....	1,108	

VARIATION OF RATES OF MORTALITY WITH QUINQUENNIAL AGE GROUPS OF STATISTICS TO WHICH THE OSCULATORY INTERPOLATION FORMULA IS APPLIED.

129. An examination of the original statistics shows that there is a bunching of figures for populations and deaths at ages which are multiples of 2 and 5, especially pronounced at ages ending in the digits 0, 5, and 8. On this account the selection of the quinquennial age groups becomes important, because this selection determines the location within these groups of the ages ending in 0, 5, and 8. Designating each of the five possible quinquennial age groups by the ages in its first group, these are group 0–4, group 1–5, group 2–6, group 3–7, and group 4–8, respectively. When statistics are summed according to the group 3–7, the central age of each sum ends in 0 or 5. Group 3–7 is the central one of the five possible groups in the tables which follow. These tables begin with group 1–5

and end with group 0–4 (or 5–9, as it is designated when it follows group 4–8). The male population in the state of New York, estimated as of July 1, 1910, and the deaths for the three-year period 1909–1911 from Table 159, page 450, were each added in each of the five quinquennial age groups and graduated by application of the fifth difference osculatory interpolation formula to each of these groups. The rates of mortality, ages 15 to 85, from each of these five sets of graduated population and mortality statistics and also those from the average of these five sets of graduated populations and mortality statistics, or *average group*, are shown in Table 122. The rates of mortality in this average group are in fact the rates which would be obtained by applying King's 29-term osculatory interpolation formula [1] to the original statistics. The rates of mortality in the second column of Table 122 are from the ungraduated population and mortality statistics and are designated the *observed* rates, $_oq_x$.

[1] Notes on Summation Formulas of Graduation with Certain New Formulas for Consideration. George King. Journal of the Institute of Actuaries, vol. 41, p. 543.

TABLE 122.—VARIOUS RATES OF MORTALITY OBTAINED FROM SAME ORIGINAL STATISTICS.

Statistics used were populations estimated as of July 1, 1910, and reported deaths for 1909, 1910, and 1911 of males in the state of New York. See Table 159, p. 450.

Observed rates of mortality from ungraduated population and mortality statistics, $_oq_x$.
Rates of mortality from population and mortality statistics graduated by applying fifth difference osculatory interpolation formula to original statistics grouped in each of the five quinquennial age groups.
Rates of mortality from the average of these five sets of graduated population and mortality statistics, *average group*.*

AGE.	Observed rates, $_oq_x$.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.					Average group.	AGE.	Observed rates, $_oq_x$.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.					Average group.
		1–5	2–6	3–7	4–8	5–9				1–5	2–6	3–7	4–8	5–9	
15	.002818	.003093	.002895	.002877	.002992	.003074	.002987	50	.017763	.018972	.019007	.018567	.018947	.019056	.018905
16	.003119	.003478	.003362	.003306	.003365	.003508	.003404	51	.021702	.020207	.020069	.019530	.019817	.019881	.019893
17	.004103	.003974	.003884	.003783	.003774	.003932	.003869	52	.020750	.021653	.021235	.020846	.020895	.020817	.021078
18	.004344	.004403	.004470	.004274	.004190	.004289	.004326	53	.023107	.023198	.022532	.022347	.022221	.021973	.022439
19	.004908	.004710	.004925	.004794	.004620	.004591	.004728	54	.023826	.024633	.023959	.024167	.023717	.023402	.023964
20	.005047	.004936	.005162	.005187	.005069	.004910	.005053	55	.025661	.025954	.025510	.026138	.025453	.025035	.025610
21	.005313	.005187	.005268	.005398	.005421	.005241	.005303	56	.027156	.027406	.027208	.027913	.027382	.026956	.027369
22	.005556	.005451	.005410	.005503	.005630	.005513	.005501	57	.030292	.028908	.029119	.029455	.029348	.029133	.029190
23	.005676	.005682	.005555	.005639	.005755	.005715	.005669	58	.030613	.030650	.031282	.031163	.031302	.031352	.031144
24	.005670	.005879	.005729	.005779	.005901	.005882	.005834	59	.032627	.032850	.033601	.032931	.033434	.033498	.033256
25	.006048	.006062	.005966	.005957	.006051	.006064	.006020	60	.033531	.035501	.035918	.034913	.035721	.035777	.035561
26	.005961	.006253	.006260	.006206	.006232	.006251	.006240	61	.042609	.038367	.038183	.037332	.038087	.038141	.038019
27	.006790	.006437	.006559	.006512	.006483	.006483	.006494	62	.039533	.041595	.040535	.040171	.040540	.040527	.040668
28	.006996	.006699	.006871	.006822	.006802	.006789	.006796	63	.045923	.044789	.042909	.043140	.043103	.043022	.043379
29	.006991	.007096	.007236	.007139	.007139	.007161	.007154	64	.045997	.047527	.045441	.046326	.045759	.045698	.046134
30	.007223	.007615	.007660	.007518	.007500	.007550	.007569	65	.046306	.049892	.048350	.049578	.048472	.048477	.048942
31	.008780	.008176	.008125	.007987	.007945	.007959	.008039	66	.051497	.052383	.051704	.052715	.051448	.051343	.051913
32	.008352	.008820	.008611	.008529	.008474	.008434	.008573	67	.059346	.054790	.055270	.055793	.054869	.054530	.055048
33	.009134	.009451	.009126	.009107	.009036	.008973	.009135	68	.058541	.057773	.059112	.059043	.058737	.058190	.058567
34	.009490	.009939	.009642	.009744	.009605	.009539	.009691	69	.062558	.061977	.063354	.062357	.062852	.062304	.062564
35	.010558	.010297	.010136	.010345	.010191	.010116	.010216	70	.060207	.067383	.067930	.066149	.067279	.066706	.067081
36	.010451	.010668	.010615	.010820	.010723	.010722	.010709	71	.081739	.073265	.072752	.070840	.072074	.071459	.072065
37	.011543	.011017	.011112	.011191	.011176	.011254	.011149	72	.077538	.080025	.077922	.076459	.077257	.076645	.077637
38	.011229	.011394	.011629	.011572	.011589	.011673	.011570	73	.087726	.086959	.083465	.082635	.082881	.082350	.083620
39	.012203	.011874	.012123	.011938	.012030	.012032	.011998	74	.086505	.093164	.089253	.089693	.089123	.088674	.089943
40	.011872	.012472	.012585	.012328	.012487	.012419	.012456	75	.093801	.098734	.095481	.097079	.096160	.095812	.096628
41	.014395	.013117	.013040	.012807	.012970	.012813	.012947	76	.102104	.104978	.102533	.104184	.103554	.104082	.103856
42	.013163	.013858	.013525	.013398	.013491	.013281	.013506	77	.115307	.111662	.110726	.111169	.110997	.112716	.111454
43	.014263	.014588	.014037	.014048	.014055	.013870	.014113	78	.126843	.119078	.120613	.119208	.118688	.120919	.119695
44	.014336	.015155	.014604	.014804	.014653	.014550	.014748	79	.131266	.127895	.131739	.128402	.127478	.128759	.128819
45	.015827	.015579	.015230	.015594	.015299	.015256	.015387	80	.124430	.138347	.142757	.138554	.137656	.137566	.138929
46	.015673	.016033	.015897	.016268	.015990	.016011	.016037	81	.158798	.150225	.153005	.149482	.148792	.147336	.149738
47	.017284	.016467	.016587	.016814	.016702	.016781	.016668	82	.155871	.164574	.164357	.161054	.160239	.157842	.161581
48	.016834	.017026	.017301	.017377	.017424	.017528	.017328	83	.184310	.179560	.176686	.173934	.171738	.169147	.174163
49	.018381	.017857	.018090	.017909	.018177	.018266	.018057	84	.182191	.192293	.188520	.188585	.184442	.181357	.186994
								85	.199487	.202042	.199551	.203286	.198539	.194890	.199647

* Average values of population and mortality statistics graduated from all five quinquennial age groups could also be obtained by the 29-term osculatory interpolation formula. See Notes on Summation Formulas of Graduation. George King. Journal of the Institute of Actuaries, vol. 41, p. 543.

Table 123 shows the excess of $10^6 q_x$ for the groups 1–5, 2–6, 3–7, 4–8, and 5–9, respectively, over the average group in Table 122, that is, the deviations for each group from their mean or average values. It will be observed that the totals are given for each of the five different groups for the age intervals 15–85 and 28–77. The age interval 28–77 was chosen because the decided exaggeration of populations and deaths for ages ending in 0, 5, and 8 apparently lies within these limits. The totals in Table 123 show that the groups 2–6, 3–7, and 4–8 bear this test well, and the absolute totals, 21,417 and 8,574, quite definitely favor the group 4–8.

TABLE 123.—DEVIATIONS OF RATES OF MORTALITY FOR EACH GROUP FROM THOSE FOR THE AVERAGE GROUP IN TABLE 122, MULTIPLIED BY 10^6.

AGE.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.									
	1-5		2-6		3-7		4-8		5-9	
	+	−	+	−	+	−	+	−	+	−
15	106			92		110	5		87	
16	74			42		98		39	104	
17	105		15			86		95	63	
18	77		144			52		136		37
19		18	197		66			108		137
20		117	109		134		16			143
21		116		35	95		118			62
22		50		91	2		129		12	
23	13			114		30	86		46	
24	45			105		55	67		48	
25	42			54		63	31		44	
26	13		20			34		8	11	
27		57	65		18			11		11
28		97	75		26		6			7
29		58	82			15		15	7	
30	46		91			51		69		19
31	137		86			52		94		80
32	247		38			44		99		139
33	316			9		28		99		162
34	248			49	53			86		152
35	81			80	129			25		100
36		41		94	111		14		13	
37		132		37	42		27		105	
38		176	59		2		19		103	
39		124	125			60	32		34	
40	16		129			128	31			37
41	170		93			140	23			134
42	352		19			108		15		225
43	475			76		65		58		243
44	407			144	56			95		198
45	192			157	207			88		131
46		4		140	231			47		26
47		201		81	146		34		113	
48		302		27	49		96		200	
49		200	33			148	120		209	
50	67		102			338	42		151	
51	314		176			363		76		12
52	575		157			232		183		261
53	759		93			92		218		466
54	669			5	203			247		562
55	344			100	528			157		575
56	37			161	544		13			413
57		282		71	265		158			57
58		494	138		19		158		208	
59		406	345			325	178		242	
60		60	357			648	160		216	
61	348		164			687	68		122	
62	927			133		497		128		141
63	1,410			470		239		276		357
64	1,393			693	192			375		436
65	950			592	636			470		465
66	470			209	802			465		570
67		258	222		745			179		518
68		794	545		476		170			377
69		587	790			207	288			260
70	302		849			932	198			375
71	1,200		687			1,225	9			606
72	2,388		285			1,178		380		992
73	3,339			155		985		739		1,270
74	3,221			690		250		820		1,269
75	2,106			1,147	451			468		816
76	1,122			1,323	328			302	226	
77	208			728		285		457	1,262	
78		617	918			487		1,007	1,224	
79		924	2,920			417		1,341		60
80		582	3,828			375		1,273		1,363
81	487		3,267			256		946		2,402
82	2,993		2,776			527		1,342		3,739
83	5,397		2,523			229		2,425		5,016
84	5,299		1,526		1,591			2,552		5,637
85	2,395			96	3,639			1,108		4,757
TOTALS, AGES 15 TO 85, BOTH INCLUSIVE.										
Positive	41,882		24,048		11,786		2,296		4,850	
Negative	6,697		8,000		12,141		19,121		35,815	
Net	+35,185		+16,048		−355		−16,825		−30,965	
Absolute	48,579		32,048		23,927		21,417		40,665	
TOTALS, AGES 28 TO 77, BOTH INCLUSIVE.										
Positive	24,836		5,740		6,241		1,844		3,211	
Negative	4,216		7,371		9,322		6,730		12,451	
Net	+20,620		−1,631		−3,081		−4,886		−9,240	
Absolute	29,052		13,111		15,563		8,574		15,662	

In Table 124 the groups are considered from another angle, namely, 10^5 times the third differences of the rates of mortality in Table 122 for each age and the various totals of the same. While the indications here are not decisive, it is noted that the sums of the absolute values, 1,073 for age interval 15–85 and 479 for age interval 28–77, show that the smallest differences are in the 4–8 group. The net differences in the two age intervals, however, −143 and 137, respectively, are larger than in most of the other groups.

Papps [1] has discussed the methods employed in Tables 123 and 124, and from results he obtained in age intervals 30–37 and 30–40, respectively, declares in favor of group 3–7.

[1] Effect of Grouping in Graduation by Osculatory Interpolation. P. C. H. Papps. Quarterly Publication of the American Statistical Association, vol. 16, p. 190.

TABLE 124.—THIRD DIFFERENCES OF GRADUATED RATES OF MORTALITY IN TABLE 122.

$10^5\delta^3 q_x$.

Rates were taken to nearest fifth decimal place and multiplied by 10^5.

AGE.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.										Average group.	
	1-5		2-6		3-7		4-8		5-9			
	+	−	+	−	+	−	+	−	+	−	+	−
15		16	1			2	0			4		7
16		6		20	1			1	0			5
17	4			10		15	1		8			2
18	10		11			7		12		1	1	
19		1	15		8			4		7	2	
20		4		2	15		6		0		2	
21	0		1			4	9		1		2	
22	1		5		4		0		7		4	
23	3			2	3		2			1	0	
24		1		4		2	4		3		0	
25	7		0			4	0		4		3	
26	7		5		0			5		2		2
27		2		1	5		0			4	3	
28		8	0		3		7		0			2
29	4			4		2		2	4		1	
30		9	3			3		2	1			2
31		13		5	1			5		4		6
32	1		0		7		1			2	0	
33	14			1		12		6	1			2
34		3	3		4			2		9		1
35	4		2		11		2			4	3	
36	9			6		2	8		5		3	
37	1		1		3			1	9		2	
38		7	0		7		0			3	0	
39	4		6		2		2		8		4	
40		10		2		5	1		4			3
41		15	3		4			3		3	0	
42	1		2			6	4			6		4
43	18			3		15		2	1		1	
44		4		2		3		2		2		3
45	13		0		17			1		4	5	
46	15		6			7	3		1		4	
47	1		5		17			3	6		5	
48		15	1		17		9			2	1	
49	7			3	6		11		9		8	
50		9	1			18	3		9			4
51		23	2		14			6	7			1
52	1			2		17	5			7		3
53	25		3			35		3	7			2
54		10	6			2		16		3		5
55	20		4		37			6		20	7	
56	22			9		8	20			12	4	
57		1		16	14			2	20		1	
58		23		6	23			8		5		2
59	14		16			2	0			5	3	
60		40		9		29		3		7		13
61		41	15		9			1		9		2
62	7		22			16		5		9	2	
63	51		6			17	22			2	10	
64		21		22	4		17		25		1	
65	65		5		25		1		14		21	
66	66		13			11		21		2	9	
67		4		6	40		8			15	6	
68		70		10	43		4		4			6
69	38		11		3		4		10		11	
70		70	3			37	3		7			17
71		90		15	31		19		11			7
72	10		22			53	18		20		3	
73	131		37			63		45	31		17	
74		25	33		18			29		76		18
75	31		53		116		18			81	30	
76	66			43	10		86		8		21	
77	23			136		19	29		133		12	
78		20		66		18		44		1		29
79	103		187			14		63		23	33	
80		181		12	67			27	8			29
81		291		148	47		115		9			49
82		72		30		174	20		42			42
83	319		41			160		137	64		19	
84		165		19		21		110		112		84
85	169			142	104			34		200		20
TOTALS, AGES 15 TO 85, BOTH INCLUSIVE.												
Positive	1,285		550		733		465		517		264	
Negative	1,270		756		810		608		631		372	
Net	+15		−206		−77		−143		−114		−108	
Absolute	2,555		1,306		1,543		1,073		1,148		636	
TOTALS, AGES 28 TO 77, BOTH INCLUSIVE.												
Positive	662		284		479		308		371		195	
Negative	511		300		389		171		276		103	
Net	+151		−16		+90		+137		+95		+92	
Absolute	1,173		584		868		479		647		298	

Another method which may help to decide upon the age group is to find the deviation of the expected deaths from the actual deaths by means of the mortality rates shown in Table 122. The expected deaths were obtained by multiplying three times the estimated population at each age as of July 1, 1910, by the corresponding central death rate, the multiplier 3 being used because the deaths are for the three-year period 1909–1911. The results are exhibited in Table 125, and indicate that the choice must lie in the groups 2–6, 3–7, and 4–8, but do not show clearly which of these should be selected.

TABLE 125.—DEVIATION OF EXPECTED DEATHS, ACCORDING TO GRADUATED RATES OF MORTALITY IN TABLE 122, FROM ACTUAL DEATHS.

AGE.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.												AVERAGE GROUP.		AGE.
	1-5		2-6		3-7		4-8		5-9						
	Expected less actual deaths.	Accumulated deviation.	Expected less actual deaths.	Accumulated deviation.	Expected less actual deaths.	Accumulated deviation.	Expected less actual deaths.	Accumulated deviation.	Expected less actual deaths.	Accumulated deviation.	Expected less actual deaths.	Accumulated deviation.			
	+ / −		+ / −		+ / −		+ / −		+ / −		+ / −		+ / −		
15	61	61	17	17	13	13	38	38	57	57	37	37	37		15
16	90	151	61	78	47	60	62	100	97	154	72	109	109		16
17	32	119	54	24	78	−18	81	19	42	112	57	52	52		17
18	16	135	33	57	19	−37	41	−22	15	97	5	47	47		18
19	51	84	4	61	29	−66	74	−96	82	15	46	1	1		19
20	30	54	30	91	37	−29	6	−90	37	−22	2	3	3		20
21	35	19	12	79	24	−5	30	−60	20	−42	3	0	0		21
22	30	−11	42	37	15	−20	21	−39	12	−54	16	−16	−16		22
23	2	−9	34	3	10	−30	22	−17	11	−43	2	−18	−18		23
24	60	51	17	20	32	2	67	50	61	18	47	29	29		24
25	4	55	24	−4	27	−25	1	51	5	23	8	21	21		25
26	82	137	84	80	69	44	76	127	81	104	78	99	99		26
27	92	45	60	20	73	−29	80	47	80	24	77	22	22		27
28	88	−43	37	−17	51	−80	57	−10	61	−37	59	−37	−37		28
29	25	−18	58	41	35	−45	35	25	41	4	39	2	2		29
30	127	−109	141	182	95	50	90	115	106	110	112	114	114		30
31	116	−7	126	56	153	−103	161	−46	158	−48	143	−29	−29		31
32	117	110	65	121	44	−59	30	−16	21	−27	55	26	26		32
33	69	179	2	119	6	−65	22	−38	35	−62	0	26	26		33
34	100	279	34	153	57	−8	25	−13	11	−51	45	71	71		34
35	71	208	115	38	58	−66	100	−113	120	−171	93	−22	−22		35
36	47	255	35	73	80	14	59	−54	58	−113	56	34	34		36
37	103	152	84	−11	69	−55	72	−126	56	−169	77	−43	−43		37
38	39	191	96	85	82	27	86	−40	106	−63	82	39	39		38
39	63	128	15	70	51	−24	33	−73	33	−96	40	−1	−1		39
40	168	296	200	270	128	104	173	100	154	58	164	163	163		40
41	184	112	195	75	228	−124	205	−105	227	−169	208	−45	−45		41
42	144	256	75	150	49	−75	68	−37	24	−145	71	26	26		42
43	53	309	37	113	35	−110	34	−71	64	−209	25	1	1		43
44	128	437	42	155	73	−37	49	−22	33	−176	64	65	65		44
45	51	386	123	32	48	−85	109	−131	118	−294	91	−26	−26		45
46	52	438	32	64	86	1	46	−85	49	−245	53	27	27		46
47	114	324	97	−33	65	−64	81	−166	70	−315	86	−59	−59		47
48	31	355	76	43	88	24	96	−70	113	−202	80	21	21		48
49	74	281	41	2	67	−43	29	−99	16	−218	46	−25	−25		49
50	242	523	249	251	161	118	237	138	259	41	228	203	203		50
51	157	366	171	80	228	−110	198	−60	191	−150	190	13	13		51
52	123	489	66	146	13	−97	20	−40	9	−141	45	58	58		52
53	10	499	63	83	83	−180	97	−137	124	−265	73	−15	−15		53
54	91	590	15	98	38	−142	12	−149	48	313	16	1	1		54
55	34	624	17	81	55	−87	24	−173	72	−385	6	−5	−5		55
56	25	649	5	86	75	−12	22	−151	20	−405	21	16	16		56
57	113	536	96	−10	69	−81	77	−228	95	−500	90	−74	−74		57
58	3	539	59	49	48	−33	61	−167	65	−435	47	−27	−27		58
59	17	556	74	123	23	−10	62	−105	66	−369	48	21	21		59
60	216	772	262	385	151	141	240	135	246	−123	222	243	243		60
61	241	531	252	133	300	−159	257	−122	254	−377	261	−18	−18		61
62	148	679	72	205	46	−113	72	−50	71	−306	81	63	63		62
63	72	607	190	15	175	−288	178	−228	183	−489	160	−97	−97		63
64	93	700	34	−19	20	−268	14	−242	18	−507	8	−89	−89		64
65	277	977	158	139	252	−16	167	−75	167	−340	203	114	114		65
66	45	1,022	10	149	61	45	2	−77	8	−348	21	135	135		66
67	217	805	195	−46	170	−125	214	−291	230	−578	205	−70	−70		67
68	38	767	28	−18	25	−100	10	−281	17	−595	1	−69	−69		68
69	26	741	35	17	9	−109	13	−268	11	−606	0	−69	−69		69
70	397	1,138	427	444	328	219	391	123	359	−247	380	311	311		70
71	260	878	275	169	334	−115	296	−173	315	−562	296	15	15		71
72	92	970	14	183	40	−155	10	−183	33	−595	4	19	19		72
73	24	946	134	49	160	−315	152	−335	169	−764	129	−110	−110		73
74	196	1,142	81	130	94	−221	77	−258	64	−700	101	−9	−9		74
75	152	1,294	52	182	101	−120	72	−186	62	−638	87	78	78		75
76	70	1,364	10	192	51	−69	35	−151	48	−590	43	121	121		76
77	70	1,294	88	104	80	−149	83	−234	50	−640	74	47	47		77
78	142	1,152	114	−10	140	−289	149	−383	108	−748	131	−84	−84		78
79	52	1,100	7	−3	45	−334	59	−442	39	−787	38	−122	−122		79
80	231	1,331	305	302	235	− 99	220	−222	218	−569	241	119	119		80
81	91	1,240	61	241	99	−198	106	−328	121	−690	96	23	23		81
82	95	1,335	93	334	57	−241	48	−280	21	−669	62	85	85		82
83	42	1,293	67	267	90	−131	109	−389	132	−801	88	−3	−3		83
84	82	1,375	51	318	52	−179	18	−371	7	−808	39	36	36		84
85	17	1,392	0	318	25	−154	6	−377	30	−838	1	37	37		85

TOTALS, AGES 15 TO 85, BOTH INCLUSIVE.

Positive	4,071	3,173	2,950	2,845	2,683	2,956	Positive
Negative	2,679	2,855	3,104	3,222	3,521	2,919	Negative
Net	+1,392	+318	−154	−377	−838	+37	Net
Absolute	6,750	6,028	6,054	6,067	6,204	5,875	Absolute

TOTALS, AGES 28 TO 77, BOTH INCLUSIVE.

Positive	3,331	2,471	2,359	2,236	2,132	2,377	Positive
Negative	2,082	2,387	2,479	2,517	2,796	2,352	Negative
Net	+1,249	+84	−120	−281	−664	+25	Net
Absolute	5,413	4,858	4,838	4,753	4,928	4,729	Absolute

Another criterion which should be given careful consideration is that which requires the sum of the weighted squared deviations of the graduated values from the observed values to be a minimum. Although there are systematic errors, as opposed to accidental errors, in the population and mortality statistics, it is also true that they compensate in a remarkable degree in the calculation of certain mortality functions. The systematic exaggerations in population returns are almost paralleled in the mortality statistics for even ages and ages which are multiples of 5, and a graph of the observed rate of mortality, ${}_oq_x$, shows that the systematic errors are almost eliminated.

It may therefore be assumed that the weight of the squared deviation $(q_x - {}_oq_x)^2$ is approximately equal to $w_x = n/p_xq_x$, where n, the number of observations, may be taken equal to the graduated population, P_x, to avoid the systematic errors in the enumerated population. For the object in hand only relative weights, or proportional populations, are required, and by employing the formula

$$\frac{P_x}{p_xq_x}(q_x - {}_oq_x)^2$$

a test is obtained on the hypothesis that systematic errors have been removed from the enumerated population and the observed rate of mortality.

TABLE 126.—WEIGHTED SQUARED DEVIATIONS OF GRADUATED RATES OF MORTALITY FROM OBSERVED RATES OF MORTALITY IN TABLE 122.

$$\frac{10^3P_x}{p_xq_x}(q_x - {}_oq_x)^2$$

AGE.	AGE GROUP OF POPULATION AND MORTALITY STATISTICS TO WHICH OSCULATORY INTERPOLATION FORMULA WAS APPLIED.					Average group.
	1-5	2-6	3-7	4-8	5-9	
15	1,957	165	95	806	1,710	763
16	3,028	1,444	851	1,450	3,474	1,936
17	349	1,035	2,252	2,367	608	1,174
18	68	303	98	481	59	6
19	730	5	240	1,567	1,904	600
20	225	229	343	9	343	1
21	283	35	123	197	92	2
22	191	370	48	91	32	52
23	1	253	23	102	25	1
24	718	59	194	863	721	441
25	3	108	131	0	4	12
26	1,314	1,341	907	1,137	1,254	1,182
27	1,863	746	1,095	1,370	1,337	1,259
28	1,249	203	403	502	568	536
29	142	722	273	267	353	329
30	1,761	2,126	1,007	850	1,203	1,353
31	3,698	4,427	6,659	7,027	6,943	5,647
32	1,936	640	301	139	64	456
33	794	1	6	84	227	0
34	1,507	188	502	108	20	321
35	500	1,350	323	1,032	1,488	873
36	338	191	920	532	523	470
37	1,952	1,236	812	908	557	1,045
38	185	997	747	815	1,233	742
39	676	37	435	176	171	252
40	2,000	2,760	1,230	2,069	1,639	1,900
41	8,068	9,246	13,692	10,322	12,807	10,737
42	2,093	611	267	506	66	548
43	410	219	198	188	680	95
44	2,448	285	818	400	186	658
45	219	1,316	181	1,013	1,217	695
46	446	173	1,109	335	391	445
47	2,231	1,567	677	1,051	796	1,205
48	117	657	879	1,014	1,405	732
49	788	236	650	114	36	294
50	3,665	3,919	1,793	3,598	4,226	3,367
51	4,980	6,048	11,743	8,432	7,811	7,636
52	13	595	1,048	45	10	222
53	947	28	176	1,456	2,467	804
54	1,530	476	20	19	298	30
55	114	32	291	60	558	4
56	76	3	649	61	48	54
57	2,120	1,475	727	929	1,377	1,283
58	1	414	285	444	492	265
59	44	764	79	542	618	331
60	2,933	4,074	1,478	3,553	3,707	3,066
61	11,728	12,658	19,055	13,505	13,275	13,936
62	2,374	587	243	596	593	754
63	622	4,827	4,040	4,161	4,512	3,360
64	1,008	148	49	26	42	9
65	5,028	1,768	4,285	1,959	1,978	2,851
66	278	16	526	1	9	63
67	6,687	5,289	3,985	6,537	7,620	5,951
68	170	90	71	11	35	0
69	84	150	10	21	16	0
70	10,781	12,239	7,754	10,661	9,149	10,057
71	12,600	14,469	22,459	17,138	19,752	17,106
72	899	23	186	12	128	2
73	71	2,449	3,478	3,137	3,924	2,223
74	4,545	874	1,133	773	536	1,315
75	2,141	274	993	525	383	746
76	618	15	333	165	304	238
77	840	1,346	1,098	1,209	427	950
78	3,186	1,957	3,070	3,565	1,839	2,676
79	491	9	349	624	273	254
80	6,717	10,663	6,814	6,067	6,127	7,179
81	2,015	880	2,380	2,749	3,768	2,252
82	1,604	1,542	591	417	89	713
83	368	1,012	1,880	2,767	4,185	1,788
84	1,308	564	559	70	10	317
85	67	0	154	10	232	0
AGES.	TOTALS, AGES 15 TO 85 AND 28 TO 77.					
15-85	136,841	126,978	142,273	135,737	144,954	128,564
28-77	110,355	104,258	120,076	109,028	116,868	105,956

This formula has been applied to the five quinquennial groups and the average group in Table 122, and the results are set forth in Table 126. The test indicates that the minimum sum of weighted squared deviations of the rate of mortality is associated with the 2–6 group and that the sum is even lower than that for the average group, which is next in order. Among the quinquennial groups the next in order for both the age intervals 15–85 and 28–77 is the 4–8 group. The showing is least favorable for the 3–7 group, which has multiples of 5 in the center. The group usually employed in presenting vital and population statistics, namely, the 5–9 group, also shows to disadvantage under this test.

RATIO TEST FOR CONCENTRATION IN AGE GROUPS.

130. Another very different method [1] of considering this problem is to examine the ratio of the number in any quinquennial age group to the number which is the mean of the two adjoining quinquennial age groups. If the populations or deaths were not artificially exaggerated at certain ages, this ratio should vary with the age with a certain degree of regularity; if it does not, the group which shows the smallest average difference between these ratios for groups including ages ending in 0 and ending in 5 may be regarded as approaching more nearly the group in the actual undisturbed population and death groups.

In Table 127 populations summed in all five quinquennial age groups are arranged so that sums including populations for the same age ending in 0 or ending in 5 are in the same line with that age, which is shown under the heading "Age common to all five groups, x." Thus the sums in the first line are made up of populations aged 11 to 19 and each contains the population aged 15, group 1–5 containing population aged 11 to 15, group 2–6 containing population aged 12 to 16, and so on to group 5–9 containing population aged 15 to 19. In the second line the population ranges from 16 to 24 years of age, and the population aged 20 is included in each of the five sums.

Then the ratio of the number in each quinquennial age group including an age ending in 0 to the sum of those immediately above and below it, each containing an age ending in 5, is designated by ${}_0M_x$, while the ratio of the number in each age group including an age ending in 5 to the sum of those immediately above and below it, each including an age ending in 0, is designated by ${}_5M_x$, the x designating the age in the numerator. The ratios are calculated for ages 20 to 95 for population of males in the state of New York, estimated as of July 1, 1910.

[1] The Comparative Accuracy of Different Forms of Quinquennial Age Groups. Allyn A. Young. Quarterly Publication of the American Statistical Association, vol. 7, p. 27.

TABLE 127.—QUINQUENNIAL AGE GROUPS TESTED BY COMPARING RATIOS OF POPULATION.

Ratio of number in age group including age ending in 0 to sum of those immediately above and below it, each including an age ending in 5, is designated by ${}_0M_x$.
Ratio of number in age group including age ending in 5 to sum of those immediately above and below it, each including an age ending in 0, designated by ${}_5M_x$.
Population of males in the state of New York, estimated as of July 1, 1910.

Total age interval used in the five groups.	Age common to all five groups.	AGE GROUP IN WHICH POPULATION IS SUMMED.									
		1–5		2–6		3–7		4–8		5–9	
$x-4$ to $x+4$	x	$\sum_{x-4}^{x} P_x$	${}_0M_x$ and ${}_5M_x$	$\sum_{x-3}^{x+1} P_x$	${}_0M_x$ and ${}_5M_x$	$\sum_{x-2}^{x+2} P_x$	${}_0M_x$ and ${}_5M_x$	$\sum_{x-1}^{x+3} P_x$	${}_0M_x$ and ${}_5M_x$	$\sum_{x}^{x+4} P_x$	${}_0M_x$ and ${}_5M_x$
			Per cent.		*Per cent.*		*Per cent.*		*Per cent.*		*Per cent.*
11–19	15	389,591	.....	397,983	.....	396,317	.....	405,619	.....	411,802	.....
16–24	20	426,548	49.4	435,105	49.9	448,284	52.0	453,339	51.7	463,552	53.6
21–29	25	473,101	53.2	474,131	54.6	466,091	53.1	470,580	54.8	453,622	52.6
26–34	30	463,086	54.2	433,989	50.3	430,034	51.4	404,730	47.7	399,449	48.6
31–39	35	381,855	45.8	389,261	49.9	371,245	47.6	377,846	51.8	367,773	51.6
36–44	40	370,663	55.3	346,795	51.2	350,272	55.0	324,887	50.5	312,661	49.7
41–49	45	287,923	45.8	288,197	48.7	265,727	44.7	265,517	48.2	260,805	49.3
46–54	50	258,472	54.3	245,147	51.7	243,969	56.2	226,307	53.1	216,306	52.8
51–59	55	188,481	46.5	186,243	49.3	168,371	45.1	161,059	46.4	149,105	44.9
56–64	60	146,747	50.0	132,977	46.0	129,391	49.2	121,076	48.2	115,823	49.5
61–69	65	105,042	46.8	102,796	50.4	94,867	48.2	90,344	49.5	84,802	49.2
66–74	70	77,581	50.5	71,062	47.6	67,481	49.7	61,511	48.4	56,690	48.4
71–79	75	48,713	46.2	46,607	49.3	40,891	46.3	36,675	46.2	32,248	44.6
76–84	80	27,797	45.4	23,464	40.9	20,828	41.9	17,867	40.7	15,543	41.0
81–89	85	12,461	38.5	10,832	40.2	8,829	37.7	7,203	36.2	5,680	33.4
86–94	90	4,534	33.8	3,466	30.1	2,611	28.0	2,024	26.9	1,451	24.6
91–99	95	939	20.1	685	19.2	498	18.6	325	15.7	222	14.9
96–104	100	149	.....	103	.....	68	.....	49	.....	34	.....

TABLE 128.—QUINQUENNIAL AGE GROUPS TESTED BY COMPARING DIFFERENCES OF AVERAGED RATIOS FOR POPULATIONS AND FOR DEATHS.

A. VALUES OF ${}_0M_x$ AND ${}_5M_x$ FROM TABLE 127, COPIED IN SEPARATE COLUMNS.

AGE.	AGE GROUP IN WHICH POPULATION IS SUMMED.									
	1-5		2-6		3-7		4-8		5-9	
x	${}_0M_x$	${}_5M_x$	${}_0M_x$	${}_5M_x$	${}_0M_x$	${}_5M_x$	${}_0M_x$	${}_5M_x$	${}_0M_x$	${}_5M_x$
20	49.4	.....	49.9	.....	52.0	.....	51.7	.....	53.6	.....
25	.....	53.2	.....	54.6	.....	53.1	.....	54.8	.....	52.6
30	54.2	.....	50.3	.....	51.4	.....	47.7	.....	45.6	.....
35	.....	45.8	.....	49.9	.....	47.6	.....	51.8	.....	51.6
40	55.3	.....	51.2	.....	55.0	.....	50.5	.....	49.7	.....
45	.....	45.8	.....	48.7	.....	44.7	.....	48.2	.....	49.3
50	54.3	.....	51.7	.....	56.2	.....	53.1	.....	52.8	.....
55	.....	46.5	.....	49.3	.....	45.1	.....	46.4	.....	44.9
60	50.0	.....	46.0	.....	49.2	.....	48.2	.....	49.5	.....
65	.....	46.8	.....	50.4	.....	48.2	.....	49.5	.....	49.2
70	50.5	.....	47.6	.....	49.7	.....	48.4	.....	48.4	.....
75	.....	46.2	.....	49.3	.....	46.3	.....	46.2	.....	44.6
80	45.4	.....	40.9	.....	41.9	.....	40.7	.....	41.0	.....

B. VALUES OF ${}_0\overline{M}_t$ AND ${}_5\overline{M}_t$, THE AVERAGE OF ${}_0M_x$ AND ${}_5M_x$, RESPECTIVELY, FOR CERTAIN AGE INTERVALS, t.

20 to 65	52.6	47.6	49.8	50.6	52.8	47.7	50.2	50.1	50.8	49.5
25 to 80	51.6	47.4	48.0	50.4	50.6	47.5	48.1	49.5	48.3	48.7
30 to 75	52.9	46.2	49.5	49.5	52.3	46.4	49.6	48.4	49.8	47.9

C. VALUES OF ${}_0\overline{M}_t - {}_5\overline{M}_t$ FOR CERTAIN POPULATIONS AND DEATHS FOR THE ABOVE AGE INTERVALS.

AREA AND SEX OF POPULATIONS AND DEATHS.	AGE GROUP IN WHICH POPULATIONS AND DEATHS WERE SUMMED.									
	1-5	2-6	3-7	4-8	5-9	1-5	2-6	3-7	4-8	5-9
	Estimated population July 1, 1910.					Deaths in 1909, 1910, and 1911.				
	${}_0\overline{M}_{20-65} - {}_5\overline{M}_{20-65}$									
New York, Males	5.0	−0.8	5.1	0.1	1.3	2.1	0.3	3.9	0.3	0.9
*Original registration states. Males	4.4	−0.5	4.8	0.5	1.1	1.5	0.1	4.0	0.8	1.1
*Original registration states. Females	5.9	+0.1	5.4	0.2	1.5	2.4	−0.4	3.0	−0.6	0.0
Average	5.1	−0.4	5.1	0.3	1.3	2.0	0	3.6	0.2	0.7
	${}_0\overline{M}_{25-80} - {}_5\overline{M}_{25-80}$									
New York, Males	4.2	−2.5	3.1	−1.4	−0.4	1.7	−1.4	2.1	−0.9	−0.1
*Original registration states. Males	3.6	−2.3	2.5	−1.1	−0.7	1.3	−1.5	1.6	−0.9	−0.3
*Original registration states. Females	4.9	−1.9	3.0	−1.7	−0.5	2.9	−1.0	1.9	−1.4	−0.8
Average	4.2	−2.2	2.9	−1.4	−0.5	2.0	−1.3	1.9	−1.1	−0.4
	${}_0\overline{M}_{30-75} - {}_5\overline{M}_{30-75}$									
New York, Males	6.7	−0.1	5.9	1.2	1.9	2.4	−1.0	2.5	−0.5	−0.2
*Original registration states. Males	5.6	−0.4	5.2	1.3	1.5	1.7	−1.5	1.8	−1.0	−0.6
*Original registration states. Females	6.8	+0.1	5.4	0.2	1.2	3.6	−0.3	2.6	−1.4	−1.2
Average	6.4	−0.1	5.5	0.9	1.5	2.6	−0.9	2.3	−1.0	−0.7

D. AVERAGE OF THE AVERAGES IN C.

	5.2	−0.9	4.5	−0.1	0.8	2.2	−0.7	2.6	−0.6	−0.1

* Original registration states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

Table 128 shows the ${}_0M_x$ and ${}_5M_x$ in Table 127 between ages 20 and 80 entered in separate columns; the average, ${}_0\overline{M}_t$ and ${}_5\overline{M}_t$, of the values in each column, where t denotes age intervals 20–65, 25–80, and 30–75 years; the differences of the averages,

$$ {}_0\overline{M}_{20-65} - {}_5\overline{M}_{20-65}, $$
$$ {}_0\overline{M}_{25-80} - {}_5\overline{M}_{25-80}, $$
$$ \text{and } {}_0\overline{M}_{30-75} - {}_5\overline{M}_{30-75}; $$

and the average of these averages for populations, estimated as of July 1, 1910, of males in the state of New York, of males and of females in the original registration states, and for deaths during the period 1909–1911 among these three populations.

This method favors the groups 2–6, 4–8, and 5–9.

SELECTION OF QUINQUENNIAL AGE GROUP FOR OSCULATORY INTERPOLATION IN CONSTRUCTION OF UNITED STATES LIFE TABLES.

131. King[1] made an exhaustive study of quinquennial age groups and concluded that the 4–8 group would furnish graduated populations most faithfully reflecting the true distributions of populations with respect to age, and he based his construction of the English Life Tables No. 8 on the 4–8 group.

Taking into account the preceding results and references, it is not difficult to eliminate groups 1–5 and 5–9. However, the decision as to groups 2–6, 3–7, and 4–8 still remains a problem. As between these three groups it will be observed that groups 2–6 and 3–7 contain both the ages ending in the digits 0 and 8 in the same quinquennial age group, while the adjacent five-year groups contain the ages ending in the digit 5. This tends to exaggerate unduly alternate quinquennial age groups in these sets. With the group 4–8, however, the ages ending in the digits 5 and 8 are in the same quinquennial group and the ages ending in the digit 0 are in the adjacent five-year groups. Since the exaggeration for ages which are multiples of 10 is undoubtedly greater than for ages which end in the digit 5, the group 4–8 would seem to furnish a better balanced grouping than the group 2–6 or 3–7.

In the construction of the United States Life Tables the 4–8 group was employed where populations and deaths by single years were available; otherwise the 5–9 group was employed, since it was the only one available.

GRAPHS FOR AGE INTERVAL UNDER 1 YEAR AND AGE INTERVAL UNDER 1 MONTH.

132. When the figures in the several columns of the life tables are plotted for monthly intervals under 1 year and for annual intervals beginning with age 1, it is only necessary in most cases to connect the points by drawing a smooth curve through them to obtain the required graph. There are some exceptions to this rule, notably for the number of survivors and for monthly rates of mortality for days and weeks of age under 1 month and the annual rates of mortality for each month of age under 1 year. The variation is so great in these intervals that unless the points are simply connected by a straight line some approximate method must be devised to draw the curves. In the case of Diagram D in the graphs of expectation of life and measure of vitality straight lines were drawn in the first monthly interval, but for Diagram D in the graphs of number of survivors and monthly rate of mortality the straight line in the first month was replaced in each case by a curve, and for Diagram A in the annual rate of mortality the straight line for the first year was also replaced by a curve.

To this end it was necessary to determine a few points on these curves by computing approximate monthly rates of mortality beginning with the first few days of life and each of the first few weeks of life and also the approximate annual rates of mortality by months under 1 year of age. The mortality statistics given in Table 129 were employed, after being adjusted graphically so as to leave the total number of deaths unchanged.

TABLE 129.—ADDITIONAL MORTALITY STATISTICS USED IN DRAWING GRAPHS.

AGE.	ORIGINAL REGISTRATION STATES, 1910–1911.		BOSTON, CHICAGO, NEW YORK CITY, AND PHILADELPHIA, 1910–1911.		AGE.	REGISTRATION AREA OF 1910 DURING 1910.	
	Original.	Adjusted.	Original.	Adjusted.		Original.	Adjusted.
	MALES.					BOTH SEXES.	
Days.					*Months.*		
0	8,691	8,771	2,664	2,829	0	58,089	58,089
1	4,125	4,025	1,572	1,332	1	15,223	15,223
2	2,390	2,550	940	895	2	12,923	12,923
3–6	4,776	4,286	1,882	1,912	3	11,358	11,398
Weeks					4	9,828	9,913
1	4,194	4,784	1,798	1,978	5	8,618	8,753
2	3,500	3,170	1,568	1,508	6	8,198	7,848
3	2,785	2,875	1,232	1,202	7	6,969	7,129
Month.					8	6,604	6,534
1	30,461	30,461	11,656	11,656	9	5,955	5,980
					10	5,273	5,433
	FEMALES.				11	5,335	5,060
					12	5,294	4,564
Days.					13	3,638	4,138
0	6,266	6,566	2,049	2,169	14	3,448	3,728
1	3,085	2,585	1,214	1,059	15	3,147	3,327
2	1,675	1,895	690	655	16	2,785	2,985
3–6	3,607	3,287	1,447	1,457	17	2,505	2,680
					18	3,083	2,463
Weeks.					19	2,098	2,183
1	3,140	3,720	1,350	1,470	20	2,043	1,988
2	2,775	2,395	1,161	1,086	21	1,683	1,783
3	2,215	2,315	1,016	1,031	22	1,711	1,706
					23	1,645	1,625
Month.					Under 2		
1	22,763	22,763	8,927	8,927	years	187,453	187,453

[1] Report on the Graduation of Ages. George King. Census of England and Wales, 1911, vol. 7, p. xxxix.

The number of deaths under 1 month as given in the life table was divided approximately into deaths during each of the first three days of life and during each of the first four weeks of life by assuming that they were proportional to the number of adjusted deaths in Table 129 for the same age intervals. In order to obtain the number of deaths for corresponding intervals during the second month of life, the number of deaths during the second month of life, as given by the life table, was divided by 4 to obtain the average number per week, and then this quotient was divided by 7 to determine the average number per day. Where the quotients were not whole numbers the remainders were taken up by increasing the deaths during each of the earlier periods by unity. From these values it was possible to obtain the approximate number of deaths during each of the months beginning with each of the first three days of life and with each of the first four weeks of life, respectively, and also to find the approximate number of survivors to each of these age intervals. From these numbers of deaths and survivors approximate monthly rates of mortality were computed.

The adjusted numbers of deaths by months in the second year of life given in Table 129 were used to divide by proportion the deaths during the second year of life, as given by the life table, into deaths by months. From these numbers of deaths during each month in the second year of life and from the deaths by months under 1 year of age, as given by the life table, the approximate numbers of deaths were obtained for the years beginning with each month under 1 year of age, and these were employed, together with the table of survivors given in the life table, to compute the approximate annual rates of mortality for each month under 1 year of age.

The adjusted deaths for Boston, Chicago, New York City, and Philadelphia during the first three days, and the first four weeks of life in 1910 and 1911, were used in a similar manner in drawing the graphs for whites in cities of the original registration states in 1901 and 1910.

PART VII

DESCRIPTION OF CALCULATION OF LIFE TABLE FOR MALES IN THE STATE OF NEW YORK, 1910, INCLUDING PHOTOGRAPHS OF GRAPHS, DIAGRAMS, AND ADDING-MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS.

TABULAR OUTLINE FOR CONSTRUCTION OF EACH LIFE TABLE.

PART VII.—DESCRIPTION OF CALCULATION OF LIFE TABLE FOR MALES IN THE STATE OF NEW YORK, 1910, INCLUDING PHOTOGRAPHS OF GRAPHS, DIAGRAMS, AND ADDING-MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS.

DESCRIPTIVE TEXT AND PHOTOGRAPHED TAPES.

133. The object of this part of the text is to give a detailed account of the actual processes of calculation used in the construction of a typical life table. There are many students and others interested in vital statistics who do not understand the mathematical theory and formulas developed in Part VI who would like to know how a life table is calculated. It is quite possible to present the work of calculation in such manner that one need not necessarily be an actuary to follow the steps. The method of procedure in this part is to divide the work into a number of distinct steps and to describe each one of these steps in detail in the text. The actual process of carrying out the work on the adding machine or otherwise is shown by means of photographs of graphs, diagrams, and adding-machine tapes used in connection with the numerical calculations. The number of the section in the text in which the process is described is assigned to the corresponding tape which appears in the photograph. These numbers are shown above and to the left of the tapes, graphs, or diagrams to which they are assigned in such large heavy figures that they can be readily detected. For example, **220**, above and to the left of a tape on page 403, means that the description of this tape will be found in section 220, page 402. On the other hand, the text leads to the correct tape in the photograph by direct reference. For example, if the numerical process exhibited on tape 150 is referred to in the text, it is understood that the reader will turn to this particular tape, which can be found easily by its number. The pages of photographs contain a graph and several diagrams used in the process of constructing life tables; they are numbered consecutively with the tapes. For the convenience of the reader the description of these calculations is so distributed that the photographs of the tapes generally face the page on which their descriptions appear. The process of copying values, either from the tapes or from computing machines, in Table 56 on page 162, of course, has no tape, graph, or diagram connected with it. Sections 237–239 and 244–249 describe this work. See page 10 of the table of contents.

Numerous devices and short cuts to facilitate the work on the adding machine are explained in the text and illustrated on the tapes.

Particular attention is called to the methods of checking the work. The checks are designated by small circles inclosing the same number and placed beside the results which check each other.

SPECIAL METHODS USED IN CONSTRUCTION OF SOME LIFE TABLES.

134. It is shown in Part VIII that the original statistics upon which life tables are based are far from uniform—in fact, that they are presented in seven different types or forms. This means that it was not possible to apply one and the same process to construct every life table. In order to meet variations from the standard or typical form of construction illustrated by the life table for males in the state of New York, 1910, and described in this part, it was necessary to devise other methods. Where these methods are not obvious they have been described in this part, the description following that of the construction of the above-mentioned table.

For example, where the infant mortality curve did not join smoothly with the osculatory fifth difference curve it was necessary to effect a smooth junction, and the process used, as illustrated in the table for white females in cities of the original registration states, 1901, is described in this part.

The same remark applies to the junction of the osculatory fifth difference curve with the Wittstein old-age curve in the table for males in the state of New York, 1910.

In the calculation of the mean population for the 1901–1910 tables it was also necessary to employ methods not used in the other tables. The method of calculating the mean population is illustrated in this part by reproducing the work on the life table for white females in the original registration states, 1901–1910.

EXTRA INFORMATION NEEDED FOR CONSTRUCTION OF EACH LIFE TABLE.

135. As stated above, on account of the variety of forms in which the original statistics are given, it was not possible to employ the same methods in computing the rates of mortality for every table. To supply the actuary with all the information necessary to reproduce the rates of mortality for any of the life tables, a tabular outline was prepared, showing for each table the different processes used and the ages and sources of the population or death statistics or rates of mortality to which these processes were applied. This outline, Table 135, is given on pages 416 to 419.

The C's in column 3 indicate that the *computed* number of births was used instead of the number of births *registered*, R. Column 4 shows the quinquennial age groups of the original data to which the osculatory formula was applied. Beginning with column 5, the words *original statistics* and the tape numbers corresponding to sections in the description of the calculation of various parts of the life table are given at the heads of the columns. These headings indicate the *sources* of the population or death statistics or rates of mortality for the *ages* named in the table, which are used for the purpose named in the main heading of the group of columns. Thus, whenever the smoothing process described in sections 250 to 263 was employed to effect smooth junctions at early ages, columns 5 to 10 show the ages and sources of the population, death statistics, and the rates of mortality to which this process was applied; columns 12 and 13 show the ages and sources of the rates of mortality upon which the Wittstein constants were based; columns 14 to 16 show the ages and sources of rates of mortality which were smoothed by Spencer's 21-term formula; and finally, columns 17 to 22 show the ages and sources of the rates of mortality upon which the life table was constructed.

ADJUSTMENT FOR DEATHS BY MONTHS UNDER 1 YEAR OF AGE.

136. When the reported deaths by months under 1 year of age are plotted as shown in the broken curve marked REPORTED DEATHS on Graph 136, page 371, they show an excess of deaths at ages 6 months and 9 months, and a corresponding decrease at ages 5 and 10 months. To smooth out this roughness, an equivalent curve, marked ADJUSTED DEATHS, was drawn graphically in such manner that the total of adjusted deaths was equal to the total of reported deaths.

Deaths during the first month of life were not plotted because they were out of proportion to those in the other months; also, those during the second month of life were entered but left unchanged.

In the table in the upper right-hand corner of Graph 136 are shown the reported deaths by months under 1 year of age; the adjusted values of these; the difference between the reported and adjusted number of deaths at each age; the per cent which this difference bears to the number of reported deaths; and in the last column to the right is shown the number of adjusted deaths at each month of age when the sum of the deaths under 1 year is reduced to 10,000.

DETERMINATION OF POPULATION USED IN CALCULATION OF NUMBER OF BIRTHS AND OF ANNUAL RATES OF MORTALITY UNDER 5 YEARS AND OF MONTHLY RATES OF MORTALITY UNDER 1 YEAR.

137. The population at each year of age was assumed to progress geometrically after July 1, 1900, according to the ratio determined from the population on this date and that on July 1, 1910. The populations on both these July 1 dates were estimated arithmetically from the enumerated populations of April 15, 1910, and June 1, 1900. The ratio r is therefore expressed by means of the equation

$$r^{10} = \frac{{}_{1910\text{-July-}1}P_x}{{}_{1900\text{-July-}1}P_x} \qquad (78)$$

and the population y years after July 1, 1900, by the equation

$${}_{(1900\text{-July-}1)+y}P_x = r^y \, {}_{1900\text{-July-}1}P_x.$$

The ages x are entered on the left of the tape, the values for ${}_{1910\text{-July-}1}P_x$ in the middle and those for ${}_{1900\text{-July-}1}P_x$ on the right. The 1910 values were copied from column 2 of Table 159, page 450, and the 1900 values from column 7 of Table 181, page 472. The adding machine was split between banks 16–17 and 8–9.

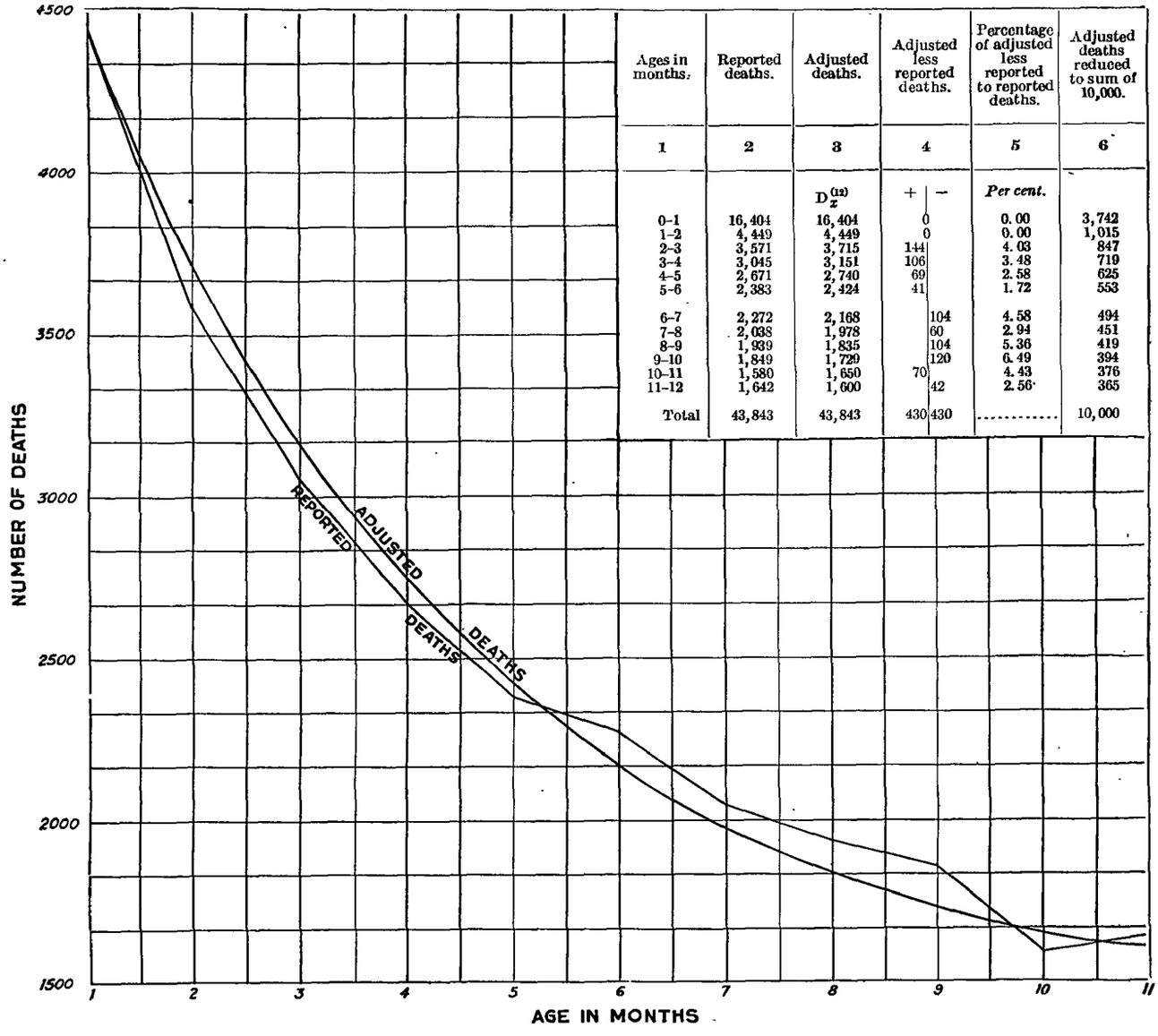
138. The characteristic of log 97,764, or 4, was entered in bank 9 and immediately to the right of it the mantissa, which was taken from Vega's seven place logarithm tables, so that the first bank was left vacant and was automatically filled with a zero. Beneath this is entered the complement of log 80,771, giving a subtotal .0829235, which is log r^{10}.

Throughout these calculations the process of subtracting by adding the complement of the number to be subtracted is used. In order to carry away the extra unit thus obtained on the left in the remainder, the complement is always preceded by 9's to the last bank on the left, or to the split on the left. Also, throughout these calculations the decimal point in a series of additions is often indicated by a vertical line between the two banks where the decimal point should occur. The vertical line is also used to cross out the extra units obtained in subtracting by adding complements, but the use to which the line is put can be readily distinguished.

If the decimal point is moved one place to the left, this log r^{10} becomes log r, or the logarithm of the yearly ratio of increase. This .00829235 was set up and repeated twice, making three times in all; then half of it was set up in unit's place and again in ten's place, thus adding the logarithm of the ratio of 8.5 years' increase; then log 80,771, whose complement was entered above, is added one space to the left to conform with the change of decimal point mentioned above.

This subtotal is log ${}_{1908\text{-December-}31}P_x$, as indicated by the 1908 on the left side of the tape. The machine is split between banks 13 and 14. Then log r is added again, giving log ${}_{1909\text{-December-}31}P_x$ as subtotal, while the 1 added in bank 14 changes the date to 1909. This process was repeated until log ${}_{1913\text{-December-}31}P_x$ was obtained. Then this work was checked by setting up log ${}_{1910\text{-July-}1}P_x$ and adding to it log r repeated three times and then one-half log r, so that the total is log ${}_{1913\text{-December-}31}P_x$, which agrees with that obtained above, as indicated by the mark ①.

GRAPH 136 NUMBER OF DEATHS BY MONTHS UNDER 1 YEAR ADJUSTED GRAPHICALLY



Ages in months.	Reported deaths.	Adjusted deaths.	Adjusted less reported deaths.		Percentage of adjusted less reported to reported deaths.	Adjusted deaths reduced to sum of 10,000.
1	2	3	4		5	6
		$D_x^{(12)}$	+	−	*Per cent.*	
0–1	16,404	16,404	0		0.00	3,742
1–2	4,449	4,449	0		0.00	1,015
2–3	3,571	3,715	144		4.03	847
3–4	3,045	3,151	106		3.48	719
4–5	2,671	2,740	69		2.58	625
5–6	2,383	2,424	41		1.72	553
6–7	2,272	2,168		104	4.58	494
7–8	2,038	1,978		60	2.94	451
8–9	1,939	1,835		104	5.36	419
9–10	1,849	1,729		120	6.49	394
10–11	1,580	1,650	70		4.43	376
11–12	1,642	1,600		42	2.56	365
Total	43,843	43,843	430	430	.....	10,000

This symbol, a figure within a circle, will be used to point out identical results by different processes, thus forming a check on the work. It is unnecessary to use them where the operator is familiar with the processes; also the ages need be set down in only a very few cases, but they have been entered nearly everywhere in this description to aid the reader. Only logarithms for age 0 are obtained here, those for the other ages being obtained by the same process.

139. The antilogarithms of the logarithms which were obtained by the process indicated in tape 138, for all the ages and calendar years needed in the following computations, are entered here, those for 1908 and 1911 being set in parallel columns, as explained in section 143. Below these are the values for 1909 and 1910, and next those for 1912 and 1913, the machine being split as in tape 137.

CALCULATION OF NUMBER OF BIRTHS.

140. This work is shown in Diagram 15 and described fully in section 106, page 338. The deaths are taken from Table 159, page 450, columns 3, 4, 5, and bottom of page.

141. This work is shown in Diagram 17, page 341. The factors at the top of the diagram are set forth in Table 109 and are described in section 109, page 340. The populations shown on the diagonal lines in this diagram were obtained from tape 139 above, and their purpose is fully described in section 109.

142. The additions necessary to obtain the number of births for any calendar year and for the three-year period 1909 to 1911 are explained in section 110, page 342. The additions finally used are shown here. On the left are shown the additions to obtain the number of births in 1909 from population aged 4–5 and on

the right those to obtain the number of births in 1910 from population aged 3–4. Below the 1909 additions are those to obtain the number of births in 1911 from population aged 2–3, while to the right of this the three totals are summed to obtain the total number of births in the three-year period 1909–1911.

CALCULATION OF ANNUAL RATES OF MORTALITY UNDER 5 YEARS AND MONTHLY RATES UNDER 1 YEAR.

143. The results shown in tapes 143 to 146 are obtained in detail in Tables 111 and 112, page 343, respectively, and full explanation is given in sections 111 and 112, pages 342 and 343. The calculations are here adapted to a computer using machine.

The machine is split between banks 16–17, 9–10, and 3–4. The differences ${}_{\text{1911-December-31}}P_x - {}_{\text{1908-December-31}}P_x$, as obtained mentally from tape 139, are entered in banks 10 to 13. One-half these differences are entered in banks 4 to 7, the .5, where the number is odd, being entered in the last column to the right. The ages are entered in bank 17. Beneath the totals of these columns the sum of the 1908 values on the left of tape 139 is subtracted from the sum of the 1911 values on the right, while the total sum of the $\frac{1}{2}\delta_x$ is repeated twice on the right. As indicated by the ② mark, the totals agree in each case, thus affording a check on the work of subtraction and division.

144. As explained in section 112, page 343, since $\frac{1}{12}$ of $5{,}601 = 466 + 9/12$, $\delta_x^{(12)}$ for the first nine months was taken as 467 and for the last three months as 466. Accordingly, $\frac{1}{2}\delta_0^{(12)}$ is taken as 234 and $\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(12)})$ as 467 for the next nine months, since $(467+466)/2$ was set equal to 467; then $\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(12)})$ is set equal to 466 for the next two months and $\frac{1}{2}\delta_{11}^{(12)}$ to 233. In order to check these results and furnish a memorandum to the operator, 234, nine times 467, two times 466, and 233 are added in three parallel columns in tape 144, giving a total of 5,602 instead of 5,601, because 467/2 was taken equal to 234 and $(467+466)/2$ to 467. $\delta_x^{(12)}$ is used here for months in place of δ_x, which is used for years.

145. The adjusted deaths by months under 1 year which are used in these computations are shown in column 3 of the table in the upper right corner of Graph 136, and the deaths for single years under 5 are found in column 6 of Table 159, page 450. To obtain those exposed to risk of death during each month of age under 1 year and during the single years under 5, equations (29) and (30), pages 342 and 343, were used. The machine was split between banks 11–12 and 7–8. On the left of the tape E_0 was entered from tape 142 and to it was added the complement of $\frac{1}{2}\delta_0^{(12)} = 234$, giving 346,430 as subtotal. Then to this was added the complement of $\frac{1}{2}(\delta_0^{(12)} + \delta_1^{(12)}) = 467$ and $D_0^{(12)} = 16{,}404$, and a subtotal taken. This process was repeated until 467 had been subtracted nine times, or until the number of deaths during the monthly age interval 8–9, $D_8^{(12)} = 1{,}835$, was subtracted. Then 466 was subtracted both with $D_9^{(12)}$ and with $D_{10}^{(12)}$. This gave the exposed to risk for each of the twelve months of life under 1 year. To obtain a similar value for the year 1–2, the remainder of δ_0 or $\frac{1}{2}\delta_{11}^{(12)}$ from tape 144 and deaths during twelfth month $D_{11}^{(12)} = 1{,}600$ were subtracted, and then $\frac{1}{2}\delta_1 = 2{,}449$ from tape 143, giving the subtotal 294,770. Then from this subtotal were subtracted 2,449 and 2,984 from tape 143 and D_1 and a subtotal taken, from which were subtracted 2,983, 2,355, and D_2, and so on. When $\frac{1}{2}\delta_x$ ended in .5 it was increased by unity the first time it was subtracted but not the second time. The total of the values δ_x subtracted in tape 145 would equal $24{,}874 - 1{,}849 + 1$. The $+1$ is due to $\frac{1}{2}\delta_0^{(12)}$ and $\frac{1}{2}(\delta_8^{(12)} + \delta_9^{(12)})$ each being increased by .5.

Then the adding-machine paper was rolled back to the beginning of tape 145, and on the right side, opposite the subtotals on the left, the deaths by months under 1 year from column 3 of the table in the upper right-hand corner of Graph 136 and those for ages 1 to 4 years from column 6 of Table 159, page 450, were set down and a subtotal taken at the end. All these deaths except those during the 4–5 year, 1,723, were subtracted on the left side of tape 145. Accordingly, 1,723 was subtracted from this subtotal, 62,342; also the quantity 24,874 less 1,849, from tape 143, and plus 1 were added, and a subtotal taken. This subtotal is the sum of all quantities subtracted from the left of tape 145, since all the deaths except those for age 4–5 and all the δ_x in tape 143 except the last half of δ_4 were subtracted. As explained in section 144, the 1 is due to taking $467/2 = 234$ and $(467+466)/2 = 467$. The complement of this subtotal was set up and repeated twice and to this E_0 from tape 142 was added. The total is the same as that obtained on the left of tape 145 as indicated by the mark ③.

At the same time the deaths were being entered on the right side of tape 145 the ages were entered in banks 8 and 9.

146. Then each $D_x^{(12)}$ in tape 145 was divided by the $E_x^{(12)} - \frac{1}{2}\delta_x^{(12)}$ opposite, and the quotient to the nearest sixth decimal place was set down on the left side of tape 146, while on the right side its complement was entered, thus giving $10^6 q_x^{(12)}$ and $10^6 p_x^{(12)}$, respectively. The machine was split between banks 10–11 and 6–7.

A check on the $10^6 p_x$ is that the sums of $10^6 q_x$ and $10^6 p_x$ should be complements.

OSCULATORY INTERPOLATION.[1]

147. As stated in section 131 on page 364, the osculatory interpolation formula was applied to the population and deaths summed in groups 4–8, 9–13, and so on. The machine was split between banks

[1] A short method of constructing abridged life tables will be found in the Supplement to the Seventy-fifth Annual Report of the Registrar-General of England and Wales, Part I, Life Tables, pp. 26–33.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

137

x	1910	P_x 19,00 #
0	97764	80,771
1	86619	71,740
2	94229	76,300
3	90718	76,304
4	86876	75,381
	456206	380,496#

138

$\log_y P_0$

```
                    199017,900 #
999999995092 74,450
                    8292350s
                    8292350
                    8292,350
                    4146,175
                   41461,750
1900            4 907255,500

1908            4 977740,475s
   1                8292,350
1909            4 986032,825s
   1                8292,350
1910            4 994325,175s
   1                8292,350
1911            5 002617,525s
   1                8292,350
1912            5 010909,875s
   1                8292,350
1913 (1)        5 019202,225#

1910            4 990179,000 #
   1                8292,350
   1                8292,350
   1                8292,350
                    4146,175
1913 (1)        5 019202,225#
```

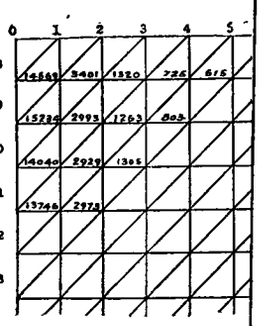
139

x	1908	P_x 19,11 #
0	95004	100,605
1	84205	89,103
2	91293	97,260
3	88394	93,103
4	85046	88,745
	443942	468,816#

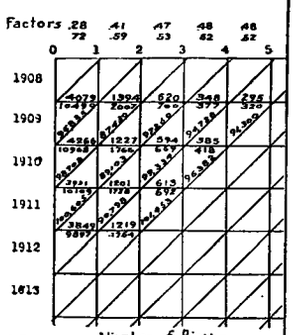
	1909	19,10 #
1	96835	98,702
2		87,439

	1918	19,13 #
1	90798	
8	99334	101,453
3	94728	96,382
4	90014	91,300

140



141



Number of Births

142

1909	1,910#
10490	10,968
4266	3,931
2007	1,766
1227	1,201
700	669
594	613
377	418
385	
320	
91300	96,382
111666	115,948#
1911	1909 To 1911 #
10109	
3849	
1728	
1219	111,666
692	115,948
101453	119,050
119050	346,664#
	E_0

143

x	δ_x	$\frac{1}{2}\delta_x$	
0	5601	2800,	5 #
1	4898	2449,	
2	5967	2983,	5
3	4709	2354,	5
4	3699	1849,	5
(2)	24874	12435,	20#
			#
	468816	12,437	#
	99556058	12,437	
(2)	24874	24,874#	

144

$\frac{1}{2}(\delta_x^{(12)} + \delta_{x+1}^{(18)})$

$\frac{1}{2}\delta_0^{(12)} \to$ 234	2102	3,970	#
467	467	467	
467	467	466	
467	467	466	
467	467 $\frac{1}{2}\delta_{11}^{(18)} \to$ 233		
2102	3970	5,602#	

145

$E_x^{(12)} - \frac{1}{2}\delta_x^{(12)}$	x	$D_x^{(12)}$
346664		#
999766		
346430	0	16,404s
999533		
983596		
329559	1	4,449s
999533		
995551		
324643	2	3,715s
999533		
996285		
320461	3	3,151s
999533		
996849		
316843	4	2,740s
999533		
997260		
313636	5	2,424s
313636		s
999533		
997576		
310745	6	2,168s
999533		
997832		
308110	7	1,978s
999533		
998022		
305665	8	1,835s
999533		
998165		
303363	9	1,729s
999534		
998271		
301168	10	1,650s
999534		
998350		
299052	11	1,600s
999767		
997551		
998400		
$E_x - \frac{1}{2}\delta_x$		D_x
294770	1	9,917s
997551		
997016		
990083		
279420	2	4,349s
997017		
997645		
995651		
269733	3	2,510s
997646		
998150		
997490		
263019 (3)	4	1,723#
		62,342s
		999998,277
		24,874
		999998,151
		1
		83,645s
		999916,355
		999916,355
		34 664
(3)		263,019#

146

$10^6 q_x^{(12)}$	$10^6 p_x^{(12)}$
47352	952,648 #
13500	986,500
11443	988,557
9833	990,167
8648	991,352
7729	992,271
6977	993,023
6420	993,580
6003	993,997
5699	994,301
5479	994,521
5350	994,650
$10^6 q_x$	$10^6 p_x$
33643	966,357
15564	984,436
9305	990,695
6551	993,449
199496	800,504#

147

x	P_x	$(3d)_x$
4	86876	1,723 #
	83663	1,344
	83257	1,098
	82036	885
	78449	746
4	414281	5,796#
		#
9	77758	637
	79986	567
	74846	567
	83071	566
	78818	550
9	394479	2,887#

148

x	ΔT_x	$\Delta(3l)_x$
		#
4	414281	5,796
9	394479	2,887
14	405619	4,162
19	453339	7,241
24	470580	8,904
29	404730	9,747
34	377846	12,124
39	324887	12,733
44	265517	12,819
49	226307	13,658
54	161059	13,314
59	121076	14,039
64	90344	14,312
69	61511	13,705
74	36675	11,822
79	17867	8,421
84	7203	4,973
89	2024	1,786
94	325	357
99	49	76
104	7	11
109	1	2
	456206	62,342
	999991312	39998,277
	1	
	4605057	233,498#

149

$\Delta^2 T_x$	$\Delta^2(3l)_x$
~~414281~~	~~5,796~~ #
99980198	997,091
11140	1,275
47720	3,079
17241	1,663
99934150	843
99973116	2,377
99947041	599
99940630	96
99960790	839
99934752	999,656
99960017	725
99969268	273
99971167	999,393
99975164	998,117
99981192	996,599
99989336	996,552
99994821	996,813
99998301	998,571
99999724	999,719
99999958	999,935
99999994	999,991
1	2#

150

$\Delta^2 T_x$	$\Delta^2(3l)_x$
~~99980198~~	~~997,091~~
30942	4,184
36580	1,804
99969521	996,584
99916909	999,180
38966	1,534
99973925	998,222
99993589	999,497
20160	743
999739 62	998,817
25265	1,069
9251	999,548
1899	999,120
3997	998,724
6028	998,482
8144	998,953
5485	261
3480	1,758
1423	1,148
234	216
36	56
99999994	999,991#

15–16 and 7–8. The population and death statistics are on page 450, columns 2 and 6, respectively, of Table 159. Beginning with age 4, this number was set up in bank 16, then $P_4=86,876$ in banks 8 and 12, and $(3d)_4=1,723$ on the right. Since the deaths are for a three-year period, they are indicated by $(3d)_x$ instead of by d_x. To these last two values those through age 8–9 were added, and a total taken. Immediately below this, 9 was entered in bank 16 and the populations and deaths added from age 9–10 through age 13–14, and a total taken, and so on until the values for ages 109–113 had been added. The P_{135} was not used. These additions are shown here for only age groups 4–8 and 9–13.

148. Then the totals obtained in tape 147 were copied in tape 148, a space being left after each fifth value and also after the last values, 1 and 2, respectively. To check these totals the values for ages 0 to 3–4 years were added, as well as those beyond age 113–114. The first values were obtained by adding the totals of groups 0–4 from the left of tape 137 and from the right of tape 145, respectively, and then subtracting 86,876 and 1,723, respectively, the values for age 4. Also $P_{135}=1$ was added. This gives for the total population 4,605,057 and for deaths 233,498, which agree with the totals at the top of columns 2 and 6, respectively, in Table 159, page 450. The machine was split between banks 15–16 and 7–8, the ages being entered in banks 16–17. The ages in tapes 149 to 153 are the same as in tape 148, except that one age group is lost at the end every time a column is differenced. Hence the last age group in tape 149 is 104–108; in tape 150, 99–103; and so on.

149. The formula used for osculatory interpolation requires the first five quinquennial differences of T_x and $(3l)_x$, and they are shown in tapes 148 to 152.

To shorten the work of differencing and to increase its accuracy, all negative numbers were entered directly upon the adding machine, while only the complements of positive numbers were set up. Since all the ΔT_x and $\Delta(3l)_x$ were negative, they were entered directly in tape 148. This does away with the necessity for using signs and reduces the whole process of differencing to the subtraction, arithmetically, of the upper value from the one immediately below it. This subtraction was done mentally and the results entered on the adding machine. When the lower number is less than the upper one, the lower number may be supposed to be increased by unity in the first space beyond the left of the machine or beyond the split at the left. Thus, in subtracting 414,281 from 394,479, the latter was treated as though it were 100,394,479, so that subtracting 414,281 from it gives 99,980,198; this last number is the complement of +19,802 which would be obtained if +414,281 were added algebraically to −394,479.

In order to check the work of differencing as it is being done, the top value of the column being differenced was set down and a space taken between it and the first differences. Then when the first difference is set down the total appearing through the glass at the base of the machine should be the lower number. For example, the two columns in tape 149 begin as follows:

414281	5796
999980198	997091

Then through the glass at the base of the machine should appear the lower numbers,

394479	1	2887

When the second set of differences have been put down:

414281	5796
999980198	997091
11140	1275

Then through the glass at the base of the machine should appear the lower numbers,

405619	1	4162

and so on. Thus by comparing the totals through the glass at the base of the machine with the lower numbers in tape 148, after setting down each set of differences, the operator can check his work as he goes along. The totals in tape 149 are 1 and 2, which are the last values in tape 148, and this is a check on the work, but not a complete one, since compensating errors would not alter the final result. After tape 149 is completed a pencil line is drawn through ΔT_4 and $\Delta(3l)_4$ to avoid confusing them with the Δ^2T_x and $\Delta^2(3l)_x$, respectively. The machine was split between banks 9–10 and 6–7.

150–152. In the same way the first values of tape 149 were set up in tape 150, the machine spaced, and the differences of the values in tape 149 set up. As before, the operator can check his work after entering each set of differences. The totals in tape 150 are 9,999,994 and 9,999,991, which agree with the last values in tape 149.

In the same way tape 151 is obtained from tape 150, and tape 152 from tape 151. The Δ^4T_4 and $\Delta^4(3l)_4$ at the top of tape 152 were subtracted at the end of this tape, so that the final totals are the sums of the fifth differences only.

153. As indicated in Table 115, page 347, the work is shortened by using $.0016\Delta^5T_x$ and $.0016\Delta^5(3l)_x$. Accordingly the fifth differences in tape 152 are multiplied by 16 and the product set up on the adding machine in tape 153 in the columns headed $16\Delta^5T_x$ and $16\Delta^5(3l)_x$. After each fifth value a subtotal was taken and a space left after each subtotal, so that these values might not be confused with the products themselves. At the end a total was taken.

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137

x	1910	P_x 19,00 *
0	97764	80,771
1	86619	71,740
2	94229	76,300
3	90718	76,304
4	86876	75,381
	456206	380,496*

138

	$log_y P_0$
	499017,900*
	999999995092 74,450
	8292,350s
	8292,350
	8292,350
	4146,175
	41461,750
1900	4907255,500
1908	4977740,475s
1	8292,350
1909	4986032,825s
1	8292,350
1910	4994325,175s
1	8292,350
1911	5002617,525s
1	8292,350
1912	5010909,875s
1	8292,350
1913 ①	5019202,225*

	*
1910	4990179,000
1	8292,350
1	8292,350
1	8292,350
	4146,175
1913 ①	5019202,225*

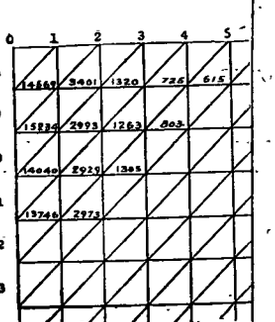
139

x	1908	P_x 19,11 *
0	95004	100,605
1	84205	89,103
2	91293	97,260
3	88394	93,103
4	85046	88,745
	443942	468,816*

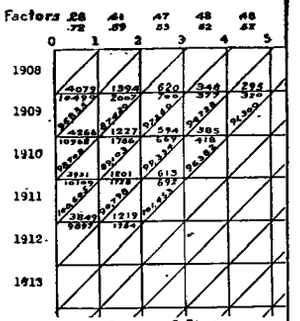
	1909	19,10 *
1	96835	98,702
2		87,439

	1918	19,13 *
1	90798	
2	99334	101,453
3	94728	96,382
4	90014	91,300

140



141



Number of Births

142

	1909	1,910*
	10490	10,968
	4266	3,931
	2007	1,766
	1227	1,201
	700	669
	594	613
	377	418
	385	
	320	
	91300	96.382
	111666	115,948*
	1911	1909 To 1911 *
	10109	
	3849	
	1728	
	1219	111,666
	692	115,948
	101453	119,050
	119050	346,664*
		E_0

143

x	δ_x	$\frac{1}{2}\delta_x$
0	5601	2800, 5
1	4898	2449,
2	5967	2983, 5
3	4709	2354, 5
4	3699	1849, 5
②	24674	12435, 20*
		*
		*
	468816	12,437
	99556058	12,437
②	24674	24,874*

144

	$\frac{1}{2}(\delta_x^{(12)T}+\delta_{x+1}^{(18)})$	
		*
$\frac{1}{2}\delta_0^{(12)}\rightarrow$	234 2102	3,970
	467 467	467
	467 467	466
	467 467	466
	467 467	$\frac{1}{2}\delta_{11}^{(18)}\rightarrow$ 233
	2102 3970	5,602*

145

$E_x^{(12)}-\frac{1}{2}\delta_x^{(12)}$	x	$D_x^{(12)}$
		*
346664		
999768		
346430	0	16,404s
999533		
983596		
329559	1	4,449s
999533		
995551		
324643	2	3,715s
999533		
996285		
320461	3	3,151s
999533		
996849		
316843	4	2,740s
999533		
997260		
313636	5	2,424s
313636		s
999533		
997576		
310745	6	2,168s
999533		
997832		
308110	7	1,978s
999533		
998022		
305665	8	1,835s
999533		
998165		
303363	9	1,729s
999534		
998271		
301168	10	1,650s
999534		
998350		
299052	11	1,600s
999767		
997551		
998400		
$E_x-\frac{1}{2}\delta_x$		D_x
294770	1	9,917s
997551		
997016		
990083		
279420	2	4,349s
997017		
997645		
995651		
269733	3	2,510s
997646		
998150		
997490		
263019 ③	4	1,723*
		62,342s
		999998,277
		24,874
		999998,151
		1
		83,645s
		999916,355
		999916,355
		346,664
		③ 263,019*

146

$10^6 q_x^{(12)}$	$10^6 p_x^{(12)}$
	*
47352	952,648
13500	986,500
11443	988,557
9833	990,167
8648	991,352
7729	992,271
6977	993,023
6420	993,580
6003	993,997
5699	994,301
5479	994,521
5350	994,650
$10^6 q_x$	$10^6 p_x$
33643	966,357
15564	984,436
9305	990,695
6551	993,449
199496	800,504*

147

x	P_x	$(3d)_x$
		*
4	86876	1,723
	83663	1,344
	83257	1,098
	82036	885
	78449	746
4	414281	5,796*
		*
9	77758	637
	79986	567
	74846	567
	83071	566
	78818	550
9	394479	2,887*

148

x	ΔT_x	$\Delta(3l)_x$
		*
4	414281	5,796
9	394479	2,887
14	405619	4,162
19	453339	7,841
24	470580	8,904
29	404730	9,747
34	377846	12,124
39	324887	12,723
44	265517	12,819
49	226307	13,658
54	161059	13,314
59	121076	14,039
64	90344	14,312
69	61511	13,705
74	36675	11,822
79	17867	8,421
84	7203	4,973
89	2024	1,786
94	325	357
99	49	76
104	7	11
109	1	2
	456206	62,342
	999991312399 98,277	
	1	
	4605057	233,498*

149

$\Delta^2 T_x$	$\Delta^2(3l)_x$
	*
~~414281~~	~~5,796~~
99980198	997,091
11140	1,275
47720	3,079
17241	1,663
99934150	843
99973116	2,377
99947041	599
99940630	96
99960790	839
99934752	999,656
99960017	725
99969268	273
99971167	999,393
99973164	998,117
99981192	996,599
99989336	996,552
99994821	996,813
99998301	998,571
99999724	999,719
99999958	999,935
99999994	999,991
1	2*

150

$\Delta^3 T_x$	$\Delta^3(3l)_x$
~~99980198~~	~~997,091~~
30942	4,184
36580	1,804
99969521	998,584
99916909	999,180
38966	1,534
99973925	998,222
99993589	999,497
20160	743
99973962	998,817
25265	1,069
9251	999,548
1899	999,120
3997	998,724
6028	998,482
8144	999,953
5485	261
3480	1,758
1423	1,148
234	216
36	56
99999994	999,991*

Then the totals of the fifth differences in tape 152 were set once in unit's place, once in ten's place, and then one-half these totals once in ten's place, giving as sum 16 times these totals. As indicated by the mark ④, these totals agree with those obtained just above.

If they do not agree the error can be located approximately as follows: Fasten back the platen so that the tape may not be marred. Then mentally subtract the first difference in tape 151 from the middle value, that is, 5,638 from 99,992,648, setting the difference down on the adding machine, thus:

$$\left.\begin{array}{l}99{,}987{,}010\\99{,}870{,}100\\99{,}935{,}050\end{array}\right\}\text{which gives } 99{,}792{,}160,$$

and should be the second subtotal in tape 153. If it did not agree with this second subtotal, that would indicate that the error was above the second subtotal, so that 16 times (19,664 − 5,638) from tape 151 would be found in the same way and compared with the first subtotal in tape 153.

INTERPOLATION BY CONTINUOUS ADDITION.

154. As stated on page 346, the work of interpolation was carried out by continuous addition with corrected fifth differences. In order to start these additions the leading unit differences of the youngest age, that is, age 4, were required. Equations (42) for these leading unit differences, page 347, are copied as equations (79) in a slightly different order without fractions and in terms of T_4 instead of y_4. In this table Δ^4T_4, Δ^3T_4, Δ^2T_4, and ΔT_4 each head the column in which are written its coefficients in the four equations given below. For example, $10^4\delta^3T_4 = -96\Delta^4T_4 + 80\Delta^3T_4$.

Equations (79)

Leading unit differences.	Δ^4T_4	Δ^3T_4	Δ^2T_4	ΔT_4
$10\delta^4T_4$ =	+ 16			
$10\delta^3T_4$ =	− 96	+ 80		
$10\delta^2T_4$ =	+256	−320	+400	
$10\delta T_4$ =	−336	+480	−800	+2000
Totals	−160	+240	−400	+2000

In order to check the work it should be noted that the sum of the factors of Δ^4T_4 equals minus ten times the first factor; that the sum of the factors of Δ^3T_4 equals one-half the last factor; that the sum of the factors of Δ^2T_4 equals minus the first factor.

Δ^4T_4 from tape 151 was set up on the computing machine and multiplied by the factors in the second column of equations (79), beginning at the top. These products were entered upon the adding machine as obtained, and a space taken; then ten times the first factor was added, giving zero as a total, and thus checking these products. Where the factors in equations (79) are negative, the complements of the products were entered instead of the products themselves.

Δ^3T_4 from tape 150 was set up on the computing machine and multiplied by the factors in the third column of equations (79), beginning at the top. These products were entered upon the adding machine as obtained and a space taken; then the sum as seen through the glass at the base of the machine was added, giving a total equal to the last product.

Δ^2T_4 from tape 149 was set up on the computing machine and multiplied by the two factors in the fourth column of equations (79). These were entered upon the adding machine, a space taken, and the first product added again, giving zero for total.

Since these three groups of products are in the same order as the factors in equations (79), $10^4\delta^4T_4$ is at the top of the first group, or the third from the last of the first group; $10^4\delta^3T_4$ is the sum of the two products second from the last in each of the first two groups; $10^4\delta^2T_4$ is the sum of the three products next to the last in each group; $10^4\delta T_4$ is the sum of the three products last in each group plus +2,000 times ΔT_4, 414,281, at the top of tape 148.

155. As a check on the additions made in tapes 158 to 161, the first four leading unit differences of some older age, near the end of the additions, were computed directly from equations (40) on page 346. For the convenience of the operator the equations are given as equations (80) in a different order, without fractions, and in terms of T_{x-10} and T_x instead of y_n and y_{n+2}. As in equations (79), the leading quinquennial differences of T_{x-10} each head a column in which are written its coefficients in the four equations for the leading unit differences of T_x.

Equations (80)

Leading unit differences.	Δ^5T_{x-10}	Δ^4T_{x-10}	Δ^3T_{x-10}	Δ^2T_{x-10}	ΔT_{x-10}
$10\delta^4T_x$ =	−32	+ 16			
$10\delta^3T_x$ =	−48	+ 64	+ 80		
$10\delta^2T_x$ =	+48	+ 16	+ 480	+ 400	
$10\delta T_x$ =	+16	−176	+ 880	+3200	+2000
Totals	−16	− 80	+1440	+3600	+2000

In order to check the work it should be noted that the sum of the factors of Δ^5T_{x-10} is minus the last factor; that the sum of the factors of Δ^4T_{x-10} is minus the sum of the first two factors; that the sum of the factors of Δ^3T_{x-10} is three times the central factor; and that the sum of the factors of Δ^2T_{x-10}, added to the first factor, is ten times the first factor.

From equations (80) it appears that the leading unit differences of T on the left are 10 years older than the leading quinquennial differences of T at the heads of the columns, from which the leading unit differences are derived. Since 89 is the age of the last $16\Delta^5T_x$ in tape 157, 99 is the oldest age for which the leading unit differences can be computed accord-

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151

$\Delta^4 T_x$	$\Delta^4(31)_x$
~~50948~~	~~4,184~~ *
5638	997,620
99932941	996,780
99947388	396
122057	2,354
99934959	996,688
19664	1,275
26571	1,246
99953802	998,074
51303	2,252
99983986	998,479
99992648	999,572
2098	999,604
2031	999,758
2116	1,471
99997341	308
99997995	1,497
99997943	999,390
99998811	999,068
99999802	999,840
36 11	56*

152

$\Delta^5 T_x$	$\Delta^5(31)_x$
~~5638~~	~~997,620~~ *
99927303	999,160
14447	2,816
174669	2,758
99813902	994,334
84705	4,587
6907	999,971
99927231	996,828
97501	4,178
99932683	996,227
8662	1,093
9450	32
99999933	154
89	1,713
99995225	998,837
654	1,189
99999948	997,893
868	999,678
991	772
99994362	2,380
99994164 9	2,220*

153

$16\Delta^5 T_x$	$16\Delta^5(31)_x$
98836848	966,560
231152	61,056
2794704	28,128
97006432	909,344
1355280	73,392
224416 2	58,480*
110512	999,536
98835696	949,248
1560016	66,848
98928928	939,632
138592	17,488
99792160 5	31,232*
151200	512
99998928	2,464
1360	27,408
99923600	981,392
10464	19,024
99877712 6	62,032*
99999168	966,288
13888	994,848
15856	12,352
99906624 ④ 8	35,520*
99994164	2,220*
99941640	22,200
99970820	11,100
99906624 ④	35,520*

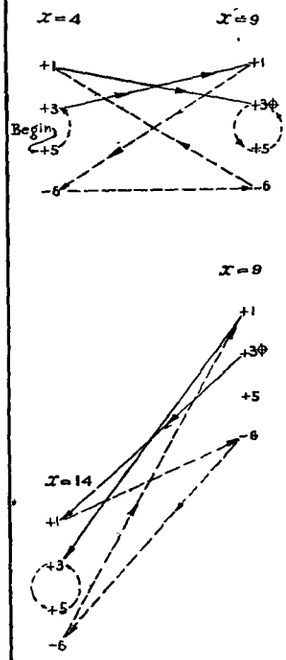
154

$10^4\delta^4 T_x$ →	90,208*
	999458,752
	1443,328
	998105,632
	902,080
2	*
	2475,360
	990098,560
	14852,160
	7426,080
1	14852,160*
	*
	992079,200
	15841,600
	992079,200
2	*
	*
	999458,752
	2475,360
$10^4\delta^5 T_x$ → 1	1934,112*
	*
	1443,328
	990098,560
	992079,200
$10^4\delta^2 T_x$ → 1	983621,088*
	*
	998105,632
	14852,160
	15841,600
	828562,000
$10^4\delta T_x$ → 1	857361,392*

155

	*
	999968,288
	999952,432
	47,568
	15,856
	15,856
2	*
	999980,976
	999923,904
	999980,976
	209,264
	999980,976
	999923,904
5	*
	113,840
	683,040
	1252,240
	2049,120*
	*
	999320,400
	994563,200
	999320,400
2	993304,000*
	*
	999968,288
	999980,976
$10^4\delta^4 T_{xx}$ → 1	999949,264* ⑤
	*
	999952,432
	999923,904
	113,840
$10^4\delta^3 T_{xx}$ → 1	999990,176* ⑥
	*
	47,568
	999980,976
	683,040
	999320,400
$10^4\delta^2 T_{xx}$ → 2	31,984* ⑦
	*
	15,856
	209,264
	1252,240
	994563,200
	4048,000
$10^4\delta T_{xx}$ → 1	88,560* ⑧

156



157

Multiples of $16\Delta^5 T_x$

$x=4$	$x=9$
98836848	231,152*
98836848	231,152
98836848	231,152
96510544	693,456*
98836848	231,152
98836848	231,152
94184840	1155,760*
98836848	231,152
6978912	98613,088
1	*

$x=14$	$x=19$
2794704	97006,432*
2794704	97006,432
2794704	97006,432
83841122	91019,296*
2794704	97006,432
2794704	97006,432
139795520	485032,160*
2794704	97006,432
85231776	17961,408
6	*

$x=24$	$x=29$
1355280	110,512*
1355280	110,512
1355280	110,512
4065840	331,536*
1355280	110,512
1355280	110,512
6776400	552,560*
1355280	110,512
91868320	99336,928
1	*

$x=34$	$x=39$
98835696	1560,016*
98835696	1560,016
98835696	1560,016
96507088	4680,048*
98835696	1560,016
98835696	1560,016
94178480	7800,080*
98835696	1560,016
6985824	90639,904
1	*

$x=44$	$x=49$
98928928	138,592*
98928928	138,592
98928928	138,592
96768784	415,776*
98928928	138,592
98928928	138,592
94614640	692,960*
98928928	138,592
6462432	99168,448
1	*

$x=54$	$x=59$
151200	99998,928*
151200	99998,928
151200	99998,928
4536002	99996,784*
151200	99998,928
151200	99998,928
7560004	99994,640*
151200	99998,928
99092800	6,432
6	*

$x=64$	$x=69$
1360	99923,600*
1360	99923,600
1360	99923,600
40802	99770,800*
1360	99923,600
1360	99923,600
68004	99618,000*
1360	99923,600
99991840	458,400
6	*

$x=74$	$x=79$
10464	99999,168*
10464	99999,168
10464	99999,168
313922	99997,504*
10464	99999,168
10464	99999,168
523204	99995,840*
10464	99999,168
99937216	4,992
6	*

$x=84$	$x=89$
13888	15,856*
13888	15,856
13888	15,856
41664	47,568*
13888	15,856
13888	15,856
69440	79,280*
13888	15,856
99916672	99904,864
1	*

ing to equations (80). Hence the leading unit differences for T_{90} were computed in tape 155 as a check on the work of addition in tapes 158 to 161. In finding the leading quinquennial differences of T from tapes 148 to 152, it will be noted that 89 is the third age in the fourth group of ages in tape 148 and that it occupies a corresponding position in each of the tapes 149 to 152.

Δ^5T_{89} from tape 152 was set up on the computing machine and multiplied by the factors in the second column of equations (80), beginning at the top, and the products were entered upon the adding machine as computed and a space taken; then the last product was added again, giving zero as total, and thus checking these products.

Δ^4T_{89} from tape 151 was multiplied by the factors in the third column of equations (80), the products entered upon the adding machine, a space taken, and then the first two products added again, giving zero as total.

Δ^3T_{89} from tape 150 was multiplied by the factors in the fourth column of equations (80), the products entered upon the adding machine, and a total taken. This total is three times the central factor.

Δ^2T_{89} from tape 149 was multiplied by the factors in the fifth column of equations (80), the products entered upon the adding machine, a space taken, and the first factor added again, giving a total which is ten times the first factor.

Since these four groups of products are in the same order as the factors in equations (80), $10^4\delta^4T_{99}$ is the sum of the two products third from the last in each of the first two groups; $10^4\delta^3T_{99}$ is the sum of the three products second from the last in each of the first three groups; $10^4\delta^2T_{99}$ is the sum of the four products next to the last in each group; and $10^4\delta T_{99}$ is the sum of the four products last in each group plus + 2,000 times ΔT_{89}, 2,024, in tape 148.

To insure that the leading unit differences of T_4 and T_{99} are correct, it is well to compare back the products which were copied from the groups at the beginning of tape 154 and tape 155 to obtain these leading unit differences before going on with the next step.

156. The diagrams described in section 158, page 382, are shown here so that the operator may use them in deriving the values in tape 158 from those in tape 157. The ages are $x=4$, $x=9$, and $x=14$. The column $x=9$ is put down twice, first to show the addition of its values with those in column $x=4$, which is parallel to it, and again just below its first position, to show the addition of its values with those in column $x=14$, which is below it on the left side of the tape. The point of junction between the addition of the groups $x=4$ and $x=9$ and that of the groups $x=9$ and $x=14$ is indicated by the sign $\oplus$. The use of these diagrams is explained fully in section 158, especially by Diagram 158, page 382.

157. In Table 115, page 347, attention is called to the fact that the factors of Δ^5y_n and Δ^5y_{n+1} in the equations for the fifth fractional differences are all multiples of .0016, the other factors being 0, +1, +3, +5, and −6. The values of $16\Delta^5T_x$ are given in tape 153, and the products of these values by +1, +3, +5, and −6 were obtained upon the adding machine by repetition, as shown in tape 157. The machine was split between banks 8–9 so that two multiplications could be performed at the same time.

The first value on the left of tape 153, or 98,836,848, is set up in banks 9 to 17, inclusive, and the second value, 231,152, in banks 1 to 6, inclusive; then they are added three times by means of the repeat key and a subtotal taken. Then these two values are set up again, added twice, and a subtotal taken. Finally, they are set up a third time, added once, the machine spaced, and the complements of the two sums appearing through the glass at the base of the machine are added and a total taken. If the complements are correct the totals are zero, and the only figure appearing is the 1 in bank 9. Thus the first subtotal is the product of +3 times the first two values on the left of tape 153; the second subtotal is +5 times these two values; and the complements at the end are −6 times these two values. Then the next two values are operated upon in the same way, and so on until all the $16\Delta^5T_x$ on the left of tape 153 have been operated upon.

158. In section 149, where ages in the quinquennial groups 4, 9, 14, 19, and so on, are used instead of ages by single years, it was shown that $\Delta T_4+\Delta^2T_4=\Delta T_5$,

$$\begin{array}{rr} & 414,281 \\ & 999,980,198 \\ \hline \text{or} & 394,479; \end{array}$$

in section 150, that $\Delta^2T_4+\Delta^3T_4=\Delta^2T_5$,

$$\begin{array}{rr} & 99,980,198 \\ & 30,942 \\ \hline \text{or} & 11,140. \end{array}$$

Likewise, in section 151, $\Delta^3T_4+\Delta^4T_4=\Delta^3T_5$, and in section 152, $\Delta^4T_4+\Delta^5T_4=\Delta^4T_5$. Then when the age is measured in single years these equations become

$$\delta T_4+\delta^2T_4=\delta T_5$$

$$\delta^2T_4+\delta^3T_4=\delta^2T_5$$

$$\delta^3T_4+\delta^4T_4=\delta^3T_5$$

$$\delta^4T_4+\delta^5T_4=\delta^4T_5,$$

Making these equations general by using age x instead of 4 and reversing their order:

$$\delta^4T_x+\delta^5T_x=\delta^4T_{x+1}$$

$$\delta^3T_x+\delta^4T_x=\delta^3T_{x+1}$$

$$\delta^2T_x+\delta^3T_x=\delta^2T_{x+1}$$

$$\delta T_x+\delta^2T_x=\delta T_{x+1}.$$

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PHOTOGRAPHS OF DIAGRAMS AND ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

151

$\Delta^4 T_x$	$\Delta^4(31)_x$
~~30940~~	~~4,104~~
5638	997,620
99932941	996,780
99947388	996
122057	2,354
99934959	996,688
19664	1,275
26571	1,246
99953802	998,074
51303	2,852
99983986	998,479
99992648	999,572
2098	999,604
2031	999,758
2116	1,471
99997341	308
99997995	1,497
99997943	999,390
99998811	999,068
99999802	999,840
36 11	56*

152

$\Delta^5 T_x$	$\Delta^5(31)_x$
~~5638~~	~~997,620~~
99987303	999,160
14447	2,816
174669	2,758
99813902	994,334
84705	4,587
6907	999,971
99987231	996,828
97501	4,178
99932683	996,227
8662	1,093
9450	32
99999933	154
85	1,713
99995225	998,837
654	1,189
99999948	997,895
868	999,678
991	772
99994362	2,380
99994164 9	2,220*

153

$16\Delta^3 T_x$	$16\Delta^5(31)_x$
98836848	986,560
231152	61,056
2794704	28,128
97006432	909,344
1355280	73,392
224416 2	58,480s
110512	999,536
98835696*	949,248
1560016	66,848
98922928	939,632
138592	17,488
99792160 5	31,232s
151200	512
99998928	2,464
1360	27,408
99923600	981,392
10464	19,024
99877712 6	62,032s
99999168	966,288
13888	994,848
15856	12,352
99906624 ④ 8	35,520*
99994164	2,220*
99941640	22,200
99970820	11,100
99906624 ④	35,520*

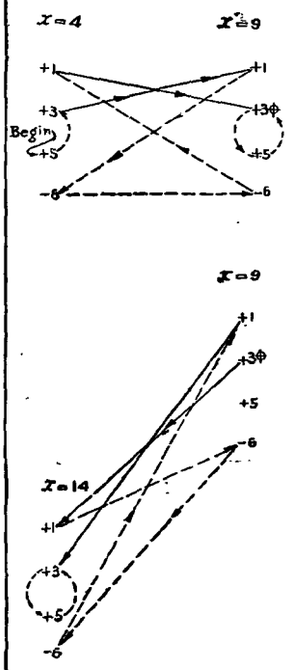
154

$10^4\delta^6 T_x$ →	90,208*
	999458,752
	1443,328
	998105,632
	902,080
2	*
	2475,360
	990098,560
	14852,160
	7426,080
1	14852,160*
	992079,200*
	15841,600
	992079,200
2	*
	*
	999458,752
	2475,360
$10^4\delta^5 T_x$ → 1	1934,112*
	1443,328*
	990098,560
	992079,200
$10^4\delta^4 T_x$ → 1	983621,088*
	998105,632*
	14852,160
	15841,600
	828562,000
$10^4\delta T_x$ → 1	857361,392*

155

	*
	999968,288
	999952,432
	47,568
	15,856
	15,856
2	*
	999980,976
	999923,904
	999980,976
	209,264
	999980,976
	999923,904
5	
	*
	113,840
	683,040
	1252,240
	2049,120*
	*
	999320,400
	994563,200
	999320,400
2	993204,000*
	*
	999968,288
	999980,976
$10^4\delta^4 T_{yy}$ → 1	999949,264* ⑤
	*
	999952,432
	999923,904
	113,840
$10^4\delta^3 T_{yy}$ → 1	999990,176* ⑥
	*
	47,568
	999980,976
	683,040
	999320,400
$10^4\delta^2 T_{yy}$ → 2	31,984* ⑦
	*
	15,856
	209,264
	1252,240
	994563,200
	4048,000
$10^4\delta T_{yy}$ → 1	88,560* ⑧

156



157

Multiples of $16\Delta^6 T_x$

$x=4$	$x=9$
98836848	331,152*
98836848	331,152
98836848	331,152
96510544	693,456s
98836848	331,152
98836848	331,152
94184240	1155,760s
98836848	331,152
6978912	98613,088
1	*

$x=14$	$x=19$
2794704	97006,432*
2794704	97006,432
2794704	97006,432
83841122	91019,296*
2794704	97006,432
2794704	97006,432
139755204	85032,160s
2794704	97006,432
83231776	17961,408
6	*

$x=24$	$x=29$
1355280	110,512*
1355280	110,512
1355280	110,512
4065840	331,536s
1355280	110,512
1355280	110,512
6776400	552,560s
1355280	110,512
91868320	99336,928
1	*

$x=34$	$x=39$
98835696	1560,016*
98835696	1560,016
98835696	1560,016
96507088	4680,048s
98835696	1560,016
98835696	1560,016
94178480	7800,080s
98835696	1560,016
6983824	90639,904
1	*

$x=44$	$x=49$
98922928	138,592*
98922928	138,592
98922928	138,592
96768784	415,776s
98922928	138,592
98922928	138,592
94614640	692,960s
98922928	138,592
6462438	99168,448
1	*

$x=54$	$x=59$
151200	99998,928*
151200	99998,928
151200	99998,928
453600	299996,784s
151200	99998,928
151200	99998,928
756000	499994,640s
151200	99998,928
99092800	6,432
6	*

$x=64$	$x=69$
1360	99923,600*
1360	99923,600
1360	99923,600
4080	299770,800s
1360	99923,600
1360	99923,600
6800	499618,000s
1360	99923,600
99991840	456,400
6	*

$x=74$	$x=79$
10464	99999,168*
10464	99999,168
10464	99999,168
31392	299997,504s
10464	99999,168
10464	99999,168
52320	499995,840s
10464	99999,168
99937216	4,992
6	*

$x=84$	$x=89$
13888	15,856*
13888	15,856
13888	15,856
41664	47,568s
13888	15,856
13888	15,856
69440	79,280s
13888	15,856
99916672	99904,864
1	*

Since $\delta^4T_{x+1}=\delta^4T_x+\delta^5T_x$, the column of δ^4T_x was obtained by continued addition of the successive δ^5T_x, a subtotal being taken after the addition of each unit fifth difference. $10^4\delta^4T_4$, 90,208, computed in tape 154, begins the column of $10^4\delta^4T_x$ in tape 158 which is derived by continuous addition of the successive values of $10^4\delta^5T_x$. The remainder of section 158 explains how these successive values of $10^4\delta^5T_x$ are obtained from tape 157. To learn the mechanical processes necessary to obtain tape 158 from tape 157 it is necessary to study only—

(1) Table 130 in connection with tape 157.

(2) Diagram 158, page 382, in connection with Table 130 and Diagram 156, page 377.

(3) Diagram 158 in connection with tape 158.

(4) Tape 157 in connection with Diagram 156 and tape 158, assuming that tape 157 ends with the ages 94 and 99, for which the products are all zeros, just as those for $x=4-10$ and $x=9-10$ in Table 130 were all zeros.

For convenience of reference the right side of Table 115, page 347, is copied with some changes as equations (81). The variable T is used instead of y; the ages $x-10$, $x-5$, x, $x+1$, $x+2$, etc., to $x+5$, instead of n, $n+1$, $n+2$, $n+2.2$, $n+2.4$, etc., to $n+3.0$, and the fractions eliminated.

Equations (81)

Unit fifth differences.		$16\Delta^5T_{x-10}$	$16\Delta^5T_{x-5}$	$16\Delta^5T_x$
$10^4\delta^5T_x$	=	+5	0	
$10^4\delta^5T_{x+1}$	=	+3	+1	
$10^4\delta^5T_{x+2}$	=	−6	0	
$10^4\delta^5T_{x+3}$	=	0	−6	
$10^4\delta^5T_{x+4}$	=	+1	+3	
$10^4\delta^5T_{x+5}$	=		+5	0

Equations (81) give the equations for the unit fifth differences from $10^4\delta^5T_x$ to $10^4\delta^5T_{x+5}$, which are the five $10^4\delta^5T_x$ necessary to pass from one quinquennial age group to another in the continuous addition in tape 158. The $16\Delta^5T_{x-10}$ and $16\Delta^5T_{x-5}$, which will be obtained from tape 157, each head a column in which are written its coefficients in the six equations (81). It will be noted that those two factors are for ages 10 and 5 years younger, respectively, than the quinquennial age group in which the unit fifth differences of this table occur.

According to tape 148 the leading quinquennial differences of T are for ages 4, 9, 14, and so on. To find the equation for the unit fifth difference of T at any age, the quinquennial age group in which the age occurs is first noted. For example, in finding the equation for the unit fifth difference of T_7 it is first noted that 7 occurs in the quinquennial age group $4-8$ and $7=4+3$. Then 4 is substituted for x in the expressions at the head of columns 2 and 3 in equations (81) and also in the expression $10^4\delta^5T_{x+3}$, so that

$$10^4\delta^5T_{7=4+3}=(0)(16\Delta^5T_{4-10})+(-6)(16\Delta^5T_{4-5=9-10}).$$

Again,

$$10^4\delta^5T_{13}=10^4\delta^5T_{9+4}=(+1)(16\Delta^5T_{9-10})+(+3)(16\Delta^5T_{9-5=4})$$

and

$$10^4\delta^5T_{15}=10^4\delta^5T_{14+1}=(+3)(16\Delta^5T_{14-10=4})+(+1)(16\Delta^5T_{14-5=9}).$$

In order to obtain rapidly the successive $10^4\delta^5T_x$ from the products in tape 157, Table 130 should be studied. The ages are at the top of this table and any number in the table is the product of the $16\Delta^5T_x$ whose age x is at the head of the column and of the corresponding factor on the same line in the first column on the left. The order of these factors in the first column on the left is the same as that of the products in tape 157, the numbers in this table being taken from that tape. Hence, learning to pick out the successive $10^4\delta^5T_x$ from this table will enable one to obtain them rapidly from tape 157.

Table 130

PRODUCTS OF $16\Delta^5T_x$ FOR $x=4-10$, $9-10$, 4, 9, 14, AND 19, BY THE FACTORS +1, +3, +5, AND −6.

FACTORS.	PRODUCTS OF $16\Delta^5T_x$ COPIED FROM TAPE 157.					
	$x=4-10$	$x=9-10$	$x=4$	$x=9$	$x=14$	$x=19$
+1	0	0	98836848	231152	2794704	97006432
+3	0	0	96510544	693456	8384112	91019296
+5	0	0	94184240	1155760	13973520	85032160
−6	0	0	6978912	98613088	83231776	17961408

NOTE.—The age is at the head of the column in which the product occurs, while the other factor is in the first column of Table 130 on the same line with the product.

Since the interpolated values of T from ages 4 to 13 were determined from a constant fourth difference formula according to section 116, page 347, the fifth unit differences from ages 4 to 9, both inclusive, must be zero, or, in other words, the fourth unit differences from ages 4 to 10, both inclusive, are constant. In Table 130 this fact is indicated by two columns of zeros corresponding to the ages $4-10$ and $9-10$. These ages are used because from equations (81) it will be seen that the fifth unit differences from $10^4\delta^5T_4$ to $10^4\delta^5T_{8=4+4}$ would be obtained from $16\Delta^5T_{4-10}$ and $16\Delta^5T_{4-5=9-10}$, which equal zero, according to Table 130. Hence all these five unit fifth differences are equal to zero. The equations and values for the unit fifth differences of T_x for ages 9 to 14 are shown in Table 131.

On the left side of Table 131, under the caption "From equations (81)," are shown equations (81) with 9 substituted for x. On the right side, under the caption "From Table 130," are the products from Table 130 which correspond to the two members on the right side of each of these equations. Thus

$$10^4\delta^5T_9=+5(16\Delta^5T_{9-10})+0(16\Delta^5T_{9-5=4})$$

according to equations (81) and

$$= \quad 0 \quad + \quad 0$$

according to Table 130.

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158

$10^4\delta^4 T_x$ *

90208
90208s
90208s
90208s
90208s
90208s
90208s
98836848
989270568
989270568
6978912
1 59059688
96510544
2 24165128
94184240
2966007528
96510544
231152
3933424488
6978912
4 3213608
98613088
4989344488
98835848
693456
5984647528
1155760
5996205128
693456
2794704
6 31086728
98613088
7 17217608
83231776
7849535368
231152
8384112
7935688008
13973520
8 75423208
8384112
97006432
9129328648
83231776
9961646408
17961408
10141260488
2794704
91019296
11 79400488
85032160
12 9297220088
91019296
1355280
12853467848
17961408
13 33081928
91868320
13951765128
97006432
4065840
14962487848
6776400
15 30281848
4065840
110512
15 72015368
91868320
15990698568
99335928
16984067848
1355280
331536
17 93600s
552560
17 6461608

17 6461608
331536
98835696
17998133928
99336928
18991503208
6985824
19 61361448
110512
96507088
20 27537448
94178480
20969322248
96507088
1560016
21949993288
6985824
22 19851528
90639904
22926280568
98835696
4680048
23961408008
7800080
24 39408808
4680048
98922928
25 75438568
90639904
25981837608
6462432
26 46461928
1560016
96768784
27 89749928
94614640
27975896328
96768784
138592
28944970088
6462432
29 9594408
99168448
30 1278888
98922928
4157776
30994665928
692960
31 159552s
4157776
151200
31 726528s
99168448
31998949768s
99092800
32989877768s
138592
453600
32995799688s
756000
33 335968s
453600
99993928
34 788496s
99092800
34998812968s
6432
34998877288s
151200
99996784
36 35712s
99994640
37 30352s
99996784
1360
38 28496s
6432
38 34928s
99991840
39 26768s

39 26768s
99998928
4080
40 29776s
6800
40 36576s
4080
99923600
40999642568s
99991840
41999956096s
458400
42 414496s
1360
99770800
43 186656s
99618000
43998046568s
99770800
10464
44995859208s
458400
45 44320s
99937216
45999815368s
99923600
31392
46999365288s
52320
46999888488s
31392
99999168
48 19408s
99937216
48999566248s
4992
48999616168s
10464
99997504
49999695848s
99998840
50999654248s
99997504
13888
51999768168s
4992
51999818088s
99916672
52998984808s
99999168
41664
53999393128s
69440
54 8752s
41664
15856
54 66272s
99916672
54999829448s
99904864
55998878088s
13888
47568
55999492648s ⑥
79280
56 28544s
47568
56 76112s
99904864
56999809768s
56999809768s
15856
56999968328s
56999968328s
56999968328s
56999968328s
56999968328s
56999968328s
56999968328*

159

$10^4\delta^3 T_x$ *

1934112
90208
2024320s
90208
2114528s
90208
2204736s
90208
2294944s
90208
2385152s
90208
2475360s
90208
2565568s
998927056
1 14926248s
998927056
2 4196808s
5905968
3 63256488s
8416512
2 87421608s
996600752
3 53429128s
993342448
3998685368s
321360
3999006728s
998934448
4997941168s
998464752
5996405928s
999620512
6996026432s
3108672
6999135104s
1721760
7 8568648s
984953536
7985810400s
993568800
8979379208s
7542320
8986921528s
12932864
8999854384s
996164640
9996019024s
14126048
10 101450728s
7940048
10 18085128s
992972208
11 110573288s
985346784
11996404112s
3308192
11999712304s
993176512
12994888816s
996248784
13991137608s
3025184
13994162784s
7201536
14 13643208s
999069856
15 4341768s

15 4341768s
998406784
15998840968s
93600
15998934568s
646160
15999580728s
999813392
16999394128s
999150320
17998544432s
6136144
18 46805768s
2753744
18 74343208s
996932224
19 43665448s
994999328
19999365872s
1985152
20 13510248s
992628056
20999376080s
996140800
21990116880s
3940880
21994057768s
7543856
22 16016168s
998183760
22999785376s
4646192
23 44315688s
2974992
23 74065608s
997589632
24 49961928s
994497008
24994493208s
959440
25 4526408s
127888
25 5805288s
999466592
26 471208s
189552
26 2066728s
726528
26 9332008s
999894976
27 8281768s
998987776
27998159528s
999579968
28999395928s
335968
28999731888s
788496
29 5203848s
999881296
30 4016808s
999887728
31 289408s
35712
31 325120s
30352
31 355472s
28496
31 383968s
34928
31 418896s
26768
31 445664s
297776
31 475440s

31 475440s
36576
31 512016s
999964256
32 476272s
999956096
33 432368s
414496
33 846864s
186656
33 1033520s
999804656
34 838176s
999585920
35 424096s
44320
35 468416s
999981536
36 449952s
999936528
37 386480s
999988848
38 375328s
19408
38 394736s
999956624
39 351360s
999961616
40 312976s
999969584
41 282560s
999965424
42 247984s
999976816
43 224800s
999981808
44 206608s
999898480
45 105088s
999939312
46 44400s
8752
46 53152s
66272
46 119424s
999982944
47 102368s
999887808
47999990176s ⑥
999949264
48999993944s
28544
48999996798s
76112
49 44096s
999980976
50 25072s
999980976
51 6048s
999996832
52 2880s
999996832
52999999712s
999996832
53999999648s
999996832
54999999376s
999996832
55999999008s
999996832
56999987040s
999996832
57999998372s

Table 131

UNIT FIFTH DIFFERENCES OF T_x FROM AGES 9 TO 14 IN TERMS OF $16\Delta^5T_{9-10}$ AND $16\Delta^5T_{9-5=4}$.							
FROM EQUATIONS (81).					FROM TABLE 130.		
Unit fifth differences.		$16\Delta^5T_{9-10}$		$16\Delta^5T_{9-5=4}$	$x=9-10$		$x=4$
$10^4\delta^5T_9$	=	+5	+	0	= 0	+	0
$10^4\delta^5T_{10=9+1}$	=	+3	+	+1	= 0	+	98836848
$10^4\delta^5T_{11=9+2}$	=	−6	+	0	= 0	+	0
$10^4\delta^5T_{12=9+3}$	=	0	+	−6	= 0	+	6978912
$10^4\delta^5T_{13=9+4}$	=	+1	+	+3	= 0	+	96510544
$10^4\delta^5T_{14=9+5}$	=			+5	=		94184240

This last value, $10^4\delta^5T_{14}$, might have been derived with the following five ages in Table 132, in which are given the equations and values for the single years 14 to 19:

Table 132

UNIT FIFTH DIFFERENCES OF T_x FROM AGES 14 TO 19 IN TERMS OF $16\Delta^5T_4$ AND $16\Delta^5T_9$.							
FROM EQUATIONS (81).					FROM TABLE 130.		
Unit fifth differences.		$16\Delta^5T_{14-10=4}$		$16\Delta^5T_{14-5=9}$	$x=4$		$x=9$
$10^4\delta^5T_{14}$	=	+5	+	0	= 94184240	+	0
$10^4\delta^5T_{15=14+1}$	=	+3	+	+1	= 96510544	+	231152
$10^4\delta^5T_{16=14+2}$	=	−6	+	0	= 6978912	+	0
$10^4\delta^5T_{17=14+3}$	=	0	+	−6	= 0	+	98613088
$10^4\delta^5T_{18=14+4}$	=	+1	+	+3	= 98836848	+	693456
$10^4\delta^5T_{19=14+5}$	=			+5	=		1155760

In Table 133 the part from equations (81) is omitted, since it varies only in the ages of the $16\Delta^5T_x$ and $10^4\delta^5T_x$. Also the first age is $20=19+1$ instead of 19. On the left of Table 133, $10^4\delta^5T_x$ from ages 20 to 24 requires $16\Delta^5T_{19-10=9}$ and $16\Delta^5T_{19-5=14}$, while on the right $10^4\delta^5T_x$ from ages 25 to 29 requires $16\Delta^5T_{24-10=14}$ and $16\Delta^5T_{24-5=19}$. Hence only the part from Table 130 is set down in Table 133.

Table 133

UNIT FIFTH DIFFERENCES OF T_x FROM AGES 20 TO 29 IN TERMS OF $16\Delta^5T_y$, FOR y EQUALS 9, 14, AND 19.									
Ages of $10^4\delta^5T_x$		Ages of $16\Delta^5T_y$			Ages of $10^4\delta^5T_x$		Ages of $16\Delta^5T_y$		
		9		14			14		19
20 = 19+1	=	693456	+	2794704	25 = 24+1	=	8384112	+	97006432
21 = 19+2	=	98613088	+	0	26 = 24+2	=	83231776	+	0
22 = 19+3	=	0	+	83231776	27 = 24+3	=	0	+	17961408
23 = 19+4	=	231152	+	8384112	28 = 24+4	=	2794704	+	91019296
24 = 19+5	=			13973520	29 = 24+5	=			85032160

If, in picking out the values in the columns headed $9-10$, 4, 9, 14, and 19 in Table 130 which are required in Tables 131, 132, and 133, one were to trace with a pencil from one value to another in Table 130 as they are selected, a certain symmetry in the tracing would be found. This tracing for the columns headed $4-10$, $9-10$, 4, 9, and 14 is shown in Diagram 158.

While nominally each of the five successive $10^4\delta^5T_x$ in Tables 131 to 133 is the sum of two terms, three of them contain zero as one term. From equations (81)

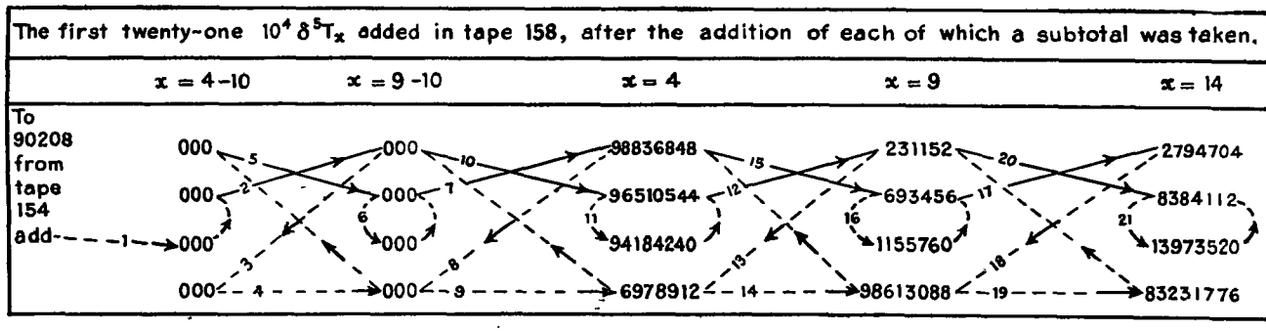
$$10^4\delta^5T_{x+1}=+3(16\Delta^5T_{x-10})+1(16\Delta^5T_{x-5}),$$

while

$$10^4\delta^5T_{x+4}=+1(16\Delta^5T_{x-10})+3(16\Delta^5T_{x-5}).$$

From Tables 131, 132, and 133 it is apparent that the sum of the two terms, either of $10^4\delta^5T_{x+1}$ or of $10^4\delta^5T_{x+4}$, can not be obtained readily by mental addition. Accordingly, in place of their sum, both terms were entered upon the adding machine before a subtotal was taken. Where two products must both be added before taking a subtotal, they are connected by solid lines in Diagram 158; the rest of the tracing is dotted lines.

DIAGRAM 158.—OUTLINE TO SHOW METHOD OF DERIVING TAPE 158 FROM TAPE 157.



In making tape 158 it will be noted that a subtotal, marked by s, is taken after the addition of each $10^4\delta^5T_x$, or of each unit fifth difference. These unit fifth differences are numbered in Diagram 158 by small figures in breaks in the connecting lines. Then in tape 158 subtotals are taken, even when only zeros are added. Hence, after the 90,208 from tape 154 was entered upon the adding machine according to instructions on the left of Diagram 158, it was subtotaled six times to indicate the addition of six zeros from the columns $x=4-10$ and $x=9-10$. The seventh unit fifth difference is the sum of a zero in column $x=9-10$ and 98,836,848 from column $x=4$, while the eighth unit fifth difference is zero from column $x=9-10$. In tape 158 it will be noted that the addition of this last zero is indicated by taking two subtotals after the addition of 98,836,848. The ninth unit fifth difference is 6,978,912 from column $x=4$, while the tenth unit fifth difference is the sum of zero from column $x=9-10$ and 96,510,544 from column $x=4$. The eleventh unit fifth difference is 94,184,240 from the column $x=4$, while the twelfth

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158

$10^4\delta^4 T_x$

90200
90208 s
90200 s
90208 s
90200 s
90200 s
90208 s
98836,840
98927,056 s
98927,056 s
6976,912
1 5905,968 s
96510544
2 2416,512 s
94184,240
2 966 00752 s
96510544
231,152
3 93342,440 s
6970,912
4 321,360 s
98613,088
4 98934,448 s
98836,848
693,456
5 98464,752 s
115,760
5 99620512 s
693,456
2794,704
6 3108,672 s
98613,088
7 1721,760 s
83231,776
7 84953,536 s
231,152
8364,112
7 93568,800 s
13973,520
8 7542,320 s
8364,112
97006,432
9 12932,864 s
83231,776
9 96164,640 s
17961,408
10 014126 048 s
2794,704
91019,296
11 7940,048 s
8503,2,160
11 92972,208 s
91019,296
1355,280
12 85346,784 s
17961,408
13 3308,192 s
91860,320
13 95176,512 s
97006,432
4065,840
14 96248,784 s
6776400
15 3025,184 s
4065,840
110,512
15 7201,536 s
91868,320
16 99069,856 s
99336,928
16 98406,784 s
1355,280
331,536
17 93,600 s
552,560
17 646,160 s

7 646,160 s
331,536
98835,696.
7 99813,392 s
99336,928
8 99150320 s
6965,824
9 6136,144 s
110,512
96507,088
0 2753,744 s
94178,480
0 96933,224 s
96507,088
156,016
1 94999,328 s
6985,324
2 1985,152 s
90639,904
2 92625,056 s
96835,696
468,048
3 96140,800 s
7800,060
4 3940860 s
4660,048
98922,928
5 7543,856 s
90639,904
5 98183,760 s
6462,432
5 4646,192 s
1560,016
96768,784
6 2974,992 s
94614,640
7 97589,632 s
96768,784
132,592
8 94497,008 s
6462,432
9 959,440 s
99168,448
0 127,888 s
98922,928
415,776
1 99466,592 s
69,960
159,552
415,776
151,200
2 726,528 s
99168,448
3 99094,976 s
99092,300
3 98987,776 s
132,592
453,600
4 99579,968 s
756,000
5 335,968 s
453,600
99998,920
6 782,496 s
99092,300
6 99881,296 s
6,432
7 99887,728 s
151,200
99996,784
8 35,712 s
99994,640
8 30,352 s
99996,784
2,360
9 28,496 s
6,432
9 34,928 s
99991,840
9 26,768 s

9 26,768 s
99998,920
4,060
0 29,776 s
6,840
0 36,576 s
4,060
99923,600
0 99964,256 s
99991,840
1 99956,096 s
458,400
2 414,496 s
1,360
99770,800
3 160,656 s
99616,000
3 99804,656 s
99770,000
10,464
4 99565,920 s
450,400
5 44,320 s
99937,216
5 99961,536 s
99923,600
31,392
6 99936,520 s
52,320
6 99988,040 s
31,392
99999,168
7 19408 s
99937,216
8 99996,624 s
4,992
8 99996,616 s
10,464
99997,504
9 99969,864 s
99993,840
0 99965,424 s
99997,504
13,888
1 99976,816 s
4,992
1 99981,808 s
99916,672
2 99890,460 s
99999,168
41,664
3 99939,312 s
69,440
4 0,752 s
41,664
15,856
4 66,272 s
99915,672
5 99982,944 s
99904,864
5 99887,808 s
13,888
47,568
6 99949,264 s
79,280
6 28,544 s
47,568
7 76,112 s
99904,864
7 99980,976 s
8 99980,976 s
15,856
8 99996,832 s
9 99996,832 s
9 99996,832 s
9 99996,832 s
9 99996,832 s
9 99996,832 s
9 99996,832 s

159

$10^4\delta^5 T_x$

1934,112
90208
2024,320 s
90200
2114,528 s
90208
2204,736 s
90,208
2294,944 s
90200
2385,152 s
90,208
2475,360 s
90208
2565,568 s
99892,056
1 1493,624 s
99892,056
2 419,660 s
5905,968
2 6325,648 s
2416,512
2 8742,160 s
96600752
3 5342,912 s
99334,448
3 99676,360 s
321,360
4 99999006,720 s
998934,440
4 99997941,168 s
99864,752
5 99964405,920 s
99962051,5
6 99996026,432 s
3108,672
6 99999135,104 s
1721,760
7 856,864 s
984953,536
7 98581 0,400 s
993568,800
8 979379,200 s
7542,320
8 986921,520 s
1293,864
9 999854,384 s
996164,640
9 996019,024 s
14126,048
0 10145,072 s
7940,048
0 18085,120 s
992972,208
1 11057,328 s
985346,784
1 996404,112 s
3308,192
1 999712,304 s
995176,512
2 994880,816 s
996248,784
2 991137,600 s
3025,184
3 994162,784 s
7201,536
4 1364,320 s
999069,856
5 434,176 s

6 434,176 s
998406,784
6 998840,960 s
93,600
6 998934,560 s
646,160
7 999580720 s
999813,392
8 999594,112 s
999150320
8 998544,432 s
6136,144
9 4680576 s
2753,744
9 7434,320 s
996933,224
9 4366,544 s
994999,328
9 999565,872 s
1985,152
0 1351,024 s
992625,056
0 993976,080 s
996140,800
1 990116,800 s
3940860
1 994057,760 s
7543,856
2 1601,616 s
998183,760
2 999785,376 s
4646,192
3 4431,668 s
2974,992
3 7406,560 s
997589,632
4 4996,192 s
994497,008
4 999493,200 s
959,440
5 452,640 s
127,888
5 580528 s
999466,592
6 47,120 s
159,552
6 206,672 s
726,528
6 933,200 s
999894,976
7 828,176 s
998967,776
7 999815,952 s
999579,968
8 999395,920 s
335,968
8 999731,888 s
788,496
9 520,384 s
999881,296
0 401,680 s
999887,728
1 289,408 s
35,712
1 325,120 s
30,352
1 355,472 s
28,496
1 383,968 s
34,928
1 418,896 s
26,768
1 445,664 s
29,776
1 475,440 s

1 475,440 s
36,576
1 512,016 s
999964,256
2 476,272 s
999956,096
3 432,368 s
414,496
3 846,864 s
166,656
3 1033,520 s
999004,656
4 838,176 s
999585,920
5 424,096 s
44,320
5 468,416 s
999981,536
6 449,952 s
999936528
7 386,460 s
999988,848
8 375,328 s
19,408
8 394,736 s
999956,624
9 351,360 s
999961,616
0 312,976 s
999969,584
1 283,560 s
999965,424
2 247,984 s
999976,816
3 224,800 s
999981,808
4 206,608 s
999898,480
5 105,080 s
999939,312
6 44,400 s
8,752
6 53,152 s
66,272
6 119,424 s
999982,944
7 102,368 s
999887,808
7 999990,176 s ⑥
999949,264
8 999939,440 s
28,544
8 999967,984 s
76,112
9 44,096 s
999980,976
0 25,072 s
999980976
1 6,048 s
999996,832
2 2,880 s
999996,832
2 999999,712 s
999996,832
3 999996,544 s
999996,832
4 999993,376 s
999996,832
5 999990,208 s
999996,832
6 999987,040 s
999996,832
7 999983,872 s

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160				161			
		6977376,560s				2697134,848s	9 72873,200s
		998840,960				977376,560	991343,040
		7976217,520s	0991343,040s			3674511,408s	0 64816,240s
		998934,560	512,016			976817,520	991855,056
	$10^4\delta^x T_x$	8975152,080s	0991855,056s		$10^4\delta T_x$	4650728,928s	1 56071,296s
	983621,088*	999580,720	476,272		857361,392*	975152,080	992331,328
	1934,112	9974732,800s	0992331,328s		983621,088	1840982,480s	2 48402,624s
	985555,200s	999394,112	432,368		985555,200	5625881,008s	992763,696
	2024,320	0974126,912s	0992763,696s		974732,800	2886537,680s	3 41166,320s
	987579,520s	998544,432	846,864		987579,520	987579,520	993610,560
	2114,528	1972671,344s	0993610,560s		989694,048	3814117,200s	4 34776,880s
	989694,048s	4680,576	1033,520		2804,736	989694,048	994644,080
	2804,736	1977351,920s	0994644,080s		991898,784	4803811,248s	5 29420,960s
	991898,784s	7434,520	838,176		2294,944	991898,784	995482,256
	2294,944	1984786,240s	0995482,256s		994193,728	5795710,032s	6 24903,216s
	994193,728s	4366,544	424,096		2385,152	994193,728	995906,352
	2385,152	1989152,784s	0995906,352s		996578,880	6789903,760s	7 20809,568s
	996578,880s	999365,872	468,416		2475,360	996578,880	996374,768
	2475,360	2988518,656s	0996374,768s		999054,240	7786482,640s	8 17184,336s
	999054,240s	1351,024	449,952		2565,568	999054,240	996824,720
	2565,568	2989869,680s	0996824,720s		1619,808	8785536,880s	9 14009,056s
	1619,808s	993976,080	386,480		1492,624	1619,808	997211,200
	1492,624	3983845,760s	0997211,200s		3112,432	8787156,688s	0 11320,256s
	3112,432s	990116,880	375,328		419,680	3112,432	997586,528
	419,680	4973962,640s	0997586,528s		3532,112	8790269,120s	1 8806,784s
	3532,112s	994057,760	394,736		6325,648	3532,112	997981,264
	6325,648	5968020,400s	0997981,264s		9857,760	8793801,232s	2 6788,048s
	9857,760s	1601,616	351,360		8742,160	9857,760	998332,624
	8742,160	5969622,016s	0998332,624s		18599,920	8803658,992s	3 5120,672s
	18599,920s	999785,376	312,976		5342,912	18599,920	998645,600
	5342,912	6969407,392s	0998645,600s		23942,832	8822258,912s	4 3766,272s
	23942,832s	4431,568	282,560		998685,360	23942,832	998928,160
	998685,360	6973838,960s	0998928,160s		22628,192	8846201,744s	5 2694,432s
	22628,192s	7406,560	247,984		999006,720	22628,192	999176,144
	999006,720	6981245,520s	0999176,144s		21634,912	8868829,936s	6 1870,576s
	21634,912s	4996,192	224,800		997941,168	21634,912	999400,944
	997941,168	6986241,712s	0999400,944s		19576,080	8890464,848s	7 1271,520s
	19576,080s	999493,200	206,608		996405,920	19576,080	999607,552
	996405,920	7985734,912s	0999607,552s		15982,000	8910040,928s	8 879,072s
	15982,000s	452,640	105,088		996026,432	15982,000	999712,640
	996026,432	7986187,552s	0999712,640s		18008,432	8926022,928s	9 591,712s
	18008,432s	580,528	44,400		999135,104	18008,432	999757,040
	999135,104	7986768,080s	0999757,040s		11143,536	8938031,360s	0 348,752s
	11143,536s	47,120	53,152		856,864	11143,536	999810,192
	856,864	7986815,200s	0999810,192s		12000,400	8949174,896s	1 158,944s
	12000,400s	206,672	119,424		985810,400	12000,400	999929,616
	985810,400	7987021,872s	0999929,616s		997810,800	8961175,296s	2 88,560s ⑥
	997810,800s	933,200	102,368		979379,200	997810,800	31,984
	979379,200	7987955,072s	1 31,984s ⑦		977190,000	9958986,096s	2 120,544s
	977190,000s	828,176	999990,176		986921,520	977190,000	22,160
	986921,520	7988783,248s	2 22,160s		964111,520	10936176,096s	2 142,704s
	964111,520s	999815,952	999939,440		999854,384	964111,520	999961,600
	999854,384	8988599,200s	2999961,600s		996019,024	11900287,616s	3 104,304s
	996019,024s	999395,920	999967,984		10145,072	963965,904	999929,584
	10145,072s	9987995,120s	3999929,584s		959984,928	12864253,520s	4 33,888s
	959984,928s	999731,888	44,096		18085,120	959984,928	999973,680
	18085,120	0987727,008s	3999973,680s		970130,000	13824238,448s	5 7,568s
	970130,000s	520,384	25,072		11057,328	970130,000	999998,752
	11057,328	0988247,392s	3999998,752s		988215,120	14794368,448s	6 6,320s
	988215,120s	401,680	6,048		996402,112	988215,120	988247,392
	996402,112	0988649,072s	4 4,800s		999712,304	15782583,568s	6 11,120
	999712,304s	289,408	2,880		994888,816	999272,448	988649,072
	994888,816	0988938,480s	4 7,680s		991137,600	16781856,016s	6 18,800s
	991137,600s	325,120	999999,712		994162,784	995676,560	988938,480
	994162,784s	0989263,600s	5 7,392s		13,640,320	17777532,576s	6 26,192s
	13,640,320s	355,472	999996,544		434,176	995388,864	989263,600
	434,176	0989619,072s	6 3,936s		475,440	18772921,440s	6 30,128s
	475,440s	383,968	999993,376		991137,600	990277,680	989619,072
	991137,600	0990003,040s	6999997,312s		994162,784	19763199,120s	7 27,440s
	994162,784s	418,896	999990,208		13,640,320	981415,280	990003,040
	13,640,320	0990421,936s	7999987,520s		475,440	20744614,400s	7 91583,664s
	475,440s	445,664	999987,040		991137,600	975578,064	990421,936
	991137,600	0990867,600s	8999974,560s		994162,784	21720192,464s	8 82005,600s
	994162,784s	475,440	999983,872		13,640,320	976942,384	990867,600
	13,640,320	0991343,040s	9999958,432s		434,176	22697134,848s	9 72873,200s
	434,176				977376,560		999947,952s

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162

$x=4$	$x=99$
	*
	99975,296
	99962,944
	37,056
	12,352
	12,352
	*
99961920	99985,088
228480	99940,352
99390720	99985,088
799680	164,032
	99985,088
99619200	99940,358
	*
334720	91,840
98661180	551,040
2008320	1010,240
1004160	1653,120*
	*
98836400	99428,400
2327200	95427,200
98836400	99428,400
	194284,000*
	*
5796000	1786,000
5796000	1786,000
11592000	3572,000*

163

n	$10^4\delta^n(3l)_4$	$10^4\delta^n(3l)_{99}$
		*
		99975,296
		99985,088
4	99961920	99960,384* (9)
		*
		99962,944
	228480	99940,352
	334720	91,840
3	5638001	99995,136* (10)
		*
		37,056
	99390720	99985,088
	98661120	551,040
	98836400	99428,400
2	968688402	1,584* (11)
		*
		12,352
	799680	164,032
	2008320	1010,240
	2327200	95427,200
	11592000	3572,000
1	16727200	185,824* (12)

164

Multiples of $16\Delta^5(3l)_x$

$x=4$	$x=9$
	*
99986560	61,056
99986560	61,056
99986560	61,056
99959680	183,168 s
99986560	61,056
99986560	61,056
99932800	305,280 s
99986560	61,056
80640	99633,664
	*
$x=14$	$x=19$
	*
28128	99909,344
28128	99909,344
28128	99909,344
84384	299728,032 s
28128	99909,344
28128	99909,344
140640	499546,720 s
28128	99909,344
99831232	543,936
	*

$x=24$	$x=29$
	*
73392	99999,536
73392	99999,536
73392	99999,536
2201762	99998,608 s
73392	99999,536
73392	99999,536
3669604	999997,680 s
73392	99999,536
	*
99559648	2,784
	*
$x=34$	$x=39$
	*
99949248	66,848
99949248	66,848
99949248	66,848
99847744	200,544 s
99949248	66,848
99949248	66,848
99746240	334,240 s
99949248	66,848
	*
304512	99598,912
	*
$x=44$	$x=49$
	*
99939632	17,488
99939632	17,488
99939632	17,488
99818896	52,464 s
99939632	17,488
99939632	17,488
99698160	87,440 s
99939632	17,488
	*
362208	99895,072
	*
$x=54$	$x=59$
	*
512	2,464
512	2,464
512	2,464
1536	7,392 s
512	2,464
512	2,464
2560	12,320 s
512	2,464
	*
99996928	99985,216
	*
$x=64$	$x=69$
	*
27408	99981,392
27408	99981,392
27408	99981,392
822224	99944,176 s
27408	99981,392
27408	99981,392
1370404	99906,960 s
27408	99981,392
99835552	111,648
	*
$x=74$	$x=79$
	*
19024	99966,288
19024	99966,288
19024	99966,288
570722	99898,864 s
19024	99966,288
19024	99966,288
951204	99831,440 s
19024	99966,288
99885856	202,272
	*
$x=84$	$x=89$
	*
99994848	12,352
99994848	12,352
99994848	12,352
99984544	37,056 s
99994848	12,352
99994848	12,352
99974240	61,760 s
99994848	12,352
30912	99925,888
	*

165

$10^4\delta^4(3l)_x$
*
99961,920
99961,920 s
99961,920 s
99961,920 s
99961,920 s
99961,920 s
99961,920 s
99986,560
*
99948,480 s
*
99948,480 s
80,640
29,120 s
99959,680
99988,800 s
99932,800
99921,600 s
99959,680
61,056
99942,336 s
80,640
22,976 s
99633,664
99656,640 s
99986,560
183,168
99826,368 s
305,280
131,648 s
183,168
28,128
342,944 s
99633,664
99976,608 s
99831,232
99807,840 s
61,056
84,384
99953,280 s
140,640
93,920 s
84,384
99909,344
87,648 s
99831,232
99918,880 s
543,936
462,816 s
28,128
99728,032
218,976 s
99546,720
99765,696 s
99728,032
73,392
99567,120 s
543,936
111,056 s
99559,648
99670,704 s
99909,344
220,176
99800,224 s
366,960
167,184 s
220,176
99999,536
386,896 s
99559,648
99946,544 s
2,784
99949,328 s
73,392
99998,608
21,328 s
99997,680
19,008 s

	19,008 s		
99998,608		99856,624 s	**166**
99949,248		2,464	$10^4\delta^5(3l)_x$
	99966,864 s	82,224	
	2,784		
		99941,312 s	
99969,648 s		137,040	*
	304,512		563,200
		78,352 s	99961,920
	274,160 s	82,224	
99999,536		99981,392	525,120 s
99847,744			99961,920
		141,968 s	
	121,440 s	99835,552	487,040 s
99746,240			99961,920
		99977,520 s	
99867,680 s		111,648	448,960 s
99847,744			99961,920
	66,848	89,168 s	
		27,408	410,880 s
	29,120 s	99944,176	99961,920
99782,272 s			
	304,512	60,752 s	372,800 s
		99906,960	99961,920
	86,784 s		
99598,912		99967,712 s	334,720 s
		99944,176	99961,920
99685,696 s		19,024	
99949,248			296,640 s
	200,544	99930,912 s	99948,480
		111,648	
99835,468 s			245,120 s
	334,240	42,560 s	99948,480
		99885,856	
	169,728 s		193,600 s
	200,544	99928,416 s	29,120
99939,632		99981,392	
		57,072	322,720 s
	309,904 s		99988,800
99598,912		99966,880 s	
		95,120	211,520 s
99908,816 s			99921,600
	362,208		
		62,000 s	
		57,072	133,120 s
	271,024 s	99966,288	99942,336
	66,848		
99818,896		85,360 s	75,456 s
		99885,856	22,976
	156,768 s		
99698,160		99971,216 s	98,432 s
		202,272	99656,640
99854,928 s			
99818,896		173,488 s	99755,072 s
	17,488	19,024	99826,368
		99898,864	
99691,312 s			99581,440 s
	362,208	91,376 s	131,648
		99831,440	
	53,520 s		99713,088 s
99895,072		99922,816 s	342,944
		99898,864	
99948,592 s		99994,848	56,032 s
99939,632			99976,608
	52,464	99816,528 s	
		202,272	32,640 s
99940,688 s			99807,840
	87,440	18,800 s	
		30,912	99840,480 s
	28,128 s		99953,280
	52,464		
	512	49,712 s	
		99966,288	99793,760 s
	81,104 s	99984,544	93,920
99895,072			
		544 s	99887,680 s
		99974,240	87,648
99976,176 s			
99996,928		99974,784 s	99975,328 s
		99984,544	99918,880
	99973,104 s	12,352	
	17,488		99894,208 s
	1,536	99971,680 s	462,816
		30,912	
	99992,128 s		357,024 s
	2,560	2,592 s	218,976
		99925,888	
99994,688 s			576,000 s
	1,536	99928,480 s	99765,696
	2,464	99994,848	
		37,056	341,696 s
99998,688 s		(9)	99567,120
99996,928		99960,384 s	
		61,760	99908,816 s
99995,616 s			111,056
99985,216		22,144 s	
		37,056	19,872 s
99980,832 s			99670,704
	512	59,200 s	
	7,392	99925,888	99690,576 s
			99800,224
99988,736 s			
	12,320	99985,088 s	
			99490,800 s
	1,056 s	99985,088 s	167,184
	7,392	12,352	
	27,408		99657,984 s
		99997,440 s	386,896
	35,856 s	99997,440 s	
99985,216		99997,440 s	44,880 s
		99997,440 s	99946,544
	21,072 s	99997,440 s	
99835,552		99997,440 s	99991,424 s
		99997,440*	
99856,624 s			

unit fifth difference takes 96,510,544 from that column and 231,152 from column $x=9$.

The above process was repeated until all the products in tape 157, including two columns of zeros for ages $x=94$ and $x=99$, just beyond ages $x=84$ and $x=89$, had been used. Because of these two columns of zeros the subtotal after the addition of $+1(16\Delta^5T_{89})$, or 15,856, and $+3(16\Delta^5T_{94})$, or 0, was repeated seven times altogether, indicating that the unit fourth difference for ages 90 to 96, both inclusive, is a constant, or that T_x for ages 90 to 99, both inclusive, were derived from a constant fourth difference formula.

⑤ marks $10^4\delta^4T_{99}$, which appears just before $10^4\delta^5T_{99}$ or $10^4\delta^5T_{94+5}$ is added, and also ⑧ marks the first unit fourth difference in tape 155, to show that values of $10^4\delta^4T_{99}$ obtained by the two methods are identical. $10^4\delta^5T_{99}$, according to the first of equations (81) on page 380, is $+5$ in $x=89$ in tape 157; hence $10^4\delta^4T_{99}$ appears just before it is added, or just above 79,280. The agreement of these two values marked ⑤ is a check on all the additions thus far.

159. The first quantity in tape 158 and all the subtotals which follow it form the $10^4\delta^4T_x$ which are needed to build up the $10^4\delta^3T_x$ in tape 159. Hence, starting with $10^4\delta^3T_4$ from tape 154, or 1,934,112, the fourth unit difference, 90,208, is added seven times from tape 158, a subtotal being taken after each addition; then 98,927,056 is added and a subtotal taken, and so on until all the subtotals and the total in tape 158 are added. In order to carry the extra unit, obtained in subtracting by adding complements, one bank farther to the left, another 9 was set down in bank 9 of tape 159 before all subtotals in tape 158 that had 9 in bank 8.

⑥ marks $10^4\delta^3T_{99}$ in tape 159 and also in tape 155, showing that the results by the two processes agree, and thus checking the values in tape 159 up to this point. As $10^4\delta^4T_{99}$ appears just before the addition of $10^4\delta^5T_{99}$, so $10^4\delta^3T_{99}$ appears just above the addition of $10^4\delta^4T_{99}$, or 99,949,264, which is marked with ⑤ in tape 158.

160. In the same way $10^4\delta^2T_x$ is built by starting with $10^4\delta^2T_4$ from tape 154, or 983,621,088, and adding $10^4\delta^3T_4$, or 1,934,112, at the beginning of tape 159, and taking a subtotal. Then the first subtotal in tape 159, or 2,024,320, is added and a subtotal taken, and so on until all the subtotals and the total in tape 159 are added. $10^4\delta^2T_{99}$ is marked by ⑦, and it agrees with the value obtained in tape 155. $10^4\delta^2T_{99}$ is easily found, since it is the subtotal just above the addition of $10^4\delta^3T_{99}$ which is marked ⑥ in tape 159.

161. In the same way $10^4\delta T_x$ is built up by starting with 857,361,392 from tape 154 and adding the $10^4\delta^2T_x$ from tape 160. The value for age 99 is marked by ⑧, and is found to agree with the value obtained in tape 155.

162–168. The additions for the deaths are performed in exactly the same way as the additions for the populations in tapes 154 to 161. It was found convenient when copying the subtotals from the tape to throw it over a rack just back of the machine and use both hands in running the machine. However, the arrangement in tapes 162 and 163 is slightly different from that in tapes 154 and 155, since the products of the leading quinquennial differences of $(3l)_4$ by the factors in equations (79) on page 376 are shown on the left of tape 162 and the leading unit differences of $(3l)_4$ are shown on the left of tape 163, while the products of the leading quinquennial differences $(3l)_{99}$ by the factors in equations (80) on page 376 and the leading unit differences of $(3l)_{99}$ are shown on the right of tapes 162 and 163, respectively.

169. The δT_x or L_x determined in tape 161 are all as of 1910–July–1, while the deaths, δl_x or d_x, are for the three-year period 1909–1911. Hence they are written $(3d)_x$. In order to determine $q_x=d_x/(L_x+.5d_x)$, it was found convenient to write this formula $q_x=(3d)_x/(3L_x+1.5d_x)$. The $(3d)_x$ are not all divisible by 3 exactly; hence approximate values of d_x would have to be used if q_x were computed from the first form of the equation. Also it was found that $3L_x$ could be computed more quickly and accurately than $\frac{1}{3}(3d)_x$, for L_x, or $10^4\delta T_x$ from tape 161, was set up on the adding machine and repeated three times by means of the repeat key; then to this was added $\frac{1}{2}(3d)_x$, or $\frac{1}{2}$ of $10^4\delta(3l)_x$ from tape 168. This operation is shown in tape 169.

First the tapes 161 and 168 were laid off in groups of five with a pencil, as indicated on the tape. Then these two tapes were pinned together so that corresponding ages stood exactly opposite each other, and both tapes were placed over the rack at the back of the adding machine. In this way one could easily set up the consecutive L_x and add to each $3L_x$ one-half the $(3d)_x$ for the same age. This division was performed mentally. In tape 169 this process is shown for only ten ages.

Since in determining the rate of mortality at any age the number of deaths in tape 168 is the dividend and the number exposed to risk of death in tape 169 is the divisor, and both are carried to four places of decimals, no further attention need be given their places of decimals. While 10^4 appears at the head of tapes 170, 171, and 172, it is not used in describing these tapes.

170. The tape 169 was then marked off in groups of fives with a pencil, and the sums of $3L_x+1.5d_x=3l_x$ were added in groups of five. Only two of these groups are shown in tape 170.

171. As a check on the work determining $3l_x$ and also on all the work by osculatory interpolation up to this point, $3\Delta T_x+1.5\Delta(3l)_x$ was found for each of the ages shown in tape 148. Each sum in tape 170 is marked with a numeral surrounded by a circle, and

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		167			168		
		$10^4\delta^2(3l)_x$			$10^4\delta(3l)_x$		
99991,424 s			116,368 s			25427,264 s	22639,872 s
99949,328			99940,752		16727,200	57,120	998584,672
99940,752 s	99741,520 s			98764,800 s	996888,240		
21,328	78,352		57,120 s	99819,872		25484,384 s	21224,544 s
			99962,080		13615,440 s	19,200	996546,512
99962,080 s	99819,872 s	96888,240		98584,672 s	997451,440		
19,008	141,968	563,200	19,200 s	99961,840		25503,584 s	19771,056 s
			99981,088		11066,880 s	288	998485,872
99981,088 s	99961,840 s	97451,440 s		98546,512 s	997976,560		
99966,864	99977,520	525,120	288 s	99939,360		25503,872 s	18256,928 s
			99947,952		9043,440 s	999948,240	998514,400
99947,952 s	99939,360 s	97976,560 s		98485,872 s	998463,600		
99969,648	89,168	487,040	99948,240 s	28,528		25452,112 s	16771,328 s
			99917,600		7507,040 s	999865,840	998603,680
99917,600 s	28,528 s	98463,600 s		98514,400 s	998912,560		
274,160	60,752	448,960	99865,840 s	89,280		25317,952 s	15375,008 s
			191,760		6419,600 s	57,600	998660,672
191,760 s	89,280 s	98912,560 s		98603,680 s	999323,440		
121,440	99967,712	410,880	57,600 s	56,992		25375,552 s	14035,680 s
			313,200		5743,040 s	370,800	998648,576
313,200 s	56,992 s	99323,440 s		98660,672 s	999696,240		
99867,680	99930,912	372,800	370,800 s	99987,904		25746,352 s	12684,256 s
			180,880		5439,280 s	551,680	998679,040
180,880 s	99987,904 s	99696,240 s		98648,576 s	30,464		
99782,272	42,560	334,720	551,680 s	30,464		26298,032 s	11363,296 s
			99963,152		5470,240 s	514,832	998637,920
99963,152 s	30,464 s	30,960 s		98679,040 s	327,600		
86,784	99928,416	296,640	514,832 s	99958,880		26812,864 s	10001,216 s
			49,936		5797,840 s	564,768	998563,680
49,936 s	99958,880 s	327,600 s		98637,920 s	572,720		
99685,696	99966,880	245,120	564,768 s	99925,760		27377,632 s	8564,896 s
			99735,632		6370,560 s	300,400	998551,440
99735,632 s	99925,760 s	572,720 s		98563,680 s	766,320		
99835,488	62,000	193,600	300,400 s	99987,760		27678,032 s	7116,336 s
			99571,120		7136,880 s	999871,520	998624,560
99571,120 s	99987,760 s	766,320 s		98551,440 s	989,040		
169,728	85,360	282,720	99871,520 s	73,120		27549,552 s	5740,896 s
			99740,848		8125,920 s	999612,368	998668,896
99740,848 s	73,120 s	989,040 s		98624,560 s	1200,560		
309,904	99971,216	211,520	99612,368 s	44,336		27161,920 s	4409,792 s
			50,752		9326,480 s	999663,120	998886,720
50,752 s	44,336 s	1200,560 s		98668,896 s	1333,680		
99906,816	173,488	133,120	99663,120 s	217,824		26825,040 s	3296,512 s
			99959,568		10660,160 s	999622,688	999195,920
99959,568 s	217,824 s	1333,680 s		98886,720 s	1409,136		
271,024	91,376	75,456	99622,688 s	309,200		26447,728 s	2492,432 s
			230,592		12069,296 s	999053,280	999427,936
230,592 s	309,200 s	1409,136 s		99195,920 s	1507,568		
156,768	99922,816	98,432	99853,280 s	232,016		26301,008 s	1920,368 s
			387,360		13576,864 s	240,640	999476,480
387,360 s	232,016 s	1507,568 s		99427,936 s	1262,640		
99854,928	99816,528	99755,072	240,640 s	48,544		26541,648 s	1396,848 s
			242,288		14839,504 s	482,928	999543,824
242,288 s	48,544 s	1262,640 s		99476,480 s	844,080		
99691,312	18,800	99581,440	482,928 s	67,344		27024,576 s	940,672 s
			99933,600		15683,584 s	416,528	999660,880
99933,600 s	67,344 s	844,080 s		99543,824 s	557,168		
53,520	49,712	99713,088	416,528 s	117,056		27441,104 s	601,552 s
			99987,120		16240,752 s	403,648	999778,480
99987,120 s	117,056 s	557,168 s		99660,880 s	613,200		
99948,592	544	56,032	403,648 s	117,600		27844,752 s	380,032 s
			99935,712		16853,952 s	339,360	999870,864
99935,712 s	117,600 s	613,200 s		99778,480 s	645,840		
99940,688	99974,282	32,640	339,360 s	92,384		28184,112 s	250,896 s
			99876,400		17499,792 s	215,760	999934,928
99876,400 s	92,384 s	645,840 s		99870,864 s	486,320		
28,128	99971,680	99840,480	215,760 s	64,064		26399,872 s	185,824 s
			99904,528		17986,112 s	120,288	1,584
99904,528 s	64,064 s	486,320 s		99934,928 s	280,080		
81,104	2,592	99793,760	120,288 s	66,656		28520,160 s	187,408 s
			99985,632		18266,192 s	105,920	999996,720
99985,632 s	66,656 s	280,080 s		1,584 s	167,760		
99976,176	99928,480	99887,680	105,920 s	99995,136		28626,080 s	184,128 s
			99961,808		18433,952 s	67,728	999952,240
99961,808 s	99995,136 s	167,760 s		99996,720 s	143,088		
99973,104	99960,384	99975,328	67,728 s	99955,520		28693,808 s	136,368 s
			99934,912		18577,040 s	2,640	999929,904
99934,912 s	99955,520 s	143,088 s		99952,240 s	37,296		
99992,128	22,144	99894,208	2,640 s	99977,664		28696,448 s	66,272 s
			99927,040		18614,336 s	999929,680	999966,768
99927,040 s	99977,664 s	37,296 s		99929,904 s	394,320		
99994,688	59,200	357,024	99929,680 s	36,864		28626,128 s	33,040 s
			99921,728		19008,656 s	999851,408	999988,720
99921,728 s	36,864 s	394,320 s		99966,768 s	970,320		
99998,688	99985,088	576,000	99851,408 s	21,952		28477,536 s	21,760 s
			99920,416		19978,976 s	999771,824	999995,760
99920,416 s	21,952 s	970,320 s		99988,720 s	1312,016		
99995,616	99985,088	341,696	99771,824 s	7,040		28249,360 s	17,520 s
			99916,032		21290,992 s	999687,856	240
99916,032 s	7,040 s	1312,016 s		99995,760 s	1220,832		
99980,832	99997,440	99908,816	99687,856 s	4,480		27937,216 s	17,760 s
			99896,864		28511,824 s	999584,720	2,160
99896,864 s	4,480 s	1220,832 s		240 s	1240,704		
99988,736	99997,440	19,872	99584,720 s	1,920		27521,936 s	19,920 s
			99885,600		23752,528 s	999470,320	1,520
99885,600 s	1,920 s	1240,704 s		2,160 s	931,280		
1,056	99997,440	99690,576	99470,320 s	99999,360		26992,256 s	21,440 s
			99886,656		24683,808 s	999356,976	999998,320
99886,656 s	99999,360 s	931,280 s		1,520 s	422,080		
35,856	99997,440	99490,800	99356,976 s	99996,800		26349,232 s	19,760 s
			99922,512		25105,888 s	999279,488	999992,560
99922,512 s	99996,800 s	422,080 s		99998,320 s	80,064		
21,072	99997,440	99657,984	99279,488 s	99994,240		25628,720 s	12,320 s
			99943,584		25185,952 s	999223,072	999984,240
99943,584 s	99994,240 s	80,064 s		99992,560 s	124,944		
99856,624	99997,440	44,880	99223,072 s	99991,680		24851,792 s	999996,560 s
			99800,208		25310,896 s	999023,280	999973,360
99800,208 s	99991,680 s	124,944 s		99984,240 s	146,368		
99941,312	99997,440	99991,424	99023,280 s	99989,120		23875,072 s	999969,920
			99741,520		25427,264 s	998764,800	
99741,520 s	99989,120	116,368 s		99973,360			
			98764,800 s			22639,872 s	

this same symbol is placed before the sum in tape 171 which should agree with it. As stated before, these marks are merely for the convenience of the reader and are not used in the computations.

172. For convenience in determining q_x the values in tape 168, or $(3d)_x$, were added in groups of five and three spaces left between each group so as to correspond to the sums $(3l)_x$ in tape 170. The two tapes were pinned together so that populations and deaths for corresponding ages stood opposite each other, and then placed so that they could be conveniently read by the operator of the calculating machine on which the values of $q_x = (3d)_x/(3L_x + 1.5d_x)$ were determined to the nearest sixth decimal place. The sums of the $(3d)_x$ from tape 168 in groups of five should equal the $\Delta(3l)_x$ for corresponding ages on the right of tape 148, and this serves as a check on the copying in tape 172.

173. Then each $10^4(3d)_x$ in tape 172 was divided by the corresponding $10^4(3l)_x$ in tape 170 and the quotient to the nearest sixth decimal place was entered on the left of tape 173 under the caption 10^6q_x. As in tape 146, 10^6q_x was entered on the left of the machine and 10^6p_x on the right, the machine being split between banks 10–11 and 6–7. After the values for age 9 were entered a subtotal was taken as a check on the work, as the subtotals of these two columns should be complementary. This was repeated after each group of five values.

After the entry of the first value, that is, for age 4, the machine was spaced by adding 5 in bank 7 to indicate the first age in the following group of five values. Then the addition of each 10^6p_x in the next group increased the number in bank 7 by unity, so that age 10 appears in banks 7–8 in the next subtotal, thus indicating the first age in the next group. In this way the ages were recorded automatically and exactly until about age 65, when the values of 10^6p_x have become so small that they do not always increase the number in bank 7 by unity.

RATES OF MORTALITY AT OLDER AGES DETERMINED FROM POPULATIONS AND DEATHS GRADUATED FROM THE ORIGINAL STATISTICS GROUPED IN ALL FIVE QUINQUENNIAL AGE GROUPS.

174. On the left of this tape are shown the populations from age 80 to age 114, summed in all five possible quinquennial groups. On the right of the tape are shown the deaths added in the same way. The populations and deaths by single ages were obtained from page 450, columns 8 and 12, respectively, of Table 159. The column in the middle of tape 174 shows the first age of each quinquennial group. For instance, 80 signifies that 15,543 is the sum of L_x between ages 80 and 84, both inclusive, while 7,840 is the sum of the deaths for the same ages. Again, 81 indicates that 12,461 is the sum of the populations between ages 81 and 85, both inclusive, while 7,081 is the sum of the deaths between these ages. To obtain these three columns the machine was split between banks 6–7 and 10–11.

The process of adding in all groups is as follows:

First, the populations and deaths, ages 80 to 84, were added and a subtotal taken. Then 4,836 and 1,925, the values for age 80, were subtracted from the two subtotals, respectively, by setting up their complements preceded by nines, and 1,754 and 1,166, respectively, the values for age 85, were added and subtotals taken; these subtotals are the sums of the quinquennial groups aged 81 to 85, as indicated by the 81 in the middle column. In the same way the sums of the groups aged 82 to 86 were obtained by subtracting the values for age 81 and adding the values for age 86 and taking a subtotal. This process was repeated until the sums for the age group 110 to 114 were obtained, when a total was taken.

As a check on this work the sums of the groups aged 110 to 114 were added independently. These totals agree with those obtained above, as indicated by the mark ⑮. The populations and deaths on the tape were then checked back to those in columns 8 and 12, respectively, of Table 159, from which they were copied. The middle column, indicating the age groups, was obtained by setting up 8 in bank 8 while the platen is back, so that it does not appear until the first subtotal is taken. Since the machine is split between banks 6–7, a zero appears in bank 7, and this column is increased by unity after each subtraction when one is carried over to bank 7 from the nines.

175. The results in tape 174 were next arranged so that the sums of the same group followed one another according to ages, that is, group 80–84 was followed by 85–89, and that by 90–94, while the group 81–85 was followed by 86–90, and so on. This was necessary in order to perform the required differencing.

Since the equations (46) and (47) on page 349 call for $.2\Delta T_x$, $.008\Delta^3T_{x-5}$, $.2\Delta(3l)_x$, and $.008\Delta^3(3l)_{x-5}$, it was found convenient in tape 175 to set down $-2\Delta T_x$ and $-2\Delta(3l)_x$ instead of just $-\Delta T_x$ and $-\Delta(3l)_x$. The multiplication by two was performed mentally. As in tape 174, the population is on the left of the tape and the deaths on the right, the machine being split between banks 6–7 and 11–12.

176. This is merely a summation of the $-\Delta T_x$ and the $-(3l)_x$ in tape 174. It is used for checking purposes, and begins with age 85 instead of with age 80, for reasons explained in section 183. When age 105 is reached a subtotal is taken, and then ages 80 to 84 and ages 106 to 110 are added before a second subtotal is taken, which is then set up on the machine and added, giving for totals twice the sums of the columns. As indicated by the marks ⑯, these agree with the totals in tape 175 and afford a check upon that work.

177. Equations (46) and (47) on page 349 require only the first and third differences, and, since the latter is the second difference of the former, it can be obtained correctly by reversing the usual process of differencing, that is, by subtracting ΔT_{x+5} from ΔT_x and Δ^2T_{x+5} from Δ^2T_x, instead of subtracting ΔT_x from ΔT_{x+5} and Δ^2T_x

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

169

x	$10^4[3L_x+\frac{1}{2}(3d)_x]$
	*
	857361,392
	857361,392
	857361,392
	8363,600
4	2580447,776*
	*
	840982,480
	840982,480
	840982,480
	6807,720
5	2529755,160*
	*
	826537,680
	826537,680
	826537,680
	5533,440
6	2485146,480*
	*
	814117,200
	814117,200
	814117,200
	4521,720
7	2446873,320*
	*
	803811,248
	803811,248
	803811,248
	3753,520
8	2415187,264*
	*
	*
	*
	795710,032
	795710,032
	795710,032
	3209,800
9	2390339,896*
	*
	789903,760
	789903,760
	789903,760
	2871,520
10	2372582,800*
	*
	786482,640
	786482,640
	786482,640
	2719,640
11	2362167,560*
	*
	785536,880
	785536,880
	785536,880
	2735,120
12	2359345,760*
	*
	787156,688
	787156,688
	787156,688
	2898,920
13	2364368,984*

170

	$10^4(3l)_x$
	*
4	2580447,776
5	2529755,160
6	2485146,480
7	2446873,320
8	2415187,264
(13)	12457410,000*
	*
9	2390339,896
10	2372582,800
11	2362167,560
12	2359345,760
13	2364368,984
(14)	11848805,000*

171

	$10^4[3\Delta T_x+\frac{1}{2}\Delta(3l)_x]$
	*
	4142810,000
	4142810,000
	4142810,000
	28980,000
4 (13)	12457410,000*
	*
	3944790,000
	3944790,000
	3944790,000
	14435,000
9 (14)	11848805,000*

172

	$10^4(3d)_x$
4	16727,200*
5	13615,440
6	11066,880
7	9043,440
8	7507,040
	57960,000*
	*
9	6419,600
10	5743,040
11	5439,280
12	5470,240
13	5797,840
	28870,000*

173

10^6q_x	x	10^6p_x
		—*
6482		993,518
	5	
5382		994,618
4453		995,547
3696		996,304
3108		996,892
2686		997,314
25807		10974,193s
2421		997,579
2303		997,697
2319		997,681
2452		997,548
2683		997,317
37985		15962,015s
2992		997,008
3365		996,635
3774		996,226
4190		995,810
4620		995,380
56926		20943,074s
5069		994,931
5421		994,579
5630		994,370
5755		994,245
5901		994,099
84702		25915,298s
6051		993,949
6232		993,768
6483		993,517
6802		993,198
7139		992,861
117409		30882,591s
7500		992,500
7945		992,055
8474		991,526
9036		990,964
9605		990,395
159969		35840,031s
10191		989,809
10723		989,277
11176		988,824
11589		988,411
12030		987,970
215678		40784,322s
12487		987,513
12970		987,030
13491		986,509
14055		985,945
14653		985,347
283334		45716,666s
15299		984,701
15990		984,010
16702		983,298
17424		982,576
18177		981,823
366926		50633,074s
18947		981,053
19817		980,183
20895		979,105
22221		977,779
23717		976,283
472523		55527,477s
25453		974,547
27382		972,618
29348		970,652
31302		968,698
33434		966,566
619442		60380,558s
35721		964,279
38087		961,913
40540		959,460
43103		956,897
45759		954,241
822652		65177,348s
48472		951,528
51448		948,552
54869		945,131
58737		941,263
62852		937,148
1099030		70900,970s
67279		932,721
72074		927,926
77257		922,743
82881		917,119
89123		910,877
1487644		75512,356s
96160		903,840
103554		896,446
110997		889,003
118688		881,312
127478		872,522
2044521		80955,479s
137656		862,344
148792		851,208
160239		839,761
171738		828,262
184442		815,558
2847388		85152,612s
198539		801,461
212666		787,334
225729		774,271
237381		762,619
247084		752,916
3968787		90031,213s
251028		748,972
254614		745,386
267156		732,844
292208		707,792
309518		690,482
5343311		95656,689s
302705		697,295
289777		710,223
307408		692,598
416577		583,423
518205		481,795
7177977		100822,023s
411582		588,418
353973		646,027
357831		642,169
491632		508,368
842343		157,657
9635338		105364,662s
729223		270,777
415954		584,046
272059		727,941
224993		775,007
212059		787,941
1489686		110510,374*

174

$\sum_x^{x+} P_x$	x	$\sum_x^{x+}(3d)_x$
		*
4836		1,925
3003		1,554
3082		1,563
2407		1,466
2215		1,332
15543	80	7,840s
9995164		998,075
1754		1,166
12461	81	7,081s
9996997		998,446
1374		1,058
10832	82	6,585s
9996918		998,437
1079		760
8829	83	5,782s
9997593		998,534
781		657
7203	84	4,973s
9997785		998,668
692		545
5680	85	4,186s
9998246		998,834
608		470
4534	86	3,490s
9998626		998,942
306		537
3466	87	2,769s
9998921		999,240
224		249
2611	88	2,258s
9999219		999,343
194		185
2024	89	1,786s
9999308		999,455
119		120
1451	90	1,361s
9999392		999,530
96		91
939	91	982s
9999694		999,663
52		75
685	92	720s
9999776		999,751
37		42
498	93	513s
9999806		999,815
21		29
325	94	357s
9999861		999,880
16		32
222	95	269s
9999904		999,909
23		19
149	96	197s
9999948		999,925
6		11
103	97	133s
9999963		999,958
2		10
68	98	101s
9999979		999,971
2		4
49	99	76s
9999984		999,968
1		4
34	100	48s
9999977		999,981
2		1
13	101	30s
9999994		999,989
3		3
10	102	22s
9999998		999,990
		2
8	103	14s
9999998		999,996
1		1
7	104	11s
9999999		999,996
		1
6	105	8s
9999998		999,999
1		1
5	106	8s
9999997		999,997
2	107	5s
		999,998
2	108	3s
9999999		999,999
1	109	2s
		999,999
(15) 1	110	1*
		*
(15) 1		1*

175

$-2\Delta T_x$	x	$-2\Delta(3l)_x$
		*
31086	80	15,680 (17)
11360	85	8,372
2902	90	2,722
444	95	538
68	100	96
12	105	16
2	110	2
24922	81	14,162 (18)
9068	86	6,980
1878	91	1,964
298	96	394
86	101	60
10	106	16
82076	1826	51,002s

from $\Delta^2 T_{x+5}$. It was found more convenient to use the former method, and the differencing of tape 175 to obtain the values in tape 177 and of tape 177 to obtain the values in tape 178 was performed mentally by this method, the results being set down on the adding machine.

At the end of each column of second differences the machine was spaced and the last value in the first difference column added, and a total struck. This serves as a check on the differencing, since the total should equal the first value of the first difference column, as indicated by the mark ⑰. In the same way the mark ⑱ points out that the total of the second differences plus the last value in the second group of first differences equals the first value in that group.

178. The groups in tape 177 were differenced mentally by the same method as were those in tape 175, and the results set down in tape 178. A subtotal was taken after each group of third differences and to this subtotal the last value of the group being differenced was added, which should equal the first value of the group being differenced. This equality is indicated for the first group by the mark ⑲.

179. Tape 178 gives twice the third differences of T_x and $(3l)_x$, but equations (46) and (47) on page 349 require eight times the third differences, so that the values in tape 178 were multiplied by 4. This operation was performed mentally and the results set down in tape 179, a total being taken after each group. After all five groups in tape 178 were multiplied the subtotals of each of these five groups were multiplied mentally by four and the results set down at the end of tape 179, a total being taken. As indicated by the mark ⑳, these last five products were compared with the totals of each of the above five groups, since they serve as a check on the work in tape 179.

180. $10^3 L_x$ and $10^3(3d)_x$ were obtained according to equations (46) and (47), respectively, on page 349. These equations are copied below cleared of fractions and with $-\Delta T_{x-2}$ and $-\Delta(3l)_{x-2}$ substituted for u_x, and $(3d)_x$ for d_{x+2}.

$$\begin{aligned} 10^3 L_x &= -200\Delta T_{x-2} - (-8\Delta^3 T_{x-7}), \\ 10^3(3d)_x &= -200\Delta(3l)_{x-2} - [-8\Delta^3(3l)_{x-7}]. \end{aligned} \tag{82}$$

The first quantity on the right of each equation was obtained from tape 175, beginning with the second quantity in each group, and to multiply it by 100 it was set down in the hundreds place on the adding machine. Thus 11,360 and 8,372 in tape 175 read 1,136,000 and 837,200 in tape 180. The last quantity in each equation was obtained from tape 179, and, since it was subtracted, its complement, preceded by nines, was set up on the adding machine. Thus 45,072 and 6,632 in tape 179 are entered as 9,954,928 and 9,993,368 in tape 180. The machine was split between banks 7–8 and 10–11.

In making tape 179 care was taken that the distance between any two groups in it be the same as that between any two groups in tape 175; consequently, when the two tapes were pinned together so that the top number in tape 179 stood opposite the second one in tape 175, this same condition held in each of the other four groups. Hence the operator had only to set up any number in tape 175 in the hundreds place and add to it the complement of the number in tape 179 standing opposite it. Accordingly, the first and last numbers in each group in tape 175 were not used, because no numbers in tape 179 stood opposite them.

In order to have the ages in tape 180 run consecutively, the second number in each of the five groups of tape 175 were added before beginning with the third number of the first group, and then the third number in each group was added before beginning the fourth number of the first group. This can readily be understood by noticing the ages in tape 175. The first group in tape 175 contains seven ages, while the others contain only six. Hence the last age in tape 180 is 107, while the first age is 87.

181. For the same reasons as those described in section 169, it was found convenient to use the formula

$$q_x = (3d)_x/(3L_x + 1.5d_x)$$

instead of

$$q_x = d_x/(L_x + .5d_x).$$

Hence, in tape 181 the value of the denominator $3L_x + 1.5d_x$ was found by repeating three times on the adding machine each of the values on the left of tape 180 and adding to this one-half of the corresponding value on the right of the tape. To save time and space, two additions were performed at the same time by splitting the machine between banks 10–11. Hence the addition for $x=87$ is on the left of tape 181 and for $x=88$ on the right.

182. In the same way that values found in tape 169 were added in groups of five in tape 170, so the values found in tape 181 were added in groups of five on the left of tape 182, only in this case subtotals are obtained between groups instead of totals.

The values of $10^3(3d)_x$ from tape 180 were copied on the right of tape 182 so that they stand opposite the $10^3(3l)_x$ of the same age; accordingly, to determine q_x the operator had only to divide the number on the right by the one opposite it on the left.

183. This serves only as a check on the work from tape 175 to tape 182, especially from tapes 180–182. Since

$$3l_x = 3L_x + \tfrac{1}{2}(3d)_x,$$

$$\begin{aligned} 10^3(3l)_x = &-600\Delta T_{x-2} - 100\Delta(3l)_{x-2} \\ &-3(-8\Delta^3 T_{x-7}) - \tfrac{1}{2}[-8\Delta^3(3l)_{x-7}], \end{aligned}$$

when the values for $10^3 L_x$ and $10^3(3d)_x$ from equations (82) are substituted. The ages in tape 181 are the same as those in tape 180; hence the total of the quantities on the left of tape 182 is equal to

$$\begin{aligned} 10^3\sum_{x=87}^{x=107}(3l)_x = &-600\sum_{x=85}^{x=105}\Delta T_x - 100\sum_{x=85}^{x=105}\Delta(3l)_x \\ &-3\sum_{x=80}^{x=100}(-8\Delta^3 T_x) - \tfrac{1}{2}\sum_{x=80}^{x=100}[-8\Delta^3(3l)_x]. \end{aligned} \tag{83}$$

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

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82076		31,002*
21664	82	13,170
6932	87	5,538
1370	92	1,440
806	97	266
20	102	44
4	107	10
17658	83	11,564
5222	88	4,516
996	93	1,026
136	98	202
16	103	28
4	108	6
14406	84	9,946
4048	89	3,572
650	94	714
98	99	152
14	104	22
8	109	4
155588	(16)	103,222*

176

$-\Delta T_x$	x	$-\Delta(3l)_x$ *
5680	85	4,186
4534	86	3,490
3466		2,769
2611		2,258
2024		1,786
1451		1,361
939		982
685		720
498		513
325		357
222		269
149		197
103		133
68		101
49		76
34		48
13		30
10		22
8		14
7	104	11
6	105	8
22882		19,331s
15543	80	7,840
12461	81	7,081
10832	82	6,585
8829	83	5,782
7203	84	4,973
5	106	8
8	107	5
2	108	3
1	109	2
1	110	1
77761		51,611s
77761		51,611
155528	(16)	103,222*

177

$2\Delta^2 T_x$	x	$2\Delta^2(3l)_x$
19726	80	7,308* (19)
8458	85	5,650
2458	90	2,184
376	95	442
56	100	80
10	105	14
2		2
31086	(17)	15,680*
15854	81	7,182
7190		5,016
1580		1,570
272		334
16		44
10		16
24922	(18)	14,162*
14732	82	7,632
5562		4,098
1164		1,174
186		222
16		34
4		10
21664		13,170*
12436	83	7,048
4226		3,490
860		824
120		174
12		22
4		6
17658		11,564*
10358	84	6,374*
3398		2,858
552		562
84		130
12		18
2		4
14406		9,946*

178

$-2\Delta^2 T_x$	x	$-2\Delta^2(3l)_x$ *
11268	80	1,658
6000	85	3,466
2082	90	1,742
320	95	362
46	100	66
19716		7,294s
10		14
19726	(19)	7,308*
8664	81	2,166
5610		3,446
1308		1,236
256		290
15838		7,138s
16		44
15854		7,182*
9170	82	3,534
4398		2,924
978		952
170		188
14716		7,598s
16		34
14732		7,632*
8210	83	3,558
3366		2,666
740		650
108		152
12424		7,026s
12		22
12436		7,048*
6960	84	3,516
2846		2,296
468		432
72		112
10346		6,356s
12		18
10358		6,374*

179

$-8\Delta^3 T_x$	x	$-8\Delta^3(3l)_x$ *
45072	80	6,632
24000	85	13,864
8328	90	6,968
1280	95	1,448
184	100	264
78864	(20)	29,176*
34656	81	8,664
22440		13,784
5232		4,944
1024		1,160
63352		28,552*
36680	82	14,136
17592		11,696
3912		3,808
680		752
58864		30,392*
32840	83	14,232
13464		10,664
2960		2,600
432		608
49696		28,104*
27840	84	14,064
11384		9,184
1872		1,728
288		448
41384		25,424*
78864	(20)	29,176
63352		28,552
58864		30,392
49696		28,104
41384		25,424
292160		141,648*

180

$10^3 L_x$	x	$10^3(3d)_x$
1136000		837,200
9954928		9993,368
1090928	87	830,568*
906800		698,000
9965344		9991,336
872144	88	689,336*
693200		553,800
9963320		9985,864
656520	89	539,664*
522800		451,600
9967160		9985,768
489360	90	437,368*
404800		357,200
9972160		9985,936
376960	91	343,136*
290200		272,200
9976000		9986,136
266200	92	258,336*
187800		196,400
9977560		9986,216
165560	93	182,616*
137000		144,000
9982408		9988,304
119408	94	132,304*
99600		102,600
9986536		9989,336
86136	95	91,936*
65000		71,400
9988616		9990,816
53616	96	62,216*
44400		53,800
9991672		9993,032
36072	97	46,832*
29800		39,400
9994768		9995,056
24568	98	34,456*
20600		26,600
9996088		9996,192
16688	99	22,792*
13600		20,200
997040		9997,400
10640	100	17,600*
9800		15,200
998128		9998,272
7928	101	13,472*
6800		9,600
998720		9998,552
5580	102	8,152*
2600		6,000
998976		9998,840
1576	103	4,840*
2000		4,400
999320		9999,248
1320	104	3,648*
1600		2,800
999568		9999,392
1168	105	2,192*
1400		2,200
999712		9999,552
1112	106	1,752*
1200		1,600
999816		9999,736
1016	107	1,336*

181

$10^3[3L_x + \frac{1}{2}(3d)_x]$	
1090928	872,144
1090928	872,144
1090928	872,144
415284	344,668
3688068	2961,100*
656520	489,360
656520	489,360
656520	489,360
269832	218,684
2239392	1686,764*
376960	266,200
376960	266,200
376960	266,200
171568	129,168
1302448	927,768*
165360	119,408
165360	119,408
165360	119,408
91308	66,152
587388	424,376*
86136	53,616
86136	53,616
86136	53,616
45968	31,108
304376	191,956*
36072	24,568
36072	24,568
36072	24,568
23416	17,228
131632	90,932*
16688	10,640
16688	10,640
16688	10,640
11396	8,800
61460	40,720*
7928	5,520
7928	5,520
7928	5,520
6736	4,076
30520	20,636*
1576	1,320
1576	1,320
1576	1,320
2420	1,824
7148	5,784*
1168	1,112
1168	1,112
1168	1,112
1096	876
4600	4,212*
1016	
1016	
1016	
668	
3716	*

182

$10^3(3l)_x$	$10^3(3d)_x$ *	x
3688068	830,568	87
2961100	689,336	
2239392	539,664	
1686764	437,368	
1302448	343,136	
11877772	2840,072s	
927768	258,336	92
587388	182,616	
424376	132,304	
304376	91,936	
191956	62,216	
14313636	3567,480s	
131632	46,832	97
90932	34,456	
61460	22,792	
40720	17,600	
30520	13,472	
14668900	3702,632s	
20636	8,152	102
7148	4,840	
5784	3,648	
4600	2,192	
4212	1,752	
14711280	3723,216s	
3716	1,336	107
(21) 14714996	(22) 3724,552*	

The first two sums on the right side of this equation are obtained from the first subtotals in tape 176, or 22,882 and 19,331, respectively, while the last two sums are obtained from the totals at the end of tape 179, or 292,160 and 141,648, respectively. In order to multiply the two subtotals in tape 176 by 100 they are entered on the left and right sides of tape 183, respectively, in the hundreds column, the machine being split as in tape 182. Then to the quantity on the left is added one-half of its value in the thousands column to obtain 600 times 22,882. The complement of the last total on the left of tape 179, or 292,160, is repeated three times on the left of tape 183, while the complement of one-half the last total on the right of tape 179, or $\frac{1}{2}\times 141{,}648=70{,}824$, is added on the right of tape 183, and a subtotal taken. The subtotal on the left is the sum of the first and third quantities in the equation just above, while the subtotal on the right is the sum of the second and fourth quantities on the right of this equation. From equations (82) it will be seen that the subtotal on the right of tape 183 is also $\frac{1}{2}\sum_{x=87}^{x=107}(3d)_x$. Hence this subtotal is added on both sides of the tape, giving a total on the left which equals the corresponding total in tape 182, as indicated by the mark ㉑, and a total on the right equal to the corresponding total in tape 182, as indicated by the mark ㉒.

184. By dividing each number on the right of tape 182 by the corresponding number on the left, q_x was obtained to the nearest sixth decimal place. Since the average of these death rates added in fives are the death rates required, the first five values were added on the machine and a subtotal taken, which is $10^6\sum_{x=87}^{x=91}q_x$. Then the first value was subtracted by setting up its complement preceded by nines and the sixth value added and a subtotal taken, which is $10^6\sum_{x=88}^{x=92}q_x$. This process was repeated until the last group, ages 103 to 107, was obtained, when a total was taken.

The machine was split between banks 9–10, and 89, the central age of the group 87 to 92, was entered in banks 10 and 11 opposite the first subtotal; the nines in the subtraction raise this age by unity after a subtotal, so that the number in the banks 12 to 10 is the central age of the quinquennial group whose sum is the subtotal.

185. Then the last five 10^6q_x in tape 184 were added independently in tape 185 as a check on the work in tape 184. The mark ㉓ indicates that the same total was obtained for this group in both tapes 184 and 185.

186. According to the description of this process in section 118, page 349, the average rate of mortality for any age indicated in tape 184 is one-fifth of the subtotal that stands opposite it. This division was performed mentally by multiplying by two and dividing by ten, which gives a decimal in the quotient. The adding machine was split between banks 3–4, 5–6, and 14–15. The age is entered in the banks 15–17, the integral part of the quotient in the banks 6–11, and the fractional part in the banks 1–3. Thus the first entry in tape 186 is 89 on the extreme left; then $2\times 1{,}221{,}737$ gives 244,347 in the central group and 4 on the extreme right. When the fractional part is .5 or over, it was preceded by nines and the number in bank 6 increased by unity. These quotients were subtotaled in groups of five for convenience in checking. At the end the 10 tenths, or 1 unit, was added to the sum of the central group, giving a total of 6,361,003.

187. The machine was then split between banks 9–10 and the subtotals in tape 184 added in two columns, beginning with age 89 on the left and age 99 on the right and taking subtotals after each fifth value. At the end the subtotal on the left was added to that on the right and a total taken. Then the total of tape 186 was repeated five times, giving a total equaling that just obtained, as indicated by the mark ㉔.

RATES OF MORTALITY AT OLDER AGES DETERMINED BY APPLICATION OF WITTSTEIN'S FORMULA TO THE AVERAGED RATES FROM ALL FIVE QUINQUENNIAL GROUPS.

188. In sections 117 to 119 the use of the Wittstein formula to obtain rates of mortality at the older ages is explained. As stated there, the constants of the Wittstein formula were based on rates of mortality for ten consecutive ages, taken from tape 186. Before selecting these ages the quinquennial differences of the rates of mortality in tape 186 were found, that is, $q_{x+5}-q_x$. This differencing was performed mentally and the results set down on the right side of tape 188. A subtotal was taken after each fifth value to aid in checking this work. On the left of tape 188 is shown a check on the differencing on the right. It will be noted that

$$\sum_{x=89}^{x=100}(q_{x+5}-q_x)=\sum_{x=101}^{x=105}q_x-\sum_{x=89}^{x=93}q_x.$$

The first sum on the right side of the equation is obtained by adding on the left of tape 188 the last five rates of mortality in tape 186, while the second sum is the first subtotal in tape 186. Hence to the first sum is added the complement of 1,348,051, and the total, marked ㉕, agrees with the sum of the differences on the right of tape 188.

Then as a basis for the calculation of the Wittstein constants the ten consecutive rates of mortality in tape 186 from ages 94 to 103 were selected. No hard and fast rule of selection applicable to all the tables could be fixed upon, owing to the irregularity of the rates obtained at these advanced ages. In some cases the rates began to decrease and in others exceeded unity. The selection, therefore, was a matter of judgment and was made so as to avoid decreasing rates and intervals where great irregularities appeared.

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

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183

```
 2288200    1953,100*
11441000
99707840
99707840
99707840   99929,176

12852720    1862,276s
 1862276    1868,276
(21) 14714996   3724,552* (22)
```

184

```
                 10⁴ Σ_{x=89}^{x=98} q_x *
                        225,204
                        232,797
                        240,987
                        259,294
                        263,455
 x
89    1221,737s
    999774,796
        278,449

90    1274,982s
    999767,803
        310,895

91    1353,080s
    999759,013
        311,761

92    1423,854s
    999740,706
        302,047

93    1466,607s
    999736,545
        324,116

94    1527,268s
    999721,551
        355,780

95    1604,599s
    999689,105
        378,921

96    1672,625s
    999688,239
        370,843

97    1731,707s
    999697,953
        432,220

98    1861,880s
    999675,884
        441,415

99    1979,179s
    999644,220
        393,038

100   2018,437s
    999621,079
        677,112

101   2316,628s
    999629,157
        630,705

102   2576,490s
    999567,780
        476,522

103   2620,792s
    999558,585
        415,954

104   2595,331s
    999604,962
        359,526

105 (23) 2559,819*
```

185

```
                 Σ_{x=103}^{x=107} q_x *
                        677,112
                        630,705
                        476,522
                        415,954
                        359,526
                 (23) 8559,819*
```

186

```
x   Average 10⁴q_x
                          *
89    244347        4
90    254996        4
91    270616
92    284771      998
93    293321        4

      1348051   1, 10s
94    305454      996
95    320920      998
96    334525
97    346341        4
98    372376

      3027667   3,  8s
99    395836      998
100   403687        4
101   463326      996
102   515298
103   524158        4

      5329972   5, 10s
104   519066        2
105   511964      998

      6361002   6, 10s
                    1
      6361003   6, 10*
```

187

```
                                  *
1221737    1979,179
1274982    2018,437
1353080    2316,628
1423854    2576,490
1466607    2620,792

6740260   11511,526s
1527268    2595,331
1604599    2559,819
1672625
1731707
1861880

15138339  16666,676s
          15138,339
15138339  31805,015* (24)
                  *
          6361,003
          6361,003
          6361,003
          6361,003
          6361,003

          31805,015* (24)
```

188

```
                 10⁴(q_{x+5} − q_x) *
                        61,107
                        65,924
                        63,909
                        61,570
                        79,055

                       331,565s
                        90,382
                        82,767
                       128,801
   463326              168,957
   515298              151,782
   524158
   519066              954,254s
   511964              123,230
 98651949              108,277
(25) 1185761           1185,761* (25)
```

189

```
x          -log q_x          *x
|48494013 | 59750,871
|     569 |      658
94|51505418|40248,471  99
                     *
|50639678 |60603,723
|        |      753
95|49360328|39395,524 100
                     *
|52442209 |66588,105
|     649 |      562
96|47557142|33411,333 101
                     *
|53950265 |71205,171
|     125 |      674
97|46049610|28794,155 102
                     *
|57097468 |71945,559
|     700 |      663
98|42901832|28053,778 103
                     *
```

190

```
                 -log(-log q_x)
|711849390      x *
|    3372
|      84
|      67
|288147090      94
|       3
|604744300
|    4316
|     755
|      11
|395250620      99

      2
x     |693375,150*
      |     2,640
      |       176
      |        18
95    |306622,020
      |         4*
      |595441,100
      |     5,515
      |       221
      |        44
100   |404553,120
                 x *
|677214450
|     913
|     365
|      18
|322784250      96
|       4
|                 *1
|523889470
|    3900
|     390
|      39
|476106200      101
|       1
x     |663220,200*
      |     5,658
      |        94
97    |336774,050
      |         2*
      |459302,000
      |     1,508
      |       754
      |        75
102   |540695,660
                 x 3 *
|632467420
|    8096
|     304
|      20
|367524160      98
|                 *
|447979310
|   10836
|    1084
|     124
|552008650      103
|       4       *
```

191

```
log(-log q_x)−log(-log q_{x+5})
|10710,353
|  9793,110
|15332,195
|20392,161
|18448,449
(26) 74676,268*
```

192

```
                 *
|9971185,291
|   39525,062
|9969337,798
|   40455,312
|9967721,575
|   47610,620
|9966322,595
|   54069,566
|9963247,584
|   55200,865
(26) 74676,268*
```

193

```
log(115-x)−log(115-x-5) *
|11809,931
|12493,874
|13262,556
|14132,916
|15126,767
(27) 66826,044*
```

194

```
x          log(115-x)
                          *
94        1|32221,929
95        1|30103,000
96        1|27875,360
97        1|25527,251
98        1|23044,892

          6|38772,432s
99        1|20411,998
100       1|17609,126
101       1|14612,804
102       1|11394,335
103       1|07918,125

         12|10718,820s
104       1|04139,269
105       1|00000,000
106         |95424,251
107         |90308,999
108         |84509,804

         16|85101,143s
109         |77815,125
110         |69897,000
111         |60205,999
112         |47712,125
113         |30103,000

         19|70834,392*
```

195

```
                          *
          6|38772,432
          6|38772,432
      99|87,928,180
(27) 66826,044*
```

196

```
x          n_x          *
94          |90689,378
95          |78383,294
96        1|15605,129
97        1|44288,419
98        1|21958,968
(34) 5|50925,188*
```

197

```
log(-log q_x) − n log(115-x)   and
log(-log q_{x+5}) − n log(115-x-5)   *
1|19911245     x=94
 |28814709
1|48725954 (28)                      *
                                     *
1|09200892     x+5=99
 |39525062
1|48725954 (28)                      *
                                     *
x=95      1|01979,017
           |30662,202
(29) 1|32641,219*
                                     *
x+5=100    |92185,907
           |40455,312
(29) 1|32641,219*
                                     *
1|47830475     x=96
 |32376425
1|80108900 (30)                      *
                                     *
1|32498280     x+5=101
 |47610620
1|80108900 (30)                      *
                                     *
x=97      1|81121,286
           |33677,405
(31) 2|14798,691*
                                     *
x+5=102   1|60729,125
           |54069,566
(31) 2|14798,691*
                                     *
1|50064280     x=98
 |36752416
1|86816696 (32)                      *
                                     *
1|31615832     x+5=103
 |55200865
1|86816697 (32)                      *
```

189. Equations (48) and (49) for the Wittstein constants, section 119, page 349, require log $(-\log q_x)$. In the Bauschinger and Peters logarithm tables that were used the natural numbers which begin with 1 can be read directly to six figures, while those beginning with 2 or higher numbers can be read directly to only five figures. Hence the increase in log q_x, due to its sixth figure, was obtained by interpolation.

Since the rates of mortality selected, q_{94} to q_{103}, have six significant figures preceded by a decimal point, the characteristic of their logarithms is -1; so that the logarithm of any one of these rates of mortality is a negative quantity and equal to the complement of its mantissa, or $-\log q_x$ equals the complement of the mantissa of log q_x.

On the left of tape 189 are shown $-\log q_x$ for $x=94$ to $x=98$, and on the right side for $x=99$ to $x=103$. The machine was split between banks 8–9 and 9–10. The mantissa, 48,494,013, of the logarithm of the first five figures of q_{94} was entered on the left side of the machine and beneath it the interpolation, 569, for the sixth figure of q_{94}. To this was added the complement of the sum, which was read through the glass at the base of the machine, and a total was struck. Of course, the proof that the complement is correct is that the total is zero. This process was repeated for the next four rates of mortality, that is, for ages 95 to 98. Then the platen was rolled back to the beginning of tape 189, and $-\log q_x$ for $x=99$ to $x=103$ were obtained in the same way on the right side of the machine. These last five values left 1 in bank 9 of the total, but this causes no confusion.

190. Since the $-\log q_x$ in tape 189 have eight figures, three interpolations had to be added to the mantissa of the logarithm of the first five figures of $-\log q_x$; then the complement of the sum, read through the glass at the base of the machine, was added. In all cases the interpolations were taken to the nearest first decimal place, but the last number of the complement was not used, except that when it was five or over the next figure to the left was increased by unity. Of course, all the complements are negative numbers.

Since a set of Wittstein constants was to be found from each set of values shown in tape 189, that is, for ages 94 to 99, for ages 95 to 100, and so on, the log $(-\log q_x)$ for each of the pairs of values were grouped together by entering the first pair on the left of the machine, the second on the right, the third on the left, and so on, the values for the younger age in each pair being found just above those for the older age. The machine was split between banks 8–9 when the left side was used and between banks 9–10 when the right side was used.

191. The next value required to determine n is

$$\log(-\log q_x) - \log(-\log q_{x+5}).$$

This was done mentally by taking the difference between the two values in each of the five groups in tape 190, the difference being set down on the adding machine in tape 191, and a total taken. As stated in section 190, only eight figures of the log $(-\log q_x)$ were used.

192. A check on this differencing was to set down the complements of the first values in each group of tape 190 and to add to them the second values in each group. This is done in tape 192, and the total, marked ㉖, agrees with that in tape 191.

193. In equation (48) on page 349 the denominator for the value of n is

$$\log(115-x) - \log[115-(x+5)].$$

Since the rates of mortality used in this computation are for ages 94 to 103, it is necessary to find the logarithms of $(115-x)$ from $x=94$ to $x=103$, or of 21 to 12, both inclusive. The mantissas of these logarithms are shown consecutively on page 2 of the logarithm tables. In actual practice these logarithms, together with a number of others, and their quinquennial differences were copied on sample sheets which outlined these computations, so that the computer could use them in working out values for different tables without having to recompute them each time. However, for the convenience of the reader the work in tape 193 and tape 194 is shown here. In subtracting no attention need be given the characteristic of these logarithms, since it is either 1 or zero and disappears in the process of subtraction. The differences, log 21 − log 16, log 20 − log 15, and so on, are set down in tape 193 and their total taken.

194. Then the logarithms of $(115-94)$, or 21, to $(115-113)$, or 2, are copied down in tape 194, subtotals being taken after each fifth value. The subtotals and totals are for convenience in checking.

195. Since the sum of the differences shown in tape 193 is the sum of the logarithms of the differences from $(115-94)$, or 21, to $(115-98)$, or 17, less the sum of the logarithms of the differences from $(115-99)$, or 16, to $(115-103)$, or 12, a check on the differencing in tape 193 is made by repeating the first subtotal in tape 194 twice and adding to it the complement of the second subtotal. The total, marked ㉗, is the same as that shown in tape 193.

196. Then, according to the equation (48) on page 349, the five different values for n are the five different quotients obtained by dividing each number in tape 191 by the corresponding number in tape 193. These were computed to the nearest eighth decimal place and set down in tape 196 as n_x, and a total taken.

197. Equations (49) on page 349, when x is substituted for b and 115 for M, become

$$\log\log a = \log(-\log q_x) - n\log(115-x)$$

and (84)

$$\log\log a = \log(-\log q_{x+5}) - n\log(115-x-5).$$

In order to check the work thus far, log log a was determined from both equations. The first term on the right of each equation is negative, while the second is positive. Hence the remainder, or log log a,

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183

```
  2288200   1933,100*
 11441000
 99707840
 99707840
 99707840  99929,176

 12852720   1862,276s
  1862276   1862,276

(21) 14714996   3724,552* (22)
```

184

```
                 10⁶ Σ q_x *
                 225,204
                 232,797
                 240,987
                 259,294
                 263,455
x
89   1321,737s
     999774,796
        278,449

90   1274,982s
     999767,803
        310,895

91   1353,080s
     999759,013
        311,761

92   1423,854s
     999740,706
        302,047

93   1466,607s
     999736,545
        324,116

94   1527,268s
     999721,551
        355,780

95   1604,599s
     999689,105
        378,921

96   1672,625s
     999688,239
        370,843

97   1731,707s
     999697,953
        432,220

98   1861,880s
     999675,884
        441,415

99   1979,179s
     999644,280
        395,038

100  2018,437s
     999621,079
        677,112

101  2316628s
     999629,157
        630,705

102  2576,490s
     999567,780
        476,522

103  2620,792s
     999558,585
        415,954

104  2595,331s
     999604,962
        359,526

105 (23) 2559,819*
```

185

```
        Σ_{x=105}^{x=107} q_x *
        677,112
        630,705
        476,522
        415,954
        359,526

(23) 2559,819*
```

186

```
x   Average 10⁶q_x *
89    244347      4
90    254996      4
91    270616
92    284771    998
93    293321      4

      1348051  1, 10s
94    305454    996
95    320920    998
96    334525
97    346341      4
98    372376

      3027667  3,  8s
99    395836    998
100   403687      4
101   463326    996
102   515298
103   524158      4

      5329972  5, 10s
104   519066      2
105   511964    998

      6361002  6, 10s
            1
      6361003  6, 10*
```

187

```
1221737   1979,179*
1274982   2018,437
1353080   2316,628
1423854   2576,490
1466607   2620,792

6740260  11511,526s
1527268   2595,331
1604599   2559,819
1672625
1731707
1861880

15138339  16666,676s
          15138,339

15138339  31805,015* (24)
                *
          6361,003
          6361,003
          6361,003
          6361,003
          6361,003

          31805,015* (24)
```

188

```
          10⁴(q_{x+5} − q_x) *
          61,107
          65,924
          63,909
          61,570
          79,055

          331,565s
          90,382
          82,767
          128,801
463326    168,957
515298    151,782
524158
519066    954,254s
511964    123,230
98651949  108,277

(25) 1185761   1185,761* (25)
```

189

```
x        -log q_x *  x
48494013  59750,871
     569       658
94 51305418  40248,471  99
                  *
50639678  60603,723
             753
95 49360322  39395,524 100
                  *
52442209  66588,105
     649       562
96 47557142  33411,333 101
                  *
53950265  71205,171
     125       674
97 46049610  28794,155 102
                  *
57097468  71945,559
     700       663
98 42901832  28053,778 103
                  *
```

190

```
        -log(-log q_x)
711849390   x *
     3372
       84
       67
288147090   94
                *
604744300
     4316
      755
       11
395250620   99
                2
x       693375,150 *
            2,640
              176
               18
95      306622,020
                4*
        595441,100
            5,515
              221
               44
100     404553,120

                x *
677214450
      913
      365
       18
322784250   96
        4
                *
523889470
     3900
      390
       39
476106200   101
        1
x       663220,200 *
            5,658
               94
97      336774,050
                2*
        459302,000
            1,508
              754
               75
102     540695,660
                3
                x *
632467420
     8096
      304
       20
367524160   98
                *
447979310
    10836
     1084
      124
552008650   103
        4       *
```

191

```
log(-log q_x)−log(-log q_{x+5})
        10710,353
         9793,110
        15332,195
        20392,161
        18448,449

(26)    74676,268* *
                *
        9971185,291
           39525,062
        9969337,798
           40455,312
        9967721,575
           47610,620
        9966322,595
           54069,566
        9963247,584
           55200,865

(26)    74676,268*
```

192

193

```
log(115−x)−log(115−x−5) *
        11809,931
        12493,874
        13262,556
        14132,916
        13126,767

(27) 66826,044*
```

194

```
x        log(115−x)
                 *
94       132221,929
95       130103,000
96       127875,360
97       125527,251
98       123044,892

         638772,432s
99       120411,998
100      117609,126
101      114612,804
102      111394,335
103      107918,125

         1210718,820s
104      104139,269
105      100000,000
106       95424,251
107       90308,999
108       84509,804

         1685101,143s
109       77815,125
110       69897,000
111       60205,999
112       47712,125
113       30103,000

         1970834,392*
```

195

```
                 *
         638772,432
         638772,432
9987     89281,180

(27)     66826,044*
```

196

```
x        n_x *
94       90689,378
95       78383,294
96       115605,129
97       144288,419
98       121958,968

(34)     5 50925,188*
```

197

```
log(-log q_x) − n log(115−x)  and
log(-log_{x+5}) − n log(115−x−5) *
1 19911245   x=94
  28814709
1 48725954 (28)   *
                  *
1 09200892
  39525062   x+5=99
1 48725954 (28)   *
                  *
x=95     1 01979,017
            30662,202

(29)     1 32641,219*
                  *
x+5=100     92185,907
            40455,312

(29)     1 32641,219*
                  *
1 47830475   x=96
  32878425
1 80108900 (30)   *
                  *
1 32498280   x+5=101
  47610620
1 80108900 (30)   *
                  *
x=97     1 81121,286
            33677,405

(31)     2 14798,691*
                  *
x+5=102     60729,125
            54069,566

(31)     2 14798,691*
                  *
1 50064280   x=98
  36752416
1 86816696 (32)   *
                  *
1 31615832   x+5=103
  55200865
1 86816697 (32)   *
```

is negative. The first value for n in tape 196 was set up on the calculating machine and multiplied by the first value in tape 194 and the product entered upon the left of the adding machine in tape 197. To it was added the first value of the first pair in tape 190. Then this same value of n is multiplied by the first value in the second group of tape 194, that is, the value for age 99, the product set upon the adding machine just below the first sum in tape 197, and to it is added the second value of the first pair in tape 190. These two sums are marked ㉘ and they agree exactly, showing that the value of log log a from the first set of rates of mortality, those for ages 94 and 99, or log log a_{94}, is -1.48725954. The agreement of the two results is a check on the work for this value of log log a.

Then, on the right side of tape 197, log log a_{95} from the second set of q_x, those for ages 95 and 100, are computed in the same way; that is, the second value of n in tape 196 is set up on the calculating machine and then multiplied first by the second value in tape 194 and then by the second value in the second group. As the products were obtained they were set upon the adding machine and to them were added, respectively, the first and second values in the second pair of tape 190, giving the sum marked ㉙. Hence the value of log log a from this second set of values, or log log a_{95}, is -1.32641219. Then log log a_{96} was determined on the left of tape 197 from the third set of values, and so on. The values of log log a_{98} from the last set of values, marked ㉜, differ by unity in the last figure; however, this is not due to an error in the work, but only to the cutting off of fractions. The first value of a set was always used under such circumstances.

198. The five values for log log a_x are copied down in tape 198 from tape 197 and a total taken.

199. Twice the total in tape 198 was set up and repeated five times, giving as total ten times that in tape 198, as indicated by the mark ㉝. This gives the average value of the five values of log log a as -1.72618292.

200. To 1.72618292 is added its complement, or 8.27381708, showing that when the mantissa is positive, or .27381708, the characteristic is 998 on the tape, or $\bar{2}$. or 8. as the characteristic is usually written. This complement is designated $\overline{\log \log a}$.

201. Twice the sum in tape 196 is set down and repeated five times, giving a total ten times that in tape 196, as indicated by the mark ㉞. This shows that the average value of n_x is 1.10185038 when taken to the nearest eighth decimal place, and is designated by $\bar{n}$.

202. After the Wittstein constants have been determined, the smoothed rates of mortality are computed from the formula

$$\log(-\log q_x) = \overline{\log \log a} + \bar{n} \log(115-x). \quad (85)$$

$\bar{n}$ was set up on the calculating machine, multiplied by the first value in tape 194, and the product to the nearest eighth decimal place entered upon the left side of the adding machine in tape 202. The mantissa of $\overline{\log \log a}$ was added to this. The product of $\bar{n}$ by the second value in tape 194 was set up four spaces below it on the right side, and the mantissa of $\overline{\log \log a}$ was added to it also. The product of $\bar{n}$ by the third value in tape 194 was set up immediately below this on the left side, and so on.

203. As a check on this work the sums obtained in tape 202 were added. Then below this the product of $\bar{n}$ times the sum of the $(115-x)$ in tape 194, taken to the nearest eighth decimal place, was set up on the adding machine and to it was added 21 times $\overline{\log \log a}$, that is, .27381708 plus 20 times .27381708. The total agrees with that obtained just above, as indicated by the mark ㉟.

204. Since only the mantissa of $\overline{\log \log a}$ was added in tape 202, the characteristic, or -2, had to be subtracted mentally. As the integral parts of the sums in tape 202 are either 1 or 0, the characteristic of the log $(-\log q_x)$ is either -1 or -2, respectively; that is, the antilogarithms, $-\log q_x$, will begin in the first or second decimal place, respectively. They were estimated to the nearest seventh decimal place by interpolation, this work being done with pen and ink, in tape 202. It was ordinarily worked in pencil, but is here shown in ink.

From the values of log $(-\log q_x)$ shown in tape 202, $-\log q_x$ is a positive fraction; hence log q_x is a negative fraction, or -1 plus the complement of that fraction, the complement being the mantissa of log q_x. In tape 204 the characteristic -1 is not shown, but the antilogarithms of the logarithms in tape 202 are set down to five places and then the other two added by interpolation. This sum is then read through the glass at the base of the machine, its complement added, and a total struck. This complement, of course, is log q_x. The machine was split between banks 7–8 and 10–11 and two consecutive antilogarithms and their complements set up together.

205. The antilogarithms of the logarithms in tape 204, $10^6 q_x$, were entered on the right of tape 205, the sixth figure being interpolated on tape 204. On the left of tape 205 are entered the $10^6 p_x$. The sum of the $10^6 q_x$ and $10^6 p_x$ gives 22, the number of items. Attached to the right of tape 205 is another tape, upon the middle of which are copied the $10^6 q_x$ from tape 186 and on the right $10^6 q_x$ from tape 173, beginning with age 85. Every fifth age, that is, 85, 90, 95, and so on, is entered on the left of this tape. These three tables of rates of mortality are set here side by side to compare them and to select the rates of mortality which are to be smoothed for the final table by Spencer's 21-term formula. In actual practice the three tapes 205, 186, and 173 can be pinned together while making this comparison. In making this selection three points were kept in mind:

(*a*) As many as possible of the rates from tape 173 were selected, since it seems desirable to extend the osculatory process just as far as the rates would appear to warrant such extension.

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198

x	$x+5$	$-\log\log a_x$
94 and	99	148725,954 *
95	100	132641,219
96	101	180108,900
97	102	214798,691
98	103	186816,696
		863091,460 * (33)

199

$-\overline{\log\log a}$ 172618,292 *
172618,292
172618,292
172618,292
or 172618,292

863091,460 * (33)

200

$\overline{\log\log a}$ 172618,292
9982738 1,708
1 *

201

$\bar{n}$

110185038	996 *
110185038	996
110185038	996
110185038	996
110185038	996
550923190	4980 s
999999998	
(34) 550925188	4980 *

202

$\log(-\log q_x) = \bar{n}\log(115-x) + \overline{\log\log a}$

1|45688783 *
27381708
1|73070491 *
1|43354,040 *
27381,708
1|70735,748 *
1|40899514
27381708
1|68281222 *
1|38312,249 *
27381,708
1|65693,957 *
1|35577061
27381708
1|62958769 *
1|32676,006 *
27381,708
1|60057,714 *
1|29587660
27381708
1|56969368 *
1|26286,162 *
27381,708
1|53667,870 *
1|22739890
27381708
1|50121598 *

1|18909,627 *
27381,708
1|46291,335 *
1|14745893
27381708
1|42127601 *
1|10185,038 *
27381,708
1|37566,746 *
1|05143247
27381708
1|32524955 *
99507,005 *
27381,708
1|26888,713 *
93117160
27381708
1|20498868 *
85740,625 *
27381,708
1|13122,333 *
77016036
27381708
1|04397744 *
66338,003 *
27381,708
93719,711 *
5|2571623
27381708
7|9953331 *
33169,002 *
27381,708
60550,710 *
2|7381708 *
2|7381708 *

203

173070,491 *
170735,748
168281,222
165693,957
162958,769
160057,714
156969,368
153667,870
150121,598
146291,335
142127,601
137566,746
132524,955
126888,713
120498,868
113122,333
104397,744
93719,711
79953,331
60550,710
27381,708
(35) 2746580,492 *

2171564,624 *
27381,708
547634,160
(35) 2746580,492 *

204

$\log q_x$

5379042	5097,503 *
4620958	4902,497
4817395	4538,785 *
5182605	5461,215
4261747	3986,366 *
5738253	6013,634
3712733	3440,953 *
6287267	6559,047
3171144	2903,443 *
6828856	7096,557
2638007	2375,021 *
7361993	7624,979
2114704	1857,322 *
7885296	8142,678
1603204	1352,768 *
8396796	8647,232
1106566	865,361 *
8893434	9134,639
630280	403,188 *
9369720	9596,812
187853 *	
9812147	

205

$10^6 p_x$	$10^6 q_x$
710202	289,798 *
690793	309,207
670193	329,807
648341	351,659
625178	374,822
600641	399,359
574669	425,331
547202	452,798
518179	481,821
487545	512,455
455247	544,753
421241	578,759
385489	614,511
347970	652,030
308679	691,321
267642	732,358
224926	775,074
180560	819,340
135088	864,912
88658	911,342
42333	957,667
13069124	1000,000
22000000	13069,124 *

206

x	$10^6 q_x$	
70	67,279 *	$10^6 q_x$ from Tape 173
	72,074	
	77,257	
	82,881	
	89,123	
75	388,614 s	
	96,160	
	103,554	
	110,997	
	118,688	
	127,478	
80	945,491 s	
	137,656	
	148,792	
	160,239	
	171,738	
	184,442	
85	1748,358 s	
	198,539	
	212,666	
	225,729	
	237,381	
	247,084	
90	2869,757 s	
	251,028	
	254,614	
	267,156	
	292,208	
	305,454	
95	4240,217 s	$10^6 q_x$ from Tape 186
	320,920	
	334,525	
	346,341	
	372,376	
	395,836	
100	6010,215 s	$10^6 q_x$ from Tape 205
	425,331	
	452,798	
	481,821	
	512,455	
	544,753	
105	8427,373 s	
	578,759	
	614,511	
	652,030	
	691,321	
	732,358	
110	11696,352 s	
	775,074	
	819,340	
	864,912	
	911,342	
	957,667	
115	16024,687 s	
	1000,000	
	(36) 17024,687 *	

x	$10^6 q_x$ from Tape 173 *	
85		196,539
from Tape 186		212,666
		225,729
		237,381
	244347	247,084
90	254996	251,028
	270616	254,614
	284771	267,156
	293321	292,208
	305454	309,518
95	320920	302,705
	334525	889,777
	346341	307,402
	372376	416,577
	395836	518,205
100	403687	411,582
	463326	353,973
	515298	357,831
	524158	491,632
	519066	842,343
105	511964	729,223
		415,954
		272,059
		824,993
		212,059
110		214,327
		241,379
115		

(*b*) As few as possible of the rates of mortality from tape 205 were selected, because these rates depend less upon the actual data and more upon an artificial formula than do those in tapes 173 and 186.

(*c*) The rates of mortality selected should have about equal weight in determining the smoothed values. Those selected, therefore, should form a fairly smooth table, since values that do not fit in smoothly with the rest of the table would have more than their share of influence upon the smoothed values. The ones selected in this case were from tape 173 through age 93; from tape 186, age 94 through age 99; from tape 205, age 100 through age 115. The tables from tapes 186 and 205 are very close together from ages 96 to 99, but between ages 100 and 101 there is a rough place in tape 186; hence its values were used no further than age 99.

RATES OF MORTALITY AT OLDER AGES SMOOTHED BY SPENCER'S 21-TERM FORMULA.

206. To make certain of a smooth junction between the rates of mortality in tape 173 and the smoothed table, it was found best to extend the latter values as far back as age 80. Hence the rates of mortality in tape 173 from age 70 through age 93 are copied in tape 206; in tape 186, from age 94 through age 99; in tape 205, from age 100 through age 115. For purposes of checking, subtotals were taken after each fifth value and a total taken at the end.

207. Equation (50), page 350, for this smoothing process calls for division by 350, or by $5 \times 7 \times 10$. In order to decrease the size of the numbers used, the division by 7 was performed first, either mentally or by aid of Crelle's Rechentafeln, opened to the page showing multiples of 7. The quotient to the nearest integer is set down in the middle of tape 207 and the remainder is set down on the right side, the machine being split between banks 14–15. When the remainder was 4, 5, or 6 the quotient on the left was increased by unity and 997, 998, or 999, respectively, set down in the remainder column, since in this case the remainder was considered negative. For purposes of checking, subtotals were taken after each fifth value and a total taken at the end. For convenience in reference these quotients were designated by u_x. The ages are entered on the left of tape 207.

208. The check on the above work is to repeat the total of the quotients in tape 207 seven times and to add to it the sum of the remainders. As indicated by the mark ㊱, the total here is the same as in tape 206.

When one is using Crelle's Rechentafeln it is easy to check up the work after each subtotal. For instance, if a check is desired upon the third subtotal of tape 207

the product of $7 \times 249{,}000$ is	1,743,000,
the product of 7×764 is	5,348,
the sum of the remainders is	10;
then the sum is	1,748,358,

which is the third subtotal in tape 206.

209. The next step was to obtain the operand in equation (50) on page 350, that is,

$$U_x = -u_{x-3} + u_{x-1} + 2u_x + u_{x+1} - u_{x+3},$$

where the operand is designated by U_x. It was found convenient to determine two consecutive values of U at the same time, so the machine was split between banks 8, 9, and 10. By comparing Table 134 with the values in tape 207 it is easy to devise a mechanical method of determining these values of U on the adding machine.

Table 134

DERIVATION OF THE OPERAND IN SPENCER'S 21-TERM FORMULA FOR AGES 73 TO 76.

	U_{73}	U_{74}	U_{75}	U_{76}	U_{73}	U_{74}	U_{75}	U_{76}
u_{x-3}	9611	10296	11037	11840	*a*	*b*	*c*	*d*
u_{x-1}	11037	11840	12732	13737	*c*	*d*	*e*	*f*
u_x	11840	12732	13737	14793	*d*	*e*	*f*	*g*
u_x	11840	12732	13737	14793	*d*	*e*	*f*	*g*
u_{x+1}	12732	13737	14793	15857	*e*	*f*	*g*	*h*
u_{x+3}	14793	15857	16955	18211	*g*	*h*	*i*	*j*

The values of u which are used in calculating the values of U_{73}, U_{74}, U_{75}, and U_{76} are copied on the left side of Table 134 from tape 207, and the symbols which are used in the formula for U_x appear in the first column. If the first ten values in tape 207 be designated by *a*, *b*, *c*, and so on, to *i*, and *j*, then the values of u entering into the calculation of U_{73}, U_{74}, U_{75}, and U_{76} are shown in the four columns on the right of the table. When the values for the first two U's were calculated simultaneously, the value *a* would be set down on the left of the machine and *b* on the right; then beneath them *c* on the left and *d* on the right. Here a break occurs, *d* being set down again, this time on the left, while *e* is put on the right and the two repeated twice by means of the repeat key. Then setting down *e* again, this time on the left, *f* is entered on the right; then *g* on the left and *h* on the right.

Then starting the calculation of the next two values of U, that is, U_{75} and U_{76}, the first line is *c* and *d*, which is the second line in the calculation of the pair before. The same process is repeated in the calculation of U_{75} and U_{76} as in the calculation of U_{73} and U_{74}. One thing which must be remembered, however, is that the complements of the first and last line of values must be set up instead of the values themselves.

210. For convenience in reference and checking, the values of U_x are copied, taking subtotals after the same ages as in tape 207. Hence there are only two values in the first group and only three in the last. From the formula for U_x it will be noted that, with the exception of the first six and the last six values, all the values in tape 207 are added four times and subtracted twice, so that each enters twice in the sum of

CALCULATION OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

207

x	$u_x = 10^6 q_x + 7$	Remainders
70	9611	2
	10896	2
	11037	998
	11840	1
	12732	999
	88516	2, 2s
75	13737	1
	14793	3
	15857	998
	16955	3
	18211	1
	135069	3, 8s
80	19665	1
	21256	
	22891	2
	24534	
	26349	999
	249764	4, 10s
85	28363	998
	30381	999
	38247	
	33912	997
	35298	998
	409965	8, 2s
90	35861	1
	36373	3
	38165	1
	41744	
	43636	2
	605744	8, 9s
95	45846	998
	47789	2
	49477	2
	53197	997
	56548	
	858601	10, 8s
100	60762	997
	64685	3
	68832	997
	73208	999
	77822	999
	1203910	14, 3s
105	82680	999
	87787	2
	93147	1
	98760	1
	104623	997
	1670907	16, 3s
110	110725	999
	117049	997
	123559	999
	130192	998
	136810	997
	2289242	20,993s
115	142857	1
	2432099	20,994s

208

2432,099
2432,099
2432,099
2432,099
2432,099
2432,099
2432,099
99999999999999,994

(36) 17024,687

209

$U_x = -u_{x-3} + u_{x-1} + 2u_x + u_{x+1} - u_{x+3}$

99990389	99989,704
11037	11,840
11840	12,732
11840	12,732
12732	13,737
99985207	99984,143
$x = 73$	$x = 74$
230452	24,888
99988963	99988,160
12732	13,737
13737	14,793
13737	14,793
14793	15,857
99983045	99981,789
270072	29,129
99987268	99986,263
14793	15,857
15857	16,955
15857	16,955
16955	18,211
99980335	99978,744
310652	32,985

99985207	99984,143
16955	18,211
18211	19,665
18211	19,665
19665	21,256
99977109	99975,466
353588	38,406
99983045	99981,789
19665	21,256
21256	22,891
21256	22,891
22891	24,534
99973651	99971,637
417642	44,998
99980335	99978,744
22891	24,534
24534	26,349
24534	26,349
26349	28,363
99969619	99967,753
482622	52,092
99977109	99975,466
26349	28,363
28363	30,381
28363	30,381
30381	32,247
99966088	99964,702
566532	61,540
99973651	99971,637
30381	32,247
32247	33,912
32247	33,912
33912	35,298
99964139	99963,627
665772	70,633
99969619	99967,753
33912	35,298
35298	35,861
35298	35,861
35861	36,373
99961835	99958,256
718232	69,402
99966088	99964,702
35861	36,373
36373	38,165
36373	38,165
38165	41,744
99956364	99954,154
692242	73,303
99964139	99963,627
38165	41,744
41744	43,636
41744	43,636
43636	45,846
99952211	99950,523
816392	89,012
99961835	99958,256
43636	45,846
45846	47,789
45846	47,789
47789	49,477
99946803	99943,452
917552	92,609
99956364	99954,154
47789	49,477
49477	53,197
49477	53,197
53197	56,548
99939258	99935,315
955422	101,888
99952211	99950,523
53197	56,548
56548	60,762
56548	60,762
60762	64,685
99931168	99926,792
1104342	120,072
99946803	99943,452
60762	64,685
64685	68,832
64685	68,832
68832	73,208
99922178	99917,320
1379452	136,329

99939238	99935,315
68832	73,208
73208	77,822
73208	77,822
77822	82,680
99912213	99906,853
1445212	153,700
99931168	99926,792
77822	82,680
82680	87,787
82680	87,787
87787	93,147
99901240	99895,377
1633772	173,570
99922178	99917,320
87787	93,147
93147	98,760
93147	98,760
98760	104,623
99889275	99882,951
1842942	195,561
99912213	99906,853
98760	104,623
104623	110,725
104623	110,725
110725	117,049
99876441	99869,808
2073852	219,783
99901240	99895,377
110725	117,049
117049	123,559
117049	123,559
123559	130,192
99863190	99857,143
2328122	246,879

210

x	U_x
73	23,045
	24,888
	47,933
73	27,007
	29,129
	31,065
	32,985
	35,358
	203,477
80	38,406
	41,764
	44,998
	48,262
	52,092
	428,999
85	56,653
	61,540
	66,577
	70,633
	71,883
	756,225
90	69,402
	69,224
	73,303
	81,639
	89,012
	1138,805
95	91,755
	92,609
	95,542
	101,888
	110,434
	1631,033
100	120,072
	127,945
	136,329
	144,521
	153,700
	2313,600
105	163,377
	173,570
	184,294
	195,561
	207,385
	3237,787
110	219,783
	232,812
	246,879
	3937,261

211

Check on U_x

9611	142,857
9611	142,857
9611	142,857
10296	136,810
10296	136,810
10296	136,810
11037	130,192
11037	130,192
99987268	99882,951
99986263	99889,275
55326	871,611
	871,611
2432099	55,326
2432099	3937,261
(37) 4864198	(37) 4864,198

212

$v_x = \sum_{x=1}^{x+3} U_x$

203477	546,158
976955	99928,177
38406	92,609
218838	1 566,944s
975112	99930,598
41764	95,542
235714	2 593,084s
972993	99930,776
44998	101,888
253705	3 623,748s
970871	99926,697
48262	110,434
272838	4 662,879s
968935	99918,361
52092	120,072
293865	5 701,312s
967015	99910,988
56653	127,945
317533	6 740,245s
964642	99908,245
61540	136,329
343715	7 784,819s
961594	99907,391
66577	144,521
371886	8 836,731s
958236	99904,458
70633	153,700
400755	9 894,889s
955002	99898,112
71883	163,377
427580	10 956,378s
951738	99889,566
69402	173,570
448720	11 1019,514s
947908	99879,928
69224	184,294
468852	12 1083,736s
943347	99872,055
73303	195,561
488502	13 1151,352s
938460	99863,671
81639	207,385
502601	14 1222,408s
933423	99853,479
89012	219,783
525036	15 1297,670s
929367	99846,300
91755	232,812
546158	16 1376,788s
	99836,623
	246,879
	(38) 17 1460,284

213

99997686,400
99983636,623
3937,261
(38) 1460,284

all the U's. Also, since the formula is symmetrical, values at the same distance from the beginning and end of tape 207 will be added and subtracted the same number of times. Hence the first two and the last two values are each subtracted once. The third values from the ends are each added once and subtracted once. The fourth values from the ends are each added three times and subtracted once. The fifth and sixth values from the ends are each added four times and subtracted once. These statements can readily be checked up by writing down the calculation of the next pair of U's in Table 134, page 398, that is, the U's for ages 77 and 78, and then studying the letters that enter into the calculation of these three pairs.

211. From the above statements it is seen that

$$2\sum_{x=70}^{x=115} u_x = \sum_{x=73}^{x=112} U_x + 3(u_{70}+u_{71}+u_{114}+u_{115}) + 2(u_{72}+u_{113}) - (u_{74}+u_{75}+u_{110}+u_{111}). \qquad (86)$$

Hence in tape 211 the first two values in tape 207 are repeated three times on the left, and opposite them on the right the last two quantities are repeated in the same way. Then the values third from the ends are repeated twice, the one near the beginning on the left and the other on the right. After this the complements of the fifth and sixth values are set down, those near the beginning on the left and those near the end on the right. Their totals are then added to the total of tape 210, and the sum is found to equal twice the total of tape 207, as indicated by the mark ㊲.

If the totals marked ㊲ do not agree, the first total on the left of tape 211 is convenient to use in locating the error, for a check similar to that in tape 211 can be made on any part of tape 210. In locating an error it is well to check the middle of the column first, say the subtotal after age 94. The operation on the first six values in tape 207 would be the same, giving the total 55,326, but the value for age 97 instead of that for age 115 would be the last value in tape 207 to be used. Hence the operation would be as follows, the addition of the first four numbers on the left being to determine $\sum_{x=70}^{x=97} u_x$ in place of $\sum_{x=70}^{x=115} u_x$, or 2,432,099, which were used in tape 211:

605744	49477
	49477
49477	49477
	47789
	47789
47789	47789
	45846
45846	45846
	99958256
	99961835
748856	303581s
748856	55326
	1138805
1497712	1497712*

If these totals do not agree there is an error before age 95, and some subtotal midway between the beginning of the column and age 95 should be checked, say age 85. If the totals do agree the error occurs after age 94, and the subtotal before age 105 should be checked.

212. The formula for this smoothing process calls for the addition of the operand twice in groups of fives and once in groups of sevens. The first addition of the operand U was that in groups of sevens, and the sums were designated by v. Since the first value in tape 210 is for age 73, the first v would be for age 76, and its value is given by the second subtotal in tape 210, that is, 203,477. Starting tape 212 with this value, U_{73} was subtracted and U_{80} added and a subtotal taken to obtain v_{77}. This process was repeated to the end of tape 210. To save space the machine was split between banks 11–12 and 8–9 and the first half of the additions performed on the left of the tape; then the paper was rolled back and the last half of the addition performed on the right.

213. The work in tape 212 was checked by adding the last five values in tape 210 independently, that is, by subtracting the next to the last subtotal in tape 210, or 2,313,600, and 163,377 from the total 3,937,261. As indicated by the mark ㊳, the total in tape 213 agrees with that in tape 212.

214. For convenience in reference and checking, the v's obtained in tape 212 are copied in tape 214, a subtotal being taken after each fifth value and a total at the end.

215. The total in tape 214 would not equal seven times the total of tape 210. In order to bring the total of tape 214 up to the latter sum there must be added to it six times the first and last terms in tape 210, five times the second from each end, four times the third from each end, and so on until the ones sixth from the ends have been added. The first term in tape 210 is set down on the left of tape 215, and on the right the last term, and then they are repeated six times. Just beneath them are set down the values in tape 210 second from the beginning and end, respectively, and they are repeated five times, and so on until the values sixth from the ends of tape 210 are added. On the right of tape 215 these totals are then added to the total of tape 214, while on the left the total of tape 210 is repeated seven times. The two sums marked ㊴ agree.

If the sums do not agree, the approximate location of the error may be found by checking some of the subtotals in tape 214, say the one after age 95. The values at the beginning of tape 210 would be operated upon in the same way and the total, 553,240, on the left of tape 215 would be used, but the value for age 98 instead of that for age 112 in tape 210 would be used. Hence the operation would be performed as

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207

x	$u_x = 10^6 q_x + 7$	Remainders
70	9611	2
	10896	2
	11037	998
	11840	1
	12732	999
	85316	2, 2s
75	13737	1
	14793	3
	15857	998
	16955	3
	18211	1
	135069	3, 8s
80	19665	1
	21256	
	22891	2
	24534	
	26349	999
	249764	4, 10s
85	28363	998
	30381	999
	32247	
	33912	997
	35298	998
	409965	8, 2s
90	35861	1
	36373	3
	38165	1
	41744	
	43636	2
	605744	8, 9s
95	45846	998
	47789	2
	49477	2
	53197	997
	56548	
	858601	10, 8s
100	60762	997
	64685	3
	68832	997
	73208	999
	77822	999
	1203910	14, 3s
105	82680	999
	87787	2
	93147	1
	98760	1
	104623	997
	1670907	16, 3s
110	110725	999
	117049	997
	123559	999
	130192	998
	136810	997
	2289242	20,993s
115	142857	1
	2432099	20,994s

208

2432,099*
2432,099
2432,099
2432,099
2432,099
2432,099
2432,099
99999999999999,994

(36) 17024,687*

209

$U_x = -u_{x-3} + u_{x-1} + 2u_x + u_{x+1} - u_{x+3}$ *

99990389	99989,704
11037	11,840
11840	12,732
11840	12,732
12732	13,737
99985207	99984,143
$x = 73$	$x = 74$
230452	24,888*
99988963	99988,160
12732	13,737
13737	14,793
13737	14,793
14793	15,857
99983045	99981,789
370072	29,129*
99987268	99986,263
14793	15,857
15857	16,955
15857	16,955
16955	18,211
99980335	99978,744
310652	32,985*

99985207	99984,143*
16955	18,211
18211	19,665
18211	19,665
19665	21,256
99977109	99975,466
353358	38,406*
99983045	99981,789*
19665	21,256
21256	22,891
21256	22,891
22891	24,534
99973651	99971,637
417642	44,998*
99980335	99978,744*
22891	24,534
24534	26,349
24534	26,349
26349	28,363
99969619	99967,753
482622	52,092*
99977109	99975,466*
26349	28,363
28363	30,381
28363	30,381
30381	32,247
99966088	99964,702
566532	61,540*
99973651	99971,637*
30381	32,247
32247	33,912
32247	33,912
33912	35,298
99964139	99963,627
665772	70,633*
99969619	99967,753*
33912	35,298
35298	35,861
35298	35,861
35861	36,373
99961835	99958,256
718232	69,402*
99966088	99964,702*
35861	36,373
36373	38,165
36373	38,165
38165	41,744
99956364	99954,154
692242	73,303*
99964139	99963,627*
38165	41,744
41744	43,636
41744	43,636
43636	45,846
99952211	99950,523
816392	89,012*
99961835	99958,256*
43636	45,846
45846	47,789
45846	47,789
47789	49,477
99946803	99943,452
917552	92,609*
99956364	99954,154*
47789	49,477
49477	53,197
49477	53,197
53197	56,548
99939258	99935,315
955422	101,888*
99952211	99950,523*
53197	56,548
56548	60,762
56548	60,762
60762	64,685
99931168	99926,792
1104342	120,072*
99946803	99943,452*
60762	64,685
64685	68,832
64685	68,832
68832	73,208
99922178	99917,320
1279452	136,329*

99939238	99935,315*
68832	73,208
73208	77,822
73208	77,822
77822	82,680
99912213	99906,853
1445212	153,700*
99931168	99926,792*
77822	82,680
82680	87,787
82680	87,787
87787	93,147
99901240	99895,377
1633772	173,570*
99922178	99917,320*
87787	93,147
93147	98,760
93147	98,760
98760	104,623
99889275	99882,951
1842942	195,561*
99912213	99906,853*
98760	104,623
104623	110,725
104623	110,725
110725	117,049
99876441	99869,808
2073852	219,783*
99901240	99895,377*
110725	117,049
117049	123,559
117049	123,559
123559	130,192
99863190	99857,143
2328122	246,879*

210

x	U_x
73	23,045*
	24,888
	47,933s
75	27,007
	29,129
	31,063
	32,985
	35,358
	203,477s
80	38,406
	41,764
	44,998
	48,262
	52,092
	428,999s
85	56,653
	61,540
	66,577
	70,633
	71,823
	756,225s
90	69,402
	69,224
	73,303
	81,639
	89,012
	1138,805s
95	91,755
	92,609
	95,542
	101,880
	110,434
	1631,033s
100	120,072
	127,945
	136,329
	144,521
	153,700
	2313,600s
105	163,377
	173,570
	184,294
	195,561
	207,385
	3237,787s
110	219,783
	232,812
	246,879
	3937,261*

211

Check on U_x

9611	142,857*
9611	142,857
9611	142,857
10296	136,810
10296	136,810
10296	136,810
11037	130,192
11037	130,192
99987268	99882,951
99986263	99889,275
55326	871,611*
	871,611
2432099	55,326
2432099	3937,261
(37) 4864198	(37) 4864,198*

212

$v_x = \sum_{x-1}^{x+1} U_x$

203477		546,158*
976955		99928,177
38406		92,609
218838	1	566,944s
973112		99930,598
41764		95,542
235714	2	593,084s
972993		99930,776
44998		101,888
253705	3	625,748s
970871		99926,697
48262		110,434
272638	4	662,879s
968935		99918,361
52092		120,072
293865	5	701,312s
967015		99910,988
56653		127,945
317533	6	740,245s
964642		99908,245
61540		136,329
343715	7	784,619s
961594		99907,391
66577		144,521
371886	8	836,731s
958236		99904,458
70633		153,700
400755	9	894,889s
955002		99898,112
71823		163,377
427580	10	956,378s
951738		99889,566
69402		173,570
448720	11	1019,514s
947908		99879,928
69224		184,294
468852	12	1083,736s
943347		99872,055
73303		195,561
482502	13	1151,352s
938460		99863,671
81639		207,385
502601	14	1222,408s
933423		99855,479
89012		219,783
525036	15	1297,670s
929367		99846,300
91755		232,812
546158	16	1376,788s
		99836,623
		246,879
	(36) 17	1460,284*

213

	99997686,400*
	99999836,623
	3937,261
(36)	1460,284*

follows, the addition on the left being to obtain seven times $\sum_{x=73}^{x=98} U_x$ instead of seven times 3,937,261 in tape 215.

	*
99889566	101888
1631033	101888
	101888
1520599	101888s
1520599	101888
1520599	101888
1520599	95542
1520599	95542
1520599	95542
1520599	95542
	95542
	92609
	92609
	92609
	92609
	91755
	91755
	91755
	89012
	89012
	81639
	553240
	8096551
10644193	10644193*

When one has the operation well in mind it can be shortened by reading the subtotal 1,520,599, or $\sum_{x=73}^{x=98} U_x$, through the glass at the base of the machine and setting it up on the right. Then 1,138,805 was subtracted, and resulting subtotal 381,794, or $\sum_{x=95}^{x=98} U_x$, read through the glass, was repeated twice.

	*
999889566	1520599
1631033	9998861195
1520599	381794
1520599	381794
1520599	101888
1520599	101888
1520599	101888
1520599	95542
	95542
	92609
	89012
	89012
	81639
	553240
	8096551
10644193	10644193*

216. In order to decrease the size of the operand again, another of the three divisions is performed mentally, that is, the division by five is made by multiplying the values in tape 214 by two mentally. The product, with the exception of the last figure, is entered in the middle of tape 216 and the last figure on the right, the machine being split between banks 6–7 and 14–15. Ages are entered on the left. However, when the last figure of the product was 6 or 8, 996 and 998, respectively, were set down on the right, and the corresponding integral part in the middle was increased by unity. Subtotals were taken after each fifth value and a total at the end for the purpose of checking.

217. As a check on this work the sum of the integers on the left of tape 216 was added to the sum of the decimals on the right and the total repeated five times. As indicated by the mark ㊵, this sum agrees with ten times the total of tape 214.

218. The next addition was that of the quantities in tape 216 in groups of five as those in tape 210 were added in groups of seven in tape 212. Beginning with the first subtotal in tape 216, that is, 236,915, this addition is performed in tape 218. The sums of the groups of five were designated by V.

219. As before, the check on this work was to add the last five quantities in tape 216 independently, which sum in this case equals 230,270 plus the complement of the last subtotal in tape 216, or 3,385,682, plus the total 4,457,111. As indicated by the mark ㊶, this sum agrees with the total of tape 218.

220. For convenience in reference and checking, the V's in tape 218 were copied in tape 220, subtotals being taken after each five and a total taken at the end.

221. As before, this work was checked by adding the total of tape 220 to four times the first and last terms of tape 216, three times the second and next to last terms, and so on to the fourth terms from the end. The agreement of this sum with five times the total of tape 216 is indicated by the mark ㊷.

222–225. By processes identical to those in tapes 218 to 221 the values in tape 220 were added in groups of five, checked, copied, and checked again in tapes 222 to 225. Since this completes all the processes required by the smoothing formula or equation (50) on page 350, except the division by 10, the values in tape 224 are the smoothed values of $10^7 q_x$ from age 80 to age 105.

226. These values were reduced to $10^6 q_x$ by setting down the first six figures in each value on the right and the seventh figure on the left. When the seventh figure was 5 or over, it was preceded by 9 and the sixth figure on the right increased by unity. The $10^6 p_x$ was entered in the central column. The sum of the p_x and q_x columns should be an integer equal to the number of rates of mortality entered.

227. The reducing of the $10^7 q_x$ and the copying of the $10^6 q_x$ in tape 226 were checked by adding the sum of its integral parts, and the mark ㊺ signifies that the totals in tape 227 and tape 224 agree.

228. An inspection of the rates of mortality in tapes 173, 226, and 205 led to the selection of ages 79–80 as the junction point between the first pair and 104–105 as the junction point between the second pair. Then the values of the rates of mortality in the final table from ages 75 to 109 were entered in tape 228 on the left, their first differences in the middle and second differences on the right, in order to insure that no violent breaks occur in these differences at the junction point. Horizontal lines mark the places of junction.

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214

x	v_x
76	203,477 *
	218,838
	235,714
	253,705
	272,838
	1184,572s
81	293,865
	317,533
	343,715
	371,886
	400,755
	2912,326s
86	427,580
	448,720
	465,852
	482,502
	502,601
	5239,581s
91	525,036
	546,158
	566,944
	593,084
	625,748
	8096,551s
96	662,879
	701,312
	740,245
	784,819
	836,731
	11822,537s
101	894,889
	956,378
	1019,514
	1083,736
	1151,352
	16928,406s
106	1222,408
	1297,670
	1376,782
	1460,284
	(46) 22285,550*

215

Check on v_x *

23045	246,879
23045	246,879
23045	246,879
23045	246,879
23045	246,879
23045	246,879
24888	232,812
24888	232,812
24888	232,812
24888	232,812
24888	232,812
27007	219,783
27007	219,783
27007	219,783
27007	219,783
29129	207,385
29129	207,385
29129	207,385
31065	195,561
31065	195,561
32985	184,294
553240	4722,037*
	*
3937261	
3937261	
3937261	
3937261	
3937261	4722,037
3937261	553,240
3937261	22285,550
(39) 27560827	27560,827* (39)

216

x	$w_x = v_x \div 5$
76	40595 *
	43768 996
	47143 998
	50741
	54568 996
	236915 2,994s
81	58773
	63507 996
	68743
	74377 2
	80151
	582466 3,992s
86	85516
	89744
	93170 4
	96500 4
	100520 2
	1047916 4, 2s
91	105007 2
	109232 996
	113389 998
	118617 998
	125150 996
	1619311 7,992s
96	132576 998
	140262 4
	148049
	156964 996
	167346 2
	2364508 9,994s
101	178978 998
	191276 996
	203903 998
	216747 2
	230270 4
	3385682 12,992s
106	244482 996
	259534
	275356 4
	292057 998
	4457111 14,990*

217

*
44571,110
999999999999999,990
44571,100s
44571,100
44571,100
44571,100
44571,100
(46) 222855,500*

218

$V_x = \sum_{x-2}^{x+2} w_x$ *

236915		546,765
959305		99899,480
58773		123,150
254993	1	571,395s
956232		99894,993
63507		132,576
274732	2	598,964s
952857		99890,768
68743		140,262
296332	3	629,994s
949259		99886,611
74377		148,049
319968	4	664,654s
945432		99881,383
80151		156,964
345551	5	703,001s
941227		99874,850
85516		167,346
372294	6	745,197s
936493		99867,424
89744		178,978
398531	7	791,599s
931257		99859,738
93170		191,276
422958	8	842,613s
925623		99851,951
96500		203,903
445081	9	898,467s
919849		99843,036
100520		216,747
465450	10	958,250s
914484		99832,654
105007		230,270
484941	11	1021,174s
910256		99821,022
109232		244,482
504429	12	1086,678s
906830		99808,724
113389		259,534
524648	13	1154,936s
903500		99796,097
118617		275,356
546765	14	1226,389s
	14	1226,389*
		99783,253
		292,057
(41)	15	1301,699*

219

*
230,270
99966614,318
4457,111
(41) 1301,699*

220

x	V_x
78	236,915 *
	254,993
	274,732
	296,332
	319,968
	1382,940s
83	345,551
	372,294
	398,531
	422,958
	445,081
	3367,355s
88	465,450
	484,941
	504,429
	524,648
	546,765
	5893,588s
93	571,395
	598,964
	629,994
	664,654
	703,001
	9061,596s
98	745,197
	791,599
	842,613
	898,467
	958,250
	13297,722s
103	1021,174
	1086,678
	1154,936
	1226,389
	1301,699
	19088,598*

221

Check on V_x *

40695	292,057
40695	292,057
40695	292,057
40695	292,057
43768	275,356
43768	275,356
43768	275,356
47143	259,534
47143	259,534
50741	244,482
	439,111
	19088,598
439111	22285,555* (42)
	*
	4457,111
	4457,111
	4457,111
	4457,111
	4457,111
	22285,555* (42)

222

$10^7 q_x = \sum_{x-2}^{x+2} V_x$ *

1382940		2746,201
9763085		99495,571
345551		629,994
1491576	1	2871,766s
9745007		99475,352
372294		664,654
1608877	2	3011,772*
9725268		99453,235
398531		703,001
1732676	3	3168,008s
9703668		99428,605
422958		745,197
1859302	4	3341,810s
1859302	4	3341,810s
9680032		99401,036
445081		791,599
1984415	5	3534,445s
9654449		99370,006
465450		842,613
2104314	6	3747,064s
9627706		99335,346
484941		898,467
2216961	7	3980,877s
9601469		99296,999
504429		958,250
2322859	8	4236,126s
9577042		99254,803
524648		1021,174
2424549	9	4512,103s
9554919		99208,401
546765		1086,678
2526233	10	4807,182s
9534550		99157,387
571395		1154,936
2632178	11	5119,505s
9515059		99101,533
598964		1226,389
2746201	12	5447,427s
		99041,750
		1301,699
	13	5790,876s (43)

223

*
9986702,278
19086,598
5790,876s (43)

224

x	$10^7 q_x$
80	1382,940 *
	1491,576
	1608,877
	1732,676
	1859,302
	8075,371s
85	1984,415
	2104,314
	2216,961
	2322,859
	2424,549
	19128,469s
90	2526,233
	2632,178
	2746,201
	2871,766
	3011,772
	32916,619s
95	3168,008
	3341,810
	3534,445
	3747,064
	3980,877
	50688,823s
100	4236,126
	4512,103
	4807,182
	5119,505
	5447,427
	74811,166s
105	5790,876
	806,02,042s (45)

225

Check on $10^7 q_x$ *

236915	1301,699
236915	1301,699
236915	1301,699
236915	1301,699
254993	1226,389
254993	1226,389
254993	1226,389
274732	1154,936
274732	1154,936
296332	1086,678
2558435	12282,513*

CALCULATION OF LIFE TABLE FUNCTIONS.

229. All the rates of mortality for the life tables being selected, the next step was to collect and base a life table on their complements, or p_x. These values are given on the right of tape 146 for ages by months under 1 year and by years from 1 to 4; on the right of tape 173 for ages 5 to 79; in the middle of tape 226 from 80 to 104; and on the left of tape 205 from 105 to 115.

The radix of the life table was taken as 100,000 at age 0. From the value of p_x mentioned above the values of l_x were determined to the nearest fourth decimal according to equation (51). In tapes 229, 231, and 232 additions of values of l_x, required by equations (52) to (55) on pages 351 and 352, are made as a first step in obtaining tape 233 for ages by months under 1 year, tape 235 for ages 1 to 4 years, and tape 236 for ages 5 to 112. The machine is split between banks 14–15 and the age of the l_x entered opposite it on the left; this age appears again in the total where it represents the age of the L_x which will be derived from this total. Time can be saved and accuracy increased by entering these values of l_x, as computed, upon the adding machine in tapes 229, 230, and 232 instead of making a separate copy of them.

Following equation (54) on page 351, 100,000.0000 is set up on the adding machine and 95,264.8 added to it three times with the repeat key, and a total taken. Then, in accordance with equation (55), just beneath this total, 95,264.8000 is set up again with 1 in bank 15 to indicate the age of 95,264.8000. Then $p_1^{(12)}$, or .986,500, is set up on the computing machine and multiplied by 95,264.8, and the product, 93,978.7252, taken to the nearest fourth decimal, is entered on the adding machine beneath the 95,264.8000, and a total taken. The 93,978.7252 is then set up on the adding machine just below this total, with 2 in bank 15, and also upon the computing machine, where it is multiplied by $p_2^{(12)}$, and the process repeated. Only the work for a few ages is set down here.

230. When the equations (52) on page 351 are added the following is obtained:

$$100\sum_{x=1}^{x=4} L_x = 41l_1 + 106l_2 + 101l_3 + 100l_4 + 52l_5. \quad (87)$$

Following equation (87), l_1 was set up in unit's place in tape 230 and then repeated four times in ten's place; l_2 was set up in unit's place, again in hundred's place, and one-half of it in ten's place; l_3 was set up in unit's place and again in hundred's place; l_4 was set up in hundred's place; l_5 was repeated twice in unit's place and one-half of it set up in hundred's place. The final sum is used as a check on the work in tapes 231 and 235.

On the left the age is set opposite the entry of each l_x in unit's place, except that 4 is set opposite $100l_4$.

231. In tape 231 the l_x added in tape 230 are again added to obtain the values for each of the four equations (52) on page 351. Hence l_1 is set once in unit's place and repeated four times in ten's place, and to this is added l_2 once in ten's place, the complement of l_2 in unit's place, one-half of l_2 in hundred's place, and a total taken. Then one-half of l_2 is set up in hundred's place, the complement of l_2 is repeated three times in unit's place, and to this is added l_3 repeated three times in unit's place, and one-half of l_3 added in hundred's place, and a total taken. The complement of l_3 is repeated twice in unit's place, one-half of l_3 is set up in hundred's place, and to this is added l_4 repeated twice in unit's place, and one-half of it in hundred's place. In the same way the complement of l_4 is repeated twice in unit's place, one-half of l_4 is added in hundred's place, then l_5 is repeated twice in unit's place, and one-half of it added in hundred's place. These four totals in tape 231 are 10^6L_x for ages 1 to 4 years.

232. Beginning with age 5, l_x is added to l_{x+1} according to equation (53), the age appearing in banks 16–17 opposite l_x and again in the total, from which L_x will be derived. The work for only a few ages at the beginning and for ages 80 to 115, the latter being used in tapes 243 and 245, is all that is shown here. Age 112 is the last one to appear, since l_x for ages higher is less than .00005.

233. According to equations (54) and (55) on pages 351 and 352, the first sum in tape 229 should be divided by 48 to obtain $L_0^{(12)}$, and the other sums by 24 to obtain the remaining $L_x^{(12)}$. These quotients are set down to the nearest fourth decimal place in tape 233, a space being made between the sixth and seventh values, and a subtotal taken at the end. This subtotal was set up once in unit's place, once in ten's place, and a total taken, which is twelve times the sum of the $L_x^{(12)}$. This total is for checking purposes.

234. If the values of x from 1 to 11 months be substituted in equation (55) on page 352, eleven equations are obtained. If these eleven equations and equation (54) on page 351 be each multiplied by 12 and added together, the following equation is obtained:

$$\begin{aligned} 12\sum_{x=0}^{x=11} L_x^{(12)} &= (l_0^{(12)} + 3l_1^{(12)})/4 + (l_1^{(12)} + l_2^{(12)})/2 + \\ &\quad (l_2^{(12)} + l_3^{(12)})/2 + \ldots\ldots \\ &\quad \ldots\ldots + (l_{11}^{(12)} + l_{12}^{(12)})/2 \\ &= l_0^{(12)}/4 + l_1^{(12)}/4 + l_1^{(12)} + l_2^{(12)} + l_3^{(12)} + \\ &\quad \ldots\ldots + l_{11}^{(12)} + l_{12}^{(12)}/2. \end{aligned} \quad (88)$$

Accordingly, one-fourth of $l_0^{(12)}$ and $l_1^{(12)}$, 25,000.0000 and 23,816.2000, respectively, are set down in tape 234, followed by the other $l_x^{(12)}$, beginning with $l_1^{(12)}$ and ending with one-half of l_1, the survivors to one year. As indicated by the mark ⊗, the totals in

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```
                                  *
19088598  12282,513
19088598   2558,439
19088598  80602,042
19088598
19088598  95442,990*  (44)

95442990 (44)                     *
```

226

```
          10⁶px      10⁶qx
                                  *  x
        861706   138,294   80
96      850842   149,158
97      839112   160,888
96      826732   173,268
 2      814070   185,930

95      801558   198,442   85
 4      789569   210,431
 1      778304   221,696
99      767714   232,286
99      757545   242,455

 3      747377   252,623   90
98      736782   263,218
 1      725380   274,620
96      712823   287,177
 2      698823   301,177

98      683199   316,801   95
        665819   334,181
95      646555   353,445
 4      625294   374,706
97      601912   398,088

96      576387   423,613  100
 3      548790   451,210
 2      519282   480,718
95      488049   511,951
97      455257   544,743

96      420912   579,088  105

7317939793 8060207*
```

227

```
                                  *
9999999972
  80602070

  80602042 (45)                   *
```

228

```
10⁵qx      δ10³qx     δ²      x
                                 *
           9616       739
                                 *
 9616       739        6      75
10355       745       24
11100       769      110
11869       879      202
12748      1081        6

13829      1087       86      80
14916      1173       65
16089      1238       28
17327      1266     99,985
18593      1251     99,948

19844      1199     99,928    85
21043      1127     99,932
22170      1059     99,958
23229      1017     99,999
24246      1016         44

25262      1060       80      90
26322      1140      116
27462      1256      144
28718      1400      162
30118      1562      176

31680      1738      189     95
33418      1927      199
35345      2126      212
37471      2338      214
39809      2552      208

42361      2760      191    100
45181      2951      172
48073      3123      156
51195      3279      123
54474      3402      173

57876      3575      177    105
61451      3752      177
65203      3929      175
69132      4104
73236

           732366   4,104*
```

229

```
x        l_x^(12)
                                  *
0      1000000,000*
        952648,000
        952648,000
        952648,000

0      3857944,000*
                                  *
1       952648,000
       939787,252

1      1892435,252*
                                  *
2       939787,252
       929033,266

2      1868820518*
                                  *
                                  *
                                  *
                                  *
                                  *
11      877560,274
       872865,327

11     1750425,601*
```

230

```
x        l_x
                                  *
1       872865,327
      8728653,270
      8728653,270
      8728653,270
      8728653,270
2      843499,519
     42174975,95
     843499951,900
3      830371,292
    830371 29,200
4     822644 68,700
5      817255,542
       817255,542
    40862777,100

(47) 3338276847 97*
```

231

```
x        L_x
                                  *
        872865,327
      8728653,270
      8728653,270
      8728653,270
      8728653,270
      8434995,190
999999156500,481
     42174975,950

1     855539500,028*
                                  *
999999156500,481
999999156500,481
999999156500,481
     42174975,950
       830371,292
       830371,292
       830371,292
     415186564,600

2     836541 55,869*
                                  *
999999169628,708
999999169628,708
     415186564,600
       822644,687
       822644,687
     411322234,350

3     826355345,740*
                                  *
999999177355,313
999999177355,313
     411322234,350
       817255,542
       817255,542
     408627 77,100

4     819842 33,160*
```

232

```
x        l_x + l_x+1
                                  *
5       817255,542
        818857,073

5      1630112,615*
6       818857,073
        809237,420

6      1622094,493*
                                  *
                                  *
                                  *
                                  *
```

```
                                  *
60      995145,451  (49)
                                  *
        857522,200

80     1852666,651*
81      857522,200
        729615,73

81     1587713,773*
82      729615,73
        612229,31

82     1341845,04*
83      612229,31
        506145,56

83     1118377,867*
84      506145,56
        412047,117

84     918197,073*
85      412047,117
        330277,490

85     742316,07*
86      330277,490
        260774,482

86     591044,972*
87      260774,482
        202966,209

87     463736,691*
88      202966,209
        155861,684

88     358777,893*
89      155861,684
        118033,827

89     273855,511*
90      118033,827
        88219,09

90     206255,736*
91      88219,09
        64998,824

91     153217,33*
92      64998,824
        47148,42

92     112146,66*
93      47148,42
        33608,48

93      8075,690*
94      33608,48
        23486,38

94      5709,486*
95      23486,38
        16047,87

95      3953,225*
96      16047,87
        10683,65

96      2672,952*
97      10683,65
         6907,57

97      1759,122*
98       6907,57
         4319,26

98      1122,683*
99       4319,26
         2599,81

99       691,907*
100      2599,81
         1498,50

100      409,831*
101      1498,50
          822,36

101      232,086*
102       822,36
         427,04

102      124,940*
103       427,04
         208,42

103       63,546*
104       208,42
          94,88

104       30,330*
105       94,88
          39,97

105       13,485*
106       39,97
          12,41

106        5,538*
```

```
107                   1,541
                        536

107                   2,077*
108                     536
                        165

108                     701*
109                     165
                         44

109                     209*
110                      44
                         10

110                      54*
111                      10
                          2

111                      12*
112                       2

112                       2*
```

233

```
x        L_x^(12)
                                  *
        803373,833
1       788514,469
2       778677,522
3       770388,806
4       763267,04
5       757014,550

6       751448,06
7       746413,75
8       741776,90
9       737435,643
10      733314,66
11      729344,400

       910133,264
       910133,264
       910133,640

1092159 9,168*  (46)
```

234

```
                                  *
       250000,000
       238162,000
       952648,000
       939787,252
       929033,266
       919898,082
       911942,803
       904894,397
       898580,949
       892812,059
       887452,508
       882394,916
       877560,274
       436432,564

1092159 9,170*  (46)
```

235

```
x        L_x
                                  *
1     855539500,028
2     836541 55,869
3     826355345,740
4     819842 33,160

333827 684,797*  (47)
```

236

```
x        L_x
                                  *
5      81506
       81506

       163012                     *
6      81105
       81105

       162210                     *
                                  *
                                  *
                                  *
                                  *
                                  *
80      926333,260
        926333,260

       1852666,520*
81      793568,870
        793568,870

       1587137,740*
                                  *
                                  *
                                  *
```

tapes 233 and 234 agree, thus checking the results for $L_x^{(12)}$ by months under 1 year of age.

235. The totals obtained in tape 231, or L_x, from ages 1 to 4 years are added in tape 235, and, as indicated by the mark ㊼, the totals in tapes 235 and 230 agree, thus checking the work on these values of L_x.

236. Then the totals in tape 232 are divided mentally by two and the results entered in tape 236 to the nearest integer; these are repeated twice by the repeat key, and a total taken. However, beginning with age 80 and continuing to age 112, the quotient to the nearest fourth decimal was entered in tape 236, in order to obtain the values in tape 243 and the measure of vitality according to sections 242 and 245. Only ages 5 and 6, 80 and 81, and 103 to 112 are shown here. The other values between ages 6 and 80 can be obtained from the life table on page 162, and those between ages 81 and 103 can be obtained by taking one-half of the sum in tape 232. For the benefit of the reader the ages are indicated in banks 16–17. In practice the sums can be marked off in groups of five with a pencil.

237. The values for l_x in tapes 229, 230, and 232 were copied in column 2 of the life table on page 162 to the nearest integer, so that age 105–106 is the last age interval appearing in the life table.

238. These l_x in column 2 of the life table are then differenced and the differences set down in column 3. These, of course, are the d_x.

239. L_x, to the nearest integer, from tapes 233, 235, and 236, is copied in column 6 of the life table on page 162, the last age interval being 105–106. It is well to check this copying of the L_x, since any error in them will destroy the value of the next work.

240. The d_x, section 238, are checked on tape 240 by starting with l_{106}, or zero, and adding to it d_{105}, then d_{104}, d_{103}, and so on, comparing the total, seen through the glass at the base of the machine, after each addition with the corresponding l_x. Of course, the fact that the sum of the d_x is 100,000 is a check, but compensating errors would not change the total. To render this work more compact, the machine was split between banks 10–11, the first part of the addition performed in banks 10 to 17, and a subtotal taken after the addition of deaths in age interval 45–46. Then the tape was rolled back, this subtotal set up in banks 1 to 5, and the remaining d_x added.

To check the deaths by months under 1 year, the survivors to age 1 year, 87,287, is set up on the adding machine, $d_{11}^{(12)}$ added, then $d_{10}^{(12)}$, and so on, the total after each addition being compared with the corresponding $l_x^{(12)}$.

241. Following equation (56) on page 352, the values of T_x were obtained by summing the values of L_x in column 6 of the life table, page 162, beginning with age 105–106, and taking a subtotal after each addition, the subtotal being T_x. The final total, or T_0, was then compared with that obtained by the operator who duplicated this work.

In order to condense this addition the machine was split between banks 9–10, the first part of the addition through age interval 45–46 performed on the left of the tape, and then a subtotal taken. The tape was then rolled back and this subtotal set up in banks 1 to 7 and the rest of the addition performed.

242. According to equations (58) on page 352, $\lambda_x^{(12)} = 12L_x^{(12)}/d_x^{(12)}$ and $\lambda_x = L_x/d_x$, where L_x and d_x are taken to the nearest integer, that is, from columns 7 and 3, respectively, of the life table on page 162, up to age 80; but from that age to age 105, L_x to four places of decimals was obtained from the last part of tape 236 and the d_x to four places of decimals was obtained from tape 242.

Referring back to tape 232, the values of l_x to the nearest fourth decimal are grouped, each two consecutive ages together, the age of the younger value appearing opposite it on the left. These values were differenced mentally from age 80 to age 105 and the results set down in tape 242. At the end a subtotal was taken and l_{106} added to it, giving l_{80} as the total, as indicated by the mark ㊾, which is only a partial check on the work, since compensating errors could not be detected in this way. However, since signs were not considered in this differencing, the usual way of checking could not be used as in tapes 149 to 152, and to have written these d_x in an order reverse to that in tape 232 would have caused confusion in performing the divisions mentioned above.

243. From equation (57) on page 352, $\mathring{e}_x = T_x/l_x$. T_x and l_x are taken to the nearest integer, or from columns 8 and 2, respectively, of the life table on page 162, up to age 80, but from that age on to the end of the life table, age 105, T_x to four decimal places is taken from tape 243, while l_x to four decimal places is taken from tape 232.

In tape 243 the L_x are added to four decimal places, beginning with age 112 in tape 236 and ending with age 80, a subtotal being taken after each addition beginning with age 105. This gives the T_x mentioned just above. The mark ㊽ indicates that the results for T_{80} in tapes 243 and 241 practically agree.

244. These subtotals in tape 241, or T_x, were then copied in column 8 of the life table on page 162.

245. The divisions indicated in the first paragraph of section 242 were made and the quotients to the nearest second decimal set down in column 7 of the life table on page 162.

246. Then the divisions indicated in the first paragraph of section 243 are made and the quotients to the nearest second decimal set down in column 5 of the life table on page 162.

247. According to equation (59) on page 352, the values of $1000l_x/T_x$ were obtained by multiplying the reciprocals of the values in column 5 of the life table on page 162 by 1,000 and entering the results in column 9 of the life table to the nearest second decimal. Barlow's Table of Reciprocals was used.

CALCULATIONS OF THE LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

	*
	*
103	31,773
	31,773
	63,546*
104	15,165
	15,165
	30,330*
105	6,743
	6,743
	13,486*
106	2,769
	2,769
	5,538*
107	1,039
	1,039
	2,078*
108	351
	351
	702*
109	105
	105
	210*
110	27
	27
	54*
111	6
	6
	12*
112	1
	1
	2*

240

d_x	*
	61,885
1	920
1	896
2	871
4	848
7	827
11	807
17	786
26	767
38	744
53	714
75	679
101	645
135	610
179	577
232	548
298	526
378	505
472	484
578	468
695	457
817	448
941	440
1061	433
1174	419
1279	394
1376	361
1454	328
1536	297
1616	266
1682	237
1727	213
1758	195
1783	185
1800	184
1811	194
1812	216
1806	251
1793	299
1772	362
1752	440
1735	538
1716	773
1689	1,313
1656	2,937
1618	12,713
1573	
1523	100,000*
1473	*
1422	87,287
1364	469
1301	483
1242	506
1190	536
1143	577
1106	631
1078	705
1053	796
1027	913
1002	1,076
974	1,286
947	4,735
61885	100,000*

241

x	T_x	x	T_x
105	1	45	1394,023*
	2		62,345
	3		1456,368s
	3		63,253
	6		1519,621s
	6		64,136
	12		1583,757s
	12		64,996
	24		1648,753s
100	20	40	65,834
	44		1714,587s
	35		66,651
	79		1781,238s
	56		67,447
	135		1848,685s
	88		68,224
	223		1916,909s
	134		68,979
	357		1985,888s
95	196	35	69,708
	555		2055,596s
	285		70,404
	840		2126,000s
	404		71,067
	1244		2197,067s
	561		71,694
	1805		2268,761s
	766		72,288
	2571		2341,049s
	1031	30	72,850
	3602		2413,899s
	1369		73,367
	4971		2487,286s
	1794		73,902
	6765		2561,188s
	2319		74,397
	9084		2635,585s
	2955		74,873
	12039		2710,458s
	3712	25	75,335
	15751		2785,793s
	4591		75,788
	20342		2861,581s
	5592		76,232
	25934		2937,813s
	6709		76,669
	32643		3014,482s
	7936		77,095
	40579		3091,577s
	9263	20	77,501
(48)	49842		3169,078s
	10678		77,878
	60520		3246,956s
	12173		78,223
	72693		3325,179s
	13749		78,536
	86442		3403,715s
	15398		78,817
	101840		3482,532s
	17103	15	79,068
	118943		3561,600s
	18845		79,293
	137788		3640,893s
	20616		79,497
	158404		3720,390s
	22407		79,687
	180811		3800,077s
	24213		79,872
	205024		3879,949s
	26024	10	80,061
	231048		3960,010s
	27833		80,266
	258881		4040,276s

258881	4040,276s
29632	80,499
288513	4120,775s
31415	80,774
319928	4201,549s
33177	81,105
353105	4282,654s
34921 5	81,506
388026	4364,160s
36646	81,984
424672	4446,144s
38349	82,635
463021	4528,779s
40021	83,654
503042	4612,433s
41658	85,554
544700	4697,987s
43253	91,012
587953	0 4788,999*
44802	$T_x^{(m)}$
632755	4697,987s
46300	7,293
679055	4705,280s
47747	7,333
726802	4712,613s
49140	7,374
775942	4719,987s
50473	7,418
826415	4727,405s
51744	7,464
878159	4734,869s
52960	7,514
931119	4742,383s
54127	7,570
985246	4749,953s
55251	7,633
1040497	4757,586s
56343	7,704
1096840	4765,290s
57408	7,787
1154248	4773,077s
58449	7,885
1212697	4780,962s
59463	8,037
1272160	4788,999*
60451	
1332611	s
61412	
1394023	*

242

x	d_x *
80	13762,251
	12790,627
	11738,642
	10607,975
	9410,839
85	8176,627
	6950,008
	5781,273
	4714,525
	3777,857
90	2981,918
	2322,085
	1784,982
	1353,994
	1012,210
95	744,051
	536,222
	377,608
	258,831
	171,945
100	110,131
	67,614
	39,532
	21,862
	11,354
105	5,491
	99510,454s

	99510,454s
	3,997
(49)	99514,451*

243

x	T_x
	*
	1
	6
	27
	105
	351
	1,039
	2,769
	6,743
105	11,041s
	15,165
	26,206s
	31,773
	57,979s
	62,470
	120,449s
	116,043
	236,492s
	204,916
100	441,408s
	345,954
	787,362s
	561,342
	1348,704s
	879,561
	2228,265s
	1336,476
	3564,741s
	1976,613
95	5541,354s
	2854,743
	8396,097s
	4037,845
	12433,942s
	5607,333
	18041,275s
	7660,867
	25702,142s
	10312,868
90	36015,010s
	13692,756
	49707,766s
	17938,947
	67646,713s
	23186,846
	90833,559s
	29552,486
	120386,045s
	37115,804
85	157501,849s
	45909,537
	203411,386s
	55918,944
	259330,330s
	67092,252
	326422,582s
	79356,887
	405779,469s
	92633,326
80	498412,795* (48)

248. From tapes 146, 173, 226, and 205 the values of $1{,}000q_x$ were copied to the nearest second decimal in column 4 of the life table on page 162, according to the ages shown in columns 17–22, line 56, Table 135, page 419.

249. Then the duplicate life table values were carefully compared.

CALCULATION OF RATES OF MORTALITY JOINING THOSE UNDER AGE 5 WITH THOSE BY OSCULATORY INTERPOLATION, FOR WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES, 1901.

250. Beginning with the left side of Table 118 on page 352, the values for the first four columns are set down in order in tape 250. As will be seen from columns 9 and 10, line 29, of Table 135 on page 416, 10^6q_3 was taken from tape 146 and 10^6q_{13} and 10^6q_{14} from tape 173 of the calculation of rates of mortality for white females in cities of the original registration states, 1901, which, of course, are not shown in the preceding computations.

251. The next two columns in Table 118, page 352, are entered in tape 251, the multiplications and subtractions being performed mentally. A check on this work is obtained by adding the fractional part of the sum of $10^6(2-q_x)$ to the sum of $2(10^6q_x)$, the total being the sum of 10^6q_x in tape 250, as indicated by the mark ⑤⓪. The ages are entered in banks 16–17, the machine being split between banks 8–9 and 15–16.

252. The values of $m_x=2q_x/(2-q_x)$, to the nearest twelfth decimal place, were entered on the right of tape 252, being obtained from the values in tape 251. The object in taking so many decimal places at this and several other points in these calculations was to relieve the operator of any consideration of the problem of the minimum number of places necessary to insure a final check to a specified number of decimal places on the quantities or values sought or to be calculated. In banks 16–17 the ages are entered and the products of $u_x\,v_x$, obtained mentally from their values in tape 250, are copied in ink to the right of them.

253. The values of U_x, determined from the values in tape 252, according to the formula $U_x=m_x/u_xv_x$ in Table 118, page 352, were entered to the nearest thirteenth decimal place in tape 253. The total is $10^{13}U$. The ages are entered in banks 16–17, and between them and the U_x the factors of U_x are copied from the last column of Table 118.

254. The sum of the products of the corresponding values in the two columns of tape 253 was obtained by entering U_3 once in unit's place and twice in ten's place, U_{13} once in unit's place and once in ten's place, and U_{14} once in ten's place, the total being $10^{13}V$, according to the last column in Table 118.

255. The first four columns in Table 119, page 353, are entered in tape 255. Where a number of tables are to be computed from the values for the same ages of x, these four columns, together with the first three in tape 250 and those in ink in tapes 252 and 253, were entered in a table used to outline the work, and it was not necessary that they be entered upon the tape.

256. The deaths used in these computations are for the three-year period 1900–1902, and the population at the middle of the period would be as of July 1, 1901. In banks 10 to 15 were entered the population aged 3 on July 1, 1910, and in banks 1 to 6 the population aged 4 at this date. These were taken from column 2 of Table 148 on page 439. To these were added the complements of the population aged 3 and 4, respectively, on July 1, 1900, and then ten times the populations aged 3 and 4, respectively, on July 1, 1900, obtained from column 7 of Table 171 on page 462. The sum is ten times the estimated populations aged 3 and 4, respectively, on July 1, 1901. According to columns 3 and 6, line 29, Table 135, on page 416, P_3 and P_4 are taken from the original statistics for both 1900 and 1910, but L_5 to L_{14} are taken from tape 161 for white females in cities of the original registration states, 1901. In other words, the estimation of population as of July 1, 1901, was made between population in quinquennial age groups from Tables 148 and 171; then the interpolation into population by single years of age was made.

257. The last four columns in Table 119 on page 353 are entered in tape 257 with the order of the last three columns reversed in order to put two columns side by side on the tape. The column of L_x was obtained from tape 256, which shows here only P_x for the *two* ages 3 and 4.

Since the deaths upon which this work is based are for a three-year period, the populations had to be multiplied by three. Hence the subtotals of each column were repeated twice, so that the final total is three times the sum of the column; that is, the final totals are $3\Sigma L_x$, $3\Sigma y^3L_x$, $3\Sigma y^2L_x$, and $3\Sigma yL_x$.

258. Substituting the values of e and f from tape 253 in equation (64) on page 352, the equation for K becomes

$$K=\frac{M-U\Sigma y^2L_x+V\Sigma yL_x-110U_3\Sigma L_x}{\Sigma y^3L_x-21\Sigma y^2L_x+110\Sigma yL_x}. \qquad (89)$$

At the beginning of tape 258 the deaths for ages 3, 4, 5–9, and 10–14, taken from column 11 of Table 171 on page 462, are added to obtain M. A subtotal is taken, and to this are added the other quantities in the numerator of the above equation. The decimal point is between banks 6 and 7. The values of U and U_3 were obtained from tape 253, V from tape 254, and the $3\Sigma L_x$, $3\Sigma yL_x$, $3\Sigma y^2L_x$, and $3\Sigma y^3L_x$ from totals in tape 257. The three products were taken to the nearest sixth decimal place, as indicated by the vertical lines; the complements of the first and last products were entered. The machine was split between banks 13–14. It will be noted that the sum of these products is a negative number; hence after taking a subtotal the complement of this subtotal was added to it, thus showing that the sum of the four quantities in the numerator in the above equation for K is $-2{,}475.529993$.

REGRADUATION OF THE RATES OF MORTALITY OF WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES, 1901, BETWEEN AGES 3 AND 13, TAPES 250–263, AND CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901–1910, BEGINNING WITH TAPE 264

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

250

x	u_x	v_x	$10^6 q_x$
3	-10	-11	12,179 *
13	- 1	10	2,701
14	11	1	2,974
	22	22	17,854 * (50)

251

x	$10^6(2q_x)$	$10^6(2-q_x)$
3	24358	1987,821 *
13	5402	1997,299
14	5948	1997,026
	999982146	
(50)	17854	5982,146 *

252

x	$u_x v_x$	$10^{12} m_x$
3	110	12253618,409 *
13	-10	2704652,633 (51)
14	11	2978428,924
		17936699,966 *

253

x		$10^{12} U_x$
3	e+f=21	1113965,310 *
13	f=11	9972953 47,367
14	e=10	2707662,658

$10^{12} U$ ← 1116975,335 *

254

$V = (e+f)U_3 + f U_{13} + e U_{14}$ *

1113965,310
11139653,100
11139653,100
99972953 47,367
99729534 73,670
2707662 6,580

$10^{12} V$ → 20718719,127 *

255

x	y	y^2	y^3
3			*
4	1	1	1
5	2	4	8
6	3	9	27
7	4	16	64
8	5	25	125
9	6	36	216
10	7	49	343
11	8	64	512
12	9	81	729
13	10	100	1,000
14	11	121	1,331

256

$x=3$	${}_{1901}P_x$	$x=4$
1458 12		137,387 *
9988871	8999891,025	
1112810		1089,750
114734 1		1118,162 *

257

$3\sum_{y=3}^{y=14} L_x$	$3\sum_{y=3}^{y=14} y^3 L_x$
114734	*
111816	111,816
115343	922,744
109651	2960,577
104950	6716,800
101189	12648,625
98315	21236,040
96276	33022,668
95022	48651,264
94499	68989,772
94656	94656,000
95441	127031,971
1231892	416848,276 s
1231892	416848,276
1231892	416848,276
3695676	1250544,828 *

$3\sum_{y=3}^{y=14} y^2 L_x$	$3\sum_{y=3}^{y=14} y L_x$
111816	111,816 *
461372	230,686
986859	328,953
1679200	419,800
2529725	505,945
3539340	589,890
4717524	673,932
6081408	760,176
7654419	850,491
9465600	946,560
11548361	1049,851
48775624	6468,100 s
48775624	6468,100
48775624	6468,100
146326872	19404,300 *

258

$M - U(3\Sigma y^3 L_x) + V(3\Sigma y L_x) - 110 U_3(3\Sigma L_x)$ *

4126
3107
7818
3900
M → 18951 (52) s
9983655 649,313
40203 224,161
9954714 596,533
19997524 470,007 s
2475 529,993

$3\Sigma y^3 L_x - 21(3\Sigma y^2 L_x) + 110(3\Sigma y L_x)$ *

1250544828
9985367312 8
9853673128 0
9853673128 0
194043000
1940430000
312153516 *

259

100 K →	9992069511,000 *
	793048,900
	1116975,335
	9979281280,873
δm_3	9973260816,108 *

260

x	$\delta^2 m_x$
	9999920695,110 *
	9999603475,550
$\delta^3 m$	9999524170,660 s
	9997620853,300
	2854976,040
	2854976,040
	1116975,335
	1116975,335
3	5088926,710 s
	9999524170,660
4	4613097,370 s
	9999524170,660
5	4137268,030 s
	9999524170,660
6	3661438,690 s
	9999524170,660
7	3185609,350 s
	9999524170,660
8	2709780,010 s
	9999524170,660
9	2233950,670 s
	9999524170,660
10	1758121,330 s
	9999524170,660
11	1282291,990 s
	9999524170,660
12	806462,650 *

261

δm_x
9973260816,108 *
5088926,710
9978349742,818 s
4613097,370
9982962840,188 s
4137268,030
9987100108,218 s
3661438,690
9990761546,90 s
3185609,350
9993947156,258 s
2709780,010
9996656936,268 s
2233950,670
9998890886,938 s
1758121,330
649008,268 s
1282291,990
1931300,258 s
806462,650
2737762,908 *

262

x	m_x
3	.12253618 4,090 *
	9973260816,108
4	9579700 0,198 s
	9978349742,818
5	7414674 3,016 s
	9982962840,188
	5710958 3,204 s
	9987100108,218
	4420969 1,422 s
	9990761546,908
	3497123 8,330 s
	9993947156,258
	2891839 4,598 s
	9996656936,268
10	2557533 0,856 s
	9998890886,938
	2446621 7,794 s
	6490082,68
	2511522 6,062 s
	1931300,258
(51)	2704652 6,320 s
	2737762,908
	2978428 9,228 *

263

$L_x m_x$	x	$10^6 q_x$
1405 91	3	12,179 *
1071 16	4	9,534
855 23	5	7,387
626 21		5,695
463 98		4,411
353 87		3,491
284 31	9	2,888
246 23	10	2,554
232 48		2,444
237 34		2,508
256 01		2,701
284 26	14	2,974
6316 99		56,766 *
6316 99		
6316 99		
M → 18950 97 (52)		*

264

11666100 ← $P_{1910\text{-}April\text{-}15}$

9764368 ← $P_{1900\text{-}June\text{-}1}$

$r^{\frac{115}{365}}$ → 1,19476243

.07728067,000 *
72,800
14,560
1,092

$\log r^{\frac{115}{365}}$ → .07728155,452 *

$\log r$ → .07825980,204

$\log r^{\frac{1}{10}}$ → .00456515,512

λr → .1801998,543

r → 1,1974566,4

$r^{\frac{1}{10}}$ → 1,0105671,0

α → 1,1073437,59

β → .9511522,885

265

x	1910	1900	P_x *
100	66	77	968
101	18	21	991
102	13	15	10
103	9	10	946
104	9	10	46
105	6	7	997
106	5	6	981
107	5	6	981
108	1	1	16
109			
110	1	1	16
111	1	1	16
112			
113			
114	1	1	16
115	1	1	16
	136	158	5,200 *

158/136 − 1,161764,706 *

266 $\sum_{0}^{x} P_x$ and $\sum_{x}^{x+4} P_x$

x	1900	1910 *
0	212913	246,894
	192081	220,149
	201087	240,446
3	203444	236,536
	809525	944,025 *
4	201067	227,068
	198375	221,160
	199073	220,577
	194928	215,149
8	192272	210,272
	985715	1094,226 *
9	184770	202,694
	188625	208,958
	176004	197,363
	177908	213,633
13	172162	205,386
	899469	1028,034 *
14	175651	207,645
	175345	200,352
	181198	222,241
	178306	215,781
18	185433	238,902
	895933	1084,921 *

To obtain the denominator in this equation, $3\Sigma y^3 L_x$ was added to the complement of 21 times $3\Sigma y^2 L_x$ and 110 times $3\Sigma y L_x$, the quantities being taken from tape 257. The products of the last two by 21 and 110, respectively, were obtained by addition in the same way as those in tape 254.

259. Substituting the values of e and f from tape 253 in equations (65) on page 353, these become

$$\delta m_3 = U - V + 90K.$$
$$\delta^2 m_3 = 2U - 36K.$$
$$\delta^3 m_3 = 6K. \qquad (90)$$

These equations and the equations for K in section 258 should be entered upon the table outlining the work when the computations are based upon q_3, q_{13}, and q_{14} and the populations and deaths between these ages.

In computing K and m_x and its leading unit differences, all of which except K were computed to thirteen decimal places, the machine was split between banks 13–14 and the decimal point considered as coming between these two banks. A vertical line indicates the decimal point.

The value of K to the nearest twelfth decimal place was found to be $-.000007930489$ by dividing the first total in tape 258 by the second. Since it is negative, one hundred times its complement was entered in tape 259 and ten times its actual value, or ten times the complement of its complement, was added to obtain the 90K needed in the first of the equations (90) just above. To this was then added the value of U from tape 253 and the complement of V from tape 254, the total being δm_3. The decimal point is indicated by the vertical line. In actual practice time will be saved by combining the two steps indicated in tapes 259 and 261.

260. To the value of K was added ten times $\frac{1}{2}$K, or 5K, to obtain the constant third difference, $\delta^3 m_3$. A subtotal was taken and to it was added ten times one-half its value, or 30K, to obtain the 36K needed in the second equation above. Since this 36K is to be subtracted, its complement is set up and repeated twice, once to clear the machine and the second time to enter it upon the machine. Then the value of U from tape 253 is repeated twice and a subtotal taken, which is $\delta^2 m_3$. To this subtotal the constant third difference, $\delta^3 m_3$, obtained above, is added nine times, a subtotal being taken after each addition and a total at the end. In this way $\delta^2 m_x$ for $x=3$ to $x=12$ were obtained. The decimal point is indicated by the vertical line.

261. To δm_3 from tape 259 were added the $\delta^2 m_x$ in tape 260, a subtotal being taken after each addition and a total at the end. This gives δm_x for $x=3$ to $x=13$. As in tapes 258 to 260, 262, and 263, the decimal point is indicated by a vertical line.

262. To m_2 from tape 252 were added the δm_x from tape 261, a subtotal being taken after each addition to give the values of m_x from $x=3$ to $x=14$. Since m_3 is given only to the twelfth decimal place, it was moved one place to the left in adding it to the δm_3 which are given to the thirteenth decimal place. A check on the work to this point is that m_{13} and m_{14} agree to the eleventh decimal place with those in tape 252, as indicated by the mark ⑤1.

263. Another check on the work thus far is to multiply the m_x obtained in tape 262 by the L_x in tape 257 to obtain the expected deaths. According to the assumption in equation (63) on page 352, the sum of the expected deaths must equal the actual, or 18,951 from tape 258. Since the actual deaths were for three years, the sum of the expected deaths was repeated three times and the final sum is 18,950.97, since the $L_x m_x$ were taken to the nearest second decimal place.

On the right of tape 263 are entered the $10^6 q_x$ obtained from m_x in tape 262 by the formula

$$q_x = \frac{2m_x}{2+m_x}. \qquad (91)$$

It was found convenient to compute the values in the two columns of tape 263 in the following order: m_x to the nearest ninth decimal place was set upon the computing machine as one factor, leaving space on the left so that 2 could be set up in unit's place. This m_x was then multiplied by L_x and the product entered upon the left of tape 263. Then this product and L_x were cleared from the machine, the m_x was multiplied by 2, and the 2 then cleared from the machine. The regulator was then switched to division, 2 set up in unit's place of the divisor, and the $2m_x$ divided by $2+m_x$ to obtain the value of q_x. The values of q_3, q_{13}, and q_{14} are the same as in tape 250.

CALCULATION OF MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901–1910.

264. The total white female populations in the original registration states, enumerated on June 1, 1900, and April 15, 1910, were obtained from columns 2 and 3, respectively, of Table 174, page 465, and entered in tape 264 as $P_{1910\text{-June-1}}$ and $P_{1910\text{-April-15}}$, respectively. Their ratio, $\frac{P_{1910\text{-April-15}}}{P_{1900\text{-June-1}}}$, $r^{118.5/120}$, carried to the nearest ninth significant figure, is entered just below. Beneath this is log $r^{118.5/120}$, showing the three interpolations necessary when Bauschinger and Peters' eight-place logarithm table is used. This logarithm was divided by 118.5 and the quotient multiplied first by 120, the result being entered as log r; then the quotient was multiplied by seven, the result being entered as log $r^{7/120}$. Space was left after these last two entries, and the computations necessary to obtain their antilogarithms are shown in ink.

Log r was divided by .4342945 and the quotient set down on the machine as λr. Beneath this is set down the value of r and of $r^{7/120}$, obtained from their logarithms. From these values, $r^{7/120}(r-1)/\lambda r$ was obtained and entered as α, according to equation (77)

REGRADUATION OF THE RATES OF MORTALITY OF WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES, 1901, BETWEEN AGES 3 AND 13, TAPES 250–263, AND CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901–1910, BEGINNING WITH TAPE 264

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

250

x	u_x	v_x	$10^6 q_x$
3	-10	-11	12,179
13	- 1	10	2,701
14	11	1	2,974
	22	22	17,854 (50)

251

x	$10^6(2q_x)$	$10^6(2-q_x)$
3	24358	1987,821
13	5402	1997,299
14	5948	1997,026

999982146

(50) 17854 5982,146

252

x	$u_x v_x$	$10^{10} m_x$
3	110	12253618,409
13	-10	2704652,633 (51)
14	11	2978428,924
		17936699,966

253

x		$10^{10} U_x$
3	e+f=21	1113965,310
13	f=11	9972953 47,367
14	e=10	2707662,658

$10^{10} U$ ⊢ 1116975,335

254

$V = (e+f)U_3 + f U_{13} + e U_{14}$

1113965,310
11139653,100
11139653,100
99972953 47,367
99729534 73,670
27076626,580

$10^{10} V$ → 20718719,127

255

x	y	y^2	y^3
3			
4	1	1	1
5	2	4	8
6	3	9	27
7	4	16	64
8	5	25	125
9	6	36	216
10	7	49	343
11	8	64	512
12	9	81	729
13	10	100	1,000
14	11	121	1,331

256

$x=3$	${}_{1901}P_x$	$x=4$
1458	12	137,387
9988871	8999891	0,025
1112810		1089,750
114734	1	1118,162

257

$3\sum_{x=3}^{x=14} L_x$	$3\sum_{x=3}^{x=14} y_3 L_x$
114734	
111816	111,816
115343	922,744
109651	2960,577
104950	4716,800
101189	12648,625
98315	21236,040
96276	33022,668
95022	48651,264
94499	68889,771
94656	94656,000
95441	127031,971
1231892	416848,276 s
1231892	416848,276
1231892	416848,276
3695676	1250544,828

$3\sum_{x=3}^{x=14} y^2 L_x$	$3\sum_{x=3}^{x=14} y L_x$
111816	111,816
461372	230,686
986859	328,953
1679200	419,800
2529725	505,945
3539340	589,890
4717524	673,932
6081408	760,176
7654419	850,491
9465600	946,560
11548361	1049,851
48775624	6468,100 s
48775624	6468,100
48775624	6468,100
146326872	19404,300

258

$M - U(3\Sigma y^2 L_x) + V(3\Sigma y L_x) - 110 U_3(3\Sigma L_x)$

4126	
3107	
7818	
3900	
M → 18951 (52)	s
9983655	649,313
40203	224,161
9954714	596,533
19997524	470007 s
2475	529,993

$3\Sigma y^3 L_x - 21(3\Sigma y^2 L_x) + 110(3\Sigma y L_x)$

1250544828
9985367 3128
9853673 1280
9853673 1280
194043000
194043000
312153516

259

100 K →	9992069511,000
	793048,900
	1116975,335
	9979281280,873
δm_3	9973260816,108

260

x	$\delta^2 m_x$
	9999920695,110
	9999603475,550
$\delta^3 m_3$	9999524170,660 s
	9997620853,300
	2854976,040
	2854976,040
	1116975,335
	1116975,335
3	5088926,710 s
	9999524170,660
4	4613097,370 s
	9999524170,660
5	4137268,030 s
	9999524170,660
6	3661438,690 s
	9999524170,660
7	3185609,350 s
	9999524170,660
8	2709780,010 s
	9999524170,660
9	2233950,670 s
	9999524170,660
10	1758121,330 s
	9999524170,660
11	1282291,990 s
	9999524170,660
12	806462,650

261

δm_x
9973260816,108
5088926,710
9978349742,818 s
4613097,370
9982962840188 s
4137268,030
9987100108,218 s
3661438,690
9990761546,90 s
3185609,350
9993947156,258 s
2709780,010
9996656936,268 s
2233950,670
9998890886,938 s
1758121,330
649008,268 s
1282291,990
1931300,258 s
806462,650
2737762,908

262

x	m_x
3	12253618,409
	9973260816,108
4	9579700,198 s
	9978349748,818
5	7414674 3,016 s
	9982962840,188
	5710958 3,204 s
	9987100108,218
	4420969 1,422 s
	9990761546,908
	3497123 8,330 s
	9993947156,258
	2891839 4,588 s
	9996656936,268
10	2557533 0,856 s
	9998890886,938
	2446621 7,794 s
	649008,268
	2511522 6,062 s
	1931300,258
(51)	2704652 6,320 s
	2737762,908
	2978428,228

263

$L_x m_x$	x	$10^6 q_x$
140591	3	12,179
107116	4	9,534
85523	6	7,387
62621		5,695
46398		4,411
35387		3,491
28431	9	2,888
24623	10	2,554
23248		2,444
23734		2,508
25601		2,701
28426	14	2,974
631699		56,766
631699		
631699		
M → 189509 7 (52)		

264

11666100 ← $P_{1910\text{-}April\text{-}15}$

9764368 ← $P_{1900\text{-}June\text{-}1}$

$r^{\frac{183}{365}}$ → 1,194762,43

.07728067,000
72,800
14,560
1,092

$\log r^{\frac{183}{365}}$ → .07728155,453

$\log r$ → .07825980,204

$\log r^{\frac{1}{365}}$ → .00456515,512

λr → .1801998,543

r → 1,1974566,4

$r^{\frac{1}{365}}$ → 1,0105671,0

α → 1,1073437,59

β → .9511523,885

265

x	P_x 1910	1900	
100	66	77	968
101	18	21	991
102	13	15	10
103	9	10	946
104	9	10	46
105	6	7	997
106	5	6	981
107	5	6	981
108	1	1	16
109			
110	1	1	16
111	1	1	16
112			
113			
114	1	1	16
115	1	1	16
	136	157	5,900

158136 = 1,161764,706

266

$\sum_0^5 P_x$ and $\sum_x^{x+4} P_x$

x	1900	1910
0	212913	246,894
	192081	220,149
	201087	240,446
5	203444	236,536
	809525	944,025
4	201067	227,068
	198375	221,160
	199073	220,577
	194928	215,149
8	192272	210,272
	985715	1094,226
9	184770	202,694
	188625	208,958
	176004	197,363
	177908	213,633
13	172162	205,386
	899469	1028,034
14	175551	207,645
	175345	200,352
	181198	222,241
	178306	215,781
18	185433	238,902
	895933	1084,921

CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901-1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS

267

x	1900	19,10 *
0	809525	944,025
4	985715	1094,226
9	899469	1028,034
	895933	1084,921
	944025	1152,191
	940239	1098,642
29	798489	929,972
34	712141	893,601
	620054	768,218
	498042	640275
	435974	561,099
54	353983	423,078
59	294180	344,915
	225196	274,039
	156723	193,414
	99968	124,644
79	52711 (53)	63,158
84	21852	27,846
	6391	8,098
	1334	1,560
	217	191
104	30	26
109	2	2
114	2	2
	9752195	11656147s
Unknown Ages	12173	9,953
	9764368	11666,100* (56)

268

79	13097	15,520*
	14760	17,573
	9195	10,356
	8449	10,725
83	7210	8,984
	52711 (53)	63,158*
84	6366	8,111*
	5331	6,905
	4056	5,209
	3453	4,260
88	2646	3,361
	21852	27,846*
89	2033	2,641*
	1696	2,341
	1023	1,256
	835	1,071
93	604	789
	6391	8,098*
94	466	548*
	348	485
	239	254
	153	144
98	126	129
	1334	1,560*
99	93	85*
	77	66
	21	18
	15	13
103	11	9
	217	191*
104	10	9*
	7	6
	6	5
	6	5
108	1	1
	30	26*
109		*
110	1	1
111	1	1
112		
113		
	2	2*
		*
114	1	1
115	1	1
	2	2*

269

π_0

x	1900	
	π_0 = 1.001248,232*	
0	610535	48
4	986945	40
9	900592	975
	897051	33
	945203	36
	941413	964
29	799466	970
34	713030	992
	620826	957
	498564	967
	436518	20
54	354425	985
59	294547	20
	225477	10
	156919	963
	100093	978
79	52777 (54)	980
84	21879	28
	6399	998
	1336	967
	217	27
104	30	4
109	2	
114	2	
	9764368	12, 2*

270

π_e

x	1910	
	π_e = 1.000853,884*	
0	944831	9
4	1095160	34
9	1028912	982
	1085848	940
	1153145	981
	1099500	11
29	930766	9
34	894364	3
	768874	997
	640822	972
	561578	11
54	423439	26
59	345210	952
	274273	
	193579	15
	124750	43
79	63212 (55)	993
84	27870	978
	8105	991
	1561	33
	191	16
104	26	2
109	2	
114	2	
	11666~~099~~ 100	8,998*

271

x	Δ
0	134,296*
4	108,215
9	128,320
	188,797
	207,942
	158,167
29	131,280
34	161,334
	148,046
	142,158
	123,060
54	69,014
59	50,663
	48,796
	36,660
	24,657
79	10,435 (57)
84	5,991
	1,706
	225
	9999999,974
104	9999999,996
109	
114	
	1901,732s
	9764,368
	11666,100* (56)

268

79	15533	25*
	17588	1
	10365	984
	10734	16
83	8992	967
	63212 (55)	1,993*
84	6118	993*
	6911	990
	5213	45
	4264	964
88	3364	987
	27870	3,979*
89	2643	26*
	2343	
	1257	7
	1072	991
93	790	967
	8105	1,991*
94	548	947*
	485	41
	254	22
	144	12
98	129	11
	1560	233*
99	85	7*
	66	6
	18	2
	13	1
103	9	1
	191	17*
104	9	1*
	6	1
	5	
	5	
108	1	
	26	2*
109		*
	1	
	1	
113		
	2	*
		*
114	1	
115	1	
	2	*

271

79	2,420*
	2,810
	1,158
	2,274
83	1,773
	10,435* (57)
84	1,744*
	1,573
	1,152
	807
88	715
	5,991*
89	607*
	445
	233
	236
93	185
	1,706*
94	80*
	136
	15
	9999999,991
98	3
1	225*
99	9999999,992*
	9999999,989
	9999999,997
	9999999,998
103	9999999,998
	49999999,974*
104	9999999,999*
	9999999,999
	9999999,999
	9999999,999
108	
	39999999,996*
109	*
113	
	*
	*
114	
115	

on page 354. Then the value of the constant $\beta = (\alpha - 1)/(r^{118.5/120} - 1)$ from equation (76) on page 354 was set down.

265. Since the census report for June 1, 1900, does not show the populations by single years of age 100 years and over, these were estimated by assuming that the populations by single ages for these years in 1900 and 1910 were proportional to the total populations 100 years of age and over in 1900 and in 1910.

The machine was split between banks 3–4, 5–6, 10–11, and 14–15.

On the left of tape 265 the ages were entered; then the populations by single years of age 100 years and over in 1910, taken from column 8 of Table 174 on page 465, are added. Beneath this is shown the ratio of the population 100 years and over in 1900 to that in 1910. This ratio is carried to the nearest tenth significant figure to fill the ten-place computing machine used. The integral parts of the products of this ratio times the numbers under 1910 in tape 265 are entered in corresponding positions in banks 6–8, while the fractions are entered in banks 1–3 to the nearest second decimal. When the fraction was .50 or over it was preceded by 9 in bank 3 and the integral part was increased by unity. This kept the total sum of integral parts plus fractions almost exactly correct. When the *sum* of the fractions was .50 or over, this indicated that another integral should be increased by unity, and the one whose fraction was nearest to .50 was selected. In this case 10.46, the population for age 103, was changed in ink to 11 plus 9.46, the 9 serving to subtract .54 from the total of the fractions instead of the .46 being added to it. This reduced the difference between the sum of fractions less than .50 and the sum of increases made in the integers to zero. Then the sum of the integral part was changed from 157 to 158, which is the number of persons 100 years of age and over in 1900. Since the population for ages 103 and 104 were the same, the increase was added to the younger age.

266. The populations enumerated on June 1, 1900, and April 15, 1910, by single years of age are shown in columns 2 and 3 and also in columns 7 and 8, respectively, of Table 174 on page 465. The fifth difference osculatory formula requires the original data in five-year groups. Hence labor was saved by determining the mean population for the period 1901–1910 by five-year groups instead of by single ages. The group required is 4–8, 9–13, 14–18, etc., thus leaving the group 0–3 unused. For checking purposes the mean population for this group is also obtained. Hence in tape 266 the additions of the first four groups, 0–3, 4–8, 9–13, and 14–18, are shown, the population in 1910 on the right, that for 1900 in the center, and the ages at the beginning and end of each group on the left.

267. The totals obtained in tape 266 were then added in groups of five, the group 0–3 being set off by itself. After the addition of these totals a subtotal was taken and the populations of unknown ages, shown at the bottom of columns 7 and 8 of Table 174 on page 465, were added, giving as totals the population at all ages at the beginning of columns 2 and 3 of this table, and also at the beginning of tape 264. This serves as a check on the work.

268. Since the computation of the life table from tape 174 to tape 187 requires population by single years of age, beginning with age 79 and extending to the end of life, these were copied from columns 7 and 8 of Table 174, page 465, and from tape 265 for ages 100 years and over and added in groups of five. The total should agree with those shown for the same age groups in tape 267, as indicated by the mark ⑥③. Of course, in actual practice this work would be shown at end of tape 266.

269. In order to distribute the population of unknown ages among those of known ages, the ratios of the total population to that of known ages, as shown in the totals and subtotals of tape 267, respectively, were obtained to ten significant figures and the 1900 ratio entered at the beginning of tape 269. This ratio, 1.001248232, was set up on the computing machine and each of the numbers on the left of tapes 267 and 268 multiplied by it, the products being entered in tape 269 just opposite the factors. The machine was split between banks 3–4, 6–7, and 14–15, the integral parts being entered in the center and the fractions on the right. On the left the initial age of each two out of five groups was entered. As in tape 265, where the fraction is .50 or over, it is preceded by 9 in bank 3 and the integral part increased by unity. The total of the fractions less than .50 diminished by the additions made in increasing the integral part by unity is .02 and the sum of the integers is 9,764,368, which agrees with the corresponding total in tape 267.

The populations by single years of age from 79 years to the end of life were then added in groups of five and their totals checked to those for the same age groups above, as indicated by the sign ⑥④. In the group 79–83 the total of the integers is 52,776 and that of the fractions .80, showing that another integer should be increased by unity. Accordingly, the population for age 81, whose fraction is .48, was increased by unity, 9 placed before the fraction, the total of the integers increased to 52,777, and 9 added in bank 3 in the total of the fractions; this result agrees with the one for this group shown above. These changes were made in ink.

270. Work for 1910, similar to that for 1900 in tape 269, is shown in tape 270. The ratio of total population to population of known ages, 1.000853884, is entered at the top and the numbers on the right of tapes 267 and 268 multiplied by it.

271. The integral parts of tape 269 were subtracted from corresponding integral parts of tape 270 and the remainders entered in corresponding positions in tape 271. Where the remainders were negative their complements were entered. At the end a subtotal was taken and 9,764,368, the total population from the

left side of tape 267, was added to it, so that the final total is 11,666,100, the population in 1910 from the right side of tape 267, and this served as a check on the work, as indicated by the mark (58). The differences of population by single years of age were summed in five-year groups and their totals compared with the differences for the same age group just above, the equality being indicated by the sign (57).

272. The factor β from tape 264 was then set up on the computing machine and multiplied by each of the differences in tape 271, the ages being entered on the left, the integral part of the product in the center, and the fractions on the right of tape 272. In the case of negative differences, β was multiplied by their complements, and then the complements of the products were entered upon the machine. Since the sum of the fractions which were dropped, diminished by the increases required to raise the integers by unity, is 8.94, it appears that one more increase was made than is required by the sum of the fractions. Hence, of the integers that were increased by unity the one having the smallest fraction was reduced. Accordingly, 74,018 was reduced to 74,017 and the 9 preceding its fraction was dropped, so that the total of the integers became 1,048,144 and that of the fractions 9.94, which indicates that the sum of the increases exceeds that of the fractions that were dropped by .06.

Then the sum of the differences in tape 271 was multiplied by β and the product entered just below the total taken on the machine. It will be noted that they agree exactly, and this serves as a check on the work.

The sum of the fractions in group 104–108 is 1.80, showing that two integers should have been increased by unity. Since all four differences in this group are equal, those for ages 104 and 105 were increased to zero. Hence, the fractions for these ages were preceded by 9's, the total of the integers increased to minus 2, or 9,999,998, and that for the fractions reduced to 9.80, which agrees with the product shown above for this group.

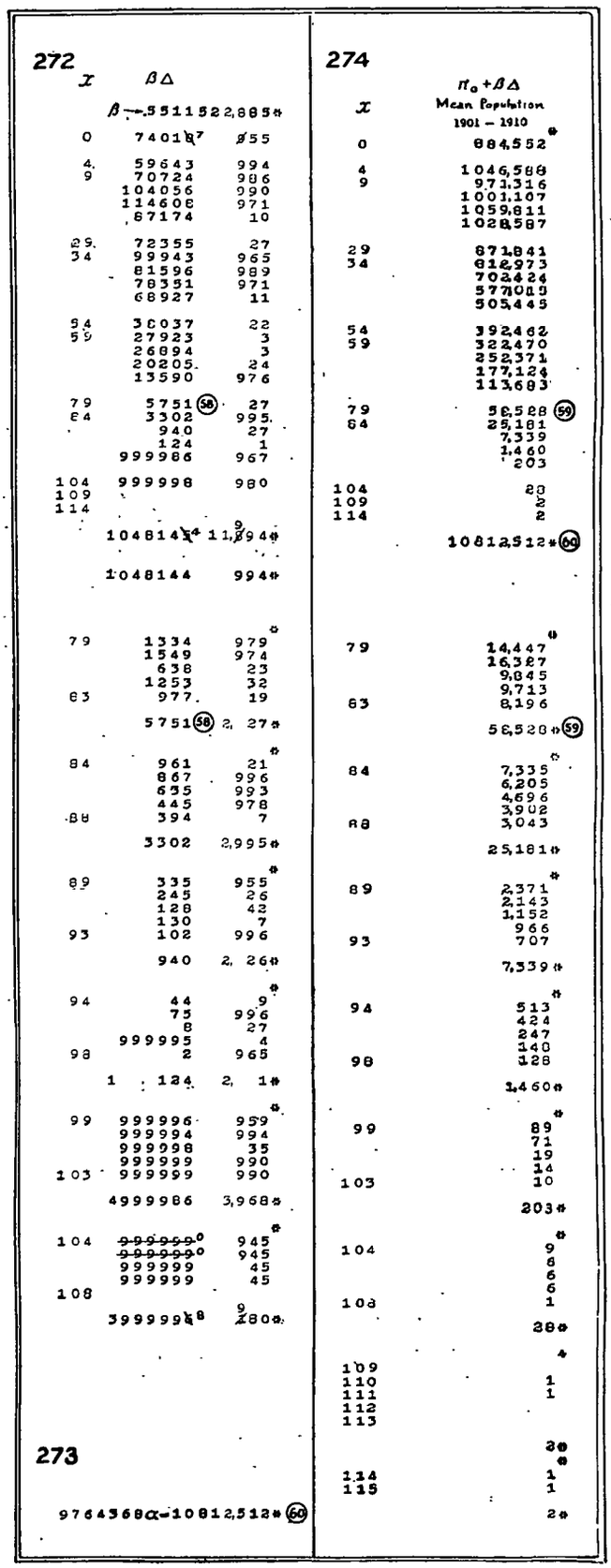
273. $\alpha = 1.107343759$ was then set up on the computing machine and multiplied by $P_{1900\text{-June-}i}$, from tape 264, the total number of females on June 1, 1900, and the product to the nearest integer entered upon the adding machine. This value was obtained according to equation (77) on page 354.

274. The integral parts of the products in tape 272 were then added to the corresponding populations in tape 269 and the sums set down in tape 274. These values were obtained according to equation (76) on page 354, and it will be noted that the total mean populations by these two processes are equal, as indicated by the mark (60).

The populations by single ages 79 years and over were then added in groups of five and their totals compared with those for the same groups shown above, as indicated by the mark (59).

CALCULATION OF THE MEAN POPULATION OF WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES FOR THE PERIOD 1901–1910

PHOTOGRAPHS OF ADDING MACHINE TAPES USED IN CONNECTION WITH NUMERICAL COMPUTATIONS



TABULAR OUTLINE FOR CONSTRUCTION OF EACH LIFE TABLE

TABLE 135 TABULAR OUTLINE FOR CON

GIVING AGES AND SOURCES OF DATA TO WHICH THE PROCESSES DESCRIBED IN SECTIONS 137 TO 274

Number of table.	LIFE TABLE.	Birth data used: computed, C, and registered, R.	Quinquennial age group used for osculatory interpolation.	DATA USED IN JOINING q_x IN TAPES 146 AND 173 BY METHOD SHOWN IN TAPES 250 TO 263.					
				Single ages of population from—		Sums of deaths from—		q_x from—	
				Original statistics.	Tape 161.	Original statistics.	Tape 168.	Tape 146	Tape 173.
1	2	3	4	5	6	7	8	9	10
	ORIGINAL REGISTRATION STATES:								
	Both sexes—		*Ages.*	*Ages.*	*Ages*	*Ages*	*Ages.*	*Ages.*	*Ages*
1	1901	C	4–8						
2	1910	C	4–8						
	Males—								
3	1901	C	4–8						
4	1910	C	4–8						
	Females—								
5	1901	C	4–8						
6	1910	C	4–8						
	White males—								
7	1901	C	4–8						
8	1901–1910	C	4–8						
9	1910	C	4–8						
	White females—								
10	1901	C	4–8						
11	1901–1910	C	4–8						
12	1910	C	4–8						
	Negro males—								
13	1901	C	4–8						
14	1901–1910	C	4–8						
15	1910	C	4–8						
	Negro females—								
16	1901	C	4–8						
17	1901–1910	C	4–8						
18	1910	C	4–8						
	Native white males—								
19	1901	C	4–8						
20	1910	C	4–8						
	Native white females—								
21	1901	C	4–8						
22	1910	C	4–8						
	Foreign-born white males—								
23	1901		4–8						
24	1910		4–8						
	Foreign-born white females—								
25	1901		4–8						
26	1910		4–8						
	White males in cities—								
27	1901	C	5–9						
28	1910	C	4–8						
	White females in cities—								
29	1901	C	5–9	3–4	5–14	3–14		3	13–14
30	1910	C	4–8						
	White males in rural part—								
31	1901	C	5–9	3–4	5–9	3–9		3	8–9
32	1910	C	4–8						
	White females in rural part—								
33	1901	C	5–9	3–4	5–14	3–14		3	13–14
34	1910	C	4–8						
	DISTRICT OF COLUMBIA:[1]								
35	Negro males: 1901–1910	C	4–8						
36	Negro females: 1901–1910	C	4–8						
	INDIANA:								
	Males—								
37	1901	C	5–9						
38	1910	C	4–8						
	Females—								
39	1901	C	5–9	3–9		3–9		3	8–9
40	1910	C	4–8						

[1] See Type V in section 275, page 423, and the fourth paragraph in section 276, page 424.

STRUCTION OF EACH LIFE TABLE. TABLE 135

WERE APPLIED TO OBTAIN THE RATES OF MORTALITY UPON WHICH THE LIFE TABLES WERE BASED.

Number of table.	CONSTANTS IN WITTSTEIN'S FORMULA BASED ON q_x FROM—		q_x TO BE GRADUATED BY SPENCER'S 21-TERM FORMULA FROM—			q_x ON WHICH LIFE TABLES WERE BASED FROM—					
	Tape 173.	Tape 186.	Tape 173.	Tape 186.	Tape 205.	Tape 146.	Tape 263.	Tape 173.	Tape 186.	Tape 226.	Tape 205.
11	12	13	14	15	16	17	18	19	20	21	22
	Ages.	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*
1	.....	(1)	(1)	(1)	(1)	0-4	.....	5-75	.....	(1)	(1)
2	.....	(1)	(1)	(1)	(1)	0-4	.....	5-88	89	(1)	(1)
3	.....	86-95	60-89	.....	90-115	0-4	.....	5-76	.....	77-98	99-115
4	.....	95-104	70-88	89-102	103-115	0-4	.....	5-83	.....	84-100	101-115
5	.....	87-96	60-89	90-94	95-115	0-4	.....	5-75	.....	76-101	102-115
6	.....	95-104	70-94	95-102	103-115	0-4	.....	5-84	.....	85-104	105-115
7	.....	86-95	60-89	.....	90-115	0-4	.....	5-76	.....	77-99	100-115
8	.....	89-98	70-89	90-96	97-115	0-4	.....	5-82	.....	83-99	100-115
9	.....	95-104	70-89	90-101	102-115	0-4	.....	5-85	.....	86-103	104-115
10	.....	87-96	60-88	89-94	95-115	0-4	.....	5-70	.....	71-101	102-115
11	.....	96-105	70-88	89-100	101-115	0-4	.....	5-87	.....	88-104	105-115
12	.....	95-104	70-94	95-102	103-115	0-4	.....	5-85	.....	86-105	106-115
13	.....	80-99	50-80	81-83	84-115	0-4	.....	5-73	.....	74-94	95-115
14	.....	86-95	50-74	75-86	87-115	0-4	.....	5-64	.....	65-95	96-115
15	.....	93-102	70-89	90-93	94-115	0-4	.....	5-79	.....	80-103	104-115
16	.....	85-99	50-97	.....	98-115	0-4	.....	5-74	.....	75-101	102-115
17	.....	88-97	50-83	.....	84-115	0-4	.....	5-74	.....	75-93	94-115
18	.....	93-102	70-89	90-100	101-115	0-4	.....	5-79	.....	80-103	104-115
19	.....	87-96	60-89	.....	90-115	0-4	.....	5-71	.....	72-91	92-115
20	.....	95-104	70-89	90-97	98-115	0-4	.....	5-82	.....	83-105	106-115
21	.....	87-96	60-88	89-94	95-115	0-4	.....	5-72	.....	73-99	100-115
22	.....	93-102	70-90	91-99	100-115	0-4	.....	5-84	.....	85-103	104-115
23	.....	86-95	60-89	.....	90-115	.....	.....	5-74	.....	75-89	90-115
24	.....	95-104	70-90	91-99	100-115	.....	.....	5-84	.....	85-104	105-115
25	.....	85-94	60-89	.....	90-115	.....	.....	5-72	.....	73-95	96-115
26	.....	96-105	70-89	90-102	103-115	.....	.....	5-84	.....	85-105	106-115
27	80-94	.....	60-87	.....	88-115	0-4	.....	5-85	.....	86-96	97-115
28	.....	95-104	70-89	90-99	100-115	0-4	.....	5-85	.....	86-103	104-115
29	80-94	.....	60-92	.....	93-115	0-3	4-12	13-74	.....	75-102	103-115
30	.....	96-105	70-91	92-101	102-115	0-4	.....	5-83	.....	84-105	106-115
31	80-94	.....	60-91	.....	92-115	0-3	4-7	8-72	.....	73-96	97-115
32	.....	96-105	70-89	90-99	100-115	0-4	.....	5-85	.....	86-105	106-115
33	80-94	.....	60-94	.....	95-115	0-3	4-12	13-75	.....	76-101	102-115
34	.....	92-101	70-94	95-99	100-115	0-4	.....	5-83	.....	84-99	100-115
35	.....	82-101	50-74	75-87	88-115	0-4	.....	5-64	.....	65-105	106-115
36	93-102	.....	50-98	.....	99-115	0-4	.....	5-60	.....	61-102	103-115
37	80-94	.....	60-86	.....	87-115	0-4	.....	5-70	.....	71-95	96-115
38	.....	92-101	70-90	91-99	100-115	0-4	.....	5-84	.....	85-104	105-115
39	79-93	.....	60-91	.....	92-115	0-3	4-7	8-75	.....	76-96	97-115
40	.....	92-101	70-89	90-99	100-115	0-4	.....	5-84	.....	85-105	106-115

[1] The Wittstein and Spencer formulas were not used directly in computing the both sexes rates of mortality; instead the averages of the rates of mortality in the male and female life tables were used from ages 76 to 115 for the 1901 both sexes life table and from ages 90 to 115 for the 1910 both sexes life table.

TABLE 135 TABULAR OUTLINE FOR CON

GIVING AGES AND SOURCES OF DATA TO WHICH THE PROCESSES DESCRIBED IN SECTIONS 137 TO 274

Number of table.	LIFE TABLE.	Birth data used: computed, C, and registered, R.	Quinquennial age group used for osculatory interpolation.	DATA USED IN JOINING q_x IN TAPES 146 AND 173 BY METHOD SHOWN IN TAPES 250 TO 263.					
				Single ages of population from—		Sums of deaths from—		q_x from—	
				Original statistics.	Tape 161.	Original statistics.	Tape 168.	Tape 146.	Tape 173.
1	2	3	4	5	6	7	8	9	10
	MASSACHUSETTS:								
	Males—		*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*
41	1890[1]	C	5-9	3-4	5-16	3-14	15-16	3	15-16
42	1901	R	5-9						
43	1910	R	4-8						
	Females—								
44	1890[1]	C	5-9	3-4	5-16	3-14	15-16	3	15-16
45	1901	R	5-9	3-14		3-14		3	13-14
46	1910	R	4-8						
	MICHIGAN:								
	Males—								
47	1901	C	5-9						
48	1910	C	4-8						
	Females—								
49	1901	C	5-9	3-14		3-14		3	13-14
50	1910	C	4-8						
	NEW JERSEY:								
	Males—								
51	1901	C	5-9						
52	1910	C	4-8						
	Females—								
53	1901	C	5-9						
54	1910	C	4-8						
	NEW YORK:								
	Males—								
55	1901	C	5-9						
56	1910	C	4-8						
	Females—								
57	1901	C	5-9	3-14		3-14		3	13-14
58	1910	C	4-8						
	BOSTON:								
	Males—								
59	1901	R	5-9	3-4	5-16	3-14	15-16	3	15-16
60	1910	R	5-9	3-4	5-10	3-9	10	3	9-10
	Females—								
61	1901	R	5-9	3-4	5-16	3-14	15-16	3	15-16
62	1910	R	5-9	3-4	5-10	3-9	10	3	9-10
	CHICAGO:								
	Males—								
63	1901	C	5-9						
64	1910	C	5-9						
	Females—								
65	1901	C	5-9	3-4	5-16	3-14	15-16	3	15-16
66	1910	C	5-9						
	NEW YORK CITY:								
	Males—								
67	1901	C	5-9						
68	1910	R	5-9						
	Females—								
69	1901	C	5-9	3-4	5-14	3-14		3	13-14
70	1910	R	5-9						
	PHILADELPHIA:								
	Males—								
71	1901	C	5-9	3-4	5-14	3-14		3	13-14
72	1910	R	5-9						
	Females—								
73	1901	C	5-9	3-4	5-14	3-14		3	13-14
74	1910	R	5-9	3-4	5-14	3-14		3	13-14

[1] See second paragraph of Type VI in section 275, page 423, and the last paragraph in section 276, page 424.

STRUCTION OF EACH LIFE TABLE. TABLE 135

WERE APPLIED TO OBTAIN THE RATES OF MORTALITY UPON WHICH THE LIFE TABLES WERE BASED.

Number of table.	CONSTANTSIN WITTSTEIN'S FORMULA BASED ON q_x FROM—		q_x TO BE GRADUATED BY SPENCER'S 21-TERM FORMULA FROM—			q_x ON WHICH LIFE TABLES WERE BASED FROM—					
	Tape 173.	Tape 186.	Tape 173.	Tape 186.	Tape 205.	Tape 146.	Tape 263.	Tape 173.	Tape 186.	Tape 226.	Tape 205.
11	12	13	14	15	16	17	18	19	20	21	22
	Ages.	*Ages.*	*Ages*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*	*Ages.*
41	78–92	.....	50–82	.....	83–115	0–3	4–14	15–65	.....	66–105	106–115
42	80–94	.....	60–89	.....	93–115	0–4	.....	5–75	.....	76–97	98–115
43	.....	91–100	70–89	90–98	99–115	0–4	.....	5–82	.....	83–104	105–115
44	78–92	.....	60–85	.....	86–115	0–3	4–14	15–76	.....	77–96	97–115
45	80–94	.....	55–94	.....	95–115	0–3	4–12	13–80	.....	81–99	100–115
46	.....	89–98	70–89	90–95	96–115	0–4	.....	5–84	.....	85–101	102–115
47	79–93	.....	60–90	.....	91–115	0–4	.....	5–76	.....	77–97	98–115
48	.....	96–105	70–92	93–99	100–115	0–4	.....	5–82	.....	83–105	106–115
49	80–94	.....	60–89	.....	90–115	0–3	4–12	13–75	.....	76–99	100–115
50	.....	93–102	70–94	95–99	100–115	0–4	.....	5–82	.....	84–105	106–115
51	80–94	.....	60–89	.....	90–115	0–4	.....	5–76	.....	77–97	98–115
52	.....	84–93	70–90	91–93	94–115	0–4	.....	5–80	.....	81–98	99–115
53	80–94	.....	60–89	.....	90–115	0–4	.....	5–77	.....	78–95	96–115
54	.....	84–93	70–85	86–89	90–115	0–4	.....	5–80	.....	81–94	95–115
55	80–94	.....	60–89	.....	90–115	0–4	.....	5–76	.....	77–99	100–115
56	.....	94–103	70–93	94–99	100–115	0–4	.....	5–79	.....	80–104	105–115
57	80–94	.....	60–92	.....	93–115	0–3	4–12	13–74	.....	75–99	100–115
58	.....	90–99	70–92	93–99	100–115	0–4	.....	5–84	.....	85–104	105–115
59	80–94	.....	50–89	.....	90–115	0–3	4–14	15–65	.....	66–98	99–115
60	80–94	.....	50–92	.....	93–115	0–3	4–8	9–70	.....	71–100	101–115
61	76–90	.....	60–85	.....	86–115	0–3	4–14	15–80	.....	81–98	99–115
62	80–94	.....	60–86	.....	87–115	0–3	4–8	9–73	.....	74–96	97–115
63	78–92	.....	60–90	.....	91–115	0–4	.....	5–79	.....	80–97	98–115
64	80–94	.....	50–94	.....	95–115	0–4	.....	5–70	.....	71–97	98–115
65	80–94	.....	60–93	.....	94–115	0–3	4–14	15–75	.....	76–102	103–115
66	80–94	.....	60–94	.....	95–115	0–4	.....	5–90	.....	91–101	102–115
67	78–92	.....	50–91	.....	92–115	0–4	.....	5–65	.....	66–99	100–115
68	75–89	.....	65–84	.....	85–115	0–4	.....	5–70	.....	71–96	97–115
69	78–92	.....	60–90	.....	91–115	0–3	4–12	13–71	.....	72–97	98–115
70	80–94	.....	60–93	.....	94–115	0–4	.....	5–85	.....	86–95	96–115
71	78–92	.....	50–85	.....	86–115	0–3	4–12	13–65	.....	66–95	96–115
72	79–93	.....	60–86	.....	87–115	0–4	.....	5–80	.....	81–96	97–115
73	79–93	.....	50–90	.....	91–115	0–3	4–12	13–74	.....	75–93	94–115
74	80–94	.....	60–94	.....	95–115	0–3	4–12	13–70	.....	71–100	101–115

PART VIII

ORIGINAL STATISTICS

PART VIII.—ORIGINAL STATISTICS.

THE SEVEN TYPES OF ORIGINAL STATISTICS.

275. All the original statistics used in the construction of the life tables are given in this part. The statistics for any given life table are all on one page. At the foot of each page will be found either the mortality statistics used to compute the number of births or else the number of registered births where they were used.

The original statistics of populations and deaths were not uniform, and they have been classified here under seven types, each of which is described below.

TYPE I includes all the statistics for the 1910 tables except those for the four cities. These are:

- Populations estimated as of July 1, 1910, and reported deaths for the calendar years 1909–1911 by single years of age from birth to the end of life.
- Deaths by months under 1 year of age for the calendar years 1909–1911.
- Deaths by single years under age 5 for the calendar years 1912 and 1913, which were used in determining the number of births. For two of these tables the registered births for the period 1909–1911 are shown instead of the deaths used in determining the number of births.
- See Tables 137 to 160, pages 428 to 451.

TYPE II includes all the statistics for the 1901 tables for the original registration states and its subdivisions except whites in cities and in the rural part. These are:

- Populations estimated as of July 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.
- Reported deaths for the calendar years 1900–1902 by single years of age from birth to the end of life.
- Deaths by months under 1 year of age for the calendar years 1900 and 1901.
- Deaths by single years under age 5 for the calendar years 1903–1906, used in determining the number of births.
- See Tables 161 to 170, pages 452 to 461.

TYPE III includes all the statistics for the 1901 tables for whites in cities and in the rural part of the original registration states. These are:

- Populations estimated as of July 1, 1900, and reported deaths for the calendar years 1900–1902 by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.
- Deaths by months under 1 year of age for the calendar years 1900 and 1901.
- Deaths by single years under age 5 for the calendar years 1903–1906, used in determining the number of births.
- See Tables 171 and 172, pages 462 and 463.

TYPE IV includes all the statistics of the four tables for the decennium 1901–1910 for whites and Negroes in the original registration states. These are:

- Enumerated population June 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.
- Enumerated population April 15, 1910, by single years from birth to the end of life.
- Mean population for the period 1901–1910 for the age group from birth through age 3, then by quinquennial age groups from age 4 through some old age, such as 78, and then by single years to the end of life. The age through which the quinquennial age groups were carried varied with the table.
- Reported deaths by single years of age for the period 1901–1910 from birth to the end of life.
- Deaths by months under 1 year of age for the calendar years 1901 and 1905–1910.
- Deaths by single years under age 5 for the calendar years 1901–1913, used in determining the number of births.
- See Tables 173 to 176, pages 464 to 467.

TYPE V includes all the statistics for the two tables for Negroes in the District of Columbia for the decennium 1901–1910. These are:

- Enumerated population June 1, 1900, by single years of age from birth through age 99, ending with the group 100 years and over.
- Enumerated population April 15, 1910, by single years from birth to the end of life.
- Mean population for the period 1901–1910 for the age group from birth through age 3, then by quinquennial age groups through age 63 in one table and through age 78 in the other, and then by single years to the end of life.
- Reported deaths for the period 1901–1910 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.
- Deaths for the period 1905–1910 by single years from birth to the end of life.
- Deaths by months under 1 year of age for the period 1905–1910.
- Deaths by single years under age 5 for each of the calendar years 1901–1913, used in determining the number of births.
- See Tables 177 and 178, pages 468 and 469.

TYPE VI includes all the statistics for the 1901 tables for the states and the 1890 tables for Massachusetts. For the 1901 tables, these are:

- Populations estimated as of July 1, 1900, by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.
- Reported deaths for each of the calendar years 1900–1902 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.
- Deaths by single years under age 5 for each of the calendar years 1903–1906, used in determining the number of births. For two of the tables in this sixth type the number of births registered in the calendar years 1900–1902 are given instead of the deaths used to determine the number of births.

For the two Massachusetts tables for the census year ending May 31, 1890, the following statistics are given:

- Enumerated population June 1, 1890, and also for June 1, 1900, by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.
- Population estimated as of December 1, 1899, for the same ages and age groups as the enumerated populations.
- Reported deaths for the census year ending May 31, 1890, by single years under age 5, then by quinquennial age groups through age 94, ending with the age group 95 and over.
- See Tables 179 to 181, pages 470 to 472.

TYPE VII includes all the statistics for the four life tables of any one city, and the four cities for which life tables are shown are Boston, Chicago, New York, and Philadelphia.

On the left side of each table are:

Population, estimated as of July 1, 1910, and reported deaths for the calendar years 1909–1911 by single years under age 5, then by quinquennial age groups through age 99, ending with the group 100 years and over.

On the right side of each table are:

Population, estimated as of July 1, 1900, and reported deaths for the calendar years 1900–1902 by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over.

At the bottom of each table are:

Reported deaths by single years under age 5 for the calendar years 1903–1906 and 1912 and 1913, used in determining the number of births. The number of births registered are given for six of the tables in the calendar years 1909–1911 and for two tables in the calendar years 1900–1902.

See Tables 182 to 185, pages 473 to 476.

ASSUMPTIONS MADE TO FILL IN STATISTICS WHICH WERE LACKING.

276. Statistics for the tables of both sexes are simply the sum of those for males and females given in Tables 137, 138, 161, and 162, pages 428, 429, 452, and 453.

Where the populations estimated as of July 1, 1910, were given by single years of age from birth to the end of life, while those estimated as of July 1, 1900, ended with the age group 100 years and over, the latter was distributed into populations by single years of age by assuming that these were proportional to those of July 1, 1910. This distribution into single years of age, 100 years and over, is shown for white females in the original registration states in section 265 and the corresponding tape on pages 413 and 411, respectively.

Where the deaths by months under 1 year of age were shown only for the two calendar years 1900 and 1901, it was assumed that they were proportional to those in the period 1900–1902. In the same way where the deaths by months under 1 year of age were available only for 1901 and for 1905–1910, or where they were available for only the period 1905–1910, it was assumed that these deaths for any month of age were proportional to the deaths for that month of age during the decennium 1901–1910.

Where the reported deaths for the period 1901–1910 were given only by single years under age 5, then by quinquennial age groups through age 94, ending with the group 95 years and over, while the reported deaths for the period 1905–1910 were given by single years from birth to the end of life, it was assumed that the deaths in any year of age during the decennium 1901–1910 were proportional to those during the period 1905–1910.

Only the total number of births, 17,957, was reported in Boston in 1911. It was assumed that the numbers of births by sex in this year were proportional to the sums of those by sex in the calendar years 1909 and 1910, which were 18,088 males and 17,257 females.

To compute the number of births needed for the calculation of the two 1890 Massachusetts life tables by the method used for the other life tables, it was assumed that the population enumerated June 1, 1890, and the reported deaths during the census year ending May 31, 1890, by single years under age 5, remained constant for five years.

DISTRIBUTION OF POPULATION AND MORTALITY STATISTICS OF UNKNOWN AGES AND UNKNOWN NATIVITY.

277. The distribution of populations of unknown ages in the census returns of June 1, 1900, and April 15, 1910, were made for all the 1901 and 1910 life tables under the direction of the Geographer. The distribution of populations of unknown ages in the census returns of June 1, 1890, as well as those of the census of June 1, 1900, and April 15, 1910, which were used in the computation of the life tables for the decennium 1901–1910, were made in the Division of Vital Statistics. The distribution of deaths of unknown ages for all tables was made in the Division of Vital Statistics. The general method shown in sections 269 and 270 and the tapes which correspond to them, pages 412 and 413, was followed in distributing populations and deaths of unknown ages.

The distribution of deaths among whites of unknown nativity between native whites and foreign-born whites in the original registration states was made in the Division of Vital Statistics. It was assumed that in any quinquennial age group the number of deaths of native whites and of foreign-born whites, respectively, among whites of unknown nativity were proportional to the number of deaths of known nativity among native whites and among foreign-born whites, respectively.

ESTIMATES OF POPULATIONS.

278. All estimates of populations as of July 1, 1900, and July 1, 1910, were made under the direction of the Geographer, while the estimates of populations as of July 1, 1901, and as of December 1, 1899, and the computation of the mean populations for the decennium 1901–1910 were made in the Division of Vital Statistics. With the exception of the mean population for the decennium 1901–1910 the general method used in estimating populations of a given date is that shown in section 256 and the accompanying tape, pages 408 and 409. The method used to obtain the mean population for the decennium 1901–1910 is given in sections 264 to 274 and the accompanying tapes, pages 410 to 414.

NUMBER OF BIRTHS REGISTERED AND COMPUTED NUMBER OF BIRTHS.

279. The number of births registered is shown by sex in each of the calendar years 1900–1902 and 1909–1911 for Indiana, Massachusetts, Michigan, Boston, and New York City, except that the number of registered births in Boston in 1911 was not separated by sex and in Indiana the number of registered births is from October 1, 1899, to September 30, 1900, instead of for the calendar year 1900; also the number of registered births is shown by sex for the period 1909–1911 in the state of New York and in Philadelphia, and for the census year ended May 31, 1890, in the state of Massachusetts. Registered births without distribution by sex are shown for the periods 1900–1902 and 1909–1911 in New Jersey; also for the period 1900–1902 in the state of New York and in Philadelphia.

TABLE 136.—COMPUTED NUMBER OF BIRTHS AND NUMBER OF BIRTHS REGISTERED.

LIFE TABLE.	NUMBER OF BIRTHS.[1]					
	MALE.			FEMALE.		
	Computed.	Registered.	Difference.	Computed.	Registered.	Difference.
ORIGINAL REGISTRATION STATES:						
Total—						
1901	814,484			777,099		
1910	922,172			877,281		
White—						
1901	798,235			761,085		
1901–1910	2,836,683			2,699,663		
1910	905,222			860,378		
Negro—						
1901	15,537			15,338		
1901–1910	53,421			52,861		
1910	16,154			16,103		
Native white—						
1901	780,850			744,085		
1910	880,644			836,211		
Whites in cities—						
1901	470,444			449,606		
1910	585,325			559,071		
Whites in rural part—						
1901	326,350			310,027		
1910	323,240			304,657		
District of Columbia, Negro and colored:[2]						
1901–1910	[2] 11,602	[2] 10,918	684	[2] 11,422	[2] 10,317	1,105
Indiana:						
1901	98,438	65,361	33,077	93,238	60,215	33,023
1910	99,274	86,115	13,159	93,352	81,609	11,743
Massachusetts:						
1890[3]	28,862	[4] 29,434	−572	27,740	[4] 28,357	−617
1901	113,041	[5] 111,833	1,208	107,642	[5] 105,748	1,894
1910	127,421	[5] 132,964	−5,543	121,320	[5] 125,941	−4,621
Michigan:						
1901	98,129	67,505	30,624	93,048	63,397	29,651
1910	112,319	99,349	12,970	105,697	93,193	12,504
New Jersey:						
1901	86,781	[6] 102,198	[6] 67,005	82,422	([6])	([6])
1910	107,636	[6] 159,583	[6] 50,232	102,179	([6])	([6])
New York:						
1901	301,926	[6] 430,435	[6] 160,818	289,327	([6])	([6])
1910	346,664	327,315	19,349	331,796	310,254	21,542
Boston:						
1901	22,916	[5] 24,256	−1,340	22,087	[5] 23,224	−1,137
1910	24,708	[5] 27,278	−2,570	23,433	[5] 26,024	−2,591
Chicago:						
1901	73,771			70,869		
1910	85,943			81,016		
New York City:						
1901	169,036	126,727	42,309	162,022	121,373	40,649
1910	200,376	[5] 197,949	2,427	192,459	[5] 188,650	3,809
Philadelphia:						
1901	52,744	[6] 87,161	[6] 16,262	50,679	([6])	([6])
1910	59,104	[5] 59,363	−259	56,784	[5] 56,919	−135

[1] In the computation of the 1901 and 1910 life tables the number of births during the periods 1900–1902 and 1909–1911, respectively, was used.
[2] The number of births registered was given only by white and colored, while the number of Negro births was computed.
[3] Census year ended May 31, 1890.
[4] Compiled from number of births registered by calendar months in Registration Reports of Massachusetts, 1889 and 1890.
[5] The number of births registered was used in determining the rates of mortality for the life table.
[6] The number of births registered by sex was not available; the figures given under males include both sexes.

The number of births of colored people registered by sex in the District of Columbia is shown for each of the calendar years 1901–1910.

The number of births was computed for each of the 74 life tables and was used in the computation of the rates of mortality except for the 1901 and the 1910 tables for Massachusetts and Boston and the 1910 tables for the cities of New York and Philadelphia, where the number of registered births was used in the computation of the rates of mortality. Table 136 shows the computed number of births, the number of births registered, and the difference between them where the number of births registered is available.

The theory employed in the computation of births is given in sections 106 to 110 on pages 338 to 342, and the actual computation of the number of male births in the state of New York, 1909 to 1911, is given in sections 140 to 142 and in the diagrams and tape which correspond to them on pages 371 and 373, respectively.

MEANING OF URBAN AND RURAL AS USED IN THE LIFE TABLES.

280. On page 18 of the 1909 Mortality Statistics the following definition is given:

> By urban population is understood, for the mortality statistics, the population of cities or municipalities (including New England "towns") that had 8,000 or more inhabitants in 1900, while the population of the remainder of a state is considered as rural.

In Volume I of the Report of the Thirteenth Census of the United States, relating to Population, 1910, the following definition appears on page 53:

> The Census Bureau classifies as urban population that residing in cities and other incorporated places of 2,500 inhabitants or more, including New England towns of that size.

In order to obtain populations to agree with the deaths for the 1901 life tables for whites in cities, it was necessary to add together the white populations of the original registration states in all cities or municipalities that had 8,000 or more inhabitants in 1900. In this way populations were obtained as of June 1, 1900, and also as of April 15, 1910.

To obtain the populations for the 1901 life tables for whites in rural part of the original registration states, it was necessary to subtract from the total white population of the original registration states the white populations of the cities mentioned above.

A note at the beginning of Table 1 on page 67 in the 1910 Mortality Statistics reads as follows:

> The term "cities" as used in this table is restricted to municipalities having 10,000 or more inhabitants in 1910, smaller places being included with the "rural part of the registration states."

This defines "cities in the original registration states" and "rural part of the original registration states" in 1910, as far as deaths are concerned.

By comparing Table 1 in the 1909 Mortality Statistics with Table 1 in the 1910 Mortality Statistics on pages 67 to 80, it will be noted that because of this change in the definition of "cities" 17 municipalities were transferred from urban to rural area and 20 other municipalities were transferred from rural to urban area. The deaths for whites in cities in the original registration states in 1909 included those of the 17 municipalities which were transferred from urban to rural area in 1910, but did not include those of the 20 other municipalities which were transferred from rural to urban area in 1910. This did not affect materially the number of deaths among whites in cities and among whites in rural part of the original registration states for 1910.

In the 1910 Population Report, Volumes II and III, reports by states are given, and at the end of each report are "notes regarding the changes in boundaries, etc., of incorporated places." By looking up these notes for each of the original registration states, it will be seen that during the period 1900–1910 there were a number of annexations from the rural area to the individual cities of the original registration states. Populations for some of the important ones are given in Bulletin 122 on page 4.

On this account the rural and urban tables of 1901 and 1910 do not include exactly the same area. However, the change was so slight that it does not affect materially comparisons of the tables at the two epochs.

In order to obtain populations to agree with the death statistics of whites in cities for the 1910 life table, it was necessary to add together the white populations of those municipalities having 10,000 or more inhabitants in 1910 for the census returns of both June 1, 1900, and April 15, 1910, taking into account the annexations and other changes in the ten-year period. Then, to obtain the rural white populations of the original registration states in 1910, the total white population in the cities mentioned above were subtracted from the white population of the original registration states for the census returns of both June 1, 1900, and April 15, 1910.

TABLES OF ORIGINAL STATISTICS
UPON WHICH LIFE TABLES IN PART II WERE BASED

TABLE 137 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	12 177 315	188 197	201 173	196 681	586 051
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	14 645	15 275	15 186	45 106
1-2	.....	3 754	4 061	3 718	11 533
2-3	.....	3 010	3 354	2 900	9 264
3-4	.....	2 749	2 867	2 514	8 130
4-5	.....	2 360	2 533	2 152	7 045
5-6	.....	2 070	2 223	1 887	6 180
6-7	.....	1 890	2 135	1 750	5 775
7-8	.....	1 673	1 852	1 531	5 056
8-9	.....	1 672	1 698	1 419	4 789
9-10	.....	1 491	1 564	1 358	4 413
10-11	.....	1 338	1 264	1 158	3 760
11-12	.....	1 274	1 351	1 086	3 711
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	258 678	37 926	40 177	36 659	114 762
1-2	229 597	7 795	8 033	6 958	22 786
2-3	251 361	3 331	3 535	2 985	9 851
3-4	245 878	1 954	2 118	1 843	5 915
4-5	236 377	1 397	1 442	1 315	4 154
5-6	229 210	1 116	1 101	1 003	3 220
6-7	227 195	877	952	872	2 701
7-8	223 978	717	809	744	2 270
8-9	216 177	635	673	666	1 974
9-10	211 739	520	599	568	1 687
10-11	215 748	528	501	532	1 561
11-12	202 613	520	537	509	1 566
12-13	220 968	484	478	454	1 416
13-14	211 143	491	554	505	1 550
14-15	215 796	518	548	564	1 630
15-16	201 793	556	578	545	1 679
16-17	221 275	675	662	658	1 995
17-18	219 195	807	904	868	2 579
18-19	232 080	969	1 031	990	2 990
19-20	226 413	1 068	1 148	1 122	3 338
20-21	229 092	1 055	1 190	1 184	3 429
21-22	233 844	1 173	1 277	1 195	3 645
22-23	238 395	1 255	1 381	1 327	3 963
23-24	234 308	1 217	1 312	1 342	3 871
24-25	238 609	1 276	1 321	1 363	3 960
25-26	242 303	1 321	1 415	1 431	4 170
26-27	230 077	1 257	1 349	1 286	3 892
27-28	217.382	1 281	1 428	1 391	4 100
28-29	240 945	1 494	1 542	1 530	4 566
29-30	198 321	1 269	1 357	1 300	3 926
30-31	261 115	1 613	1 733	1 652	4 998
31-32	164 359	1 210	1 240	1 322	3 772
32-33	206 014	1 505	1 607	1 607	4 719
33-34	183 401	1 452	1 525	1 490	4 467
34-35	188 633	1 491	1 616	1 593	4 700
35-36	224 988	1 912	2 045	2 093	6 050
36-37	182 187	1 554	1 635	1 743	4 932
37-38	166 880	1 535	1 662	1 638	4 835
38-39	202 660	1 862	1 946	2 065	5 873
39-40	166 106	1 684	1 718	1 689	5 091
40-41	231 281	2 198	2 429	2 302	6 929
41-42	127 556	1 414	1 521	1 630	4 565
42-43	176 576	1 841	2 007	2 000	5 848
43-44	141 528	1 678	1 699	1 805	5 182
44-45	134 343	1 511	1 648	1 710	4 869
45-46	172 626	2 190	2 231	2 380	6 801
46-47	122 693	1 587	1 751	1 599	4 937
47-48	121 217	1 623	1 829	1 880	5 332
48-49	141 134	1 960	2 037	2 080	6 077
49-50	126 915	1 814	1 934	1 952	5 700
Years.					
50-51	168 291	2 394	2 667	2 635	7 696
51-52	95 861	1 595	1 739	1 871	5 205
52-53	123 190	1 973	2 231	2 257	6 461
53-54	100 352	1 880	1 961	2 123	5 964
54-55	100 636	1 951	2 100	2 105	6 156
55-56	101 639	2 125	2 332	2 353	6 810
56-57	90 326	1 929	2 145	2 230	6 304
57-58	75 845	1 794	2 092	2 174	6 060
58-59	80 438	2 035	2 240	2 237	6 512
59-60	71 452	2 043	2 052	2 129	6 224
60-61	94 801	2 717	2 852	2 935	8 504
61-62	54 911	1 884	2 029	2 264	6 177
62-63	66 576	2 236	2 434	2 483	7 153
63-64	60 666	2 296	2 505	2 483	7 284
64-65	57 508	2 286	2 493	2 462	7 241
65-66	69 453	2 894	3 077	3 029	9 000
66-67	48 224	2 216	2 401	2 455	7 072
67-68	46 279	2 355	2 486	2 663	7 504
68-69	46 547	2 556	2 654	2 692	7 902
69-70	42 219	2 363	2 565	2 508	7 436
70-71	49 111	2 695	3 117	2 955	8 767
71-72	29 268	2 079	2 270	2 512	6 861
72-73	34 674	2 537	2 598	2 634	7 769
73-74	30 069	2 409	2 627	2 623	7 659
74-75	27 180	2 254	2 462	2 508	7 224
75-76	27 886	2 495	2 665	2 751	7 911
76-77	22 756	2 260	2 470	2 271	7 001
77-78	17 968	1 975	2 225	2 227	6 427
78-79	16 618	2 058	2 130	2 281	6 469
79-80	14 184	1 967	1 912	1 935	5 814
80-81	14 484	1 755	2 057	1 965	5 777
81-82	9 284	1 474	1 587	1 689	4 750
82-83	9 223	1 495	1 616	1 556	4 667
83-84	7 510	1 371	1 448	1 500	4 319
84-85	6 642	1 221	1 289	1 401	3 911
85-86	5 351	1 147	1 135	1 135	3 417
86-87	4 229	913	1 012	1 000	2 925
87-88	3 397	746	806	827	2 379
88-89	2 486	633	692	647	1 972
89-90	2 019	533	532	523	1 588
90-91	1 745	414	478	468	1 360
91-92	941	296	320	356	972
92-93	696	235	227	279	741
93-94	526	176	197	176	549
94-95	358	114	125	139	378
95-96	313	81	109	94	284
96-97	146	61	74	53	188
97-98	104	51	58	46	155
98-99	76	33	29	29	91
99-100	49	27	26	28	81
100-101	50	20	20	9	49
101-102	12	6	4	15	25
102-103	12	7	12	3	22
103-104	8	2	9	6	17
104-105	3	5	3	4	12
105-106	10	6	1	3	10
106-107	5	1	3	2	6
107-108	0	1	1	1	3
108-109	1	3	2	0	5
109-110	1	.....	1	2	3
110-111	1	.....	4	1	5
111-112	1	.....	.....	.....	.....
112-113	0	.....	.....	.....	.....
113-114	0	.....	.....	.....	.....
114-115	0	.....	.....	.....	.....
115-116	1	.....	.....	.....	.....
135-136	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	36 129	6 861	2 868	1 697

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	7 230	3 184	1 951	1 444

TABLE 138 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	11 954 444	165 379	175 842	171 406	512 627
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	10 847	11 409	11 354	33 610
1–2	.....	2 903	3 111	2 779	8 793
2–3	.....	2 397	2 756	2 315	7 468
3–4	.....	2 154	2 377	1 993	6 524
4–5	.....	1 907	2 016	1 766	5 689
5–6	.....	1 613	1 926	1 489	5 028
6–7	.....	1 589	1 763	1 515	4 867
7–8	.....	1 428	1 481	1 274	4 183
8–9	.....	1 399	1 416	1 222	4 037
9–10	.....	1 300	1 302	1 163	3 765
10–11	.....	1 144	1 195	1 064	3 403
11–12	.....	1 132	1 227	934	3 293
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	252 054	29 813	31 979	28 868	90 660
1–2	224 595	7 087	7 021	6 238	20 346
2–3	245 583	2 882	3 113	2 609	8 604
3–4	241 612	1 766	1 969	1 721	5 456
4–5	231 720	1 285	1 345	1 236	3 866
5–6	225 643	1 027	1 075	947	3 049
6–7	224 958	850	905	763	2 518
7–8	219 484	638	749	708	2 095
8–9	214 629	560	587	573	1 720
9–10	206 778	479	527	423	1 429
10–11	213 474	462	465	392	1 319
11–12	201 392	411	404	408	1 223
12–13	218 324	419	510	412	1 341
13–14	209 821	513	497	501	1 511
14–15	212 286	510	602	521	1 633
15–16	204 839	528	588	590	1 706
16–17	227 328	701	680	584	1 965
17–18	220 848	771	805	742	2 318
18–19	244 938	915	895	881	2 691
19–20	229 567	917	940	981	2 838
20–21	250 523	948	1 081	1 048	3 077
21–22	223 634	1 005	1 097	1 101	3 203
22–23	243 192	1 140	1 232	1 200	3 572
23–24	238 781	1 184	1 249	1 184	3 617
24–25	236 719	1 254	1 289	1 242	3 785
25–26	241 926	1 179	1 216	1 274	3 669
26–27	222 419	1 254	1 269	1 249	3 772
27–28	204 425	1 140	1 277	1 241	3 658
28–29	230 642	1 312	1 372	1 271	3 955
29–30	185 945	1 218	1 234	1 165	3 617
30–31	247 644	1 317	1 379	1 312	4 008
31–32	154 792	1 040	1 090	1 112	3 242
32–33	198 236	1 305	1 325	1 318	3 948
33–34	173 466	1 230	1 267	1 210	3 707
34–35	180 379	1 205	1 319	1 301	3 825
35–36	209 797	1 374	1 436	1 588	4 398
36–37	175 545	1 292	1 324	1 361	3 977
37–38	159 314	1 291	1 333	1 305	3 929
38–39	196 149	1 549	1 514	1 556	4 619
39–40	157 218	1 371	1 322	1 325	4 018
40–41	215 604	1 522	1 681	1 565	4 768
41–42	118 184	1 044	1 149	1 184	3 377
42–43	164 514	1 405	1 458	1 468	4 331
43–44	134 682	1 198	1 313	1 345	3 856
44–45	127 497	1 186	1 293	1 347	3 826
45–46	157 886	1 453	1 496	1 636	4 585
46–47	117 876	1 281	1 320	1 342	3 943
47–48	115 354	1 264	1 403	1 308	3 975
48–49	137 931	1 510	1 590	1 591	4 691
49–50	118 633	1 475	1 447	1 450	4 372

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	163 588	1 697	2 009	1 950	5 656
51–52	87 587	1 284	1 406	1 506	4 196
52–53	112 485	1 480	1 733	1 729	4 942
53–54	92 950	1 407	1 575	1 545	4 527
54–55	95 956	1 604	1 600	1 708	4 912
55–56	98 651	1 642	1 778	1 880	5 300
56–57	85 101	1 528	1 720	1 730	4 978
57–58	71 666	1 550	1 630	1 752	4 932
58–59	80 568	1 791	1 828	1 917	5 536
59–60	69 527	1 724	1 733	1 779	5 236
60–61	102 851	2 277	2 460	2 430	7 167
61–62	52 979	1 628	1 694	1 966	5 288
62–63	65 625	1 959	2 118	2 129	6 206
63–64	60 818	2 032	2 075	2 146	6 253
64–65	58 894	2 154	2 126	2 057	6 337
65–66	73 684	2 535	2 812	2 739	8 086
66–67	49 071	2 028	2 215	2 212	6 455
67–68	47 393	2 179	2 272	2 445	6 896
68–69	49 843	2 436	2 467	2 454	7 357
69–70	42 562	2 256	2 371	2 351	6 978
70–71	55 623	2 737	3 098	3 101	8 936
71–72	29 911	1 974	2 123	2 344	6 441
72–73	36 851	2 432	2 545	2 546	7 523
73–74	31 867	2 298	2 480	2 464	7 242
74–75	29 334	2 178	2 398	2 405	6 981
75–76	32 752	2 583	2 709	2 755	8 047
76–77	25 692	2 232	2 471	2 377	7 080
77–78	19 658	2 034	2 221	2 237	6 492
78–79	19 349	2 093	2 125	2 295	6 513
79–80	15 758	1 930	2 073	1 983	5 986
80–81	18 004	2 064	2 319	2 336	6 719
81–82	10 496	1 552	1 629	1 787	4 968
82–83	10 895	1 563	1 862	1 799	5 224
83–84	9 115	1 434	1 594	1 661	4 689
84–85	8 227	1 385	1 521	1 500	4 406
85–86	7 058	1 299	1 427	1 361	4 087
86–87	5 308	1 106	1 148	1 207	3 461
87–88	4 336	967	1 006	1 023	2 996
88–89	3 422	827	804	822	2 453
89–90	2 723	682	716	765	2 163
90–91	2 440	608	681	649	1 938
91–92	1 287	392	415	428	1 235
92–93	1 101	316	376	352	1 044
93–94	810	258	272	302	832
94–95	564	199	201	238	638
95–96	519	154	169	177	500
96–97	271	132	108	118	358
97–98	157	96	92	72	260
98–99	140	59	73	61	193
99–100	94	30	24	30	84
100–101	86	35	42	38	115
101–102	22	14	20	16	50
102–103	19	10	14	8	32
103–104	10	4	10	8	22
104–105	12	6	3	6	15
105–106	10	2	5	1	8
106–107	6	6	2	3	11
107–108	7	3	1	4	8
108–109	1	6	3	2	11
109–110	4	1	0	0	1
110–111	5	2	3	1	6
111–112	1	1	1	1	3
112–113	3	2	3	0	5
113–114	1	0	1	0	1
114–115	1	0	0	0	0
115–116	2	0	0	0	0
116–117	1	0	0	0	0
117–118	1	0	0	1	1
118–119	1	1	0	.....	1
120–121	.....	1	1	.....	2

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	28 265	5 938	2 587	1 520

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	6 353	2 766	1 806	1 292

TABLE 139 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	11 932 963	182 373	194 791	190 497	567 661
INFANT MORTALITY BY MONTHS					
Months.					
0-1	.....	14 213	14 819	14 795	43 827
1-2	.....	3 650	3 945	3 629	11 224
2-3	.....	2 895	3 237	2 796	8 928
3-4	.....	2 662	2 777	2 421	7 860
4-5	.....	2 273	2 460	2 073	6 806
5-6	.....	2 004	2 160	1 821	5 985
6-7	.....	1 804	2 054	1 699	5 557
7-8	.....	1 609	1 791	1 476	4 876
8-9	.....	1 616	1 642	1 363	4 621
9-10	.....	1 446	1 505	1 306	4 257
10-11	.....	1 293	1 217	1 120	3 630
11-12	.....	1 225	1 291	1 044	3 560
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	254 307	36 690	38 898	35 543	111 131
1-2	226 129	7 530	7 727	6 679	21 936
2-3	247 391	3 206	3 404	2 860	9 470
3-4	241 985	1 885	2 055	1 786	5 726
4-5	232 612	1 359	1 398	1 280	4 037
5-6	225 604	1 093	1 073	967	3 133
6-7	223 518	849	922	844	2 615
7-8	220 389	694	790	724	2 208
8-9	212 845	614	652	648	1 914
9-10	208 316	500	573	549	1 622
10-11	212 295	519	486	506	1 511
11-12	199 483	500	517	488	1 505
12-13	217 465	465	464	443	1 372
13-14	207 798	475	533	486	1 494
14-15	212 205	498	524	543	1 565
15-16	198 625	531	550	527	1 608
16-17	217 739	649	630	627	1 906
17-18	215 660	771	866	826	2 463
18-19	228 053	921	997	940	2 858
19-20	222 231	1 020	1 092	1 078	3 190
20-21	224 728	994	1 144	1 127	3 265
21-22	228 799	1 128	1 208	1 139	3 475
22-23	232 988	1 198	1 322	1 257	3 777
23-24	228 833	1 151	1 241	1 274	3 666
24-25	232 645	1 215	1 244	1 293	3 752
25-26	235 663	1 248	1 345	1 343	3 936
26-27	224 240	1 188	1 286	1 211	3 685
27-28	211 766	1 201	1 341	1 316	3 858
28-29	234 154	1 400	1 449	1 448	4 297
29-30	192 832	1 196	1 282	1 213	3 691
30-31	253 445	1 510	1 609	1 538	4 657
31-32	160 326	1 156	1 180	1 262	3 598
32-33	200 661	1 434	1 530	1 525	4 489
33-34	179 099	1 376	1 442	1 417	4 235
34-35	183 830	1 415	1 511	1 519	4 445
35-36	218 208	1 801	1 927	1 980	5 708
36-37	177 669	1 485	1 571	1 662	4 718
37-38	162 818	1 471	1 573	1 559	4 603
38-39	197 145	1 778	1 841	1 954	5 573
39-40	161 773	1 622	1 636	1 602	4 860
40-41	224 637	2 090	2 295	2 177	6 562
41-42	124 933	1 350	1 463	1 577	4 390
42-43	172 514	1 769	1 915	1 899	5 583
43-44	138 706	1 605	1 627	1 724	4 956
44-45	131 768	1 466	1 579	1 653	4 698
45-46	168 320	2 100	2 121	2 283	6 504
46-47	120 510	1 543	1 694	1 551	4 788
47-48	119 102	1 569	1 772	1 820	5 161
48-49	138 216	1 890	1 961	2 010	5 861
49-50	124 277	1 746	1 859	1 892	5 497

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
7	8	9	10	11	12
Years.					
50-51	164 252	2 287	2 536	2 521	7 344
51-52	94 299	1 548	1 697	1 802	5 047
52-53	120 977	1 913	2 161	2 173	6 247
53-54	98 814	1 820	1 890	2 059	5 769
54-55	98 962	1 895	2 044	2 030	5 969
55-56	99 656	2 044	2 252	2 273	6 569
56-57	88 849	1 871	2 089	2 180	6 140
57-58	74 699	1 750	2 028	2 114	5 902
58-59	79 196	1 989	2 179	2 181	6 349
59-60	70 413	1 989	2 005	2 073	6 067
60-61	92 762	2 640	2 766	2 822	8 228
61-62	54 277	1 847	1 996	2 222	6 065
62-63	65 706	2 195	2 368	2 427	6 990
63-64	59 842	2 254	2 452	2 430	7 136
64-65	56 756	2 252	2 449	2 423	7 124
65-66	68 094	2 817	2 973	2 947	8 737
66-67	47 615	2 177	2 350	2 414	6 941
67-68	45 718	2 317	2 445	2 611	7 373
68-69	45 931	2 504	2 607	2 649	7 760
69-70	41 692	2 322	2 533	2 461	7 316
70-71	48 201	2 628	3 038	2 873	8 539
71-72	29 028	2 052	2 248	2 472	6 772
72-73	34 273	2 502	2 564	2 596	7 662
73-74	29 722	2 380	2 593	2 583	7 556
74-75	26 911	2 226	2 430	2 463	7 119
75-76	27 463	2 441	2 617	2 703	7 761
76-77	22 543	2 230	2 446	2 243	6 919
77-78	17 795	1 955	2 202	2 208	6 365
78-79	16 446	2 045	2 107	2 264	6 416
79-80	14 040	1 946	1 894	1 926	5 766
80-81	14 234	1 728	2 011	1 930	5 669
81-82	9 196	1 462	1 573	1 674	4 709
82-83	9 139	1 485	1 603	1 542	4 630
83-84	7 442	1 362	1 434	1 490	4 286
84-85	6 584	1 215	1 272	1 390	3 877
85-86	5 280	1 127	1 124	1 119	3 370
86-87	4 182	906	1 006	989	2 901
87-88	3 354	737	800	821	2 358
88-89	2 456	621	685	639	1 945
89-90	1 992	528	524	518	1 570
90-91	1 705	409	474	454	1 337
91-92	928	294	318	353	965
92-93	683	232	225	274	731
93-94	519	175	195	176	546
94-95	349	113	123	137	373
95-96	290	77	103	92	272
96-97	142	61	72	51	184
97-98	103	47	57	45	149
98-99	70	31	29	28	88
99-100	46	26	24	28	78
100-101	43	15	18	8	41
101-102	8	5	4	12	21
102-103	9	5	10	2	17
103-104	6	1	9	5	15
104-105	2	5	3	2	10
105-106	7	4	0	2	6
106-107	3	0	2	1	3
107-108	0	1	0	1	2
108-109	1	1	2	0	3
109-110	1	.....	1	1	2
110-111	1	.....	2	1	3
111-112	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	35 037	6 608	2 767	1 645

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	6 973	3 067	1 882	1 404

TABLE 140 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	11 706 221	160 227	170 233	165 918	496 378
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	10 512	11 050	11 006	32 568
1-2	.....	2 825	3 008	2 674	8 507
2-3	.....	2 323	2 665	2 244	7 232
3-4	.....	2 066	2 285	1 932	6 283
4-5	.....	1 844	1 944	1 705	5 493
5-6	.....	1 566	1 862	1 437	4 865
6-7	.....	1 524	1 704	1 459	4 687
7-8	.....	1 376	1 408	1 231	4 015
8-9	.....	1 352	1 364	1 167	3 883
9-10	.....	1 259	1 256	1 123	3 638
10-11	.....	1 099	1 138	1 025	3 262
11-12	.....	1 086	1 185	909	3 180
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	247 817	28 832	30 869	27 912	87 613
1-2	220 930	6 829	6 733	5 997	19 559
2-3	241 481	2 765	3 011	2 527	8 303
3-4	237 435	1 701	1 902	1 658	5 261
4-5	227 810	1 242	1 295	1 190	3 727
5-6	221 785	992	1 047	918	2 957
6-7	221 201	822	891	738	2 452
7-8	215 757	624	724	683	2 031
8-9	210 867	541	564	554	1 659
9-10	203 267	461	500	409	1 370
10-11	209 744	440	450	379	1 269
11-12	198 105	385	382	388	1 155
12-13	214 437	398	484	398	1 280
13-14	206 159	484	469	472	1 425
14-15	208 426	473	568	490	1 531
15-16	201 287	497	554	549	1 600
16-17	223 278	663	639	555	1 857
17-18	216 787	721	759	696	2 176
18-19	240 016	863	840	833	2 536
19-20	224 573	867	881	928	2 676
20-21	244 906	905	1 018	976	2 899
21-22	218 465	953	1 039	1 032	3 024
22-23	237 047	1 072	1 172	1 143	3 387
23-24	232 316	1 126	1 176	1 106	3 408
24-25	229 914	1 178	1 211	1 180	3 569
25-26	234 646	1 108	1 149	1 206	3 463
26-27	216 053	1 187	1 195	1 180	3 562
27-28	198 699	1 088	1 214	1 192	3 494
28-29	223 621	1 243	1 291	1 194	3 728
29-30	180 288	1 143	1 174	1 098	3 415
30-31	239 912	1 241	1 302	1 214	3 757
31-32	151 153	985	1 033	1 064	3 082
32-33	193 163	1 248	1 255	1 255	3 758
33-34	169 246	1 171	1 205	1 147	3 523
34-35	175 942	1 152	1 252	1 243	3 647
35-36	203 838	1 308	1 358	1 491	4 157
36-37	171 459	1 243	1 265	1 291	3 799
37-38	155 707	1 236	1 280	1 233	3 749
38-39	190 923	1 470	1 435	1 475	4 380
39-40	153 045	1 305	1 256	1 252	3 813
40-41	209 521	1 438	1 569	1 472	4 479
41-42	116 077	1 005	1 111	1 130	3 246
42-43	161 281	1 344	1 398	1 391	4 133
43-44	132 219	1 152	1 253	1 295	3 700
44-45	125 295	1 140	1 226	1 301	3 667
45-46	154 013	1 385	1 424	1 560	4 369
46-47	115 944	1 218	1 269	1 291	3 778
47-48	113 423	1 231	1 350	1 276	3 857
48-49	135 189	1 459	1 533	1 526	4 518
49-50	116 210	1 423	1 390	1 404	4 217
Years.					
50-51	159 514	1 621	1 903	1 861	5 385
51-52	86 318	1 254	1 359	1 443	4 056
52-53	110 561	1 421	1 667	1 666	4 754
53-54	91 616	1 359	1 542	1 502	4 403
54-55	94 393	1 566	1 551	1 653	4 770
55-56	96 740	1 578	1 712	1 815	5 105
56-57	83 765	1 478	1 677	1 660	4 815
57-58	70 641	1 510	1 594	1 699	4 803
58-59	79 371	1 751	1 773	1 860	5 384
59-60	68 462	1 683	1 681	1 726	5 090
60-61	100 556	2 189	2 370	2 331	6 890
61-62	52 435	1 597	1 656	1 927	5 180
62-63	64 818	1 918	2 079	2 082	6 079
63-64	60 056	1 993	2 034	2 106	6 133
64-65	58 230	2 124	2 090	2 011	6 225
65-66	72 350	2 474	2 738	2 659	7 871
66-67	48 544	1 988	2 178	2 178	6 344
67-68	46 881	2 140	2 222	2 407	6 769
68-69	49 298	2 389	2 428	2 417	7 234
69-70	42 082	2 217	2 335	2 316	6 868
70-71	54 633	2 672	3 022	3 044	8 738
71-72	29 640	1 955	2 106	2 312	6 373
72-73	36 422	2 409	2 516	2 507	7 432
73-74	31 588	2 264	2 469	2 431	7 164
74-75	29 043	2 156	2 370	2 373	6 899
75-76	32 249	2 541	2 662	2 706	7 909
76-77	25 343	2 215	2 447	2 348	7 010
77-78	19 486	2 012	2 207	2 224	6 443
78-79	19 138	2 078	2 098	2 275	6 451
79-80	15 597	1 911	2 056	1 964	5 931
80-81	17 654	2 023	2 274	2 290	6 587
81-82	10 403	1 542	1 619	1 773	4 934
82-83	10 774	1 555	1 847	1 773	5 175
83-84	9 025	1 418	1 579	1 648	4 645
84-85	8 148	1 375	1 506	1 490	4 371
85-86	6 943	1 283	1 410	1 331	4 024
86-87	5 238	1 096	1 137	1 198	3 431
87-88	4 283	955	995	1 010	2 960
88-89	3 379	816	796	815	2 427
89-90	2 656	669	707	754	2 130
90-91	2 353	600	665	628	1 893
91-92	1 262	388	412	423	1 223
92-93	1 076	312	372	349	1 033
93-94	793	256	270	295	821
94-95	551	192	200	237	629
95-96	486	150	164	170	484
96-97	255	130	105	111	346
97-98	144	93	91	70	254
98-99	129	51	69	55	175
99-100	85	29	20	27	76
100-101	67	29	32	35	96
101-102	18	13	19	13	45
102-103	13	7	13	6	26
103-104	9	2	9	7	18
104-105	9	4	3	6	13
105-106	6	2	5	1	8
106-107	5	4	2	2	8
107-108	5	2	1	4	7
108-109	1	5	2	1	8
109-110	0	1	0	0	1
110-111	1	1	0	0	1
111-112	1	1	1	0	2
112-113	0	2	1	0	3
113-114	0	.....	.....	0	0
114-115	1	.....	.....	0	0
115-116	1	.....	.....	0	0
116-117	.....	.....	.....	0	0
117-118	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	27 309	5 691	2 482	1 459

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	6 136	2 667	1 741	1 258

TABLE 141 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths.			
		1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	223 884	5 531	6 052	5 888	17 471
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	419	445	380	1 244
1-2	.....	97	115	89	301
2-3	.....	114	109	102	325
3-4	.....	84	79	92	255
4-5	.....	84	74	76	234
5-6	.....	64	66	64	194
6-7	.....	85	79	50	214
7-8	.....	64	59	52	175
8-9	.....	56	56	53	165
9-10	.....	44	60	49	153
10-11	.....	44	44	36	124
11-12	.....	49	57	40	146
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	4 102	1 204	1 243	1 083	3 530
1-2	3 278	260	297	273	830
2-3	3 752	120	129	120	369
3-4	3 692	67	63	56	186
4-5	3 553	35	42	34	111
5-6	3 390	22	26	35	83
6-7	3 465	27	27	26	80
7-8	3 377	23	17	18	58
8-9	3 151	19	19	17	55
9-10	3 230	17	25	17	59
10-11	3 260	8	14	24	46
11-12	2 949	20	20	20	60
12-13	3 313	17	14	9	40
13-14	3 142	15	21	18	54
14-15	3 387	20	22	16	58
15-16	3 003	25	27	18	70
16-17	3 317	24	27	31	82
17-18	3 322	36	37	39	112
18-19	3 728	46	33	47	126
19-20	3 904	44	52	42	138
20-21	4 025	59	46	53	158
21-22	4 717	44	64	55	163
22-23	5 012	56	56	67	179
23-24	5 153	65	69	63	197
24-25	5 569	58	75	65	198
25-26	6 207	72	68	80	220
26-27	5 365	68	60	68	196
27-28	5 222	76	80	71	227
28-29	6 233	91	88	73	252
29-30	5 121	69	72	86	227
30-31	6 975	100	115	110	325
31-32	3 694	48	56	58	162
32-33	4 822	68	73	77	218
33-34	4 016	72	78	71	221
34-35	4 340	75	94	70	239
35-36	6 132	101	108	109	318
36-37	4 032	64	58	80	202
37-38	3 716	58	86	75	219
38-39	4 980	79	99	99	277
39-40	3 998	60	81	86	227
40-41	5 853	102	129	119	350
41-42	2 317	58	50	47	155
42-43	3 526	67	85	96	248
43-44	2 455	66	66	75	207
44-45	2 221	43	65	55	163
45-46	3 677	78	92	86	256
46-47	1 767	42	50	45	137
47-48	1 818	51	54	57	162
48-49	2 479	66	67	68	201
49-50	2 335	64	70	56	190
Years.					
50-51	3 517	99	122	108	329
51-52	1 333	45	38	63	146
52-53	1 917	53	67	79	199
53-54	1 380	54	65	61	180
54-55	1 513	52	55	71	178
55-56	1 756	74	71	76	221
56-57	1 315	54	55	48	157
57-58	1 043	42	51	57	150
58-59	1 098	41	55	52	148
59 30	943	51	44	56	151
60-61	1 856	71	81	107	259
61-62	576	35	32	39	106
62-63	800	39	61	53	153
63-64	769	40	50	50	140
64-65	682	32	43	36	111
65-66	1 262	73	101	79	253
66-67	565	37	50	37	124
67-68	514	34	40	51	125
68-69	569	50	45	43	138
69-70	501	40	31	46	117
70-71	847	63	78	79	220
71-72	227	26	22	38	86
72-73	376	32	34	38	104
73-74	313	27	33	38	98
74-75	255	25	32	42	99
75-76	384	51	46	47	144
76-77	199	29	23	27	79
77-78	162	18	22	19	59
78-79	160	13	19	17	49
79-80	134	21	17	8	46
80-81	227	26	43	33	102
81-82	84	10	14	15	39
82-83	81	10	13	13	36
83-84	60	8	10	10	28
84-85	53	6	15	11	32
85-86	68	20	10	15	45
86-87	44	7	6	10	23
87-88	39	7	6	6	19
88-89	28	12	7	7	26
89-90	21	4	7	4	15
90-91	37	5	4	13	22
91-92	13	1	2	3	6
92-93	11	3	2	5	10
93-94	5	1	2	0	3
94-95	6	1	2	1	4
95-96	18	3	5	1	9
96-97	3	0	2	2	4
97-98	1	2	1	1	4
98-99	5	2	0	1	3
99-100	2	1	2	0	3
100-101	7	4	2	1	7
101-102	2	1	0	3	4
102-103	2	1	2	0	3
103-104	2	1	0	1	2
104-105	1	0	0	2	2
105-106	3	2	1	0	3
106-107	2	1	0	1	2
107-108	.....	0	0	0	0
108-109	.....	2	0	0	2
109-110	.....	.....	0	1	1
110-111	.....	.....	2	.....	2
135-136	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year.			
	0-1	1-2	2-3	3-4
1912	1 065	250	97	50

Calendar Year.	Age Intervals of One Year.			
	1-2	2-3	3-4	4-5
1913	250	111	66	38

TABLE 142 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	239 814	5 025	5 481	5 347	15 853
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	330	358	339	1 027
1-2	.....	75	102	104	281
2-3	.....	72	90	68	230
3-4	.....	85	86	60	231
4-5	.....	60	70	60	190
5-6	.....	46	61	51	158
6-7	.....	59	63	54	176
7-8	.....	51	69	42	162
8-9	.....	47	50	52	149
9-10	.....	40	45	39	124
10-11	.....	43	56	37	136
11-12	.....	45	39	25	109
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	4 001	953	1 089	931	2 973
1-2	3 480	250	283	231	764
2-3	3 889	116	99	82	297
3-4	3 950	63	63	59	185
4-5	3 704	42	49	42	133
5-6	3 643	35	25	26	86
6-7	3 550	26	14	25	65
7-8	3 537	13	23	25	61
8-9	3 535	17	23	18	58
9-10	3 313	17	25	14	56
10-11	3 530	22	14	12	48
11-12	3 112	26	21	19	66
12-13	3 698	19	25	10	54
13-14	3 466	28	24	29	81
14-15	3 680	36	32	28	96
15-16	3 380	31	33	39	103
16-17	3 862	36	38	25	99
17-18	3 892	49	45	44	138
18-19	4 749	51	53	46	150
19-20	4 819	49	56	50	155
20-21	5 477	41	61	69	171
21-22	5 044	50	57	67	174
22-23	5 991	65	58	56	179
23-24	6 321	57	72	76	205
24-25	6 675	75	77	61	213
25-26	7 140	69	65	66	200
26-27	6 252	66	74	69	209
27-28	5 599	50	61	48	159
28-29	6 851	66	79	77	222
29-30	5 558	73	58	65	196
30-31	7 567	75	76	97	248
31-32	3 570	53	57	48	158
32-33	4 971	55	68	63	186
33-34	4 127	59	61	62	182
34-35	4 332	52	66	58	176
35-36	5 856	65	78	97	240
36-37	4 001	49	57	69	175
37-38	3 521	55	52	72	179
38-39	5 106	77	78	81	236
39-40	4 077	65	65	72	202
40-41	5 946	83	112	91	286
41-42	2 053	39	38	52	129
42-43	3 154	60	60	77	197
43-44	2 391	45	58	50	153
44-45	2 133	45	67	45	157
45-46	3 763	68	73	76	217
46-47	1 855	61	49	51	161
47-48	1 859	33	53	32	118
48-49	2 655	47	57	65	169
49-50	2 352	52	57	44	153
50-51	3 946	76	105	89	270
51-52	1 215	30	46	62	138
52-53	1 867	58	65	62	185
53-54	1 283	47	32	42	121
54-55	1 503	38	49	54	141
55-56	1 856	64	64	63	191
56-57	1 284	49	43	67	159
57-58	979	39	34	51	124
58-59	1 155	40	54	57	151
59-60	1 018	40	52	53	145
60-61	2 211	87	88	99	274
61-62	524	31	38	39	108
62-63	772	40	39	47	126
63-64	736	39	40	40	119
64-65	634	30	36	41	107
65-66	1 286	59	70	77	206
66-67	496	37	36	34	107
67-68	479	35	49	36	120
68-69	520	47	39	36	122
69-70	465	38	35	34	107
70-71	929	61	76	54	191
71-72	260	19	17	32	68
72-73	396	23	28	37	88
73-74	267	33	11	32	76
74-75	272	20	24	31	75
75-76	469	42	45	49	136
76-77	242	17	24	28	69
77-78	154	22	13	12	47
78-79	189	13	26	18	57
79-80	152	19	17	19	55
80-81	315	39	40	44	123
81-82	89	10	10	14	34
82-83	112	8	15	26	49
83-84	85	16	14	11	41
84-85	76	10	14	10	34
85-86	103	16	16	29	61
86-87	66	7	10	9	26
87-88	47	12	11	12	35
88-89	40	11	8	6	25
89-90	63	13	9	11	33
90-91	80	7	15	19	41
91-92	22	4	3	5	12
92-93	19	4	4	3	11
93-94	16	2	2	7	11
94-95	12	7	1	1	9
95-96	30	4	5	7	16
96-97	14	2	2	5	9
97-98	10	3	1	2	6
98-99	11	8	4	6	18
99-100	8	1	4	2	7
100-101	18	4	9	3	16
101-102	3	1	1	2	4
102-103	6	3	1	2	6
103-104	0	2	1	1	4
104-105	2	2	0	0	2
105-106	3	0	0	0	0
106-107	1	2	0	1	3
107-108	2	1	0	0	1
108-109	0	1	1	1	3
109-110	4	0	0	0	0
110-111	4	1	3	1	5
111-112	0	0	0	1	1
112-113	3	0	2	.....	2
113-114	0	0	1	.....	1
114-115	0	0	0	.....	0
115-116	1	0	0	.....	0
116-117	1	0	0	.....	0
117-118	1	0	0	.....	0
118-119	1	1	0	.....	1
119-120	.....	0	0	.....	0
120-121	.....	1	1	.....	2

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	937	240	97	58

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	210	96	60	34

TABLE 143 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	8 753 112	132 091	140 845	135 722	408 658
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	14 199	14 808	14 785	43 792
1-2	.....	3 642	3 937	3 621	11 200
2-3	.....	2 880	3 229	2 785	8 894
3-4	.....	2 639	2 764	2 407	7 810
4-5	.....	2 247	2 445	2 065	6 757
5-6	.....	1 985	2 144	1 798	5 927
6-7	.....	1 780	2 034	1 681	5 495
7-8	.....	1 591	1 767	1 461	4 819
8-9	.....	1 590	1 616	1 349	4 555
9-10	.....	1 425	1 487	1 292	4 204
10-11	.....	1 269	1 198	1 105	3 572
11-12	.....	1 206	1 271	1 032	3 509
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	252 695	36 453	38 700	35 381	110 534
1-2	223 269	7 371	7 534	6 510	21 415
2-3	243 035	3 085	3 288	2 752	9 125
3-4	235 463	1 782	1 977	1 706	5 465
4-5	223 651	1 279	1 323	1 214	3 816
5-6	213 901	1 020	1 016	899	2 935
6-7	209 591	782	860	791	2 433
7-8	205 030	632	732	669	2 033
8-9	196 580	553	603	593	1 749
9-10	191 841	459	534	497	1 490
10-11	193 656	477	437	465	1 379
11-12	182 450	456	478	441	1 375
12-13	197 538	424	418	394	1 236
13-14	189 462	439	476	436	1 351
14-15	192 023	444	479	482	1 405
15-16	178 709	476	495	471	1 442
16-17	191 292	578	546	538	1 662
17-18	184 302	636	730	697	2 063
18-19	180 712	698	776	747	2 221
19-20	170 644	784	802	794	2 380
20-21	159 708	727	810	816	2 353
21-22	164 608	824	851	828	2 503
22-23	154 181	772	875	862	2 509
23-24	150 803	768	806	864	2 438
24-25	147 476	799	825	849	2 473
25-26	142 316	820	860	843	2 523
26-27	138 176	759	844	780	2 383
27-28	129 957	793	872	891	2 556
28-29	135 840	862	906	924	2 692
29-30	120 595	815	864	793	2 472
30-31	138 478	894	933	894	2 721
31-32	103 850	827	841	864	2 532
32-33	120 507	953	993	956	2 902
33-34	111 975	900	953	904	2 757
34-35	118 051	933	999	1 020	2 952
35-36	127 991	1 063	1 134	1 119	3 316
36-37	110 414	995	1 018	1 094	3 107
37-38	104 372	940	1 037	1 010	2 987
38-39	117 987	1 062	1 106	1 197	3 365
39-40	102 741	1 065	1 029	1 018	3 112
40-41	123 308	1 085	1 199	1 154	3 438
41-42	82 139	849	941	986	2 776
42-43	104 000	1 040	1 075	1 077	3 192
43-44	86 036	971	959	1 010	2 940
44-45	79 585	856	901	964	2 721
45-46	92 653	1 020	1 016	1 111	3 147
46-47	71 663	875	911	877	2 663
47-48	74 478	874	1 056	993	2 923
48-49	84 331	1 137	1 131	1 067	3 335
49-50	81 088	1 062	1 139	1 097	3 298

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
7	8	9	10	11	12
Years.					
50-51	96 347	1 214	1 299	1 315	3 828
51-52	63 956	948	1 046	1 068	3 062
52-53	78 942	1 154	1 288	1 298	3 740
53-54	66 655	1 115	1 170	1 272	3 557
54-55	66 278	1 162	1 240	1 223	3 625
55-56	62 993	1 154	1 236	1 294	3 684
56-57	58 474	1 085	1 253	1 304	3 642
57-58	50 618	1 033	1 211	1 298	3 542
58-59	50 835	1 149	1 272	1 297	3 718
59-60	46 502	1 132	1 194	1 267	3 593
60-61	52 734	1 283	1 388	1 390	4 061
61-62	35 846	1 076	1 174	1 289	3 539
62-63	41 951	1 225	1 334	1 324	3 883
63-64	38 884	1 254	1 440	1 444	4 138
64-65	36 051	1 310	1 366	1 416	4 092
65-66	39 951	1 466	1 602	1 499	4 567
66-67	30 684	1 282	1 355	1 441	4 078
67-68	29 587	1 331	1 400	1 529	4 260
68-69	28 945	1 442	1 499	1 478	4 419
69-70	27 667	1 386	1 538	1 513	4 437
70-71	28 084	1 392	1 620	1 524	4 536
71-72	19 522	1 257	1 375	1 482	4 114
72-73	22 107	1 509	1 565	1 562	4 636
73-74	19 564	1 442	1 609	1 607	4 658
74-75	17 568	1 359	1 511	1 518	4 388
75-76	16 480	1 433	1 533	1 550	4 516
76-77	14 591	1 421	1 542	1 379	4 342
77-78	11 886	1 243	1 453	1 373	4 069
78-79	10 549	1 270	1 279	1 422	3 971
79-80	9 281	1 188	1 242	1 244	3 674
80-81	8 468	1 038	1 169	1 149	3 356
81-82	6 205	985	997	1 065	3 047
82-83	6 018	933	1 054	997	2 984
83-84	4 963	873	909	974	2 756
84-85	4 276	793	817	896	2 506
85-86	3 327	720	688	719	2 127
86-87	2 729	587	644	629	1 860
87-88	2 228	502	527	523	1 552
88-89	1 651	430	468	423	1 321
89-90	1 371	339	356	332	1 027
90-91	1 053	262	308	283	853
91-92	671	215	227	230	672
92-93	468	162	161	178	501
93-94	354	117	123	115	355
94-95	234	82	82	94	258
95-96	186	58	73	51	182
96-97	83	46	44	34	124
97-98	54	33	29	29	91
98-99	35	9	16	7	32
99-100	22	11	15	16	42
100-101	22	7	9	7	23
101-102	3	2	1	5	8
102-103	3	1	1	1	3
103-104	1	0	4	2	6
104-105	1	1	0	1	2
105-106	1	2	0	1	3
106-107	2	.....	0	0	0
107-108	.....	.....	0	1	1
108-109	.....	.....	1	0	1
109-110	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	34 828	6 469	2 673	1 575

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	6 770	2 934	1 771	1 319

TABLE 144 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR NATIVE WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	8 872 897	116 471	123 551	119 064	359 086
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	10 503	11 043	10 999	32 545
1–2	.....	2 816	3 000	2 671	8 487
2–3	.....	2 311	2 656	2 239	7 206
3–4	.....	2 061	2 271	1 924	6 256
4–5	.....	1 828	1 927	1 695	5 450
5–6	.....	1 544	1 838	1 428	4 810
6–7	.....	1 500	1 689	1 445	4 634
7–8	.....	1 355	1 384	1 222	3 961
8–9	.....	1 334	1 335	1 155	3 824
9–10	.....	1 241	1 238	1 109	3 588
10–11	.....	1 078	1 124	1 012	3 214
11–12	.....	1 059	1 163	900	3 122
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	246 328	28 630	30 668	27 799	87 097
1–2	218 027	6 714	6 577	5 860	19 151
2–3	237 213	2 691	2 924	2 434	8 049
3–4	230 876	1 628	1 823	1 596	5 047
4–5	218 964	1 157	1 224	1 137	3 518
5–6	210 391	939	979	877	2 795
6–7	207 513	766	831	697	2 294
7–8	200 489	558	662	645	1 865
8–9	194 662	501	527	514	1 542
9–10	186 860	417	449	384	1 250
10–11	190 941	405	410	344	1 159
11–12	181 216	356	348	352	1 056
12–13	194 722	362	440	358	1 160
13–14	188 340	434	427	435	1 296
14–15	188 382	415	511	427	1 353
15–16	179 960	442	503	492	1 437
16–17	193 510	588	553	474	1 615
17–18	181 643	614	638	584	1 836
18–19	189 155	708	662	674	2 044
19–20	171 667	696	695	730	2 121
20–21	175 952	707	795	773	2 275
21–22	163 204	738	803	784	2 325
22–23	165 232	774	876	829	2 479
23–24	162 164	819	858	796	2 473
24–25	157 012	857	859	805	2 521
25–26	156 930	806	784	843	2 433
26–27	145 573	836	843	819	2 498
27–28	134 222	776	853	808	2 437
28–29	144 086	825	844	787	2 456
29–30	121 623	764	824	747	2 335
30–31	151 392	794	831	820	2 445
31–32	106 334	696	728	717	2 141
32–33	127 241	855	821	818	2 494
33–34	114 596	766	796	784	2 346
34–35	119 930	753	839	815	2 407
35–36	132 699	829	882	988	2 699
36–37	114 131	810	815	855	2 480
37–38	105 657	818	826	824	2 468
38–39	121 923	906	874	937	2 717
39–40	101 994	864	818	822	2 504
40–41	128 713	866	930	847	2 643
41–42	80 731	643	756	712	2 111
42–43	104 107	838	851	868	2 557
43–44	86 780	704	784	806	2 294
44–45	79 820	702	759	805	2 266
45–46	93 731	776	788	868	2 432
46–47	73 328	740	779	772	2 291
47–48	75 128	768	830	784	2 382
48–49	87 454	905	886	911	2 702
49–50	79 259	908	924	905	2 737

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	98 939	918	1 104	1 081	3 103
51–52	61 250	820	826	911	2 557
52–53	75 334	894	1 011	1 013	2 918
53–54	63 975	869	988	950	2 807
54–55	65 032	981	969	1 034	2 984
55–56	62 098	914	986	1 081	2 981
56–57	56 030	866	1 006	997	2 869
57–58	48 323	884	970	1 010	2 864
58–59	51 561	960	989	1 113	3 062
59–60	46 252	972	963	1 019	2 954
60–61	57 020	1 025	1 147	1 161	3 333
61–62	35 580	882	935	1 110	2 927
62–63	41 720	1 036	1 150	1 139	3 325
63–64	39 322	1 068	1 113	1 147	3 328
64–65	37 653	1 122	1 138	1 145	3 405
65–66	42 253	1 225	1 398	1 314	3 937
66–67	32 350	1 105	1 276	1 253	3 634
67–68	30 821	1 217	1 237	1 371	3 825
68–69	31 500	1 293	1 327	1 331	3 951
69–70	28 084	1 304	1 362	1 300	3 966
70–71	31 406	1 309	1 509	1 525	4 343
71–72	20 219	1 214	1 285	1 424	3 923
72–73	23 729	1 437	1 459	1 448	4 344
73–74	21 105	1 390	1 486	1 445	4 321
74–75	19 231	1 284	1 450	1 414	4 148
75–76	19 206	1 377	1 473	1 489	4 339
76–77	16 723	1 356	1 503	1 464	4 323
77–78	13 402	1 314	1 425	1 355	4 094
78–79	12 554	1 292	1 286	1 378	3 956
79–80	10 692	1 264	1 298	1 322	3 884
80–81	10 565	1 179	1 330	1 305	3 814
81–82	7 338	1 044	1 085	1 163	3 292
82–83	7 382	1 061	1 202	1 160	3 423
83–84	6 310	932	1 093	1 101	3 126
84–85	5 539	906	967	996	2 869
85–86	4 612	840	896	850	2 586
86–87	3 658	733	788	797	2 318
87–88	3 047	682	684	692	2 058
88–89	2 398	586	547	558	1 691
89–90	1 909	473	502	537	1 512
90–91	1 485	382	420	422	1 224
91–92	937	293	290	301	884
92–93	780	230	280	246	756
93–94	582	190	192	216	598
94–95	411	136	156	170	462
95–96	328	194	115	116	335
96–97	166	87	67	72	226
97–98	94	60	67	51	178
98–99	71	40	37	41	118
99–100	58	20	15	24	59
100–101	28	17	19	23	59
101–102	10	10	8	8	26
102–103	5	3	7	4	14
103–104	4	1	5	2	8
104–105	4	0	0	1	1
105–106	1	0	2	0	2
106–107	2	1	0	1	2
107–108	2	0	0	1	1
108–109	1	3	1	.....	4
109–110	0	1	.....	.....	1
110–111	0	0	.....	.....	0
111–112	0	1	.....	.....	1
112–113	0	.....	.....	.....	.....
113–114	0	.....	.....	.....	.....
114–115	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	27 173	5 575	2 375	1 395

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	5 966	2 545	1 642	1 190

TABLE 145 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR THE FOREIGN-BORN WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	3 179 851	50 282	53 946	54 775	159 003
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	14	11	10	35
1–2	.....	8	8	8	24
2–3	.....	15	8	11	34
3–4	.....	23	13	14	50
4–5	.....	26	15	8	49
5–6	.....	19	16	23	58
6–7	.....	24	20	18	62
7–8	.....	18	24	15	57
8–9	.....	26	26	14	66
9–10	.....	21	18	14	53
10–11	.....	24	19	15	58
11–12	.....	19	20	12	51
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	1 612	237	198	162	597
1–2	2 860	159	193	169	521
2–3	4 356	121	116	108	345
3–4	6 522	103	78	80	261
4–5	8 961	80	75	66	221
5–6	11 703	73	57	68	198
6–7	13 927	67	62	53	182
7–8	15 359	62	58	55	175
8–9	16 265	61	49	55	165
9–10	16 475	41	39	52	132
10–11	18 639	42	49	41	132
11–12	17 033	44	39	47	130
12–13	19 927	41	46	49	136
13–14	18 336	36	57	50	143
14–15	20 182	54	45	61	160
15–16	19 910	55	55	56	166
16–17	26 447	71	84	89	244
17–18	31 358	135	136	129	400
18–19	47 341	223	221	193	637
19–20	51 587	236	290	284	810
20–21	65 020	267	334	311	912
21–22	64 191	304	357	311	972
22–23	78 807	426	447	395	1 268
23–24	78 030	383	435	410	1 228
24–25	85 169	416	419	444	1 279
25–26	93 347	428	485	500	1 413
26–27	86 064	429	442	431	1 302
27–28	81 809	408	469	425	1 302
28–29	98 314	538	543	524	1 605
29–30	72 237	381	418	420	1 219
30–31	114 967	616	676	644	1 936
31–32	56 476	329	339	398	1 066
32–33	80 154	481	537	569	1 587
33–34	67 124	476	489	513	1 478
34–35	65 779	482	512	499	1 493
35–36	90 217	738	793	861	2 392
36–37	67 255	490	553	568	1 611
37–38	58 446	531	536	549	1 616
38–39	79 158	716	735	757	2 208
39–40	59 032	557	607	584	1 748
40–41	101 329	1 005	1 096	1 023	3 124
41–42	42 794	501	522	591	1 614
42–43	68 514	729	840	822	2 391
43–44	52 670	634	668	714	2 016
44–45	52 183	610	678	689	1 977
45–46	75 667	1 080	1 105	1 172	3 357
46–47	48 847	668	783	674	2 125
47–48	44 624	695	716	827	2 238
48–49	53 885	753	830	943	2 526
49–50	43 189	684	720	795	2 199

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	67 905	1 073	1 237	1 206	3 516
51–52	30 343	600	651	734	1 985
52–53	42 035	759	873	875	2 507
53–54	32 159	705	720	787	2 212
54–55	32 684	733	804	807	2 344
55–56	36 663	890	1 016	979	2 885
56–57	30 375	786	836	876	2 498
57–58	24 081	717	827	816	2 360
58–59	28 361	840	907	884	2 631
59–60	23 911	857	811	806	2 474
60–61	40 028	1 357	1 378	1 432	4 167
61–62	18 431	771	822	933	2 526
62–63	23 755	970	1 034	1 103	3 107
63–64	20 958	1 000	1 012	986	2 998
64–65	20 705	942	1 083	1 007	3 032
65–66	28 143	1 351	1 371	1 448	4 170
66–67	16 931	895	995	973	2 863
67–68	16 131	986	1 045	1 082	3 113
68–69	16 986	1 062	1 108	1 171	3 341
69–70	14 025	936	995	948	2 879
70–71	20 117	1 236	1 418	1 349	4 003
71–72	9 506	795	873	990	2 658
72–73	12 166	993	999	1 034	3 026
73–74	10 158	938	984	976	2 898
74–75	9 343	867	919	945	2 731
75–76	10 983	1 008	1 084	1 153	3 245
76–77	7 952	809	904	864	2 577
77–78	5 909	712	749	835	2 296
78–79	5 897	775	828	842	2 445
79–80	4 759	758	652	682	2 092
80–81	5 766	690	842	781	2 313
81–82	2 991	477	576	609	1 662
82–83	3 121	552	549	545	1 646
83–84	2 479	489	525	516	1 530
84–85	2 308	422	455	494	1 371
85–86	1 953	407	436	400	1 243
86–87	1 453	319	362	360	1 041
87–88	1 126	235	273	298	806
88–89	805	191	217	216	624
89–90	621	189	168	186	543
90–91	652	147	166	171	484
91–92	257	79	91	123	293
92–93	215	70	64	96	230
93–94	165	58	72	61	191
94–95	115	31	41	43	115
95–96	104	19	30	41	90
96–97	59	15	28	17	60
97–98	49	14	28	16	58
98–99	35	22	13	21	56
99–100	24	15	9	12	36
100–101	21	8	9	1	18
101–102	5	3	3	7	13
102–103	6	4	9	1	14
103–104	5	1	5	3	9
104–105	1	4	3	1	8
105–106	6	2	0	1	3
106–107	1	0	2	1	3
107–108	0	1	0	0	1
108–109	1	1	1	0	2
109–110	1	.....	1	0	1
110–111	1	.....	2	1	3
111–112	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	209	139	94	79

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	203	133	111	85

TABLE 146 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths.			
		1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	2 833 324	43 756	46 682	46 854	137 292
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	9	7	7	23
1-2	.....	9	8	3	20
2-3	.....	12	9	5	26
3-4	.....	5	14	8	27
4-5	.....	16	17	10	43
5-6	.....	22	24	9	55
6-7	.....	24	15	14	53
7-8	.....	21	24	9	54
8-9	.....	18	29	12	59
9-10	.....	18	18	14	50
10-11	.....	21	14	13	48
11-12	.....	27	22	9	58
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	1 489	202	201	113	516
1-2	2 903	115	156	137	408
2-3	4 268	74	87	93	254
3-4	6 559	73	79	62	214
4-5	8 846	85	71	53	209
5-6	11 394	53	68	41	162
6-7	13 688	57	60	41	158
7-8	15 268	66	62	38	166
8-9	16 205	40	37	40	117
9-10	16 407	44	51	25	120
10-11	18 803	35	40	35	110
11-12	16 889	29	34	36	99
12-13	19 715	36	44	40	120
13-14	17 819	50	42	37	129
14-15	20 044	58	57	63	178
15-16	21 327	55	51	57	163
16-17	29 768	75	86	81	242
17-18	35 144	107	121	112	340
18-19	50 861	155	178	159	492
19-20	52 906	171	186	198	555
20-21	68 954	198	223	203	624
21-22	55 261	215	236	248	699
22-23	71 815	298	296	314	908
23-24	70 152	307	318	310	935
24-25	72 902	321	352	375	1 048
25-26	77 716	302	365	363	1 030
26-27	70 480	351	352	361	1 064
27-28	64 477	312	361	384	1 057
28-29	79 535	418	447	407	1 272
29-30	58 665	379	350	351	1 080
30-31	88 520	447	471	394	1 312
31-32	44 819	289	305	347	941
32-33	65 922	393	434	437	1 264
33-34	54 650	405	409	363	1 177
34-35	56 012	399	413	428	1 240
35-36	71 139	479	476	503	1 458
36-37	57 328	433	450	436	1 319
37-38	50 050	418	454	409	1 281
38-39	69 000	564	561	538	1 663
39-40	51 051	441	438	430	1 309
40-41	80 808	572	639	625	1 836
41-42	35 346	362	355	418	1 135
42-43	57 174	506	547	523	1 576
43-44	45 439	448	469	489	1 406
44-45	45 475	438	467	496	1 401
45-46	60 282	609	636	692	1 937
46-47	42 616	478	490	519	1 487
47-48	38 295	463	520	492	1 475
48-49	47 735	554	647	615	1 816
49-50	36 951	515	466	499	1 480
Years.					
50-51	60 575	703	799	780	2 282
51-52	25 068	434	533	532	1 499
52-53	35 227	527	656	653	1 836
53-54	27 641	490	554	552	1 596
54-55	29 361	585	582	619	1 786
55-56	34 642	664	726	734	2 124
56-57	27 735	612	671	663	1 946
57-58	22 318	626	624	689	1 939
58-59	27 810	791	784	747	2 322
59-60	22 210	711	718	707	2 136
60-61	43 536	1 164	1 223	1 170	3 557
61-62	16 855	715	721	817	2 253
62-63	23 098	882	929	943	2 754
63-64	20 734	925	921	959	2 805
64-65	20 577	1 002	952	866	2 820
65-66	30 097	1 249	1 340	1 345	3 934
66-67	16 194	883	902	925	2 710
67-68	16 060	923	985	1 036	2 944
68-69	17 798	1 096	1 101	1 086	3 283
69-70	13 998	913	973	1 016	2 902
70-71	23 227	1 363	1 513	1 519	4 395
71-72	9 421	741	821	888	2 450
72-73	12 693	972	1 057	1 059	3 088
73-74	10 483	874	983	986	2 843
74-75	9 812	872	920	959	2 751
75-76	13 043	1 164	1 189	1 217	3 570
76-77	8 620	859	944	884	2 687
77-78	6 084	698	782	869	2 349
78-79	6 584	786	812	897	2 495
79-80	4 905	647	758	642	2 047
80-81	7 089	844	944	985	2 773
81-82	3 065	498	534	610	1 642
82-83	3 392	494	645	613	1 752
83-84	2 715	486	486	547	1 519
84-85	2 609	469	539	494	1 502
85-86	2 331	443	514	481	1 438
86-87	1 580	363	349	401	1 113
87-88	1 236	273	311	318	902
88-89	981	230	249	257	736
89-90	747	196	205	217	618
90-91	868	218	245	206	669
91-92	325	95	122	122	339
92-93	296	82	92	103	277
93-94	211	66	78	79	223
94-95	140	56	44	67	167
95-96	158	46	49	54	149
96-97	89	43	38	39	120
97-98	50	33	24	19	76
98-99	58	11	32	14	57
99-100	27	9	5	3	17
100-101	39	12	13	12	37
101-102	8	3	11	5	19
102-103	8	4	6	2	12
103-104	5	1	4	5	10
104-105	5	4	3	5	12
105-106	5	2	3	1	6
106-107	3	3	2	1	6
107-108	3	2	1	3	6
108-109	0	2	1	1	4
109-110	0	0	0	0	0
110-111	1	1	0	0	1
111-112	1	0	1	0	1
112-113	0	2	1	0	3
113-114	0	.....	.....	0	0
114-115	0	.....	.....	0	0
115-116	1	.....	.....	0	0
116-117	.....	.....	.....	0	0
117-118	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year.			
	0-1	1-2	2-3	3-4
1912	136	116	107	64

Calendar Year.	Age Intervals of One Year.			
	1-2	2-3	3-4	4-5
1913	170	122	99	68

TABLE 147 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE MALES IN CITIES OF THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	7 211 022	114 784	123 533	120 984	359 301
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	9 313	9 872	9 869	29 054
1-2	.....	2 569	2 829	2 601	7 999
2-3	.....	1 963	2 287	2 031	6 281
3-4	.....	1 858	1 991	1 717	5 566
4-5	.....	1 583	1 780	1 494	4 857
5-6	.....	1 444	1 554	1 350	4 348
6-7	.....	1 297	1 480	1 257	4 034
7-8	.....	1 159	1 309	1 121	3 589
8-9	.....	1 181	1 232	1 039	3 452
9-10	.....	1 090	1 113	973	3 176
10-11	.....	967	900	839	2 706
11-12	.....	938	943	782	2 663
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	160 058	25 362	27 290	25 073	77 725
1-2	140 084	5 492	5 663	4 999	16 154
2-3	152 864	2 343	2 451	2 073	6 867
3-4	147 517	1 363	1 432	1 267	4 062
4-5	139 554	965	976	921	2 862
5-6	134 766	751	752	691	2 194
6-7	133 451	595	632	596	1 823
7-8	131 457	489	550	480	1 519
8-9	125 608	387	432	417	1 236
9-10	123 525	320	382	368	1 070
10-11	126 106	336	315	327	978
11-12	117 552	314	322	306	942
12-13	129 142	291	301	285	877
13-14	123 272	273	317	305	895
14-15	124 415	304	312	316	932
15-16	116 535	318	337	299	954
16-17	130 069	375	392	396	1 163
17-18	130 118	463	579	511	1 553
18-19	140 816	588	646	597	1 831
19-20	138 294	620	700	683	2 003
20-21	142 671	620	762	721	2 103
21-22	147 653	752	796	730	2 278
22-23	153 604	781	862	847	2 490
23-24	150 416	763	831	851	2 445
24-25	154 982	837	863	871	2 571
25-26	159 362	873	960	926	2 759
26-27	149 920	821	896	889	2 606
27-28	140 836	842	942	908	2 692
28-29	158 206	1 000	1 052	1 021	3 073
29-30	126 462	880	921	862	2 663
30-31	173 293	1 090	1 190	1 101	3 381
31-32	102 679	802	837	922	2 561
32-33	132 161	1 069	1 130	1 119	3 318
33-34	115 088	1 017	1 057	1 052	3 126
34-35	117 275	1 016	1 123	1 133	3 272
35-36	145 231	1 285	1 432	1 459	4 176
36-37	112 757	1 130	1 129	1 183	3 442
37-38	101 683	1 115	1 152	1 173	3 440
38-39	126 323	1 321	1 380	1 487	4 188
39-40	99 871	1 186	1 217	1 208	3 611
40-41	147 456	1 569	1 754	1 650	4 973
41-42	74 518	973	1 054	1 165	3 192
42-43	106 959	1 287	1 439	1 393	4 119
43-44	83 840	1 162	1 199	1 274	3 635
44-45	79 121	1 101	1 160	1 225	3 486
45-46	107 101	1 574	1 600	1 696	4 870
46-47	71 948	1 080	1 191	1 143	3 414
47-48	69 115	1 089	1 267	1 323	3 679
48-49	81 536	1 348	1 397	1 474	4 219
49-50	70 030	1 232	1 291	1 363	3 886

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
7	8	9	10	11	12
Years.					
50-51	100 631	1 630	1 877	1 823	5 330
51-52	50 500	1 054	1 167	1 245	3 466
52-53	66 606	1 355	1 458	1 529	4 342
53-54	52 857	1 263	1 267	1 372	3 902
54-55	52 818	1 253	1 375	1 414	4 042
55-56	54 145	1 356	1 524	1 524	4 404
56-57	45 904	1 254	1 377	1 400	4 031
57-58	37 155	1 109	1 302	1 351	3 762
58-59	40 493	1 228	1 415	1 410	4 053
59-60	34 517	1 240	1 264	1 324	3 828
60-61	50 725	1 761	1 823	1 864	5 448
61-62	25 181	1 068	1 197	1 322	3 587
62-63	31 494	1 335	1 420	1 477	4 232
63-64	27 756	1 339	1 467	1 422	4 228
64-65	26 386	1 274	1 444	1 416	4 134
65-66	33 857	1 651	1 725	1 832	5 208
66-67	20 874	1 194	1 290	1 321	3 805
67-68	20 036	1 238	1 371	1 445	4 054
68-69	20 495	1 309	1 383	1 471	4 163
69-70	17 359	1 184	1 324	1 319	3 827
70-71	22 529	1 466	1 658	1 589	4 713
71-72	11 645	1 011	1 077	1 237	3 325
72-73	14 332	1 194	1 232	1 284	3 710
73-74	11 724	1 084	1 208	1 215	3 507
74-75	10 581	1 046	1 140	1 136	3 322
75-76	11 585	1 148	1 221	1 259	3 628
76-77	8 630	985	1 071	958	3 014
77-78	6 395	820	899	915	2 634
78-79	6 121	838	911	953	2 702
79-80	5 113	800	749	752	2 301
80-81	5 797	703	895	793	2 391
81-82	3 229	554	635	681	1 870
82-83	3 277	567	608	606	1 781
83-84	2 632	516	516	580	1 612
84-85	2 387	416	518	515	1 449
85-86	1 995	446	420	452	1 318
86-87	1 518	325	381	368	1 074
87-88	1 126	253	266	311	830
88-89	826	224	230	232	686
89-90	709	211	182	181	574
90-91	658	137	166	166	469
91-92	311	94	112	135	341
92-93	248	82	84	106	272
93-94	164	64	56	65	185
94-95	111	41	37	34	112
95-96	116	25	37	35	97
96-97	51	23	25	19	67
97-98	41	17	18	12	47
98-99	31	10	10	13	33
99-100	17	10	9	9	28
100-101	14	6	9	2	17
101-102	4	2	3	6	11
102-103	4	3	5	2	10
103-104	3	0	4	0	4
101-105	1	2	2	0	4
105-106	3	0	0	1	1
106-107	2	0	2	1	3
107-108	0	1	0	0	1
108-109	1	1	1	0	2
109-110	1	.....	1	0	1
110-111	1	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	24 618	5 004	1 986	1 185

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	5 231	2 234	1 368	994

TABLE 148 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE FEMALES IN CITIES OF THE ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	7 246 306	101 088	107 757	104 586	313 431
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	6 877	7 454	7 309	21 640
1–2	.....	1 967	2 147	1 937	6 051
2–3	.....	1 650	1 899	1 605	5 154
3–4	.....	1 458	1 652	1 376	4 486
4–5	.....	1 325	1 433	1 255	4 013
5–6	.....	1 126	1 345	1 013	3 484
6–7	.....	1 080	1 248	1 132	3 460
7–8	.....	1 034	1 030	908	2 972
8–9	.....	988	1 031	883	2 902
9–10	.....	970	904	877	2 751
10–11	.....	821	844	775	2 440
11–12	.....	815	855	680	2 350
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	156 310	20 111	21 842	19 750	61 703
1–2	136 845	5 090	4 973	4 526	14 589
2–3	150 550	1 989	2 126	1 857	5 972
3–4	145 812	1 245	1 379	1 208	3 832
4–5	137 387	907	908	881	2 696
5–6	133 685	714	749	647	2 110
6–7	133 215	582	613	527	1 722
7–8	129 473	430	489	454	1 373
8–9	126 632	364	378	369	1 111
9–10	121 657	308	318	255	881
10–11	126 608	290	299	249	838
11–12	118 204	237	221	248	706
12–13	129 804	245	311	255	811
13–14	123 868	327	290	300	917
14–15	125 544	277	365	311	953
15–16	121 709	307	350	358	1 015
16–17	138 914	409	412	360	1 181
17–18	136 771	443	468	421	1 332
18–19	155 945	565	545	528	1 638
19–20	148 411	548	579	617	1 774
20–21	164 666	616	633	644	1 893
21–22	146 115	632	631	661	1 924
22–23	161 641	735	778	771	2 284
23–24	157 706	751	785	756	2 292
24–25	157 202	780	813	820	2 413
25–26	160 954	778	808	815	2 401
26–27	146 085	830	804	812	2 446
27–28	132 872	753	831	813	2 397
28–29	151 786	824	898	823	2 545
29–30	117 880	777	823	729	2 329
30–31	165 105	906	932	861	2 699
31–32	95 358	662	696	729	2 087
32–33	126 892	890	889	833	2 612
33–34	108 538	820	862	767	2 449
34–35	113 744	787	866	886	2 539
35–36	137 639	927	986	1 067	2 980
36–37	109 523	865	870	888	2 623
37–38	97 932	851	873	859	2 583
38–39	124 795	1 022	1 051	1 056	3 129
39–40	96 334	915	858	840	2 613
40–41	141 128	1 023	1 166	1 070	3 259
41–42	69 099	675	757	769	2 201
42–43	101 266	935	982	989	2 906
43–44	80 242	799	874	878	2 551
44–45	76 175	798	863	884	2 545
45–46	100 322	975	1 056	1 099	3 130
46–47	70 115	849	863	917	2 629
47–48	66 819	841	914	882	2 637
48–49	81 699	999	1 068	1 041	3 108
49–50	67 505	965	907	902	2 774

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	102 195	1 150	1 363	1 308	3 821
51–52	47 110	779	913	960	2 652
52–53	63 058	981	1 137	1 128	3 246
53–54	50 523	892	1 010	976	2 878
54–55	52 503	996	1 011	1 062	3 069
55–56	56 185	1 043	1 121	1 227	3 391
56–57	45 682	956	1 078	1 063	3 097
57–58	37 426	973	1 016	1 100	3 089
58–59	43 386	1 156	1 171	1 225	3 552
59–60	35 594	1 065	1 067	1 096	3 228
60–61	60 822	1 539	1 645	1 623	4 807
61–62	26 027	1 017	996	1 179	3 192
62–63	33 688	1 210	1 272	1 315	3 797
63–64	30 339	1 214	1 228	1 267	3 709
64–65	29 103	1 263	1 267	1 224	3 754
65–66	39 560	1 519	1 740	1 672	4 931
66–67	23 185	1 155	1 246	1 233	3 634
67–68	22 677	1 165	1 289	1 378	3 832
68–69	24 335	1 398	1 383	1 394	4 175
69–70	20 000	1 182	1 313	1 276	3 771
70–71	29 745	1 562	1 786	1 819	5 167
71–72	13 551	1 032	1 036	1 251	3 319
72–73	17 179	1 301	1 361	1 331	3 993
73–74	14 478	1 130	1 299	1 228	3 657
74–75	13 347	1 090	1 231	1 185	3 506
75–76	16 129	1 349	1 466	1 442	4 257
76–77	11 446	1 131	1 194	1 134	3 459
77–78	8 523	924	1 060	1 077	3 061
78–79	8 735	978	1 008	1 084	3 070
79–80	6 946	895	965	910	2 770
80–81	8 694	1 011	1 116	1 196	3 323
81–82	4 509	647	738	798	2 183
82–83	4 808	738	831	837	2 406
83–84	3 864	611	716	750	2 077
84–85	3 482	600	663	631	1 894
85–86	3 176	590	642	611	1 843
86–87	2 258	475	504	501	1 480
87–88	1 838	397	440	431	1 268
88–89	1 387	316	342	354	1 012
89–90	1 148	282	320	320	922
90–91	1 105	270	294	278	842
91–92	520	171	170	157	498
92–93	451	154	151	153	458
93–94	318	99	99	126	324
94–95	230	75	79	93	247
95–96	224	68	64	83	215
96–97	110	66	40	46	152
97–98	64	49	33	24	106
98–99	58	15	31	13	59
99–100	37	11	9	6	26
100–101	39	12	15	15	42
101–102	8	3	15	3	21
102–103	17	4	9	4	17
103–104	3	1	4	2	7
104–105	2	1	2	1	4
105–106	1	2	1	0	3
106–107	1	2	2	1	5
107–108	3	0	0	2	2
108–109	0	2	2	0	4
109–110	0	0	0	0	0
110–111	1	1	0	0	1
111–112	1	0	0	0	0
112–113	0	2	1	0	3
113–114	0	.....	.....	0	0
114–115	0	.....	.....	0	0
115–116	1	.....	.....	0	0
116–117	.....	.....	.....	0	0
117–118	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	19 479	4 300	1 836	1 056

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	4 600	1 979	1 274	912

TABLE 149 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE MALES IN RURAL PART OF ORIGINAL REGISTRATION STATES: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	4 721 941	67 589	71 258	69 513	208 360
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	4 900	4 947	4 926	14 773
1–2	.....	1 081	1 116	1 028	3 225
2–3	.....	932	950	765	2 647
3–4	.....	804	786	704	2 294
4–5	.....	690	680	579	1 949
5–6	.....	560	606	471	1 637
6–7	.....	507	574	442	1 523
7–8	.....	450	482	355	1 287
8–9	.....	435	410	324	1 169
9–10	.....	356	392	333	1 081
10–11	.....	326	317	281	924
11–12	.....	287	348	262	897
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	94 249	11 328	11 608	10 470	33 406
1–2	86 045	2 038	2 064	1 680	5 782
2–3	94 527	863	953	787	2 603
3–4	94 468	522	623	519	1 664
4–5	93 058	394	422	359	1 175
5–6	90 838	342	321	276	939
6–7	90 067	254	290	248	792
7–8	88 932	205	240	244	689
8–9	87 237	227	220	231	678
9–10	84 791	180	191	181	552
10–11	86 189	183	171	179	533
11–12	81 931	186	195	182	563
12–13	88 323	174	163	158	495
13–14	84 526	202	216	181	599
14–15	87 790	194	212	227	633
15–16	82 090	213	213	228	654
16–17	87 670	274	238	231	743
17–18	85 542	308	287	315	910
18–19	87 237	333	351	343	1 027
19–20	83 937	400	392	395	1 187
20–21	82 057	374	382	406	1 162
21–22	81 146	376	412	409	1 197
22–23	79 384	417	460	410	1 287
23–24	78 417	388	410	423	1 221
24–25	77 663	378	381	422	1 181
25–26	76 301	375	385	417	1 177
26–27	74 320	367	390	322	1 079
27–28	70 930	359	399	408	1 166
28–29	75 948	400	397	427	1 224
29–30	66 370	316	361	351	1 028
30–31	80 152	420	419	437	1 276
31–32	57 647	354	343	340	1 037
32–33	68 500	365	400	406	1 171
33–34	64 011	359	385	365	1 109
34–35	66 555	399	388	386	1 173
35–36	72 977	516	495	521	1 532
36–37	64 912	355	442	479	1 276
37–38	61 135	356	421	386	1 163
38–39	70 822	457	461	467	1 385
39–40	61 902	436	419	394	1 249
40–41	77 181	521	541	527	1 589
41–42	50 415	377	409	412	1 198
42–43	65 555	482	476	506	1 464
43–44	54 866	443	428	450	1 321
44–45	52 647	365	419	428	1 212
45–46	61 219	526	521	587	1 634
46–47	48 562	463	503	408	1 374
47–48	49 987	480	505	497	1 482
48–49	56 680	542	564	536	1 642
49–50	54 247	514	568	529	1 611

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	63 621	657	659	698	2 014
51–52	43 799	494	530	557	1 581
52–53	54 371	558	703	644	1 905
53–54	45 957	557	623	687	1 867
54–55	46 144	642	669	616	1 927
55–56	45 511	688	728	749	2 165
56–57	42 945	617	712	780	2 109
57–58	37 544	641	736	763	2 140
58–59	38 703	761	764	771	2 296
59–60	35 896	749	741	749	2 239
60–61	42 037	879	948	958	2 780
61–62	29 096	779	799	900	2 478
62–63	34 212	860	948	950	2 758
63–64	32 086	915	985	1 008	2 908
64–65	30 370	978	1 005	1 007	2 990
65–66	34 237	1 166	1 248	1 115	3 529
66–67	26 741	983	1 060	1 093	3 136
67–68	25 682	1 079	1 074	1 166	3 319
68–69	25 436	1 195	1 224	1 178	3 597
69–70	24 333	1 138	1 209	1 142	3 489
70–71	25 672	1 162	1 380	1 284	3 826
71–72	17 383	1 041	1 171	1 235	3 447
72–73	19 941	1 308	1 332	1 312	3 952
73–74	17 998	1 296	1 385	1 368	4 049
74–75	16 330	1 180	1 290	1 327	3 797
75–76	15 878	1 293	1 396	1 444	4 133
76–77	13 913	1 245	1 375	1 285	3 905
77–78	11 400	1 135	1 303	1 293	3 731
78–79	10 325	1 207	1 196	1 311	3 714
79–80	8 927	1 146	1 145	1 174	3 465
80–81	8 437	1 025	1 116	1 137	3 278
81–82	5 967	908	938	993	2 839
82–83	5 862	918	995	936	2 849
83–84	4 810	846	918	910	2 674
84–85	4 197	799	754	875	2 428
85–86	3 285	681	704	667	2 052
86–87	2 664	581	625	621	1 827
87–88	2 228	484	534	510	1 528
88–89	1 630	397	455	407	1 259
89–90	1 283	317	342	337	996
90–91	1 047	272	308	288	868
91–92	617	200	206	218	624
92–93	435	150	141	168	459
93–94	355	111	139	111	361
94–95	238	72	86	103	261
95–96	174	52	66	57	175
96–97	91	38	47	32	117
97–98	62	30	39	33	102
98–99	39	21	19	15	55
99–100	29	16	15	19	50
100–101	29	9	9	6	24
101–102	4	3	1	6	10
102–103	5	2	5	0	7
103–104	3	1	5	5	11
104–105	1	3	1	2	6
105–106	4	4	0	1	5
106–107	1	.....	0	0	0
107–108	0	.....	0	1	1
108–109	0	.....	1	0	1
109–110	0	.....	0	1	1
110–111	0	.....	2	.....	2
111–112	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	10 419	1 604	781	460

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	1 742	833	514	410

TABLE 150 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE FEMALES IN RURAL PART OF ORIGINAL REGISTRATION STATES: 1910.

Unknown age distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	4 459 915	59 139	62 476	61 332	182 947
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	3 635	3 596	3 697	10 928
1–2	.....	858	861	737	2 456
2–3	.....	673	766	639	2 078
3–4	.....	608	633	556	1 797
4–5	.....	519	511	450	1 480
5–6	.....	440	517	424	1 381
6–7	.....	444	456	327	1 227
7–8	.....	342	378	323	1 043
8–9	.....	364	333	284	981
9–10	.....	289	352	246	887
10–11	.....	278	294	250	822
11–12	.....	271	330	229	830
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	91 507	8 721	9 027	8 162	25 910
1–2	84 085	1 739	1 760	1 471	4 970
2–3	90 931	776	885	670	2 331
3–4	91 623	456	523	450	1 429
4–5	90 423	335	387	309	1 031
5–6	88 100	278	298	271	847
6–7	87 986	241	278	211	730
7–8	86 284	194	235	229	658
8–9	84 235	177	186	185	548
9–10	81 610	153	182	154	489
10–11	83 136	150	151	130	431
11–12	79 901	148	161	140	449
12–13	84 633	153	173	143	469
13–14	82 291	157	179	172	508
14–15	82 882	196	203	179	578
15–16	79 578	190	204	191	585
16–17	84 364	254	227	195	676
17–18	80 016	278	291	275	844
18–19	84 071	298	295	305	898
19–20	76 162	319	302	311	932
20–21	80 240	289	385	332	1 006
21–22	72 350	321	408	371	1 100
22–23	75 406	337	394	372	1 103
23–24	74 610	375	391	350	1 116
24–25	72 712	398	398	360	1 156
25–26	73 692	330	341	391	1 062
26–27	69 968	357	391	368	1 116
27–28	65 827	335	383	379	1 097
28–29	71 835	419	393	371	1 183
29–30	62 408	366	351	369	1 086
30–31	74 807	335	370	353	1 058
31–32	55 795	323	337	335	995
32–33	66 271	358	366	422	1 146
33–34	60 708	351	343	380	1 074
34–35	62 198	365	386	357	1 108
35–36	66 199	381	372	424	1 177
36–37	61 936	378	395	403	1 176
37–38	57 775	385	407	374	1 166
38–39	66 128	448	384	419	1 251
39–40	56 711	390	398	412	1 200
40–41	68 393	415	403	402	1 220
41–42	46 978	330	354	361	1 045
42–43	60 015	409	416	402	1 227
43–44	51 977	353	379	417	1 149
44–45	49 120	342	363	417	1 122
45–46	53 691	410	368	461	1 239
46–47	45 829	369	406	374	1 149
47–48	46 604	390	436	394	1 220
48–49	53 490	460	465	485	1 410
49–50	48 705	458	483	502	1 443
50–51	57 319	471	540	553	1 564
51–52	39 208	475	446	483	1 404
52–53	47 503	440	530	538	1 508
53–54	41 093	467	532	526	1 525
54–55	41 890	570	540	591	1 701
55–56	40 555	535	591	588	1 714
56–57	38 083	522	599	597	1 718
57–58	33 215	537	578	599	1 714
58–59	35 985	595	602	635	1 832
59–60	32 868	618	614	630	1 862
60–61	39 734	650	725	708	2 083
61–62	26 408	580	660	748	1 988
62–63	31 130	708	807	767	2 282
63–64	29 717	779	806	839	2 424
64–65	29 127	861	823	787	2 471
65–66	32 790	955	998	987	2 940
66–67	25 359	833	932	945	2 710
67–68	24 204	975	933	1 029	2 937
68–69	24 963	991	1 045	1 023	3 059
69–70	22 082	1 035	1 022	1 040	3 097
70–71	24 888	1 110	1 236	1 225	3 571
71–72	16 089	923	1 070	1 061	3 054
72–73	19 243	1 108	1 155	1 176	3 439
73–74	17 110	1 134	1 170	1 203	3 507
74–75	15 696	1 066	1 139	1 188	3 393
75–76	16 120	1 192	1 195	1 264	3 652
76–77	13 897	1 084	1 253	1 214	3 551
77–78	10 963	1 088	1 147	1 147	3 382
78–79	10 403	1 100	1 090	1 191	3 381
79–80	8 651	1 016	1 091	1 054	3 161
80–81	8 960	1 012	1 158	1 096	3 264
81–82	5 894	895	881	975	2 751
82–83	5 966	817	1 016	936	2 769
83–84	5 161	807	863	898	2 568
84–85	4 666	775	843	859	2 477
85–86	3 767	693	768	720	2 181
86–87	2 980	621	633	697	1 951
87–88	2 445	558	555	579	1 692
88–89	1 992	500	454	461	1 415
89–90	1 508	387	387	434	1 208
90–91	1 248	330	371	350	1 051
91–92	742	217	242	266	725
92–93	625	158	221	196	575
93–94	475	157	171	169	497
94–95	321	117	121	144	382
95–96	262	82	100	87	269
96–97	145	64	65	65	194
97–98	80	44	58	46	148
98–99	71	36	38	42	116
99–100	48	18	11	21	50
100–101	28	17	17	20	54
101–102	10	10	4	10	24
102–103	6	3	4	2	9
103–104	6	1	5	5	11
104–105	7	3	1	5	9
105–106	5	0	4	1	5
106–107	4	2	0	1	3
107–108	2	2	1	2	5
108–109	1	3	0	1	4
109–110	0	1	0	.....	1
110–111	0	0	0	.....	0
111–112	0	1	1	.....	2
112–113	0	.....	.....	.....	.....
113–114	0	.....	.....	.....	.....
114–115	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	7 830	1 391	646	403

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	1 536	688	467	346

TABLE 151 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE STATE OF INDIANA: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 385 288	18 264	19 251	18 717	56 232
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 462	1 507	1 559	4 528
1-2	.....	281	315	254	850
2-3	.....	248	240	194	682
3-4	.....	198	192	175	565
4-5	.....	173	154	148	475
5-6	.....	150	148	124	422
6-7	.....	149	135	120	404
7-8	.....	118	150	94	362
8-9	.....	137	127	77	341
9-10	.....	90	113	102	305
10-11	.....	99	126	79	304
11-12	.....	83	108	74	265
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	28 434	3 188	3 315	3 000	9 503
1-2	26 234	734	791	605	2 130
2-3	28 626	284	349	258	891
3-4	28 558	164	191	162	517
4-5	28 676	104	129	119	352
5-6	27 768	109	119	82	310
6-7	27 500	84	93	94	271
7-8	26 601	93	62	88	243
8-9	26 794	80	73	71	224
9-10	26 194	60	60	52	172
10-11	26 280	55	49	63	167
11-12	24 858	65	65	65	195
12-13	26 234	52	50	48	150
13-14	25 348	78	68	62	208
14-15	26 887	68	64	75	207
15-16	25 113	79	73	68	220
16-17	26 664	109	78	90	277
17-18	26 626	104	112	104	320
18-19	27 143	111	120	118	349
19-20	26 007	126	138	125	389
20-21	26 068	139	153	132	424
21-22	25 873	135	162	142	439
22-23	25 223	135	154	133	422
23-24	25 397	132	145	151	428
24-25	24 637	136	123	134	393
25-26	24 438	144	132	133	409
26-27	24 317	141	137	111	389
27-28	22 919	129	130	142	401
28-29	24 204	137	128	128	393
29-30	21 024	118	143	120	381
30-31	24 334	153	148	139	440
31-32	17 717	114	113	129	356
32-33	20 512	97	137	144	378
33-34	18 851	107	120	109	336
34-35	19 781	118	120	126	373
35-36	21 501	142	153	175	470
36-37	19 285	112	116	151	379
37-38	18 332	119	123	112	354
38-39	20 487	119	160	154	442
39-40	18 314	131	116	138	385
40-41	21 842	157	157	141	455
41-42	14 924	122	126	146	394
42-43	18 810	158	144	155	457
43-44	15 726	136	145	133	414
44-45	14 704	124	125	144	393
45-46	16 175	131	164	157	452
46-47	13 090	128	123	131	382
47-48	14 020	145	156	129	430
48-49	15 452	170	175	174	519
49-50	15 001	159	165	145	469

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
7	8	9	10	11	12
Years.					
50-51	17 452	173	190	182	545
51-52	12 543	147	164	158	469
52-53	15 735	174	183	201	558
53-54	13 231	156	168	168	492
54-55	12 560	202	164	179	545
55-56	11 787	209	187	212	608
56-57	11 604	185	208	211	604
57-58	10 204	174	177	236	587
58-59	10 161	209	237	211	657
59-60	9 359	199	200	211	610
60-61	10 455	222	253	228	703
61-62	7 762	173	203	215	591
62-63	8 957	217	223	254	694
63-64	8 600	232	247	285	764
64-65	7 699	262	271	240	773
65-66	8 406	261	298	291	850
66-67	6 718	264	248	287	799
67-68	6 400	239	246	294	779
68-69	6 297	276	279	288	843
69-70	5 803	285	294	269	848
70-71	5 755	283	330	321	934
71-72	3 990	240	258	295	793
72-73	4 649	272	306	306	884
73-74	4 188	269	272	318	859
74-75	3 535	267	334	298	899
75-76	3 471	292	288	318	898
76-77	3 134	298	312	252	862
77-78	2 551	272	329	276	877
78-79	2 178	277	268	304	849
79-80	1 877	249	249	262	760
80-81	1 758	188	258	233	679
81-82	1 228	186	211	211	608
82-83	1 161	208	195	185	588
83-84	1 033	160	197	186	543
84-85	893	156	148	175	479
85-86	636	131	132	139	402
86-87	516	104	103	115	322
87-88	428	86	99	90	275
88-89	313	72	83	74	229
89-90	217	76	59	59	194
90-91	181	49	46	45	140
91-92	93	34	25	36	95
92-93	73	30	25	30	85
93-94	55	20	22	13	55
94-95	49	11	18	15	44
95-96	36	10	9	7	26
96-97	17	7	9	8	24
97-98	8	5	6	8	19
98-99	9	5	1	3	9
99-100	8	4	3	3	10
100-101	8	4	3	2	9
101-102	1	2	0	2	4
102-103	0	1	1	0	2
103-104	1	0	2	0	2
104-105	1	0	.....	0	0
105-106	1	1	.....	0	1
106-107	.....	0	.....	0	0
107-108	.....	0	.....	0	0
108-109	.....	1	.....	0	1
109-110	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	2 967	612	300	151

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	675	294	164	132

TABLE 152 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE STATE OF INDIANA: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 319 479	16 255	17 197	16 493	49 945
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 084	1 139	1 171	3 394
1-2	.....	246	259	204	709
2-3	.....	178	219	165	562
3-4	.....	135	160	115	410
4-5	.....	140	129	124	393
5-6	.....	124	140	111	375
6-7	.....	111	132	85	328
7-8	.....	77	110	81	268
8-9	.....	102	104	102	308
9-10	.....	70	95	64	229
10-11	.....	87	101	72	260
11-12	.....	103	98	73	274
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	27 818	2 457	2 686	2 367	7 510
1-2	25 277	632	644	499	1 775
2-3	27 468	274	293	226	793
3-4	27 557	133	162	152	447
4-5	27 631	106	141	110	357
5-6	26 752	80	95	88	263
6-7	26 875	73	83	81	237
7-8	25 941	60	63	73	196
8-9	26 096	60	63	65	188
9-10	25 154	50	61	51	162
10-11	25 576	47	43	39	129
11-12	24 430	57	58	41	156
12-13	25 714	52	64	51	167
13-14	25 252	64	64	51	179
14-15	25 691	79	63	68	210
15-16	24 582	82	87	86	255
16-17	26 384	101	81	70	252
17-18	25 163	105	124	105	334
18-19	27 207	129	111	121	361
19-20	24 971	127	123	131	381
20-21	26 672	114	168	135	417
21-22	24 324	109	176	147	432
22-23	24 882	130	155	152	437
23-24	25 060	145	159	146	450
24-25	23 841	156	151	154	461
25-26	24 338	127	144	152	423
26-27	23 828	149	160	134	443
27-28	21 883	141	150	133	424
28-29	23 053	182	144	127	453
29-30	20 120	132	134	123	389
30-31	23 351	125	171	141	437
31-32	17 375	116	137	115	368
32-33	20 188	121	141	139	401
33-34	18 054	144	106	125	375
34-35	18 567	120	120	107	347
35-36	19 448	131	124	153	408
36-37	18 620	148	134	124	406
37-38	17 405	138	136	131	405
38-39	19 334	122	124	141	387
39-40	16 652	128	136	136	400
40-41	19 641	142	124	142	408
41-42	13 856	100	129	112	341
42-43	17 730	142	125	145	412
43-44	15 040	90	126	120	336
44-45	13 789	121	137	126	384
45-46	14 471	108	120	137	365
46-47	12 882	124	125	96	345
47-48	13 293	96	140	119	355
48-49	15 362	130	153	116	399
49-50	14 040	158	154	135	447

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
7	8	9	10	11	12
Years.					
50-51	15 626	141	150	160	451
51-52	11 055	162	155	148	465
52-53	13 428	140	174	167	481
53-54	11 038	118	156	158	432
54-55	11 240	160	148	163	471
55-56	10 755	165	178	148	491
56-57	10 273	156	141	161	458
57-58	8 804	129	155	159	443
58-59	9 516	155	165	181	501
59-60	8 426	161	174	173	508
60-61	9 692	164	212	193	569
61-62	6 730	144	185	204	533
62-63	7 591	200	212	178	590
63-64	7 486	187	184	175	546
64-65	6 975	208	210	206	624
65-66	7 733	233	200	224	657
66-67	6 378	204	240	257	701
67-68	5 748	239	211	255	705
68-69	5 688	264	246	244	754
69-70	5 206	254	263	238	755
70-71	5 252	234	266	262	762
71-72	3 549	243	231	274	748
72-73	4 320	245	277	261	783
73-74	3 699	270	254	267	791
74-75	3 298	236	252	271	759
75-76	3 410	270	268	278	816
76-77	2 989	241	259	239	739
77-78	2 387	242	266	234	742
78-79	2 103	231	220	237	688
79-80	1 703	206	238	236	680
80-81	1 698	185	210	215	610
81-82	1 092	204	175	174	553
82-83	1 196	175	201	170	546
83-84	1 024	164	168	189	521
84-85	858	131	154	158	443
85-86	677	149	127	177	453
86-87	499	111	98	138	347
87-88	425	108	95	89	292
88-89	318	87	77	85	249
89-90	266	66	70	71	207
90-91	250	51	66	56	173
91-92	92	38	35	52	125
92-93	99	24	25	28	77
93-94	69	30	19	28	77
94-95	55	12	20	25	57
95-96	48	15	16	15	46
96-97	26	13	14	11	38
97-98	14	6	8	8	22
98-99	9	9	8	6	23
99-100	5	3	1	2	6
100-101	8	6	3	3	12
101-102	1	0	2	2	4
102-103	4	5	1	1	7
103-104	0	1	1	0	2
104-105	1	0	0	0	0
105-106	0	0	0	0	0
106-107	1	0	0	0	0
107-108	2	1	0	1	2
108-109	1	0	1	.....	1
109-110	1	0	.....	.....	0
110-111	1	1	.....	.....	1
111-112	0	0	.....	.....	0
112-113	1	0	.....	.....	0
115-116	1	0	.....	.....	0
120-121	1	1	.....	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	2 345	542	258	122

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	596	251	182	123

TABLE 153 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE STATE OF MASSACHUSETTS: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	1 661 319	26 255	28 208	27 515	81 978
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	2 206	2 298	2 298	6 802
1–2	.....	596	703	609	1 908
2–3	.....	499	526	469	1 494
3–4	.....	440	477	421	1 338
4–5	.....	411	443	362	1 216
5–6	.....	345	362	319	1 026
6–7	.....	303	323	328	954
7–8	.....	228	328	252	808
8–9	.....	277	276	225	778
9–10	.....	213	264	242	719
10–11	.....	214	201	170	585
11–12	.....	158	207	154	519
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	35 974	5 890	6 408	5 849	18 147
1–2	31 693	1 025	1 171	987	3 183
2–3	34 235	448	450	381	1 279
3–4	33 601	280	321	271	872
4–5	31 286	176	199	183	558
5–6	30 623	145	156	124	425
6–7	30 353	100	137	105	342
7–8	30 535	98	99	77	274
8–9	29 395	86	102	84	272
9–10	28 365	72	89	72	233
10–11	28 923	76	75	56	207
11–12	27 306	76	86	62	224
12–13	29 580	59	63	52	174
13–14	28 707	60	61	58	179
14–15	28 951	67	80	75	222
15–16	27 454	66	73	69	208
16–17	28 718	76	78	78	232
17–18	28 892	111	98	99	308
18–19	30 810	135	122	134	391
19–20	30 575	141	147	124	412
20–21	30 680	133	166	154	453
21–22	31 075	154	163	142	459
22–23	32 191	153	172	183	508
23–24	31 442	147	158	146	451
24–25	32 293	153	167	197	517
25–26	33 919	138	207	195	540
26–27	30 814	162	173	167	502
27–28	29 656	166	184	178	528
28–29	33 343	178	181	191	550
29–30	27 241	180	194	156	530
30–31	36 278	197	223	207	627
31–32	22 530	144	145	157	446
32–33	28 412	200	264	221	685
33–34	25 260	202	210	197	609
34–35	26 683	205	205	210	620
35–36	33 212	234	247	276	757
36–37	25 522	215	207	231	653
37–38	23 677	186	206	216	608
38–39	29 616	283	264	271	818
39–40	23 574	229	221	250	700
40–41	33 309	289	320	315	924
41–42	18 083	208	212	216	636
42–43	24 816	231	279	247	757
43–44	20 195	235	230	271	736
44–45	18 731	200	207	244	651
45–46	25 423	300	278	308	886
46–47	16 909	223	239	217	679
47–48	16 637	228	237	253	718
48–49	19 867	262	273	275	810
49–50	17 278	246	254	266	766

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	23 523	296	379	376	1 051
51–52	12 696	215	258	245	718
52–53	16 812	292	331	308	931
53–54	13 375	272	261	306	839
54–55	13 267	282	283	266	831
55–56	13 786	271	322	331	924
56–57	11 723	282	289	272	843
57–58	10 016	289	291	280	860
58–59	10 832	291	314	302	907
59–60	9 652	300	284	330	914
60–61	13 177	401	415	422	1 238
61–62	7 254	258	285	350	893
62–63	8 648	320	374	338	1 032
63–64	7 980	302	370	352	1 024
64–65	7 381	310	369	381	1 060
65–66	9 391	422	405	460	1 287
66–67	5 875	306	319	356	981
67–68	5 966	325	350	408	1 083
68–69	6 100	365	407	379	1 151
69–70	5 326	298	345	361	1 004
70–71	6 449	428	426	424	1 278
71–72	3 841	301	303	363	967
72–73	4 396	389	336	337	1 062
73–74	3 812	340	348	354	1 042
74–75	3 350	296	301	361	958
75–76	3 832	320	359	378	1 057
76–77	2 811	312	321	278	911
77–78	2 239	252	278	311	841
78–79	2 133	266	310	302	878
79–80	1 778	244	231	249	724
80–81	1 975	258	277	261	796
81–82	1 233	195	215	216	626
82–83	1 218	200	219	203	622
83–84	998	194	205	206	605
84–85	812	149	157	183	489
85–86	682	177	162	148	487
86–87	587	99	113	135	347
87–88	485	112	117	104	333
88–89	322	88	80	99	267
89–90	274	74	67	58	199
90–91	245	42	64	71	177
91–92	127	35	47	49	131
92–93	97	42	35	38	115
93–94	56	23	21	21	65
94–95	55	22	22	11	55
95–96	44	7	15	12	34
96–97	11	6	4	5	15
97–98	12	10	10	4	24
98–99	7	7	6	4	17
99–100	5	1	0	2	3
100–101	3	0	3	1	4
101–102	1	0	1	3	4
102–103	2	0	1	0	1
103–104	2	0	1	1	2
104–105	1	0	0	2	2
105–106	1	0	0	1	1
106–107	0	0	1	.....	1
107–108	0	0	.....	.....	0
108–109	0	1	.....	.....	1
109–110	1	.....	.....	.....	.....

NUMBER OF BIRTHS REGISTERED.

Calendar Year.	1909	1910	1911	1909–1911
Number of births.....	43 350	44 254	45 360	132 964

TABLE 154 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE STATE OF MASSACHUSETTS: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	1 716 933	24 841	26 093	25 488	76 422
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	1 573	1 701	1 658	4 932
1–2	.....	429	502	418	1 349
2–3	.....	385	443	374	1 202
3–4	.....	371	388	328	1 087
4–5	.....	307	340	306	953
5–6	.....	265	291	245	801
6–7	.....	287	304	291	882
7–8	.....	267	231	231	729
8–9	.....	223	207	186	616
9–10	.....	206	206	206	618
10–11	.....	178	189	186	553
11–12	.....	138	177	142	457
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	35 045	4 629	4 979	4 571	14 179
1–2	30 710	903	982	913	2 798
2–3	33 635	373	394	352	1 119
3–4	33 146	212	254	212	678
4–5	30 869	176	188	171	535
5–6	29 956	143	129	124	396
6–7	29 966	124	118	82	324
7–8	29 468	86	106	84	276
8–9	28 925	78	84	69	231
9–10	28 370	70	74	58	202
10–11	28 923	62	66	50	178
11–12	27 432	59	42	66	167
12–13	29 226	57	60	50	167
13–14	28 635	74	58	68	200
14–15	28 733	69	88	68	225
15–16	27 902	58	73	86	217
16–17	29 847	87	77	82	246
17–18	29 709	92	101	94	287
18–19	32 593	110	110	104	324
19–20	31 592	123	125	125	373
20–21	34 585	126	118	119	363
21–22	31 467	136	107	128	371
22–23	34 502	171	181	146	498
23–24	34 360	152	157	132	441
24–25	34 077	153	174	140	467
25–26	35 285	161	154	178	493
26–27	32 346	171	157	203	531
27–28	30 220	148	164	176	488
28–29	34 018	173	194	147	514
29–30	27 179	177	167	186	530
30–31	36 968	191	179	178	548
31–32	23 015	148	155	157	460
32–33	29 469	203	207	157	567
33–34	25 569	211	170	161	542
34–35	27 654	183	183	208	574
35–36	32 628	197	204	203	604
36–37	26 073	192	175	181	548
37–38	23 940	193	212	193	598
38–39	30 410	255	238	215	708
39–40	24 001	218	195	201	614
40–41	33 175	201	238	237	676
41–42	17 649	160	165	162	487
42–43	24 889	219	235	214	668
43–44	20 311	194	201	223	618
44–45	19 236	203	201	222	626
45–46	24 504	210	223	245	678
46–47	17 330	185	179	206	570
47–48	16 819	213	199	218	630
48–49	20 767	199	228	225	652
49–50	17 618	222	217	205	644

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	24 817	252	304	310	866
51–52	12 779	191	199	226	616
52–53	16 606	215	227	243	685
53–54	13 723	208	248	206	662
54–55	14 103	259	215	261	735
55–56	14 867	254	227	301	782
56–57	12 395	230	258	250	738
57–58	10 388	237	247	262	746
58–59	12 091	280	288	322	890
59–60	10 457	276	265	266	807
60–61	15 650	378	368	349	1 095
61–62	7 809	267	271	288	826
62–63	9 672	322	307	334	963
63–64	8 880	292	336	361	989
64–65	8 648	332	325	346	1 003
65–66	11 243	387	460	466	1 313
66–67	7 042	307	356	304	967
67–68	7 028	342	327	354	1 023
68–69	7 508	402	425	391	1 218
69–70	6 407	345	363	337	1 045
70–71	8 841	427	451	482	1 360
71–72	4 566	291	324	340	955
72–73	5 524	393	383	357	1 133
73–74	4 882	357	429	361	1 147
74–75	4 476	364	349	352	1 065
75–76	5 336	394	472	427	1 293
76–77	3 785	326	363	345	1 034
77–78	2 894	316	349	317	982
78–79	3 021	316	328	341	985
79–80	2 520	284	312	303	899
80–81	2 980	341	362	407	1 110
81–82	1 698	257	275	274	806
82–83	1 743	229	289	288	806
83–84	1 369	196	250	258	704
84–85	1 387	206	207	224	637
85–86	1 202	225	239	218	682
86–87	879	154	192	193	539
87–88	707	170	166	163	499
88–89	569	138	141	128	407
89–90	428	125	116	118	359
90–91	407	108	97	101	306
91–92	235	71	68	67	206
92–93	171	49	58	67	174
93–94	132	52	51	59	162
94–95	97	31	39	40	110
95–96	90	28	27	35	90
96–97	43	28	12	23	63
97–98	27	13	11	5	29
98–99	32	13	15	10	38
99–100	14	3	1	3	7
100–101	14	2	7	4	13
101–102	3	4	3	0	7
102–103	1	2	2	1	5
103–104	1	0	2	2	4
104–105	.....	1	1	1	3
105–106	.....	1	0	0	1
106–107	.....	.....	1	0	1
107–108	.....	.....	.....	1	1
108–109	.....	.....	.....	1	1

NUMBER OF BIRTHS REGISTERED.

Calendar Year.	1909	1910	1911	1909–1911
Number of births.....	40 689	42 285	42 967	125 941

TABLE 155 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR MALES IN THE STATE OF MICHIGAN: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 458 872	19 622	21 724	20 855	62 201
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 940	1 941	1 931	5 812
1-2	.....	439	451	417	1 307
2-3	.....	324	351	316	991
3-4	.....	276	322	288	886
4-5	.....	248	270	221	739
5-6	.....	184	234	179	597
6-7	.....	161	215	174	550
7-8	.....	138	163	129	430
8-9	.....	122	165	134	421
9-10	.....	115	130	108	353
10-11	.....	110	119	94	323
11-12	.....	97	134	90	321
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	31 550	4 154	4 495	4 081	12 730
1-2	28 659	681	737	604	2 022
2-3	31 148	254	312	274	840
3-4	30 597	178	212	169	559
4-5	29 934	132	175	139	446
5-6	29 419	114	115	104	333
6-7	28 843	97	96	113	306
7-8	28 231	71	110	82	263
8-9	27 297	71	85	80	236
9-10	25 985	38	72	72	182
10-11	26 384	69	74	75	218
11-12	25 122	58	51	67	176
12-13	26 800	56	57	60	173
13-14	26 088	63	80	66	209
14-15	26 673	60	67	81	208
15-16	24 867	71	67	61	199
16-17	27 688	75	82	60	217
17-18	27 431	106	96	103	305
18-19	28 436	114	130	121	365
19-20	27 624	115	153	160	428
20-21	26 916	110	121	119	350
21-22	27 641	128	154	113	395
22-23	27 744	153	175	159	487
23-24	26 890	139	139	155	433
24-25	27 541	124	139	126	389
25-26	26 582	147	145	155	447
26-27	26 282	120	154	115	389
27-28	24 969	103	157	147	407
28-29	26 080	129	150	161	440
29-30	22 458	114	135	127	376
30-31	26 912	120	139	132	391
31-32	19 193	91	116	117	324
32-33	22 444	126	123	151	400
33-34	20 750	121	122	124	367
34-35	21 140	114	133	113	360
35-36	22 760	158	165	138	461
36-37	19 972	103	136	122	361
37-38	18 255	114	126	127	367
38-39	21 145	124	130	167	421
39-40	18 423	120	128	103	351
40-41	22 930	150	159	172	481
41-42	14 878	110	107	130	347
42-43	19 785	126	146	142	414
43-44	16 375	123	135	126	384
44-45	15 576	109	152	128	389
45-46	17 883	191	176	184	551
46-47	14 699	124	160	131	415
47-48	15 009	162	153	174	489
48-49	16 925	182	195	157	534
49-50	16 197	148	182	201	531
Years.					
50-51	18 612	229	217	239	685
51-52	12 681	142	141	184	467
52-53	15 732	169	213	196	578
53-54	13 182	138	216	211	565
54-55	12 886	198	187	206	591
55-56	12 787	209	244	215	668
56-57	12 201	152	219	226	597
57-58	10 311	177	191	223	591
58-59	10 878	197	215	226	638
59-60	9 817	218	194	192	604
60-61	11 121	242	275	262	779
61-62	7 616	207	225	239	671
62-63	9 123	234	259	274	767
63-64	8 493	249	281	260	790
64-65	8 038	265	284	253	802
65-66	9 009	318	328	328	974
66-67	7 081	250	276	305	831
67-68	6 685	330	302	286	918
68-69	6 473	318	313	295	926
69-70	5 965	274	327	287	888
70-71	6 240	299	353	310	962
71-72	3 929	253	268	315	836
72-73	4 792	297	318	349	964
73-74	4 320	301	373	334	1 008
74-75	3 818	277	329	345	951
75-76	3 755	307	355	320	982
76-77	3 273	298	352	321	971
77-78	2 691	273	351	309	933
78-79	2 418	279	250	304	833
79-80	2 065	262	283	283	828
80-81	1 995	229	266	302	797
81-82	1 311	201	216	234	651
82-83	1 257	210	204	209	623
83-84	1 070	195	222	195	612
84-85	933	197	190	195	582
85-86	797	151	179	135	465
86-87	567	133	154	149	436
87-88	472	97	112	140	349
88-89	366	93	96	93	282
89-90	279	79	75	78	232
90-91	241	60	71	70	201
91-92	146	41	56	47	144
92-93	96	26	30	42	98
93-94	72	21	23	20	64
94-95	44	13	22	25	60
95-96	34	14	13	15	42
96-97	19	4	10	5	19
97-98	16	13	8	5	26
98-99	11	6	5	3	14
99-100	9	5	5	3	13
100-101	5	3	1	1	5
101-102	3	0	1	0	1
102-103	1	2	2	2	6
103-104	1	0	1	0	1
104-105	0	2	1	0	3
105-106	4	4	0	1	5
106-107	0	0	1	0	1
107-108	0	0	1	0	1
108-109	0	1	0	0	1
109-110	0	.....	0	1	1
110-111	0	.....	2	.....	2
111-112	0	.....	.....	.....	.....
112-113	0	.....	.....	.....	.....
113-114	0	.....	.....	.....	.....
114-115	0	.....	.....	.....	.....
115-116	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	4 001	580	281	187

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	724	364	253	165

TABLE 156 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE STATE OF MICHIGAN: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 359 511	16 638	18 164	17 138	51 940
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 404	1 367	1 407	4 178
1-2	.....	329	344	272	945
2-3	.....	248	314	236	798
3-4	.....	222	247	198	667
4-5	.....	192	218	176	586
5-6	.....	126	184	139	449
6-7	.....	158	153	126	437
7-8	.....	113	152	108	373
8-9	.....	114	117	100	331
9-10	.....	92	118	82	292
10-11	.....	100	91	83	274
11-12	.....	99	121	68	288
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	30 742	3 197	3 426	2 995	9 618
1-2	28 128	595	642	539	1 776
2-3	29 925	245	302	245	792
3-4	29 692	169	182	172	523
4-5	29 342	119	121	120	360
5-6	28 525	105	117	113	335
6-7	28 472	94	103	73	270
7-8	27 378	51	84	90	225
8-9	26 653	67	70	63	200
9-10	25 139	42	75	49	166
10-11	25 721	51	55	45	151
11-12	24 769	42	56	45	143
12-13	25 932	41	53	50	144
13-14	25 825	60	63	67	190
14-15	25 710	57	71	69	197
15-16	24 539	64	71	53	188
16-17	27 279	78	99	64	241
17-18	26 196	100	110	75	285
18-19	27 983	114	101	88	303
19-20	25 824	117	117	115	349
20-21	27 364	115	139	140	394
21-22	24 769	109	148	122	379
22-23	25 947	116	153	143	412
23-24	25 470	143	154	138	435
24-25	25 614	139	144	129	412
25-26	25 277	121	119	130	370
26-27	23 818	128	123	125	376
27-28	22 284	116	143	165	424
28-29	23 530	103	138	146	387
29-30	20 218	119	125	109	353
30-31	23 936	120	113	127	360
31-32	18 027	93	103	108	304
32-33	21 057	128	112	154	394
33-34	19 258	115	133	137	385
34-35	19 212	111	132	111	354
35-36	20 051	111	126	123	360
36-37	18 512	126	115	139	380
37-38	16 948	132	144	114	390
38-39	19 174	141	137	141	419
39-40	16 834	116	127	121	364
40-41	20 049	122	139	116	377
41-42	13 383	102	100	112	314
42-43	17 686	118	132	102	352
43-44	15 377	97	123	106	326
44-45	14 489	82	105	127	314
45-46	15 421	117	133	133	383
46-47	13 685	102	152	141	395
47-48	13 580	112	125	110	347
48-49	15 088	145	154	156	455
49-50	13 838	150	138	139	427
Years.					
50-51	16 091	159	165	170	494
51-52	11 204	120	136	165	421
52-53	13 389	148	170	140	458
53-54	11 357	157	164	150	471
54-55	11 333	149	167	163	479
55-56	10 773	138	162	178	478
56-57	10 180	139	176	168	483
57-58	8 743	153	177	157	487
58-59	9 339	153	160	145	458
59-60	8 699	158	166	163	487
60-61	10 084	182	194	190	566
61-62	6 634	160	164	184	508
62-63	7 925	190	216	203	609
63-64	7 620	214	190	210	614
64-65	7 277	230	219	191	640
65-66	8 175	208	255	216	679
66-67	6 086	227	257	243	727
67-68	6 058	246	213	228	687
68-69	5 959	237	263	241	741
69-70	5 283	222	243	271	736
70-71	5 669	264	291	299	854
71-72	3 612	226	232	243	701
72-73	4 343	270	281	271	822
73-74	3 882	228	258	274	760
74-75	3 534	201	288	295	784
75-76	3 501	285	278	265	828
76-77	3 061	280	319	254	853
77-78	2 402	239	241	273	753
78-79	2 273	271	233	257	761
79-80	1 829	201	236	186	623
80-81	1 925	216	251	237	704
81-82	1 226	152	172	210	534
82-83	1 229	158	222	189	569
83-84	1 077	164	179	177	520
84-85	848	189	165	161	515
85-86	731	136	150	124	410
86-87	602	107	132	123	362
87-88	507	86	103	127	316
88-89	373	106	89	78	273
89-90	283	74	80	84	238
90-91	229	66	68	70	204
91-92	120	40	44	42	126
92-93	108	38	42	28	108
93-94	78	30	30	25	85
94-95	57	20	19	28	67
95-96	39	12	13	10	35
96-97	30	9	11	9	29
97-98	19	13	13	4	30
98-99	11	2	4	8	14
99-100	12	2	2	4	8
100-101	5	3	5	4	12
101-102	1	2	3	3	8
102-103	2	0	1	1	2
103-104	2	1	2	1	4
104-105	4	.....	1	3	4
105-106	3	.....	1	0	1
106-107	0	.....	0	0	0
107-108	2	.....	0	0	0
108-109	0	.....	0	1	1
109-110	0	.....	0	.....	0
110-111	0	.....	0	.....	0
111-112	1	.....	1	.....	1
112-113	0	.....	.....	.....	.....
113-114	1	.....	.....	.....	.....
114-115	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1912	2 943	507	226	161	1913	644	314	209	157

TABLE 157 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE STATE OF NEW JERSEY: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 293 454	19 621	21 223	20 811	61 655
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 550	1 618	1 638	4 806
1-2	.....	375	458	398	1 231
2-3	.....	325	375	331	1 031
3-4	.....	329	367	323	1 019
4-5	.....	280	327	272	879
5-6	.....	255	260	267	782
6-7	.....	249	284	230	763
7-8	.....	210	252	223	685
8-9	.....	211	218	180	609
9-10	.....	202	187	161	550
10-11	.....	165	140	150	455
11-12	.....	166	165	134	465
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	28 658	4 317	4 651	4 307	13 275
1-2	24 840	937	896	874	2 707
2-3	28 275	452	424	375	1 251
3-4	27 517	219	244	226	689
4-5	26 513	182	161	166	509
5-6	25 519	150	115	125	390
6-7	25 291	92	114	90	296
7-8	24 874	86	99	92	277
8-9	23 629	83	68	83	234
9-10	23 421	70	72	71	213
10-11	23 992	52	59	66	177
11-12	21 732	39	72	43	154
12-13	24 457	66	49	50	165
13-14	22 289	49	64	47	160
14-15	23 181	63	58	45	166
15-16	21 572	46	64	56	166
16-17	23 642	80	58	60	198
17-18	22 929	84	101	92	277
18-19	24 326	88	101	93	282
19-20	23 950	100	137	127	364
20-21	24 586	112	127	120	359
21-22	25 256	109	130	148	387
22-23	25 509	144	141	166	451
23-24	24 842	140	145	149	434
24-25	25 831	152	127	159	438
25-26	26 278	153	145	156	454
26-27	24 859	139	145	140	424
27-28	23 605	136	155	157	448
28-29	26 520	160	170	168	498
29-30	21 276	139	131	158	428
30-31	30 465	189	191	171	551
31-32	17 551	150	146	145	441
32-33	23 138	178	194	198	570
33-34	20 028	165	183	155	503
34-35	20 579	165	205	216	586
35-36	26 079	214	241	257	712
36-37	20 430	169	195	232	596
37-38	17 754	185	216	188	589
38-39	22 493	206	228	258	692
39-40	17 633	205	213	186	604
40-41	27 458	237	283	275	795
41-42	13 014	153	171	182	506
42-43	19 411	218	248	205	671
43-44	14 654	205	214	217	636
44-45	13 996	187	204	187	578
45-46	19 631	256	247	271	774
46-47	12 595	167	204	191	562
47-48	12 229	164	197	216	577
48-49	14 505	227	212	224	663
49-50	12 798	190	228	178	596
Years.					
50-51	18 532	264	291	274	829
51-52	9 059	163	200	202	565
52-53	11 814	183	231	238	652
53-54	9 273	187	215	227	629
54-55	9 643	186	207	241	634
55-56	9 840	227	231	234	692
56-57	8 464	188	230	229	647
57-58	6 674	199	234	214	647
58-59	7 186	205	223	236	664
59-60	6 341	203	196	215	614
60-61	9 478	258	268	336	862
61-62	4 839	193	233	222	648
62-63	6 039	236	265	232	733
63-64	5 260	214	233	244	691
64-65	5 092	237	222	239	698
65-66	6 601	275	328	293	896
66-67	4 109	207	263	262	732
67-68	3 957	192	229	243	664
68-69	4 074	234	257	269	760
69-70	3 695	220	232	245	697
70-71	4 659	235	304	258	797
71-72	2 461	179	210	228	617
72-73	2 996	213	258	226	697
73-74	2 418	197	239	239	675
74-75	2 215	205	228	241	674
75-76	2 324	216	224	245	685
76-77	1 855	196	185	196	577
77-78	1 332	152	179	175	506
78-79	1 310	144	184	171	499
79-80	1 109	180	155	170	505
80-81	1 216	136	175	136	447
81-82	670	123	108	133	364
82-83	703	117	110	126	353
83-84	526	109	109	117	335
84-85	447	88	96	95	279
85-86	433	80	89	89	258
86-87	325	65	75	54	194
87-88	223	55	65	62	182
88-89	179	47	50	40	137
89-90	140	47	38	37	122
90-91	113	28	40	40	108
91-92	67	15	23	23	61
92-93	50	14	15	19	48
93-94	26	14	8	13	35
94-95	17	6	4	10	20
95-96	21	6	9	4	19
96-97	11	6	5	3	14
97-98	8	1	2	2	5
98-99	9	1	2	.....	3
99-100	2	2	1	1	4
100-101	5	1	1	1	3
101-102	0	0	0	0	0
102-103	2	2	0	0	2
103-104	1	0	1	1	2
104-105	0	1	.....	.....	1
105-106	0	.....	.....	.....	.....
106-107	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1912	4 179	832	299	194	1913	902	378	248	171

TABLE 158 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE STATE OF NEW JERSEY: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	1 257 500	16 689	18 281	17 806	52 776
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	1 095	1 269	1 150	3 514
1-2	.....	286	323	314	923
2-3	.....	269	316	267	852
3-4	.....	249	274	250	773
4-5	.....	216	253	211	680
5-6	.....	205	252	191	648
6-7	.....	190	199	203	592
7-8	.....	192	173	182	547
8-9	.....	167	185	177	529
9-10	.....	175	177	167	519
10-11	.....	153	150	142	445
11-12	.....	142	147	120	409
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	27 906	3 339	3 718	3 374	10 431
1-2	24 471	875	824	785	2 484
2-3	27 559	394	340	296	1 030
3-4	26 927	215	232	207	654
4-5	26 018	170	139	175	484
5-6	25 149	113	126	124	363
6-7	25 234	98	106	101	305
7-8	24 454	86	89	84	259
8-9	23 553	63	70	63	196
9-10	22 737	68	60	49	177
10-11	23 838	64	55	49	168
11-12	21 298	53	50	46	149
12-13	23 904	49	60	44	153
13-14	22 106	73	55	56	184
14-15	23 190	50	51	55	156
15-16	22 320	58	67	55	180
16-17	24 568	67	79	58	204
17-18	23 682	77	72	82	231
18-19	26 715	98	99	99	296
19-20	24 382	89	90	90	269
20-21	27 098	98	115	114	327
21-22	23 448	102	115	120	337
22-23	25 693	111	126	132	369
23-24	25 131	112	129	124	365
24-25	24 856	140	135	118	393
25-26	25 724	118	126	133	377
26-27	23 699	135	153	151	439
27-28	21 376	114	129	100	343
28-29	24 813	133	143	142	418
29-30	19 565	121	134	129	384
30-31	27 656	137	140	128	405
31-32	15 857	105	128	128	361
32-33	21 175	127	129	115	371
33-34	18 727	104	152	121	377
34-35	19 296	127	157	152	436
35-36	23 120	145	179	186	510
36-37	18 794	115	146	151	412
37-38	16 652	133	158	141	432
38-39	21 432	163	188	165	516
39-40	16 563	141	145	134	420
40-41	23 980	134	178	165	477
41-42	11 833	117	115	124	356
42-43	17 035	138	155	161	454
43-44	13 546	128	139	134	401
44-45	12 798	119	118	115	352
45-46	17 178	145	147	166	458
46-47	11 895	146	149	153	448
47-48	11 273	112	126	122	360
48-49	13 502	170	141	160	471
49-50	11 578	146	168	152	466
50-51	17 524	163	231	194	588
51-52	8 118	115	152	166	433
52-53	10 831	144	178	182	504
53-54	8 779	145	162	157	464
54-55	9 161	151	171	162	484
55-56	9 622	173	179	168	520
56-57	7 894	158	174	187	519
57-58	6 396	161	178	181	520
58-59	7 470	149	194	207	550
59-60	6 346	148	165	202	515
60-61	10 662	203	256	243	702
61-62	4 677	152	168	199	519
62-63	6 059	197	204	199	600
63-64	5 612	196	225	222	643
64-65	5 369	220	220	206	646
65-66	7 133	266	274	286	826
66-67	4 200	198	205	235	638
67-68	4 029	196	226	239	661
68-69	4 554	235	224	232	691
69-70	3 896	188	226	241	655
70-71	5 526	293	329	302	924
71-72	2 557	162	203	226	591
72-73	3 300	216	222	234	672
73-74	2 736	188	227	220	635
74-75	2 529	185	222	236	643
75-76	3 027	249	250	277	776
76-77	2 133	201	190	208	599
77-78	1 660	168	217	190	575
78-79	1 649	176	194	190	560
79-80	1 291	170	179	183	532
80-81	1 593	168	192	230	590
81-82	839	117	133	133	383
82-83	942	120	163	145	428
83-84	737	121	134	168	423
84-85	650	95	146	130	371
85-86	588	107	126	108	341
86-87	445	93	91	90	274
87-88	304	84	78	76	238
88-89	268	60	66	82	208
89-90	231	50	71	57	178
90-91	196	45	52	44	141
91-92	110	23	32	27	82
92-93	90	27	38	23	88
93-94	68	23	20	29	72
94-95	55	15	5	13	33
95-96	53	13	19	18	50
96-97	25	10	7	10	27
97-98	18	3	5	7	15
98-99	12	6	5	4	15
99-100	11	1	3	4	8
100-101	8	1	2	2	5
101-102	5	2	0	2	4
102-103	2	0	1	2	3
103-104	2	0	1	.....	1
104-105	3	2	0	.....	2
105-106	1	0	0	.....	0
106-107	.....	1	0	.....	1
107-108	.....	1	0	.....	1
108-109	.....	.....	0	.....	0
109-110	.....	.....	0	.....	0
110-111	.....	.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4
1912	3 277	745	304	179

Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1913	779	325	195	147

TABLE 159 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR MALES IN THE STATE OF NEW YORK: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911
1	2	3	4	5	6
All ages.	4 605 057	75 466	79 664	78 368	233 498
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	5 310	5 604	5 490	16 404
1-2	.....	1 419	1 535	1 495	4 449
2-3	.....	1 142	1 301	1 128	3 571
3-4	.....	1 070	1 035	940	3 045
4-5	.....	855	980	836	2 671
5-6	.....	806	847	730	2 383
6-7	.....	758	850	664	2 272
7-8	.....	686	713	639	2 038
8-9	.....	675	675	589	1 939
9-10	.....	673	640	536	1 849
10-11	.....	573	510	497	1 580
11-12	.....	602	544	496	1 642
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	97 764	14 569	15 234	14 040	43 843
1-2	86 619	3 523	3 401	2 993	9 917
2-3	94 229	1 484	1 545	1 320	4 349
3-4	90 718	866	868	776	2 510
4-5	86 876	587	600	536	1 723
5-6	83 663	454	445	445	1 344
6-7	83 257	376	370	352	1 098
7-8	82 036	280	307	298	885
8-9	78 449	236	252	258	746
9-10	77 758	196	217	224	637
10-11	79 986	213	166	188	567
11-12	74 846	192	181	194	567
12-13	83 071	186	200	180	566
13-14	78 818	165	200	185	550
14-15	79 393	188	201	216	605
15-16	73 463	204	217	201	622
16-17	83 238	240	260	280	780
17-18	81 405	291	360	353	1 004
18-19	88 120	384	401	366	1 151
19-20	85 576	413	416	434	1 263
20-21	88 209	415	459	465	1 339
21-22	91 795	493	494	480	1 467
22-23	94 584	505	566	510	1 580
23-24	93 175	497	543	551	1 591
24-25	95 787	518	560	556	1 634
25-26	97 760	580	599	600	1 779
26-27	92 825	524	567	574	1 665
27-28	86 544	550	624	595	1 769
28-29	97 664	686	703	668	2 057
29-30	78 829	538	559	562	1 659
30-31	107 224	748	812	772	2 332
31-32	63 728	534	558	594	1 686
32-33	82 589	717	696	665	2 078
33-34	72 360	650	653	689	1 992
34-35	73 548	670	712	722	2 104
35-36	89 630	895	960	999	2 854
36-37	71 134	723	757	762	2 242
37-38	64 573	722	763	764	2 249
38-39	78 961	870	881	924	2 675
39-40	63 475	779	791	768	2 338
40-41	92 520	1 073	1 178	1 064	3 315
41-42	47 266	633	688	735	2 056
42-43	68 050	860	905	940	2 705
43-44	53 576	756	745	808	2 309
44-45	51 249	693	732	795	2 220
45-46	67 782	1 054	1 084	1 106	3 244
46-47	47 540	734	794	725	2 253
47-48	45 580	710	838	836	2 384
48-49	53 366	852	901	965	2 718
49-50	46 537	837	858	895	2 590
Years.					
50-51	65 449	1 111	1 214	1 194	3 519
51-52	34 215	711	733	808	2 252
52-53	44 402	841	958	994	2 793
53-54	35 704	826	793	885	2 504
54-55	36 536	820	913	910	2 643
55-56	37 624	897	1 032	1 005	2 934
56-57	31 977	805	874	962	2 641
57-58	26 530	662	894	892	2 448
58-59	28 392	821	905	922	2 648
59-60	24 582	796	832	818	2 446
60-61	35 266	1 181	1 211	1 216	3 608
61-62	18 207	719	785	874	2 378
62-63	22 944	863	917	996	2 776
63-64	20 077	911	966	954	2 831
64-65	19 329	850	942	938	2 730
65-66	24 485	1 113	1 199	1 170	3 482
66-67	15 961	804	897	830	2 531
67-68	15 015	863	906	986	2 755
68-69	15 554	914	937	963	2 814
69-70	13 787	874	909	888	2 671
70-71	17 264	937	1 147	1 131	3 215
71-72	9 442	755	790	869	2 414
72-73	11 434	908	900	959	2 767
73-74	9 584	854	894	890	2 638
74-75	8 966	765	836	831	2 432
75-76	9 287	855	923	964	2 742
76-77	7 336	759	833	776	2 368
77-78	5 718	675	676	748	2 099
78-79	5 368	694	734	753	2 181
79-80	4 539	664	627	622	1 913
80-81	4 836	612	669	644	1 925
81-82	3 003	479	515	560	1 554
82-83	3 082	490	559	514	1 563
83-84	2 407	476	472	518	1 466
84-85	2 215	405	446	481	1 332
85-86	1 754	410	379	377	1 166
86-87	1 374	330	373	355	1 058
87-88	1 079	251	262	247	760
88-89	781	212	232	213	657
89-90	692	175	176	194	545
90-91	608	149	167	154	470
91-92	306	99	116	122	337
92-93	224	73	77	99	249
93-94	194	58	64	63	185
94-95	119	37	34	49	120
95-96	96	24	33	34	91
96-97	52	27	32	16	75
97-98	37	12	17	13	42
98-99	21	7	8	14	29
99-100	16	12	13	7	32
100-101	23	8	7	4	19
101-102	6	3	1	7	11
102-103	2	2	7	1	10
103-104	2	0	2	2	4
104-105	1	2	2	0	4
105-106	2	0	0	1	1
106-107	3	1	1	1	3
107-108	0	1	0	1	2
108-109	1	.....	1	0	1
109-110	0	.....	1	0	1
110-111	1	.....	.....	1	1
135-136	1	.....	.....	.....	.....

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	Calendar Year.	Age Intervals of One Year. 1-2	2-3	3-4	4-5
1912	13 746	2 929	1 263	725	1913	2 973	1 305	803	615

TABLE 160 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE STATE OF NEW YORK: 1910.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
1	2	3	4	5	6
All ages.	4 547 475	64 607	68 014	67 286	199 907
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	4 006	4 199	4 290	12 495
1–2	.....	1 156	1 228	1 174	3 558
2–3	.....	906	1 034	896	2 836
3–4	.....	828	920	797	2 545
4–5	.....	747	749	677	2 173
5–6	.....	653	744	567	1 964
6–7	.....	608	701	608	1 917
7–8	.....	580	590	501	1 671
8–9	.....	580	606	518	1 704
9–10	.....	574	512	485	1 571
10–11	.....	482	500	451	1 433
11–12	.....	496	494	405	1 395
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	94 699	11 616	12 277	11 369	35 262
1–2	84 375	3 223	3 053	2 630	8 906
2–3	92 605	1 242	1 385	1 151	3 778
3–4	89 965	802	869	739	2 410
4–5	85 237	533	541	502	1 576
5–6	82 897	424	447	370	1 241
6–7	82 561	356	381	322	1 059
7–8	81 156	252	321	285	858
8–9	79 032	212	217	231	660
9–10	75 939	177	185	154	516
10–11	79 318	167	179	161	507
11–12	74 646	144	149	155	448
12–13	82 449	152	188	156	496
13–14	78 448	173	184	185	542
14–15	78 803	173	240	189	602
15–16	75 726	188	212	224	624
16–17	87 100	247	234	229	710
17–18	84 969	277	286	287	850
18–19	96 774	331	351	332	1 014
19–20	91 349	332	344	373	1 049
20–21	101 256	353	391	392	1 136
21–22	88 962	394	408	423	1 225
22–23	99 025	445	450	455	1 350
23–24	96 127	458	490	485	1 433
24–25	96 136	475	524	516	1 515
25–26	97 984	511	488	497	1 496
26–27	88 654	503	507	478	1 488
27–28	79 981	433	513	488	1 434
28–29	92 364	537	540	524	1 601
29–30	72 217	487	491	453	1 431
30–31	101 892	554	592	544	1 690
31–32	57 567	430	398	428	1 256
32–33	77 536	556	550	576	1 682
33–34	66 730	484	513	502	1 499
34–35	69 261	486	532	535	1 553
35–36	84 000	581	589	697	1 867
36–37	67 899	539	546	586	1 671
37–38	60 477	496	471	545	1 512
38–39	76 748	645	612	683	1 940
39–40	59 384	581	529	544	1 654
40–41	87 272	699	732	674	2 105
41–42	42 951	416	474	483	1 373
42–43	62 672	598	591	632	1 821
43–44	50 082	500	525	531	1 556
44–45	47 959	467	540	537	1 544
45–46	62 758	648	650	735	2 033
46–47	44 821	534	525	561	1 620
47–48	42 992	524	595	556	1 675
48–49	52 446	661	668	676	2 005
49–50	43 346	578	573	584	1 735

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911
7	8	9	10	11	12
Years.					
50–51	65 347	725	866	824	2 415
51–52	30 607	521	554	611	1 686
52–53	40 881	566	743	738	2 047
53–54	33 213	558	598	619	1 775
54–55	34 681	634	649	680	1 963
55–56	37 142	655	742	779	2 176
56–57	30 710	583	691	694	1 968
57–58	25 564	596	611	691	1 898
58–59	29 014	740	724	760	2 224
59–60	24 131	691	666	677	2 034
60–61	40 486	999	1 017	1 037	3 053
61–62	18 026	639	640	776	2 055
62–63	23 335	747	865	863	2 475
63–64	20 798	810	778	855	2 443
64–65	20 535	839	821	766	2 426
65–66	26 996	996	1 152	1 093	3 241
66–67	16 697	771	782	792	2 345
67–68	16 151	798	876	946	2 620
68–69	17 270	900	885	961	2 746
69–70	14 023	829	852	884	2 565
70–71	20 642	1 080	1 211	1 242	3 533
71–72	9 965	700	773	843	2 316
72–73	12 524	849	933	956	2 738
73–74	10 769	840	878	893	2 611
74–75	9 872	762	861	816	2 439
75–76	11 491	967	963	997	2 927
76–77	8 948	818	907	885	2 610
77–78	6 586	675	734	828	2 237
78–79	6 553	718	729	854	2 301
79–80	5 308	703	716	685	2 104
80–81	6 411	772	843	833	2 448
81–82	3 505	514	569	628	1 711
82–83	3 614	563	631	649	1 843
83–84	3 048	501	542	574	1 617
84–85	2 828	471	539	539	1 549
85–86	2 415	429	493	473	1 395
86–87	1 753	413	386	443	1 242
87–88	1 471	334	372	359	1 065
88–89	1 148	257	276	276	809
89–90	947	231	242	268	741
90–91	842	218	256	233	707
91–92	434	147	141	135	423
92–93	363	107	116	112	335
93–94	271	68	80	98	246
94–95	172	72	68	75	215
95–96	159	63	48	60	171
96–97	96	43	39	38	120
97–98	49	38	25	29	92
98–99	43	18	25	17	60
99–100	31	12	9	10	31
100–101	29	13	16	14	43
101–102	8	3	8	4	15
102–103	6	1	9	1	11
103–104	4	1	3	4	8
104–105	3	2	1	1	4
105–106	3	1	4	0	5
106–107	4	2	1	1	4
107–108	1	1	1	2	4
108–109	0	5	1	0	6
109–110	1	1	0	0	1
110–111	3	1	1	0	2
111–112	0	1	0	0	1
112–113	0	1	1	0	2
113–114	0	.....	1	0	1
114–115	0	.....	.....	0	.....
115–116	1	.....	.....	0	.....
117–118	.....	.....	.....	1	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4
1912	10 990	2 508	1 083	659

Calendar Year.	Age Intervals of One Year. 1–2	2–3	3–4	4–5
1913	2 577	1 161	734	534

TABLE 161 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900-1902 [1]
1	2	3	4	5	6
All ages.	10 004 754	179 016	174 867	168 639	522 522
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	13 262	12 422	.....	25 684
1-2	.....	3 526	3 192	.....	6 718
2-3	.....	3 319	2 865	.....	6 184
3-4	.....	3 113	2 752	.....	5 865
4-5	.....	2 788	2 389	.....	5 177
5-6	.....	2 581	2 206	.....	4 787
6-7	.....	2 427	2 068	.....	1 495
7-8	.....	2 078	1 746	.....	3 824
8-9	.....	1 959	1 630	.....	3 589
9-10	.....	1 755	1 472	.....	3 227
10-11	.....	1 546	1 270	.....	2 816
11-12	.....	1 419	1 210	.....	2 629
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	222 062	39 773	35 222	35 079	110 074
1-2	199 431	8 953	7 683	7 627	24 263
2-3	208 491	3 877	3 330	3 365	10 572
3-4	210 584	2 446	2 146	1 992	6 584
4-5	207 922	1 693	1 639	1 546	4 878
5-6	203 896	1 339	1 224	1 204	3 767
6-7	205 883	1 107	1 091	1 034	3 232
7-8	202 314	897	822	793	2 512
8-9	198 093	735	716	680	2 131
9-10	191 568	629	577	567	1 773
10-11	194 409	558	584	557	1 699
11-12	181 064	528	534	475	1 537
12-13	183 015	498	458	428	1 384
13-14	175 459	530	519	470	1 519
14-15	181 625	544	557	481	1 582
15-16	178 489	606	586	517	1 709
16-17	181 505	757	688	677	2 122
17-18	175 582	851	875	763	2 489
18-19	177 416	980	955	947	2 882
19-20	172 879	1 111	1 065	999	3 175
20-21	179 142	1 113	1 130	1 098	3 341
21-22	181 728	1 254	1 254	1 138	3 646
22-23	183 452	1 295	1 274	1 215	3 784
23-24	184 720	1 312	1 332	1 245	3 889
24-25	191 030	1 465	1 341	1 234	4 040
25-26	194 454	1 421	1 503	1 310	4 234
26-27	180 889	1 403	1 404	1 321	4 128
27-28	181 847	1 445	1 440	1 316	4 201
28-29	190 499	1 524	1 669	1 518	4 711
29-30	168 311	1 406	1 364	1 285	4 055
30-31	216 735	1 708	1 687	1 640	5 035
31-32	141 930	1 178	1 385	1 169	3 732
32-33	168 595	1 590	1 533	1 581	4 704
33-34	155 315	1 455	1 446	1 408	4 309
34-35	152 960	1 354	1 420	1 333	4 107
35-36	177 352	1 762	1 905	1 771	5 438
36-37	143 674	1 416	1 453	1 455	4 324
37-38	136 526	1 367	1 397	1 357	4 121
38-39	158 391	1 739	1 649	1 635	5 023
39-40	143 607	1 418	1 426	1 313	4 157
40-41	182 431	1 984	2 143	1 900	6 027
41-42	109 420	1 199	1 367	1 244	3 810
42-43	133 154	1 594	1 657	1 756	5 007
43-44	112 949	1 400	1 438	1 397	4 235
44-45	110 526	1 335	1 389	1 372	4 096
45-46	132 328	1 755	1 974	1 828	5 557
46-47	97 087	1 290	1 371	1 284	3 945
47-48	94 808	1 261	1 368	1 381	4 010
48-49	100 774	1 493	1 552	1 496	4 541
49-50	95 137	1 461	1 407	1 301	4 169

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	126 902	1 993	2 047	1 932	5 972
51-52	76 304	1 263	1 448	1 336	4 047
52-53	88 315	1 612	1 714	1 713	5 039
53-54	77 022	1 502	1 545	1 570	4 617
54-55	77 953	1 596	1 552	1 552	4 700
55-56	86 214	1 911	1 852	1 696	5 459
56-57	72 507	1 762	1 790	1 676	5 228
57-58	62 788	1 633	1 658	1 710	5 001
58-59	62 452	1 692	1 801	1 772	5 265
59-60	59 365	1 513	1 720	1 642	4 875
60-61	80 225	2 247	2 341	2 155	6 743
61-62	45 411	1 509	1 762	1 559	4 830
62-63	52 840	1 799	1 890	1 995	5 684
63-64	51 212	1 876	1 884	1 855	5 615
64-65	47 039	1 942	1 909	1 835	5 686
65-66	52 949	2 302	2 347	2 344	6 993
66-67	40 880	1 838	1 932	1 765	5 535
67-68	39 860	2 013	1 978	1 951	5 942
68-69	35 828	2 072	2 162	2 032	6 266
69-70	32 558	1 944	1 982	1 926	5 852
70-71	40 277	2 447	2 336	2 233	7 016
71-72	25 630	1 736	1 931	1 705	5 372
72-73	28 253	2 075	2 019	2 202	6 296
73-74	24 865	1 996	2 019	1 947	5 962
74-75	22 291	2 013	2 000	2 001	6 014
75-76	23 591	2 201	2 195	1 956	6 352
76-77	18 674	1 992	1 950	1 890	5 832
77-78	15 916	1 728	1 724	1 770	5 222
78-79	14 699	1 867	1 829	1 805	5 501
79-80	12 489	1 601	1 653	1 557	4 811
80-81	12 731	1 822	1 755	1 675	5 252
81-82	8 785	1 347	1 490	1 227	4 064
82-83	7 544	1 362	1 521	1 446	4 329
83-84	6 054	1 151	1 290	1 202	3 643
84-85	5 404	1 140	1 143	1 027	3 310
85-86	4 442	955	978	875	2 808
86-87	3 083	770	822	732	2 324
87-88	2 688	666	609	659	1 934
88-89	2 062	553	544	482	1 579
89-90	1 497	450	454	402	1 306
90-91	1 207	376	376	378	1 130
91-92	697	251	235	236	722
92-93	488	174	205	190	569
93-94	369	136	129	141	406
94-95	253	105	110	102	317
95-96	220	75	72	91	238
96-97	126	63	50	51	164
97-98	86	30	34	40	104
98-99	68	23	35	26	84
99-100	52	29	24	21	74
100-101	*Ages 100 and over,* 130	24	26	18	68
101-102		4	14	8	26
102-103		6	9	11	26
103-104		5	3	5	13
104-105		6	4	4	14
105-106		2	4	1	7
106-107		1	1	0	2
107-108		3	3	0	6
108-109		0	1	1	2
109-110		0	1	0	1
110-111		2	3	0	5
111-112		0	1	2	3
112-113		0	0	0	0
113-114		0	0	0	0
114-115		0	0	1	1
115-116		1	0	0	1
116-117		.....	0	1	1
119-120		.....	1	.....	1
128-129		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	34 093	7 087	3 168	2 083	1 355
1904	.....	7 473	3 310	2 109	1 597
1905	.....	.....	3 182	1 946	1 405
1906	.....	.....	.....	2 076	1 476

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 162 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900-1902 [1]
1	2	3	4	5	6
All ages.	9 990 458	164 201	157 336	149 997	471 534
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	9 694	9 120	.....	18 814
1-2	.....	2 811	2 398	.....	5 209
2-3	.....	2 647	2 326	.....	4 973
3-4	.....	2 559	2 180	.....	4 739
4-5	.....	2 294	1 986	.....	4 280
5-6	.....	2 091	1 738	.....	3 829
6-7	.....	2 011	1 734	.....	3 745
7-8	.....	1 712	1 437	.....	3 149
8-9	.....	1 669	1 373	.....	3 042
9-10	.....	1 474	1 292	.....	2 766
10-11	.....	1 314	1 148	.....	2 462
11-12	.....	1 310	1 060	.....	2 373
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	217 338	31 589	27 792	27 781	87 162
1-2	195 974	7 970	6 764	6 791	21 525
2-3	205 363	3 587	3 028	3 180	9 795
3-4	207 508	2 261	2 006	1 933	6 200
4-5	205 014	1 735	1 533	1 419	4 687
5-6	202 153	1 380	1 135	1 188	3 703
6-7	203 008	1 054	1 026	890	2 970
7-8	198 875	837	817	730	2 384
8-9	196 172	727	636	600	1 963
9-10	188 499	569	526	463	1 558
10-11	192 472	522	477	436	1 435
11-12	179 752	541	470	410	1 421
12-13	181 781	515	447	477	1 439
13-14	175 977	572	453	466	1 491
14-15	179 570	637	549	517	1 703
15-16	179 461	693	638	561	1 892
16-17	185 710	819	729	711	2 259
17-18	182 897	901	819	757	2 477
18-19	190 884	978	966	935	2 879
19-20	187 105	1 084	1 038	1 030	3 152
20-21	202 087	1 186	1 139	1 079	3 404
21-22	185 210	1 186	1 181	1 161	3 528
22-23	200 297	1 347	1 313	1 269	3 929
23-24	200 373	1 400	1 299	1 244	3 943
24-25	205 227	1 500	1 397	1 280	4 177
25-26	206 981	1 489	1 429	1 255	4 173
26-27	186 769	1 488	1 411	1 336	4 235
27-28	182 641	1 426	1 295	1 300	4 021
28-29	188 197	1 542	1 442	1 429	4 413
29-30	165 929	1 437	1 343	1 253	4 033
30-31	203 939	1 487	1 546	1 342	4 375
31-32	138 395	1 174	1 198	1 135	3 507
32-33	162 673	1 429	1 399	1 435	4 263
33-34	148 469	1 364	1 272	1 166	3 802
34-35	146 959	1 297	1 275	1 271	3 843
35-36	163 180	1 455	1 415	1 293	4 163
36-37	137 979	1 300	1 314	1 231	3 845
37-38	132 531	1 211	1 124	1 200	3 535
38-39	150 016	1 439	1 463	1 258	4 160
39-40	137 368	1 272	1 185	1 179	3 636
40-41	165 140	1 566	1 599	1 495	4 660
41-42	102 587	1 029	1 153	1 157	3 339
42-43	123 266	1 335	1 335	1 240	3 910
43-44	107 974	1 155	1 193	1 111	3 459
44-45	105 567	1 184	1 183	1 053	3 420
45-46	120 671	1 439	1 327	1 292	4 058
46-47	93 402	1 136	1 103	1 065	3 304
47-48	91 646	1 188	1 169	1 088	3 445
48-49	98 960	1 230	1 235	1 225	3 690
49-50	93 219	1 208	1 192	1 117	3 517

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	123 439	1 617	1 681	1 494	4 792
51-52	72 619	1 077	1 258	1 119	3 454
52-53	83 342	1 481	1 430	1 417	4 328
53-54	74 044	1 338	1 353	1 230	3 921
54-55	76 735	1 457	1 378	1 345	4 180
55-56	85 845	1 609	1 582	1 384	4 575
56-57	71 234	1 552	1 620	1 403	4 575
57-58	62 736	1 429	1 426	1 470	4 325
58-59	64 003	1 591	1 606	1 527	4 724
59-60	60 821	1 466	1 404	1 357	4 227
60-61	85 773	2 063	2 150	1 984	6 197
61-62	46 156	1 384	1 555	1 359	4 298
62-63	54 396	1 688	1 762	1 774	5 224
63-64	52 217	1 747	1 831	1 562	5 140
64-65	49 539	1 796	1 767	1 708	5 271
65-66	57 148	2 138	2 207	2 082	6 427
66-67	42 842	1 695	1 754	1 669	5 118
67-68	40 749	1 874	1 836	1 748	5 458
68-69	38 471	1 968	2 051	1 887	5 906
69-70	34 806	1 794	1 810	1 729	5 333
70-71	44 331	2 471	2 479	2 323	7 273
71-72	25 713	1 644	1 768	1 638	5 050
72-73	29 111	2 027	1 925	2 022	5 974
73-74	25 358	1 899	1 935	1 745	5 579
74-75	23 505	1 919	1 926	1 749	5 594
75-76	26 017	2 164	2 251	2 064	6 479
76-77	19 835	1 888	1 960	1 842	5 690
77-78	16 537	1 630	1 854	1 558	5 042
78-79	15 619	1 809	1 784	1 746	5 339
79-80	13 303	1 663	1 574	1 408	4 645
80-81	15 169	1 920	1 931	1 745	5 596
81-82	9 319	1 452	1 505	1 280	4 237
82-83	8 599	1 389	1 475	1 459	4 323
83-84	7 322	1 273	1 303	1 192	3 768
84-85	6 473	1 249	1 204	1 166	3 619
85-86	5 469	1 070	1 131	1 013	3 214
86-87	4 127	912	921	811	2 644
87-88	3 533	804	767	732	2 303
88-89	2 708	695	698	581	1 974
89-90	2 082	571	546	511	1 628
90-91	1 992	570	558	502	1 630
91-92	1 043	325	396	312	1 033
92-93	857	281	294	291	866
93-94	625	228	231	201	660
94-95	492	186	177	164	527
95-96	376	153	159	146	458
96-97	245	121	81	99	301
97-98	161	70	80	67	217
98-99	143	57	57	52	166
99-100	101	30	43	26	99
100-101		41	32	29	102
101-102		6	11	8	25
102-103		9	8	13	30
103-104		13	4	4	21
104-105		4	13	4	21
105-106	*Ages 100 and over,* 213	11	4	3	18
106-107		4	4	1	9
107-108		2	0	4	6
108-109		3	2	0	5
109-110		0	0	1	1
110-111		2	1	0	3
111-112		0	0	0	0
112-113		2	4	2	8
113-114		.....	0	1	1
114-115		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	26 917	6 391	2 972	1 870	1 403
1904	.....	6 788	2 954	1 935	1 396
1905	.....	.....	2 903	1 819	1 261
1906	.....	.....	.....	1 920	1 345

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 163 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900-1902 [1]
1	2	3	4	5	6
All ages.	9 798 243	173 731	169 530	163 387	506 648
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	12 861	11 996	.....	24 857
1-2	.....	3 405	3 071	.....	6 476
2-3	.....	3 183	2 756	.....	5 939
3-4	.....	3 002	2 650	.....	5 652
4-5	.....	2 682	2 290	.....	4 972
5-6	.....	2 470	2 124	.....	4 594
6-7	.....	2 312	1 976	.....	4 288
7-8	.....	1 991	1 672	.....	3 663
8-9	.....	1 899	1 587	.....	3 486
9-10	.....	1 694	1 418	.....	3 112
10-11	.....	1 504	1 237	.....	2 741
11-12	.....	1 379	1 168	.....	2 547
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	218 283	38 382	33 945	33 729	106 056
1-2	196 213	8 608	7 433	7 319	23 360
2-3	205 027	3 754	3 208	3 244	10 206
3-4	207 175	2 380	2 077	1 937	6 394
4-5	204 525	1 644	1 590	1 500	4 734
5-6	200 526	1 303	1 188	1 179	3 670
6-7	202 549	1 077	1 061	1 004	3 142
7-8	199 066	860	803	763	2 426
8-9	194 807	718	691	660	2 069
9-10	188 420	603	556	546	1 705
10-11	191 157	538	559	540	1 637
11-12	178 086	507	509	452	1 468
12-13	179 869	479	444	409	1 332
13-14	172 431	514	496	453	1 463
14-15	178 487	519	544	457	1 520
15-16	175 311	585	560	501	1 646
16-17	178 173	721	662	633	2 016
17-18	172 267	819	839	735	2 393
18-19	173 574	921	912	901	2 734
19-20	168 742	1 059	1 020	953	3 032
20-21	174 641	1 060	1 071	1 042	3 173
21-22	177 094	1 191	1 204	1 089	3 484
22-23	178 401	1 239	1 208	1 154	3 601
23-24	179 557	1 240	1 268	1 175	3 683
24-25	185 716	1 405	1 261	1 156	3 822
25-26	188 794	1 342	1 426	1 243	4 011
26-27	176 197	1 333	1 325	1 265	3 923
27-28	177 162	1 390	1 378	1 263	4 031
28-29	185 315	1 470	1 602	1 445	4 517
29-30	164 106	1 350	1 300	1 218	3 868
30-31	210 285	1 636	1 605	1 557	4 798
31-32	138 788	1 149	1 324	1 137	3 610
32-33	164 672	1 532	1 483	1 520	4 535
33-34	152 039	1 410	1 393	1 364	4 167
34-35	149 350	1 308	1 370	1 277	3 955
35-36	172 176	1 699	1 826	1 693	5 218
36-37	140 438	1 373	1 398	1 399	4 170
37-38	133 636	1 332	1 333	1 316	3 981
38-39	154 440	1 697	1 578	1 572	4 847
39-40	140 282	1 370	1 374	1 266	4 010
40-41	176 904	1 903	2 044	1 810	5 757
41-42	107 316	1 167	1 331	1 212	3 710
42-43	130 294	1 551	1 613	1 700	4 864
43-44	110 812	1 355	1 389	1 350	4 094
44-45	108 457	1 293	1 346	1 333	3 972
45-46	128 930	1 685	1 888	1 750	5 323
46-47	95 225	1 247	1 332	1 247	3 826
47-48	93 032	1 231	1 327	1 331	3 889
48-49	98 615	1 434	1 502	1 454	4 390
49-50	93 165	1 411	1 361	1 264	4 036
Years.					
50-51	123 236	1 913	1 943	1 849	5 705
51-52	75 027	1 223	1 399	1 291	3 913
52-53	86 621	1 562	1 658	1 669	4 889
53-54	75 715	1 463	1 495	1 540	4 498
54-55	76 514	1 548	1 506	1 496	4 550
55-56	84 439	1 850	1 798	1 636	5 284
56-57	71 188	1 699	1 726	1 626	5 051
57-58	61 848	1 587	1 611	1 659	4 857
58-59	61 422	1 663	1 749	1 717	5 129
59-60	58 427	1 482	1 686	1 607	4 775
60-61	78 371	2 159	2 252	2 083	6 494
61-62	44 917	1 485	1 722	1 535	4 742
62-63	52 212	1 767	1 858	1 958	5 583
63-64	50 582	1 841	1 857	1 836	5 534
64-65	46 521	1 922	1 880	1 806	5 608
65-66	51 968	2 233	2 279	2 285	6 797
66-67	40 415	1 815	1 912	1 736	5 463
67-68	39 408	1 985	1 945	1 931	5 861
68-69	35 423	2 043	2 136	2 001	6 180
69-70	32 209	1 918	1 955	1 911	5 784
70-71	39 565	2 385	2 285	2 167	6 837
71-72	25 397	1 724	1 913	1 685	5 322
72-73	27 984	2 053	1 990	2 173	6 216
73-74	24 618	1 974	1 999	1 923	5 896
74-75	22 093	1 995	1 979	1 983	5 957
75-76	23 237	2 166	2 163	1 913	6 242
76-77	18 510	1 978	1 928	1 871	5 777
77-78	15 787	1 715	1 709	1 755	5 179
78-79	14 532	1 848	1 811	1 784	5 443
79-80	12 354	1 589	1 643	1 540	4 772
80-81	12 536	1 773	1 713	1 644	5 130
81-82	8 727	1 335	1 483	1 222	4 040
82-83	7 464	1 353	1 511	1 425	4 289
83-84	5 991	1 144	1 280	1 191	3 615
84-85	5 342	1 125	1 136	1 018	3 279
85-86	4 365	935	959	862	2 756
86-87	3 026	764	815	731	2 310
87-88	2 652	658	604	655	1 917
88-89	2 028	546	538	477	1 561
89-90	1 468	442	448	396	1 286
90-91	1 174	367	370	369	1 106
91-92	691	247	233	232	712
92-93	484	173	202	184	559
93-94	362	134	125	139	398
94-95	246	102	108	101	311
95-96	207	73	67	85	225
96-97	116	59	47	49	155
97-98	82	30	33	39	102
98-99	61	23	33	25	81
99-100	47	25	24	19	68
100-101	Ages 100 and over, 107	19	18	16	53
101-102		4	13	7	24
102-103		6	9	10	25
103-104		5	2	2	9
104-105		6	4	2	12
105-106		2	2	1	5
106-107		0	1	0	1
107-108		2	3	0	5
108-109		.....	1	1	2
109-110		.....	1	0	1
110-111		.....	1	0	1
111-112		.....	1	2	3
119-120		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	32 789	6 750	3 041	2 006	1 314
1904	.....	7 144	3 171	2 030	1 543
1905	.....	.....	3 036	1 867	1 352
1906	.....	.....	.....	2 010	1 427

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 164 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900–1902 [1]
1	2	3	4	5	6
All ages.	9 780 414	159 079	152 418	145 163	456 660
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	9 382	8 785	.....	18 167
1–2	.....	2 700	2 301	.....	5 001
2–3	.....	2 534	2 239	.....	4 773
3–4	.....	2 456	2 074	.....	4 530
4–5	.....	2 205	1 901	.....	4 106
5–6	.....	2 019	1 658	.....	3 677
6–7	.....	1 936	1 657	.....	3 593
7–8	.....	1 645	1 379	.....	3 024
8–9	.....	1 606	1 307	.....	2 913
9–10	.....	1 430	1 238	.....	2 668
10–11	.....	1 259	1 107	.....	2 366
11–12	.....	1 263	1 022	.....	2 285
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	213 468	30 435	26 668	26 697	83 800
1–2	192 557	7 647	6 513	6 512	20 672
2–3	201 669	3 431	2 919	3 049	9 399
3–4	203 978	2 186	1 937	1 867	5 990
4–5	201 539	1 677	1 480	1 368	4 525
5–6	198 795	1 339	1 105	1 154	3 598
6–7	199 494	1 030	993	859	2 882
7–8	195 340	802	795	706	2 303
8–9	192 679	700	612	575	1 887
9–10	185 161	545	503	440	1 488
10–11	189 113	489	456	423	1 368
11–12	176 459	502	447	385	1 334
12–13	178 368	474	419	455	1 348
13–14	172 607	526	427	445	1 398
14–15	176 106	605	522	488	1 615
15–16	175 886	648	604	519	1 771
16–17	181 757	778	678	671	2 127
17–18	178 857	862	768	712	2 342
18–19	186 006	924	920	878	2 722
19–20	182 015	1 017	983	982	2 982
20–21	196 126	1 123	1 076	1 019	3 218
21–22	180 110	1 126	1 110	1 089	3 325
22–23	194 349	1 277	1 254	1 181	3 712
23–24	194 228	1 336	1 237	1 177	3 750
24–25	198 969	1 433	1 316	1 217	3 966
25–26	200 854	1 419	1 360	1 187	3 966
26–27	181 819	1 435	1 349	1 268	4 052
27–28	177 955	1 376	1 244	1 248	3 868
28–29	183 154	1 486	1 375	1 380	4 241
29–30	161 817	1 390	1 300	1 206	3 896
30–31	198 329	1 422	1 464	1 278	4 164
31–32	135 694	1 144	1 151	1 097	3 392
32–33	159 273	1 388	1 361	1 384	4 133
33–34	145 592	1 319	1 243	1 127	3 689
34–35	143 870	1 254	1 242	1 217	3 713
35–36	158 791	1 394	1 358	1 223	3 975
36–37	135 312	1 270	1 270	1 198	3 738
37–38	129 843	1 172	1 100	1 152	3 424
38–39	146 589	1 389	1 406	1 206	4 001
39–40	134 025	1 227	1 150	1 136	3 513
40–41	160 373	1 485	1 514	1 421	4 420
41–42	100 855	997	1 119	1 115	3 231
42–43	120 795	1 290	1 273	1 212	3 775
43–44	106 103	1 118	1 156	1 072	3 346
44–45	103 653	1 146	1 148	1 016	3 310
45–46	117 474	1 368	1 259	1 217	3 844
46–47	91 759	1 102	1 066	1 031	3 199
47–48	90 072	1 141	1 128	1 050	3 319
48–49	96 931	1 186	1 188	1 177	3 551
49–50	91 367	1 177	1 147	1 084	3 408

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900–1902
7	8	9	10	11	12
Years.					
50–51	119 964	1 554	1 614	1 416	4 584
51–52	71 562	1 051	1 218	1 091	3 360
52–53	81 787	1 435	1 385	1 375	4 195
53–54	72 898	1 294	1 305	1 200	3 799
54–55	75 526	1 413	1 336	1 312	4 061
55–56	84 236	1 554	1 532	1 342	4 428
56–57	70 199	1 513	1 582	1 370	4 465
57–58	61 933	1 400	1 391	1 434	4 225
58–59	63 131	1 555	1 570	1 489	4 614
59–60	59 992	1 438	1 372	1 327	4 137
60–61	83 892	1 990	2 080	1 918	5 988
61–62	45 690	1 360	1 522	1 340	4 222
62–63	53 766	1 648	1 733	1 744	5 125
63–64	51 666	1 718	1 799	1 540	5 057
64–65	48 988	1 759	1 740	1 684	5 183
65–66	56 124	2 073	2 154	2 026	6 253
66–67	42 449	1 674	1 732	1 638	5 044
67–68	40 290	1 847	1 812	1 718	5 377
68–69	38 046	1 946	2 023	1 859	5 828
69–70	34 396	1 774	1 789	1 713	5 276
70–71	43 413	2 410	2 421	2 269	7 100
71–72	25 508	1 624	1 751	1 622	4 997
72–73	28 784	1 999	1 909	1 991	5 899
73–74	25 137	1 874	1 910	1 716	5 500
74–75	23 267	1 901	1 904	1 730	5 535
75–76	25 606	2 125	2 210	2 023	6 358
76–77	19 616	1 867	1 938	1 825	5 630
77–78	16 390	1 615	1 841	1 546	5 002
78–79	15 420	1 788	1 759	1 727	5 274
79–80	13 141	1 649	1 560	1 397	4 606
80–81	14 805	1 873	1 896	1 714	5 483
81–82	9 223	1 437	1 490	1 275	4 202
82–83	8 475	1 373	1 461	1 440	4 274
83–84	7 232	1 257	1 286	1 178	3 721
84–85	6 386	1 236	1 193	1 154	3 583
85–86	5 350	1 052	1 107	988	3 147
86–87	4 071	903	914	803	2 620
87–88	3 465	794	756	727	2 277
88–89	2 656	685	689	575	1 949
89–90	2 040	560	536	499	1 595
90–91	1 903	554	547	484	1 585
91–92	1 026	325	390	306	1 021
92–93	838	275	288	286	849
93–94	606	224	227	199	650
94–95	470	183	166	156	505
95–96	347	145	149	139	433
96–97	239	119	80	97	296
97–98	153	67	77	64	208
98–99	126	54	53	50	157
99–100	93	28	41	24	93
100–101	*Ages 100 and over,* 158	36	28	21	85
101–102		6	10	8	24
102–103		8	5	10	23
103–104		12	3	3	18
104–105		4	10	3	17
105–106		6	3	3	12
106–107		3	4	1	8
107–108		1	0	2	3
108–109		2	2	0	4
109–110		0	0	0	0
110–111		1	0	0	1
111–112		0	0	0	0
112–113		1	1	1	3
113–114		.....	0	1	1
114–115		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4	4–5
1903	25 813	6 105	2 831	1 799	1 351
1904	.....	6 480	2 829	1 861	1 347
1905	.....	.....	2 761	1 741	1 208
1906	.....	.....	.....	1 845	1 299

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 165 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902[1]	1900-1902[1]
1	2	3	4	5	6
All ages.	185 530	4 972	5 030	4 986	14 988
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	395	412	.....	807
1-2	.....	117	117	.....	234
2-3	.....	131	107	.....	238
3-4	.....	105	100	.....	205
4-5	.....	103	95	.....	198
5-6	.....	110	80	.....	190
6-7	.....	115	91	.....	206
7-8	.....	83	74	.....	157
8-9	.....	59	41	.....	100
9-10	.....	60	53	.....	113
10-11	.....	42	33	.....	75
11-12	.....	40	42	.....	82
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	3 591	1 360	1 245	1 316	3 921
1-2	3 037	342	246	296	884
2-3	3 290	121	119	118	358
3-4	3 230	63	66	53	182
4-5	3 212	47	48	44	139
5-6	3 210	34	36	24	94
6-7	3 170	30	29	27	86
7-8	3 085	37	18	31	86
8-9	3 096	15	24	20	59
9-10	2 972	23	21	22	66
10-11	3 053	19	26	17	62
11-12	2 823	20	22	22	64
12-13	2 966	17	13	18	48
13-14	2 889	13	23	16	52
14-15	2 979	26	13	24	63
15-16	3 040	19	24	16	59
16-17	3 158	34	26	41	101
17-18	3 149	28	36	28	92
18-19	3 607	55	39	44	138
19-20	3 878	52	45	46	143
20-21	4 141	49	55	51	155
21-22	4 382	59	49	46	154
22-23	4 679	51	62	60	173
23-24	4 854	67	56	62	185
24-25	4 920	53	77	73	203
25-26	5 089	70	70	62	202
26-27	4 279	64	76	54	194
27-28	4 288	50	53	48	151
28-29	4 544	50	64	73	187
29-30	3 781	53	57	60	170
30-31	5 415	62	70	77	209
31-32	2 723	23	58	27	108
32-33	3 239	49	43	57	149
33-34	2 785	37	42	40	119
34-35	2 970	42	42	50	134
35-36	4 126	57	68	76	201
36-37	2 496	36	48	49	133
37-38	2 439	28	56	38	122
38-39	3 183	38	58	58	154
39-40	2 847	41	48	41	130
40-41	4 348	70	86	80	236
41-42	1 703	30	33	29	92
42-43	2 390	36	37	53	126
43-44	1 866	41	47	42	130
44-45	1 761	39	37	37	113
45-46	2 898	65	82	71	218
46-47	1 571	32	37	33	102
47-48	1 546	29	38	47	114
48-49	1 851	53	44	37	134
49-50	1 757	44	46	32	122

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	3 081	71	95	79	245
51-52	1 125	38	45	39	122
52-53	1 508	47	53	37	137
53-54	1 190	36	44	25	105
54-55	1 311	48	43	50	141
55-56	1 620	53	49	56	158
56-57	1 216	59	58	49	166
57-58	870	43	46	49	138
58-59	940	28	49	54	131
59-60	882	31	34	34	99
60-61	1 722	85	84	72	241
61-62	458	24	39	23	86
62-63	592	31	32	33	90
63-64	591	34	26	18	78
64-65	487	19	29	28	76
65-66	930	67	67	59	193
66-67	423	21	20	27	68
67-68	425	22	32	17	71
68-69	381	26	21	30	77
69-70	326	24	26	15	65
70-71	648	59	51	65	175
71-72	223	12	18	20	50
72-73	254	21	29	26	76
73-74	226	21	17	24	62
74-75	185	18	20	18	56
75-76	331	32	32	43	107
76-77	153	14	20	19	53
77-78	119	13	15	14	42
78-79	147	19	16	21	56
79-80	125	11	10	16	37
80-81	175	48	38	29	115
81-82	49	12	7	5	24
82-83	78	9	10	17	36
83-84	59	8	10	11	29
84-85	57	15	7	9	31
85-86	72	18	17	11	46
86-87	52	5	7	1	13
87-88	33	7	5	4	16
88-89	33	7	5	5	17
89-90	24	7	6	6	19
90-91	27	7	5	8	20
91-92	5	4	1	4	9
92-93	4	1	3	6	10
93-94	6	1	4	2	7
94-95	6	3	2	1	6
95-96	12	2	4	6	12
96-97	8	4	3	2	9
97-98	3	0	1	1	2
98-99	6	0	2	1	3
99-100	3	4	0	2	6
100-101	Ages 100 and over, 23	5	8	1	14
101-102		0	1	1	2
102-103		0	0	1	1
103-104		0	1	3	4
104-105		0	0	2	2
105-106		0	2	0	2
106-107		1	0	0	1
107-108		1	0	0	1
108-109		0	0	0	0
109-110		0	0	0	0
110-111		2	2	0	4
111-112		0	0	0	0
112-113		0	0	0	0
113-114		0	0	0	0
114-115		0	0	0	0
115-116		1	0	0	1
116-117		.....	0	1	1
128-129		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	1 277	334	122	73	40
1904	.....	323	134	78	52
1905	.....	.....	137	76	52
1906	.....	.....	.....	63	47

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 166 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900-1902 [1]
1	2	3	4	5	6
All ages.	203 292	4 982	4 804	4 732	14 518
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	302	327	.....	629
1-2	.....	110	93	.....	203
2-3	.....	109	85	.....	194
3-4	.....	100	103	.....	203
4-5	.....	89	83	.....	172
5-6	.....	71	79	.....	150
6-7	.....	75	71	.....	146
7-8	.....	65	57	.....	122
8-9	.....	61	65	.....	126
9-10	.....	42	52	.....	94
10-11	.....	55	40	.....	95
11-12	.....	49	36	.....	85
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	3 654	1 128	1 091	1 066	3 285
1-2	3 244	314	249	274	837
2-3	3 511	151	106	131	388
3-4	3 345	72	65	64	201
4-5	3 321	52	49	49	150
5-6	3 186	38	30	34	102
6-7	3 337	23	32	31	86
7-8	3 356	35	19	23	77
8-9	3 301	26	22	25	73
9-10	3 165	22	23	23	68
10-11	3 225	31	18	13	62
11-12	3 154	39	22	24	85
12-13	3 257	38	29	22	89
13-14	3 214	46	25	21	92
14-15	3 312	32	27	27	86
15-16	3 429	44	34	40	118
16-17	3 830	40	49	40	129
17-18	3 907	36	49	44	129
18-19	4 737	52	45	58	155
19-20	4 992	65	54	44	163
20-21	5 824	62	62	59	183
21-22	5 016	60	70	72	202
22-23	5 836	68	58	86	212
23-24	6 018	61	60	65	186
24-25	6 146	62	82	61	205
25-26	6 035	69	70	69	208
26-27	4 858	51	61	64	176
27-28	4 605	48	49	49	146
28-29	4 926	54	64	48	166
29-30	4 028	47	43	47	137
30-31	5 467	66	81	64	211
31-32	2 651	30	46	37	113
32-33	3 328	39	37	49	125
33-34	2 811	43	28	38	109
34-35	3 013	43	33	52	128
35-36	4 297	61	58	70	189
36-37	2 584	30	43	32	105
37-38	2 609	39	24	48	111
38-39	3 335	49	54	52	155
39-40	3 265	45	34	43	122
40-41	4 640	76	83	72	231
41-42	1 685	32	34	40	106
42-43	2 396	43	61	27	131
43-44	1 810	37	36	39	112
44-45	1 860	38	35	34	107
45-46	3 104	72	69	71	212
46-47	1 585	33	37	33	103
47-48	1 521	46	41	37	124
48-49	1 960	44	45	47	136
49-50	1 808	31	43	33	107

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	3 379	63	68	79	210
51-52	1 033	26	39	28	93
52-53	1 510	46	44	41	131
53-54	1 108	44	47	30	121
54-55	1 171	41	42	31	114
55-56	1 545	51	48	42	141
56-57	987	39	35	33	107
57-58	771	29	35	35	99
58-59	841	33	36	36	105
59-60	792	27	32	30	89
60-61	1 808	69	68	67	204
61-62	451	22	33	18	73
62-63	604	40	29	29	98
63-64	533	29	30	22	81
64-65	530	37	27	22	86
65-66	989	64	53	57	174
66-67	365	20	22	29	71
67-68	429	26	22	30	78
68-69	399	22	27	28	77
69-70	393	20	21	15	56
70-71	850	59	58	54	171
71-72	195	20	17	16	53
72-73	310	26	16	29	71
73-74	209	24	24	27	75
74-75	231	18	20	18	56
75-76	390	38	40	40	118
76-77	207	21	22	17	60
77-78	139	15	13	12	40
78-79	184	20	25	17	62
79-80	155	11	14	11	36
80-81	329	46	32	29	107
81-82	83	15	15	5	35
82-83	121	16	12	18	46
83-84	88	16	17	14	47
84-85	84	12	11	12	35
85-86	113	18	23	22	63
86-87	51	8	7	8	23
87-88	60	10	11	5	26
88-89	48	9	9	5	23
89-90	41	10	10	12	32
90-91	81	16	11	17	44
91-92	17	0	6	5	11
92-93	18	6	6	5	17
93-94	17	4	4	2	10
94-95	19	3	10	8	21
95-96	25	6	9	7	22
96-97	5	2	1	2	5
97-98	8	3	2	3	8
98-99	17	2	4	2	8
99-100	7	2	2	2	6
100-101	*Ages 100 and over, 54*	5	3	6	14
101-102		0	1	0	1
102-103		1	3	3	7
103-104		1	1	1	3
104-105		0	3	1	4
105-106		5	1	0	6
106-107		1	0	0	1
107-108		1	0	2	3
108-109		0	0	0	0
109-110		0	0	1	1
110-111		0	1	0	1
111-112		0	0	0	0
112-113		1	3	1	5

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	1 087	280	141	67	46
1904	.....	303	124	69	47
1905	.....	.....	139	76	52
1906	.....	.....	.....	72	44

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 167. POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902[1]	1900–1902[1]
1	2	3	4	5	6
All ages.	7 520 670	129 797	124 250	120 134	374 181
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	12 843	11 978	.....	24 821
1–2	.....	3 394	3 059	.....	6 453
2–3	.....	3 168	2 747	.....	5 915
3–4	.....	2 984	2 638	.....	5 622
4–5	.....	2 662	2 270	.....	4 932
5–6	.....	2 451	2 103	.....	4 554
6–7	.....	2 286	1 959	.....	4 245
7–8	.....	1 963	1 656	.....	3 619
8–9	.....	1 876	1 569	.....	3 445
9–10	.....	1 669	1 403	.....	3 072
10–11	.....	1 482	1 217	.....	2 699
11–12	.....	1 364	1 155	.....	2 519
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	217 107	38 143	33 754	33 458	105 354
1–2	193 875	8 420	7 255	7 146	22 821
2–3	201 873	3 657	3 099	3 134	9 890
3–4	203 170	2 276	1 993	1 848	6 117
4–5	199 591	1 587	1 541	1 432	4 560
5–6	194 714	1 249	1 141	1 117	3 507
6–7	196 215	1 013	1 009	970	2 992
7–8	191 494	813	760	721	2 294
8–9	185 443	675	651	620	1 946
9–10	177 347	561	520	513	1 594
10–11	177 830	503	532	506	1 541
11–12	164 763	478	466	411	1 355
12–13	163 972	423	404	371	1 198
13–14	155 667	473	445	412	1 330
14–15	158 672	444	481	407	1 332
15–16	154 104	526	486	441	1 453
16–17	154 989	627	574	549	1 750
17–18	147 096	696	716	592	2 004
18–19	143 382	750	753	723	2 226
19–20	137 412	873	848	758	2 479
20–21	136 511	849	859	832	2 540
21–22	138 939	942	929	872	2 743
22–23	135 076	916	902	856	2 674
23–24	135 406	976	932	872	2 780
24–25	137 080	1 054	915	860	2 829
25–26	134 099	997	981	873	2 851
26–27	126 014	969	977	919	2 865
27–28	124 900	1 012	953	928	2 893
28–29	124 884	1 015	1 096	1 023	3 134
29–30	112 547	965	912	877	2 754
30–31	131 986	1 048	1 031	985	3 064
31–32	96 763	823	924	803	2 550
32–33	108 525	1 041	962	1 010	3 013
33–34	100 198	930	933	915	2 778
34–35	95 770	849	883	848	2 580
35–36	102 051	915	988	943	2 846
36–37	87 288	838	834	868	2 540
37–38	85 797	827	765	815	2 407
38–39	97 863	1 057	950	905	2 912
39–40	92 857	856	867	760	2 483
40–41	106 342	1 031	1 087	946	3 064
41–42	74 315	758	867	773	2 398
42–43	86 478	954	958	1 009	2 921
43–44	75 201	856	865	858	2 579
44–45	73 200	813	813	774	2 400
45–46	80 319	869	982	923	2 774
46–47	64 325	764	816	732	2 312
47–48	62 343	698	814	838	2 350
48–49	62 538	775	897	830	2 502
49–50	59 902	840	801	753	2 394
Years.					
50–51	69 224	892	903	933	2 728
51–52	48 921	658	781	715	2 154
52–53	53 918	801	855	897	2 553
53–54	48 178	733	796	848	2 377
54–55	47 411	797	784	791	2 372
55–56	49 373	882	859	760	2 501
56–57	44 518	848	889	812	2 549
57–58	39 760	822	862	919	2 603
58–59	37 805	837	905	905	2 647
59–60	37 306	825	949	881	2 655
60–61	42 233	973	1 019	931	2 923
61–62	29 439	811	941	838	2 590
62–63	33 192	970	997	1 043	3 010
63–64	32 663	1 007	1 008	1 001	3 016
64–65	29 769	1 075	1 059	990	3 124
65–66	29 824	1 122	1 122	1 112	3 356
66–67	26 127	1 031	1 061	1 003	3 095
67–68	25 429	1 155	1 119	1 137	3 411
68–69	22 375	1 199	1 246	1 134	3 579
69–70	20 630	1 107	1 143	1 160	3 410
70–71	22 247	1 207	1 222	1 183	3 612
71–72	16 953	1 055	1 185	1 067	3 307
72–73	18 219	1 310	1 179	1 233	3 722
73–74	16 205	1 226	1 251	1 179	3 656
74–75	14 412	1 237	1 269	1 259	3 765
75–76	14 404	1 305	1 243	1 129	3 677
76–77	12 342	1 241	1 196	1 141	3 578
77–78	10 922	1 113	1 120	1 137	3 370
78–79	9 829	1 188	1 164	1 131	3 483
79–80	8 633	1 127	1 114	1 056	3 297
80–81	8 052	1 105	1 100	1 025	3 230
81–82	6 277	941	1 045	845	2 831
82–83	5 394	939	1 024	967	2 930
83–84	4 460	807	894	826	2 527
84–85	3 834	792	801	722	2 315
85–86	3 042	660	637	602	1 899
86–87	2 220	522	580	518	1 620
87–88	1 949	454	412	476	1 342
88–89	1 447	408	393	342	1 143
89–90	1 065	331	315	290	936
90–91	785	244	257	252	753
91–92	514	195	174	171	540
92–93	349	118	131	122	371
93–94	268	89	89	99	277
94–95	178	79	80	73	232
95–96	127	41	52	57	150
96–97	74	35	34	28	97
97–98	50	23	22	24	69
98–99	31	9	22	15	46
99–100	23	14	6	10	30
100–101	Ages 100 and over, 37	7	11	10	28
101–102		1	4	2	7
102–103		2	1	3	6
103–104		1	0	0	1
104–105		3	1	0	4
105–106		.....	0	0	0
106–107		.....	0	0	0
107–108		.....	0	0	0
108–109		.....	1	0	1
109–110		.....	1	0	1
110–111		.....	0	0	0
111–112		.....	0	1	1
119–120		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4	4–5
1903	32 557	6 553	2 923	1 906	1 237
1904	.....	6 969	3 063	1 923	1 457
1905	.....	.....	2 936	1 763	1 263
1906	.....	.....	.....	1 850	1 335

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 168 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NATIVE WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900–1902 [1]
1	2	3	4	5	6
All ages.	7 587 114	118 340	111 495	107 132	336 967
INFANT MORTALITY BY MONTHS.					
Months.					
0–1	.....	9 374	8 766	.....	18 140
1–2	.....	2 693	2 294	.....	4 987
2–3	.....	2 524	2 226	.....	4 750
3–4	.....	2 448	2 061	.....	4 509
4–5	.....	2 198	1 888	.....	4 086
5–6	.....	2 001	1 644	.....	3 645
6–7	.....	1 917	1 636	.....	3 553
7–8	.....	1 630	1 366	.....	2 996
8–9	.....	1 585	1 293	.....	2 878
9–10	.....	1 410	1 223	.....	2 633
10–11	.....	1 238	1 095	.....	2 333
11–12	.....	1 248	1 009	.....	2 257
AGE INTERVALS OF ONE YEAR.					
Years.					
0–1	212 258	30 266	26 501	26 506	83 273
1–2	190 291	7 464	6 382	6 362	20 208
2–3	198 563	3 338	2 837	2 933	9 108
3–4	199 907	2 114	1 884	1 776	5 774
4–5	196 747	1 617	1 438	1 303	4 358
5–6	193 014	1 275	1 063	1 111	3 449
6–7	193 202	988	955	810	2 753
7–8	187 674	760	759	671	2 190
8–9	183 281	674	576	540	1 790
9–10	173 752	506	469	412	1 387
10–11	175 921	448	426	393	1 267
11–12	162 960	460	404	353	1 217
12–13	162 562	442	374	430	1 246
13–14	155 669	479	382	397	1 258
14–15	156 163	540	456	432	1 428
15–16	153 974	577	534	452	1 563
16–17	155 644	671	580	589	1 840
17–18	149 292	733	666	603	2 002
18–19	148 877	778	748	740	2 266
19–20	142 594	818	814	800	2 432
20–21	147 492	857	848	813	2 518
21–22	136 924	868	886	863	2 617
22–23	143 236	965	936	884	2 785
23–24	143 201	1 043	961	866	2 870
24–25	145 046	1 106	983	907	2 996
25–26	143 684	1 051	1 025	870	2 946
26–27	131 083	1 057	1 021	928	3 006
27–28	127 413	1 034	862	909	2 805
28–29	126 290	1 036	950	970	2 956
29–30	113 333	958	921	883	2 762
30–31	133 036	955	1 022	838	2 815
31–32	98 292	814	818	812	2 444
32–33	109 445	931	917	913	2 761
33–34	100 273	881	851	793	2 525
34–35	96 898	826	828	811	2 465
35–36	101 863	841	830	797	2 468
36–37	88 957	768	778	744	2 290
37–38	87 638	758	680	723	2 161
38–39	98 521	866	865	694	2 425
39–40	93 161	802	746	717	2 265
40–41	103 707	907	923	836	2 666
41–42	73 031	675	723	721	2 119
42–43	84 585	818	810	776	2 404
43–44	75 992	743	775	700	2 218
44–45	72 050	736	768	620	2 124
45–46	76 284	787	753	747	2 287
46–47	63 709	692	676	687	2 055
47–48	61 929	710	706	667	2 083
48–49	62 750	733	696	701	2 130
49–50	59 561	713	704	690	2 107

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900–1902
7	8	9	10	11	12
Years.					
50–51	68 559	751	805	744	2 300
51–52	48 384	576	668	661	1 905
52–53	52 374	767	747	749	2 263
53–54	47 466	697	734	666	2 097
54–55	48 434	782	726	681	2 189
55–56	50 328	768	755	689	2 212
56–57	45 367	812	837	726	2 375
57–58	41 014	767	761	798	2 326
58–59	40 002	824	808	767	2 399
59–60	39 086	790	765	736	2 291
60–61	44 807	836	890	830	2 556
61–62	30 978	719	826	733	2 278
62–63	34 612	901	928	920	2 749
63–64	33 928	920	939	823	2 682
64–65	31 645	991	954	923	2 868
65–66	31 670	938	996	1 014	2 948
66–67	27 852	932	961	944	2 837
67–68	26 173	1 030	985	918	2 933
68–69	24 273	1 011	1 104	1 041	3 156
69–70	22 504	1 032	1 033	994	3 059
70–71	23 996	1 127	1 116	1 100	3 343
71–72	17 628	956	1 044	993	2 993
72–73	19 305	1 153	1 104	1 158	3 415
73–74	16 967	1 121	1 108	981	3 210
74–75	15 753	1 160	1 147	1 074	3 381
75–76	16 051	1 181	1 253	1 149	3 583
76–77	13 571	1 165	1 229	1 158	3 552
77–78	11 729	1 082	1 206	998	3 286
78–79	10 728	1 123	1 140	1 094	3 357
79–80	9 433	1 153	1 060	1 004	3 217
80–81	9 584	1 138	1 129	1 023	3 290
81–82	6 958	1 041	1 036	928	3 005
82–83	6 410	972	1 025	1 018	3 015
83–84	5 547	929	950	835	2 714
84–85	4 782	899	826	841	2 566
85–86	3 798	737	765	666	2 168
86–87	3 067	663	652	584	1 899
87–88	2 678	596	556	537	1 689
88–89	2 050	504	511	426	1 441
89–90	1 590	431	411	379	1 221
90–91	1 309	375	364	319	1 058
91–92	842	263	304	259	826
92–93	649	214	215	196	625
93–94	469	168	176	155	499
94–95	359	150	125	120	395
95–96	214	92	110	101	303
96–97	162	87	53	67	207
97–98	104	45	54	39	138
98–99	72	35	29	35	99
99–100	53	21	28	17	66
100–101		17	18	13	48
101–102		3	4	6	13
102–103		6	3	3	12
103–104		3	2	1	6
104–105		1	7	2	10
105–106	*Ages 100 and over,* 68	4	0	3	7
106–107		0	3	.....	3
107–108		0	.....	.....	0
108–109		1	.....	.....	1
109–110		0	.....	.....	0
110–111		0	.....	.....	0
111–112		0	.....	.....	0
112–113		1	.....	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0–1	1–2	2–3	3–4	4–5
1903	25 611	5 927	2 713	1 692	1 272
1904	.....	6 339	2 729	1 766	1 265
1905	.....	.....	2 660	1 629	1 144
1906	.....	.....	.....	1 719	1 197

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 169 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FOREIGN-BORN WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902[1]	1900-1902[1]
1	2	3	4	5	6
All ages.	2 277 573	43 934	45 280	43 253	132 467
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	18	18	.....	36
1-2	.....	11	12	.....	23
2-3	.....	15	9	.....	24
3-4	.....	18	12	.....	30
4-5	.....	20	20	.....	40
5-6	.....	19	21	.....	40
6-7	.....	26	17	.....	43
7-8	.....	28	16	.....	44
8-9	.....	23	18	.....	41
9-10	.....	25	15	.....	40
10-11	.....	22	20	.....	42
11-12	.....	15	13	.....	28
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	1 176	240	191	271	702
1-2	2 338	188	178	173	539
2-3	3 154	97	109	110	316
3-4	4 005	104	84	89	277
4-5	4 934	57	49	68	174
5-6	5 812	54	47	62	163
6-7	6 334	64	52	34	150
7-8	7 572	47	43	42	132
8-9	9 364	43	40	40	123
9-10	11 073	42	36	33	111
10-11	13 327	35	27	34	96
11-12	13 323	29	43	41	113
12-13	15 897	56	40	38	134
13-14	16 764	41	51	41	133
14-15	19 815	75	63	50	188
15-16	21 207	59	74	60	193
16-17	23 184	94	88	84	266
17-18	25 171	123	123	143	389
18-19	30 192	171	159	178	508
19-20	31 330	186	172	195	553
20-21	38 130	211	212	210	633
21-22	38 155	249	275	217	741
22-23	43 325	323	306	298	927
23-24	44 151	264	336	303	903
24-25	48 636	351	346	296	993
25-26	54 695	345	445	370	1 160
26-27	50 183	364	348	346	1 058
27-28	52 262	378	425	335	1 138
28-29	60 431	455	506	422	1 383
29-30	51 559	385	388	341	1 114
30-31	78 299	588	574	572	1 734
31-32	42 025	326	400	334	1 060
32-33	56 147	491	521	510	1 522
33-34	51 841	480	460	449	1 389
34-35	53 580	459	487	429	1 375
35-36	70 125	784	838	750	2 372
36-37	53 150	535	564	531	1 630
37-38	47 839	505	568	501	1 574
38-39	56 577	640	628	667	1 935
39-40	47 425	514	507	506	1 527
40-41	70 562	872	957	864	2 693
41-42	33 001	409	464	439	1 312
42-43	43 816	597	655	691	1 943
43-44	35 611	499	524	492	1 515
44-45	35 257	480	533	559	1 572
45-46	48 611	816	906	827	2 549
46-47	30 900	483	516	515	1 514
47-48	30 689	533	513	493	1 539
48-49	36 077	659	605	624	1 888
49-50	33 263	571	560	511	1 642

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	54 012	1 021	1 040	916	2 977
51-52	26 106	565	618	576	1 759
52-53	32 703	761	803	772	2 336
53-54	27 537	730	699	692	2 121
54-55	29 103	751	722	705	2 178
55-56	35 066	968	939	876	2 783
56-57	26 670	851	837	814	2 502
57-58	22 088	765	749	740	2 254
58-59	23 617	826	844	812	2 482
59-60	21 121	657	737	726	2 120
60-61	36 138	1 186	1 233	1 152	3 571
61-62	15 478	674	781	697	2 152
62-63	19 020	797	861	915	2 573
63-64	17 919	834	849	835	2 518
64-65	16 752	847	821	816	2 484
65-66	22 144	1 111	1 157	1 173	3 441
66-67	14 288	784	851	733	2 368
67-68	13 979	830	826	794	2 450
68-69	13 048	844	890	867	2 601
69-70	11 579	811	812	751	2 374
70-71	17 318	1 178	1 063	984	3 225
71-72	8 444	669	728	618	2 015
72-73	9 765	743	811	940	2 494
73-74	8 413	748	748	744	2 240
74-75	7 681	758	710	724	2 192
75-76	8 833	861	920	784	2 565
76-77	6 168	737	732	730	2 199
77-78	4 865	602	589	618	1 809
78-79	4 703	660	647	653	1 960
79-80	3 721	462	529	484	1 475
80-81	4 484	668	613	619	1 900
81-82	2 450	394	438	377	1 209
82-83	2 070	414	487	458	1 359
83-84	1 531	337	386	365	1 088
84-85	1 508	333	335	296	964
85-86	1 323	275	322	260	857
86-87	806	242	235	213	690
87-88	703	204	192	179	575
88-89	581	138	145	135	418
89-90	403	111	133	106	350
90-91	389	123	113	117	353
91-92	177	52	59	61	172
92-93	135	55	71	62	188
93-94	94	45	36	40	121
94-95	68	23	28	28	79
95-96	80	32	15	28	75
96-97	42	24	13	21	58
97-98	32	7	11	15	33
98-99	30	14	11	10	35
99-100	24	11	18	9	38
100-101	*Ages 100 and over,* 70	12	7	6	25
101-102		3	9	5	17
102-103		4	8	7	19
103-104		4	2	2	8
104-105		3	3	2	8
105-106		2	2	1	5
106-107		0	1	0	1
107-108		2	3	0	5
108-109		.....	0	1	1
109-110		.....	0	0	0
110-111		.....	1	0	1
111-112		.....	1	1	2

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	232	197	118	100	77
1904	.....	175	108	107	86
1905	.....	.....	100	104	89
1906	.....	.....	.....	160	92

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 170 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR FOREIGN-BORN WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902 [1]	1900-1902 [1]
1	2	3	4	5	6
All ages.	2 193 300	40 739	40 923	38 031	119 693
INFANT MORTALITY BY MONTHS.					
Months.					
0-1	.....	8	19	.....	27
1-2	.....	7	7	.....	14
2-3	.....	10	13	.....	23
3-4	.....	8	13	.....	21
4-5	.....	7	13	.....	20
5-6	.....	18	14	.....	32
6-7	.....	19	21	.....	40
7-8	.....	15	13	.....	28
8-9	.....	21	14	.....	35
9-10	.....	20	15	.....	35
10-11	.....	21	12	.....	33
11-12	.....	15	13	.....	28
AGE INTERVALS OF ONE YEAR.					
Years.					
0-1	1 210	169	167	191	527
1-2	2 266	183	131	150	464
2-3	3 106	93	82	116	291
3-4	4 071	72	53	91	216
4-5	4 792	60	42	65	167
5-6	5 781	64	42	43	149
6-7	6 292	42	38	49	129
7-8	7 666	42	36	35	113
8-9	9 398	26	36	35	97
9-10	11 409	39	34	28	101
10-11	13 192	41	30	30	101
11-12	13 499	42	43	32	117
12-13	15 806	32	45	25	102
13-14	16 938	47	45	48	140
14-15	19 943	65	66	56	187
15-16	21 912	71	70	67	208
16-17	26 113	107	98	82	287
17-18	29 565	129	102	109	340
18-19	37 129	146	172	138	456
19-20	39 421	199	169	182	550
20-21	48 634	266	228	206	700
21-22	43 186	258	224	226	708
22-23	51 113	312	318	297	927
23-24	51 024	293	276	311	880
24-25	53 923	327	333	310	970
25-26	57 170	368	335	317	1 020
26-27	50 736	378	328	340	1 046
27-28	50 542	342	382	339	1 063
28-29	56 864	450	425	410	1 285
29-30	48 484	432	379	323	1 134
30-31	65 293	467	442	440	1 349
31-32	37 402	330	333	285	948
32-33	49 828	457	444	471	1 372
33-34	45 319	438	392	334	1 164
34-35	46 972	428	414	406	1 248
35-36	56 928	553	528	426	1 507
36-37	46 355	502	492	454	1 448
37-38	42 205	414	420	429	1 263
38-39	48 068	523	541	512	1 576
39-40	40 864	425	404	419	1 248
40-41	56 666	578	591	585	1 754
41-42	27 824	322	396	394	1 112
42-43	36 210	472	463	436	1 371
43-44	30 111	375	381	372	1 128
44-45	31 603	410	380	396	1 186
45-46	41 190	581	506	470	1 557
46-47	28 050	410	390	344	1 144
47-48	28 143	431	422	383	1 236
48-49	34 181	453	492	476	1 421
49-50	31 806	464	443	394	1 301

Age Interval.	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
7	8	9	10	11	12
Years.					
50-51	51 405	803	809	672	2 284
51-52	23 178	475	550	430	1 455
52-53	29 413	668	638	626	1 932
53-54	25 432	597	571	534	1 702
54-55	27 092	631	610	631	1 872
55-56	33 908	786	777	653	2 216
56-57	24 832	701	745	644	2 090
57-58	20 919	633	630	636	1 899
58-59	23 129	731	762	722	2 215
59-60	20 906	648	607	591	1 846
60-61	39 085	1 154	1 190	1 088	3 432
61-62	14 712	641	696	607	1 944
62-63	19 154	747	805	824	2 376
63-64	17 738	798	860	717	2 375
64-65	17 343	768	786	761	2 315
65-66	24 454	1 135	1 158	1 012	3 305
66-67	14 597	742	771	694	2 207
67-68	14 117	817	827	800	2 444
68-69	13 773	935	919	818	2 672
69-70	11 892	742	756	719	2 217
70-71	19 417	1 283	1 305	1 169	3 757
71-72	7 880	668	707	629	2 004
72-73	9 479	846	805	833	2 484
73-74	8 170	753	802	735	2 290
74-75	7 514	741	757	656	2 154
75-76	9 555	944	957	874	2 775
76-77	6 045	702	709	667	2 078
77-78	4 661	533	635	548	1 716
78-79	4 692	665	619	633	1 917
79-80	3 708	496	500	393	1 389
80-81	5 221	735	767	691	2 193
81-82	2 265	396	454	347	1 197
82-83	2 065	401	436	422	1 259
83-84	1 685	328	336	343	1 007
84-85	1 604	337	367	313	1 017
85-86	1 552	315	342	322	979
86-87	1 004	240	262	219	721
87-88	787	198	200	190	588
88-89	606	181	178	149	508
89-90	450	129	125	120	374
90-91	594	179	183	165	527
91-92	184	62	86	47	195
92-93	189	61	73	90	224
93-94	137	56	51	44	151
94-95	111	33	41	36	110
95-96	133	53	39	38	130
96-97	77	32	27	30	89
97-98	49	22	23	25	70
98-99	54	19	24	15	58
99-100	40	7	13	7	27
100-101		19	10	8	37
101-102		3	6	2	11
102-103		2	2	7	11
103-104		9	1	2	12
104-105		3	3	1	7
105-106		2	3	0	5
106-107	*Ages 100 and over,*	3	1	1	5
107-108		1	0	2	3
108-109	90	1	2	0	3
109-110		0	0	0	0
110-111		1	0	0	1
111-112		.....	0	0	0
112-113		.....	1	1	2
113-114		.....	0	1	1
114-115		.....	1	.....	1

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1903	202	178	118	107	79
1904	.....	141	100	95	82
1905	.....	.....	101	112	64
1906	.....	.....	.....	126	102

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in column 6 include only those in 1900 and 1901.

TABLE 171 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE

LIFE TABLES FOR CITIES OF THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	White males.					White females.				
	Estimated population July 1, 1900.	Reported deaths.				Estimated population July 1, 1900.	Reported deaths.			
		1900	1901	1902[1]	1900-1902[1]		1900	1901	1902[1]	1900-1902[1]
1	2	3	4	5	6	7	8	9	10	11
All ages.	5 103 726	101 480	100 967	99 631	302 078	5 293 168	92 443	90 330	88 025	270 798
INFANT MORTALITY BY MONTHS.						INFANT MORTALITY BY MONTHS.				
Months.										
0-1	.....	7 931	7 412	.....	15 343	.....	5 724	5 470	.....	11 194
1-2	.....	2 185	1 985	.....	4 170	.....	1 702	1 512	.....	3 214
2-3	.....	2 132	1 793	.....	3 925	.....	1 656	1 520	.....	3 176
3-4	.....	1 969	1 789	.....	3 758	.....	1 611	1 431	.....	3 042
4-5	.....	1 769	1 566	.....	3 335	.....	1 423	1 316	.....	2 739
5-6	.....	1 668	1 494	.....	3 162	.....	1 341	1 143	.....	2 484
6-7	.....	1 598	1 398	.....	2 996	.....	1 304	1 158	.....	2 462
7-8	.....	1 344	1 194	.....	2 538	.....	1 162	981	.....	2 143
8-9	.....	1 301	1 154	.....	2 455	.....	1 095	931	.....	2 026
9-10	.....	1 168	1 021	.....	2 189	.....	995	860	.....	1 855
10-11	.....	1 046	883	.....	1 929	.....	878	809	.....	1 687
11-12	.....	937	841	.....	1 778	.....	877	755	.....	1 632
AGE INTERVALS OF ONE YEAR.						AGE INTERVALS OF ONE YEAR.				
Years.										
0-1	120 517	25 048	22 530	22 871	70 449	118 676	19 768	17 886	18 279	55 933
1-2	106 187	5 816	5 139	5 298	16 253	104 197	5 187	4 575	4 711	14 473
2-3	111 860	2 574	2 241	2 357	7 172	110 919	2 300	1 986	2 165	6 451
3-4	112 489	1 605	1 458	1 389	4 452	111 281	1 485	1 320	1 321	4 126
4-5	109 783	1 083	1 095	1 078	3 256	108 975	1 113	1 016	978	3 107
0-4	560 836	36 126	32 463	32 993	101 582	554 048	29 853	26 783	27 454	84 090
5-9	517 695	2 807	2 798	2 820	8 425	516 646	2 705	2 611	2 502	7 818
10-14	452 208	1 373	1 393	1 317	4 083	459 436	1 333	1 280	1 287	3 900
15-19	437 507	2 228	2 262	2 161	6 651	485 729	2 192	2 212	2 139	6 543
20-24	489 464	3 696	3 732	3 597	11 025	569 537	3 696	3 626	3 468	10 790
25-29	515 057	4 586	4 808	4 389	13 783	546 262	4 430	4 211	4 220	12 861
30-34	470 338	4 856	5 128	4 958	14 942	457 923	4 127	4 197	4 090	12 414
35-39	419 368	5 196	5 366	5 279	15 841	404 737	4 193	4 138	3 970	12 301
40-44	337 554	4 918	5 398	5 269	15 585	320 455	3 808	3 985	3 850	11 643
45-49	254 927	4 552	4 939	4 727	14 218	255 607	3 725	3 703	3 561	10 989
50-54	211 516	4 987	5 196	5 139	15 322	214 774	4 161	4 379	4 076	12 616
55-59	151 696	4 950	5 220	5 128	15 298	160 393	4 320	4 443	4 214	12 977
60-64	116 502	5 015	5 426	5 332	15 773	132 233	4 823	5 158	4 811	14 792
65-69	75 762	4 781	5 033	4 997	14 811	91 338	4 888	5 047	4 846	14 781
70-74	49 322	4 362	4 381	4 421	13 164	61 796	4 820	4 948	4 665	14 433
75-79	27 035	3 415	3 580	3 488	10 483	35 861	4 022	4 143	3 843	12 008
80-84	12 045	2 216	2 391	2 185	6 792	17 645	2 995	3 055	2 878	8 928
85-89	3 873	1 046	1 059	1 025	3 130	6 500	1 561	1 605	1 427	4 593
90-94	824	292	310	344	946	1 829	602	627	547	1 776
95-99	175	66	66	54	186	372	160	153	155	468
100 and over	22	12	18	8	38	47	29	26	22	77

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar year.	Age intervals of one year.					Age intervals of one year.				
	0-1	1-2	2-3	3-4	4-5	0-1	1-2	2-3	3-4	4-5
1903	22 150	4 878	2 142	1 417	.....	17 530	4 419	2 023	1 278	.....
1904	.....	5 145	2 261	1 436	1 093	.....	4 699	2 011	1 332	968
1905	.....	.....	2 131	1 272	952	.....	.....	1 934	1 216	838
1906	.....	.....	.....	1 479	1 004	.....	.....	.....	1 340	951

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in columns 6 and 11 include only those in 1900 and 1901.

TABLE 172 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE LIFE TABLES FOR RURAL PART OF THE ORIGINAL REGISTRATION STATES: 1901.

Unknown ages distributed.

Age Interval.	White males.					White females.				
	Estimated population July 1, 1900.	Reported deaths.				Estimated population July 1, 1900.	Reported deaths.			
		1900	1901	1902[1]	1900-1902[1]		1900	1901	1902[1]	1900-1902[1]
1	2	3	4	5	6	7	8	9	10	11
All ages.	4 694 517	72 251	68 563	63 756	204 570	4 487 246	66 636	62 088	57 138	185 862
INFANT MORTALITY BY MONTHS.						INFANT MORTALITY BY MONTHS.				
Months.										
0-1	.....	4 930	4 584	.....	9 514	.....	3 658	3 315	.....	6 973
1-2	.....	1 220	1 086	.....	2 306	.....	998	789	.....	1 787
2-3	.....	1 051	963	.....	2 014	.....	878	719	.....	1 597
3-4	.....	1 033	861	.....	1 894	.....	845	643	.....	1 488
4-5	.....	913	724	.....	1 637	.....	782	585	.....	1 367
5-6	.....	802	630	.....	1 432	.....	678	515	.....	1 193
6-7	.....	714	578	.....	1 292	.....	632	499	.....	1 131
7-8	.....	647	478	.....	1 125	.....	483	398	.....	881
8-9	.....	598	433	.....	1 031	.....	511	376	.....	887
9-10	.....	526	397	.....	923	.....	435	378	.....	813
10-11	.....	458	354	.....	812	.....	381	298	.....	679
11-12	.....	442	327	.....	769	.....	386	267	.....	653
AGE INTERVALS OF ONE YEAR.						AGE INTERVALS OF ONE YEAR.				
Years.										
0-1	97 766	13 334	11 415	10 858	35 607	94 792	10 667	8 782	8 418	27 867
1-2	90 026	2 792	2 294	2 021	7 107	88 360	2 460	1 938	1 801	6 199
2-3	93 167	1 180	967	887	3 034	90 750	1 131	933	884	2 948
3-4	94 686	775	619	548	1 942	92 697	701	617	546	1 864
4-5	94 742	561	495	422	1 478	92 564	564	464	390	1 418
0-4	470 387	18 642	15 790	14 736	49 168	459 163	15 523	12 734	12 039	40 296
5-9	467 673	1 754	1 501	1 332	4 587	454 823	1 711	1 397	1 232	4 340
10-14	447 822	1 184	1 159	994	3 337	433 217	1 263	991	909	3 163
15-19	430 560	1 877	1 731	1 562	5 170	418 792	2 037	1 741	1 623	5 401
20-24	405 945	2 439	2 280	2 019	6 738	394 245	2 599	2 367	2 215	7 181
25-29	376 517	2 299	2 223	2 045	6 567	359 337	2 676	2 417	2 069	7 162
30-34	344 796	2 179	2 047	1 897	6 123	324 835	2 400	2 264	2 013	6 677
35-39	321 604	2 275	2 143	1 967	6 385	299 823	2 259	2 146	1 945	6 350
40-44	296 229	2 351	2 325	2 136	6 812	271 324	2 228	2 225	1 986	6 439
45-49	254 040	2 456	2 471	2 319	7 246	231 996	2 249	2 085	1 998	6 332
50-54	225 597	2 722	2 805	2 706	8 233	206 963	2 586	2 479	2 318	7 383
55-59	185 628	3 331	3 350	3 117	9 798	179 098	3 140	3 004	2 748	8 892
60-64	156 101	4 159	4 143	3 886	12 188	151 769	3 652	3 716	3 415	10 783
65-69	123 661	5 213	5 194	4 867	15 274	119 967	4 426	4 463	4 108	12 997
70-74	90 335	5 769	5 785	5 510	17 064	84 313	4 988	4 947	4 663	14 598
75-79	57 385	5 881	5 674	5 375	16 930	54 312	5 022	5 165	4 675	14 862
80-84	28 015	4 514	4 732	4 315	13 561	28 476	4 181	4 271	3 883	12 335
85-89	9 666	2 299	2 305	2 096	6 700	11 082	2 433	2 397	2 165	6 995
90-94	2 133	731	728	681	2 140	3 014	959	991	884	2 834
95-99	338	144	138	163	445	586	253	247	219	719
100 and over	85	32	39	33	104	111	51	41	31	123

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar year.	Age intervals of one year.					Age intervals of one year.				
	0-1	1-2	2-3	3-4	4-5	0-1	1-2	2-3	3-4	4-5
1903	10 639	1 872	899	589	.....	8 283	1 686	808	521	.....
1904	.....	1 999	910	594	450	.....	1 781	818	529	379
1905	.....	.....	905	595	400	.....	.....	827	525	370
1906	.....	.....	.....	531	423	.....	.....	.....	505	348

[1] Deaths by months under 1 year of age in 1902 are not available. Hence deaths by months in columns 6 and 11 include only those in 1900 and 1901.

TABLE 173 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR WHITE MALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
1	2	3	4	5
All ages.	9 780 453	11 888 489	10 939 400	1 786 656
Years.				
0-1	217 432	253 162		359 834
1-2	195 463	225 159	903 195	73 215
2-3	204 155	246 129		31 852
3-4	206 359	240 888		19 752
4-5	203 773	231 671		14 184
5-6	199 843	224 802		11 149
6-7	201 859	222 724	1 062 146	9 370
7-8	198 388	219 606		7 691
8-9	194 144	212 088		6 623
9-10	187 778	207 576		5 745
10-11	190 414	211 339		5 381
11-12	177 393	198 585	982 282	5 113
12-13	179 169	216 486		4 844
13-14	171 760	206 862		4 850
14-15	177 793	211 249		5 387
15-16	174 510	197 501		5 624
16-17	177 358	216 506	981 672	6 860
17-18	171 479	214 439		8 206
18-19	172 780	226 762		9 522
19-20	167 971	220 973		10 559
20-21	173 794	223 354		10 846
21-22	176 235	227 400	1 017 194	11 724
22-23	177 536	231 563		12 470
23-24	178 686	227 433		12 277
24-25	184 816	231 222		12 368
25-26	187 956	234 378		13 016
26-27	175 414	223 017	1 033 677	13 062
27-28	176 375	210 611		13 238
28-29	184 492	232 877		14 669
29-30	163 377	191 781		12 549
30-31	209 408	252 182		15 906
31-32	138 209	159 527	913 358	12 053
32-33	163 986	199 661		15 227
33-34	151 405	178 207		14 327
34-35	148 727	182 914		14 513
35-36	171 403	217 001		18 676
36-37	139 808	176 686	851 640	15 082
37-38	133 036	161 917		14 722
38-39	153 747	196 054		17 440
39-40	139 652	160 878		14 571
40-41	176 092	223 356		20 940
41-42	106 824	124 221	749 414	13 283
42-43	129 696	171 530		17 508
43-44	110 304	137 915		15 117
44-45	107 959	131 017		14 755
45-46	128 265	167 217		20 197
46-47	94 734	119 720	606 330	14 995
47-48	92 552	118 322		15 605
48-49	98 106	137 310		17 218
49-50	92 685	123 463		15 532
50-51	122 595	163 169		21 622
51-52	74 637	93 677	533 381	14 560
52-53	86 171	120 179		18 107
53-54	75 322	98 162		17 002
54-55	76 116	98 309		17 742
55-56	84 067	99 123		19 589
56-57	70 875	88 373	401 341	18 502
57-58	61 576	74 299		17 813
58-59	61 151	78 772		19 288

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
6	7	8	9	10
Years.				
59-60	58 170	70 036		18 098
60-61	78 035	92 285		24 446
61-62	44 724	53 998	315 748	17 522
62-63	51 988	65 368		21 356
63-64	50 365	59 535		21 400
64-65	46 321	56 464		21 230
65-66	51 727	67 706		25 918
66-67	40 227	47 343	240 647	20 591
67-68	39 225	45 457		21 630
68-69	35 259	45 669		23 280
69-70	32 060	41 454		21 191
70-71	39 396	47 955		25 163
71-72	25 288	28 880	167 498	19 713
72-73	27 864	34 098		22 958
73-74	24 513	29 571		22 353
74-75	21 999	26 774		21 702
75-76	23 145	27 340		22 861
76-77	18 436	22 442	103 251	21 352
77-78	15 724	17 715		19 043
78-79	14 474	16 372		19 491
79-80	12 305	13 977	13 250	17 403
80-81	12 486	14 170	13 438	17 899
81-82	8 693	9 155	8 965	14 338
82-83	7 435	9 098	8 365	14 770
83-84	5 967	7 409	6 773	13 081
84-85	5 321	6 554	6 010	12 267
85-86	4 343	5 248	4 850	10 404
86-87	3 011	4 156	3 648	8 887
87-88	2 639	3 334	3 027	7 326
88-89	2 018	2 441	2 255	5 930
89-90	1 461	1 980	1 750	4 757
90-91	1 167	1 692	1 459	4 023
91-92	687	921	817	2 628
92-93	481	678	590	2 100
93-94	360	515	446	1 631
94-95	245	347	302	1 170
95-96	206	289	252	882
96-97	116	141	130	608
97-98	82	103	93	430
98-99	61	70	66	328
99-100	47	46	47	206
100-101		43	49	147
101-102		8	9	69
102-103		9	10	61
103-104		6	7	29
104-105		2	2	33
105-106		7	8	26
106-107		3	4	6
107-108		0	0	12
108-109		1	1	9
109-110	*Ages 100 and over,* 107	1	1	6
110-111		1	1	6
111-112		1	1	4
112-113		.....	.....	1
113-114		.....	.....	1
114-115		.....	.....	2
115-116		.....	.....	3
116-117		.....	.....	0
117-118		.....	.....	0
118-119		.....	.....	0
119-120		.....	.....	2
131-132		.....	.....	1
Unknown ages	24 665	18 317	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.[1]

Months	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Deaths	96 340	24 949	21 118	19 054	16 751	14 961	13 839	12 079	11 321	10 397	8 935	8 598

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1901	33 945	.....	.....	.....	.....
1902	33 729	7 319	.....	.....	.....
1903	32 789	6 750	3 041	.....	.....
1904	34 972	7 144	3 171	2 030	.....
1905	36 184	7 134	3 036	1 867	1 352
1906	38 130	7 854	3 290	2 010	1 427
1907	37 285	7 184	3 082	1 976	1 374
1908	37 210	7 142	3 172	1 909	1 327
1909	36 690	7 530	3 206	1 885	1 359
1910	38 898	7 727	3 404	2 055	1 398
1911	35 543	6 679	2 860	1 786	1 280
1912	.....	6 608	2 767	1 645	1 180
1913	.....	.....	3 067	1 882	1 404

[1] Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 174 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR WHITE FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
1	2	3	4	5
All ages.	9 764 368	11 666 100	10 812 512	1 578 069
Years.				
0-1	212 913	246 894	884 552	283 617
1-2	192 081	220 149		64 936
2-3	201 087	240 446		28 596
3-4	203 444	236 536		18 229
4-5	201 067	227 068	1 046 588	13 140
5-6	198 375	221 160		10 492
6-7	199 073	220 577		8 730
7-8	194 928	215 149		7 237
8-9	192 272	210 272		6 048
9-10	184 770	202 694	971 316	5 037
10-11	188 625	208 958		4 678
11-12	176 004	197 363		4 380
12-13	177 908	213 633		4 600
13-14	172 162	205 386		4 777
14-15	175 651	207 645	1 001 107	5 335
15-16	175 345	200 352		5 699
16-17	181 198	222 241		6 722
17-18	178 306	215 781		7 708
18-19	185 433	238 902		9 206
19-20	181 455	223 530	1 059 811	9 738
20-21	195 551	243 829		10 423
21-22	179 582	217 504		10 614
22-23	193 779	236 004		11 818
23-24	193 658	231 294		11 941
24-25	198 386	228 902	1 028 587	12 218
25-26	200 333	233 765		12 204
26-27	181 347	215 241		12 510
27-28	177 494	197 953		12 360
28-29	182 679	222 781		13 447
29-30	161 397	179 611	871 841	12 019
30-31	197 771	238 921		13 375
31-32	135 313	150 528		10 695
32-33	158 825	192 365		13 294
33-34	145 183	168 547		12 274
34-35	143 466	175 215	812 973	12 334
35-36	158 273	202 838		13 553
36-37	134 871	170 618		12 619
37-38	129 420	154 943		12 032
38-39	146 111	189 987		14 050
39-40	133 588	152 294	702 424	12 128
40-41	159 828	208 447		14 646
41-42	100 512	115 482		10 426
42-43	120 384	160 454		13 289
43-44	105 742	131 541		11 647
44-45	103 300	124 653	577 015	11 318
45-46	117 031	153 138		13 684
46-47	91 413	115 285		11 750
47-48	89 732	112 778		12 133
48-49	96 566	134 421		13 339
49-50	91 023	115 550	505 445	12 444
50-51	119 527	158 638		16 329
51-52	71 302	85 844		11 956
52-53	81 489	109 954		14 613
53-54	72 633	91 113		13 821
54-55	75 251	93 874	392 462	14 625
55-56	84 005	96 356		15 580
56-57	70 006	83 432		15 272
57-58	61 763	70 360		15 047
58-59	62 958	79 056		16 430

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
6	7	8	9	10
Years.				
59-60	59 827	68 190	322 470	15 312
60-61	83 656	100 143		21 540
61-62	45 561	52 220		15 327
62-63	53 615	64 552		18 761
63-64	51 521	59 810		18 943
64-65	48 850	57 991	252 371	19 071
65-66	55 945	72 008		23 778
66-67	42 314	48 315		18 817
67-68	40 162	46 660		19 782
68-69	37 925	49 065		21 930
69-70	34 286	41 883	177 124	19 710
70-71	43 270	54 363		25 903
71-72	25 424	29 494		18 564
72-73	28 689	36 242		22 069
73-74	25 054	31 432		21 174
74-75	23 191	28 900	113 683	20 390
75-76	25 521	32 091		23 502
76-77	19 551	25 219		21 107
77-78	16 336	19 390		18 785
78-79	15 369	19 044		19 385
79-80	13 097	15 520	14 447	17 349
80-81	14 760	17 573	16 327	19 881
81-82	9 195	10 356	9 845	14 785
82-83	8 449	10 725	9 713	15 404
83-84	7 210	8 984	8 196	13 969
84-85	6 366	8 111	7 335	13 384
85-86	5 331	6 905	6 205	12 097
86-87	4 056	5 209	4 696	10 145
87-88	3 453	4 260	3 902	8 897
88-89	2 646	3 361	3 043	7 332
89-90	2 033	2 641	2 371	6 043
90-91	1 896	2 341	2 143	5 751
91-92	1 023	1 256	1 152	3 647
92-93	835	1 071	966	3 171
93-94	604	789	707	2 456
94-95	468	548	513	1 791
95-96	348	485	424	1 489
96-97	239	254	247	1 090
97-98	153	144	148	776
98-99	126	129	128	561
99-100	93	85	89	317
100-101		66	71	274
101-102		18	19	128
102-103		13	14	91
103-104		9	10	61
104-105		9	9	51
105-106		6	6	41
106-107		5	6	22
107-108		5	6	11
108-109		1	1	18
109-110	*Ages 100 and over,* 158	0	0	6
110-111		1	1	2
111-112		1	1	2
112-113		0	0	7
113-114		0	0	3
114-115		1	1	2
115-116		1	1	2
116-117		.....	.....	.....
117-118		.....	.....	.....
118-119		.....	.....	.....
125-126		.....	.....	1
Unknown ages	12 173	9 953	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.[1]

Months	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Deaths	71 353	19 020	17 107	15 438	13 438	11 832	11 619	9 937	9 608	8 904	7 801	7 545

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1901	26 668	.....	.....	.....	.....
1902	26 697	6 512	.....	.....	.....
1903	25 813	6 105	2 831	.....	.....
1904	27 501	6 480	2 829	1 861	.....
1905	28 293	6 108	2 761	1 741	1 208
1906	30 224	6 958	2 969	1 845	1 299
1907	29 347	6 394	2 777	1 790	1 294
1908	29 369	6 306	2 687	1 787	1 257
1909	28 832	6 829	2 765	1 701	1 242
1910	30 869	6 733	3 011	1 902	1 295
1911	27 912	5 997	2 527	1 658	1 190
1912	.....	5 691	2 482	1 459	1 096
1913	.....	.....	2 667	1 741	1 258

[1] Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 175 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR NEGRO MALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
1	2	3	4	5
All ages.	185 211	223 085	206 061	55 456
Years.				
0-1	3 563	4 079	14 047	12 851
1-2	3 016	3 262		2 974
2-3	3 265	3 730		1 228
3-4	3 206	3 670		663
4-5	3 189	3 534	16 395	432
5-6	3 188	3 374		299
6-7	3 148	3 449		262
7-8	3 063	3 361		229
8-9	3 074	3 136		210
9-10	2 951	3 215	15 340	210
10-11	3 031	3 244		183
11-12	2 803	2 934		204
12-13	2 945	3 296		177
13-14	2 868	3 126		175
14-15	2 957	3 370	16 378	210
15-16	3 020	2 992		247
16-17	3 137	3 304		313
17-18	3 128	3 309		349
18-19	3 583	3 714		422
19-20	3 853	3 889	22 398	480
20-21	4 112	4 007		531
21-22	4 351	4 695		559
22-23	4 646	4 989		635
23-24	4 820	5 129		699
24-25	4 886	5 543	26 052	700
25-26	5 044	6 158		751
26-27	4 241	5 323		677
27-28	4 250	5 181		652
28-29	4 503	6 184		799
29-30	3 747	5 080	21 521	637
30-31	5 362	6 911		868
31-32	2 696	3 660		496
32-33	3 207	4 778		668
33-34	2 757	3 979		623
34-35	2 941	4 300	19 494	656
35-36	4 081	6 069		921
36-37	2 468	3 990		598
37-38	2 412	3 678		600
38-39	3 148	4 929		720
39-40	2 816	3 957	15 826	567
40-41	4 306	5 802		911
41-42	1 686	2 297		459
42-43	2 367	3 495		605
43-44	1 848	2 434		532
44-45	1 744	2 202	10 873	445
45-46	2 873	3 650		789
46-47	1 557	1 754		404
47-48	1 532	1 804		467
48-49	1 835	2 460		575
49-50	1 742	2 318	9 639	527
50-51	3 057	3 494		921
51-52	1 116	1 325		408
52-53	1 496	1 905		557
53-54	1 180	1 371		469
54-55	1 301	1 503	6 369	509
55-56	1 608	1 747		644
56-57	1 207	1 308		519
57-58	864	1 037		448
58-59	933	1 092		477

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
6	7	8	9	10
Years				
59-60	875	938	4 617	415
60-61	1 708	1 843		828
61-62	454	572		339
62-63	587	794		448
63-64	586	764		424
64-65	483	677	592	405
65-66	921	1 251	1 108	761
66-67	419	560	499	358
67-68	421	509	472	366
68-69	377	564	482	376
69-70	323	497	420	279
70-71	643	840	755	622
71-72	221	225	224	207
72-73	252	373	320	285
73-74	224	311	274	253
74-75	183	253	222	248
75-76	328	381	359	419
76-77	152	197	178	245
77-78	118	161	143	176
78-79	146	159	153	210
79-80	124	133	130	149
80-81	173	225	202	320
81-82	49	83	68	80
82-83	77	80	79	129
83-84	58	60	59	102
84-85	57	53	55	111
85-86	71	67	70	136
86-87	52	44	48	65
87-88	33	39	36	80
88-89	33	28	30	62
89-90	24	21	22	56
90-91	27	36	32	76
91-92	5	13	9	25
92-93	4	11	8	31
93-94	6	5	6	28
94-95	6	6	6	20
95-96	12	18	15	40
96-97	8	3	5	16
97-98	3	1	2	19
98-99	6	5	6	15
99-100	3	2	3	8
100-101	Ages 100 and over, 23	7	7	32
101-102		2	2	5
102-103		2	2	5
103-104		2	2	10
104-105		1	1	4
105-106		3	3	8
106-107		2	2	5
107-108		.....	.....	4
108-109		.....	.....	3
109-110		.....	.....	2
110-111		.....	.....	4
111-112		.....	.....	0
112-113		.....	.....	1
113-114		.....	.....	2
114-115		.....	.....	0
115-116		.....	.....	1
116-117		.....	.....	1
117-118		.....	.....	0
118-119		.....	.....	0
119-120		.....	.....	1
128-129		.....	.....	1
135-136		1	1	.....
Unknown ages	1 208	737	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.[1]

Months	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Deaths	3 008	798	755	680	640	515	581	456	409	389	315	340

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1901	1 245	.....	.....	.....	.....
1902	1 316	296	.....	.....	.....
1903	1 277	334	122	.....	.....
1904	1 340	323	134	78	.....
1905	1 362	307	137	76	52
1906	1 340	333	136	63	47
1907	1 289	300	103	61	36

Calendar Year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1908	1 238	279	110	62	34
1909	1 204	260	120	67	35
1910	1 243	297	129	63	42
1911	1 083	273	120	56	34
1912	.....	250	97	50	40
1913	.....	.....	111	66	38

[1] Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 176 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO FEMALES IN THE ORIGINAL REGISTRATION STATES: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
1	2	3	4	5
All ages.	202 987	239 053	222 906	51 917
Years.				
0-1	3 633	3 978	14 594	10 875
1-2	3 226	3 464		2 707
2-3	3 492	3 870		1 201
3-4	3 324	3 925		672
4-5	3 302	3 685	17 291	463
5-6	3 169	3 626		340
6-7	3 319	3 533		292
7-8	3 338	3 520		260
8-9	3 283	3 518		244
9-10	3 148	3 297	16 604	237
10-11	3 207	3 513		190
11-12	3 137	3 097		213
12-13	3 239	3 680		258
13-14	3 196	3 449		261
14-15	3 294	3 662	19 403	295
15-16	3 412	3 370		364
16-17	3 811	3 850		420
17-18	3 888	3 880		463
18-19	4 714	4 734		564
19-20	4 967	4 804	27 658	562
20-21	5 794	5 457		637
21-22	4 991	5 025		621
22-23	5 806	5 969		681
23-24	5 988	6 297		730
24-25	6 115	6 650	29 766	744
25-26	5 992	7 085		740
26-27	4 824	6 203		706
27-28	4 572	5 555		635
28-29	4 891	6 798		704
29-30	4 000	5 515	22 324	554
30-31	5 422	7 496		764
31-32	2 629	3 537		462
32-33	3 301	4 925		569
33-34	2 788	4 088		484
34-35	2 989	4 292	19 594	539
35-36	4 263	5 802		667
36-37	2 563	3 964		496
37-38	2 588	3 489		458
38-39	3 309	5 059		636
39-40	3 239	4 040	15 848	511
40-41	4 608	5 900		822
41-42	1 674	2 037		400
42-43	2 380	3 130		530
43-44	1 798	2 373		469
44-45	1 847	2 117	11 226	419
45-46	3 083	3 735		692
46-47	1 574	1 841		441
47-48	1 510	1 845		438
48-49	1 946	2 635		499
49-50	1 796	2 335	9 818	457
50-51	3 357	3 920		825
51-52	1 026	1 207		356
52-53	1 500	1 855		513
53-54	1 101	1 274		419
54-55	1 164	1 493	6 102	424
55-56	1 534	1 842		555
56-57	980	1 274		436
57-58	766	972		367
58-59	835	1 146		447

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported Deaths, 1901-1910.
6	7	8	9	10
Years.				
59-60	787	1 010	4 765	382
60-61	1 796	2 195		794
61-62	448	520		317
62-63	600	767		349
63-64	529	731		351
64-65	527	629	3 090	319
65-66	983	1 276		663
66-67	363	492		286
67-68	426	475		316
68-69	396	516		346
69-70	390	461	2 149	290
70-71	844	923		626
71-72	194	258		190
72-73	308	394		243
73-74	207	265		268
74-75	229	270	253	205
75-76	388	467	433	398
76-77	206	241	226	196
77-78	138	153	146	180
78-79	183	188	187	201
79-80	154	152	154	150
80-81	327	314	321	363
81-82	83	89	86	107
82-83	120	112	116	146
83-84	87	85	86	132
84-85	84	76	80	139
85-86	112	102	108	187
86-87	51	66	59	119
87-88	59	47	52	97
88-89	48	40	44	88
89-90	41	63	53	82
90-91	81	79	81	147
91-92	17	22	20	37
92-93	18	19	19	50
93-94	17	16	16	42
94-95	19	12	15	50
95-96	24	30	28	59
96-97	5	14	10	32
97-98	8	10	9	25
98-99	16	11	13	37
99-100	7	8	8	20
100-101	*Ages 100 and over,* 54	18	19	52
101-102		3	3	12
102-103		6	6	13
103-104		0	0	17
104-105		2	2	14
105-106		3	3	8
106-107		1	1	10
107-108		2	2	3
108-109		0	0	5
109-110		4	4	3
110-111		4	4	8
111-112		0	0	0
112-113		3	3	6
113-114		0	0	1
114-115		0	0	1
115-116		1	1	1
116-117		1	1	0
117-118		1	1	0
118-119		1	1	3
119-120		.....	.....	0
120-121.		.....	.....	3
Unknown ages	971	773	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1901 AND 1905 TO 1910.[1]

Months	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Deaths	2 355	662	607	669	539	521	514	411	355	334	309	277

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1901	1 091	.....	.....	.....	.....
1902	1 066	274	.....	.....	.....
1903	1 087	280	141	.....	.....
1904	1 171	303	124	69	.....
1905	1 122	271	139	76	52
1906	1 107	279	123	72	44
1907	1 113	249	102	68	50

Calendar Year.	Age Intervals of One Year. 0-1	1-2	2-3	3-4	4-5
1908	1 079	269	120	64	34
1909	953	250	116	63	42
1910	1 089	283	99	63	49
1911	931	231	82	59	42
1912	.....	240	97	58	38
1913	.....	.....	96	60	34

[1] Infant mortality by months during the first year of life is not available in calendar years 1902 to 1904.

TABLE 177 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE LIFE TABLE FOR NEGRO MALES IN THE DISTRICT OF COLUMBIA: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported deaths. 1901-1910	Reported deaths. 1905-1910
1	2	3	4	5	6
All ages.	38 348	42 615	40 725	13 484	8 272
Years.					
0-1	772	732	2 874	3 338	1 929
1-2	654	638		631	368
2-3	740	730		261	149
3-4	711	758		144	86
4-5	729	723	3 610	99	49
5-6	730	735			38
6-7	754	723		Ages 5-9, 265	38
7-8	694	734			30
8-9	727	658			29
9-10	692	644	3 389		22
10-11	661	713		Ages 10-14, 210	17
11-12	628	629			28
12-13	746	711			22
13-14	699	646			24
14-15	685	685	3 615		28
15-16	706	658		Ages 15-19, 413	30
16-17	688	711			43
17-18	712	735			45
18-19	844	791			67
19-20	863	821	4 529		72
20-21	841	818		Ages 20-24, 779	72
21-22	868	913			74
22-23	918	1 006			96
23-24	978	997			115
24-25	976	1 032	4 796		115
25-26	964	1 179		Ages 25-29, 836	114
26-27	738	887			96
27-28	743	947			94
28-29	848	1 144			134
29-30	653	888	3 753		88
30-31	1 115	1 212		Ages 30-34, 744	124
31-32	431	594			68
32-33	545	808			104
33-34	449	676			127
34-35	509	723	3 559		89
35-36	925	1 141		Ages 35-39, 783	165
36-37	454	640			92
37-38	445	638			78
38-39	578	912			109
39-40	537	741	3 049		87
40-41	1 089	1 164		Ages 40-44, 739	155
41-42	304	376			68
42-43	457	622			104
43-44	325	398			78
44-45	280	404	2 121		63
45-46	749	768		Ages 45-49, 684	138
46-47	267	283			63
47-48	271	302			56
48-49	413	465			96
49-50	356	437	1 978		76
50-51	813	726		Ages 50-54, 770	194
51-52	205	231			57
52-53	329	358			92
53-54	231	250			72
54-55	253	268	1 211		77
55-56	351	374		Ages 55-59, 650	108
56-57	225	236			68
57-58	161	174			76
58-59	199	171			65

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901-1910.	Reported deaths. 1901-1910	Reported deaths. 1905-1910
7	8	9	10	11	12
Years.					
59-60	170	174	944		70
60-61	441	419		Ages 60-64, 653	168
61-62	64	109			53
62-63	114	145			70
63-64	108	129			66
64-65	84	100	265		49
65-66	259	268		Ages 65-69, 544	157
66-67	71	77	74		58
67-68	63	81	73		47
68-69	55	92	76		54
69-70	60	94	79		40
70-71	161	169	166	Ages 70-74, 378	127
71-72	33	26	29		18
72-73	46	65	57		33
73-74	36	41	39		23
74-75	24	39	32		24
75-76	73	76	75	Ages 75-79, 246	78
76-77	24	29	27		36
77-78	12	18	15		22
78-79	18	30	25		20
79-80	23	17	20		13
80-81	42	38	40	Ages 80-84, 156	43
81-82	12	13	13		8
82-83	10	16	13		13
83-84	7	15	11		14
84-85	12	8	10		11
85-86	11	11	11	Ages 85-89, 76	16
86-87	10	10	10		10
87-88	8	8	8		11
88-89	6	5	5		4
89-90	6	2	4		4
90-91	5	10	8	Ages 90-94, 34	9
91-92	0	3	1		3
92-93	3	3	3		1
93-94	2	2	2		4
94-95	1	0	0		3
95-96	1	3	2		5
96-97	2	1	2		4
97-98	1	0	0		6
98-99	2	1	2		3
99-100	0	0	0		1
100-101		1	1		5
101-102		1	1		1
102-103		1	1		0
103-104		1	1		2
104-105		0	0		0
105-106		1	1	Ages 95 and over, 51	3
106-107		1	1		1
107-108		.....	.....		.....
108-109		.....	.....		.....
109-110	Ages 100 and over, 6	.....	.....		.....
110-111		.....	.....		.....
111-112		.....	.....		.....
112-113		.....	.....		.....
113-114		.....	.....		.....
114-115		.....	.....		.....
115-116		.....	.....		.....
116-117		.....	.....		.....
117-118		.....	.....		.....
118-119		.....	.....		.....
Unknown ages	34	183	.....	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1905 TO 1910.[1]

Months	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Deaths	629	204	170	147	144	122	131	91	98	67	55	71

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1901	368	.....	.....	.....	.....
1902	399	69	.....	.....	.....
1903	314	83	33	.....	.....
1904	328	60	21	16	.....
1905	352	79	36	24	12
1906	384	67	31	11	11
1907	310	67	16	14	7

Calendar year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1908	300	50	14	16	10
1909	280	60	24	17	6
1910	303	45	28	4	3
1911	246	57	21	3	5
1912	.....	52	16	9	5
1913	.....	.....	20	18	6

[1] Infant mortality by months under 1 year of age is not available before 1905.

TABLE 178 POPULATION AND MORTALITY STATISTICS UPON WHICH IS BASED THE

LIFE TABLE FOR NEGRO FEMALES IN THE DISTRICT OF COLUMBIA: 1901 TO 1910.

Unknown ages undistributed in enumerated population, but distributed in mean population and in deaths.

Age Interval.	Population. Enumerated June 1, 1900.	Population. Enumerated April 15, 1910.	Population. Mean, 1901–1910.	Reported deaths. 1901–1910	Reported deaths. 1905–1910
1	2	3	4	5	6
All ages.	48 354	51 831	50 301	13 114	7 872
Years.					
0–1	742	726		2 867	1 688
1–2	700	683	2 950	557	310
2–3	775	747		276	157
3–4	732	776		147	86
4–5	723	777		108	57
5–6	734	758			45
6–7	802	761	3 844	*Ages 5–9,* 310	33
7–8	833	756			32
8–9	758	763			31
9–10	751	660			33
10–11	793	769		*Ages 10–14,* 274	26
11–12	756	675	3 777		27
12–13	739	863			29
13–14	792	743			36
14–15	802	777			44
15–16	856	819		*Ages 15–19,* 658	62
16–17	957	915	4 637		60
17–18	947	877			82
18–19	1 148	1 162			82
19–20	1 249	1 130			99
20–21	1 459	1 245		*Ages 20–24,* 895	93
21–22	1 190	1 087	6 536		94
22–23	1 442	1 326			83
23–24	1 488	1 478			116
24–25	1 490	1 431			122
25–26	1 503	1 591		*Ages 25–29,* 855	119
26–27	1 124	1 273	6 642		111
27–28	1 045	1 124			98
28–29	1 193	1 406			114
29–30	871	1 133			100
30–31	1 354	1 589		*Ages 30–34,* 626	106
31–32	546	670	4 735		54
32–33	711	1 009			85
33–34	587	826			74
34–35	636	856			89
35–36	1 187	1 348		*Ages 35–39,* 678	118
36–37	559	790	4 344		68
37–38	555	688			67
38–39	794	1 113			99
39–40	735	917			78
40–41	1 311	1 424		*Ages 40–44,* 682	157
41–42	358	395	3 624		60
42–43	549	637			75
43–44	349	480			80
44–45	441	427			57
45–46	949	935		*Ages 45–49,* 691	127
46–47	334	352	2 636		63
47–48	319	354			68
48–49	490	632			68
49–50	420	499			72
50–51	1 017	1 018		*Ages 50–54,* 735	176
51–52	218	230	2 340		66
52–53	346	395			90
53–54	245	256			71
54–55	237	329			56
55–56	414	439		*Ages 55–59,* 535	114
56–57	200	262	1 371		64
57–58	165	197			50
58–59	193	262			76
59–60	154	194			46
60–61	512	629		*Ages 60–64,* 613	171
61–62	90	91	1 120		45
62–63	137	151			47
63–64	112	138			58
64–65	83	98			45
65–66	310	338		*Ages 65–69,* 484	141
66–67	54	65	660		41
67–68	59	89			45
68–69	91	115			44
69–70	82	99			41
70–71	269	245		*Ages 70–74,* 385	121
71–72	31	46	498		30
72–73	53	72			37
73–74	36	54			27
74–75	52	55			19
75–76	107	106		*Ages 75–79,* 247	67
76–77	46	42	258		26
77–78	24	18			20
78–79	34	33			20
79–80	28	19	23		19
80–81	93	84	88	*Ages 80–84,* 194	58
81–82	12	13	13		13
82–83	22	23	23		12
83–84	20	15	17		14
84–85	21	14	17		13
85–86	35	25	29	*Ages 85–89,* 123	21
86–87	10	11	11		15
87–88	9	12	11		8
88–89	20	9	14		8
89–90	7	12	10		12
90–91	32	21	26	*Ages 90–94,* 77	15
91–92	2	4	3		2
92–93	6	6	6		4
93–94	1	4	2		9
94–95	6	2	14		6
95–96	12	8	10		7
96–97	0	3	1		6
97–98	2	0	1		4
98–99	7	3	5		5
99–100	2	1	1		6
100–101		4	4		7
101–102		0	0		1
102–103		2	2		1
103–104		0	0		2
104–105		0	0		1
105–106		3	3		2
106–107		0	0		4
107–108		0	0	*Ages 95 and over,* 97	0
108–109		0	0		0
109–110	*Ages 100 and over,* 12	2	2		0
110–111		0	0		2
111–112		0	0		0
112–113		2	2		2
113–114		0	0		0
114–115		0	0		0
115–116		0	0		1
116–117		1	1		0
117–118		.....	.....		0
118–119		.....	.....		2
119–120		.....	.....		0
120–121		.....	.....		2
Unknown ages	46	290	.....	.....	.....

INFANT MORTALITY BY MONTHS DURING FIRST YEAR OF LIFE IN CALENDAR YEARS 1905 TO 1910.[1]

Months	0–1	1–2	2–3	3–4	4–5	5–6	6–7	7–8	8–9	9–10	10–11	11–12
Deaths	541	133	146	143	129	140	118	85	70	74	60	49

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar year.	Age intervals of one year. 0–1	1–2	2–3	3–4	4–5	Calendar year.	Age intervals of one year. 0–1	1–2	2–3	3–4	4–5
1901	326	.....	.....	.....	.....	1908	268	50	28	14	9
1902	310	70	.....	.....	.....	1909	258	50	32	12	9
1903	265	57	33	.....	.....	1910	278	43	23	15	7
1904	279	59	28	20	.....	1911	219	67	20	11	9
1905	309	66	26	15	6	1912	.....	48	19	13	9
1906	276	48	25	14	7	1913	.....	.....	17	14	5
1907	299	53	23	16	19						

[1] Infant mortality by months under 1 year of age is not available before 1905.

TABLE 179 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE LIFE TABLES FOR INDIANA: 1901; AND MASSACHUSETTS: 1890.[1]

Unknown ages distributed.

Age Interval.	INDIANA: 1901.					MASSACHUSETTS: 1890.[1]			
	Estimated population July 1, 1900.	REPORTED DEATHS.				Enumerated population June 1, 1890.	Enumerated population June 1, 1900.	Estimated population Dec. 1, 1889.	Reported deaths.[1]
		1900	1901	1902	1900–1902				
MALES.									
1	2	3	4	5	6	7	8	9	10
All ages.	1 286 199	18 428	18 022	17 122	53 572	1 087 709	1 367 474	1 073 721	21 545
Years.									
0–1	29 827	3 717	3 599	3 605	10 921	21 772	30 409	21 340	4 782
1–2	27 015	962	845	764	2 571	14 338	27 350	13 687	1 122
2–3	27 242	433	339	300	1 072	23 645	28 323	23 411	553
3–4	27 844	261	226	176	663	22 251	28 700	21 929	350
4–5	28 072	188	143	139	470	20 898	27 661	20 560	288
5–9	139 583	582	474	426	1 482	98 449	128 725	96 935	742
10–14	134 089	385	356	364	1 105	97 034	114 661	96 153	396
15–19	129 604	605	560	543	1 708	104 388	115 802	103 817	638
20–24	116 065	779	766	709	2 254	115 765	129 974	115 055	989
25–29	106 662	666	676	664	2 006	106 671	137 082	105 150	1 013
30–34	96 531	638	629	595	1 862	91 548	122 369	90 007	924
35–39	86 454	634	602	569	1 805	77 202	108 979	75 613	863
40–44	77 198	621	674	624	1 919	66 039	89 294	64 876	830
45–49	63 303	672	677	625	1 974	57 315	71 574	56 602	862
50–54	56 862	729	754	687	2 170	48 690	60 964	48 076	937
55–59	44 559	829	908	767	2 504	35 387	45 343	34 889	922
60–64	34 320	952	962	930	2 844	31 222	36 988	30 934	985
65–69	26 384	1 188	1 116	1 144	3 448	22 506	26 353	22 314	1 084
70–74	17 698	1 207	1 218	1 160	3 585	16 156	17 941	16 067	1 062
75–79	10 271	1 084	1 100	1 079	3 263	9 475	11 164	9 391	993
80–84	4 622	784	849	759	2 392	4 849	5 492	4 817	691
85–89	1 598	357	402	346	1 105	1 603	1 842	1 591	377
90–94	321	118	109	114	341	424	420	424	109
95–99	50	37	38	33	108	68	52	69	33
100 and over	25					14	12	14	
FEMALES.									
All ages.	1 231 819	17 284	17 108	15 825	50 217	1 151 234	1 437 872	1 136 902	21 557
Years.									
0–1	28 324	2 950	2 925	2 865	8 740	21 398	30 291	20 953	4 039
1–2	26 298	867	751	651	2 269	14 207	26 780	13 578	1 053
2–3	26 538	432	349	328	1 109	23 218	28 128	22 973	562
3–4	27 173	239	199	152	590	22 246	28 174	21 950	349
4–5	27 215	190	139	135	464	20 382	27 395	20 031	281
5–9	134 612	570	477	405	1 452	97 703	128 218	96 177	742
10–14	131 456	419	347	330	1 096	95 758	115 457	94 773	411
15–19	128 508	796	719	644	2 159	110 850	122 874	110 249	723
20–24	116 203	924	962	896	2 782	129 703	150 267	128 675	1 027
25–29	103 416	881	873	783	2 537	114 599	146 364	113 011	1 051
30–34	91 639	735	780	708	2 223	94 246	122 200	92 848	928
35–39	81 340	715	681	632	2 028	79 624	109 185	78 146	880
40–44	71 182	631	659	657	1 947	69 892	89 851	68 894	841
45–49	58 671	611	621	560	1 792	60 672	74 039	60 004	847
50–54	49 385	607	616	625	1 848	54 202	64 454	53 689	875
55–59	40 833	722	743	670	2 135	40 367	50 377	39 866	901
60–64	31 812	803	851	781	2 435	35 359	43 518	34 951	1 009
65–69	24 856	940	1 008	887	2 835	25 415	32 197	25 076	1 051
70–74	16 153	1 032	1 036	1 006	3 074	18 878	22 407	18 702	1 092
75–79	9 594	942	1 021	968	2 931	11 538	14 057	11 412	1 008
80–84	4 494	721	775	639	2 135	7 009	7 571	6 981	943
85–89	1 588	383	392	326	1 101	2 846	3 002	2 838	609
90–94	409	129	140	123	392	895	876	896	244
95–99	86	45	44	54	143	187	161	188	91
100 and over	34					40	29	41	

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	AGE INTERVALS OF ONE YEAR.					AGE INTERVALS OF ONE YEAR.				
	0–1	1–2	2–3	3–4	4–5	0–1	1–2	2–3	3–4	4–5
MALES.										
1903	3 081	692	300	202	.....	No death data available between 1890 and 1900.				
1904	.....	754	338	195	145					
1905	.....	.....	293	182	112					
1906	.....	.....	.....	164	147					
FEMALES.										
1903	2 397	583	254	151	.....					
1904	.....	685	295	194	117					
1905	.....	.....	274	172	118					
1906	.....	.....	.....	166	135					

[1] Census year ended May 31, 1890.

TABLE 180 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE LIFE TABLES FOR MASSACHUSETTS: 1901; AND MICHIGAN: 1901.

Unknown ages distributed.

Age Interval.	Massachusetts: 1901. Estimated population July 1, 1900.	Reported deaths. 1900	1901	1902	1900-1902	Michigan: 1901. Estimated population July 1, 1900.	Reported deaths. 1900	1901	1902	1900-1902
MALES.										
1	2	3	4	5	6	7	8	9	10	11
All ages.	1 369 903	26 050	24 873	24 312	75 235	1 250 640	18 130	17 597	17 016	52 743
Years.										
0-1	30 455	6 487	5 585	5 562	17 634	27 545	4 068	3 600	3 370	11 038
1-2	27 385	1 294	1 021	1 154	3 469	25 533	778	612	582	1 972
2-3	28 371	529	504	477	1 510	25 857	321	285	283	889
3-4	28 740	419	351	286	1 056	26 843	188	155	189	532
4-5	27 690	272	262	206	740	26 560	160	130	143	433
5-9	128 895	678	615	573	1 866	134 213	508	403	471	1 382
10-14	114 899	327	331	310	968	125 217	354	375	312	1 041
15-19	116 055	602	510	505	1 617	116 784	548	535	491	1 574
20-24	130 205	921	861	823	2 605	112 076	678	643	615	1 936
25-29	137 233	1 009	1 073	1 013	3 095	101 853	651	585	589	1 825
30-34	122 509	1 015	1 070	961	3 046	92 994	561	538	503	1 602
35-39	109 199	1 064	1 120	997	3 181	87 435	579	587	582	1 748
40-44	89 508	1 009	1 088	1 089	3 186	79 418	621	646	659	1 926
45-49	71 776	995	1 075	1 012	3 082	66 175	621	641	672	1 934
50-54	61 118	1 160	1 152	1 153	3 465	56 536	707	744	762	2 213
55-59	45 431	1 246	1 194	1 277	3 717	45 488	845	868	813	2 526
60-64	37 050	1 328	1 422	1 438	4 188	35 300	932	958	923	2 813
65-69	26 405	1 472	1 429	1 392	4 293	27 255	1 097	1 237	1 188	3 522
70-74	17 973	1 369	1 348	1 343	4 060	18 344	1 245	1 249	1 205	3 699
75-79	11 177	1 252	1 291	1 238	3 781	11 480	1 192	1 219	1 157	3 568
80-84	5 498	949	971	858	2 778	5 405	819	949	900	2 668
85-89	1 846	477	424	455	1 356	1 815	485	459	432	1 376
90-94	421	144	147	158	449	386	133	135	137	405
95-99	52	32	29	32	93	104	39	44	38	121
100 and over	12					24				
FEMALES.										
All ages.	1 440 178	25 149	23 332	23 186	71 667	1 173 626	15 843	15 255	14 346	45 444
Years.										
0-1	30 329	5 013	4 293	4 479	13 785	26 759	3 171	2 729	2 556	8 456
1-2	26 813	1 106	920	1 027	3 053	24 854	695	529	510	1 734
2-3	28 173	541	426	502	1 469	24 970	290	258	229	777
3-4	28 214	358	289	310	957	26 399	188	181	153	522
4-5	27 424	280	214	219	713	26 030	131	118	114	363
5-9	128 373	658	564	553	1 775	130 328	464	366	415	1 245
10-14	115 683	356	329	295	980	122 853	337	291	295	923
15-19	123 111	552	512	482	1 546	116 978	529	526	513	1 568
20-24	150 422	904	846	838	2 588	111 015	712	686	662	2 060
25-29	146 470	1 075	986	967	3 028	96 975	777	673	612	2 062
30-34	122 371	988	917	954	2 859	85 952	657	633	539	1 829
35-39	109 414	970	940	918	2 828	78 091	614	585	577	1 776
40-44	90 059	992	963	925	2 880	68 716	569	574	552	1 695
45-49	74 228	932	895	877	2 704	56 501	553	545	503	1 601
50-54	64 599	1 099	1 089	1 032	3 220	48 092	596	651	527	1 774
55-59	50 458	1 203	1 148	1 161	3 512	40 466	660	694	612	1 966
60-64	43 577	1 384	1 343	1 337	4 064	31 822	762	816	812	2 390
65-69	32 255	1 515	1 486	1 418	4 419	24 082	921	992	947	2 860
70-74	22 456	1 567	1 618	1 501	4 686	15 876	967	995	990	2 952
75-79	14 087	1 422	1 371	1 320	4 113	9 718	933	1 019	953	2 905
80-84	7 584	1 178	1 125	1 103	3 406	4 797	742	778	738	2 258
85-89	3 009	686	682	632	2 000	1 778	370	416	364	1 150
90-94	878	278	309	254	841	440	143	154	128	425
95-99	162	92	67	82	241	99	62	46	45	153
100 and over	29					35				

NUMBER OF BIRTHS REGISTERED.

Calendar year.	1900	1901	1902	1901-1902
Male births	37 772	37 004	37 057	111 833
Female births	35 614	34 972	35 162	105 748

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar year.	Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
MALES.					
1903	3 661	577	265	215	.....
1904	.....	549	277	151	136
1905	.....	.....	259	154	126
1906	.....	.....	.....	207	129
FEMALES.					
1903	2 747	539	253	168	.....
1904	.....	506	225	135	138
1905	.....	.....	243	158	116
1906	.....	.....	.....	194	128

TABLE 181 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE LIFE TABLES FOR NEW JERSEY: 1901; AND NEW YORK: 1901.

Unknown ages distributed.

Age Interval.	NEW JERSEY: 1901.					NEW YORK: 1901.				
	Estimated population July 1, 1900.	Reported deaths.				Estimated population July 1, 1900.	Reported deaths.			
		1900	1901	1902	1900-1902		1900	1901	1902	1900-1902
MALES.										
1	2	3	4	5	6	7	8	9	10	11
All ages.	944 517	17 904	17 077	17 071	52 052	3 622 964	69 687	70 070	66 841	206 598
Years.										
0-1	22 043	4 422	3 884	3 966	12 272	80 771	14 757	13 378	13 258	41 393
1-2	19 700	931	764	865	2 560	71 740	3 789	3 478	3 335	10 602
2-3	21 216	449	360	390	1 199	76 300	1 596	1 431	1 492	4 519
3-4	20 902	227	208	224	659	76 304	1 019	940	856	2 815
4-5	20 685	195	150	174	519	75 381	633	744	695	2 072
5-9	99 122	493	477	497	1 467	358 936	1 813	1 860	1 747	5 420
10-14	87 275	267	267	224	758	323 784	937	934	841	2 712
15-19	81 102	415	398	371	1 184	308 685	1 451	1 502	1 406	4 359
20-24	85 996	620	592	567	1 779	332 999	2 448	2 465	2 311	7 224
25-29	87 994	760	742	725	2 227	343 760	3 087	3 262	2 788	9 137
30-34	81 991	755	806	799	2 360	316 901	3 362	3 458	3 306	10 126
35-39	75 079	852	811	906	2 569	289 429	3 573	3 688	3 537	10 798
40-44	62 019	780	803	815	2 398	241 826	3 442	3 677	3 457	10 576
45-49	47 250	757	789	820	2 366	187 577	3 183	3 379	3 164	9 726
50-54	40 334	775	856	844	2 475	158 270	3 382	3 546	3 412	10 340
55-59	30 296	858	900	829	2 587	118 604	3 309	3 536	3 434	10 279
60-64	24 074	968	954	876	2 798	96 072	3 529	3 824	3 693	11 046
65-69	16 353	931	963	921	2 815	68 230	3 648	3 857	3 670	11 175
70-74	11 020	869	843	870	2 582	48 715	3 611	3 732	3 616	10 959
75-79	6 246	752	712	682	2 146	29 100	3 303	3 238	3 084	9 625
80-84	2 753	519	492	445	1 456	13 803	2 284	2 522	2 292	7 098
85-89	861	224	226	178	628	4 565	1 097	1 176	1 040	3 313
90-94	168	64	64	66	194	994	354	348	326	1 028
95-99	33	21	16	17	54	180	80	95	81	256
100 and over	5					38				
FEMALES.										
All ages.	944 667	15 535	14 714	14 311	44 560	3 661 497	62 665	61 391	57 816	181 872
Years.										
0-1	21 743	3 398	3 025	3 095	9 518	79 259	12 054	10 667	10 604	33 325
1-2	19 308	895	675	775	2 345	70 658	3 284	3 017	3 001	9 302
2-3	20 836	372	293	358	1 023	75 295	1 460	1 323	1 348	4 131
3-4	20 595	250	215	208	673	75 456	913	860	819	2 592
4-5	20 438	190	147	163	500	74 683	715	697	597	2 009
5-9	98 575	463	424	449	1 336	356 644	1 746	1 739	1 510	4 995
10-14	87 934	274	215	203	692	322 185	959	859	806	2 624
15-19	86 469	352	363	343	1 058	334 659	1 465	1 440	1 363	4 268
20-24	93 114	549	586	544	1 679	372 772	2 450	2 271	2 177	6 898
25-29	89 287	679	597	663	1 939	353 921	2 831	2 712	2 561	8 104
30-34	77 652	672	629	599	1 900	302 644	2 748	2 763	2 597	8 108
35-39	69 757	656	598	600	1 854	273 404	2 726	2 731	2 542	7 999
40-44	56 451	584	635	569	1 788	222 914	2 518	2 632	2 493	7 643
45-49	45 320	552	574	559	1 685	181 751	2 575	2 395	2 333	7 303
50-54	38 971	652	646	649	1 947	156 736	2 849	2 904	2 705	8 458
55-59	30 250	737	684	651	2 072	122 006	3 015	3 095	2 833	8 943
60-64	25 395	762	839	763	2 364	103 120	3 410	3 685	3 231	10 326
65-69	17 770	840	831	759	2 430	74 996	3 510	3 719	3 476	10 705
70-74	12 281	884	887	747	2 518	52 607	3 663	3 805	3 519	10 987
75-79	7 120	741	751	693	2 185	31 968	3 290	3 453	3 054	9 797
80-84	3 623	535	604	532	1 671	15 923	2 468	2 576	2 388	7 432
85-89	1 337	334	316	256	906	5 895	1 353	1 373	1 227	3 953
90-94	365	127	143	111	381	1 595	498	519	490	1 507
95-99	60	37	37	22	96	349	165	156	142	463
100 and over	16					57				

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	NEW JERSEY: 1901. Age intervals of one year.					NEW YORK: 1901. Age intervals of one year.				
	0-1	1-2	2-3	3-4	4-5	0-1	1-2	2-3	3-4	4-5
MALES.										
1903	3 601	767	340	217	.....	12 634	2 882	1 315	787	.....
1904	.....	907	443	293	195	.....	3 484	1 515	933	704
1905	.....	.....	343	213	164	.....	.....	1 372	876	610
1906	.....	.....	.....	244	194	.....	.....	.....	899	587
FEMALES.										
1903	2 884	660	315	217	.....	10 293	2 637	1 229	762	.....
1904	.....	839	369	238	179	.....	3 172	1 357	892	640
1905	.....	.....	333	215	165	.....	.....	1 283	789	536
1906	.....	.....	.....	250	171	.....	.....	.....	787	527

TABLE 182 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE

LIFE TABLES FOR THE CITY OF BOSTON.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
MALES: 1910.						MALES: 1901.				
1	2	3	4	5	6	7	8	9	10	11
All ages.	330 841	5 797	6 049	6 234	18 080	275 376	5 840	5 901	5 661	17 402
Years.										
0-1	6 972	1 157	1 252	1 266	3 675	6 270	1 333	1 262	1 206	3 801
1-2	6 305	243	258	254	755	5 623	331	324	335	990
2-3	6 646	123	109	87	319	5 812	155	157	125	437
3-4	6 507	72	77	75	224	5 714	132	106	62	300
4-5	5 985	44	38	57	139	5 462	72	72	51	195
0-4	32 415	1 639	1 734	1 739	5 112	28 881	2 023	1 921	1 779	5 723
5-9	28 702	108	128	114	350	24 713	162	170	129	461
10-14	27 722	58	83	59	200	21 390	63	66	73	202
15-19	27 201	107	116	106	329	20 142	131	115	134	380
20-24	32 763	168	154	178	500	26 432	229	221	224	674
25-29	33 646	211	241	248	700	32 042	321	357	307	985
30-34	29 986	269	295	305	869	28 858	311	361	311	983
35-39	29 368	357	336	377	1 070	25 083	343	365	300	1 008
40-44	24 323	355	378	418	1 151	19 053	282	301	333	916
45-49	19 904	368	366	380	1 114	14 105	269	290	276	835
50-54	15 422	398	408	420	1 226	12 035	295	292	324	911
55-59	10 313	333	345	359	1 037	8 048	297	297	290	884
60-64	7 769	356	444	400	1 200	6 222	275	293	333	901
65-69	5 355	318	335	377	1 030	3 833	278	294	278	850
70-74	3 132	325	253	328	906	2 408	218	209	208	635
75-79	1 709	190	213	211	614	1 310	160	176	178	514
80-84	782	145	131	126	402	590	114	113	112	339
85-89	259	73	61	60	194	177	50	36	54	140
90-94	58	16	24	26	66	41	16	16	15	47
95-99	10	2	3	2	7	13	3	8	3	14
100 and over	2	1	1	1	3					
FEMALES: 1910.						FEMALES: 1901.				
All ages.	342 058	5 259	5 513	5 531	16 303	286 442	5 610	5 396	5 338	16 344
Years.										
0-1	6 658	967	995	980	2 942	6 286	1 054	1 026	1 059	3 139
1-2	6 099	225	204	221	650	5 455	265	252	273	790
2-3	6 600	101	85	92	278	5 821	174	128	134	436
3-4	6 488	57	61	52	170	5 767	107	85	73	265
4-5	5 749	40	40	36	116	5 529	89	69	57	215
0-4	31 594	1 390	1 385	1 381	4 156	28 858	1 689	1 560	1 596	4 845
5-9	28 330	110	118	103	331	24 506	171	154	122	447
10-14	27 841	86	79	61	226	21 252	72	81	77	230
15-19	28 914	119	104	114	337	22 392	112	123	91	326
20-24	34 687	183	169	147	499	31 812	211	228	228	667
25-29	34 360	216	188	241	645	33 271	308	274	271	853
30-34	30 919	222	214	200	636	27 233	262	254	293	809
35-39	29 616	269	274	272	815	23 786	260	280	269	809
40-44	24 100	293	281	267	841	18 109	245	256	263	764
45-49	19 703	235	290	298	823	14 486	230	218	228	676
50-54	15 625	270	324	323	917	12 449	273	288	234	795
55-59	11 058	279	285	327	891	8 749	271	268	267	806
60-64	9 429	367	350	411	1 128	7 558	291	296	307	894
65-69	6 645	329	379	392	1 100	4 948	328	287	293	908
70-74	4 590	314	356	337	1 007	3 459	295	302	274	871
75-79	2 643	230	325	272	827	2 013	238	222	225	685
80-84	1 325	199	223	230	652	1 038	199	154	156	509
85-89	511	100	121	101	322	379	102	108	100	310
90-94	133	38	36	42	116	128	41	38	33	112
95-99	31	8	8	12	28	16	12	5	11	28
100 and over	4	2	4	0	6					

NUMBER OF BIRTHS REGISTERED.

Calendar Year.	1909	1910	[1] 1911	1909-1911	Calendar Year.	1900	1901	1902	1900-1902
Male births	9 145	8 943	9 190	27 278	Male births	8 376	7 944	7 936	24 256
Female births	8 549	8 708	8 767	26 024	Female births	7 975	7 636	7 613	23 224

[1] Only the total number of births, 17,957, was reported in 1911. See fifth paragraph of section 276 on page 424.

TABLE 183 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE

LIFE TABLES FOR THE CITY OF CHICAGO.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
	MALES: 1910.					MALES: 1901.				
1	2	3	4	5	6	7	8	9	10	11
All ages.	1 131 054	17 871	19 169	18 947	55 987	865 496	14 382	13 510	14 991	42 883
Years.										
0-1	25 023	3 601	3 861	3 658	11 120	20 019	3 069	2 829	2 880	8 778
1-2	21 997	832	918	762	2 512	18 028	766	668	811	2 245
2-3	23 535	350	413	355	1 118	19 215	370	282	326	978
3-4	22 371	220	227	258	705	19 251	227	183	233	643
4-5	21 183	158	179	183	520	19 543	189	138	170	497
0-4	114 109	5 161	5 598	5 216	15 975	96 056	4 621	4 100	4 420	13 141
5-9	97 135	409	415	487	1 311	93 932	545	377	520	1 442
10-14	93 599	236	224	265	725	79 850	283	225	273	781
15-19	101 408	368	421	433	1 222	70 282	351	393	413	1 157
20-24	126 972	657	720	779	2 156	79 081	522	539	635	1 696
25-29	127 301	827	928	860	2 615	88 025	646	651	692	1 989
30-34	106 307	948	902	969	2 819	87 044	758	715	890	2 363
35-39	92 375	1 058	1 031	1 181	3 270	79 365	849	873	968	2 690
40-44	78 952	1 125	1 273	1 240	3 638	62 206	892	879	1 039	2 810
45-49	64 704	1 326	1 341	1 337	4 004	41 679	812	746	908	2 466
50-54	49 411	1 180	1 322	1 396	3 898	32 209	817	790	893	2 500
55-59	29 558	1 017	1 140	1 150	3 307	21 081	695	693	759	2 147
60-64	20 850	991	986	1 011	2 988	15 133	662	641	656	1 959
65-69	13 563	825	980	930	2 735	9 302	639	606	603	1 848
70-74	7 953	677	734	661	2 072	5 739	503	562	557	1 622
75-79	4 207	532	575	535	1 642	2 881	397	354	384	1 135
80-84	1 785	331	350	303	984	1 208	241	232	235	708
85-89	649	142	175	136	453	316	106	95	102	303
90-94	158	52	45	49	146	85	29	26	35	90
95-99	19	8	7	9	24					
100 and over	9	1	2	.....	3	22	14	13	9	36
	FEMALES: 1910.					FEMALES: 1901.				
All ages.	1 064 497	13 425	14 072	13 584	41 081	837 186	11 680	10 968	11 494	34 142
Years.										
0-1	24 463	2 785	2 985	2 595	8 365	19 568	2 375	2 207	2 271	6 853
1-2	21 261	754	767	654	2 175	17 845	760	648	661	2 069
2-3	22 909	319	369	293	981	18 848	351	240	302	893
3-4	22 217	196	229	227	652	19 371	235	150	202	587
4-5	20 696	147	174	156	477	19 691	189	157	169	515
0-4	111 546	4 201	4 524	3 925	12 650	95 323	3 910	3 402	3 605	10 917
5-9	95 776	365	396	436	1 197	94 472	497	350	496	1 343
10-14	93 771	211	216	232	659	81 364	227	177	259	663
15-19	108 722	367	385	357	1 109	77 369	310	375	372	1 057
20-24	125 965	595	584	604	1 783	87 853	530	510	548	1 588
25-29	111 449	609	583	641	1 833	87 764	603	627	595	1 825
30-34	90 282	613	618	605	1 836	76 989	610	569	594	1 773
35-39	81 596	669	660	662	1 991	66 813	576	601	596	1 773
40-44	67 538	613	660	647	1 920	48 840	512	500	570	1 582
45-49	55 600	723	720	710	2 153	35 544	482	476	486	1 444
50-54	41 794	649	696	745	2 090	28 477	489	515	557	1 561
55-59	27 086	643	688	661	1 992	19 200	501	502	475	1 478
60-64	20 979	678	670	718	2 066	14 814	531	513	495	1 539
65-69	14 239	702	682	705	2 089	10 124	571	528	539	1 638
70-74	9 113	632	695	625	1 952	6 383	479	462	453	1 394
75-79	5 279	526	576	600	1 702	3 525	380	377	366	1 123
80-84	2 488	335	412	380	1 127	1 617	285	284	284	853
85-89	967	201	204	222	627	532	120	134	135	389
90-94	245	73	80	81	234	134	49	48	45	142
95-99	52	13	19	24	56					
100 and over	10	7	4	4	15	49	18	18	24	60

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Males. Age intervals of one year. 0-1	1-2	2-3	3-4	4-5	Females. Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1903	3 014	801	362	235	.....	2 254	728	338	221	.....
1904	.....	567	219	151	118	.....	525	195	153	111
1905	.....	.....	300	185	118	.....	.....	293	172	112
1906	.....	.....	.....	212	157	.....	.....	.....	201	149
1912	3 821	866	372	285	.....	2 858	804	396	245	.....
1913	.....	918	461	297	221	.....	805	403	296	221

TABLE 184 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE

LIFE TABLES FOR THE CITY OF NEW YORK.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909–1911	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900–1902
	MALES: 1910.					MALES: 1901.				
1	2	3	4	5	6	7	8	9	10	11
All ages.	2 396 502	40 388	41 763	41 118	123 269	1 711 273	38 029	38 174	36 899	113 102
Years.										
0–1	56 490	8 812	8 829	8 182	25 823	44 002	9 190	8 493	8 545	26 228
1–2	49 429	2 505	2 305	2 093	6 903	37 721	2 625	2 499	2 453	7 577
2–3	53 514	1 085	1 032	861	2 978	40 336	1 101	971	1 062	3 134
3–4	50 967	573	546	492	1 611	39 886	687	652	610	1 949
4–5	47 395	373	369	346	1 088	38 823	400	496	473	1 369
0–4	257 795	13 348	13 081	11 974	38 403	200 768	14 003	13 111	13 143	40 257
5–9	220 882	891	946	933	2 770	178 557	1 072	1 152	1 097	3 321
10–14	212 300	513	509	474	1 496	150 721	426	464	441	1 331
15–19	217 817	767	894	872	2 533	141 435	689	742	720	2 151
20–24	253 249	1 324	1 405	1 326	4 055	162 870	1 393	1 389	1 269	4 051
25–29	255 584	1 723	1 769	1 734	5 226	179 361	1 922	1 964	1 700	5 586
30–34	221 598	2 065	2 130	2 124	6 319	165 685	2 158	2 305	2 202	6 665
35–39	198 166	2 494	2 534	2 646	7 674	147 536	2 372	2 402	2 328	7 102
40–44	162 627	2 544	2 661	2 744	7 949	114 981	2 175	2 400	2 202	6 777
45–49	128 577	2 535	2 673	2 765	7 973	80 702	1 923	1 990	1 883	5 796
50–54	99 311	2 470	2 680	2 732	7 882	66 591	2 027	2 027	1 978	6 032
55–59	61 554	2 039	2 326	2 425	6 790	45 122	1 757	1 899	1 799	5 455
60–64	45 366	2 220	2 349	2 415	6 984	33 998	1 674	1 868	1 824	5 366
65–69	29 807	1 947	2 018	2 111	6 076	20 042	1 481	1 516	1 507	4 504
70–74	17 928	1 484	1 659	1 689	4 832	13 051	1 280	1 233	1 204	3 717
75–79	8 590	1 064	1 062	1 092	3 218	6 269	907	878	849	2 634
80–84	3 732	559	635	654	1 848	2 584	475	542	475	1 492
85–89	1 258	298	312	302	912	791	219	218	204	641
90–94	303	77	87	85	249	168	57	52	65	174
95–99	46	19	22	16	57	41	19	22	9	50
100 and over	12	7	11	5	23					
	FEMALES: 1910.					FEMALES: 1901.				
All ages.	2 398 433	33 875	35 024	34 211	103 110	1 737 150	32 838	32 434	31 087	96 359
Years.										
0–1	54 842	7 109	7 332	6 847	21 288	43 016	7 438	6 914	6 981	21 333
1–2	48 099	2 301	2 045	1 775	6 121	37 326	2 299	2 193	2 200	6 692
2–3	52 611	845	878	767	2 490	39 941	1 005	906	985	2 896
3–4	50 518	559	561	513	1 633	39 479	610	594	566	1 770
4–5	46 927	363	321	327	1 011	38 684	448	462	412	1 322
0–4	252 997	11 177	11 137	10 229	32 543	198 446	11 800	11 069	11 144	34 013
5–9	220 590	863	904	822	2 589	177 912	1 019	991	971	2 981
10–14	213 224	459	506	464	1 429	152 005	438	440	469	1 347
15–19	243 150	739	765	787	2 291	162 786	712	706	705	2 123
20–24	282 515	1 228	1 289	1 320	3 837	193 693	1 356	1 254	1 276	3 886
25–29	247 220	1 479	1 503	1 410	4 392	185 795	1 689	1 587	1 562	4 838
30–34	203 946	1 494	1 572	1 505	4 571	153 819	1 634	1 624	1 566	4 824
35–39	186 858	1 705	1 665	1 793	5 163	133 614	1 612	1 665	1 531	4 808
40–44	149 533	1 622	1 680	1 701	5 003	100 313	1 445	1 465	1 446	4 356
45–49	119 328	1 611	1 721	1 733	5 065	77 484	1 424	1 311	1 246	3 981
50–54	93 179	1 605	1 887	1 822	5 314	64 955	1 527	1 590	1 449	4 566
55–59	61 546	1 683	1 770	1 841	5 294	45 644	1 522	1 555	1 442	4 519
60–64	49 712	2 052	2 001	2 031	6 084	37 301	1 636	1 821	1 514	4 971
65–69	33 094	1 849	1 956	2 012	5 817	23 680	1 444	1 616	1 394	4 454
70–74	21 645	1 641	1 783	1 815	5 239	15 806	1 370	1 435	1 289	4 094
75–79	11 663	1 286	1 342	1 339	3 967	8 309	1 039	1 100	966	3 105
80–84	5 531	809	878	951	2 638	3 778	657	701	664	2 022
85–89	2 003	366	444	436	1 246	1 308	349	348	307	1 004
90–94	558	152	161	151	464	381	120	125	113	358
95–99	117	47	39	38	124	121	45	31	33	109
100 and over	24	8	21	11	40					

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Males. Age intervals of one year. 0–1	1–2	2–3	3–4	4–5	Females. Age intervals of one year. 0–1	1–2	2–3	3–4	4–5
1903	7 845	2 083	918	567	.....	6 478	1 908	868	528	.....
1904	.....	2 568	1 084	685	512	.....	2 390	1 010	623	460
1905	.....	.....	945	569	387	.....	.....	879	533	360
1906	.....	.....	.....	638	362	.....	.....	.....	545	370

NUMBER OF BIRTHS REGISTERED.

Calendar Year.	1909	1910	1911	1909–1911	Calendar Year.	1909	1910	1911	1909–1911
Male births.....	63 153	66 032	68 764	197 949	Female births.	59 822	63 048	65 780	188 650

TABLE 185 POPULATION AND MORTALITY STATISTICS UPON WHICH ARE BASED THE

LIFE TABLES FOR THE CITY OF PHILADELPHIA.

Unknown ages distributed.

Age Interval.	Estimated Population July 1, 1910.	Reported Deaths. 1909	1910	1911	1909-1911	Estimated Population July 1, 1900.	Reported Deaths. 1900	1901	1902	1900-1902
MALES: 1910.						MALES: 1901.				
1	2	3	4	5	6	7	8	9	10	11
All ages.	763 107	12 976	14 255	13 895	41 126	635 541	14 139	12 200	12 297	38 636
Years.										
0-1	16 736	2 725	2 978	2 651	8 354	14 142	3 240	2 307	2 324	7 871
1-2	14 706	607	687	610	1 904	12 425	831	592	615	2 038
2-3	16 179	259	291	298	848	13 328	431	240	257	928
3-4	15 216	161	187	177	525	13 233	249	171	204	624
4-5	14 499	114	118	143	375	13 083	205	139	130	474
0-4	77 336	3 866	4 261	3 879	12 006	66 211	4 956	3 449	3 530	11 935
5-9	67 904	257	302	312	871	63 396	465	337	321	1 123
10-14	65 669	162	186	156	504	55 205	225	199	166	590
15-19	67 946	256	262	294	812	52 658	275	291	295	861
20-24	76 027	420	474	466	1 360	62 008	461	512	526	1 499
25-29	74 656	555	574	517	1 646	65 083	581	623	610	1 814
30-34	67 363	599	624	614	1 837	59 350	664	585	653	1 902
35-39	63 142	673	772	825	2 270	52 758	718	668	718	2 104
40-44	53 496	681	809	752	2 242	43 834	682	695	673	2 050
45-49	44 354	744	840	838	2 422	32 939	733	653	667	2 053
50-54	36 341	741	870	914	2 525	27 017	731	678	644	2 053
55-59	23 726	775	792	851	2 418	19 052	699	663	650	2 012
60-64	18 247	787	861	862	2 510	14 749	685	710	662	2 057
65-69	12 375	786	841	842	2 469	9 550	676	632	676	1 984
70-74	7 768	665	705	702	2 072	6 348	616	580	570	1 766
75-79	4 130	506	523	527	1 556	3 369	463	460	462	1 385
80-84	1 865	302	351	315	968	1 436	318	301	311	930
85-89	604	156	143	175	474	435	142	119	113	374
90-94	125	36	47	46	129	106	38	32	41	111
95-99	32	6	14	8	28	37	11	13	9	33
100 and over	1	3	4	.....	7					
FEMALES: 1910.						FEMALES: 1901.				
All ages.	791 287	12 053	12 790	12 381	37 224	660 310	12 836	11 606	11 281	35 723
Years.										
0-1	16 322	2 267	2 357	2 119	6 743	13 995	2 595	1 856	1 964	6 415
1-2	14 580	518	630	541	1 689	12 286	674	569	557	1 800
2-3	15 853	220	261	232	713	13 063	348	231	255	834
3-4	15 229	142	143	180	465	13 214	228	185	172	585
4-5	14 379	111	133	130	374	12 943	193	131	137	461
0-4	76 363	3 258	3 524	3 202	9 984	65 501	4 038	2 972	3 085	10 095
5-9	67 737	255	283	280	818	62 569	445	351	283	1 079
10-14	66 082	190	159	142	491	55 168	183	163	186	532
15-19	74 314	284	265	240	789	57 601	284	312	283	879
20-24	82 960	432	430	494	1 356	70 151	485	505	483	1 473
25-29	76 305	482	519	477	1 478	69 227	565	543	537	1 645
30-34	66 854	463	531	524	1 518	58 598	536	572	553	1 661
35-39	64 021	574	565	616	1 755	52 106	617	608	578	1 803
40-44	53 446	565	575	519	1 659	41 821	529	575	478	1 582
45-49	44 044	563	575	560	1 698	32 719	528	492	514	1 534
50-54	37 010	625	675	680	1 980	27 887	550	559	530	1 639
55-59	25 042	610	694	633	1 937	20 574	562	563	528	1 653
60-64	21 003	796	792	789	2 377	17 296	712	703	592	2 007
65-69	14 770	738	814	838	2 390	12 231	708	665	664	2 037
70-74	10 541	748	795	781	2 324	8 499	738	682	667	2 087
75-79	6 130	634	667	691	1 992	4 799	578	570	535	1 683
80-84	3 133	477	491	506	1 474	2 374	431	433	439	1 303
85-89	1 157	241	289	275	805	861	237	220	220	677
90-94	293	96	118	101	315	247	84	91	79	254
95-99	63	16	22	27	65	81	26	27	47	100
100 and over	19	6	7	6	19					

ADDITIONAL MORTALITY STATISTICS USED IN DETERMINING THE NUMBER OF BIRTHS.

Calendar Year.	Males. Age intervals of one year. 0-1	1-2	2-3	3-4	4-5	Females. Age intervals of one year. 0-1	1-2	2-3	3-4	4-5
1903	2 652	603	309	172	.....	2 134	582	276	184	.....
1904	.....	646	271	197	161	.....	527	224	175	135
1905	.....	.....	220	115	101	.....	.....	205	118	112
1906	.....	.....	.....	166	109	.....	.....	.....	171	128

NUMBER OF BIRTHS REGISTERED.

Calendar Year.	1909	1910	1911	1909-1911	Calendar Year.	1909	1910	1911	1909-1911
Male births	19 232	19 653	20 478	59 363	Female births.	18 308	19 023	19 588	56 919

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equations for constants in, (48), (49), p. *349*.

x, abscissa on age axis, section 96, p. *329*.

$y=f(t, x)$, equation (2), p. *331*.
$=x-a$, new age variable, section 126, p. *352*.
y_x, fifth difference osculatory interpolation curve, equation (31), p. *344*.
$=\sum_{0}^{x-1} u$, section 118, p. *349*.
Young, Allyn A., footnote, p. *362*.

z, age variable, $n+2+x$, equation (39), p. *345*.
z, present or current time, $x+t$, section 96, p. *329*.
Zeuner, footnote, p. *329*.