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Estimated Life Tables for the United States, 1850–1910

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Mortality in the United States before the early part of the twentieth century remains a controversial topic. Unlike the measurement of fertility, for which the federal decennial censuses after 1800 provide some evidence of the fertility transition using child-woman ratios (e.g., Yasuba 1962; Forster and Tucker 1972; Schapiro 1986), no comparable source exists for mortality. Vital registration was left to the states, and Massachusetts was the first to institute a statewide system of vital statistics collection in 1842. The data in Massachusetts were of good quality by the middle 1850s (Gutman 1956). But other states were slow to follow suit. When the first permanent national Death Registration Area (DRA) was established in 1900, it comprised only ten states and the District of Columbia.¹ The DRA contained merely 26 percent of the nation's population, was more urban (62.9 percent) than the national average (39.7 percent), had relatively few blacks (only 4.4 percent of the national total), and had more foreign born (22.4 percent) than the nation overall (13.6 percent). The first life tables for the DRA were produced for 1900–1902 and 1909–11 (for the DRA of 1900) (Glover 1921), but the entire nation was not covered until 1933.

This lack of information has prompted considerable speculation about levels and trends in American mortality in the nineteenth century. For instance, Ansley Coale and M. Zelnik (1963) assumed a smooth decline in mortality from the level found in the Jacobson (1957) life table for Massachusetts and Maryland for 1850.² Conrad Taeuber and Irene Taeuber (1958, 264) assumed virtually no change in mortality before ca. 1850; Warren Thompson and P. K. Whelpton (1933, 230) projected a rather steady decline over the course of the century, although they saw an acceleration after ca. 1880. Arguing from first principles, Richard Easterlin (1977) believed that increasing income per capita offset the negative effects of rising urbanization and the influx of the foreign born, and that mortality declined from at least ca. 1840.

Other work has clarified the picture a bit. Edward Meeker (1972) believed that mortality improved little before 1880 and may actually have worsened. He saw a decline in death rates from approximately 1880 partly as a consequence of advances in public health and sanitation. This result was supported by R. Higgs (1973), who believed that rural death rates declined only from about the 1870s. This accords with earlier work by Simon Kuznets (1958), who also saw a sustained mortality transition only after 1870. Gretchen Condran and Eileen Crimmins (1980), using available mortality data reported in the censuses of 1890 and 1900, found strong evidence of mortality reduction in the 1890s in both rural and urban areas.

There is also substantial evidence now that mortality was actually deteriorating earlier in the nineteenth century. Important recent work by Robert W. Fogel (1986, 1993) and Clayne Pope (1992) has used large genealogical samples to derive both cohort and period life tables from the eighteenth century onward. Those results point to declining expectation of life at age 20 (e_{20}) between the 1830s and the 1850s (Pope 1992, table 9.4). Unfortunately, these data do not permit reliable estimates of infant and child mortality. Additional evidence has come from research on human stature (e.g., Komlos 1987, 1994, 1996; Steckel 1992, 1995), which has shown that heights of adult males was deteriorating for cohorts born between the 1830s and the 1880s. This was true for West Point cadets, Union Army recruits, Ohio National Guardsmen, free blacks in Maryland, Amherst College students, and Georgia convicts (Komlos 1996). These results are consistent with a worsening disease environment, although poorer diets and rising inequality in this period also played a role. Crude death rates in several large American cities (New York City, Baltimore, Philadelphia, New Orleans, Boston, all of which had adequate vital statistics) were either worsening or at least did not improve before the Civil War (Haines forthcoming). Variability in mortality was also considerably higher earlier in the centu-

ry, reflecting a variety of serious epidemics (cholera, typhoid, yellow fever). Figure 1 presents the crude death rate for New York City from 1804 to 1900 (based on data from Rosenwaike [1972, table A-1]).

A summary of the available evidence on mortality in the United States from the early nineteenth century appears in table 1. It presents childhood mortality in the form of $q(1)$, $q(2)$, and $q(5)$ values, that is, the probability of dying before reaching ages 1, 2, and 5, respectively. The $q(1)$ value multiplied by 1,000 is also the more familiar infant mortality rate. Also provided are expectations of life at birth (e_0) and at ages 10 and 20 (e_{10} and e_{20}). From these data, it appears that little improvement occurred in either child mortality or in expectation of life before ca. 1880. Thereafter began the sustained modern mortality transition in the United States. Furthermore, before the late nineteenth century, considerable variation in mortality existed, as well as substantial rural-urban differences, with larger cities having had a considerable mortality disadvantage.

Methods and Procedures

This article presents a series of abridged life tables derived from earlier work by the author and Samuel H. Preston (Haines 1979; Preston and Haines 1991, chap. 2; Haines and Preston 1997).³ The first article (Haines 1979) employed existing historical life tables of reasonable quality and census mortality data for ages 5–19 to fit two types of model life tables for the period 1850–1900. One of the main findings was that sustained, irreversible mortality

decline began only from about 1880. Preston and Haines (1991) used data from the Public Use Microdata Sample (PUMS) of the 1900 U.S. federal census to make indirect estimates of infant and child mortality for the entire nation. They used the information on children ever born and children surviving, as well as the age structure of surviving children, by age and marriage duration of mother (United Nations 1983, chap. 3; Preston and Palloni 1978). These results indicate that the DRA life tables for 1900–1902 overestimated the child mortality of the white population by a modest amount and substantially overestimated the mortality of black children. The overestimation appears to be caused by the more urban nature of the DRA, especially for blacks.⁴ A similar analysis has been conducted with the PUMS of the 1910 United States census (Haines and Preston 1997) and is also included here.

Even though the substantive issues still remain partly unresolved, these tables provide a superior picture of the mortality situation in the United States from 1850 to 1910. In addition, these tables can be of assistance in the following ways: estimating own-children fertility and census-survival migration, calculating probabilities for finding certain family structures in the census, and making estimates of working life.

Summary measures from the three sets of life tables are provided in table 2 ($q(1)$, e_0 , e_{10} , l_5 , and ${}_{40}q_{20}$).⁵ The abridged life tables themselves are given in appendix A. The first set of tables was estimated in Haines (1979) using a Brass (1975) two-parameter logit model fitted to available American life tables of reasonable quality for the period

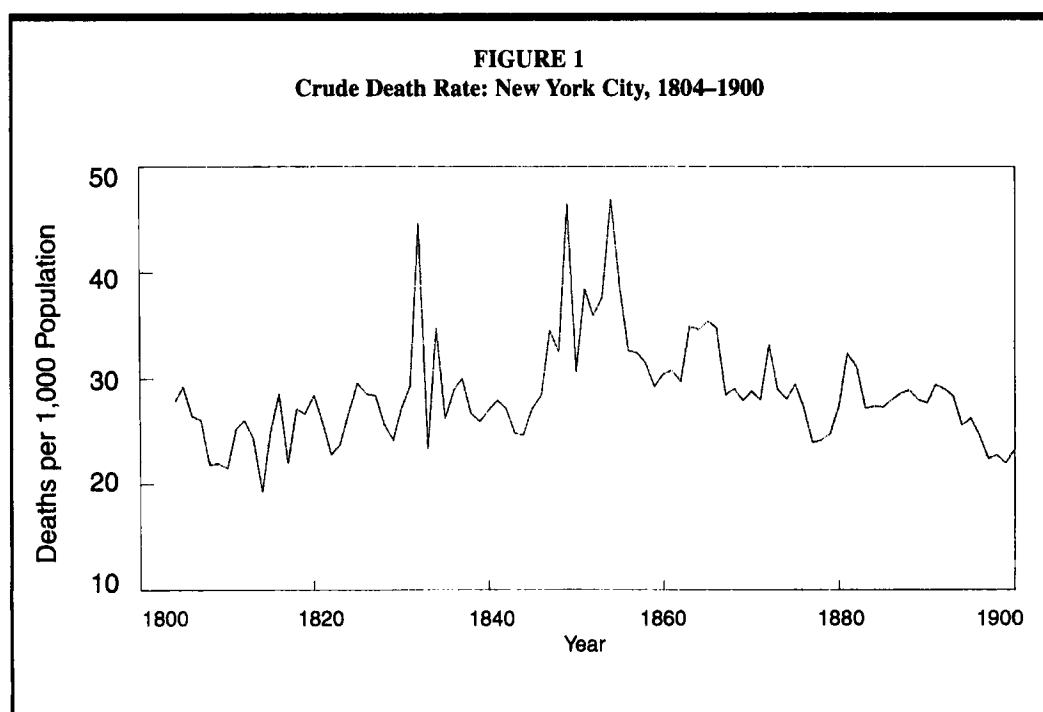


TABLE 1
Child Mortality and Expectations of Life: United States (1830–1941)

Source	Region	Period	Sex	Child Mortality ^a			e_0	e_{10}	e_{20}
				q(1)	q(2)	q(5)			
Jaffe & Lourie [1942]	44 New England Towns	1826–35	Total					51.0	42.9
	Salem, MA & New Haven, CT	1826–35	Total					46.0	37.8
	Boston, New York City, & Philadelphia	1826–35	Total					35.9	28.0
Jacobson [1957]	Estimated U.S.	1826–35	Total					49.8	41.7
	Massachusetts–Maryland, White	1850	Male	.16064	.21394	.27245	40.4	47.8	40.1
			Female	.13079	.18262	.24122	43.0	48.6	41.7
Meech [1898]	United States, Whites	1830–60	Male	.16195	.21569	.27468	41.0	48.4	40.9
			Female	.13430	.18752	.24769	42.9	48.8	41.4
Haines	Rochester, NY	1838–42	Male	.12727		.29258	40.2	46.0	38.0
			Female	.11340		.22919	41.8	46.3	38.7
		1853–57	Male	.14534		.23457	43.9	48.7	40.6
Kennedy [1853]	Massachusetts	1850	Female	.11883		.19973	47.0	49.9	42.1
			Male				38.3	48.0	40.1
			Female				40.5	47.2	40.2
Elliot [1857]	Massachusetts (166 towns)	1855	Total	.15510	.22670	.28540	39.8	47.1	39.9
Haines	Massachusetts	1855–56	Total	.12994		.24262	44.2	49.8	42.2
Haines	Massachusetts	1859–61	Male	.14246		.24846	43.5	49.6	41.9
			Female	.13643		.22466	45.1	52.8	42.4
Vinovskis [1972]	Massachusetts	1859–61	Male			.22646	46.4	51.6	44.0
			Female			.19193	47.3	50.1	43.0
Haines [1977]	Seven New York Counties	1850–65	Male	.14655	.18067	.21268	45.9	49.2	
			Female	.12389	.15821	.19105	48.9	51.4	
			Total	.13549	.16972	.20213	47.4	50.3	
Haines [1979]	United States [U.S. Model]	1850	Male	.24092	.28396	.32195	37.2	46.2	38.4
			Female	.21712	.25937	.29845	39.4	47.5	39.8
		1860	Male	.20210	.23979	.27361	41.6	48.3	40.3
			Female	.19153	.23041	.26684	42.1	48.7	40.9
		1870	Male	.19210	.22788	.26007	43.0	49.2	41.1
			Female	.17724	.21234	.24531	44.9	50.6	42.6
		1880	Male	.22015	.25997	.29538	39.7	47.5	39.6
			Female	.22980	.27175	.31019	39.1	48.0	40.3
		1890	Male	.16334	.19744	.22875	44.8	49.1	41.0
			Female	.15765	.19232	.22546	45.6	50.0	41.9
		1900	Male	.13356	.16480	.21252	47.1	49.4	41.1
			Female	.12476	.15572	.18611	48.4	50.5	42.3
		1850	Male	.22829	.26997	.30697	38.4	46.6	38.8
			Female	.20596	.24684	.28486	40.6	51.4	43.9
		1860	Male	.18774	.22351	.25579	43.2	49.1	41.0
			Female	.17515	.21158	.24598	44.1	49.6	41.7
		1870	Male	.18513	.21955	.25056	44.1	49.9	41.8
			Female	.16633	.19968	.23114	46.4	51.4	43.3
		1880	Male	.21436	.25326	.28794	40.4	47.9	40.0
			Female	.21526	.25553	.29268	40.6	48.6	40.9
		1890	Male	.15675	.18926	.21914	46.0	50.0	41.7
			Female	.14490	.17722	.20829	47.4	51.0	42.8
		1900	Male	.12784	.15730	.18497	48.5	50.4	42.0
			Female	.11206	.14012	.16781	50.7	51.9	43.5
Fogel [1986]	United States	1850–60	Male					46.7	
Pope [1992]	United States [Genealogies]	1820–29	Male						43.3
			Female						44.9
		1830–39	Male						44.6
			Female						44.6
		1840–49	Male						41.5
			Female						37.1
		1850–59	Male						40.8
			Female						39.5
		1860–69	Male						41.2
			Female						42.2
		1870–79	Male						44.3
			Female						42.2
		1880–89	Male						45.8
			Female						42.9

TABLE 1
Continued

Source	Region	Period	Sex	Child Mortality ^a			e ₀	e ₁₀	e ₂₀
				q(1)	q(2)	q(5)			
Haines	Massachusetts	1864–66	Male	.16002	.22431	.28639	38.4	45.8	38.7
			Female	.14267	.20352	.26706	41.6	48.7	41.8
Haines	Massachusetts	1869–71	Male	.16675	.21849	.26214	42.6	49.3	41.5
			Female	.16090	.19413	.23881	44.4	49.8	42.5
Haines	Massachusetts	1874–76	Male	.17941	.24772	.29812	40.0	48.9	41.3
			Female	.15449	.21967	.27050	41.8	49.4	42.2
Haines	Massachusetts	1879–81	Male	.17086	.22341	.27712	41.7	49.5	41.6
			Female	.16535	.19633	.25045	43.3	49.6	42.3
Billings [1886]	Massachusetts	1878–82	Male	.18080	.23250	.28342	41.7	49.9	42.2
			Female	.15257	.20245	.25408	43.5	50.0	42.8
Billings [1886]	New Jersey	1879–80	Male	.15153	.19398	.24132	45.6	51.6	43.3
			Female	.13121	.16939	.21217	48.0	52.5	44.5
Haines	Massachusetts	1884–86	Male	.16923	.22925	.27210	41.9	49.0	41.1
			Female	.14507	.20531	.24668	43.9	49.8	42.2
Haines	Massachusetts	1889–91	Male	.17615	.23742	.27354	41.8	49.0	41.1
			Female	.14957	.20973	.24613	44.0	49.9	42.2
Glover [1921]	Massachusetts	1890	Male	.16777	.20851	.25322	42.5	48.4	40.7
			Female	.14755	.18738	.23415	44.5	49.6	42.0
Abbott [1898]	Massachusetts	1893–97	Male	.17233	.20726	.24234	44.1	49.3	41.2
			Female	.14699	.18115	.21593	46.6	50.7	42.8
Haines	Massachusetts	1893–97	Male	.17466	.23913	.27331	42.1	49.2	41.0
			Female	.14660	.21036	.24417	44.8	50.6	42.7
Glover [1921]	DRA, Total	1900–02	Male	.13574	.16614	.19452	47.9	50.4	42.0
			Female	.11267	.14092	.16881	50.7	51.9	43.6
	DRA, Whites	1900–02	Total	.12448	.15383	.18196	49.2	51.1	42.8
			Male	.13345	.16331	.19136	48.2	50.6	42.2
	DRA, Blacks	1900–02	Female	.11061	.13832	.16574	51.1	52.2	43.8
			Male	.25326	.31098	.35615	32.5	41.9	35.1
	DRA, Urban Whites	1900–02	Female	.21475	.26990	.31944	35.0	43.0	36.9
			Male	.15097	.18683	.22128	44.0	47.5	39.1
	DRA, Rural Whites	1900–02	Female	.12545	.15883	.19195	47.9	50.3	41.9
			Male	.10900	.13065	.15043	54.0	54.4	46.0
Preston/Haines [1991]	U.S., Total	1895/00	Female	.08979	.10967	.12983	55.4	54.4	46.1
			Male	.12973	.15836	.18522	49.7	50.6	42.1
	U.S., Whites	1895/00	Female	.11029	.13930	.16706	51.6	52.8	44.5
			Total	.12047	.14906	.17636	50.1	51.6	43.3
	U.S., Blacks	1895/00	Male	.11988	.14569	.16990	50.4	51.4	42.9
			Female	.10120	.12702	.15174	53.4	53.7	45.3
Haines/Preston [1997]	U.S., Total	1905/10	Male	.18346	.22656	.26698	40.4	46.2	38.3
			Female	.15657	.20040	.24234	43.3	48.3	40.7
	U.S., Whites	1905/10	Male	.11300	.13687	.15925	51.5	52.0	43.4
			Female	.09488	.11840	.14121	54.7	54.4	45.9
	U.S., Blacks (West Model)	1905/10	Total	.10416	.12786	.14689	53.1	53.2	44.7
			Male	.10497	.12660	.14689	53.0	52.8	44.1
	U.S., Blacks (Far Eastern Model)	1905/10	Female	.08757	.10846	.12911	56.2	55.3	46.7
			Male	.15402	.19009	.22392	44.7	48.5	40.4
	DRA, Total	1909–11	Female	.13051	.16682	.20157	47.7	50.8	42.8
			Male	.12714	.15555	.18980	41.8	42.6	34.6
	DRA, Whites	1909–11	Female	.10946	.13808	.17068	44.6	44.6	36.6
			Male	.12495	.15016	.17282	49.9	51.1	42.5
	DRA, Blacks	1909–11	Female	.10377	.12743	.14883	53.2	53.3	44.7
			Total	.11462	.13908	.16113	51.5	52.2	43.5
	DRA, Urban Whites	1909–11	Male	.12326	.14799	.17028	50.2	51.3	42.7
			Female	.10226	.12545	.14651	53.6	53.6	44.9
	DRA, Rural Whites	1909–11	Male	.21935	.27155	.31411	34.0	40.6	33.5
			Female	.18507	.23303	.27232	37.7	42.8	36.1
	DRA, Whites	1919–21	Male	.13380	.16247	.18815	47.3	49.1	40.5
			Female	.11123	.13831	.16266	51.4	52.2	43.5
	DRA, Blacks	1919–21	Male	.10326	.12105	.13777	55.1	54.5	45.9
			Female	.08497	.10119	.11679	57.4	55.5	46.9
	DRA, Whites	1929–31	Male	.08025	.09815	.11158	56.3	54.2	45.6
			Female	.06392	.07757	.09279	58.5	55.2	46.5
	DRA, Blacks	1929–31	Male	.10501	.12782	.14805	47.1	46.0	38.4
			Female	.08749	.10851	.12851	46.9	44.5	37.2
	DRA, Whites	1929–31	Male	.06232	.07163	.08262	59.1	55.0	46.0
			Female	.04963	.05798	.06784	62.7	57.6	48.5

TABLE 1
Continued

Source	Region	Period	Sex	Child Mortality ^a			e_0	e_{10}	e_{20}
				q(1)	q(2)	q(5)			
Glover [1921] continued	DRA, Blacks	1929–31	Male	.08732	.10245	.11588	47.6	44.3	36.0
			Female	.07204	.08538	.09815	49.5	45.3	37.2
	U.S., Total	1939–41	Male	.05238	.05762	.06376	61.6	56.1	46.9
			Female	.04152	.04621	.05152	65.9	59.7	50.4
	U.S., Whites	1939–41	Total	.04710	.05206	.05780	63.6	57.8	48.5
			Male	.04812	.05276	.05850	62.8	57.0	47.8
	U.S., Blacks	1939–41	Female	.03789	.04204	.04691	67.3	60.8	51.4
			Male	.08238	.09088	.09918	52.3	48.3	39.5
			Female	.06584	.07328	.08094	55.6	50.8	42.0
<i>Selected Cities</i>									
Haines	Suffolk Co., MA (Boston)	1855–56	Total	.17384		.34455	34.5	44.4	37.0
Haines	Suffolk Co., MA (Boston)	1859–61	Male	.18027		.34388	36.3	44.4	36.7
			Female	.15940		.29495	39.1	46.8	39.0
Haines	Suffolk Co., MA (Boston)	1864–66	Male	.19414	.28120	.35732	32.3	41.7	34.4
			Female	.19747	.28115	.35300	35.6	46.8	39.3
Haines	Suffolk Co., MA (Boston)	1874–76	Male	.20041	.29428	.35731	34.0	45.1	37.5
			Female	.18387	.27161	.33309	36.5	47.1	39.9
Billings [1886]	Boston, Whites	1879–80	Male	.21739	.28518	.34218	37.0	47.5	39.6
			Female	.18873	.25365	.30823	39.1	48.4	40.7
Haines	Suffolk Co., MA (Boston)	1884–86	Male	.20160	.28245	.33710	34.8	44.0	36.3
			Female	.17732	.25915	.31453	37.1	45.9	38.4
Haines	Suffolk Co., MA (Boston)	1894–96	Male	.17870	.26501	.31567	36.0	44.0	36.1
			Female	.15023	.23576	.28472	39.8	47.3	39.5
Glover [1921]	Boston	1900–02	Male	.15736	.19875	.24002	41.6	46.0	37.8
Glover [1921]	Boston	1909–11	Female	.13548	.16983	.21017	45.1	48.5	40.2
			Male	.13527	.16333	.19050	46.0	47.7	39.1
Haines	Suffolk Co., MA (Boston)	1929–31	Female	.11330	.13851	.16181	50.3	50.9	42.4
			Male	.07230		.10094	54.6	51.5	42.5
Haines	Philadelphia	1860–61	Female	.07979		.08220	58.4	54.3	45.2
			Total	.18531		.32837	37.3	47.9	40.1
Haines	Philadelphia	1869–71	Total	.21300		.33249	36.2	45.7	38.0
			Total	.21915		.32047	38.1	46.8	39.0
Haines	Philadelphia	1879–81	Total	.19668		.29722	39.5	47.6	39.7
			Total	.19668		.29722	39.5	47.6	39.7
Glover [1921]	Philadelphia	1900–02	Male	.15027	.18978	.23006	42.5	46.3	38.1
			Female	.12741	.16369	.20232	46.2	49.1	40.9
Glover [1921]	Philadelphia	1909–11	Male	.14174	.17456	.20558	45.5	48.1	39.5
			Female	.11926	.14959	.17796	49.6	51.2	42.6
Haines	Philadelphia	1919–21	Total	.08540		.12526	52.7	51.0	42.5
Haines	Philadelphia	1929–31	Total	.06304		.08693	57.3	53.2	44.2
Billings [1886]	New York City	1878–81	Male	.26278	.35464	.42751	29.0	42.4	34.4
			Female	.22411	.31513	.38744	32.8	45.3	37.3
Billings [1886]	New York City, Whites	1879–80	Male	.23421	.32245	.38085	33.3	44.9	36.6
			Female	.20427	.28527	.34167	36.8	46.9	38.6
Billings [1886]	Brooklyn, Whites	1879–80	Male	.19477	.27036	.33101	37.5	48.1	39.8
			Female	.16424	.24336	.30545	39.7	49.1	41.0
Glover [1921]	New York City	1900–02	Male	.15673	.20308	.24435	40.6	44.9	36.4
			Female	.13298	.17564	.21542	44.9	48.2	39.7
Glover [1921]	New York City	1909–11	Male	.13186	.16799	.19907	45.3	47.4	38.7
			Female	.11405	.14762	.17708	49.5	50.9	42.2
Billings [1886]	Chicago, Whites	1879–80	Male	.20526	.27950	.34394	38.1	50.6	42.7
			Female	.15107	.22919	.29958	41.3	51.6	43.8
Glover [1921]	Chicago	1900–02	Male	.12010	.15142	.18191	46.3	47.7	39.5
			Female	.09762	.12764	.15676	50.8	55.0	42.9
Glover [1921]	Chicago	1909–11	Male	.13066	.16079	.18980	45.9	51.5	39.0
			Female	.10431	.13196	.15959	51.7	52.4	43.8

Sources: Jaffe & Lourie [1942]; Jacobson [1957]; Meech [1898]; Pope [1992]; Meeker [1972, table 1]; Glover [1921]; Haines [1977, 1979a]; Preston & Haines [1991, ch. 2]; Vinovskis [1972]; Fogel [1986, table 3]; U.S. Bureau of the Census [1886] (Billings); Abbott [1898]; Various Massachusetts, New York, and Philadelphia vital statistics and census data (Haines); Kennedy [1853]; Elliot [1857]; Haines & Preston [1997].

Note: This first set of life tables uses the Brass [1975] two-parameter logit model with the 1900–1902 Death Registration Area (DRA) life tables as the standards. Available empirical American life tables for the period 1830–1911 are used to establish the relationship between the level and structure of mortality. Data on deaths for ages 5–19 in the year before the census (from the decennial federal censuses of 1850–1900) are actually used to obtain the national tables.

^aq(1) is the probability of dying before reaching age 1. It is the infant mortality rate. q(2) and q(5) are the probabilities of dying before reaching ages 2 and 5, respectively. e_0 , e_{10} , and e_{20} are the expectations of life at birth and at ages 10 and 20.

1830–1911. Briefly, the l_x functions of the existing life tables were fitted to the function

$$Y_x = \alpha + \beta Y_{xx}$$

where

$$Y_x = \text{logit}(1 - l_x) = .5 \ln[(1 - l_x)/l_x]$$

for actual life tables with a radix (l_0) equal to one. Y_{xx} is the logit of the “standard” life table, which was chosen as that for the population (for males and females separately) of the DRA in 1900–1902. The α parameter provides an indicator-of-mortality level, ranging from about +.8 in high-mortality populations to about −.8 in low-mortality populations. The β parameter gives the relationship of child-to-adult mortality (also known as the “tilt” of the mortality schedule). The range of β is from about .7 for child mortality unfavorable *relative* to adult mortality to about 1.4 for child mortality favorable *relative* to adult mortality. For the standard (Y_{xx}), $\alpha = 0$ and $\beta = 1.0$. The fitted α s and β s were then plotted against each other, and a time pattern was examined. A relationship between α and β was estimated to permit the fitting of only one parameter (α). The latter approach was necessary because the data (death rates at ages 5–9, 10–14, and 15–19) would not permit the fitting of the β parameter.

The second set of life tables uses the Coale and Demeny (1966) Model West system. Historical American life tables were used in the construction of Model West. Further, an examination of the congruence between the 1900–1902 DRA life tables and a close Model West table (level 13) revealed a very good fit (Preston and Haines 1991, chap. 2; Coale and Zelnik 1963, appendix B). Table 2 reveals some differences between the two sets of tables (i.e., the logit, or U.S. Model, versus the West Model), especially with respect to infant (q_0) and child (l_5) mortality. The e_0 and e_{10} values from the U.S. Model differ somewhat from those presented in Haines (1979) because of differences in the algorithms used to calculate values of the life table beyond l_x and ${}_nq_x$. The third set of life tables (see appendix A) are also calculated by consistent algorithms and are comparable. The computation formulas are given in appendix B.

The third set of life tables were those computed from data on children ever born, children surviving, and the age distribution of surviving own children present from the PUMS of the 1900 and 1910 U.S. censuses.⁶ The estimation involved backward projecting the age structure of surviving own children present to equal the number of children ever born. The sample was confined to younger women aged 14 to 34 years to reduce problems of age and parity misstatement and of memory lapse. Other indirect methods were tried, that is, the age and duration models of Sullivan and Trussell (United Nations 1983, chap. 3), but the backward-projection technique (i.e., the surviving-children method) was felt to provide the best estimates. These methods apply roughly to 1894–95 in the case of the 1900 census and 1904 in the case of the 1910 census. Estimates for just the DRA states were

done, and they proved relatively close to the 1900–1902 and 1909–1911 DRA tables based on vital statistics for the total and white populations.

Mortality estimates for the black population from the surviving-children method and the 1900 PUMS were rather different from the published DRA tables for the black population, however. It has already been noted that the population of the DRA in 1900 was quite urban, in contrast to the whole black population. Urban mortality was markedly higher than rural mortality (Preston and Haines 1991, chaps. 1 and 3). For example, the 1900–1902 DRA life table for blacks yielded an e_0 of about 33.7 years for both sexes combined, as opposed to the estimate of 41.8 years from the surviving-children method applied to the 1900 PUMS. Similarly, the infant mortality rate was 234 infant deaths per 1,000 live births for blacks in the 1900–1902 life table for both sexes, whereas the surviving-children method indicated that it was 170 for the black population in the nation as a whole. No estimated life tables are presented for the black population based on the published census mortality data before 1900. It is not clear that those data are usable for the present analysis or which model life table system might be most appropriate. Zelnik (1969) believed that Model West was not a particularly good fit to the black mortality experience in the first half of the twentieth century. Douglas Ewbank (1987) found that the United Nations (1982) Far Eastern Model provided the best match to the historical age pattern of black American mortality. According to Condran (1984; Condran and Cheney 1982), Model South may be more appropriate. For 1910, both the West Model and Far Eastern Model estimates are presented for the black population, although goodness-of-fit for both models was about the same and the best of all the alternative life table models.⁷

Conclusions

The selected life table values in table 2 for the total and white populations from 1850 to 1910 and for the black population from 1900 to 1910 can be placed in context in table 1 with a variety of other historical American life tables from the 1820s to the period between 1939 and 1941. These include values from Jaffe and Lourie (1942), Meech (1898), Jacobson (1957), Glover (1921), and Billings (1886).⁸ Also included in table 1 are the recent estimates of e_{20} by Pope (1992) from genealogical data and some life tables for Massachusetts, Suffolk County (the city of Boston), Rochester (New York), and Philadelphia calculated from original vital registration and census data.

These results confirm the impression of mortality fluctuating before ca. 1880 and a fairly steady decline in death rates thereafter, when the modern mortality transition for the white population began. More work will certainly need to be done on mortality differences by region, gender, race, ethnicity, and rural-urban residence. But the overall picture has become clearer. Whether mortality actually increased

TABLE 2
Selected Life Table Values for the United States by Race and Sex (1850–1910)

	lq0		e(0)		e(10)		l(5)		40q20	
	U.S. Model	West Model	U.S. Model	West Model	U.S. Model	West Model	U.S. Model	West Model	U.S. Model	West Model
Total Population										
Males										
1850	0.24092	0.20352	37.23	37.79	46.16	44.74	67,805	70,433	0.47959	0.51398
1860	0.20210	0.17386	41.55	41.79	48.33	46.95	72,639	74,692	0.43533	0.46565
1870	0.19210	0.16259	43.03	43.43	49.23	47.84	73,993	76,342	0.41677	0.44624
1880	0.22015	0.18492	39.72	40.25	47.54	46.10	70,462	73,091	0.45112	0.48413
1890	0.16334	0.15568	44.82	44.47	49.14	48.41	77,125	77,362	0.41915	0.43403
1900	0.13356	0.14531	47.12	46.12	49.43	49.29	80,584	78,961	0.41369	0.41512
1900b		0.12973		48.69		50.55		81,478		0.38828
1910		0.11300		51.54		52.01		84,075		0.35742
Females										
1850	0.21712	0.16099	39.43	42.56	47.48	47.87	70,155	75,085	0.44537	0.42291
1860	0.19153	0.14822	42.15	44.64	48.69	49.05	73,316	77,061	0.42179	0.39993
1870	0.17724	0.13192	44.92	47.46	50.62	50.63	75,469	79,619	0.38375	0.36943
1880	0.22980	0.16078	39.12	42.60	47.98	47.89	68,981	75,118	0.43489	0.42254
1890	0.15765	0.13172	45.60	47.49	49.96	50.65	77,454	79,651	0.39702	0.36905
1900	0.12476	0.12067	48.45	49.51	50.52	51.77	81,389	81,409	0.38603	0.34761
1900b		0.11029		51.55		52.77		83,294		0.32911
1910		0.09489		54.68		54.43		85,879		0.29867
White Population										
Males										
1850	0.22829	0.19548	38.42	38.83	46.65	45.32	69,303	71,577	0.46967	0.50125
1860	0.18774	0.16524	43.17	43.04	49.08	47.63	74,421	75,953	0.41999	0.45085
1870	0.18513	0.15584	44.11	44.45	49.91	48.39	74,943	77,338	0.40307	0.43432
1880	0.21436	0.18008	40.44	40.92	47.94	46.47	71,206	73,790	0.44296	0.47611
1890	0.15675	0.14822	46.04	45.62	49.95	49.03	78,086	78,471	0.40227	0.42058
1900	0.12784	0.13524	48.51	47.78	50.43	50.09	81,503	80,617	0.39227	0.39800
1900b		0.11988		50.35		51.40		83,010		0.37038
1910		0.10497		52.97		52.75		85,311		0.34185
Females										
1850	0.20596	0.15524	40.56	43.49	47.96	48.39	71,514	75,971	0.43606	0.41266
1860	0.17515	0.13912	44.10	46.19	49.62	49.92	75,402	78,482	0.40352	0.38308
1870	0.16633	0.12615	46.38	48.50	51.38	51.21	76,886	80,535	0.36921	0.35832
1880	0.21527	0.15359	40.59	43.76	48.61	48.55	70,732	76,227	0.41371	0.40968
1890	0.14490	0.12388	47.44	48.92	50.95	51.44	79,171	80,897	0.37751	0.35389
1900	0.11206	0.10946	50.71	51.71	51.86	52.85	83,219	83,435	0.35917	0.32766
1900b		0.10120		53.37		53.72		84,826		0.31158
1910		0.08757		56.24		55.27		87,089		0.28330
Black Population										
Males										
1900b		0.18346		40.45		46.21		73,302		0.48173
1910: West		0.15402		44.72		48.54		77,608		0.43106
Far Eastern		0.12714		41.83		42.57		81,020		0.58891
Females										
1900b		0.15657		43.27		48.27		75,766		0.41504
1910: West		0.13051		47.71		50.77		79,843		0.36673
Far Eastern		0.10946		44.59		44.57		82,932		0.52379

Source: 1850–1900 fitted to Coale and Demeny Model West and to the Brass logit model constructed for the U.S. The tables were fitted to 5q5, 5q10, and 5q15 from census mortality data. The Brass logit model (U.S. Model) was fitted by the iterative procedure described in Haines [1979]. The life tables here were averages of the three tables fitted to each of the q's. For Model West, the tables were averaged on e(0). For the Brass logit U.S. Model, the alpha and beta values were each averaged. 1900b represents the tables fitted by Preston and Haines [1991, ch. 2] to the age distribution of surviving children from women aged 14–34 from the 1900 U.S. census public use sample (PUS) and using Coale and Demeny Model West. 1910 represents the tables fitted by Haines and Preston [1997] fitted in the same way as 1900b except that the black population was fitted to both West Model and the United Nations Far Eastern Model.

Note: The West Model also uses the census mortality data for ages 5–19 but fits Coale and Demeny [1966, 1983] West Model life tables. Both sets were derived following procedures in Haines [1979].

substantially in the 1840s and 1850s is less obvious, but it can be seen that mortality in the United States was essentially not under control until about the 1870s. This, of course, makes the demographic transition in the United States unusual, because fertility had been declining for the white population since at least 1800 (Forster and Tucker

1972), whereas the modern mortality transition lagged by over three-quarters of a century. In this respect, for the white population, the mortality transition was more like that in western and northern Europe and areas of overseas European settlement (Canada, Australia, New Zealand) than was the fertility transition.

APPENDIX A
Life Tables: United States (1850-1910)
(I) U.S. MODEL (Brass 2 parameter logit model)

TOTAL POPULATION

MALES 1850

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.240916	100000	24092	83859	0.87491	3723046	37.23	0.28729
1	0.056703	75908	4304	73369	0.96276	3639188	47.94	0.05867
2	0.025490	71604	1825	70637	0.97951	3565819	49.80	0.02584
3	0.016237	69779	1133	69190	0.98582	3495182	50.09	0.01638
4	0.012252	68646	841	68209	0.97739	3425992	49.91	0.01233
5-9	0.033589	67805	2277	33331	0.97263	3357784	49.52	0.00683
10-14	0.020926	65527	1371	324209	0.97340	3024453	46.16	0.00423
15-19	0.032396	64156	2078	315585	0.95997	2700244	42.09	0.00659
20-24	0.047920	62078	2975	302952	0.94987	2384659	38.41	0.00982
25-29	0.052453	59103	3100	287765	0.94468	2081707	35.22	0.01077
30-34	0.058353	56003	3268	271845	0.93820	1793942	32.03	0.01202
35-39	0.065456	52735	3452	255045	0.93097	1522097	28.86	0.01353
40-44	0.072859	49283	3591	237439	0.92100	1267052	25.71	0.01512
45-49	0.085619	45692	3912	218682	0.90577	1029613	22.53	0.01789
50-54	0.103651	41780	4331	198075	0.88043	810931	19.41	0.02186
55-59	0.137339	37450	5143	174390	0.84450	612856	16.36	0.02949
60-64	0.176550	32306	5704	147273	0.79572	438466	13.57	0.03873
65-69	0.237948	26603	6330	117188	0.72944	291193	10.95	0.05402
70-74	0.313352	20273	6352	85482	0.64076	174005	8.58	0.07431
75-79	0.426067	13920	5931	54774	0.61616	88523	6.36	0.10828
80+	1.000000	7989	7989	33749	0.00000	33749	4.22	0.23672
Alpha= 0.292816 Beta= 0.936345								

FEMALES 1850

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.217119	100000	21712	85887	0.88250	3943125	39.43	0.25280
1	0.053965	78288	4225	75795	0.96415	3837238	49.27	0.05574
2	0.025094	74063	1859	73078	0.97973	3781443	51.06	0.02543
3	0.016178	72205	1168	71597	0.98577	3708364	51.36	0.01632
4	0.012407	71037	881	70578	0.97765	3636767	51.20	0.01249
5-9	0.032909	70155	2309	345004	0.97308	3566189	50.83	0.00669
10-14	0.020719	67847	1406	335718	0.97305	3221184	47.48	0.00419
15-19	0.033306	66441	2213	326672	0.96041	2885466	43.43	0.00677
20-24	0.046094	64228	2961	313738	0.95118	2558794	39.84	0.00944
25-29	0.051679	61267	3166	298421	0.94624	2245056	36.64	0.01061
30-34	0.055960	58101	3251	282377	0.94256	1946634	33.50	0.01151
35-39	0.059018	54850	3237	266156	0.93837	1664257	30.34	0.01216
40-44	0.064410	51613	3324	249753	0.93094	1398100	27.09	0.01331
45-49	0.074038	48288	3575	232504	0.91718	1148348	23.78	0.01538
50-54	0.092307	44713	4127	213247	0.89344	915844	20.48	0.01935
55-59	0.122720	40586	4962	190523	0.86173	702597	17.31	0.02605
60-64	0.156505	35623	5575	164179	0.81753	512074	14.37	0.03396
65-69	0.213245	30048	6408	134222	0.75361	347895	11.58	0.04774
70-74	0.288514	23641	6821	101151	0.66937	213673	9.04	0.06743
75-79	0.389814	16820	6557	67708	0.61687	112522	6.69	0.09864
80+	1.000000	10263	10263	44814	0.00000	44814	4.37	0.22902
Alpha= 0.298698 Beta= 0.910928								

BOTH SEXES 1850

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.228727	100000	22873	84904	0.87877	3833886	38.34	0.26940
1	0.055301	77127	4265	74611	0.96347	3748982	48.61	0.05717
2	0.025287	72862	1842	71886	0.97963	3674372	50.43	0.02563
3	0.016207	71020	1151	70421	0.98579	3602486	50.73	0.01634
4	0.012331	69869	862	69421	0.97752	3532065	50.55	0.01241
5-9	0.033241	69007	2294	339301	0.97286	3462644	50.18	0.00676
10-14	0.020820	66713	1389	330094	0.97322	3123344	46.82	0.00421
15-19	0.032862	65324	2147	321254	0.96019	2793250	42.76	0.00668
20-24	0.046985	63178	2968	308467	0.95054	2471996	39.13	0.00962
25-29	0.052057	60209	3134	293210	0.94548	2163529	35.93	0.01069
30-34	0.057127	57075	3261	277223	0.94043	1870319	32.77	0.01176
35-39	0.062158	53814	3345	260709	0.93476	1593096	29.60	0.01283
40-44	0.068531	50469	3459	243700	0.92609	1332387	26.40	0.01419
45-49	0.079687	47011	3746	225688	0.91161	1088687	23.16	0.01660
50-54	0.097841	43264	4233	205740	0.88709	863000	19.95	0.02057
55-59	0.129621	39031	5059	182509	0.85332	657260	16.84	0.02772
60-64	0.166283	33972	5649	155738	0.80689	474751	13.97	0.03627
65-69	0.225295	28323	6381	125663	0.74182	319013	11.26	0.05078
70-74	0.300630	21942	6596	93219	0.65539	193350	8.81	0.07076
75-79	0.407498	15346	6253	61095	0.63894	100131	6.53	0.10235
80+	1.000000	9092	9092	39036	0.00000	39036	4.29	0.23292

TOTAL POPULATION

MALES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.202095	100000	20210	86460	0.89714	4155262	41.55	0.23374
1	0.047247	79791	3770	77566	0.96902	4068802	50.99	0.04860
2	0.021283	76021	1618	75163	0.98289	3991236	52.50	0.02153
3	0.013579	74403	1010	73877	0.98814	3916073	52.63	0.01368
4	0.010260	73392	753	73001	0.98099	3842195	52.35	0.01032
5-9	0.028254	72639	2052	380666	0.97698	3769195	51.89	0.00573
10-14	0.017640	70587	1245	349822	0.97751	3411129	48.33	0.00356
15-19	0.027419	69342	1901	341956	0.96598	3061306	44.15	0.00556
20-24	0.040797	67441	2751	330324	0.95718	2719350	40.32	0.00833
25-29	0.044926	64689	2906	316180	0.95244	2389026	36.93	0.00919
30-34	0.050309	61783	3108	301144	0.94651	2072845	33.55	0.01032
35-39	0.056839	58675	3335	285036	0.93980	1771701	30.20	0.01170
40-44	0.063755	55340	3528	267878	0.93053	1486665	26.86	0.01317
45-49	0.075572	51812	3916	249269	0.91634	1218787	23.52	0.01571
50-54	0.092402	47896	4426	228416	0.89259	969518	20.24	0.01938

55-59	0.123954	43470	5388	203881	0.85846	741102	17.05	0.02643
60-64	0.161622	38082	6155	175023	0.81108	537221	14.11	0.03517
65-69	0.221482	31927	7071	141957	0.74552	362198	11.34	0.04981
70-74	0.296859	24856	7379	105833	0.65605	220241	8.86	0.06972
75-79	0.410911	17477	7182	69432	0.54777	114408	6.55	0.10343
80+	1.000000	10296	10296	44976	0.00000	44976	4.37	0.22891
Alpha= 0.167133 Beta= 0.922418								

FEMALES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.191528	100000	19153	87551	0.89723	4215365	42.15	0.21876
1	0.048098	80847	3889	78553	0.96805	4127814	51.06	0.04950
2	0.022440	76959	1727	76043	0.98187	4049261	52.62	0.02271
3	0.014496	75232	1091	74665	0.98724	3973218	52.81	0.01461
4	0.011134	74141	825	73712	0.97988	3899553	52.58	0.01120
5-9	0.029639	73316	2173	361146	0.97575	3824841	52.17	0.00602
10-14	0.018705	71143	1331	352386	0.97561	3463696	48.69	0.00378
15-19	0.030174	69812	2107	343793	0.96402	3111310	44.57	0.00613
20-24	0.041958	67705	2841	331425	0.95544	2767516	40.88	0.00857
25-29	0.047283	64865	3067	316656	0.95068	2436091	37.56	0.00969
30-34	0.051468	61798	3181	301037	0.94702	2119436	34.30	0.01057
35-39	0.054564	58617	3198	285089	0.94286	1818399	31.02	0.01122
40-44	0.059868	55419	3318	268799	0.93560	1533310	27.67	0.01234
45-49	0.069212	52101	3606	251489	0.92228	1264512	24.27	0.01434
50-54	0.086858	48495	4212	231944	0.89925	1013022	20.89	0.01816
55-59	0.115961	44283	5135	208576	0.86819	781079	17.64	0.02462
60-64	0.149748	39148	5862	181082	0.82435	572503	14.62	0.03237
65-69	0.206112	33285	6861	149275	0.76036	391421	11.76	0.04596
70-74	0.281868	26425	7448	113503	0.67514	242145	9.16	0.06562
75-79	0.384733	18977	7301	76630	0.67874	128642	6.78	0.09527
80+	1.000000	11676	11676	52012	0.00000	52012	4.45	0.22448
Alpha= 0.223391 Beta= 0.914302								

BOTH SEXES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.196683	100000	19668	87019	0.89718	4185808	41.86	0.22602
1	0.047683	80332	3830	78072	0.96852	4098789	51.02	0.04906
2	0.021876	76501	1674	75614	0.98237	4020718	52.56	0.02211
3	0.014049	74828	1051	74281	0.98768	3945103	52.72	0.01415
4	0.010708	73777	790	73366	0.98042	3870822	52.47	0.01077
5-9	0.028963	72987	2114	359648	0.97635	3797456	52.03	0.00587
10-14	0.018185	70873	1289	351141	0.97654	3437808	48.51	0.00367
15-19	0.028830	69584	2006	342904	0.96498	3086667	44.36	0.00585
20-24	0.041392	67578	2797	330895	0.95629	2743764	40.60	0.00845
25-29	0.046133	64781	2989	316431	0.95154	2412868	37.25	0.00944
30-34	0.050903	61792	3145	301096	0.94677	2096437	33.93	0.01045
35-39	0.055674	58647	3265	285070	0.94137	1795341	30.61	0.01145
40-44	0.061764	55382	3421	268356	0.93313	1510270	27.27	0.01275
45-49	0.072314	51961	3758	250411	0.91939	1241914	23.90	0.01501
50-54	0.089562	48203	4317	230224	0.89640	991503	20.57	0.01875
55-59	0.119860	43886	5260	206281	0.86364	761279	17.35	0.02550
60-64	0.155540	38626	6008	178110	0.81787	554999	14.37	0.03373
65-69	0.213610	32618	6968	145672	0.75312	376888	11.55	0.04783
70-74	0.289181	25651	7418	109709	0.66581	231217	9.01	0.06761
75-79	0.379503	18233	7248	73046	0.66346	121508	6.66	0.09922
80+	1.000000	10895	10985	48462	0.00000	84852	4.41	0.22666

45-49	0.061406	55874	3431	270792	0.93087	1415634	25.34	0.01267
50-54	0.077391	52443	4057	252073	0.90993	1144842	21.83	0.01609
55-59	0.103845	48386	5025	229370	0.88139	892769	18.45	0.02191
60-64	0.135080	43362	5857	202165	0.84044	663399	15.30	0.02897
65-69	0.187858	37504	7045	159908	0.77965	461233	12.30	0.04147
70-74	0.260366	30459	7930	132468	0.69678	291325	9.56	0.05987
75-79	0.361163	22528	8136	92301	0.72107	158857	7.05	0.08815
80+	1.000000	14392	14392	66556	0.00000	66556	4.62	0.21624
Alpha= 0.136271 Beta= 0.875935								

35-39	0.058639	55100	3231	267421	0.93845	1668419	30.28	0.01208
40-44	0.064648	51869	3353	250961	0.93025	1400998	27.01	0.01336
45-49	0.075205	48516	3649	233456	0.91649	1150038	23.70	0.01563
50-54	0.092483	44667	4149	213961	0.89310	916582	20.43	0.01939
55-59	0.122786	40717	5000	191088	0.86077	702621	17.26	0.02616
60-64	0.157980	35718	5643	164483	0.81592	511533	14.32	0.03431
65-69	0.215066	30075	6468	134206	0.75263	347050	11.54	0.04820
70-74	0.288526	23607	6811	101007	0.66767	212844	9.02	0.06743
75-79	0.393894	16796	6616	67440	0.65833	111837	6.66	0.09810
80+	1.000000	10180	10180	44398	0.00000	44398	4.36	0.22929

BOTH SEXES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.184485	100000	18448	87824	0.90477	4398245	43.98	0.21006
1	0.043460	81552	3544	79460	0.97137	4310421	52.86	0.04460
2	0.019879	78007	1551	77185	0.98399	4230961	54.24	0.02009
3	0.012753	76457	975	75950	0.98882	4153776	54.33	0.01284
4	0.009714	75482	733	75100	0.98222	4077826	54.02	0.00976
5-9	0.026304	74748	1966	368826	0.97853	4002726	53.55	0.00533
10-14	0.016502	72782	1201	360908	0.97871	3633900	49.93	0.00333
15-19	0.026157	71381	1872	353224	0.96819	3272992	45.72	0.00530
20-24	0.037620	69709	2622	341987	0.96026	2919768	41.89	0.00767
25-29	0.041944	67086	2814	328397	0.95590	2577780	38.42	0.00857
30-34	0.046348	64272	2979	313915	0.95147	2249384	35.00	0.00949
35-39	0.050811	61293	3114	298661	0.94642	1935469	31.58	0.01043
40-44	0.056488	58179	3286	282679	0.93874	1636788	28.13	0.01163
45-49	0.066318	54893	3640	265362	0.92593	1354109	24.67	0.01372
50-54	0.082365	51252	4221	245708	0.90405	1088746	21.24	0.01718
55-59	0.110745	47031	5208	222133	0.87333	843038	17.93	0.02345
60-64	0.144583	41822	6047	193995	0.82979	620905	14.85	0.03117
65-69	0.200161	35776	7161	160976	0.76718	426909	11.93	0.04448
70-74	0.273651	28615	7830	123498	0.68129	265933	9.29	0.06341
75-79	0.380739	20784	7913	84138	0.69288	142436	6.85	0.09405
80+	1.000000	12871	12871	58298	0.00000	58298	4.53	0.22078

TOTAL POPULATION

MALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.163342	100000	16334	89056	0.91688	4481741	44.82	0.18341
1	0.040760	83666	3410	81654	0.97321	4392685	52.50	0.04176
2	0.018560	80256	1490	79466	0.98505	4311031	53.72	0.01874
3	0.011907	78766	938	78278	0.98958	4231565	53.72	0.01198
4	0.009029	77828	703	77463	0.98318	4153287	53.36	0.00907
5-9	0.025041	77125	1931	380799	0.97955	4075824	52.85	0.00507
10-14	0.015732	75194	1183	373013	0.97986	3695025	49.14	0.00317
15-19	0.024621	74011	1822	365500	0.96927	3322011	44.89	0.00499
20-24	0.036988	72189	2670	354270	0.96096	2956511	40.96	0.00754
25-29	0.041165	69519	2862	340440	0.95618	2602241	37.43	0.00841
30-34	0.046596	66657	3106	325521	0.95017	2261802	33.93	0.00954
35-39	0.053225	63951	3383	309299	0.94330	1936281	30.47	0.01094
40-44	0.060366	60169	3632	291763	0.93381	1626981	27.04	0.01245
45-49	0.072382	56537	4092	272452	0.91934	1335218	23.62	0.01502
50-54	0.089582	52444	4698	250476	0.89507	1062767	20.26	0.01876
55-59	0.121785	47746	5815	224194	0.85896	812290	17.01	0.02594
60-64	0.161044	41931	6753	192775	0.81033	588096	14.03	0.03503
65-69	0.223783	35179	7872	156212	0.74134	395321	11.24	0.05040
70-74	0.303588	27306	8290	115807	0.64720	239109	8.76	0.07158
75-79	0.423465	19016	8053	74950	0.64512	123302	6.48	0.10744
80+	1.000000	10964	10964	48352	0.00000	48352	4.41	0.22675
Alpha= 0.082817 Beta= 0.971946								

FEMALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.175648	100000	17565	89753	0.91573	4559893	45.60	0.17565
1	0.041165	84235	3468	82189	0.97262	4470140	53.07	0.04219
2	0.019355	80768	1563	79939	0.98434	4378951	54.33	0.01956
3	0.012535	79204	994	78687	0.98894	4308012	54.39	0.01264
4	0.009671	78210	756	77817	0.98244	4229325	54.08	0.00972
5-9	0.028901	77454	2006	382253	0.97878	4151508	53.60	0.00525
10-14	0.016424	75447	1239	374140	0.97850	3769255	49.96	0.00311
15-19	0.026653	74208	1978	368097	0.96807	3395116	45.75	0.00540
20-24	0.037361	72230	2699	354406	0.96013	3029019	41.94	0.00761
25-29	0.042472	69532	2953	340276	0.95549	2674613	38.47	0.00868
30-34	0.046644	66579	3105	325130	0.95178	2334336	35.06	0.00955
35-39	0.049883	63473	3166	309450	0.94752	2009206	31.65	0.01023
40-44	0.055211	60307	3330	293211	0.94032	1699756	28.19	0.01136
45-49	0.064413	56977	3670	275712	0.92725	1406545	24.69	0.01311
50-54	0.081665	53307	4353	255653	0.90461	1130833	21.21	0.01703
55-59	0.110327	48954	5401	231267	0.87366	875180	17.88	0.02335
60-64	0.144345	43553	6287	202048	0.82929	643913	14.78	0.03111
65-69	0.201522	37266	7510	167557	0.76384	441865	11.86	0.04482
70-74	0.279546	29756	8318	127986	0.67577	274308	9.22	0.06499
75-79	0.386249	21438	8280	86489	0.69179	146322	6.83	0.09574
80+	1.000000	13158	13158	59832	0.00000	59832	4.55	0.21991
Alpha= 0.132579 Beta= 0.940514								

BOTH SEXES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.160426	100000	16043	89412	0.91630	4521054	45.21	0.17942
1	0.040967	83957	3440	81928	0.97291	4431642	52.78	0.04198
2	0.018967	80518	1527	79709	0.98469	4349714	54.02	0.01916
3	0.012239	78991	967	78488	0.98925	4270006	54.06	0.01232
4	0.009358	78024	730	77644	0.98280	4191517	53.72	0.00940
5-9	0.025481	77294	1970	381545	0.97916	4113873	53.22	0.00516
10-14	0.016086	75324	1212	373592	0.97916	3732328	49.55	0.00324
15-19	0.025662	74113	1902	368608	0.96865	3358736	45.32	0.00520
20-24	0.037179	72211	2685	354342	0.96054	2992928	41.45	0.00758
25-29	0.041834	69526	2909	340358	0.95582	2638586	37.95	0.00855
30-34	0.046621	66617	3106	325323	0.95099	2298228	34.90	0.00955
35-39	0.051513	63512	3272	309379	0.94546	1972905	31.06	0.01058
40-44	0.057726	60240	3477	292506	0.93714	1663526	27.61	0.01189
45-49	0.068300	56763	3877	274121	0.92339	1371019	24.15	0.01414
50-54	0.085527	52886	4523	253120	0.89996	1096899	20.74	0.01787
55-59	0.115916	48363	5606	227798	0.86692	843778	17.45	0.02461
60-64	0.152491	42757	6520	197483	0.82004	615981	14.41	0.03302
65-69	0.212381	36237	7696	161943	0.75286	418498	11.55	0.04752
70-74	0.291274	28541	8313	121920	0.66180	256555	8.99	0.06819
75-79	0.404403	20227	8180	80687	0.66861	134635	6.66	0.10138
80+	1.000000	12047	12047	53948	0.00000	53948	4.48	0.22332

TOTAL POPULATION

MALES 1900

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.133563	100000	13356	91051	0.93135	4711520	47.12	0.14669
1	0.036047	86644	3123	84801	0.97620	4620469	53.33	0.03683
2	0.016662	83520	1392	82783	0.98556	4535668	54.31	0.01681
3	0.010729	82129	881	81671	0.99060	4452885	54.22	0.01079
4	0.008169	81248	664	80903	0.98470	4371215	53.80	0.00820
5-9	0.022822	80584	1839	398322	0.98132	4290312	53.24	0.00462
10-14	0.014438	78745	1137	390882	0.98143	3891990	49.43	0.00299
15-19	0.022758	77608	1766	383624	0.97142	3501108	45.11	0.00460

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4	0.009936	75676	752	75285	0.98180	4042821	53.42	0.00999	1	0.049516	78564	3890	76269	0.96754	3958243	50.38	0.05101
5-9	0.026936	74924	2018	369574	0.97800	3967536	52.95	0.00546	2	0.022254	74674	1662	73793	0.98212	3881974	51.99	0.02252
10-14	0.016933	72906	1235	361442	0.97813	3597962	49.35	0.00342	3	0.014182	73012	1035	72474	0.98761	3808181	52.16	0.01429
15-19	0.026895	71671	1928	353537	0.96727	3236520	45.16	0.00545	4	0.010706	71977	771	71576	0.98019	3735707	51.90	0.01077
20-24	0.038729	69744	2701	341965	0.95903	2882983	41.34	0.00790	5-9	0.029430	71206	2096	350792	0.97603	3664131	51.46	0.00597
25-29	0.043292	67042	2902	327956	0.95444	2541018	37.90	0.00885	10-14	0.018348	69111	1268	342383	0.97664	3313339	47.94	0.00370
30-34	0.047922	64140	3074	313016	0.94980	2213061	34.50	0.00982	15-19	0.028471	67843	1932	334384	0.96474	2970956	43.79	0.00578
35-39	0.052594	61066	3212	297303	0.94451	1900045	31.11	0.01080	20-24	0.042258	65911	2785	322592	0.95571	2636572	40.00	0.00863
40-44	0.058549	57855	3387	280805	0.93647	1602743	27.70	0.01206	25-29	0.046413	63126	2930	308304	0.95094	2313980	36.66	0.00950
45-49	0.068813	54467	3748	262966	0.92310	1321938	24.27	0.01425	30-34	0.051835	60196	3120	293179	0.94497	2005676	33.32	0.01064
50-54	0.085591	50719	4341	242744	0.90029	1058971	20.88	0.01788	35-39	0.058399	57076	3333	277045	0.93825	1712498	30.00	0.01203
55-59	0.115156	46378	5341	218539	0.86832	816228	17.60	0.02444	40-44	0.065317	53742	3510	259937	0.92895	1435453	26.71	0.01350
60-64	0.150355	41037	6170	189762	0.82318	597689	14.56	0.03252	45-49	0.077189	50232	3877	241467	0.91471	1175516	23.40	0.01606
65-69	0.207963	34867	7251	156208	0.75857	407927	11.70	0.04642	50-54	0.094069	46355	4361	220873	0.89089	934049	20.15	0.01974
70-74	0.283692	27616	7834	118494	0.67072	251719	9.11	0.06612	55-59	0.125717	41994	5279	196773	0.85677	713176	16.98	0.02683
75-79	0.392917	19782	7773	79477	0.67627	133224	6.73	0.09780	60-64	0.163252	36715	5994	168590	0.80964	516403	14.07	0.03555
80+	1.000000	12009	12009	53748	0.00000	53748	4.48	0.22344	65-69	0.222749	30721	6843	136498	0.74464	347813	11.32	0.05103
									70-74	0.297324	23878	7099	101641	0.65611	211316	8.85	0.06985
									75-79	0.410157	16778	6882	66688	0.64459	109675	6.54	0.10319
									80+	1.000000	9897	9897	42987	0.00000	42987	4.34	0.23023

WHITE POPULATION

MALES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.185132	100000	18513	87596	0.90708	4411388	44.11	0.21135
1	0.042232	81487	3441	79456	0.97235	4323791	53.06	0.04331
2	0.018993	78045	1482	77260	0.98474	4244335	54.38	0.01919
3	0.012114	76563	927	76081	0.98942	4167075	54.43	0.01219
4	0.009152	75636	692	75276	0.98302	4090994	54.09	0.00920
5-9	0.025235	74943	1891	369989	0.97945	4015719	53.58	0.00511
10-14	0.015752	73052	1151	362384	0.97990	3645729	49.91	0.00318
15-19	0.024510	71902	1762	355102	0.96956	3283345	45.66	0.00496
20-24	0.036527	70139	2562	344291	0.96163	2928243	41.75	0.00744
25-29	0.040287	67577	2722	331080	0.95730	2583952	38.24	0.00822
30-34	0.045205	64855	2932	318944	0.95187	2252872	34.74	0.00925
35-39	0.051198	61923	3170	301689	0.94569	1935928	31.26	0.01051
40-44	0.057593	58753	3384	285304	0.93711	1634239	27.82	0.01186
45-49	0.068517	55369	3794	267360	0.92394	1348935	24.36	0.01419
50-54	0.084161	51575	4341	247024	0.90176	1081575	20.97	0.01757
55-59	0.113621	47235	5367	222756	0.86960	834550	17.67	0.02409
60-64	0.149334	41868	6252	193708	0.82426	611794	14.61	0.03228
65-69	0.206783	35615	7365	159666	0.76058	418086	11.74	0.04613
70-74	0.280567	28251	7926	121438	0.67202	258421	9.15	0.06527
75-79	0.393884	20325	8006	81609	0.67852	136982	6.74	0.09810
80+	1.000000	12319	12319	55373	0.00000	55373	4.49	0.22247

Alpha= 0.090207 Beta= 0.898031

FEMALES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.166329	100000	16633	89189	0.91267	4638113	46.38	0.18649
1	0.039999	83367	3335	81400	0.97351	4548924	54.56	0.04097
2	0.018599	80032	1489	79244	0.98498	4467525	55.82	0.01878
3	0.012004	78544	943	78054	0.98944	4388281	55.87	0.01208
4	0.009217	77601	715	77229	0.98332	4310227	55.54	0.00926
5-9	0.024578	76886	1890	379705	0.97990	4232998	55.06	0.00498
10-14	0.015502	74996	1163	372074	0.97976	3853293	51.38	0.00312
15-19	0.025047	73834	1849	364545	0.97009	3481219	47.15	0.00507
20-24	0.034905	71984	2513	353640	0.96287	3116674	43.30	0.00711
25-29	0.039427	69472	2739	340511	0.95880	2763034	39.77	0.00804
30-34	0.043040	66733	2872	326483	0.95562	2422523	36.30	0.00880
35-39	0.045779	63860	2923	311994	0.95195	2096041	32.82	0.00937
40-44	0.050431	60937	3073	297002	0.94559	1784047	29.28	0.01035
45-49	0.058596	57864	3391	280843	0.93392	1487045	25.70	0.01207
50-54	0.074039	54473	4033	262283	0.91358	1206202	22.14	0.01538
55-59	0.099786	50440	5033	239618	0.88571	943919	18.71	0.02101
60-64	0.130401	45407	5921	212232	0.84542	704301	15.51	0.02790
65-69	0.182493	39486	7202	179424	0.78518	492069	12.46	0.04014
70-74	0.254484	32284	8216	140880	0.70236	312645	9.68	0.05832
75-79	0.355523	24068	8557	98949	0.73591	171766	7.14	0.08648
80+	1.000000	15511	15511	72817	0.00000	72817	4.69	0.21302

Alpha= 0.094883 Beta= 0.872936

BOTH SEXES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.175501	100000	17550	88417	0.90991	4525417	45.25	0.19849
1	0.041088	82450	3388	80451	0.97295	4437000	53.81	0.04211
2	0.018791	79062	1486	78275	0.98487	4356549	55.10	0.01898
3	0.012058	77576	935	77090	0.98943	4278274	55.15	0.01213
4	0.009185	76641	704	76275	0.98318	4201184	54.82	0.00923
5-9	0.024898	75937	1891	374959	0.97968	4124909	54.32	0.00504
10-14	0.015624	74046	1157	367340	0.97983	3749950	50.64	0.00315
15-19	0.024785	72890	1807	359931	0.96983	3382610	46.41	0.00502
20-24	0.035696	71083	2537	349071	0.96227	3022679	42.52	0.00727
25-29	0.039847	68546	2731	335899	0.95807	2673608	39.00	0.00813
30-34	0.044096	65814	2902	321816	0.95379	2337709	35.52	0.00902
35-39	0.048422	62912	3046	306945	0.94889	2015893	32.04	0.00992
40-44	0.053925	59866	3228	291258	0.94145	1708948	28.55	0.01108
45-49	0.063436	56637	3593	274205	0.92905	1417690	25.03	0.01310
50-54	0.078977	53045	4189	254750	0.90781	1143485	21.56	0.01644
55-59	0.106535	48855	5205	231265	0.87785	888735	18.19	0.02251
60-64	0.139637	43651	6095	203015	0.83509	657470	15.06	0.03002
65-69	0.194292	37555	7297	169535	0.77317	454455	12.10	0.04304
70-74	0.267207	30259	8085	131080	0.68753	284920	9.42	0.06168
75-79	0.374236	22173	8298	90122	0.70702	153840	6.94	0.09208
80+	1.000000	13875	13875	63718	0.00000	63718	4.59	0.21776

WHITE POPULATION

MALES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.214358	100000	21436	85638	0.89060	4043881	40.44	0.25031

FEMALES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.215266	100000	21527	86008	0.88478	4058674	40.59	0.25029
1	0.051305	78473	4026	76098	0.96600	3972666	50.62	0.05291
2	0.023741	74447	1767	73511	0.98085	3896568	52.34	0.02404
3	0.015274	72680	1110	72103	0.98657	3823057	52.60	0.01540
4	0.011700	71570	837	71134	0.97894	3750955	52.41	0.01177
5-9	0.031000	70732	2193	348180	0.97467	3679820	52.02	0.00630
10-14	0.019478	68540	1335	339361	0.97468	3331640	48.61	0.00391
15-19	0.031276	67205	2102	330769	0.96285	2992279	44.52	0.00635
20-24	0.043222	65103	2814	318479	0.95425	2661511	40.88	0.00884
25-29	0.048382	62289	3014	303910	0.94970	2343032	37.62	0.00992
30-34	0.052309	59575	3101	288623	0.94632	2039121	34.40	0.01075
35-39	0.055123	56174	3096	273129	0.94245	1750498	31.16	0.01134
40-44	0.060124	53077	3191	257409	0.93553	1477370	27.83	0.01240
45-49	0.069103	49886	3447	240813	0.92265	1219960	24.45	0.01432
50-54	0.086202	46439	4003	222187	0.90036	975147	21.08	0.01802
55-59	0.114352	42436	4853	200048	0.87045	756960	17.84	0.02426
60-64	0.146717	37583	5514	174131	0.82840	556913	14.82	0.03167
65-69	0.200755	32069	6438	144250	0.76702	382782	11.94	0.04463
70-74	0.273292	25631	7005	110643	0.68503	238531	9.31	0.06311
75-79	0.372318	18626	6935	75794	0.68730	127888	6.87	0.09150
80+	1.000000	11691	11691	52094	0.00000	52094	4.46	0.22443
Alpha=		0.256351	Beta=		0.875189			

FEMALES 1890										BOTH SEXES 1900									
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)		AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	
0	0.144903	100000	14490	90581	0.92296	4743962	47.44	0.15997		0	0.119763	100000	11976	92096	0.93737	4961659	49.62	0.13004	
1	0.037790	85510	3231	83603	0.97488	4653380	54.42	0.03865		1	0.032657	88024	2875	86328	0.97835	4869564	55.32	0.03330	
2	0.017784	82278	1463	81503	0.98561	4569777	55.54	0.01795		2	0.015298	85149	1303	84459	0.98762	4783236	56.17	0.01542	
3	0.011544	80815	933	80330	0.98982	4488274	55.54	0.01161		3	0.009932	83847	833	83414	0.99126	4698777	56.04	0.00998	
4	0.008897	79882	711	79513	0.98383	4407944	55.18	0.00894		4	0.007626	83014	633	82685	0.98588	4615364	55.60	0.00766	
5-9	0.023870	79171	1890	391133	0.98044	4328432	54.67	0.00483		5-9	0.020958	82381	1727	407588	0.98282	4532679	55.02	0.00424	
10-14	0.015151	77282	1171	383481	0.98015	3937299	50.95	0.00305		10-14	0.013326	80654	1075	400584	0.98265	4125091	51.15	0.00268	
15-19	0.024629	76111	1875	375867	0.97044	3553819	46.69	0.00499		15-19	0.021433	79579	1706	393633	0.97361	3724507	46.80	0.00433	
20-24	0.034606	74236	2569	364758	0.96302	3177951	42.81	0.00704		20-24	0.031458	77874	2450	383245	0.96638	3330874	42.77	0.00639	
25-29	0.039442	71667	2827	351269	0.95860	2813193	39.25	0.00805		25-29	0.035859	75424	2705	370359	0.96185	2947629	39.08	0.00730	
30-34	0.043437	68840	2990	336727	0.95502	2461924	35.76	0.00888		30-34	0.040522	72719	2947	356231	0.95708	2577270	35.44	0.00827	
35-39	0.046587	65850	3068	321582	0.95091	2125197	32.27	0.00954		35-39	0.045424	69773	3169	340940	0.95155	2221040	31.83	0.00930	
40-44	0.051725	62782	3247	305794	0.94398	1803616	28.73	0.01062		40-44	0.051624	66603	3438	324421	0.94333	1880099	28.23	0.01060	
45-49	0.060558	59535	3605	288662	0.93143	1497822	25.16	0.01249		45-49	0.061994	63165	3916	306036	0.92984	1555678	24.63	0.01280	
50-54	0.077105	55930	4312	268867	0.90963	1209160	21.62	0.01604		50-54	0.078871	59249	4673	284563	0.90673	1249642	21.09	0.01642	
55-59	0.104734	51617	5406	244571	0.87959	940293	18.22	0.02210		55-59	0.108908	54576	5944	258021	0.87350	965079	17.68	0.02304	
60-64	0.137917	46211	6373	215123	0.83608	695722	15.06	0.02963		60-64	0.146244	48632	7112	225381	0.82523	707058	14.54	0.03156	
65-69	0.194091	39838	7732	179859	0.77127	480599	12.06	0.04299		65-69	0.208178	41520	8644	185992	0.75497	481676	11.60	0.04647	
70-74	0.271712	32106	8724	138720	0.68307	300740	9.37	0.06289		70-74	0.291574	32877	9586	140418	0.65864	295685	8.99	0.06827	
75-79	0.379010	23382	8862	94756	0.70987	162020	6.93	0.09353		75-79	0.411636	23291	9587	92485	0.67883	155266	6.67	0.10366	
80+	1.000000	14520	14520	67265	0.00000	67265	4.63	0.21587		80+	1.000000	13703	13703	62781	0.00000	62781	4.58	0.21827	
Alpha= 0.078827 Beta= 0.936548																			
BOTH SEXES 1890										(II) WEST MODEL									
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)		TOTAL POPULATION									
0	0.150683	100000	15068	90055	0.92188	4674665	46.75	0.16732		MALES 1850									
1	0.038160	84932	3241	83020	0.97478	4584610	53.98	0.03904		AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	
2	0.017660	81691	1443	80926	0.98574	4501591	55.11	0.01783		0	0.203522	100000	20352	86364	0.88975	3778577	37.79	0.23566	
3	0.011396	80248	915	79772	0.98999	4420665	55.09	0.01146		1	0.059700	79648	4755	76842	0.96027	3692213	46.36	0.06188	
4	0.008715	79333	691	78974	0.98397	4340892	54.72	0.00875		2	0.027808	74983	2083	73789	0.97712	3615371	48.27	0.02822	
5-9	0.023760	78642	1869	388539	0.98057	4261918	54.19	0.00481		3	0.018731	72810	1364	72101	0.98361	3541582	48.64	0.01892	
10-14	0.015004	76774	1152	380988	0.98056	3873379	50.45	0.00302		4	0.014188	71446	1014	70919	0.97748	3469481	48.56	0.01429	
15-19	0.023954	75622	1811	373580	0.97070	3492391	46.18	0.00485		5-9	0.031539	70433	2221	346610	0.97275	3398562	48.25	0.00641	
20-24	0.034767	73810	2566	362636	0.96307	3118811	42.25	0.00708		10-14	0.022822	68211	1557	337165	0.97276	3051951	44.74	0.00462	
25-29	0.039177	71244	2991	349243	0.95859	2756175	38.69	0.00799		15-19	0.031766	66655	2117	327980	0.96172	2714787	40.73	0.00646	
30-34	0.043740	68453	2794	334780	0.95397	2406933	35.16	0.00894		20-24	0.045006	64537	2905	315425	0.95262	2386807	36.98	0.00921	
35-39	0.048433	65459	3170	319368	0.94866	2072153	31.66	0.00993		25-29	0.049873	61633	3074	300479	0.94647	2071382	33.61	0.01023	
40-44	0.054394	62288	3388	302972	0.94068	1752785	28.14	0.01118		30-34	0.057374	58559	3360	284395	0.93772	1770903	30.24	0.01181	
45-49	0.064526	58900	3801	285000	0.92749	1449813	24.61	0.01334		35-39	0.067490	55199	3725	266682	0.92542	1486508	26.93	0.01397	
50-54	0.081053	55100	4466	264334	0.90493	1164813	21.14	0.01690		40-44	0.082187	51474	4230	246793	0.91033	1219826	23.70	0.01714	
55-59	0.110323	50634	5586	239204	0.87293	900479	17.78	0.02335		45-49	0.097831	47243	4622	224662	0.88891	973033	20.60	0.02057	
60-64	0.145898	45048	6572	208807	0.82707	661276	14.68	0.03148		50-54	0.125779	42621	5361	199705	0.85910	748371	17.56	0.02684	
65-69	0.204571	38475	7871	172699	0.76078	452468	11.76	0.04558		55-59	0.158191	37261	5894	171567	0.81572	548666	14.73	0.03436	
70-74	0.282788	30604	8655	131386	0.66991	279769	9.14	0.06587		60-64	0.215273	31366	6752	139951	0.75347	377099	12.02	0.04825	
75-79	0.396033	21950	8693	88017	0.68585	148383	6.76	0.09876		65-69	0.286354	24614	7048	105449	0.67203	237149	9.63	0.06684	
80+	1.000000	13257	13257	60366	0.00000	60366	4.55	0.21961		70-74	0.386273	17566	6785	70865	0.56286	131700	7.50	0.09575	
										75-79	0.520034	10781	5606	39887	0.52517	60834	5.64	0.14055	
										80+	1.000000	5174	5174	20948	0.00000	20948	4.05	0.24701	
										LEVEL= 9.203									
WHITE POPULATION										FEMALES 1850									
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)		AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	
0	0.127845	100000	12785	91434	0.93485	4850847	48.51	0.13982		0	0.160990	100000	16099	89536	0.90738	4256489	42.56	0.17981	
1	0.033775	87216	2946	85478	0.97775	4759413	54.57	0.03446		1	0.053694	83901	4505	81243	0.96409	4166953	49.67	0.05545	
2	0.015537	84270	1309	83576	0.98747	4673935	55.46	0.01567		2	0.025428	79396	2019	78326	0.97922	4085710	51.46	0.02578	
3	0.010019	82960	831	82528	0.99122	4590359	55.33	0.01007		3	0.016862	77377	1305	76699	0.98514	4007384	51.79	0.01701	
4	0.007625	82129	626	81804	0.98571	4507831	54.89	0.00766		4	0.012980	76072	987	75559	0.97867	3930686	51.67	0.01307	
5-9	0.021300	81503	1736	403175	0.98258	4426027	54.31	0.00431		5-9	0.030304	75085	2275	369736	0.97297	3855127	51.34	0.00615	
10-14	0.013463	79767	1074	386151	0.98269	4022852	50.43	0.00271		10-14	0.023656	72810	1722	359742	0.97248	3485390	47.87	0.00479	
15-19	0.021219	78693	1670	389291	0.97335	3626702	46.09	0.00429		15-19	0.023480	71087	2238	349842	0.96446	3125648	43.97	0.00640	
20-																			

60-64	0.191364	35508	6795	160552	0.77914	454401	12.80	0.04232
65-69	0.257339	28713	7389	125092	0.70012	293848	10.23	0.05907
70-74	0.357166	21324	7616	87579	0.59220	168756	7.91	0.08696
75-79	0.486573	13708	6670	51864	0.56517	81177	5.92	0.12860
80+	1.000000	7038	7038	29312	0.00000	29312	4.16	0.24010
LEVEL=		9.633						

TOTAL POPULATION

MALES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.173864	100000	17386	88351	0.90777	4179492	41.79	0.19679
1	0.049475	82614	4087	80202	0.96728	4091141	49.52	0.05096
2	0.022797	78526	1790	77578	0.98130	4010939	51.08	0.02308
3	0.015278	76736	1172	76126	0.98666	3933362	51.26	0.01540
4	0.011531	75564	871	75111	0.98121	3857235	51.05	0.01160
5-9	0.026589	74692	1986	368497	0.97701	3782124	50.64	0.00539
10-14	0.019299	72706	1403	360024	0.97680	3413627	46.95	0.00390
15-19	0.027183	71303	1938	351671	0.96723	3053603	42.83	0.00551
20-24	0.038504	69365	2671	340148	0.95954	2701932	38.95	0.00785
25-29	0.042490	66694	2834	326386	0.95442	2361784	35.41	0.00868
30-34	0.048812	63860	3117	311509	0.94689	2035398	31.87	0.01001
35-39	0.057626	60743	3500	294965	0.93604	1723889	28.38	0.01187
40-44	0.070679	57243	4046	276099	0.92221	1428924	24.96	0.01465
45-49	0.085448	53197	4546	254621	0.90220	1152824	21.67	0.01785
50-54	0.111316	48651	5416	229718	0.87390	898203	18.46	0.02358
55-59	0.142733	43236	6171	200751	0.83244	668486	15.46	0.03074
60-64	0.196510	37065	7284	167114	0.77289	467735	12.62	0.04358
65-69	0.265205	29781	7898	129160	0.69349	300621	10.09	0.06115
70-74	0.362712	21883	7937	89572	0.58613	171461	7.84	0.08861
75-79	0.494138	13946	6891	52501	0.55978	81890	5.87	0.13126
80+	1.000000	7055	7055	29389	0.00000	29389	4.17	0.24004
LEVEL=		10.869						

FEMALES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.148221	100000	14822	90366	0.91551	4464286	44.64	0.16402
1	0.048695	85178	4148	82731	0.96754	4373921	51.35	0.05014
2	0.022939	81030	1859	80045	0.98128	4291190	52.96	0.02322
3	0.015174	79171	1201	78547	0.98664	4211145	53.19	0.01529
4	0.011660	77970	909	77497	0.98063	4132598	53.00	0.01173
5-9	0.027628	77061	2129	379982	0.97536	4055101	52.62	0.00560
10-14	0.021561	74932	1616	370620	0.97485	3675119	49.05	0.00436
15-19	0.028826	73116	2113	361298	0.96740	3304498	45.07	0.00585
20-24	0.036483	71203	2598	349520	0.96124	2943200	41.34	0.00743
25-29	0.041128	68605	2822	335972	0.95622	2593680	37.81	0.00840
30-34	0.046549	65784	3062	321263	0.95093	2257708	34.32	0.00953
35-39	0.051717	62721	3244	305498	0.94573	1936446	30.87	0.01062
40-44	0.056958	59478	3388	288919	0.93948	1630948	27.42	0.01173
45-49	0.064293	56090	3606	271434	0.92587	1342029	23.93	0.01329
50-54	0.084647	52484	4443	251312	0.90294	1070595	20.40	0.01768
55-59	0.110612	48041	5314	226921	0.86564	819283	17.05	0.02342
60-64	0.161051	42727	6881	196433	0.81115	592362	13.86	0.03503
65-69	0.221994	35846	7958	159336	0.73492	395929	11.05	0.04994
70-74	0.320449	27888	8937	117100	0.62838	236593	8.48	0.07632
75-79	0.446929	18952	8470	73583	0.62393	119493	6.31	0.11511
80+	1.000000	10482	10482	45910	0.00000	45910	4.38	0.22831
LEVEL=		10.859						

BOTH SEXES 1860

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.161445	100000	16145	89345	0.91136	4316965	43.17	0.18070
1	0.049119	83856	4119	81425	0.96738	4227621	50.42	0.05058
2	0.022883	79737	1825	78770	0.98128	4146195	52.00	0.02316
3	0.015236	77912	1187	77295	0.98664	4067426	52.21	0.01536
4	0.011603	76725	890	76262	0.98091	3990131	52.01	0.01167
5-9	0.027119	75835	2057	374032	0.97618	3913869	51.61	0.00550
10-14	0.020430	73778	1507	365122	0.97582	3539837	47.98	0.00413
15-19	0.028010	72271	2024	356293	0.96730	3174715	43.93	0.00568
20-24	0.037524	70247	2636	344643	0.96036	2818421	40.12	0.00765
25-29	0.041838	67611	2829	330981	0.95529	2473778	36.59	0.00855
30-34	0.047717	64782	3091	316182	0.94886	2142797	33.08	0.00978
35-39	0.054725	61691	3376	300013	0.94082	1826615	29.61	0.01125
40-44	0.063886	58315	3725	282260	0.93080	1526602	26.18	0.01320
45-49	0.074881	54589	4088	262727	0.91409	1244342	22.79	0.01556
50-54	0.097838	50501	4941	240155	0.88868	981616	19.44	0.02057
55-59	0.126256	45561	5752	213422	0.84962	741461	16.27	0.02695
60-64	0.177998	39808	7086	181327	0.79305	528039	13.26	0.03908
65-69	0.242174	32722	7925	143801	0.71583	346712	10.60	0.05511
70-74	0.339591	24798	8421	102937	0.60951	202911	8.18	0.08181
75-79	0.467557	16377	7657	62741	0.59344	99974	6.10	0.12204
80+	1.000000	8720	8720	37233	0.00000	37233	4.27	0.23419
LEVEL=		10.856						

TOTAL POPULATION

MALES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.162593	100000	16259	89106	0.91451	4343320	43.43	0.18247
1	0.045590	83741	3818	81488	0.96992	4254213	50.80	0.04685
2	0.020921	79923	1672	79037	0.98285	4172725	52.21	0.02116
3	0.013994	78251	1095	77681	0.98779	4093688	52.31	0.01410
4	0.010548	77156	814	76733	0.98262	4016007	52.05	0.01061
5-9	0.024708	76342	1886	376994	0.97862	3939274	51.60	0.00500
10-14	0.017960	74456	1337	368936	0.97833	3562280	47.84	0.00362
15-19	0.025441	73119	1860	360942	0.96933	3193344	43.67	0.00515
20-24	0.036033	71258	2568	349872	0.96217	2832402	39.75	0.00734
25-29	0.039684	68691	2726	336639	0.95744	2482529	36.14	0.00810
30-34	0.045558	65965	3005	322311	0.95038	2145891	32.53	0.00932
35-39	0.053877	62960	3392	306317	0.94008	1823580	28.96	0.01107
40-44	0.066305	59567	3950	287963	0.92672	1517263	25.47	0.01372

45-49	0.080741	55618	4491	266863	0.90725	1229300	22.10	0.01683
50-54	0.105820	51127	5410	242110	0.87953	962437	18.82	0.02235
55-59	0.136859	45717	6257	212943	0.83881	720327	15.76	0.02938
60-64	0.189379	39460	7473	178618	0.78027	507384	12.86	0.04184
65-69	0.257167	31987	8226	139371	0.70166	328766	10.28	0.05902
70-74	0.353757	23761	8406	97792	0.59500	189395	7.97	0.08595
75-79	0.484296	15355	7437	58186	0.57432	91603	5.97	0.12781
80+	1.000000	7919	7919	33417	0.00000	33417	4.22	0.23697
LEVEL=		11.550						

FEMALES 1870

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.131923	100000	13192	91425	0.92579	4745693	47.46	0.14430
1	0.042316	86808	3673	84640	0.97190	4654268	53.62	0.04340
2	0.019801	83134	1646	82262	0.98387	4569627	54.97	0.02001
3	0.013056	81488	1064	80935	0.98852	4487366	55.07	0.01315
4	0.010011	80424	805	80006	0.98312	4406431	54.79	0.01006
5-9	0.024212	79619	1928	393276	0.97842	4326425	54.34	0.00490
10-14	0.018886	77691	1467	384789	0.97787	3933148	50.63	0.00381
15-19	0.025438	76224	1939	376273	0.97116	3548360	46.55	0.00515
20-24	0.032328	74285	2401	365422	0.96561	3172086	42.70	0.00657
25-29	0.036517	71884	2625	352856	0.96110	2806664	39.04	0.00744
30-34	0.041371	69259	2865	339130	0.95629	2453808	35.43	0.00845
35-39	0.046156	66393	3064	324306	0.95137	2114678	31.85	0.00945
40-44	0.051228	63329	3244	308534	0.94520	1790372	28.27	0.01051
45-49	0.058557	60085	3518	291628	0.93222	1481838	24.66	0.01206
50-54	0.077582	56566	4389	271860	0.91057	1190211	21.04	0.01614
55-59	0.102268	52178	5336	247549	0.87534	918350	17.60	0.02156
60-64	0.149611	46842	7008	216688	0.82314	670801	14.32	0.03234
65-69	0.208905	39834	8321	173655	0.74873	454113	11.40	0.04665
70-74	0.304822	31512	9606	133547	0.64375	275748	8.75	0.07193
75-79	0.430235	21907	9425	85971	0.65407	142201	6.49	0.10963
80+	1.000000	12482	12482	56231	0.00000	56231	4.51	0.22197
LEVEL=		11.984						

BOTH SEXES 1870

35-39	0.056003	60004	3360	291620	0.94139	1809501	30.16	0.01152
40-44	0.061373	56644	3476	275528	0.93507	1517881	26.80	0.01266
45-49	0.068713	53167	3653	254704	0.92098	1243353	23.39	0.01423
50-54	0.090091	49514	4461	236418	0.89707	986649	19.93	0.01887
55-59	0.117041	45053	5273	212084	0.85819	750231	16.65	0.02486
60-64	0.169865	39780	6757	182008	0.80192	538147	13.53	0.03713
65-69	0.232079	33023	7664	145955	0.72431	356139	10.78	0.05251
70-74	0.332491	25359	8432	105716	0.61655	210184	8.29	0.07976
75-79	0.459791	16927	7783	65179	0.60278	104468	6.17	0.11941
80+	1.000000	9144	9144	39289	0.00000	39289	4.30	0.23275

LEVEL= 10.041

BOTH SEXES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.173520	100000	17352	88548	0.90389	4135704	41.36	0.19596
1	0.053540	82648	4425	80037	0.96435	4047156	48.97	0.05529
2	0.025059	78223	1960	77184	0.97947	3967119	50.72	0.02540
3	0.016722	76263	1275	75600	0.98532	3889935	51.01	0.01687
4	0.012754	74988	956	74490	0.97924	3814335	50.87	0.01284
5-9	0.029372	74031	2174	364720	0.97420	3739845	50.52	0.00596
10-14	0.022119	71857	1589	355310	0.97390	3375125	46.97	0.00447
15-19	0.030174	70267	2120	346036	0.96481	3019815	42.98	0.00613
20-24	0.040369	68147	2751	333858	0.95735	2673779	39.24	0.00824
25-29	0.045031	65396	2945	319618	0.95188	2339921	35.78	0.00921
30-34	0.051362	62451	3208	304237	0.94502	2020303	32.35	0.01054
35-39	0.058784	59244	3483	287512	0.93658	1716066	28.97	0.01211
40-44	0.068355	55761	3812	269276	0.92626	1428554	25.62	0.01415
45-49	0.079527	51949	4131	249419	0.90904	1159278	22.32	0.01656
50-54	0.103372	47818	4943	226733	0.88289	909859	19.03	0.02180
55-59	0.132426	42875	5678	200181	0.84271	683126	15.93	0.02836
60-64	0.185950	37197	6917	168694	0.78477	482946	12.98	0.04100
65-69	0.251196	30280	7606	132386	0.70648	314251	10.38	0.05746
70-74	0.350046	22674	7937	93528	0.59921	181865	8.02	0.08486
75-79	0.478870	14737	7057	56043	0.57264	88337	5.99	0.12592
80+	1.000000	7680	7680	32294	0.00000	32294	4.20	0.23781

LEVEL= 10.118

TOTAL POPULATION

MALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.155682	100000	15568	89569	0.91861	4447131	44.47	0.17381
1	0.043207	84432	3648	82279	0.97153	4357562	51.61	0.04434
2	0.019779	80784	1598	79937	0.98380	4275282	52.92	0.01999
3	0.013214	79186	1046	78642	0.98847	4195345	52.98	0.01331
4	0.009953	78140	778	77735	0.98348	4116704	52.68	0.01000
5-9	0.023554	77362	1822	382254	0.97962	4038968	52.21	0.00477
10-14	0.017139	75540	1295	374462	0.97928	3656715	48.41	0.00346
15-19	0.024373	74245	1810	366701	0.97062	3282253	44.21	0.00493
20-24	0.034518	72435	2500	355926	0.96379	2915552	40.25	0.00702
25-29	0.037963	69935	2655	340308	0.95929	2559626	36.60	0.00774
30-34	0.043562	67280	2931	320704	0.95252	2216588	32.95	0.00891
35-39	0.051579	64349	3319	313449	0.94256	1887514	29.33	0.01059
40-44	0.063623	61030	3883	295444	0.92949	1574065	25.79	0.01314
45-49	0.077856	57147	4449	274613	0.91035	1278621	22.37	0.01620
50-54	0.102450	52698	5399	249993	0.88298	1004008	19.05	0.02160
55-59	0.133257	47299	6303	220738	0.84272	754015	15.94	0.02855
60-64	0.185006	40996	7585	186020	0.78480	533277	13.01	0.04077
65-69	0.252239	33412	8428	145989	0.70668	347257	10.39	0.05773
70-74	0.348267	24984	8701	103167	0.60044	201268	8.06	0.08434
75-79	0.478262	16283	7787	61946	0.58367	98102	6.02	0.12571
80+	1.000000	8495	8495	36156	0.00000	36156	4.26	0.23496

LEVEL= 11.982

FEMALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.131721	100000	13172	91438	0.92592	4749296	47.49	0.14405
1	0.042237	86828	3667	84664	0.97195	4657858	53.64	0.04332
2	0.019763	83161	1644	82289	0.98390	4573194	54.99	0.01997
3	0.013030	81517	1062	80965	0.98854	4490905	55.09	0.01312
4	0.009991	80455	804	80037	0.98315	4409940	54.81	0.01004
5-9	0.024170	79651	1925	393442	0.97846	4329903	54.36	0.00489
10-14	0.018853	77726	1465	384966	0.97791	3936461	50.65	0.00381
15-19	0.025396	76261	1937	376461	0.97121	3551495	46.57	0.00514
20-24	0.032276	74324	2399	365622	0.96567	3175034	42.72	0.00656
25-29	0.036459	71925	2622	353069	0.96116	2809412	39.06	0.00743
30-34	0.041307	69303	2863	339356	0.95635	2456343	35.44	0.00844
35-39	0.046087	66440	3062	324545	0.95144	2116986	31.86	0.00943
40-44	0.051157	63378	3242	308784	0.94527	1792442	28.28	0.01050
45-49	0.058486	60136	3517	291866	0.93230	1483658	24.67	0.01205
50-54	0.077495	56619	4388	272124	0.91067	1191772	21.05	0.01612
55-59	0.102165	52231	5336	247814	0.87546	919648	17.61	0.02153
60-64	0.149470	46895	7009	216950	0.82329	671834	14.33	0.03231
65-69	0.208743	39885	8326	178613	0.74890	454883	11.40	0.04661
70-74	0.304628	31560	9614	133763	0.64394	276271	8.75	0.07187
75-79	0.430029	21946	9437	86135	0.65447	142508	6.49	0.10956
80+	1.000000	12508	12508	56373	0.00000	56373	4.51	0.22189

LEVEL= 11.999

BOTH SEXES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.144086	100000	14409	90490	0.92200	4592615	45.93	0.15923
1	0.042764	85591	3660	83432	0.97171	4502125	52.60	0.04387
2	0.019789	81931	1621	81072	0.98383	4418693	53.93	0.02000
3	0.013135	80310	1055	79761	0.98849	4337621	54.01	0.01323
4	0.009981	79255	791	78844	0.98330	4257860	53.72	0.01003
5-9	0.023879	78464	1874	387636	0.97902	4179016	53.26	0.00483
10-14	0.018003	76590	1379	379504	0.97858	3791381	49.50	0.00363
15-19	0.024899	75211	1873	371375	0.97089	3411876	45.36	0.00504
20-24	0.033435	73339	2452	360563	0.96469	3040501	41.46	0.00680

25-29	0.037247	70887	2640	347832	0.96019	2679938	37.81	0.00759
30-34	0.042476	68246	2899	333985	0.95439	2332105	34.17	0.00868
35-39	0.048889	65348	3195	318751	0.94693	1998120	30.58	0.01002
40-44	0.057460	62153	3571	301835	0.93733	1679370	27.02	0.01183
45-49	0.068198	58581	3995	282919	0.92135	1377534	23.51	0.01412
50-54	0.089877	54586	4906	260666	0.89702	1094615	20.05	0.01882
55-59	0.117380	49680	5831	233823	0.85956	833499	16.79	0.02494
60-64	0.166562	43849	7304	200985	0.80496	600126	13.69	0.03634
65-69	0.229200	36545	8376	161786	0.72929	399141	10.92	0.05177
70-74	0.324563	28169	9143	117989	0.62435	237355	8.43	0.07749
75-79	0.451294	19026	8587	73666	0.62038	119367	6.27	0.11656
80+	1.000000	10440	10440	45701	0.00000	45701	4.38	0.22844

LEVEL= 11.982

TOTAL POPULATION

MALES 1900

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.145309	100000	14531	90264	0.92493	4612297	46.12	0.16096
1	0.039290	85469	3358	83488	0.97417	4522033	52.91	0.04022
2	0.017912	82111	1471	81332	0.98534	4438545	54.06	0.01808
3	0.011944	80640	963	80139	0.98959	4357213	54.03	0.01202
4	0.008985	79677	716	79305	0.98482	4277074	53.68	0.00903
5-9	0.021783	78961	1720	390506	0.98121	4197769	53.16	0.00440
10-14	0.015727	77241	1215	383169	0.98078	3807263	49.29	0.00317
15-19	0.022769	76026	1731	375804	0.97255	3424094	45.04	0.00461
20-24	0.032244	74295	2396	365488	0.96621	3048290	41.03	0.00655
25-29	0.035381	71900	2544	353139	0.96207	2682802	37.31	0.00720
30-34	0.040568	69356	2814	339745	0.95573	2329663	33.59	0.00828
35-39	0.048129	66542	3203	324705	0.94628	1989918	29.90	0.00986
40-44	0.059598	63340	3775	307261	0.93365	1665213	26.29	0.01229
45-49	0.073524	59565	4379	286875	0.91504	1357952	22.80	0.01527
50-54	0.097309	55185	5370	262501	0.88827	1071077	19.41	0.02046
55-59	0.127700	49815	6361	233173	0.84872	808576	16.23	0.02728
60-64	0.178320	43454	7749	197898	0.79175	575403	12.24	0.03916
65-69	0.244679	35705	8736	156685	0.71429	377505	10.57	0.05576
70-74	0.340027	26969	9170	111919	0.60866	220802	8.19	0.08194
75-79	0.469088	17799	8349	68121	0.59865	108901	6.12	0.12256
80+	0.100000	9450	9450	40780	0.00000	40780	4.32	0.23172

10-14	0.021866	69416	1518	343284	0.97385	3146085	45.32	0.00442	4	0.010735	79334	852	78891	0.98202	4282964	53.99	0.01080
15-19	0.030522	67898	2072	343008	0.96322	2802801	41.28	0.00620	5-9	0.025723	78482	2019	387365	0.97707	4204073	53.57	0.00521
20-24	0.043241	58825	2846	322011	0.95450	2468493	37.50	0.00884	10-14	0.020070	76464	1535	378481	0.97653	3816708	49.92	0.00405
25-29	0.047869	62979	3015	307359	0.94863	2146481	34.08	0.00981	15-19	0.026937	74929	2018	369599	0.96950	3438227	45.89	0.00546
30-34	0.055051	59964	3301	291569	0.94021	1839123	30.67	0.01132	20-24	0.034166	72911	2491	358325	0.96368	3068628	42.09	0.00695
35-39	0.064814	56663	3673	274135	0.92830	1547554	27.31	0.01340	25-29	0.038557	70420	2715	345310	0.95894	2710303	38.49	0.00786
40-44	0.079064	52991	4190	254479	0.91355	1273419	24.03	0.01646	30-34	0.043662	67704	2956	331131	0.95392	2364993	34.93	0.00893
45-49	0.094471	48801	4610	232480	0.89252	1018939	20.88	0.01983	35-39	0.048616	64748	3148	315872	0.94887	2033862	31.41	0.00997
50-54	0.121854	44191	5385	207492	0.86312	786460	17.80	0.02595	40-44	0.053763	61600	3312	299723	0.94267	1717990	27.89	0.01105
55-59	0.153996	38806	5976	179090	0.82026	578968	14.92	0.03337	45-49	0.061095	58289	3561	282540	0.92941	1418268	24.33	0.01260
60-64	0.210181	32830	6900	146899	0.75874	399878	12.18	0.04697	50-54	0.080708	54727	4417	262595	0.90720	1135727	20.75	0.01682
65-69	0.280615	25930	7276	111458	0.67785	252979	9.76	0.06528	55-59	0.105960	50311	5331	238225	0.87105	873132	17.35	0.02238
70-74	0.379880	18653	7086	75552	0.56916	141521	7.59	0.09379	60-64	0.154672	44980	6957	207505	0.81783	634907	14.12	0.03353
75-79	0.513007	11567	5934	43002	0.53410	65969	5.70	0.13800	65-69	0.214696	38023	8163	169704	0.74262	427402	11.24	0.04810
80+	1.000000	5633	5633	22967	0.00000	22967	4.08	0.24527	70-74	0.311736	29859	9308	126026	0.63694	257697	8.63	0.07386
	LEVEL=	9.639							75-79	0.437621	20551	8994	80271	0.64033	131671	6.41	0.11204
									80+	1.000000	11557	11557	51400	0.00000	51400	4.45	0.22485

FEMALES 1850																	
AGE(x)	q(x)	1(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)									
0	0.155244	100000	15524	89909	0.91105	4348679	43.49	0.17267									
1	0.051444	84476	4346	81912	0.96565	4258770	50.41	0.05305									
2	0.024305	80130	1948	79098	0.98015	4176859	52.13	0.02462									
3	0.016099	78182	1259	77528	0.98582	4097761	52.41	0.01623									
4	0.012382	76924	952	76428	0.97956	4020233	52.26	0.01246									
5-9	0.029100	75971	2211	374329	0.97405	3943805	51.91	0.00591									
10-14	0.022713	73760	1675	364614	0.97354	3569476	48.39	0.00459									
15-19	0.030286	72085	2183	354967	0.96578	3204862	44.46	0.00615									
20-24	0.038274	69902	2675	342821	0.95935	2849895	40.77	0.00780									
25-29	0.043115	67226	2898	328886	0.95411	2507074	37.29	0.00881									
30-34	0.048781	64328	3138	313795	0.94862	2178188	33.86	0.01000									
35-39	0.054114	61190	3311	297672	0.94330	1864393	30.47	0.01112									
40-44	0.059427	57879	3440	280795	0.93702	1566721	27.07	0.01225									
45-49	0.066764	54439	3635	263110	0.92313	1285926	23.62	0.01381									
50-54	0.087691	50805	4455	242885	0.89966	1022816	20.13	0.01834									
55-59	0.114207	46350	5293	218514	0.86147	779930	16.83	0.02422									
60-64	0.165980	41056	6814	188244	0.80598	561416	13.67	0.03620									
65-69	0.227634	34242	7795	151722	0.72898	373172	10.90	0.05137									
70-74	0.327183	26447	8653	110603	0.62176	221450	8.37	0.07824									
75-79	0.454121	17794	8081	68769	0.61190	110848	6.23	0.11750									
80+	1.000000	9713	9713	42079	0.00000	42079	4.33	0.23084									
	LEVEL=	10.397															

BOTH SEXES 1850																	
AGE(x)	q(x)	1(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)									
0	0.174937	100000	17494	88454	0.90301	4114967	41.15	0.19777									
1	0.054059	82506	4460	79875	0.96400	4026513	48.80	0.05584									
2	0.025316	78046	1976	76999	0.97926	3946638	50.57	0.02566									
3	0.016898	76070	1285	75402	0.98517	3869640	50.87	0.01705									
4	0.012890	74785	964	74284	0.97904	3794238	50.74	0.01298									
5-9	0.029637	73821	2188	363635	0.97397	3719954	50.39	0.00602									
10-14	0.022317	71633	1599	354169	0.97367	3356319	46.85	0.00451									
15-19	0.030427	70034	2131	344845	0.96451	3002151	42.87	0.00618									
20-24	0.040703	67903	2764	332608	0.95699	2657306	39.13	0.00831									
25-29	0.045406	65140	2958	318304	0.95148	2324698	35.69	0.00929									
30-34	0.051790	62182	3220	302858	0.94457	2006395	32.27	0.01063									
35-39	0.059260	58961	3494	286072	0.93608	1703536	28.89	0.01227									
40-44	0.068879	55467	3821	267786	0.92572	1417464	25.55	0.01421									
45-49	0.080072	51647	4135	247896	0.90845	1149679	22.26	0.01668									
50-54	0.104021	47511	4942	225202	0.88221	901783	18.98	0.02195									
55-59	0.133150	42569	5668	198676	0.84190	676581	15.89	0.02853									
60-64	0.186883	36901	6896	167265	0.78380	477906	12.95	0.04123									
65-69	0.252255	30005	7569	131102	0.70538	310640	10.35	0.05773									
70-74	0.351273	22436	7881	92477	0.59800	179538	8.00	0.08522									
75-79	0.480198	14555	6989	55301	0.57430	87061	5.98	0.12638									
80+	1.000000	7566	7566	31759	0.00000	31759	4.20	0.23822									
	LEVEL=	10.033															

WHITE POPULATION									75-79	0.478400	16261	7779	61857	0.58346	97948	6.02	0.12576
MALES 1860									80+	1.000000	8482	8482	36091	0.00000	36091	4.26	0.23501
									LEVEL=		11.970						
AGE(x)	q(x)	1(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)									
0	0.165242	100000	16524	88929	0.91293	4304218	43.04	0.18581									
1	0.046503	83476	3882	81185	0.96930	4215289	50.50	0.04781									
2	0.021361	79594	1700	78693	0.98249	4134104	51.94	0.02161									
3	0.014294	77894	1113	77315	0.98752	4055411	52.06	0.01440									
4	0.010778	76780	828	76350	0.98229	3978096	51.81	0.01084									
5-9	0.025150	75953	1910	734988	0.97824	3901746	51.37	0.00509									
10-14	0.018275	74043	1353	366830	0.97797	3526756	47.63	0.00369									
15-19	0.025850	72689	1879	358750	0.96884	3159928	43.47	0.00524									
20-24	0.036614	70810	2593	347570	0.96156	2801178	39.56	0.00746									
25-29	0.040343	68218	2752	334208	0.95673	2453608	35.97	0.00823									
30-34	0.046322	65466	3032	319747	0.94956	2119399	32.37	0.00948									
35-39	0.054758	62433	3419	303619	0.93933	1799652	28.83	0.01126									
40-44	0.067333	59014	3974	285138	0.92566	1496034	25.35	0.01394									
45-49	0.081847	55041	4505	263942	0.90606	1210895	22.00	0.01707									
50-54	0.107111	50536	5413	239147	0.87821	946954	18.74	0.02263									
55-59	0.138239	45123	6238	210020	0.83731	707807	15.69	0.02970									
60-64	0.191054	38885	7429	175853	0.77854	497786	12.80	0.04225									
65-69	0.259056	31456	8149	136908	0.69974	321933	10.23	0.05952									
70-74	0.355862	23307	8294	95800	0.59291	185025	7.94	0.08658									
75-79	0.486609	15013	7305	56801	0.57082	89225	5.94	0.12861									
80+	1.000000	7708	7708	32424	0.00000	32424	4.21	0.23771									
LEVEL= 11.384																	

2	0.019220	82341	1583	81502	0.98430	4471274	54.30	0.01942
3	0.012750	80758	1030	80222	0.98883	4389772	54.36	0.01284
4	0.009685	79728	772	79327	0.98374	4309550	54.05	0.00973
5-9	0.023279	78956	1838	390185	0.97955	4230223	53.58	0.00471
10-14	0.017553	77118	1354	382206	0.97909	3840038	49.79	0.00354
15-19	0.024322	75764	1843	374215	0.97155	3457831	45.64	0.00492
20-24	0.032677	73922	2416	363570	0.96549	3083616	41.71	0.00664
25-29	0.036395	71506	2602	351025	0.96110	2720047	38.04	0.00741
30-34	0.041504	68904	2860	337369	0.95541	2369022	34.38	0.00848
35-39	0.047807	66044	3157	322326	0.94807	2031653	30.76	0.00980
40-44	0.056269	62887	3539	305586	0.93854	1709327	27.18	0.01158
45-49	0.066958	59348	3974	286805	0.92269	1403741	23.65	0.01386
50-54	0.088400	55374	4895	264633	0.89857	1116935	20.17	0.01850
55-59	0.115733	50479	5842	237790	0.86141	852302	16.88	0.02457
60-64	0.164441	44637	7340	204835	0.80718	614512	13.77	0.03583
65-69	0.226794	37297	8459	165337	0.73179	409678	10.98	0.05116
70-74	0.321777	28838	9279	120992	0.62710	244340	8.47	0.07669
75-79	0.448278	19559	8768	75874	0.62570	123348	6.31	0.11556
80+	1.000000	10791	10791	47474	0.00000	47474	4.40	0.22730
LEVEL=		12.190						

WHITE POPULATION MALES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.180077	100000	18008	87935	0.90403	4091985	40.92	0.20478
1	0.051617	81992	4232	79495	0.96581	4004050	48.83	0.05324
2	0.023838	77760	1854	76778	0.98043	3924555	50.47	0.02414
3	0.015992	75906	1214	75275	0.98603	3847777	50.69	0.01613
4	0.012079	74693	902	74223	0.98043	3772502	50.51	0.01216
5-9	0.027626	73790	2039	363855	0.97612	3698278	50.12	0.00560
10-14	0.020037	71752	1438	355165	0.97595	3344423	46.47	0.00405
15-19	0.028143	70314	1979	346624	0.96608	2979258	42.37	0.00571
20-24	0.039866	68335	2724	334866	0.95809	2632635	38.53	0.00814
25-29	0.044036	65611	2889	320832	0.95275	2297769	35.02	0.00901
30-34	0.050606	62722	3174	305674	0.94497	1976937	31.52	0.01038
35-39	0.059692	59548	3555	288852	0.93382	1671263	28.07	0.01231
40-44	0.073089	55993	4092	269735	0.91972	1382411	24.69	0.01517
45-49	0.088042	51901	4569	248080	0.89941	1112677	21.44	0.01842
50-54	0.114346	47331	5412	223126	0.87080	864597	18.27	0.02426
55-59	0.145971	41919	6119	192498	0.82894	641471	15.30	0.03149
60-64	0.200440	35800	7176	161061	0.76882	447173	12.49	0.04455
65-69	0.269635	28624	7718	123826	0.68900	286112	10.00	0.06233
70-74	0.367647	20906	7686	85316	0.58125	162285	7.76	0.09009
75-79	0.499563	13220	6604	49590	0.55212	76969	5.82	0.13318
80+	1.000000	6616	6616	27380	0.00000	27380	4.14	0.24163
LEVEL=		10.503						

FEMALES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.153592	100000	15359	90017	0.91210	4375972	43.76	0.17063
1	0.050798	84641	4300	82104	0.96609	4285556	50.63	0.05237
2	0.023983	80341	1927	79320	0.98042	4203452	52.32	0.02429
3	0.015881	78414	1245	77677	0.98601	4124132	52.59	0.01601
4	0.012212	77169	942	76769	0.97981	4046365	52.44	0.01229
5-9	0.028754	76227	2192	375654	0.97436	3969686	52.08	0.00583
10-14	0.022442	74035	1661	366021	0.97385	3594032	48.55	0.00454
15-19	0.029942	72373	2167	356449	0.96616	3228011	44.60	0.00608
20-24	0.037853	70206	2658	344388	0.95980	2871562	40.90	0.00772
25-29	0.042648	67549	2881	330542	0.95461	2527174	37.41	0.00872
30-34	0.048256	64668	3121	315539	0.94916	2196331	33.97	0.00989
35-39	0.053550	61547	3296	299497	0.94387	1881093	30.56	0.01100
40-44	0.058846	58252	3428	282688	0.93760	1581595	27.15	0.01213
45-49	0.066183	54824	3628	265047	0.92378	1298907	23.69	0.01369
50-54	0.086975	51195	4453	244845	0.90043	1033860	20.19	0.01819
55-59	0.113361	46743	5299	220466	0.86246	789015	16.88	0.02403
60-64	0.164820	41444	6831	190142	0.80720	568549	13.72	0.03592
65-69	0.226307	34613	7833	153482	0.73038	378407	10.93	0.05104
70-74	0.325599	26780	8719	112101	0.62332	224925	8.40	0.07778
75-79	0.452430	18060	8171	69874	0.61468	112824	6.25	0.11694
80+	1.000000	9889	9889	42950	0.00000	42950	4.34	0.23025
LEVEL=		10.504						

BOTH SEXES 1880

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.167271	100000	16727	88960	0.90776	4228470	42.28	0.18803
1	0.051252	83273	4268	80755	0.96592	4139510	49.71	0.05285
2	0.023930	79005	1891	78003	0.98041	4058755	51.37	0.02424
3	0.015951	77114	1230	76475	0.98601	3980752	51.62	0.01608
4	0.012156	75884	922	75405	0.98011	3904277	51.45	0.01223
5-9	0.028206	74962	2114	369524	0.97522	3828872	51.08	0.00572
10-14	0.021245	72848	1548	360369	0.97489	3459349	47.49	0.00429
15-19	0.029054	71300	2072	351321	0.96610	3098980	43.46	0.00590
20-24	0.038897	69228	2693	339410	0.95891	2747660	39.69	0.00793
25-29	0.043379	66536	2886	325462	0.95364	2408250	36.19	0.00887
30-34	0.049476	63649	3149	310374	0.94701	2082788	32.72	0.01015
35-39	0.056684	60500	3429	293928	0.93877	1772414	29.30	0.01167
40-44	0.066043	57071	3769	275931	0.92861	1478486	25.91	0.01366
45-49	0.077123	53302	4111	256231	0.91165	1202555	22.56	0.01604
50-54	0.100509	49191	4944	233594	0.88589	946324	19.24	0.02117
55-59	0.129234	44247	5718	206938	0.84628	712729	16.11	0.02763
60-64	0.181835	38529	7006	175128	0.78905	505791	13.13	0.04000
65-69	0.246528	31523	7771	138186	0.71131	330663	10.49	0.05624
70-74	0.344636	23751	8186	98293	0.60454	192477	8.10	0.08328
75-79	0.473016	15566	7363	59422	0.58499	94184	6.05	0.12391
80+	1.000000	8203	8203	34762	0.00000	34762	4.24	0.23598
LEVEL=		10.497						

WHITE POPULATION

MALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.148217	100000	14822	90069	0.92302	4562400	45.62	0.16456
1	0.040634	85178	3461	83136	0.97327	4472330	52.51	0.04163
2	0.018551	81717	1516	80914	0.98481	4389194	53.71	0.01874
3	0.012378	80201	993	79685	0.98921	4308281	53.72	0.01246
4	0.009315	79208	738	78825	0.98440	4228596	53.39	0.00936
5-9	0.022308	78471	1751	387977	0.98071	4149771	52.88	0.00451
10-14	0.016210	76720	1244	380492	0.98031	3761794	49.03	0.00327
15-19	0.023219	75477	1752	373001	0.97201	3381302	44.80	0.00470
20-24	0.032882	73724	2424	362560	0.96553	3008301	40.80	0.00669
25-29	0.036105	71300	2574	350063	0.96129	2645741	37.11	0.00735
30-34	0.041407	68726	2846	336513	0.95483	2295678	33.40	0.00846
35-39	0.049096	65880	3234	321313	0.94523	1959164	29.74	0.01007
40-44	0.060727	62645	3804	303716	0.93249	1637851	26.14	0.01253
45-49	0.074739	58841	4398	283211	0.91369	1334135	22.67	0.01553
50-54	0.098809	54443	5379	258768	0.88671	1050923	19.30	0.02079
55-59	0.129366	49064	6347	229452	0.84694	792155	16.15	0.02766
60-64	0.180284	42717	7701	194331	0.78970	562704	13.17	0.03963
65-69	0.246916	35016	8646	153463	0.71209	368373	10.52	0.05634
70-74	0.342337	26370	9027	109280	0.60632	214910	8.15	0.08261
75-79	0.471744	17342	8181	66259	0.59420	105630	6.09	0.12347
80+	1.000000	9161	9161	39371	0.00000	39371	4.30	0.23269
LEVEL=		12.427						

FEMALES 1890

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.123880	100000	12388	91948	0.93083	4891719	48.92	0.13473
1	0.039167	87612	3431	85587	0.97404	4799771	54.78	0.04009
2	0.018268	84181	1538	83365	0.98513	4714183	56.00	0.01845
3	0.012026	82643	994	82126	0.98943	4630818	56.03	0.01210
4	0.009212	81649	752	81258	0.98434	4548692	55.71	0.00926
5-9	0.022526	80897	1822	39928	0.97393	4467434	55.22	0.04556
10-14	0.017567	79074	1389	39189	0.97936	4067507	51.44	0.00354
15-19	0.023766	77685	1846	38381	0.97302	3675067	47.31	0.00481
20-24	0.030277	75839	2296	37345	0.96777	3291797	43.41	0.00615
25-29	0.034241	73543	2518	36149	0.96351	2918342	39.68	0.00697
30-34	0.038815	71025	2757	348231	0.95893	2556293	36.00	0.00792
35-39	0.043411	68268	2964	333930	0.95415	2208692	32.35	0.00887
40-44	0.048401	65304	3161	318619	0.94803	1874671	28.71	0.00992
45-49	0.055726	62143	3463	302060	0.93535	1556142	25.04	0.01146
50-54	0.074095	58680	4348	282533	0.91434	1254082	21.37	0.01539
55-59	0.098151	54333	5333	258331	0.88012	971550	17.88	0.02064
60-64	0.143966	49000	7054	227363	0.82906	713219	14.56	0.03103
65-69	0.202446	41945	8492	188498	0.75555	485856	11.58	0.04505
70-74	0.297109	33454	9939	142420	0.65134	297358	8.89	0.06779
75-79	0.421997	23514	9923	92764	0.67023	154937	6.59	0.10697
80+	1.000000	13591	13591	62173	0.00000	62173	4.57	0.21861
		LEVEL=	12.568					

80+	1.000000	10383	10383	45416	0.00000	45416	4.37	0.22863	25-29	0.030820	76596	2361	377076	0.96714	3117990	40.71	0.00626
		LEVEL=	13.276						30-34	0.034974	74235	2596	364684	0.96294	2740913	36.92	0.00712
FEMALES 1900																	
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	35-39	0.039218	71639	2810	351169	0.95847	2376229	33.17	0.00800
0	0.109457	100000	10946	92885	0.94052	5171297	51.71	0.11784	40-44	0.043936	68829	3024	336585	0.95248	2025060	29.42	0.00898
1	0.032243	89054	2871	87360	0.97872	5078412	57.03	0.03287	45-49	0.051264	65805	3373	320592	0.94033	1688474	25.66	0.01052
2	0.014931	86183	1287	85501	0.98787	4991052	57.91	0.01505	50-54	0.068522	62432	4278	301463	0.92032	1367882	21.91	0.01419
3	0.009796	84896	832	84464	0.99140	4905551	57.78	0.00985	55-59	0.091655	58154	5330	277443	0.88772	1066419	18.34	0.01921
4	0.007486	84064	629	83737	0.98678	4821087	57.35	0.00752	60-64	0.134978	52824	7130	246293	0.83833	788976	14.94	0.02895
5-9	0.019290	83435	1609	413152	0.98289	4737350	56.78	0.00390	65-69	0.192536	45694	8798	206474	0.76599	542683	11.88	0.04261
10-14	0.014879	81826	1217	406085	0.98207	4324198	52.85	0.00300	70-74	0.285367	36896	10529	158157	0.66302	336209	9.11	0.06657
15-19	0.021035	80608	1696	398802	0.97600	3918113	48.61	0.00425	75-79	0.409215	26367	10790	104861	0.69798	178052	6.75	0.10290
20-24	0.027036	78913	2133	389229	0.97118	3519311	44.60	0.00548	80+	1.000000	15577	15577	73191	0.00000	73191	4.70	0.21293
25-29	0.030644	76779	2353	378014	0.96732	3130081	40.77	0.00622			LEVEL=	13.650					
30-34	0.034776	74426	2588	365661	0.96318	2752067	36.98	0.00708	BOTH SEXES 1900								
35-39	0.038930	71838	2797	352199	0.95875	2386406	33.22	0.00794	AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
40-44	0.043656	69041	3014	337672	0.95275	2034208	29.46	0.00893	0	0.120247	100000	12025	92064	0.93712	5008255	50.08	0.13061
45-49	0.050999	66027	3367	321718	0.94062	1696536	25.69	0.01047	1	0.032755	87975	2882	86275	0.97866	4916191	55.88	0.03340
50-54	0.068204	62660	4274	302616	0.92066	1374817	21.94	0.01412	2	0.015001	85094	1276	84417	0.98778	4829916	56.76	0.01512
55-59	0.091288	58386	5330	278607	0.88815	1072201	18.36	0.01913	3	0.009908	83817	830	83385	0.99134	4745499	56.62	0.00996
60-64	0.134485	53056	7135	247444	0.83884	793594	14.96	0.02884	4	0.007505	82987	623	82663	0.98681	4662114	56.18	0.00753
65-69	0.191981	45921	8816	207566	0.76657	546151	11.89	0.04247	5-9	0.019210	82364	1582	407864	0.98317	4579451	55.60	0.00388
70-74	0.284719	37105	10565	159114	0.66365	338585	9.13	0.06640	10-14	0.014398	80782	1163	401001	0.98241	4711587	51.64	0.00290
75-79	0.408539	26541	10843	105596	0.69960	179471	6.76	0.10268	15-19	0.020832	79619	1659	393946	0.97555	3770586	47.36	0.00421
80+	1.000000	15698	15698	73875	0.00000	73875	4.71	0.21249	20-24	0.028137	77960	2194	384316	0.97030	3376640	43.31	0.00571
		LEVEL=	13.686						25-29	0.031302	75766	2372	372903	0.96655	2992324	39.49	0.00636
BOTH SEXES 1900																	
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	30-34	0.035661	73395	2617	360431	0.96156	2619421	35.69	0.00726
0	0.122170	100000	12217	91937	0.93593	4974584	49.75	0.13288	35-39	0.041314	70777	2924	346577	0.95493	2258990	31.92	0.00844
1	0.033529	87783	2943	86046	0.97794	4882648	55.62	0.03421	40-44	0.048993	67853	3324	330956	0.94591	1912413	28.18	0.01004
2	0.015368	84840	1304	84149	0.98748	4796601	56.54	0.01549	45-49	0.059444	64529	3836	313055	0.93089	1581457	24.51	0.01225
3	0.010155	83536	848	83095	0.99112	4712453	56.41	0.01021	50-54	0.079378	60693	4818	291421	0.90794	1268402	20.90	0.01653
4	0.007693	82688	636	82357	0.98653	4629358	55.99	0.00772	55-59	0.105834	55875	5914	264939	0.87248	976980	17.48	0.02235
5-9	0.019588	82051	1607	406239	0.98285	4547001	55.42	0.00396	60-64	0.151780	49962	7583	230852	0.82025	712387	14.26	0.03285
10-14	0.014672	80444	1180	399271	0.98212	4140762	51.47	0.00296	65-69	0.212722	42379	9015	189356	0.74632	481535	11.36	0.04761
15-19	0.021138	79264	1675	392131	0.97521	3741491	47.20	0.00427	70-74	0.305701	33364	10199	141321	0.64304	292179	8.76	0.07217
20-24	0.028530	77588	2214	382408	0.96988	3349360	43.17	0.00579	75-79	0.430782	23164	9979	90875	0.66006	150858	6.51	0.10981
25-29	0.031747	75375	2393	370892	0.96608	2966951	39.36	0.00645	80+	1.000000	13186	13186	59983	0.00000	59983	4.55	0.21982
30-34	0.036168	72982	2640	358311	0.96101	2596059	35.57	0.00737			LEVEL=	13.650					
35-39	0.041913	70342	2948	344341	0.95429	2237748	31.81	0.00856	WHITE POPULATION								
40-44	0.046971	67394	3348	328602	0.94524	1893407	28.09	0.01019	MALES 1900								
45-49	0.060116	64047	3850	310607	0.93018	1564805	24.43	0.01240	AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
50-54	0.080151	60196	4825	288920	0.90714	1254198	20.84	0.01670	0	0.119878	100000	11988	91968	0.94043	5034806	50.35	0.13035
55-59	0.106676	55372	5907	262091	0.87154	965278	17.43	0.02254	1	0.029327	88012	2581	86489	0.98084	4942837	56.16	0.02984
60-64	0.152847	49465	7561	228422	0.81915	703188	14.22	0.03310	2	0.013233	85431	1131	84832	0.98920	4856348	56.85	0.01333
65-69	0.213911	41904	8964	187112	0.74509	474765	11.33	0.04791	3	0.008782	84301	740	83916	0.99236	4771516	56.60	0.00882
70-74	0.307058	32940	10115	139416	0.64171	287654	8.73	0.07255	4	0.006585	83560	550	83274	0.98821	4687601	56.10	0.00661
75-79	0.432221	22826	9866	89465	0.56595	148238	6.49	0.11028	5-9	0.017298	83010	1436	411460	0.98500	4604326	55.47	0.00349
80+	1.000000	12960	12960	58774	0.00000	58774	4.54	0.22051	10-14	0.012657	81574	1032	405289	0.98422	4192866	51.40	0.00255
		LEVEL=	13.497						15-19	0.018946	80542	1526	398893	0.97712	3787577	47.03	0.00383
(III) Preston/Haines Estimates, 1900 Public Use Sample																	
Surviving Children Method, Women Aged 14-34																	
Fitted West Model Life Tables																	
TOTAL POPULATION																	
MALES 1900																	
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	25-29	0.029295	76890	2253	378821	0.96865	2998919	39.00	0.00595
0	0.129729	100000	12973	91308	0.93461	4868784	48.69	0.14208	30-34	0.033475	74638	2499	366943	0.96327	2620098	35.10	0.00681
1	0.032900	87027	2863	85338	0.97846	4777476	54.90	0.03355	35-39	0.040092	72139	2892	353466	0.95492	2253155	31.23	0.00818
2	0.014900	84164	1254	83499	0.98783	4692138	55.75	0.01502	40-44	0.050277	69247	3482	337532	0.94317	1899689	27.43	0.01031
3	0.009905	82910	821	82483	0.99137	4608638	55.59	0.00996	45-49	0.063738	65766	4192	318349	0.92548	1562157	23.75	0.01317
4	0.007436	82089	610	81771	0.98698	4526156	55.14	0.00746	50-54	0.086026	61574	5297	294627	0.89967	1243808	20.20	0.01798
5-9	0.018946	81478	1544	403532	0.98361	4444384	54.55	0.00383	55-59	0.115975	56277	6527	265068	0.86135	949182	16.87	0.02462
10-14	0.013792	79935	1102	396917	0.98290	4040852	50.55	0.00278	60-64	0.164299	49750	8174	228316	0.80618	684114	13.75	0.03580
15-19	0.020447	78832	1612	390131	0.97529	3643936	46.22	0.00413	65-69	0.229142	41576	9527	184064	0.73004	455798	10.96	0.05176
20-24	0.029052	77220	2243	380493	0.96961	3253805	42.14	0.00590	70-74	0.322915	32049	10349	134374	0.62556	271733	8.48	0.07702
25-29	0.031770	74977	2382	368929	0.96599	2873313	38.32	0.0064									

20-24	0.025911	79813	2068	393895	0.97266	3518887	44.09	0.00525
25-29	0.028813	77745	2340	383124	0.96924	3124992	40.20	0.00585
30-34	0.032760	75505	2474	371340	0.96461	2741868	36.31	0.00666
35-39	0.038106	73031	2783	358199	0.95821	2370527	32.46	0.00777
40-44	0.045617	70248	3205	343231	0.94928	2012328	28.65	0.00934
45-49	0.056071	67044	3759	325821	0.93450	1669098	24.90	0.01154
50-54	0.075483	63285	4777	304481	0.91199	1343276	21.23	0.01569
55-59	0.101569	58508	5943	277682	0.87723	1038795	17.75	0.02140
60-64	0.146365	52565	7694	243592	0.82587	761113	14.48	0.03158
65-69	0.206664	44871	9273	201174	0.75259	517522	11.53	0.04610
70-74	0.298779	35598	10636	151401	0.64985	316348	8.89	0.07025
75-79	0.423419	24962	10569	98387	0.67651	164947	6.61	0.10743
80+	1.000000	14393	14393	66560	0.00000	66560	4.62	0.21624

LEVEL= 14.360

BLACK POPULATION

MALES 1900

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.183457	100000	18346	87708	0.90198	4045186	40.45	0.20917
1	0.052782	81654	4310	79111	0.96502	3957477	48.47	0.05448
2	0.024406	77344	1888	76344	0.97996	3878366	50.14	0.02473
3	0.016383	75457	1236	74814	0.98568	3802022	50.39	0.01652
4	0.012379	74221	919	73743	0.98001	3727208	50.22	0.01246
5	0.028190	73302	2066	361343	0.97563	3653465	49.84	0.00572
10-14	0.020439	71235	1456	352537	0.97549	3292122	46.21	0.00413
15-19	0.028665	69779	2000	343897	0.96545	2939585	42.13	0.00582
20-24	0.040607	67779	2752	332015	0.95730	2595689	38.30	0.00829
25-29	0.044878	65027	2918	317839	0.95185	2263673	34.81	0.00918
30-34	0.051581	62109	3204	302534	0.94392	1945835	31.33	0.01059
35-39	0.060816	58905	3582	285569	0.93260	1643301	27.90	0.01254
40-44	0.074401	55323	4116	266323	0.91836	1357732	24.54	0.01546
45-49	0.089453	51207	4581	244581	0.89790	1091409	21.31	0.01873
50-54	0.115994	46626	5408	219609	0.86911	846828	18.16	0.02463
55-59	0.147733	41218	6089	190865	0.82703	627219	15.22	0.03190
60-64	0.202578	35128	7116	157852	0.76660	436353	12.42	0.04508
65-69	0.272045	28012	7621	121009	0.68655	278502	9.94	0.06298
70-74	0.370332	20392	7552	83079	0.57860	157492	7.72	0.09090
75-79	0.502514	12840	6452	48069	0.54805	74413	5.80	0.13423
80+	1.000000	6388	6388	26344	0.00000	26344	4.12	0.24247

LEVEL= 10.320

FEMALES 1900

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.156570	100000	15657	89823	0.91020	4327218	43.27	0.17431
1	0.051963	84343	4383	81757	0.96529	4237395	50.24	0.05361
2	0.024563	79960	1964	78919	0.97994	4155638	51.97	0.02489
3	0.016275	77996	1269	77336	0.98566	4076719	52.27	0.01641
4	0.012520	76727	961	76227	0.97935	3999383	52.12	0.01260
5	0.029378	75766	2226	373266	0.97380	3923155	51.78	0.00596
10-14	0.023931	73540	1686	363486	0.97330	3549889	48.27	0.00464
15-19	0.030561	71854	2196	353780	0.96548	3186403	44.35	0.00621
20-24	0.038612	69658	2690	341566	0.95900	2832623	40.66	0.00787
25-29	0.043490	66968	2912	327561	0.95372	2491057	37.20	0.00889
30-34	0.049202	64056	3152	312401	0.94818	2163496	33.78	0.01009
35-39	0.054566	60904	3323	296213	0.94285	1851095	30.39	0.01122
40-44	0.059893	57581	3449	279283	0.93655	1554882	27.00	0.01235
45-49	0.067231	54132	3639	261563	0.92262	1275599	23.56	0.01391
50-54	0.088266	50493	4457	241323	0.89904	1014036	20.08	0.01847
55-59	0.114886	46036	5289	216958	0.86069	772713	16.78	0.02438
60-64	0.166910	40747	6801	186733	0.80501	555755	13.64	0.03642
65-69	0.228699	33946	7763	150322	0.72786	369022	10.87	0.05165
70-74	0.328454	26183	8600	109414	0.62051	218700	8.35	0.07860
75-79	0.455479	17583	8009	67893	0.60968	109286	6.22	0.11796
80+	1.000000	9574	9574	41393	0.00000	41393	4.32	0.23130

LEVEL= 10.320

BOTH SEXES 1900

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.170341	100000	17034	88757	0.90586	4182627	41.83	0.19192
1	0.052376	82966	4345	80402	0.96515	4093869	49.34	0.05405
2	0.024484	78620	1925	77600	0.97995	4013467	51.05	0.02481
3	0.016329	76696	1252	76044	0.98567	3935867	51.32	0.01647
4	0.012449	75443	939	74955	0.97968	3859822	51.16	0.01253
5	0.028779	74504	2144	367160	0.97472	3784868	50.80	0.00584
10-14	0.021674	72360	1568	357878	0.97440	3417708	47.23	0.00438
15-19	0.029604	70792	2096	348718	0.96546	3059830	43.22	0.00601
20-24	0.039620	68696	2722	336675	0.95814	2711112	39.47	0.00808
25-29	0.044191	65974	2915	322582	0.95277	2374437	35.99	0.00904
30-34	0.050402	63059	3178	307347	0.94604	2051855	32.54	0.01034
35-39	0.057715	59880	3456	290762	0.93769	1744508	29.13	0.01189
40-44	0.067179	56424	3791	272645	0.92745	1453746	25.76	0.01390
45-49	0.078304	52634	4121	252865	0.91037	1181101	22.44	0.01630
50-54	0.101916	48512	4944	230201	0.88442	928236	19.13	0.02148
55-59	0.130802	43568	5699	203594	0.84453	698034	16.02	0.02799
60-64	0.181385	37869	6963	171940	0.78695	494440	13.06	0.04049
65-69	0.248821	30907	7690	135308	0.70894	322500	10.43	0.05684
70-74	0.347294	23217	8063	95925	0.60192	187191	8.06	0.08405
75-79	0.475892	15154	7211	57739	0.58066	91266	6.02	0.12490
80+	1.000000	7942	7942	33527	0.00000	33527	4.22	0.23689

LEVEL= 10.320

(IV) Haines/Preston Estimates, 1910 Public Use Sample
Surviving Children Method, Women Aged 14-34
Fitted West Model Life Tables

TOTAL POPULATION

MALES 1910

AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.112996	100000	11300	92429	0.94442	5354044	51.54	0.12225
1	0.026910	88700	2387	87292	0.98244	5061615	57.06	0.02714
2	0.012112	86313	1045	85759	0.99012	4974322	57.63	0.01219
3	0.008029	85268	685	84912	0.99301	4888563	57.33	0.00806
4	0.006016	84583	509	84319	0.98905	4803651	56.79	0.00603
5-9	0.016157	84075	1358	416977	0.98597	4719332	56.13	0.00326
10-14	0.011867	82716	982	411127	0.98514	4302355	52.01	0.00239
15-19	0.017895	81735	1463	405016	0.97839	3891228	47.61	0.00361
20-24	0.025389	80272	2038	396265	0.97354	3486212	43.43	0.00514
25-29	0.027569	78234	2157	385778	0.97050	3089947	39.50	0.00559
30-34	0.031484	76077	2395	374397	0.96540	2704170	35.55	0.00640
35-39	0.037808	73682	2786	361445	0.95734	2329772	31.62	0.00771
40-44	0.047693	70896	3381	346027	0.94580	1968327	27.76	0.00977
45-49	0.061034	67515	4121	327273	0.92835	1622300	24.03	0.01259
50-54	0.082958	63394	5259	303823	0.90279	1295027	20.43	0.01731
55-59	0.112747	58135	6555	274289	0.86484	991204	17.05	0.02390
60-64	0.160413	51581	8274	237217	0.81020	716915	13.90	0.03488
65-69	0.224807	43306	9736	192193	0.73445	479698	11.08	0.05066
70-74	0.318112	33571	10679	141156	0.63032	287505	8.56	0.07566
75-79	0.445309	22892	10194	88973	0.64487	146349	6.39	0.11457
80+	1.000000	12698	12698	57376	0.00000	57376	4.52	0.22131

LEVEL= 14.875

FEMALES 1910

AGE (x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.094885	100000	9489	93643	0.95175	5468225	54.68	0.10133
1	0.025982	90512	2352	89124	0.98287	5374582	59.38	0.02639
2	0.012048	88160	1062	87597	0.99020	5285458	59.95	0.01213
3	0.007935	87098	691	86738	0.99301	5197861	59.68	0.00797
4	0.006106	86407	528	86132	0.98906	5111123	59.15	0.00613
5-9	0.016051	85879	1378	425949	0.98575	5024991	58.51	0.00324
10-14	0.012426	84501	1050	419878	0.98494	4599042	54.43	0.00250
15-19	0.017727	83451	1479	413554	0.97960	4179165	50.08	0.00358
20-24	0.023114	81971	1895	405119	0.97528	3765610	45.94	0.00468
25-29	0.026366	80077	2111	395104	0.97189	3360491	41.97	0.00534
30-34	0.029911	77965	2332	383996	0.96813	2965387	38.03	0.00607
35-39	0.033885	75633	2563	371759	0.96375	2581391	34.13	0.00689
40-44	0.038708	73070	2828	358281	0.95760	2209632	30.24	0.00789
45-49	0.046248	70242	3249	343088	0.94582	1851351	26.36	0.00947
50-54	0.062503	66943	4187	324499	0.92678	1508263	22.51	0.01290
55-59	0.084659	62806	5317	300738	0.89580	1183764	18.85	0.01768
60-64	0.125551	57489	7218	269401	0.84816	883026	15.36	0.02679
65-69	0.181900	50271	9144	228495	0.77716	613626	12.21	0.04002
70-74	0.272872	41127	11222	177578	0.67523	385130	9.36	0.06320
75-79	0.396149	29905	11847	119906	0.73096	207552	6.94	0.09880
80+	1.000000	18058	18058	87646	0.00000	87646	4.85	0.20603

LEVEL= 14.875

60-64	0.155743	53797	8378	248037	0.81503	757502	14.08	0.03378	55-59	0.101546	52551	5336	249412	0.87618	927473	17.65	0.02140
65-69	0.219580	45418	9973	202158	0.73977	509465	11.22	0.04933	60-64	0.148620	47214	7017	218529	0.82418	678061	14.36	0.03211
70-74	0.312306	35445	11070	149552	0.63608	307307	8.67	0.07402	65-69	0.207772	40197	8352	180107	0.74993	459532	11.43	0.04637
75-79	0.438976	24375	10700	95127	0.65837	157755	6.47	0.11248	70-74	0.303468	31845	9664	135067	0.64508	279426	8.77	0.07155
80+	1.000000	13675	13675	62628	0.00000	62628	4.58	0.21835	75-79	0.428789	22181	9511	87129	0.65684	144359	6.51	0.10916
		LEVEL=	15.493							80+	1.000000	12670	57230	0.00000	57230	4.52	0.22139
												LEVEL=	12.080				

FEMALES 1910									BOTH SEXES 1910								
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.087572	100000	8757	94133	0.95621	5623799	56.24	0.09303	0	0.142554	100000	14255	90449	0.92438	4617685	46.18	0.15761
1	0.022892	91243	2089	90010	0.98487	5529666	60.60	0.02321	1	0.042204	85745	3619	83610	0.97209	4527236	52.80	0.04328
2	0.010701	89154	954	88648	0.99127	5439655	61.01	0.01076	2	0.019518	82126	1603	81276	0.98406	4443627	54.11	0.01972
3	0.007105	88200	627	87874	0.99371	5351007	60.67	0.00713	3	0.012952	80523	1043	79981	0.98866	4362351	54.18	0.01304
4	0.005531	87573	484	87321	0.99012	5263133	60.10	0.00555	4	0.009840	79480	782	79073	0.98351	4282370	53.88	0.00989
5-9	0.014479	87089	1261	432293	0.98713	5175811	59.43	0.00292	5-9	0.023593	78698	1857	388848	0.97927	4203297	53.41	0.00477
10-14	0.011228	85828	964	426731	0.98634	4743519	55.27	0.00226	10-14	0.017789	76841	1367	380789	0.97882	3814449	49.64	0.00359
15-19	0.016111	84864	1367	420904	0.98143	4316788	50.87	0.00325	15-19	0.024625	75474	1859	372725	0.97120	3433661	45.49	0.00499
20-24	0.021079	83497	1760	413085	0.97741	3895884	46.66	0.00426	20-24	0.033074	73616	2435	361992	0.96507	3060936	41.58	0.00673
25-29	0.024128	81737	1972	403755	0.97062	3482799	42.61	0.00488	25-29	0.036842	71181	2622	349348	0.96062	2698944	37.92	0.00751
30-34	0.027475	79765	2192	393346	0.97061	3079043	38.60	0.00557	30-34	0.042014	68558	2880	335591	0.95487	2349596	34.27	0.00958
35-39	0.031349	77573	2432	381787	0.96627	2685698	34.62	0.00637	35-39	0.048374	65678	3177	320448	0.94747	2014004	30.66	0.00991
40-44	0.036183	75142	2719	368911	0.96009	2303910	30.66	0.00737	40-44	0.056893	62501	3556	303615	0.93791	1693557	27.10	0.01171
45-49	0.043787	72423	3171	354186	0.94852	1935000	26.72	0.00895	45-49	0.067608	58945	3985	284763	0.92199	1389942	23.58	0.01399
50-54	0.059527	69252	4122	335952	0.92998	1580814	22.83	0.01227	50-54	0.089174	54960	4901	262547	0.89775	1105179	20.11	0.01867
55-59	0.081177	65129	5287	312428	0.88983	1244863	19.11	0.01692	55-59	0.116596	50059	5837	235703	0.86044	842632	16.83	0.02476
60-64	0.120838	59842	7231	281133	0.85310	932434	15.58	0.02572	60-64	0.165553	44222	7321	202808	0.80602	606929	13.72	0.03610
65-69	0.176543	52611	9288	239835	0.78282	651301	12.38	0.03873	65-69	0.228056	36901	8416	163467	0.73048	404121	10.95	0.05148
70-74	0.265400	43323	11547	187746	0.68144	411467	9.50	0.06150	70-74	0.323237	28486	9208	119409	0.62566	240654	8.45	0.07711
75-79	0.389491	31776	12376	127937	0.74867	223720	7.04	0.09674	75-79	0.449859	19278	8672	74709	0.62289	121245	6.29	0.11608
80+	1.000000	19399	19399	95783	0.00000	95783	4.94	0.20253	80+	1.000000	10606	10606	46536	0.00000	46536	4.39	0.22790
		LEVEL=	15.493									LEVEL=	12.080				

BOTH SEXES 1910									(V) Preston/Haines Estimates, 1910 Public Use Sample								
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	Surviving Children Method, Women Aged 14-34								
0	0.096484	100000	9648	93536	0.95254	5455772	54.56	0.10315	Fitted United Nations Far Eastern Model Life Tables								
1	0.023539	90352	2127	89097	0.98456	5362237	59.35	0.02387									
2	0.010775	88225	951	87721	0.99121	5273140	59.77	0.01084									
3	0.007144	87274	623	86950	0.99373	5185419	59.42	0.00717									
4	0.005452	86651	472	86405	0.99006	5098469	58.84	0.00547									
5-9	0.014660	86178	1263	427733	0.98711	5012064	58.16	0.00295									
10-14	0.011086	84915	941	422221	0.98628	4584331	53.99	0.00223									
15-19	0.016393	83974	1377	416426	0.98064	4162210	49.56	0.00331									
20-24	0.022371	82597	1848	408365	0.97640	3745684	45.35	0.00452									
25-29	0.024852	80749	2007	398729	0.97343	3337318	41.33	0.00503									
30-34	0.028330	78742	2331	388135	0.96924	2938589	37.32	0.00575									
35-39	0.033266	76512	2545	376195	0.96320	2550454	33.33	0.00677									
40-44	0.040458	73966	2993	362351	0.95446	2174259	29.40	0.00826									
45-49	0.050840	70974	3608	345849	0.94013	1811908	25.53	0.01043									
50-54	0.069386	67366	4674	325142	0.91834	1466060	21.76	0.01438									
55-59	0.094389	62691	5946	298593	0.88476	1140917	18.20	0.01991									
60-64	0.137787	56746	7819	264182	0.83479	842325	14.84	0.02960									
65-69	0.197005	48927	9639	220537	0.76261	578143	11.82	0.04371									
70-74	0.287689	39288	11303	168184	0.66078	357606	9.10	0.06720									
75-79	0.411567	27985	11518	111132	0.70448	189422	6.77	0.10364									
80+	1.000000	16467	16467	78290	0.00000	78290	4.75	0.21034									
		LEVEL=	15.493									LEVEL=	12.080				

BLACK POPULATION									(A) FAR EASTERN MODEL FOR BLACK POPULATION								
MALES 1910									BLACK POPULATION								
AGE(x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)	25-29	0.04941	71587	3537	349250	0.94605	2221067	31.03	0.01013
0	0.154024	100000	15402	89680	0.91959	4472443	44.72	0.17175	30-34	0.05935	68050	4039	330407	0.93385	1871817	27.51	0.01222
1	0.042635	84598	3607	82470	0.97192	4382762	51.81	0.04374	35-39	0.07416	64011	4747	308551	0.91486	1541410	24.08	0.01539
2	0.019505	80991	1580	80154	0.98403	4300293	53.10	0.01971	40-44	0.09754	59264	5781	282282	0.89885	1232859	20.80	0.02048
3	0.013027	79411	1034	78873	0.98864	4220139	53.14	0.01312	45-49	0.12465	53484	6667	251190	0.85504	950577	17.77	0.02654
4	0.009810	78377	769	77977	0.98368	4141266	52.84	0.00986	50-54	0.16780	46817	7856	214777	0.81295	699387	14.94	0.03658
5-9	0.023277	77608	1806	383522	0.97985	4063289	52.36	0.00471	55-59	0.20988	38961	8177	174604	0.75479	484610	12.44	0.04683
10-14	0.016942	75801	1284	375796	0.97950	3679767	48.54	0.00342	60-64	0.28799	30784	8865	131790	0.67094	310006	10.07	0.06727
15-19	0.024116	74517	1797	368092	0.97093	3303972	44.34	0.00488	65-69	0.37680	21918	8259	88423	0.57898	178216	8.13	0.09340
20-24	0.034155	72720	2484	357390	0.96418	2935879	40.37	0.00695	70-74	0.47326	13660	6465	51195	0.48491	89793	6.57	0.12627
25-29	0.048150	68246	3687	315500	0.95284	2523403	36.37	0.00955	75-79	0.56606	7195	4073	24825	0.39589	38598	5.36	0.16406
30-34	0.064500	60807	3750	264500	0.94000	2123400	32.22	0.01400	80-84	0.65472	3122	2044	9828	0.40140	13773	4.41	0.20800
35-39	0.081000	51000	4100	210000	0.92000	1700000	28.00	0.02000	85+	1.00000	1078	1078	3945	0.00000	3945	3.66	0.27327

BOTH SEXES (1910)

AGE (x)	q(x)	l(x)	D(x)	L(x)	P(x)	T(x)	e(x)	m(x)
0	0.11852	100000	11852	92178	0.93804	4317190	43.17	0.12857
1	0.03234	88148	2851	86466	0.97690	4225012	47.93	0.03297
2	0.01832	85298	1563	84469	0.98494	4138546	48.52	0.01850
3	0.01234	83734	1033	83197	0.98936	4054077	48.42	0.01242
4	0.00905	82701	748	82312	0.98367	3970879	48.01	0.00909
5-9	0.02404	81953	1970	404837	0.97860	3888568	47.45	0.00487
10-14	0.01869	79982	1495	396173	0.97437	3483731	43.56	0.00377
15-19	0.03269	78487	2566	386021	0.96059	3087557	39.34	0.00665
20-24	0.04636	75921	3520	370806	0.95018	2701537	35.58	0.00949
25-29	0.05345	72401	3870	352332	0.94269	2330730	32.19	0.01098
30-34	0.06139	68531	4207	332138	0.93323	1978398	28.87	0.01267
35-39	0.07251	64324	4664	309960	0.91998	1646260	25.59	0.01505
40-44	0.08811	59660	5257	285158	0.90137	1336300	22.40	0.01843
45-49	0.11015	54403	5993	257034	0.87318	1051142	19.32	0.02331
50-54	0.14555	48410	7046	224436	0.83566	794109	16.40	0.03140
55-59	0.18633	41364	7707	187552	0.78507	569672	13.77	0.04109
60-64	0.25008	33657	8417	147241	0.71791	382121	11.35	0.05716
65-69	0.32477	25240	8197	105707	0.63980	234879	9.31	0.07755
70-74	0.41267	17043	7033	67631	0.55121	129173	7.58	0.10399
75-79	0.51029	10010	5108	37279	0.45581	61542	6.15	0.13702
80-84	0.61341	4902	3007	16992	0.42789	24263	4.95	0.17695
85+	1.00000	1895	1895	7271	0.00000	7271	3.84	0.26063

APPENDIX B

The data and formulas used to calculate the life tables in appendix A are as follows:

1. Central death rates (used to calculate the life tables 1850-1900 based on published census death data) (${}_5M_5, {}_5M_{10}, {}_5M_{15}$): ${}_nM_x = ({}_nD_x / {}_nP_x)$, where ${}_nM_x$ is the central death rate over the age interval x to $x+n$, ${}_nD_x$ is deaths for the same age interval, and ${}_nP_x$ is average person years lived in the interval, approximated by the midperiod population for the age interval. Census populations were interpolated backward six months to be at the middle of the year prior to the census (1 December), which is the reference period for census deaths.

2. Probability of dying between exact age x and exact age $x+n$: ${}_nq_x = (2 \cdot {}_nM_x) / (2 + {}_nM_x)$, where n is the size of the age interval in years.

3. Persons remaining alive out of 100,000: $l_x = l_{x-n} \cdot (1 - {}_nq_x)$.

4. The radix of the life table: $l_0 = 100,000$.

5. Deaths in the age interval x to $x+n$: $D_x = l_x - l_{x+n}$.

6. Person years lived in the age interval:

$L_x = n \cdot (f_1 \cdot l_x + f_2 \cdot l_{x+n})$, where $f_1 = f_2 = .5$ and $f_1 + f_2 = 1.0$, except for the age intervals below age 5. In that case,

age(x)	f_1	f_2	
0	.33	.67	for males
0	.35	.65	for females
1	.41	.59	
2	.47	.53	
3,4	.48	.52	

7. $P_x = (L_x / L_{x+n})$.

8. $T_x = \sum_{i=x}^{\infty} L_i$.

9. $T_x = e_x \cdot l_x$.

10. $e_x = T_x / l_x$.

11. $e_{\infty} = 3.725 + .0000625 \cdot l_{\infty}$.

12. $m(x) = D_x / L_x$.

NOTES

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1. The DRA of 1900 included Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Michigan, and the District of Columbia.

2. For a critique of the Jacobson life table and its representativeness, see Vinovskis (1978). For a discussion of mortality in nineteenth-century Massachusetts in general, see Vinovskis (1981, chap.2), and Gutman (1956).

3. The term *abridged life table* refers to a life table using grouped ages rather than single years of age.

4. The fit of the census-based indirect estimates of child mortality for the ten states of the DRA and the District of Columbia is quite close to the Glover (1921) table for whites for 1900-1902. The estimates are less reliable for the black population because the number of black women of relevant ages in the 1900 PUMS is small. See Preston and Haines (1991, chap. 2).

5. Table 2 presents the infant mortality rate (${}_1q_0$), the expectations of life at ages 0 (e_0) and 10 (e_{10}), survivorship to age 5 (${}_5l_5$, which is survivors to age 5 out of 100,000 births), and the probability of dying between ages 20 and 60 (${}_{40}q_{20}$), which is roughly the span of working life.

6. The data on children ever born and children surviving from the 1900 and 1910 censuses are not differentiated by sex. Life tables for males and females separately were found by locating the life table value for the expectation of life at birth (e_0) in the model life table system for the life table for both sexes combined and then looking up the corresponding life tables for males and females. Male and female life tables were combined to get the joint-sex life tables by assuming a sex ratio at birth of 105 males per 100 females to combine the l_x column (from which the rest of the life table can be derived).

7. The goodness-of-fit was evaluated using the program COMPAR in the package MortPak-Lite from the United Nations. See Haines and Preston (1997).

8. For an analysis of the Meech life table for 1830-60, see Haines and Avery (1980).

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