

Toner (J. M.)

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FACTS  
OF  
VITAL STATISTICS IN THE UNITED STATES;  
WITH  
TABLES AND DIAGRAMS.

EXTRACTS FROM AN ADDRESS

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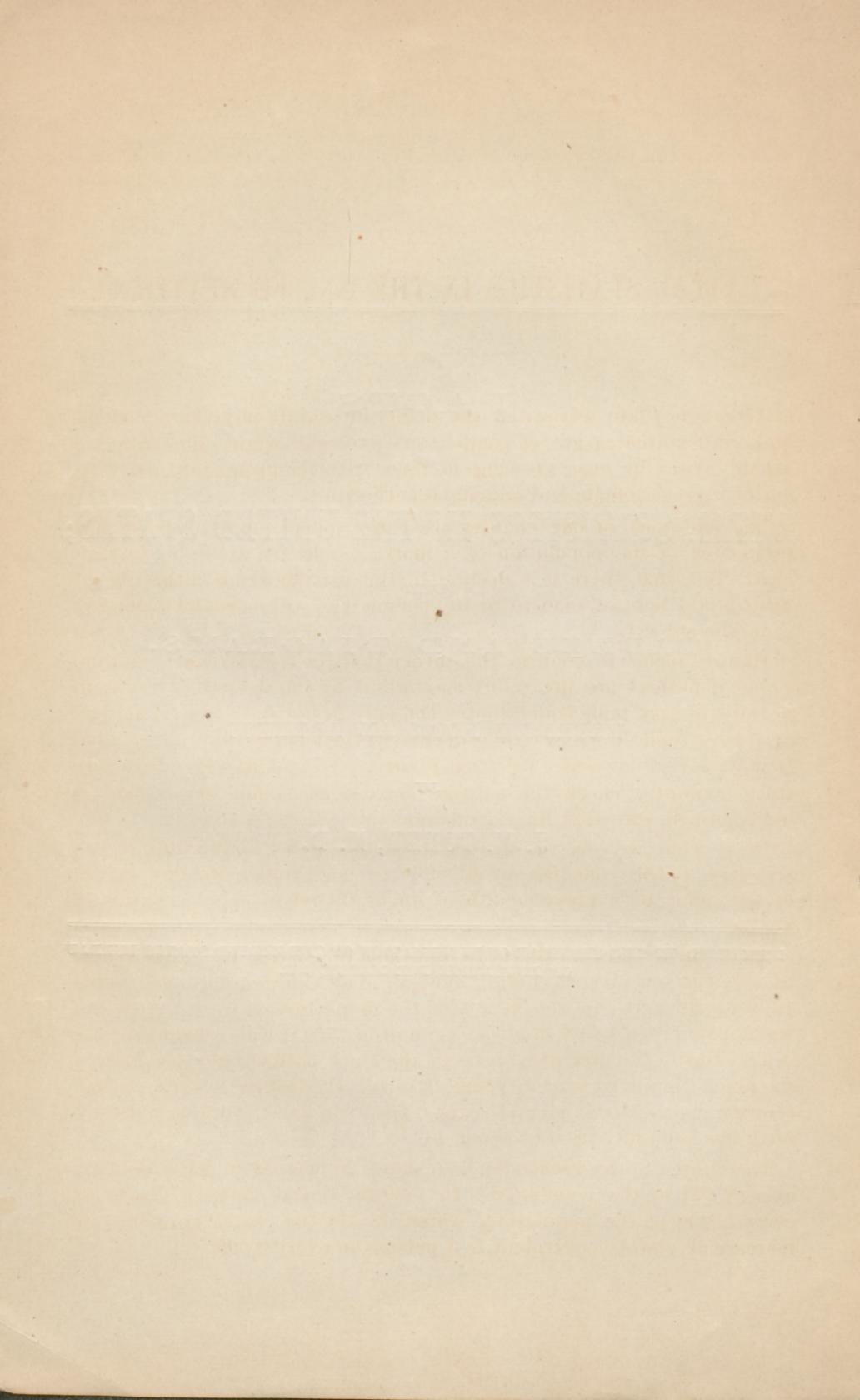
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PUBLISHED IN THE CIRCULAR OF INFORMATION OF THE UNITED STATES BUREAU  
OF EDUCATION FOR MARCH, 1872.

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## VITAL STATISTICS IN THE UNITED STATES.

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Although Plato advocated the utility of a state physician, medical and vital statistics are of comparatively recent origin; but they are steadily, year by year, growing in favor with the profession, and with national governments and municipal authorities.

The statistics of our country are entirely inadequate to show what proportion of the population of a marriageable age are living in wedlock. But that there is a decline in the marriage-rate in the United States is, I believe, evident to any person who will reflect for a moment upon the subject.

History seems to confirm the theory that the rise, strength, and decline of nations are invariably manifested by the redundancy or meagerness of their male population. The once grand and powerful nations of Greece and Rome owe their decline to their failure to produce men. It may be laid down as a rule that luxury, vice, and idleness will, in any state or country, check the natural increase of human beings, and, if not reformed, will work its destruction.

From what we can gather from Marshall's tables, at the close of the sixteenth century one-half of all children born perished under 5 years of age, and the average length of life of the whole population was 18 years.

The proportion of mortality to the whole population in 1631 was 1 in 21. In the seventeenth century one-half of all children born died under 12 years of age. In the year 1700 the proportion of mortality to the whole population was 1 in about 33; and in 1750 it was calculated at 1 in 27. But in the first sixty years of the eighteenth century one-half of the population lived over 27 years. During the last forty years of that century one-half lived over 32 years. The average expectation of life at birth has been increased to about 48.

The United States census for 1850 shows 28 persons to have died in every 2,000 of the population. In 1860 the census shows 25 deaths to every 2,000 of the population, which, in the ten years, represents an increase of vitality equivalent to 3 persons in every 2,000.

The rate of mortality for the United States, deduced from the census returns of 1850, 1860, and 1870, is shown by the following statement:

Census of—	Total population.	Mortality.	No. population to one death.	Per cent. of mortality.
1850 ----	23, 191, 876	323, 023	71. 8	1. 392
1860 ----	31, 443, 321	394, 153	79. 77	1: 253
1870 ----	38, 555, 983	492, 263	78. 32	1. 277

This would average, for the three census years, one death to every 76.63 of the population, or 1.305 per cent.

For the decimal increase of population from 1790 to 1870, see Table V.

A law of nature, almost uniform throughout the world, produces a greater number of male than female births. The excess ranges, in different countries and at different periods, from 1 to 12 in the 100. The rate of excess in the United States is about 6 in the 100.

Among the colored race this inequality is frequently reversed, the female births being in excess.

This excess of males does not continue, or is not constant and uniform, through life. Aggregating the population of the United States, there are more females than males at the age of 20, and again between the ages of 70 and 100.

To enable the mind more readily to comprehend the constitution of our vast population, and to see at a glance what proportion of the whole are of particular ages, and what proportion at these ages are male or female, &c., I have devised a series of diagrams.

Diagram I represents the whole population of the United States by age and sex, according to the census of 1860. Diagram II, from *data* in the same census, shows at what particular ages the males or females are most numerous in each of the States, and also in the United States.

It is to me unaccountable that more care should be taken in our country to collect and preserve records of deaths than records of births; but such is the fact. I am unacquainted with any statistics sufficiently extended to warrant fixing the percentage of the birth-rate for the United States.

The birth-rate in Massachusetts, for 1850, was given as 1 in 36.

The birth-rate in Massachusetts, for 1855, was given as 1 in 34.

The birth-rate in Kentucky, for 1852, (white,) as 1 in 38.

The birth-rate in Kentucky, for 1852, (colored,) as 1 in 40.

Dr. Snow, in 1868, gives the percentage of births of the city of Providence, Rhode Island, for thirteen years, at 39.29 for American parents, and for foreign parents, 51.87. This is corroborative of the opinion ex-

pressed by various writers, that the native stock is less fruitful than the foreign-born residents in our country.

Dr. H. R. Storer, in a paper on the comparative fruitfulness of American and European populations, has tabulated the birth-rate in Europe as follows :

"1 to 23, Venetian provinces, 1827; Tuscany, 1834.

"1 to 23.5, Kingdom of Naples, 1822-'24.

"1 to 24, Tuscany, 1818; Sicily, 1824; Lombardy, 1827-'28; Russia, 1831.

"1 to 24.5, Prussia, 1825-'26.

"1 to 25, France, 1781; Austria, 1827; Russia, 1835; Prussia, 1836.

"1 to 26, Sardinia, 1820; Hanover, Wurtemberg, and Mecklenberg, 1826; Greece, 1828; Naples, 1830.

"1 to 27, Spain, 1826; Germany, Switzerland, 1828; Poland, 1830; Ireland, 1831.

"1 to 27.5, Portugal, 1815-'19.

"1 to 28, Holland, 1813-'24; Bavaria, Sweden, 1825; Austria, 1829; Belgium, 1836.

"1 to 29, Canton Lucerne, 1810; Holland, 1832.

"1 to 29.8, France, 1801.

"1 to 30, Sweden and Norway, 1828; Belgium, 1832; Denmark, 1833; Turkey, 1835; States of the Church, 1836.

"1 to 31, Sicily, 1832; Hanover, 1835.

"1 to 31.4, France, 1811.

"1 to 31.6, France, 1821.

"1 to 32, Austria, 1830; Great Britain, Switzerland, 1831.

"1 to 33, France, 1828-'31.

"1 to 34, Norway, Holstein, 1826; Scotland, 1831; France, 1834-'41

"1 to 35, Denmark, 1810; England, 1831; Norway, 1832.

"1 to 35, France, 1851."

Compare Table II, showing the ratio of children to women in European countries.

With a desire to view this question of birth-rate from a stand-point that would be sufficiently comprehensive, and yet free from even the appearance of preconceived notions or sectional partiality, I have made something of a study of what the records of the United States census teach upon the subject of population, in its enumeration by ages; also of births, deaths, &c. From this source I find undoubted evidence of a gradual decline in the proportion of children under 15 to the number of women between 15 and 50 years of age in our country.

Table III gives the result of this study in figures. Diagram III is drawn from the same *data*, to show at a glance the number of white children to the 1,000 white females of the ages specified in each State, at every decade since 1800.

It must be borne in mind that in 1800, 1810, and in 1820 the ages are of children under 16, and of women between 16 and 45; in the subsequent years, children under 15 and women between 15

and 50. This gives one more year to the children, and six years less to the women, previous to 1830.

I do not propose to adopt any theory, or to attempt to explain this extraordinary condition. But it is proper that the profession and the country should be made acquainted with the facts, and made to realize that the American people in this particular are showing unmistakable signs of physical degeneracy. I have embodied facts only, and leave the enlightened understanding of the American people to assign the reasons, from the evidence everywhere around them, and to apply the remedy.

Dr. Allen, of Lowell, Massachusetts, has written several able papers, and done good service to the country and humanity, by calling attention to this subject.

The birth-rate for the colored race is also declining, though less rapidly than that of the whites. Table IV is formed from information derived from the census, and shows the proportion of colored children under 15 to the 1,000 colored women between 15 and 50, free and slave, for two decades. It is lamentable that the mortality among children is so great, and suggests that they are either born with exceedingly feeble constitutions, or else there is something radically wrong in the present mode of rearing them. Of the 393,606 deaths recorded as occurring in the United States for the year ending June 1, 1860, 168,852 (nearly one-half) occurred under 5 years of age; and nearly one-fourth of the whole number under 1 year. In Boston, in 1870, the deaths of children under 5 years reached 43 per cent. of the whole mortality.

A writer in the Boston Medical and Surgical Journal, for August, 1871, gives the following percentage of deaths of children under 1 year of age to the whole number of deaths in the following cities: Baltimore, 28.90; Boston, 27; Brooklyn, 25.25; New York, (1869,) 20.42; Philadelphia, 24.85; Richmond, 25.50; San Francisco, 21.81; Washington, 28.30.

Diagram IV, constructed from the census of 1860, shows the aggregate mortality in the United States, by age and sex, for the year ending June 1, 1860, and also the relative proportion of the different ages and sexes. It also exhibits in contrast the total mortality *under* and *over* the age of 5 years.

This diagram also shows a fact that I am unable to assign any satisfactory reason for; that is, the great excess of male over female deaths under 1 year, and indeed during the entire infantile period under 5 years. According to this showing, the excess of male deaths under 1 year is more than treble the proportion of the excess of male births reported for the United States.

Diagram V is constructed in the same manner from the census of 1870, and makes a similar showing, both as to the proportion of infant to adult mortality and that of male to female infants.

TABLE I.—Giving the actual ages of 2,000 deceased physicians, (American,) from which to deduce the average age.

Ages.	No.	Ages.	No.	Ages.	No.	Ages.	No.
Twenty-one	1	Forty-one	22	Sixty-one	38	Eighty-one	16
Twenty-two	4	Forty-two	19	Sixty-two	39	Eighty-two	27
Twenty-three	6	Forty-three	19	Sixty-three	43	Eighty-three	25
Twenty-four	6	Forty-four	29	Sixty-four	31	Eighty-four	28
Twenty-five	15	Forty-five	24	Sixty-five	43	Eighty-five	26
Twenty-six	18	Forty-six	38	Sixty-six	34	Eighty-six	19
Twenty-seven	15	Forty-seven	36	Sixty-seven	30	Eighty-seven	12
Twenty-eight	31	Forty-eight	38	Sixty-eight	26	Eighty-eight	13
Twenty-nine	18	Forty-nine	32	Sixty-nine	51	Eighty-nine	5
Thirty	24	Fifty	42	Seventy	53	Ninety	11
Thirty-one	31	Fifty-one	98	Seventy-one	35	Ninety-one	3
Thirty-two	30	Fifty-two	34	Seventy-two	48	Ninety-two	7
Thirty-three	30	Fifty-three	25	Seventy-three	34	Ninety-three	3
Thirty-four	22	Fifty-four	32	Seventy-four	36	Ninety-four	1
Thirty-five	25	Fifty-five	28	Seventy-five	38	Ninety-five	3
Thirty-six	34	Fifty-six	35	Seventy-six	42	Ninety-six	2
Thirty-seven	25	Fifty-seven	29	Seventy-seven	31	Ninety-seven	3
Thirty-eight	27	Fifty-eight	40	Seventy-eight	26	Ninety-eight	1
Thirty-nine	28	Fifty-nine	37	Seventy-nine	19	Ninety-nine	1
Forty	30	Sixty	53	Eighty	36	One hundred	1

Died between—	No.
21 and 30	114
30 and 40	276
40 and 50	287
50 and 60	330
60 and 70	388
70 and 80	362
80 and 90	207
90 and 100	35
Over 100	1

Total ..... 2,000

Average age of these 2,000, 58.39 years.

TABLE II.—Showing the number of children of both sexes under 15 to the 1,000 females between 15 and 50 years of age, in the several countries named.

Countries.	Year of census.	No. of children under 15 to 1,000 females.	No. of population to 1 marriage.	No. of population to 1 death.
France	1851	1,043	122	44
England	1851	1,369	122	44
Scotland	1851	1,329	.....	.....
Ireland	1841	1,509	.....	.....
Netherlands	1849	1,292	.....	39
Belgium	1846	1,572	122	42
Sweden	1850	1,262	135	49
Norway	1855	1,412	124	56
Denmark	1845	1,280	129	49
Schleswig	1845	1,366	.....	.....
Holstein	1845	1,449	.....	.....
Spain	1857	1,349	141	.....
Sardinia*	1838	2,157	.....	.....
Papal States*	1853	2,013	.....	.....
Upper Canada	1852	2,019	.....	.....
Lower Canada	1852	1,954	.....	.....
United States	1860	1,694	123	79

\* Children under 20 to females from 20 to 50.

TABLE III.—*Showing the number of white children of both sexes under the age of 15 to 1,000 females (white) between the ages of 15 and 50 years in the United States.*

[Compiled from the several census reports.]

States.	Census of 1800.*	Census of 1810.*	Census of 1820.*	Census of 1830.	Census of 1840.	Census of 1850.	Census of 1860.
Alabama			3,111	2,591	2,508	2,071	1,973
Arkansas			3,063	2,648	2,620	2,321	2,192
California						1,515	1,493
Connecticut	2,283	2,203	2,001	1,445	1,334	1,194	1,170
Delaware	2,336	2,486	2,384	1,779	1,660	1,642	1,600
Florida				2,247	2,080	2,137	2,034
Georgia	3,031	3,001	2,861	2,335	2,365	2,103	1,932
Illinois		3,097	3,147	2,580	2,280	2,035	1,822
Indiana	3,099	3,228	3,099	2,549	2,329	2,089	1,904
Iowa					2,216	2,251	1,988
Kansas							1,859
Kentucky	3,273	3,219	2,994	2,279	2,201	2,003	1,906
Louisiana		3,307	2,666	2,128	1,916	1,648	1,655
Maine	2,825	2,729	2,442	1,827	1,767	1,495	1,422
Maryland	2,376	2,374	2,227	1,642	1,585	1,574	1,520
Massachusetts	2,226	2,134	1,964	1,368	1,258	1,143	1,123
Michigan		3,126	2,665	2,253	1,971	1,838	1,630
Minnesota						1,867	1,902
Mississippi	3,507	2,896	3,148	2,533	2,468	2,237	2,031
Missouri		3,286	3,069	2,637	2,224	2,061	1,913
Nebraska							
Nevada							
New Hampshire	2,519	2,369	2,146	1,541	1,419	1,201	1,155
New Jersey	2,683	2,599	2,413	1,832	1,698	1,539	1,442
New York	2,677	2,728	2,451	1,837	1,580	1,364	1,327
North Carolina	2,751	2,696	2,645	2,001	1,959	1,770	1,723
Ohio	3,485	3,194	3,012	2,275	2,044	1,872	1,702
Oregon						2,465	2,503
Pennsylvania	2,793	2,763	2,542	1,898	1,790	1,667	1,612
Rhode Island	2,230	2,021	1,995	1,441	1,283	1,175	1,133
South Carolina	2,998	2,805	2,680	2,042	1,993	1,824	1,708
Tennessee	3,339	3,195	3,147	2,428	2,336	2,022	1,892
Texas						2,179	2,187
Vermont	2,907	2,629	2,249	1,693	1,611	1,452	1,386
Virginia	2,629	2,334	2,482	1,937	1,889	1,807	1,775
West Virginia							
Wisconsin					1,888	1,829	1,917

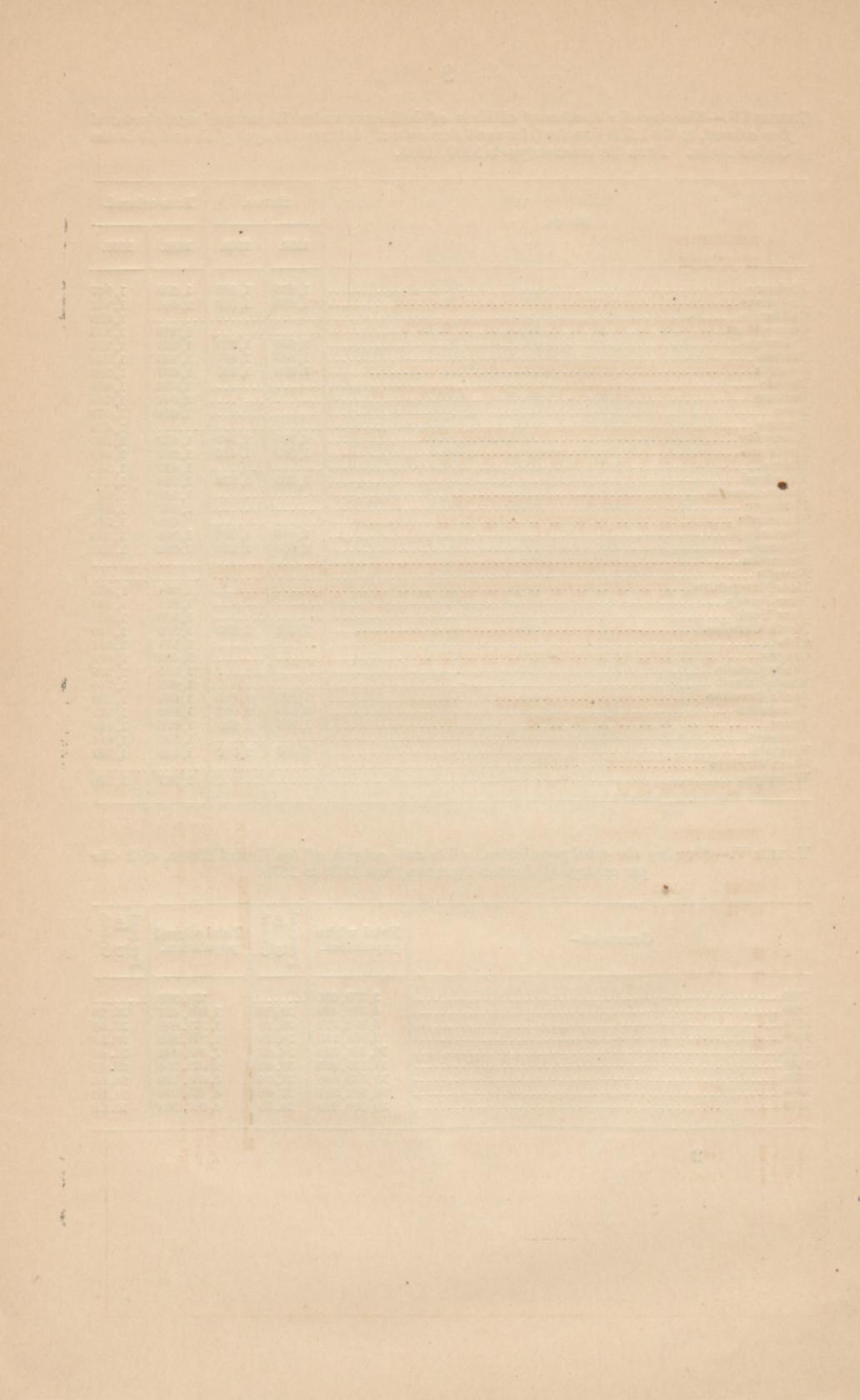
\* The ages in the census of 1800, 1810, and 1820, are for children under 16 and women between 16 and 45. This gives one year more to the children and six years less to the women than in the following decades, and accounts for the greatness of the decline between 1820 and 1830.

TABLE IV.—Showing the number of children of both sexes under 15 years of age, slave and free colored, to the 1,000 females (slave and free colored) between the ages of 15 and 50 in the United States. From the census reports 1850, 1860.

States.	Slaves.		Free colored.	
	1850.	1860.	1850.	1860.
Alabama.....	1,895	1,848	1,958	1,827
Arkansas.....	1,898	1,982	2,044	1,727
California.....				1,058
Connecticut.....			1,219	1,165
Delaware.....	2,230	1,763	1,909	1,787
Florida.....	1,845	1,877	1,733	1,728
Georgia.....	1,950	1,940	1,654	1,780
Illinois.....			1,692	1,636
Indiana.....			2,047	1,755
Iowa.....			1,674	1,670
Kansas.....				1,480
Kentucky.....	2,106	2,107	1,633	1,600
Louisiana.....	1,363	1,432	1,289	1,209
Maine.....			1,437	1,332
Maryland.....	1,935	1,930	1,526	1,437
Massachusetts.....			1,143	1,067
Michigan.....			1,667	1,664
Minnesota.....			615	1,560
Mississippi.....	1,846	1,762	1,929	1,533
Missouri.....	2,080	2,153	1,284	1,132
Nebraska.....				
Nevada.....				
New Hampshire.....			1,284	1,455
New Jersey.....			1,615	1,439
New York.....			1,135	1,086
North Carolina.....	2,252	2,220	1,852	1,840
Ohio.....			1,671	1,647
Oregon.....			2,400	2,000
Pennsylvania.....			1,315	1,235
Rhode Island.....			1,072	1,700
South Carolina.....	1,823	1,850	1,690	1,780
Tennessee.....	2,114	2,098	1,902	1,771
Texas.....	1,889	1,215	1,656	1,846
Vermont.....			1,300	1,614
Virginia.....	2,054	2,012	1,685	1,707
West Virginia.....				
Wisconsin.....			1,527	1,920

TABLE V.—Showing the total population, white and colored, of the United States, with the per centage of decennial increase, from 1790 to 1870.

Census of—	Total white population.	Per cent. of in-crease.	Total colored population.	Per cent. of in-crease.
1790.....	3,172,006	.....	757,363	.....
1800.....	4,306,446	35.76	1,001,437	32.23
1810.....	5,862,073	36.10	1,377,810	37.58
1820.....	7,862,166	34.12	1,771,562	28.58
1830.....	10,537,348	34.03	2,328,642	31.44
1840.....	14,195,805	34.62	2,873,758	23.41
1850.....	19,553,062	37.74	3,638,762	26.62
1860.....	26,922,537	37.68	4,435,709	21.90
1870.....	33,586,989	24.75	4,880,009	10.02



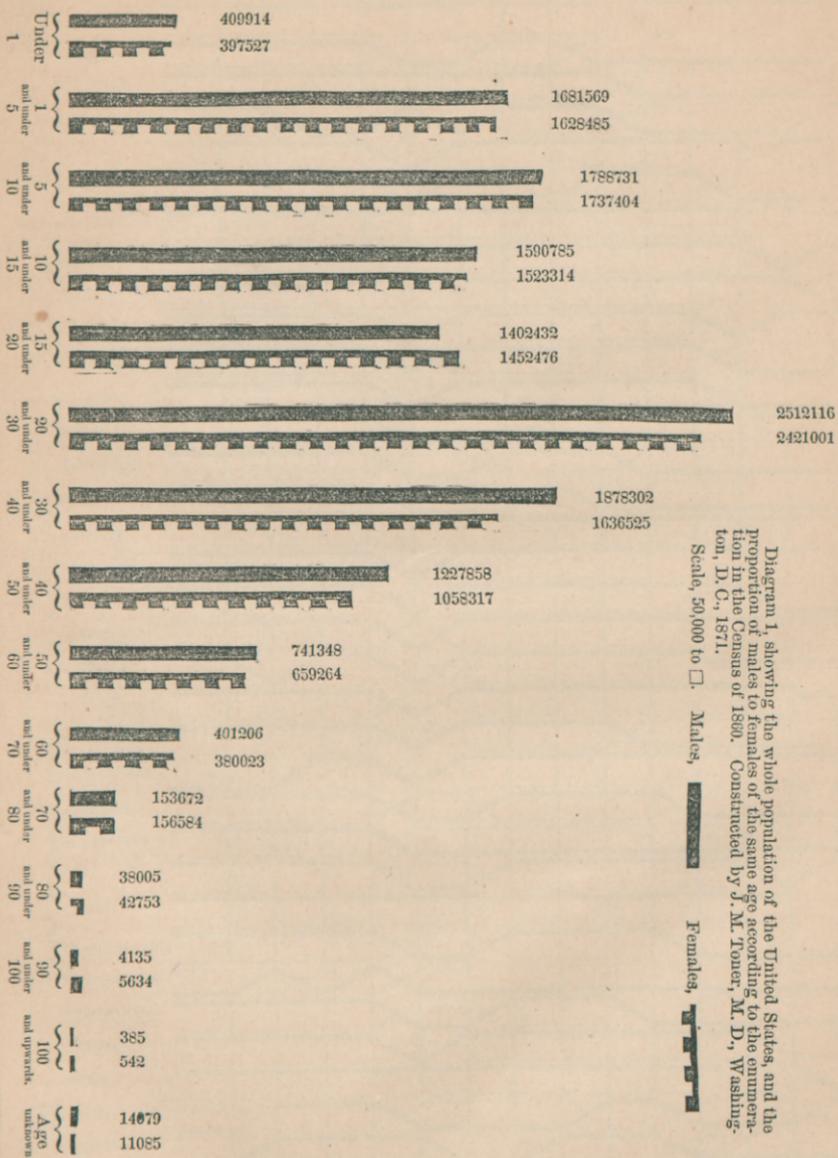
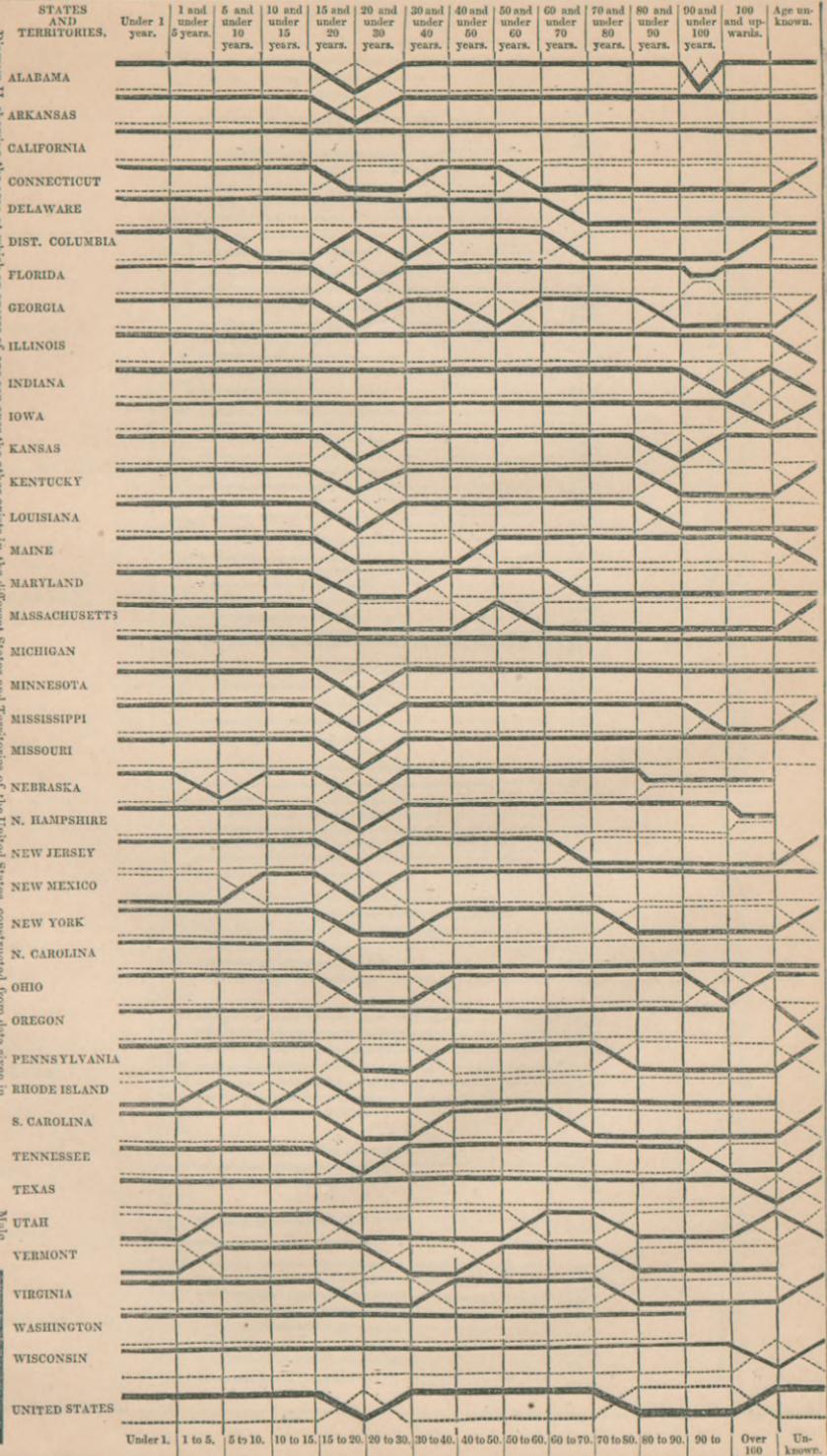


Diagram 1, showing the whole population of the United States, and the proportion of males to females of the same age according to the enumeration in the Census of 1871. Constructed by J. M. Towner, M. D., Washington, D. C., 1871.

Scale, 50,000 to □. Males, ■. Females, ▨.



Diagram II, showing the area in which an excess of one sex over the other exists in the different States and Territories of the United States, constructed from data given in Census report of 1880. Upper or left-hand line shows excess. By A. M. Turner, M. D., Washington, D. C., 1871.



Male  
Female

Under 1. 1 to 5. 5 to 10. 10 to 15. 15 to 20. 20 to 30. 30 to 40. 40 to 50. 50 to 60. 60 to 70. 70 to 80. 80 to 90. 90 to Over 100. Un-known.



Diagram III, showing the proportion of white children of both sexes under 15 years to the 1,000 white females between 15 and 50 years, in each State, at every decade from 1800 to 1870. Devised and constructed by J. M. Tenney, M. D., from data given in the several reports of the United States census, to illustrate graphically the fact of the decline of the birth-rate in the United States.

NOTE.—The enumeration in the censuses of 1800, 1810, and 1820 includes children under 16 years, and females from 16 to 45 years.

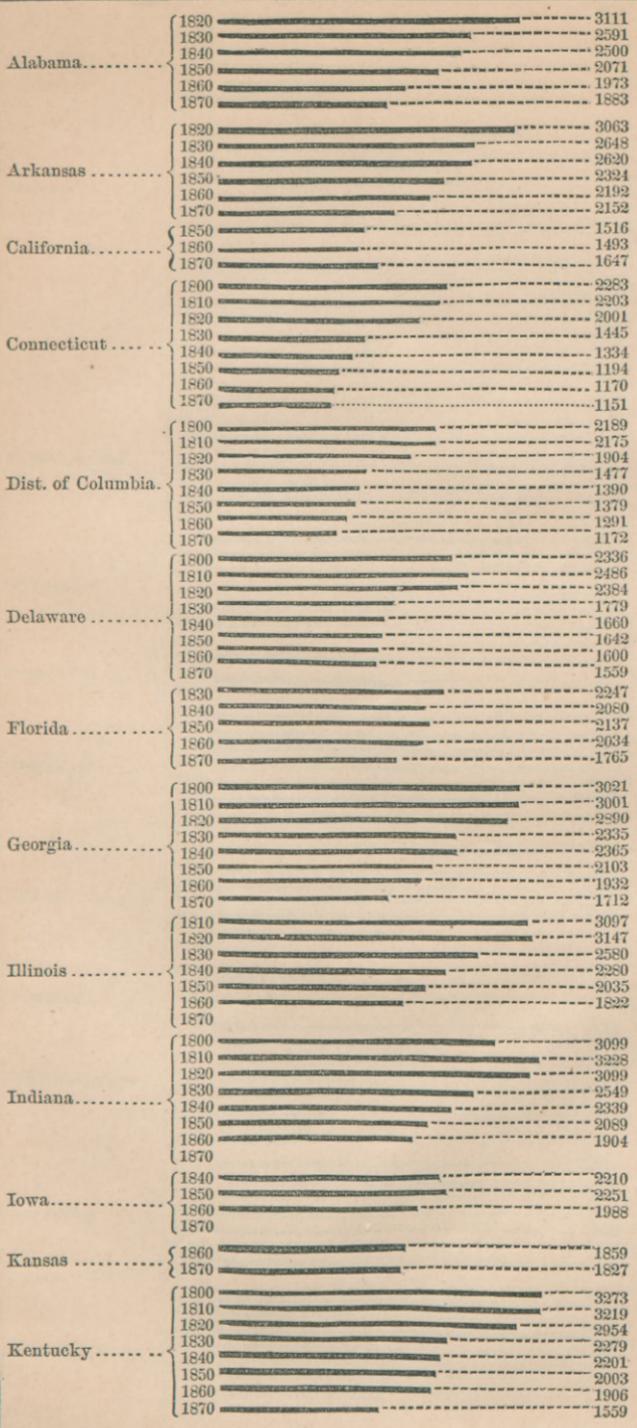




Diagram III, (continued), showing the proportion of white children of both sexes under 15 years to the 1,000 white females between 15 and 50 years, the number age, in each State, at every decade from 1800 to 1870. Devised and constructed by J. M. Toner, M. D., from data given in the several reports of the United States census, to illustrate graphically the fact of the decline of the birth-rate in the United States.

NOTE.—The enumeration in the censuses of 1800, 1810, and 1820 includes children under 16 years, and females from 16 to 45 years.

Louisiana	1810	3307
	1820	2666
	1830	2123
	1840	1916
	1850	1648
	1860	1655
	1870	1467
Maine	1800	3185
	1810	2729
	1820	2442
	1830	1827
	1840	1767
	1850	1568
	1860	1422
Maryland	1800	2376
	1810	2374
	1820	2227
	1830	1662
	1840	1584
	1850	1574
	1860	1520
Massachusetts	1800	2226
	1810	2134
	1820	1964
	1830	1368
	1840	1258
	1850	1143
	1860	1120
Michigan	1810	3126
	1820	2665
	1830	2253
	1840	1971
	1850	1838
	1860	1630
	1870	1500
Minnesota	1850	1867
	1860	1902
	1870	1700
Mississippi	1800	3407
	1810	2896
	1820	3143
	1830	2533
	1840	2468
	1850	2237
	1860	2031
1870	1800	
Missouri	1810	3286
	1820	3069
	1830	2637
	1840	2224
	1850	2060
	1860	1913
	1870	1700
Nevada	1870	1301
Nebraska	1870	1816
New Hampshire	1800	2034
	1810	2369
	1820	2146
	1830	1541
	1840	1419
	1850	1202
	1860	1155
1870	1058	
New Jersey	1800	2683
	1810	2599
	1820	2419
	1830	1832
	1840	1698
	1850	1539
	1860	1442
1870	1300	
North Carolina	1800	2751
	1810	2696
	1820	2645
	1830	2001
	1840	1959
	1850	1770
	1860	1723
1870	1500	

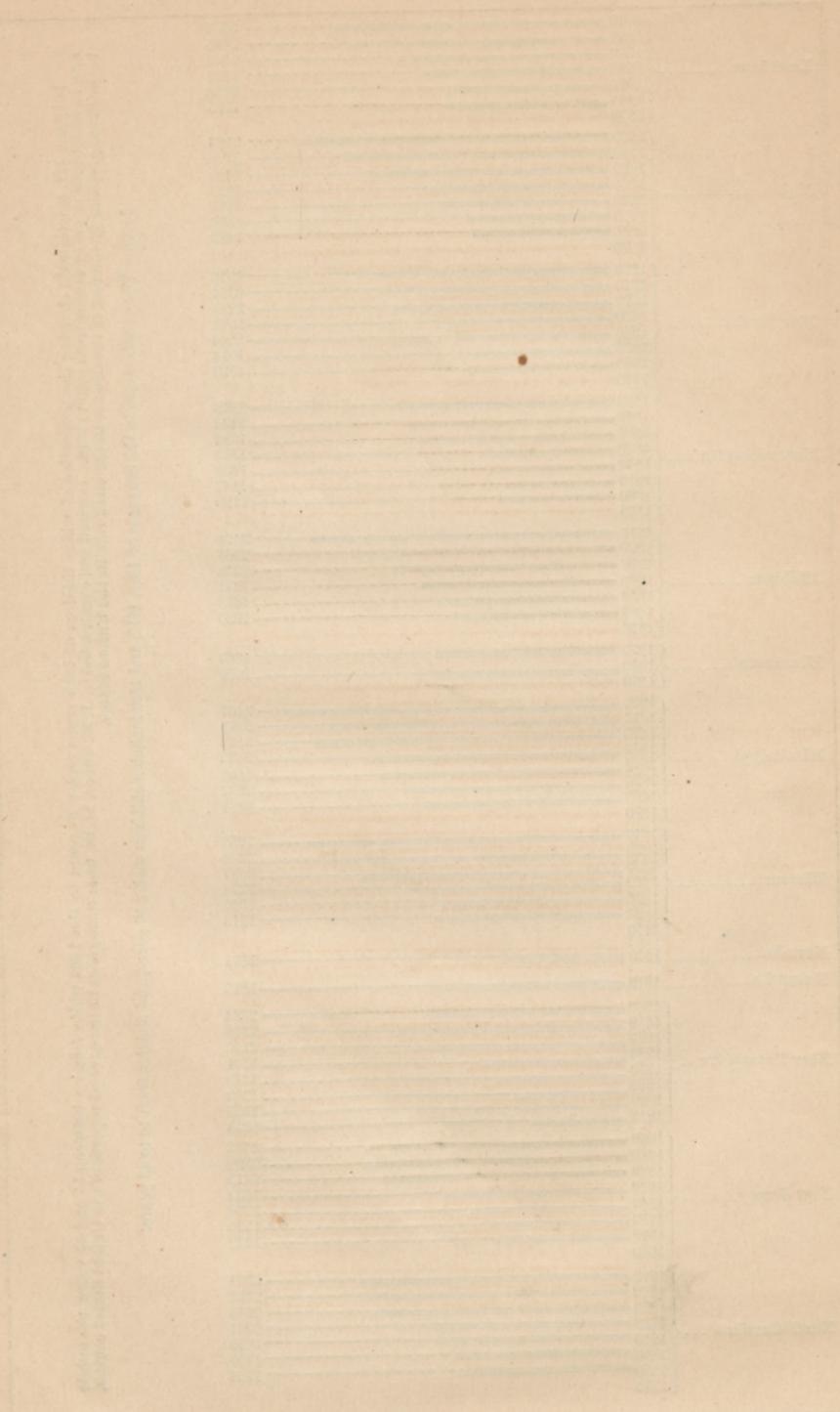


Diagram III, (continued), showing the proportion of white children of both sexes under 15 years to the 1,000 white females between 15 and 50 years, the number age, in each State, at every decade from 1800 to 1870. Devised and constructed by J. M. Toner, M. D., from data given in the several reports of the United States census, to illustrate graphically the fact of the decline of the birth-rate in the United States.

NOTE.—The enumeration in the censuses of 1800, 1810, and 1820 includes children under 16 years, and females from 16 to 45 years.

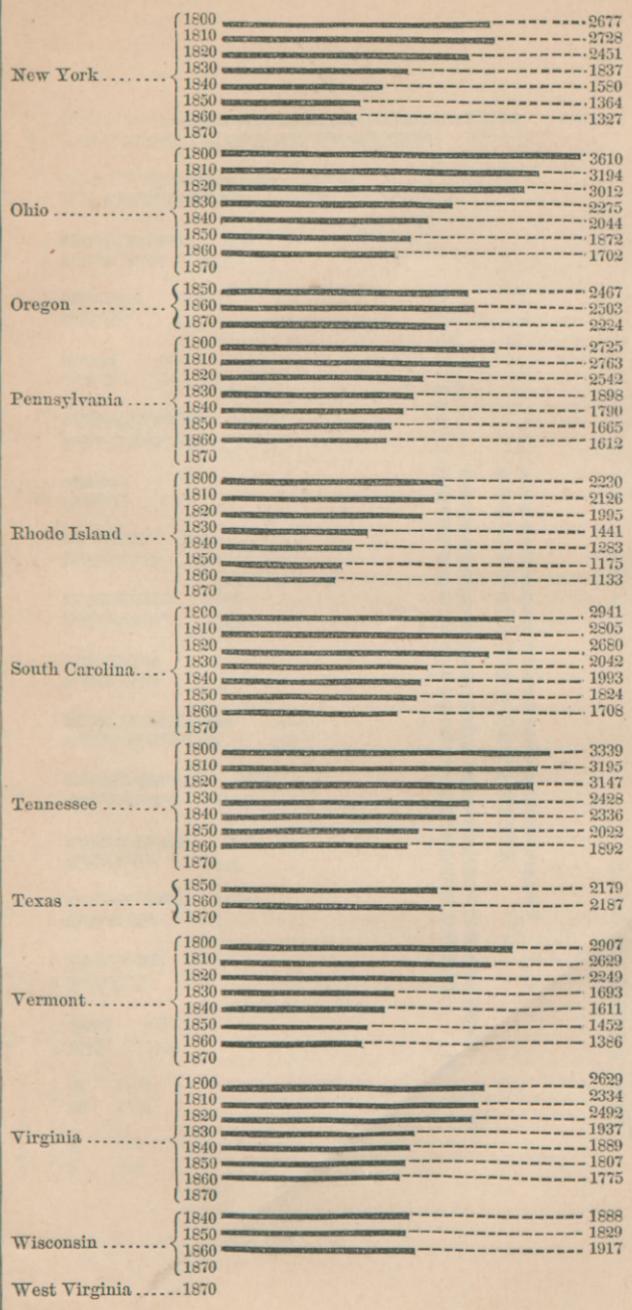




Diagram IV, showing the aggregate mortality of the United States, as reported in the Census of 1860, by ages and sex, with the total deaths under 5 years contrasted with the total deaths above that age, for the year ending June 1, 1860. Constructed by J. M. Toner, M. D., Washington, D. C., 1871.

Scale of mortality, 1,000 to □.

Scale of totals, 2,000 to □.

Males, 

Females, 

