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THE
VITAL STATISTICS OF BOSTON;

CONTAINING

AN ABSTRACT OF THE BILLS OF MORTALITY

FOR THE LAST TWENTY-NINE YEARS,

AND

A GENERAL VIEW OF THE POPULATION AND HEALTH OF
THE CITY AT OTHER PERIODS OF ITS HISTORY.

BY

LEMUEL SHATTUCK.

Extracted from the American Journal of the Medical Sciences, April, 1841.

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LEMONIEL SHATTUCK.

Extracted from the *American Journal of the Medical Sciences*, April, 1811.

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J. B. A. & F. L. A. N. O. N. A. R. D.

1811.

ON THE

VITAL STATISTICS OF BOSTON.

THE oldest book of records of births in Boston was commenced in 1639, and contains some of the marriages, births, and deaths of the previous years, as early as 1630, and of the subsequent years, as late as 1663. This book also contains the births in several towns in Middlesex county, previous to its organization in 1647, and of Suffolk county, then including the present county of Norfolk, until 1663. Another volume embracing the period from 1663 to 1689, appears to have been lost; but a volume containing the records of births only from the earliest entries until 1689, copied from the oldest book, and the one supposed to have been lost, is still preserved. The next volume of records of births extends from 1689 to 1744, the next from 1744 to 1819. The last comprises but few pages. The records appear to have been very irregularly and imperfectly kept after about 1750, and some whole years have recently occurred in which very few records of this kind were made. During the quarter ending Dec. 31, 1838, one birth only was recorded. In some instances the births of one year are placed together in alphabetical order, in others those of several years are placed together in the same manner.

The marriages prior to 1663, were recorded in the oldest book with the births and deaths. From that time to 1689, the records of marriages are lost. Since then they are contained in five volumes. The 1st extends from 1689 to 1720; the 2d from 1720 to 1751; the 3d from 1761 to 1807; the 4th from 1807 to 1828; and the 5th from 1828 to the present time, though not in consecutive, annual order. No records are preserved of the marriages from 1663 to 1689, or from 1751 to 1761, and it is believed that very many

occurred in nearly all the years which have not been recorded. Great carelessness and negligence prevails with some clergymen and magistrates in keeping the records, and in making the returns. The "intentions of marriage" are preserved in twelve volumes, extending from 1707 to the present time. Those from 1818 to 1823, are lost.

The records of *deaths* are made with the births and marriages prior to 1663. From that time until 1689 they are lost. From 1689 to 1719 they are preserved in a separate volume; and from that time till 1810 very few deaths are recorded, and such as are, appear in the volume with the births.

None of these volumes of records, either of births, marriages, or deaths, are provided with indexes; and a search for a fact concerning the personal history of an individual—the only object for which they are valuable—is attended with great labor, and is often fruitless even when the desired fact is recorded. The records are so imperfect, that no general results of any value in statistics, to determine the law of population, or of mortality, could be drawn from any abstract which we could make. It is much to be regretted that our system of registration is such, that we cannot present, in any period of our history, an accurate account of the number of births and marriages. We hope to see a system of registration soon adopted, which will supply all existing deficiencies.*

From 1701 to 1774, the keepers of the several burying-grounds made returns once a week of the number of deaths in Boston, specifying the whites and blacks separately, but not their ages. The number of baptisms was also returned by the several clergymen. Both were published in the newspapers from 1731 to 1774. From these returns an annual statement was compiled and published. We have collected these annual statements, and arranged them with that of the population, in a table, (*see Table I*), which exhibits some important information in regard to the health and condition of the town during that period. These returns may be relied on with considerable confidence, as being very nearly correct. The population of Boston was estimated at the beginning of the last century to have been about 6,750, and the annual deaths to be 230—one in 29.3, or 3.4 per cent. The deaths from 1705 to 1714, inclusive, were 3,341, and from 1715 to 1724, 4,350, giving an annual average of about 1 in 24, or 4.09 per cent. I have estimated the population in the period from 1725 to 1734, according to two enumerations, one taken in 1722, the other in 1735. The census was taken in 1742, in 1752, and in 1765, which forms the basis of the estimation in the other periods mentioned. It will be perceived that

* The author of this article has obtained a knowledge of the different systems of registration of births, deaths, and marriages in use in Europe, and he has prepared one which seemed to him best adapted to the institutions of our own country. He has been solicited to bring it before the state legislatures for adoption.

Boston contained more population from 1740 to 1745, than at any other period before the revolution.

TABLE I, showing the progress of the population in Boston, for the fifty years from 1724 to 1774 divided into periods of 10 years each.

In regard to	1725-1734	1735-1744	1745-1754	1755-1764	1765-1774
Population.—White .	11900	14750	14190	14390	14672
Black .	1100	1250	1541	1241	848
Total .	13000	16000	15731	15631	15520
Average annual Baptisms	528	578	474	413	443
Population to 1 baptism .	24	28	33	38	35
Deaths to 100 baptisms .	77	82	123	107	104
Average annual Deaths.—					
Whites .	407	479	585	444	462
Blacks .	95	91	86	70	59
Both .	502	570	671	514	521
White population to 1 death	29	30	24	36	31
Deaths in 100 white population	3.42	2.99	4.12	3.08	3.16
Black population to 1 death	12	14	18	18	14
Deaths in 100 black population	8.63	7.28	5.58	5.64	6.95
Whole population to 1 death	26	28	23	34	30
Deaths to 100 whole population	3.86	3.56	4.26	3.28	3.35
Baptisms to 100 deaths .	129	120	81	93	95

It was customary, at that early period, to baptize nearly all the infants, but toward the last part of the time, embraced in the table, the practice began to be neglected. The returns of baptisms should not, therefore, be taken as a complete return of the births. We made an attempt to obtain the number of marriages, but the records are so imperfect it was abandoned.

It will be perceived, by comparing this table with others directly to be presented, that the mortality in Boston was much higher then than at the present time. The lowest mortality was in 1755 to 1764, being 514—one in 34, or 3.24 per cent. of the population, annually; the highest was in 1745 to 1754, being 671—one in 23, or 4.26 per cent. This is just double the mortality, which prevailed in 1826 to 1835, being then only 2.13 per cent. The lowest mortality in any single year was 407, or 1 in 38, in 1763; the highest 909, or 1 in 14, in 1730, and 1009, or 1 in 15, in 1752.

The mortality of the black, was much greater than that of the white population. In the first period mentioned in the table, it was as low as at any time. One in 18, or 5.64 per cent. of the black population, died, showing a difference of 2.56 per cent., as compared with the mortality of the whites. The highest mortality among the blacks was in 1725 to 1734, being 1 in 12, or 8.64 per cent. These are very striking facts, but are accounted for, in some measure, by the prevalence of the small-pox and other epidemics, which often visited the town at that time, and which seem to have been peculiarly fatal to the black population.

The *Small-Pox* prevailed in Boston as an epidemic in 1649, 1666, 1678, 1690, and 1702. It is said to have been very fatal in 1678, but we have no particular account of the number of its victims. In 1702, 302 died of this disease, being about 44 per 1000 of the inhabitants. In 1721, the disease broke out with great violence; and 5759 persons (more than half the inhabitants,) had it the natural way, of whom 844, or 1 in 7 died. Inoculation was then, for the first time, introduced, but not without great opposition. Two hundred and forty-seven were inoculated, of whom 6, or 1 in 42 died. Mather, who wrote an account of the epidemic at that time, says that "Cats had a regular small-pox, and died of it;" and that "pigeons and dunghill fowls did not lay nor hatch" during the prevalence of the disorder! In 1730, it has been estimated that 4,000 cases occurred, of which about one-tenth were by inoculation. Of these about 500 died.

In 1752, the disease again appeared in Boston, and became very fatal. The town then contained 15,684 inhabitants; of these 5,998 were supposed to have had the disease. One thousand eight hundred and forty-three removed out of town. All the remainder, except 174, had the disease by inoculation, or the natural way. We have compiled the following statement, to illustrate the prevalence of the disease at this period:—

Persons.	Natural.			Inoculated.		
	Cases.	Deaths.	Ratio per 1000.	Cases.	Deaths.	Ratio per 1000.
Whites .	5060	470	92	1985	24	12
Black .	485	69	142	139	6	43
Both .	5545	539	97	2124	30	14

It appears from this statement, that the liability to death by this disease among the blacks, was about 50 per cent. greater than among the whites, when taken in the natural way; and more than three times as great, when taken by inoculation. The deaths took place in the different months of the year, as follows:—

Month.	Natural.		Inoculated.		Total.
	Whites.	Blacks.	Whites.	Blacks.	
January	1	—	—	—	1
February	2	—	—	—	2
March	2	—	—	—	2
April	20	1	20	6	47
May	205	39	4	—	248
June	203	20	—	—	223
July	31	8	—	—	39
August	5	1	—	—	6
September	1	—	—	—	1
Total	470	69	24	6	569

In the twenty days, beginning May 19, there were 220 deaths, averaging 10 per day. On the 1st June, 25 took place.

This disease occurred again in 1764, in 1776, in 1778, and in 1792. The following statement exhibits its ravages in the last named period. The town then contained about 18,000 inhabitants, of whom 10,655 were supposed to have had the disease, 262 removed out of town, and 221 only remained unaffected, liable to the disease. The rest had it. The cases by the natural way, and by inoculation, were as follow:—

Persons.	Natural.			Inoculated.		
	Cases.	Deaths.	Ratio per 1000.	Cases.	Deaths.	Ratio per 1000.
White	214	27	125	8804	157	17
Black	18	6	333	348	7	20
Both	232	33	141	9152	165	18

The following table exhibits a view of the disease at every period of its appearance in Boston, after 1720:—

Year.	Cases.	Deaths.	Ratio per 1000 of the population.		Natural.			Inoculated.		
			Sick.	Died.	Cases	Deaths.	Ratio per 1000.	Cases.	Deaths.	Ratio per 1000.
172	6006	850	546	77	5759	844	148	247	6	24
1730	4 00	500	266	33	3600	488	135	400	12	30
1752	7 69	569	489	36	5545	539	97	2124	30	17
1764	5646	170	364	11	669	124	185	4977	46	9
1770	5 92	57	441	10	304	29	95	4988	18	5
1778	2 43	61	166	4	122	42	344	2121	29	9
1792	8 46	198	460	10	232	33	142	8114	165	18

Measles prevailed in 1713, 1729, 1759, and 1772, and was the cause of many deaths.

In 1745, an epidemic fever occurred of a very fatal character.

The *Scarlet fever* was first introduced into Boston in 1735, and during that and the next year was very prevalent. About 4000 persons were sick with it, of whom 1 in 35 died. At this time it spread generally through the New England towns, carrying off in some instances whole families. In Kingston, where the usual annual mortality was not above 9 or 10, it rose in 1735 to 102, and this great increase of mortality was not unusual in other places. It is somewhat singular, that after the lapse of just about a century, it should have prevailed again as one of the most fatal diseases of New England.

A new system of registration for the deaths only went into operation in Oct. 1810, and has since been continued with some slight modifications. These records are all preserved. At first the town was divided into three districts, the north, middle, and south, and a separate register kept for each,

under the direction of the Board of Health. The particulars recorded were, 1st, The date of death and burial; 2d, The age and sex; 3d, To what family belonging; 4th, The disease, or cause of death; 5th, The number or name of the tomb where interred, designating the burial ground, and whether a citizen or stranger; and, 6th, Remarks. The district system was given up in 1822, at the incorporation of the city, and the office of superintendent of burial grounds was created. This office has since been filled by Mr. Samuel H. Hewes, and he has kept the records of the deaths of the whole city. A "General Abstract of the Bill of Mortality" has been printed annually since 1811, specifying the number of deaths each month in the year, distinguishing the males from the females, and the ages under 1; 1 to 2; 2 to 5; 5 to 10; 10 to 20, and each decennial period afterwards to 100. These abstracts specify also the number of deaths by each disease, but not the age, sex, season, and other particulars, which ought to have been noticed. Heavy penalties were imposed for burying without permission; and it is presumed that all, or very nearly all, the deaths that have taken place in the city are recorded. And the "bills," as far as they go, contain a faithful abstract of the records, and may be generally relied on as correct.

TABLE II, showing the distribution of the population of Boston according to age, sex, and colour, at seven different enumerations.

Ages.	1765.				1790.			
	Males.	Females.	Differ'e.	Total.	Males.	Females.	Difference.	Total.
Under 16 . . .	4109	4010	+99	8119	3376			
16 and upwards	2941	3612	-671	6553	4325			
Whites . . .	7050	7622	-572	14672	7701	9576	-1875	17277
Coloured . . .	531	317	+14	848				761
Total . . .	7581	7939	-558	15520	7701	9576	-1875	18038
	1800.				1810.			
	Males.	Females.	Differ'e.	Total.	Males.	Females.	Difference.	Total.
Under 10 . . .	3057	3083	-26	6140	4391	4349	+42	8740
10 to 16 . . .	1406	1499	-93	2905	1860	2081	-221	3941
16 to 26 . . .	2478	2998	-520	5476	3578	3989	-411	7567
26 to 45 . . .	2999	3110	-111	6109	4165	4140	+25	8305
45 and upwards	1334	1799	-465	3133	1346	1887	-541	3233
Whites . . .	11274	12489	-1215	23763	15340	16446	-1106	31786
Coloured . . .				1174				1464
Total . . .	11274	12489	-1215	24937	15340	16446	-1106	33250
	1820.				1825.			
	Males.	Females.	Differ'e.	Total.	Males.	Females.	Difference.	Total.
Under 10 . . .	5283	5399	-116	10682	6206	6309	-103	12515
10 to 16 . . .	2416	2965	-549	5381	3061	3616	-555	6677
16 to 26 . . .	3564	4544	-980	8108	7622	7589	+33	15211
26 to 45 . . .	7345	5973	+1372	13318	8458	7739	+719	16197
45 and upwards	1500	2569	-1069	4069	2560	3204	-644	5764
Whites . . .	20108	21450	-1342	41558	27907	28453	-550	56364
Coloured . . .	809	931	-122	1740	974	943	+31	1917
Total . . .	20917	22381	1464	43298	28881	29396	-515	58281

1830.

Ages.	Males.	Females.	Diff'nce.	Total.	Proportion of females to 100 males.	Proportion each age.	Surviv'g.	Proportion surviving.	Proportion surviving each age that are in next age.
Under 5	3818	4004	—186	7822	104.87	13.14	59517	100.—	13.14
5 to 10	2941	2978	—37	5919	101.25	9.95	51695	86.86	11.44
10 to 20	5634	6391	—757	12025	113.43	20.20	45776	76.91	26.26
20 to 30	7729	7958	—229	15687	102.96	26.36	33751	56.71	46.47
30 to 40	4132	4661	—529	8793	112.80	14.78	18064	30.35	48.67
40 to 50	2168	2698	—530	4866	124.44	8.18	9271	15.57	52.48
50 to 60	1077	1413	—336	2490	131.19	4.18	4405	7.39	56.52
60 to 70	475	801	—326	1276	168.63	2.14	1915	3.21	66.63
70 to 80	164	325	—161	489	198.17	.82	639	1.07	76.52
80 to 90	31	105	—74	136	338.70	.23	150	.25	90.66
90 to 100	2	12	—10	14	600.00	.2	14	.02	100.—
Whites	28171	31346	—3175	59517	111.26	100.00			
Colored	865	1010	—145	1875	116.76				
Total	29036	32356	—3320	61392	111.43				

Tables of an improved form might have been prepared from the existing records, but to render them as perfect as they ought to be, some modification in the system of keeping the records is necessary. We have compiled from the series of printed abstracts, now before us, several tables, containing important facts and deductions in relation to the vital statistics of Boston. Some others might have been presented had we gone back to the original records, but they would hardly have paid the great labour required for compilation. To render these tables more clearly understood, the condition of the population should be known. We have, therefore, compiled several tables from the different censuses, to illustrate this point.

We have already given an account of the population of Boston previous to 1775. Table II presents the particulars of the population according to the several different enumerations from 1765 to 1830. From this table we have compiled the following abstract, to exhibit the increase of the population:—

TABLE III, showing the increase of the population at eight enumerations, from 1790 to 1837.

Years.	Population.	Actual Increase.		Increase per cent.		One in	Square y'rds to each.
		Total.	Annual.	Total.	Annual.		
1790	18,038	—	—	—	—	—	201
1800	24,937	6899	689.9	38.24	3.82	26	145
1810	33,259	8313	831.3	33.33	3.33	30	109
1820	43,298	10,048	1,004.8	30.22	3.02	33	83
1825	58,281	14,983	2,996.6	34.60	6.92	14	64
1830	61,392	3111	622.2	5.33	1.06	94	62
1835	78,603	17,211	3,442.2	28.03	5.60	17	49
1837	80,325	1,722	861.0	2.19	1.09	91	49

From this statement it appears that the greatest increase of the population was from 1820 to 1825, being 14,983, equal to an annual increase of 6.92

per cent., or 1 in 14. The least increase was in 1825 to 1830, being only 1.06 per cent. annually. The whole increase from 1790 to 1837, was 445.3 per cent., or doubling the first mentioned number about $4\frac{1}{2}$ times.

In 1796, Boston, exclusive of South Boston, was estimated to contain 750 acres, or 3,630,000 square yards, including the streets. This may not have been strictly correct, but was an approximation to the truth; and probably the inhabited parts do not now contain more than that quantity of territory. This would give 201 square yards to each inhabitant in 1790, and 49 in 1837, being an increased density of 5 to 1.

TABLE IV, showing the population living at each age of the different sexes.

Age.	Proportion of Females to 100 Males.				Proportion of population living at each age.			
	1800	1810	1820	1825	1800	1810	1820	1825
Under 10	100.85	99.04	102.19	101.65	25.84	27.50	25.74	22.20
10 to 16	106.61	111.88	122.72	111.59	12.23	12.40	12.97	11.84
16 to 26	120.98	111.48	127.49	99.56	23.04	23.80	19.51	26.99
26 to 45	103.70	99.39	81.32	91.49	25.71	26.13	31.99	28.74
45 and upwards	134.81	140.19	171.33	125.11	13.18	10.17	9.79	10.23
Total.	110.77	107.30	102.10	101.96	100.00	100.00	100.00	100.00

The proportion of living males to living females deserves consideration. There have been in Boston more females than males. The proportion of the aggregate number of each sex of all ages was in 1790, as 100 males to 104.72 females, and in 1800, as 100 to 110.77. The proportion, however, became more equal in 1825, when it was reduced, and was as 100 to 101.96. In 1830, it was as 100 to 111.43. These facts will appear from Table IV, which also shows the census of 1830, and the proportion of each sex living at the different ages. In 1810 there were less females than males living under 10 years. At all other periods under 26 years, excepting 1825, there were more females than males. In the ages 26 to 45, there were more males than females at each enumeration excepting 1800. Above 45 there were from 25 to 70 per cent. more females than males. The most striking difference was in 1820. The proportion of the sexes then changes in the ages 26 to 45; to the ages 45 and upwards, from 81.52 to 171.33 per cent., a difference of 90 per cent. This shows the changeable nature of our population. The ages of 24 to 45 embrace the transient inhabitants—persons in single life, who come here to reside a few years, and afterwards remove. The proportion of population living at all ages will also appear from this table.

In the census for 1830, we have exhibited the proportion of males to females, and the proportion of both, living at each age; the number surviving, and the proportion per cent. of the surviving at each age; and the proportion of the number surviving each age, that do not attain the next higher age. These deductions are important, as showing the laws of longevity.

The proportion of white to coloured population has been about the same at each of the enumerations, excepting the last two, when the whites had increased, as will appear from the following statement:

Proportion.	In 1790.	In 1800.	In 1810.	In 1820.	In 1825.	In 1830.
Of whites,	95.78	95.30	95.60	95.98	96.71	96.95
Of coloured,	4.22	4.70	4.40	4.02	3.29	3.05
	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

This shows that in 1790, of the whole population, 95.78 per cent. were white, and the remainder, 4.22, were coloured. In 1830, the proportion of whites had increased, and the coloured decreased, 1.17 per cent.

TABLE V, showing the influences of the different years on the number of the deaths, distinguishing the males from the females, and the stillborn, and the proportion to the population.

Years.	Population.	Deaths.						Proportion to population.	
		Males.	Females	Diff'nce.	Total.	Still born.	Total.	One in	Percent
1811	34,255	373	375	—2	748	46	794	45	2.18
1812	35,260	286	347	—61	633	48	681	55	1.85
1813	36,264	416	334	+82	750	36	786	48	2.06
1814	37,269	367	328	+39	695	32	727	53	1.86
1815	38,274	407	433	—16	830	21	851	46	2.16
1816	39,279	440	433	+7	873	31	904	45	2.22
1817	40,284	453	422	+31	875	33	908	46	2.17
1818	41,288	486	439	+47	927	46	971	44	2.23
1819	42,293	423	366	+57	789	89	878	53	1.86
1820	43,298	505	509	—4	1014	89	1103	42	2.31
Mean.		415.6	397.6	+180	813.2	47.1	860.3	47	2.09
1821	46,295	678	643	+35	1321	99	1420	35	2.85
1822	49,291	570	518	+52	1088	115	1203	45	2.20
1823	52,288	531	514	+17	1045	109	1154	50	1.99
1824	55,284	623	585	+38	1208	89	1297	45	2.18
1825	58,281	692	670	+22	1362	88	1450	42	2.33
1826	58,903	623	544	+79	1167	87	1254	50	1.98
1827	59,525	495	444	+51	939	83	1022	63	1.57
1828	60,147	603	556	+47	1159	74	1233	51	1.92
1829	60,769	600	556	+44	1156	65	1221	52	1.90
1830	61,392	532	493	+39	1025	100	1125	59	1.66
Mean.		594.7	552.3	+424	1147.0	90.9	1237.9	49	2.05
1831	64,834	676	677	—1	1353	71	1424	47	2.08
1832	68,276	840	835	+5	1675	86	1761	40	2.45
1833	71,780	679	695	—16	1374	102	1476	52	1.91
1834	75,160	765	675	—10	1440	114	1554	52	1.91
1835	78,603	991	828	+163	1819	95	1914	43	2.31
1836	79,464	831	817	+14	1648	122	1770	48	2.07
1837	80,325	875	868	+7	1743	100	1843	46	2.16
1838	81,186	937	862	+75	1799	121	1920	45	2.21
1839	82,215	863	859	+4	1722	141	1863	44	2.23
Mean.		745.7	711.6	+241	1457.3	95.2	1552.5	45	2.14

The preceding table, (Table V,) being the first compiled from the printed bills of mortality, presents a general view of the number of deaths each year, from 1811 to 1839, distinguishing the males from the females. The still-born, having never lived, are excluded from the number of deaths in all correct bills of mortality, and are here placed in a separate column. The population at the different enumerations, and the estimated population for the intervening years, and the ratio which the deaths bear to the population, are given. The least mortality in one year was in 1827, being 939, one in 63, or 1.57 per cent., and the greatest in 1821, being 1,321, one in 35, or 2.85 per cent. The average annual deaths were 813, from 1811 to 1830—one in 47, or 2.09 per cent., 1147 from 1821 to 1830—one in 49, or 2.05 per cent., and 1,552 from 1831 to 1839—one in 46, or 2.14 per cent., showing a small increase in the force of mortality.

Mortality of different Ages.—The number of deaths varies very much in the different ages, being in some much greater than in others. We have presented in table VI the number who have died under 1, between 1 and 2, 2 and 5, 5 and 10, and at each subsequent decennial period of life. This has been done for the different sexes, and in the different periods of time—the 10 years, 1811 to 1820, and 1821 to 1830, and the 9 years, 1831 to 1839, that we might institute a comparison between the different periods, to ascertain whether the proportion of deaths was the same in each, and also for the whole 29 years. The greatest number of deaths in any one period mentioned, is under one year, in the period 1831 to 1839, being 2861. The next greatest is between 20 and 30 of the same period, being 1843. The least number is between 90 and 100.

TABLE VI, showing the influences on the number of deaths in different ages, distinguishing the males from the females, in three different periods of time.

Age.	1811—1820.			1821—1830.			1831—1839.			1811—1839.		
	Males	Females	Total.	Males	Females	Total.	Males	Females	Total.	Males	Females	Total.
Under 1	765	610	1375	1129	833	1962	1596	1265	2861	3490	2708	6198
1 to 2	435	397	832	580	640	1220	848	933	1781	1863	1970	3833
2 to 5	267	224	491	428	365	793	849	749	1598	1544	1338	2882
5 to 10	151	133	284	233	173	406	344	275	619	728	581	1309
10 to 20	194	236	430	234	299	533	272	463	735	700	998	1698
20 to 30	548	585	1133	671	733	1404	871	972	1843	2090	2290	4380
30 to 40	509	471	980	750	642	1392	913	738	1651	2172	1851	4023
40 to 50	497	374	871	623	466	1089	651	505	1156	1771	1345	3116
50 to 60	300	260	560	389	331	720	456	365	821	1145	956	2101
60 to 70	201	255	456	233	287	520	303	343	646	737	885	1622
70 to 80	160	226	386	181	248	429	198	298	496	539	772	1311
80 to 90	74	119	193	89	137	226	85	140	225	248	396	644
90 to 100	5	24	29	11	26	37	15	36	51	31	86	117
Sum	4106	3914	8020	5551	5180	10731	7401	7082	14483	17058	16176	33234
Unknown	50	62	112	396	343	737	56	34	90	502	439	941
Total	4156	3976	8132	5947	5523	11470	7457	7116	14573	17560	16615	34175

TABLE VII,

Showing, in three different periods of time, the number dying and the number surviving, and the proportion per cent. of each at the different ages; and also the proportion per cent. of those who survive the first mentioned age, that die before they attain the next age.

Age.	1811—1820.						1821—1830.						1831—1839.					
	Dying of the first and under the second mentioned age.			Surviving the first mentioned age.			Dying of the first and under the second mentioned age.			Surviving the first mentioned age.			Dying of the first and under the second mentioned age.			Surviving the first mentioned age.		
	Whole number.		Proportion per cent.	Whole number.		Proportion per cent.	Whole number.		Proportion per cent.	Whole number.		Proportion per cent.	Whole number.		Proportion per cent.	Whole number.		Proportion per cent.
	Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.		Proportion per cent. of those who survive the first mentioned age who die before the next age.	
Under 5	2698	33.64	100.00	8020	33.64	100.00	3975	37.04	100.00	10731	37.04	100.00	6240	43.09	100.00	14483	43.09	100.00
5 to 10	284	3.54	66.36	5322	5.33	66.36	406	3.79	62.96	6756	6.00	62.96	619	4.27	56.91	8243	7.60	56.91
10 to 20	430	5.36	62.82	5038	8.53	62.82	533	4.97	59.17	6350	8.39	59.17	735	5.08	52.64	7624	9.64	52.64
20 to 30	1133	14.13	57.46	4608	24.58	57.46	1404	13.08	54.20	5817	24.13	54.20	1843	12.73	47.56	6889	26.75	47.56
30 to 40	980	12.22	43.33	3475	28.20	43.33	1392	12.97	41.12	4413	33.85	41.12	1651	11.40	34.83	5046	32.73	34.83
40 to 50	871	10.86	34.11	2495	34.90	34.11	1089	10.15	28.15	3021	36.04	28.15	1156	7.98	23.43	3395	34.05	23.43
50 to 60	560	6.99	20.25	1624	34.48	20.25	720	6.71	18.00	1932	37.31	18.00	821	5.67	15.45	2239	36.66	15.45
60 to 70	456	5.68	13.26	1064	42.85	13.26	520	4.84	11.29	1212	42.90	11.29	646	4.46	9.78	1418	45.55	9.78
70 to 80	386	4.81	7.58	608	63.48	7.58	429	4.00	6.45	692	61.99	6.45	496	3.42	5.32	772	64.24	5.32
80 to 90	193	2.41	2.77	222	86.98	2.77	229	2.17	2.45	263	85.93	2.45	225	1.55	1.90	276	81.22	1.90
90 to 100	29	.36	.36	29	100.00	.36	37	.34	.34	37	100.00	.34	51	.35	.35	51	100.00	.35
	8020	100.00		10731	100.00		10731	100.00		10731	100.00		14483	100.00		14483	100.00	

In table VII we have given the aggregate number of deaths, and calculated the proportion per cent. of the deaths at each specified interval of age. It appears that 2698, or 33.64 per cent., of the whole deaths in 1811 to 1820 were under 5 years of age, and that 14.13 per cent., the next greatest proportion, was between the ages of 20 and 30. In the next column of this table we have presented the number who survive each specified age, and in the fourth column the proportion per cent. of the surviving. It appears from this table that 5322, or 66.36 per cent., of the deaths in 1811 to 1820 survived the age of 5 years; 1624, or 20.25 per cent., survived the age of 50 years; and 222, or 2.77 per cent., survived the age of 80 years. In the fifth column we have presented the law of mortality calculated from the deaths alone, and given the proportion per cent. of the number of those who were alive at the beginning of each specified age, and who died before the next specified age. Of the whole deaths, 33.64 per cent. were under 5 years; of those who survived 5 years, 5.33 per cent. died before they attained 10 years; of those who survived 10 years, 8.53 per cent. died before they attained 20 years; and so on for each successive period, as appears in the table. We have presented these four different kinds of facts concerning the other periods, 1821 to 1830, and 1831 to 1839. A comparison of these facts presents some very important considerations.

It has been repeatedly said that the great improvements in the science of medicine—in the nature and treatment of disease, and other causes, have increased the average longevity of mankind; that life is more valuable now than it formerly was; and that these improvements are constantly going on. The value of life is estimated by the number of years we live. A long life is more valuable than a short one. It is said to be improved in value, when the various circumstances, which surround us, add to the number of years of existence, as compared with other causes, which have existed in other places or periods of time. No correct conclusion can be made in regard to such comparison, except by a careful examination of the facts. A sufficient number of these is not, however, as yet attainable in this country to enable us to investigate the subject so fully and satisfactorily as could be desired. We can present some important ones in relation to Boston.

By table I we are enabled to compare the ratio of mortality in Boston to the population, during a portion of the last century, with that prevailing at the present time, after an interval of nearly 100 years. There was then 1 death to about 30 or 35, or 3 per cent., of the population. Now according to table IV there is 1 in about 45, or 2.10 per cent., of the population. This shows a very great improvement in the relative value of life. A comparison of other facts in the two tables will also present some very striking considerations. In consequence of the ages of the deaths not being then given, we are unable to estimate the comparative value of life at the different ages.

To estimate accurately the value of life in any place, two important elements are necessary to be known: first, the number of the living at each age,

and, secondly, the number of deaths at the same age. That we might make a calculation approximating to the truth in regard to Boston, we have taken the population of 1830, according to table II, and have distributed the 1875 blacks among the whites of the different ages according to their respective proportions. From the bills of mortality we have ascertained the number of deaths for the 10 years, 1826 to 1835, five years before and five years after the census was taken, and have distributed the whole, including 126 deaths whose ages were unknown, in the same manner in regard to age as the living. One-tenth of these is the annual average, and consequently the number of deaths for 1830. By dividing one by the other, the annual proportion of the deaths to the living at each age will appear, as in the following statement. We have added the results of a similar calculation made by Mr. Milne, in his valuable treatise on life insurance, respecting the value of life in Carlisle, in England, which is there considered a favourable specimen of healthy life.

Statement showing the population of Boston for 1830, the deaths for 10 years, 1826 to 1835, and the proportion of the annual deaths to 100 constantly living in Boston and Carlisle.

Age.	Population in 1830.	Deaths 1826-1835.	Centesimal proportion of deaths to the living.		
			In Boston.	In Carlisle.	Difference.
Under 5	7822	5176	6.48	8.22	-1.74
5 to 10	5919	515	.85	1.02	-.17
10 to 20	12025	659	.54	.58	-.04
20 to 30	15687	1719	1.07	.75	+.32
30 to 40	8793	1656	1.84	1.05	+.79
40 to 50	4866	1130	2.27	1.43	+.84
50 to 60	2490	775	3.05	1.82	+1.23
60 to 70	1276	607	4.63	4.12	+.51
70 to 80	489	465	9.12	8.29	+.83
80 to 90	136	235	16.94	17.56	-.52
90 to 100	14	44	30.76	28.44	+2.32
	59517	12981	Mean 2.13	2.50	
	Blk's 1875	Unk'n 126			
Total	61392	13107			

By this statement it appears that the proportion of deaths to the living is greater in Carlisle than in Boston under the age of 20, and between the ages of 80 and 90. At the other ages it is greater in Boston. Between the ages of 50 and 60, and 90 and 100, there is the greatest difference, being in the former 1.23, and in the latter 2.32. The mean of all ages is 2.13 per cent. in Boston and 2.50 per cent. in Carlisle, showing a difference of .37 in favour of the former. This presents the law of mortality in Boston, as accurately as it could be done from any data at present existing. It is, however, difficult, if not impossible, to determine it with perfect precision by any general statement concerning a population so changeable as that of our city.

We have arranged the tables including the deaths from 1811 to 1839 in such form, that we can institute a comparison between the relative mortality

of the different periods, 1811 to 1820, 1821 to 1830, and 1831 to 1839. This comparison presents some very striking facts, and shows that, although the average value of life is greater now than during the last century, it is not so great as it was twenty years ago; that it was at its maximum in 1811 to 1820, and that it has since somewhat decreased. It appears that 33.64 per cent. of the deaths in 1811 to 1820 were under 5 years of age, 37.04 per cent. in 1821 to 1830, and that 43.09 per cent. in 1831 to 1839, showing a gradual increase of the relative mortality under that age, and between the first and the last given period, a difference of 9.45 per cent. or a proportional increase of mortality of 28 per cent.!

It is a melancholy fact, and one which should arrest the attention of all, that 43 per cent. or nearly half of all the deaths which have taken place in Boston during the last nine years, are of persons under 5 years of age; and the proportional mortality of this age has been increasing. A comparison may be made between other ages by table VII in two ways, one by taking the difference between the proportions per cent. of the dying each age in the different periods, or by subtracting the second columns of each period from each other; and the other by taking the difference between the proportion per cent. of those who survive the first mentioned age, and die before they attain the next age, or by subtracting the fifth columns of each period from each other. The first method is not so correct as the second; for, if a greater proportion die under 5 years of age, there must of course be a less proportion die at each of the other ages, even if the number proportional to the living at that age be the same. It is not so in regard to the other method. The mortality of one age is not dependent on any other, and the table shows the proportion of the whole number of deaths, who attain the age of 5, 10, 20, or any other given period, who die before they attain the next given period. This calculation shows the law of mortality for a place as accurately as can be shown from any calculation from records of deaths alone. We have given below the difference between the proportion per cent. of the deaths at each period. The sign plus shows that the mortality is greater, and minus that it was less in the last period than the first.

AGE	Difference between 1811 to 1820 and 1821 to 1830.		Difference between 1821 to 1830 and 1831 to 1839.		Difference between 1811 to 1820 and 1831 to 1839.	
	2d column.	5th column.	2d column.	5th column.	2d column.	5th column.
Under 5	+3.40	+3.40	+6.05	+60.5	+9.45	+9.45
5 to 20	+.25	+.67	+.48	+1.50	+.73	+2.17
10 to 20	— .39	— .14	+.11	+1.25	— .28	+1.11
20 to 30	—1.05	— .45	— .35	+2.62	—1.40	+2.17
30 to 40	+.75	+5.65	—1.57	—1.12	— .82	+4.53
40 to 50	— .71	+1.14	—2.17	—1.99	—2.88	— .85
50 to 60	— .28	+2.83	—1.04	— .65	—1.32	+2.18
60 to 70	— .84	+.05	— .38	+2.65	—1.22	+2.70
70 to 80	— .81	—1.49	— .58	+2.25	—1.39	+.76
80 to 90	— .24	—1.05	— .62	—4.71	— .86	—5.76
90 to 100	— .02		+.01		— .01	

It appears from this table that the value of life has slightly improved between the ages 30 and 60 and over 80, the chances being somewhat greater than they were twenty years ago, that a person of these ages will live to the next higher age. Under 30 the mortality has increased; the greatest however is under 5. The mortality for 1838 was greater than in any any other year, being 47.65 wanting but 2.35 per cent. of half the whole deaths, showing in that year a greater mortality under 5, than the average eight previous years, of 4.68 per cent., and that of the first ten years of 14.51 per cent.

The causes of this increasing and alarming mortality should be investigated, and, if possible, removed. We have endeavoured to ascertain some of these causes. Allowance should, we suppose, be made for the customs of the times. More luxury and effeminacy in both sexes prevail now than formerly; and this may have had some influence in producing constitutional debility, and the consequent feeble health of children. The nursing and feeding of children with improper food is another cause. The influence of bad air in confined, badly located, and filthy houses, is another and perhaps the greatest. Epidemic diseases which are particularly prevalent among children have increased. It will hereafter be shown that scarlet fever has prevailed very much the last nine years, and has increased the mortality. In the period 1811 to 1820, this disease produced 13 per 1000 of the whole deaths. In 1831 to 1838, it produced 489. Other infantile diseases have also increased. These considerations would, perhaps, sufficiently account for the increased mortality under 5 years of age.

We had supposed that a greater mortality prevailed in certain localities, and in certain classes of our population than in others, and we have endeavoured to ascertain how far the supposition is founded on fact. Though the records do not specify, as they ought, the place of residence of those whose deaths are recorded, they do give, in all cases, the places of burial. We have compiled the following statement from a list of all those, who were buried from Boston in the South Boston and Charleston Roman Catholic burial grounds.

Of the 1987 Catholic burials during the six years, 1833 to 1838, comprising 1028 males and 958 females, 61.39 per cent. were under 5 years. The still-born during the same time, and in the same religious denomination, not included in the above, were 125, or 5.77 per cent. of the whole burials; 112, or about $5\frac{1}{2}$ per cent. only, lived to see 50 years of age, and 30, or less than 2 per cent. lived to 70. During the year 1838 there were 439 burials, of whom 303, or 171 males and 132 females, were under 5; and 136, or 57 males and 79 females, were over 5. This is a mortality of 75 per cent. of the whole male deaths, and 60 per cent. of the whole female deaths under 5; leaving 25 per cent. only of the males and 40 per cent. of the females, or 31 per cent. of both sexes, to survive that early age. This shows a great increase in mortality, and will account for the increase of the deaths under 5 years of age. The influx of unacclimated foreign emigrants, and the great number of

families crowded into the houses in Broad street, Ann street, and other densely populated parts of the city, render the air very impure, and expose the lives of infants, who are compelled to breathe it, to almost inevitable death. The influences of such circumstances are not confined to the places where they exist, but are extended to the population in the neighbourhood, and epidemics are generated, which are no doubt injurious to the general health of the city.

Mortality of different Sexes.—The difference in the mortality of the two sexes is given in tables V and VI, from which it appears that there were 180 more female than male deaths in 1811 to 1820; 424 in 1821 to 1830, and 341 in 1831 to 1839. There were four years in the first period, and three in the last only, when there were more male than female deaths. The proportion of the different sexes will appear from the following statement.

		Deaths.	Average.	Proportion.	
1811 to 1820	{ Males	4156	415	51.11	as 100 or 104.59
	{ Females	3976	397	48.89	to 95.66 100.
	Total,	8132	813	100.00	
1821 to 1830	{ Males	5947	594	51.85	as 100 or 107.67
	{ Females	5523	553	48.15	to 92.87 100
	Total,	11470	1147	100.00	
1831 to 1839	{ Males	7457	828	51.17	as 100 or 104.79
	{ Females	7116	790	48.83	to 95.42 100
	Total,	14573	1618	100.00	

The proportion of male and female deaths to the population in the years when the census was taken, was as follows:

	One in		Excess.	Proportion per cent.		Excess.
1820	Males 41	Females 44	3	Males 2.41	Females 2.27	14
1825	" 41	" 43	2	" 2.32	" 2.27	5
1830	" 54	" 65	11	" 1.83	" 1.52	31
1835	" 39	" 48	9	" 2.54	" 2.07	47

This statement shows that the agents of death are uniformly more active with male than female life.

In the following table we have given the number of deaths of each sex for the different intervals of age, as in table V, and the proportion of each sex for the period 1811 to 1838.

Age.	Observed.		Calculated.	
	Males.	Females.	Males.	Females.
Under 1	3315	2572	56.31	43.69
1 to 2	1756	1861	48.54	51.46
2 to 5	1426	1232	53.65	46.35
5 to 10	675	537	55.69	44.31
10 to 20	669	942	41.34	58.66
20 to 30	2009	2159	48.20	51.80
30 to 40	2071	1775	53.84	46.16
40 to 50	1693	1278	56.99	43.01
50 to 60	1099	915	54.56	45.44
60 to 70	700	849	45.19	54.81
70 to 80	521	741	41.28	58.72
80 to 90	241	376	39.06	60.94
90 to 100	31	83	27.18	72.82

It appears from this statement, that at the ages under 10 years, and between 30 and 60, more males than females die, the proportion rising in 40 to 50, as 56.99 to 43.01 per cent. At the other periods specified there are less male than female deaths; the difference after the age of 60 continually increasing, until 90 to 100, when it was as 27.18 to 72.82 per cent. By table II it appears that there were a greater number of males than females at any age among the living population. A comparison of these with the deaths will show that at certain ages a greater proportional mortality prevails among males, and at other ages among females.

Mortality of the Different Seasons of the Year.—In table VIII we have arranged the deaths in each period according to the months in which they occurred, distinguishing the males from the females, and placing before the numbers the sign minus, when it was less, and the sign plus, when it was greater than the mean. In the third column we have given the proportion, which the total of each month bears to 12000, or 1000 per month, and in the fourth column, the number, indicating the order of the month in regard to mortality—the highest being numbered 1. It appears from this statement, that the months of August, September, and October, have the highest mortality. December is number 4 in each period; November 5 in the last, and 6 in the others. June has uniformly the least mortality. If the proportions are arranged according to the seasons of the year, they will be as follows:

	1811-1820.	1821-1830.	1831-1839.
Winter,	2.801	2.775	3.000
Spring,	2.842	2.825	2.622
Summer,	2.807	2.996	2.800
Autumn,	3.550	4.434	4.578
	<hr/> 12,000	<hr/> 12,000	<hr/> 12,000

TABLE VIII,

Showing the influences of the different months of the year on the number of deaths, distinguishing the males from the females, and the stillborn, and the proportion each month, at three different periods of time.

No.	Month.	1811—1820.					1821—1830.					1831—1839.					Stillborn. 1811—1839.	
		Males.	Females.	Total.	Proportion.	Order.	Males.	Females.	Total.	Proportion.	Order.	Males.	Females.	Total.	Proportion.	Order.	Number.	Proportion.
1	January	—309	—337	—622	0.918	8	+449	+477	—926	0.969	7	—591	+582	—1173	0.961	6	191	8.40
2	February	—322	—283	—589	0.869	10	—392	—390	—782	0.818	11	—539	—549	—1088	0.876	9	176	7.62
3	March	+367	+341	676	0.997	5	—478	—413	—891	0.932	10	—556	—575	—1131	0.907	7	207	9.08
4	April	—327	—311	—622	0.918	9	—481	—426	—907	0.944	8	—563	—534	—1097	0.905	8	180	7.48
5	May	—333	—308	—628	0.927	7	—491	—411	—902	0.944	9	—488	—494	—982	0.810	11	185	7.76
6	June	—303	—254	—538	0.794	12	—423	—341	—764	0.799	12	—498	—458	—956	0.786	12	180	7.67
7	July	+354	—256	—582	0.859	11	+501	—440	—941	0.984	5	—590	—502	—1042	0.847	10	192	8.17
8	August	+416	+392	+782	1.154	3	+576	+555	+1131	1.183	2	+739	+678	+1417	1.167	3	217	9.45
9	September	+436	+405	+826	1.219	2	+661	+585	+1246	1.304	1	+799	+749	+1548	1.283	1	201	8.76
10	October	+461	+466	+906	1.337	1	+565	+544	+1109	1.160	3	+726	+698	+1424	1.174	2	208	8.58
11	November	+357	—333	+674	0.994	6	—457	+470	—927	0.970	6	+689	+644	+1333	1.121	5	191	8.31
12	December	—344	+364	+687	1.014	4	—473	+471	—944	0.988	4	+729	+653	+1382	1.163	4	204	8.72
Total		4329	4050	8132	12.000		5947	5523	11470	12.000		7457	7116	14573	12.000		2332	100.—
Mean		$352\frac{5}{12}$	$337\frac{1}{2}$	$677\frac{2}{3}$			$495\frac{7}{12}$	$460\frac{1}{4}$	$955\frac{5}{6}$			$621\frac{5}{12}$	593	$1214\frac{5}{12}$			$194\frac{4}{12}$	

In table IX, we have endeavoured to arrange the facts for one period, 1821-1830, to ascertain what influence the seasons have upon the mortality of different ages. We have given the whole deaths during the time, the mean or average of each month at each age, and the difference from this mean, placing the sign minus, when the mortality of the month at any age was less, and plus when it was greater, than this mean.

TABLE IX, showing the influence of the different months of the year on the number of deaths, in the different ages, for the years 1821-1830, inclusive.

Age.	Whole deaths.	Average or monthly mean.	January.		February.		March.		April.		May.	
			Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.
Under 1	1962	163.50	151	-12.60	121	-42.50	140	-23.50	140	-23.50	123	-40.50
1 to 2	1220	101.67	68	-33.67	46	-55.67	65	-36.67	80	-21.67	73	-28.67
2 to 5	793	66.08	64	-2.08	47	-19.08	65	-1.08	62	-4.08	69	+2.92
5 to 10	406	33.83	33	-.83	21	-12.83	23	-10.83	41	-7.17	29	-4.83
10 to 20	533	44.42	46	+1.58	40	-4.42	40	-4.42	31	-13.42	52	+7.58
20 to 30	1404	117.—	114	-3.—	106	-11.—	114	-3.—	123	+6.—	122	+5.—
30 to 40	1392	116.—	112	-4.—	98	-18.—	126	+10.—	123	+7.—	123	+7.—
40 to 50	1089	90.75	88	-2.75	88	-2.75	93	+2.25	89	-1.75	105	+14.25
50 to 60	720	60.—	76	+16.—	51	-9.—	58	-2.—	54	-6.—	65	+5.—
60 to 70	520	43.34	42	-1.34	49	+5.66	51	+7.66	53	+9.66	35	-8.34
70 to 80	429	35.75	36	+.25	50	+14.25	38	-2.25	33	-2.75	35	-.75
80 to 90	226	18.83	31	+12.17	23	+4.17	18	-.83	22	+3.17	13	-5.83
90 to 100	37	3.08	8	+4.92	3	-.08	3	-.08	1	-2.08	3	-.08
Total	10731	894.25	869	-25.25	743	-151.25	834	-60.25	852	-42.25	847	-47.25

Age.	June.		July.		August.		September.		October.		November.		December.	
	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.	Deaths.	Diff'ce from mean.
Under 1	115	-48.5	158	-5.50	241	+77.50	293	+130.50	192	+28.50	145	-18.50	144	-19.50
1 to 2	64	-37.65	102	+.33	170	+68.33	224	+122.33	157	+55.33	101	-.67	70	-31.67
2 to 5	71	+4.92	47	-19.08	72	+5.92	78	+11.92	77	+10.92	70	+3.92	72	+5.92
5 to 10	42	+8.17	25	-8.83	46	+12.17	39	+5.17	36	+2.17	34	+1.17	37	+3.17
10 to 20	40	-4.42	49	+4.58	42	-2.42	55	+10.58	47	+2.58	46	+1.58	45	+.58
20 to 30	75	-42.—	122	+5.—	129	+12.—	125	+8.—	149	+32.—	100	-17.—	125	+8.—
30 to 40	101	-15.—	139	+23.—	100	-16.—	125	+9.—	124	+8.—	124	+8.—	97	-19.—
40 to 50	60	-30.75	101	+10.25	89	-1.75	95	+4.25	103	+12.25	94	+3.25	83	-7.75
50 to 60	60	-0.—	58	-2.—	55	-5.—	53	-7.—	54	-6.—	56	-4.—	80	+20.—
60 to 70	32	-11.34	38	-5.34	48	+4.66	41	-2.34	51	+7.66	38	-5.34	42	-1.34
70 to 80	29	-6.75	29	-6.75	33	-2.75	26	-9.75	28	-7.75	50	+14.25	42	+6.25
80 to 90	13	-5.83	10	-8.83	23	+4.17	13	-5.83	18	-.83	20	+1.17	22	+3.17
90 to 100	0	-3.08	5	+1.92	0	-3.08	0	-3.08	4	+92	3	-.08	7	+3.92
Total	702	-192.08	883	-11.25	1048	+153.75	1167	+272.75	1040	+145.75	881	-13.25	866	-28.25

From this table the following abstract in relation to the seasons has been compiled.

	Under 20 years.	20 to 60.	60 and upwards.
Spring,	— 205.50	+ 43.75	+ 3.
Summer,	+ 56.50	— 62.75	— 49
Autumn,	+ 366.50	+ 70.75	+ 10
Winter,	— 222.50	— 35.75	+ 52

From this statement it appears that the seasons have the greatest influence on the mortality of persons under the age of 20 and over that of 60—the summer and autumn being most fatal with the former, and winter with the latter. This is the only general law we can deduce from the tables. If we examine and compare particular months and ages a striking difference will appear in the mortality, but not enough to deduce any general law from it.

The Stillborn.—The number and proportion of the stillborn burials will appear from the following statement:

	1811-1820		1821-1830		1831-1839	
	Number.	Proportion.	Number.	Proportion.	Number.	Proportion.
Deaths,	8,132	= 95.52	11,470	= 92.66	14,573	= 93.87
Stillborn,	471	= 5.48	909	= 7.34	952	= 6.13
Total burials,	8,603	100.00	12,379	100.00	15,525	100.00

The proportion of the stillborn to the whole burials was 1.82 per cent. in the second, and .65 per cent. in the third period, more than in the first. By table VIII it appears that the month producing the highest proportion was August, and that March was the next highest. There appears, however, to be less variation, in regard to the seasons, in these than in the other deaths.

DISEASES.—In compiling an abstract of the diseases, or causes of death, we have confined ourselves to the printed bills of mortality, as we have done in preparing the other tables, and have not gone back to the original records. If this had been done, nothing of great importance, in addition, would have been obtained, unless an entire new set of tables had been formed, which should distinguish each case with respect to age and sex. The records in this respect are not full, and probably they are not always correct in regard to the cause of death inserted. The bills, however, contain the amount of all the deaths in the city, and it is presumed that they also contain a faithful abstract of the records concerning the diseases. There has been considerable difficulty, and great care and labour has been expended, in arranging the diseases from the different annual bills themselves. The nomenclature has been several times altered, and a disease is often returned one year under a name differing from that of the same disease contained in the return of another year, and even in the same year, one and the same disease often appears under two synonymous names, sometimes under the popular, and sometimes under the scientific name, or under both popular names.

Another feature of the bills is the indefinite idea conveyed by the names often given to the diseases. It appears from table XI, that of the whole deaths 111.6, 167.1, and 85.8 per 1000, in the respective period, were returned as occurring from unknown causes, and that 267.6, 160.5, and 158.4, per 1000, from diseases whose seat or character was undetermined. These two classes amount on the average to about one-third of the whole deaths. There are also many cases returned under the name of "Rupture," "Debility," "Tumour," "Infantile Diseases," "Complication of Disorders," &c.; and another class under the general name of "Complaint," "Disease of the Heart," or "Disease of the Lungs," &c., without specifying the particular kind or type of the disease. This is a great defect in our records and tables; and it should arrest the attention of the medical profession, whose reputation with that of the city, is in some respects involved in it. These imperfections in bills of mortality, however, are not peculiar to Boston. The same defect, to a greater or less extent, has existed in those published in other places in this country, and until recently in Great Britain. It is to be attributed to the imperfections of our system of registration, to the

ignorance, carelessness, or entire neglect, of those whose duty it is to make the returns, and to the want of proper forms and classification of our printed tables.

In 1836 a nomenclature, revised and considerably improved, was printed by the city; but it is believed that some further modification is necessary to make it as perfect as it should be. Some names might be omitted, and others substituted, and the whole arranged in two forms, one in alphabetical and numerical order, the other classed in groups according to the seat of, or parts affected by, the disease. In this way the nomenclature might be rendered more simple and exact; and when made, a form of a return should be prepared and every person concerned should not be requested merely, but required to conform to it in all respects to the extent of his power; and no burial should be permitted until the return is first obtained. In 1836 a circular was addressed by the city authorities to the members of the medical profession, and to the funeral undertakers, requesting them to conform to the new nomenclature, but from the fault of one party or the other, the returns relative to the *cause of death* are still defective.

From these remarks some of the difficulties, which have presented themselves in preparing the following tables, will be perceived. The tables will, however, imperfect as they are, convey much important information, and suggest how much more valuable tables of this kind would have been, if the original returns, from which they were compiled, had been made full and uniformly correct; and the annual printed abstracts themselves prepared in a different form, and on the principles of accurate classification.

It has been considered sufficient by many writers on this subject to prepare the tables, so as to exhibit the number of the deaths by each disease for certain definite periods of time given. But this information appears to fall short of the result which ought to be presented in such tables. To render them useful, a comparison should be made between the number of deaths by each disease, and the whole number of deaths in a certain given period, and this result should be again compared with a similar result concerning other periods. In this way the prevalence of any particular disease compared with that of other diseases at the same period, and with same diseases at different periods, may be at once seen, and a judgment formed from the per centage what proportion of deaths that particular disease occasions, and whether it be on the increase or decrease. The sex, age, and place of nativity of the diseased, and the season of the year in which the deaths occurred, are not stated in connection with the diseases in our printed tables, but they should be. The fatality of disease depends much on the age of the patients, and it is not the same in childhood, manhood, and old age, nor with the different sexes, and in the different months of the year. It is very important to know all such facts in relation to each disease, and the danger that man has to encounter in all ages, and under all circumstances. It would also be important, if practicable, to know the number of deaths by each disease in

proportion to the population, distinguishing them according to their ages. When facts like these are known they will lead to inquiries into the causes, which have produced an increase or diminution of disease, under different circumstances, and lead to the adoption of the proper remedies.

The following tables have been arranged on the basis of the nomenclature contained in the valuable Report of the Registrar-General of Births, Deaths, and Marriages in England, with such alterations as seemed necessary to render them more simple, and better adapted to our circumstances. Causes of death of a similar character, though entered under different names in different years, have been classed together, so as to show, as far as practicable, the prevalence of the same disease during the whole period. Table X contains the number of deaths by each disease in every year from 1811 to 1839 inclusive. They are divided into three periods, the first from 1811 to 1820, the second from 1820 to 1830, and the third from 1830 to 1839 inclusive, and the amount of each given in a separate column. By comparing these numbers together the relative mortality produced by each different disease, and whether it increases or diminishes, may be seen. It is necessary, however, to bear in mind that a greater number does not always indicate an increase of mortality. The increase of the population, and consequent relative increased number of deaths, must always be taken into view. The deaths, exclusive of the stillborn, from October 1810 to 1820, were 8,469, and from 1821 to 1830 they were 11,470, being an increase of 3001, or nearly 3.54 per cent. annually. During the nine last years, from 1831 to 1839, the deaths were 14,573, being an increase of 3,103, or 3. per cent. annually. This shows a little increase in the force of mortality as compared with the increase of population, as has already been shown. Table XI shows the comparison in regard to the several classes of diseases.

FIRST DIVISION.—*Endemic, Epidemic, and Contagious Diseases.*—This class of diseases is the great index to the state of health of a people, and determines more than any other its character in different locations, and in different periods. We have subdivided this class into *fevers, eruptive fevers, and others not classified.* (See table X.)

Fevers.—A variety of opinions prevails in regard to the nomenclature and arrangement of the different kinds of fevers. We have adopted, as far as circumstances will permit, the division contained in the American edition of Marshall Hall's Practical Medicine, though it does not agree with the Reports of the Registrar-General of Births and Deaths in England, nor with the Supplement to the Encyclopedia of Practical Medicine. There are many cases, found in the Boston tables, returned as "fever" only, without any specification of kind or type. A great variety of names is also given, some of which have been regarded as synonymous. Under *Synochus* are included all of a mixed character, or not clearly defined, which appear in the printed tables, such as "fever," "anomalous fever," "bilious," "catarrhal," "country," "isolated," "miliary," "acute synochus," &c. The term "typhoid" does not

appear in the bills until 1837, and is therefore omitted. Under *Typhus* are included such as "brain," "congestive," "continued," "inflammatory," "jail," "malignant," "nervous," "putrid," "typhoid," &c. We have arranged cases, which appeared in the printed tables as "lung fever," and "pleurisy fever," under *Pneumonia*, or inflammation of the lungs; "worm fever," under *Worms*; "rheumatic fever," under *Rheumatism*; "scarlet fever," under *Scarlatina*; "puerperal" and "child-bed fever," under *Diseases of Child-bed*. The deaths by fevers of all kinds were 749, 604, and 721, or 88.4, 52.7, and 49.5 per 1000 of the whole deaths in the respective periods, showing a decrease of 35.7 in the second, and 3.2 in the third. By looking at the different fevers in the tables it will be perceived, that typhus has produced the greatest number of deaths, but still it has very much decreased; being 623, 458, and 611, or 73.5, 39.9 and 41.9 per 1000, showing the last eight years a small increase on the previous 10, but not more than half the proportion of the period 1811 to 1820. The greatest number in one year was 119, in 1818. Ten cases of yellow fever occurred in 1816.

2. *Eruptive Fevers*.—The diseases of this class occur very irregularly. They have, however, increased. There occurred 64, 402, and 1402, or 7.5, 35.1, and 96.2 per 1000 in the respective periods, the last period showing more than 13 times the mortality of the first. Each of the diseases excepting *thrush*, shows an increased mortality. *Erysipelas* has increased from 1, in the first, to 65 in the last period. *Measles* was very fatal in 1821, 1825, 1829, 1832, and particularly in 1835, when 188 died of this disease: 28, 332, and 340, or 3.3, 28.9, and 23.1 per 1000 of the whole deaths occurred from this disease in the respective periods. Under *Scarlatina* are included the cases in the bills entered as "scarlet fever," "putrid sore throat," "cynanche maligna," "ulcerated sore throat," "throat distemper," "canker rash," &c., being considered nearly synonymous. Cases of this kind have increased since 1821 to 1830, from 13 to 489! It has become one of the most fatal of the eruptive fevers. The suddenness of its attack, the irregular mode of its operation, and its generally fatal termination, has rendered it one of the diseases most to be dreaded. The greatest number in one year was in 1839, when 222 died. The next greatest was 200 in 1832. To the prevalence of this disease may be attributed, in some measure, the increased mortality of children under five years of age. The recorded cases of *Small pox* have been principally at the quarantine establishment at Rainsford Island. It never prevailed in the city, as an epidemic, during the period under review, until the autumn of 1839. It then spread generally through the city, and produced 60 deaths before the close of the year.

3. *Not classified*. We have adopted this term to designate such endemic, epidemic, or contagious diseases as are not included in either of the foregoing classes. Under *Cholera* are included cholera morbus, and also 78, 89, and 251 cases in the respective periods which are entered as "cholera infantum," and also 78 cases of Asiatic or spasmodic cholera, which occurred in 1832. *Croup* includes the cases of "hives," and "cynanche tra-

chealis." This disease resembles quinsy, subsequently classified under the diseases of the organs of respiration; and the cases may not all be correctly entered in their respective subdivisions. It was thought best, however, to preserve a separate classification. Under *Dysentery* are included the cases of "diarrhœa," having so close a resemblance as to be here classed together. The number of deaths by each disease of this class, excepting *Hydrophobia* and *Syphilis*, have increased, though dysentery has not produced so great a proportion in the nine last years, as it did in the previous ten. The following statement will show the comparative prevalence of each of the principal diseases:

Diseases.	1811—1820.		1821—1830.		1831—1839.	
	Number.	Ratio per 1000.	Number.	Ratio per 1000.	Number.	Ratio per 1000.
Cholera,	122	14.4	149	12.9	407	27.9
Croup,	43	5.	245	21.3	376	25.9
Dysentery,	115	13.5	429	37.4	372	25.5
Hooping Cough,	78	9.2	184	16.0	256	17.5

The total of this class of diseases was 380, 1031, and 1499, or 44.9, 89.9, and 102.9 per 1000 in the respective periods.

SECOND DIVISION.—*Sporadic Diseases.*

1. *Of the Nervous System and Senses.*—*Brain, Spinal Marrow, Nerves, Eyes, Ears.*—Under *Convulsions* we include cases entered as "fits," "spasms," &c., which are no doubt sometimes erroneously considered as synonymous terms; under *Hydrocephalus* cases of "dropsy in the head," "effusion of the brain," "hydrocephalus internus," &c.; under *Phrenitis* cases of "brain fever," "inflammation of the brain," &c. It appears from the tables that the whole of the diseases of this class have been 562, 980, and 1515, or 66.4, 85.4, and 104. per 1000 in the different periods, showing a slight increase. The entries under each class, excepting epilepsy, insanity, and tetanus, also show an increase. *Insanity* has not appeared to increase, though some allowance should be made for the patients afflicted with this disease, who go to the Lunatic Asylums at Worcester and Charlestown, and sometimes die there. If these were considered in our reports they would probably show a different result, and a slight increase of the disease. The following statement shows the proportional prevalence of the three principal diseases of this class.

Diseases.	1811—1820.		1821—1830.		1831—1839.	
	Number.	Ratio per 1000.	Number.	Ratio per 1000.	Number.	Ratio per 1000.
Apoplexy,	109	12.8	107	9.3	162	11.1
Convulsions,	229	27.	309	26.9	419	28.7
Hydrocephalus,	86	10.1	270	23.6	498	34.1

2. *Of the Organs of Respiration*—*Larynx, Windpipe, Air-tubes, Lungs, and Pleura.* We have included under *Pleurisy* "pleurisy fever," "pleuritis," and "inflammation of the pleura;" under *Phthisis*, "phthisis pulmonalis," and "consumption," also 29 cases in 1820 to 1830, and 18 in 1830

to 1839, returned as "decline;" under *Pneumonia*, "lung fever," "pulmonic fever," and "inflammation of the lungs;" under *Quinsy* "cynanche." In the different periods under consideration, 2460, 2802, and 3214 deaths, or 290.5, 244.8, and 220.5 per 1000, were caused by this class of diseases. This indicates a decrease of 70 per 1000 from the first to the last period. The following table will show the comparative prevalence of the principal diseases:

	1811—1820.		1821—1830.		1831—1839.	
	Number cases.	Ratio per 1000.	Number cases.	Ratio per 1000.	Number cases.	Ratio per 1000.
Pleurisy,	35	4.1	40	3.4	83	5.7
Phthisis,	1891	223.3	2054	179.	2066	141.7
Pneumonia,	436	51.4	580	50.5	937	64.2

The leading disease of this class, and indeed of all classes, is phthisis, or consumption. From these tables it appears to have decreased over one-third from the first to the last period. Entire reliance, however, should not be placed on this statement. There is so much indefiniteness in the application of the term, *consumption*, as well as many other terms in our bills, that it should be regarded only as an approximation to the truth. The more accurate diagnosis recently observed has probably given a different classification to many cases, from that assigned to them in the first period. Consumption is, however, a most formidable disease, not in Boston peculiarly, but in all cities and country towns. Sufficient facts are known to show, that from *one-fourth* to *one-seventh* of all the deaths in the Northern and Middle states, and perhaps throughout the whole Union, and the civilized world, are caused by consumption. This frightful mortality is to be arrested, if at all, by means of prevention, rather than the cure of the disease after it has once become seated. Were a competent individual to write a popular treatise explaining the various causes of the disease, and the proper precautionary measures to be taken to prevent its attacks, to be read and observed by the people, its mortality might be greatly reduced.

3. *Of the Organs of Circulation—Heart, Arteries, Veins, Lymphatics.*—Under *Disease* are embraced 9 cases of "dropsy of the heart," in 1836, and several cases of "angina pectoris" in different years. These diseases have increased, being 22, 81, and 191, or 2.5, 7. and 13.1 per 1000. Of the whole of this class 24, 90, and 200, or 2.9, 7.9, and 13.7 per 1000 occurred in the different periods. It is supposed as the science of medicine progresses, and the diagnosis of disease becomes more perfect, that diseases of the heart will be found to be the cause of more deaths than at present supposed.

4. *Of the Digestive Organs.—Mouth, Œsophagus, Stomach, &c.—Dyspepsia*, as a cause of death, appears less frequently in the two last periods than the first. Under *Gastritis* are included 3 cases of "gastric fever" in 1837; under *Disease* the cases of "aphthæ," "canker," "bowel complaints," and "piles." Canker has sometimes been considered synonymous with scarlatina or quinsy, and some cases should probably have been classed

among those diseases. The following statement will show the comparative prevalence of some of the principal diseases of this class:

	1811—1820.		1821—1830.		1831—1839.	
	Number cases.	Ratio per 1000.	Number cases.	Ratio per 1000.	Number cases.	Ratio per 1000.
Enteritis,	6	.7	162	14.1	320	21.9
Teething,	39	4.6	83	7.2	247	16.9
Worms,	21	2.5	26	2.2	51	3.5

Most of the other diseases specified have decreased, excepting those of the liver, and the other organs mentioned under the general head, and included under *Disease*. These have greatly increased. The whole number of cases were 231, 644, and 1107, or 27.3, 56.1, and 76, in the different periods.

5. *Of the Urinary Organs.*—*Kidneys, Ureters, Bladder, Urethra.*—Under *Stone* are included all who died of stone or gravel. In the first period there died of this disease 1 in 1411 of all diseases, in the second 1 in 546, and in the third 1 in 2082. Of all the diseases of this class 9, 30, and 22, or 1.1, 2.6, and 1.5 per 1000 occurred in the respective periods.

6. *Of the Organs of Generation.*—Under *Childbed* are included cases of “puerperal fever,” 63, 121, and 175, or 7.4, 10.5, and 12. per 1000, in the respective periods, occurred by this disease; and 64, 132, and 192, or 7.6, 11.5, and 13.2 per 1000 of the whole deaths of this class.

7. *Of the Organs of Locomotion.*—Under *Rheumatism* cases of “rheumatic fever” 20, 40, and 40, have been caused by this disease; and by the whole class 26, 61, and 68, or 3.1, 5.3, and 4.7 per 1000 of the whole deaths.

8. *Of the Integumentary System.*—*Skin, Cellular Tissue.*—The deaths by this class were 3, 17, and 26, or .3, 1.5, and 1.8 per 1000 in the respective periods; *Ulcers* produced the most deaths of this class. “Scurvy” was the cause of 1 death in 1833, and 1 in 1835.

9. *Of Uncertain seat.*—The registered deaths by “*Infantile Diseases*” have been 1587, 883, and 867, or 187.4, 77.9, and 59.4 per 1000 in the respective periods. The “*Sudden*” Deaths have been 153, 83, and 70, or 18.0, 7.2, and 4.6 per 1000, showing apparently a large decrease in both of these causes of death. A better acquaintance with morbid anatomy, more accurate medical observation, and greater care in making the returns and records, have given more definite character to the causes of death, and assigned more of them to their proper place. Many cases, which would have been entered in the first period under these names, have in the last been entered under the other and more specific diseases of infancy, or under apoplexy, diseases of the heart, and other causes of “sudden” death. This has apparently decreased the number of cases of infantile diseases and sudden deaths, and increased the number of cases of other diseases in the tables. These facts are to be considered in estimating the comparative mortality of the different diseases. The registered deaths by *Intemperance* have increased, being 65, 257, and 310, or 7, 22.4 and 21.2 per 1000 in the respective periods.

We are inclined to think, however, that the number of deaths by intemperance has not increased so much as the above statement might indicate, but that a different name may have been sometimes given to this cause of death. The cause of the disease, and not the disease itself, may have been entered. An inspection of the table will show great inequalities in the number of entries under different years from other causes. This is especially the case with *Atrophy*, under which are included the entries by "debility," "decline," "cachexia," "emaciation," "marasmus," &c. Since the laws of sporadic diseases are such, as to produce about the same proportion of deaths in the same population, in specific periods of time, it is certain that these entries cannot be relied on as being accurate causes of death. The whole number by all this class of diseases was 2266, 1841, and 2163, or 267.6, 160.5, and 148.4 per 1000 of the whole deaths, showing considerable improvement in diagnosis, but showing also that much is yet to be done before the tables can be made as accurate as they should be.

10. *Old Age*.—The entries under the very indefinite term "*Old age*" were 379, 420, and 581, or 44.8, 36.6, and 39.9 per 1000 in the respective periods. It is worthy of consideration whether many of these cases might not have been entered under some specific disease.

11. *Deaths by Violence*.—The greatest number from any single cause of death under this class is by *Drowning*, the proportion of which has varied, but not increased. The next greatest is inserted under the very indefinite name of *Casualties*, including all who die from accidental causes. The next are by *Burns* and *Scalds*. The deaths by *Suicide* have stood 29, 50, and 95, or 3.4, 4.3, and 6.5 per 1000 in the respective periods, showing a small increase. *Murders* have decreased. The whole number by this class are 305, 499, and 611, or 36.0, 43.5, 41.9 per 1000 in the different periods, showing but little variation.

12. *Unknown Causes*.—The tables state the number of deaths, of which the causes are unknown, to have been 945, 1917, and 1251, or 111.6, 167.1, and 85.8 per 1000 in the different periods. This number has varied, and is now considerably decreased in proportion to the whole deaths, but it is still very much greater than it should be. Greater care on the part of the medical profession, and in making the records would reduce it.

From this view of the causes of death in Boston it appears that 1193, 2037, and 3622 cases, or 140.8, 177.7, and 248.6 per 1000 of all the deaths were from epidemic, endemic, and contagious diseases; and that 7275, 9433, and 10951 cases or 859.2, 822.3, and 751.4 per 1000 of all the deaths were from sporadic diseases. This shows an increase of the first, and a decrease of the second division of diseases, in the respective periods. If, as has been stated, the great criterion of health is the comparative prevalence of one or the other of these two great divisions of diseases, it follows that Boston is not now quite as healthy as it was twenty or thirty years ago. This fact, I think, may be inferred also from other investigations given in this article.

TABLE X, showing the number of deaths in Boston

			1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	Total	
Endemic, Epidemic, and Contagious Diseases.	1. Fevers.	Intermittent	-	-	-	-	-	-	-	1	-	1	2	
		Synochus	12	4	6	6	2	10	12	7	42	9	110	
		Spotted	-	-	-	-	-	-	-	-	-	1	1	
		Typhus	63	23	42	80	51	23	59	119	112	51	623	
		Yellow	-	-	-	-	-	10	-	1	1	1	13	
	Total		75	27	48	86	53	43	71	128	155	63	749	
	2. Eruptive Fevers.	Erysipelas	-	-	1	-	-	-	-	-	-	-	-	1
		Measles	-	-	-	-	21	6	-	1	-	-	-	28
		Scarlatina	1	-	-	1	-	3	1	1	12	10	29	
		Small-Pox	2	-	-	-	4	-	-	-	-	-	-	6
		Thrush	-	-	-	-	-	-	-	-	-	-	-	-
	Total		3	-	1	1	25	9	1	2	12	10	64	
	3. Not Classified.	Cholera	63	2	5	3	1	5	8	3	18	14	122	
		Croup	1	1	1	2	6	4	11	5	9	3	43	
		Dysentery	29	2	5	4	12	6	23	4	13	17	115	
		Hydrophobia	-	-	-	1	-	-	-	-	-	-	1	
		Whooping-Cough	14	-	1	5	2	9	19	1	3	24	78	
		Influenza	-	-	-	-	1	-	-	-	2	2	5	
		Syphilis	12	-	-	-	-	-	-	-	-	4	16	
	Total		119	5	12	15	22	24	61	13	45	64	380	
Sporadic Diseases.	1. Of the Nervous System and Senses.	Apoplexy	13	15	15	3	3	18	17	9	6	10	109	
		Convulsions	40	12	21	15	23	18	42	29	20	19	229	
		Delirium Tremens	-	-	-	-	-	-	-	-	-	-	-	
		Epilepsy	-	-	-	-	-	-	-	-	-	-	-	
		Hydrocephalus	33	6	2	3	3	12	-	4	23	-	86	
		Insanity	1	2	-	2	2	2	-	-	3	2	14	
		Paralysis	12	6	6	9	11	8	6	6	-	16	80	
		Phrenitis	-	1	-	1	3	1	6	2	1	7	22	
		Tetanus	2	1	-	2	-	1	1	-	-	-	7	
		Disease	-	-	1	1	2	1	-	-	-	-	5	
	Total		101	43	45	36	47	61	72	50	53	54	562	
	2. Of the Organs of Respiration.	Asthma	-	2	1	-	-	-	-	-	-	-	-	3
		Bronchitis	-	-	-	-	-	-	-	-	-	-	-	-
		Hydrothorax	-	-	2	-	-	-	-	-	-	-	-	2
		Pleurisy	8	2	7	3	2	1	4	3	3	2	35	
		Phthisis	221	190	193	153	190	180	231	138	175	220	1891	
		Pneumonia	46	40	41	26	67	61	47	36	46	26	436	
		Quinsy	15	17	8	10	7	16	6	4	4	6	93	
	Total		290	251	252	192	266	258	288	181	228	254	2460	
	3. Of the Organs of Circulation.	Aneurism	1	-	-	-	-	-	-	1	-	-	-	2
		Pericarditis	-	-	-	-	-	-	-	-	-	-	-	-
		Disease	1	1	1	-	-	1	2	5	3	8	22	
	Total		2	1	1	-	-	1	2	6	3	8	24	
	4. Of the Digestive Organs.	Ascites	-	-	2	-	-	-	-	-	-	-	-	2
		Colic	2	2	-	-	-	-	-	-	-	1	5	
		Constipation	-	-	-	-	-	-	-	-	-	-	-	-
		Dyspepsia	15	2	16	-	1	18	12	12	2	11	89	
		Enteritis	1	-	-	-	-	-	-	-	-	5	6	
		Gastritis	1	-	-	-	-	-	-	-	-	-	1	
		Hernia	3	-	-	-	-	-	-	1	-	3	8	
		Peritonitis	-	-	-	-	-	-	-	-	-	-	-	-
		Tabes Mesenterica	-	1	-	-	2	-	-	-	-	-	-	3
		Teething	15	10	2	1	-	1	2	-	7	3	39	
		Worms	11	-	-	-	-	-	-	-	7	3	21	
		Disease	-	1	-	-	-	-	-	-	-	-	1	
		Disease of the Pancreas	-	-	-	3	3	2	-	5	6	6	25	
		Hepatitis	-	-	-	-	-	-	-	-	-	-	-	-
		Jaundice	10	4	5	2	1	3	3	-	1	1	30	
		Disease of the Liver	-	-	-	-	-	1	-	-	-	-	1	
		Disease of the Spleen	-	-	-	-	-	-	-	-	-	-	-	-
	Total		58	20	25	6	7	25	15	18	24	33	231	

by disease in each year, from 1811 to 1839.

1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	Total	1831	1832	1833	1834	1835	1836	1837	1838	1839	Total
-	-	-	-	1	-	-	2	1	1	5	2	1	-	-	4	2	3	-	1	13
18	10	-	19	12	22	9	21	8	14	133	15	5	20	8	23	13	-	3	9	96
45	34	43	62	54	50	46	46	45	33	458	43	60	73	70	101	68	93	43	60	611
-	2	1	1	-	1	-	-	1	-	6	-	-	-	-	-	-	-	-	-	-
63	46	44	83	68	73	55	69	55	48	604	61	66	93	78	128	83	96	46	70	721
-	-	-	-	1	-	8	3	-	-	12	2	4	4	12	9	3	6	17	8	65
149	3	-	2	77	10	-	-	78	13	332	2	70	2	1	188	31	23	20	3	340
4	1	1	-	4	16	8	3	4	5	46	84	200	90	39	73	31	50	106	222	895
-	-	-	1	1	-	3	2	-	1	8	4	2	-	4	7	6	13	3	60	99
-	-	-	1	-	-	-	1	1	1	4	-	-	-	-	3	-	-	-	-	3
153	4	1	4	83	26	19	9	83	20	402	92	276	96	56	280	71	92	146	293	1402
15	5	15	18	24	17	8	26	1	20	149	21	93	20	30	30	30	80	61	42	407
11	10	13	30	30	24	25	25	35	42	245	53	40	43	43	32	31	44	44	46	376
73	40	37	69	60	48	27	31	21	23	429	29	24	41	48	45	38	45	65	37	372
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	5	17	13	27	23	6	40	11	16	184	26	22	28	38	44	17	19	28	34	256
-	-	-	-	7	-	-	-	-	-	7	22	24	1	4	2	2	15	2	-	72
1	2	1	3	3	1	1	3	1	1	17	-	4	-	3	2	-	4	2	1	16
126	62	83	133	151	113	67	125	69	102	1031	151	207	133	166	155	118	207	202	162	1499
7	6	11	9	12	10	10	18	12	12	107	11	15	19	9	19	19	31	19	20	162
22	11	22	36	48	53	29	32	28	28	309	34	41	39	50	51	50	52	60	42	419
5	-	7	4	7	5	1	7	-	2	38	6	10	3	1	4	5	11	10	8	58
1	2	1	2	-	1	3	-	2	-	12	-	1	1	1	2	-	-	2	2	9
6	1	11	33	38	29	24	38	42	48	270	51	44	52	53	48	68	59	67	56	498
4	2	-	2	-	1	5	1	3	4	22	1	-	-	1	10	4	-	-	3	19
22	10	5	12	14	9	6	10	11	14	113	11	19	12	13	19	11	13	7	14	119
15	17	16	3	3	3	7	5	7	-	73	-	-	11	10	-	5	23	25	11	85
-	1	-	2	-	1	-	1	1	-	6	-	1	-	1	1	2	-	-	1	6
-	1	1	-	1	6	6	-	7	8	30	15	19	7	10	8	15	31	23	12	140
82	51	74	100	123	118	91	112	113	116	980	129	180	144	149	162	179	220	213	160	1515
1	2	1	2	2	1	2	1	-	1	13	2	-	3	4	-	4	2	2	8	25
-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	-	-	1	1	1	6
2	-	5	14	3	9	6	1	4	3	47	4	6	7	1	-	6	9	5	3	41
-	5	4	7	6	7	3	2	4	2	40	4	3	8	11	13	14	18	10	2	83
216	166	184	246	220	231	178	217	203	193	2054	203	246	240	246	208	233	212	256	222	2066
31	41	38	77	67	41	36	89	90	68	580	97	106	77	90	141	99	114	113	100	937
5	7	5	11	-	5	2	1	3	4	43	5	6	2	3	6	5	-	-	3	30
-	-	-	15	-	2	-	2	6	-	25	-	-	3	5	1	3	8	2	4	26
255	221	237	372	298	296	229	313	310	271	2802	316	368	340	361	369	364	364	389	343	3214
-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	1	3	-	-	4
-	-	-	7	-	-	1	-	-	-	8	-	-	-	-	-	-	2	3	-	5
5	3	8	4	10	14	7	7	10	13	81	15	13	16	25	14	23	27	28	30	191
5	3	9	11	10	14	8	7	10	13	90	15	13	16	25	14	24	32	31	30	200
-	3	1	2	4	4	2	3	3	2	24	4	4	4	1	-	-	10	2	5	30
-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-
3	-	3	-	7	1	1	-	-	-	15	-	1	-	2	3	3	1	-	1	11
10	5	15	13	15	24	12	33	21	14	162	18	31	23	38	30	35	41	54	50	320
-	-	2	4	-	1	-	2	-	2	9	-	-	1	-	-	-	3	6	-	10
-	1	2	2	2	2	-	1	1	1	12	1	-	-	-	-	-	1	3	-	5
-	-	-	1	3	-	-	-	-	-	4	-	-	-	-	-	-	1	-	-	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	2	10	15	8	23	-	13	12	83	10	21	30	36	24	5	22	30	29	247
-	4	3	3	3	4	4	1	3	1	26	3	7	7	5	6	7	4	3	9	51
1	-	-	22	41	25	39	20	18	16	182	28	38	31	29	44	0	7	10	33	310
-	-	-	-	16	1	-	-	1	-	18	-	-	-	-	-	-	-	-	-	-
-	7	-	-	10	5	3	2	1	-	34	1	3	5	2	1	1	1	4	3	21
3	-	6	-	-	11	7	10	14	17	70	11	9	12	8	25	14	8	5	9	101
5	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	20	35	57	119	86	91	72	76	65	644	77	114	113	121	133	195	99	117	139	1107

TABLE X, showing the number of deaths in Boston

		1811	1812	1813	1814	1815	1816	1817	1818	1819	1820	Total
Sporadic Diseases.	5. Of the Urinary Organs.	-	-	-	-	-	-	-	-	-	-	-
	Diabetes	-	-	-	-	-	-	-	-	-	-	-
	Cystitis	-	-	-	-	-	-	-	-	-	-	-
	Nephritis	-	1	1	-	-	-	-	-	-	-	2
	Kidneys, Ureters, Bladder, Urethra.	-	-	-	-	-	-	3	1	-	2	6
	Stone Disease	-	-	-	-	-	-	-	1	-	-	1
	Total	-	1	1	-	-	-	3	2	-	2	9
	6. Of the Organs of Generation.	14	5	5	6	4	12	3	4	2	8	63
	Childbed Diseases	-	-	-	-	-	-	-	-	-	1	1
	Total	14	5	5	6	4	12	3	4	2	9	64
	7. Of the Organs of Locomotion.	1	-	-	-	-	3	7	-	6	3	20
	Rheumatism Disease	2	-	-	1	1	1	-	-	-	1	6
	Joints, Bones, Ligaments, Tendons, Muscles.	3	-	-	1	1	4	7	-	6	4	26
	Total	3	-	-	1	1	4	7	-	6	4	26
	8. Of the Integumentary System.	-	-	-	-	-	-	-	-	-	-	-
	Carbuncle	-	-	-	-	-	-	-	-	-	-	-
	Fistula	-	-	-	-	-	-	-	-	-	-	-
	Ulcer	-	-	-	-	-	-	-	1	-	-	1
	Disease	-	-	-	-	-	1	-	-	1	-	2
	Skin, Cellular Tissue.	-	-	-	-	-	1	-	1	1	-	3
	Total	-	-	-	-	-	1	-	1	1	-	3
	9. Of uncertain seat.	2	-	1	-	-	1	3	5	-	1	13
	Abscess	20	-	-	-	1	37	-	-	-	-	58
	Atrophy	5	-	1	-	6	2	11	3	3	1	32
	Cancer	28	-	-	1	-	-	-	2	9	4	44
	Debility	21	16	17	17	14	12	36	23	23	14	193
	Dropsy	3	-	1	2	1	-	-	1	-	4	12
	Gout	4	1	1	-	-	1	3	4	5	4	23
	Hæmorrhage	-	133	206	208	222	195	157	156	147	163	1587
	Infantile Diseases	-	-	-	-	-	-	-	-	-	-	-
	Inflammation	2	12	-	-	-	3	3	3	11	31	65
	Intemperance	-	-	-	-	-	-	-	-	-	-	-
	Malformation	11	4	7	8	6	13	9	4	-	7	69
	Mortification	-	-	-	1	1	-	1	2	1	8	14
	Scrofula	25	24	11	14	11	21	13	12	13	9	153
	Sudden Deaths	-	-	-	-	-	-	-	2	-	-	3
	Tumor	-	-	-	-	-	-	-	-	-	-	-
	Total	121	190	245	251	262	286	236	217	212	246	2266
	10. Of Old Age.—Old Age	26	35	48	39	44	37	50	32	29	39	379
	11. Deaths by Violence.	6	2	2	5	5	5	9	2	3	3	42
	Burns and Scalds	16	6	9	3	4	5	7	14	8	12	84
	Casualties	2	-	-	-	-	-	-	2	2	1	7
	Drinking Cold Water	13	10	15	10	12	12	13	12	13	9	119
	Drowned	-	1	-	-	-	-	-	-	-	1	2
	Fracture	-	-	-	-	-	-	-	-	-	-	-
	Frozen	-	-	-	-	-	-	-	-	-	-	-
	Hanged	-	-	-	-	-	-	1	-	-	4	5
	Murdered	-	-	-	-	1	2	-	-	1	2	6
	Poisoned	-	-	1	-	1	-	-	-	1	3	6
	Suffocation	-	3	1	-	-	-	-	-	1	-	5
	Suicide	1	-	-	1	6	4	3	4	4	6	29
	Total	38	22	28	19	29	28	33	34	33	41	305
	Unknown Causes	43	32	39	43	71	84	32	237	178	187	945

by disease in each year, from 1811 to 1839.—continued.

1821	1822	1823	1824	1825	1826	1827	1828	1829	1830	Total	1831	1832	1833	1834	1835	1836	1837	1838	1839	Total
.	.	.	.	1	.	1	1	.	1	3	.	.	.	1	.	1	2	1	.	5
.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
1	3	2	2	2	4	2	1	2	2	21	.	1	.	1	1	3	.	.	1	7
.	.	3	1	.	.	.	.	.	1	5	.	2	1	3	.	1	2	1	.	10
1	3	5	3	3	4	3	2	2	4	30	.	3	1	5	1	5	4	2	1	22
7	9	5	13	17	12	11	14	17	16	121	14	14	17	14	29	23	19	27	18	175
2	.	.	4	.	.	1	2	2	.	11	.	1	.	.	1	2	5	7	1	17
9	9	5	17	17	12	12	16	19	16	132	14	15	17	14	30	25	24	34	19	192
6	2	2	9	6	4	4	2	3	2	40	4	3	4	5	4	7	3	6	4	40
2	1	2	3	2	2	1	1	3	4	21	2	3	5	2	3	4	.	5	4	28
8	3	4	12	8	6	5	3	6	6	61	6	6	9	7	7	11	3	11	8	68
.	.	1	1	.	.	.	1	1	.	3	1	.	.	.	.	.	.	.	.	1
.	.	.	.	.	2	1	3	.	1	7	.	.	.	.	.	.	.	.	.	.
.	1	.	.	1	3	1	.	1	.	2	3	2	1	1	9	1	3	.	.	20
.	.	.	.	.	.	.	.	.	.	5	1	1	.	1	2	.	.	.	.	5
.	1	1	1	1	5	2	3	2	1	17	5	3	1	2	11	1	3	.	.	26
3	5	4	9	2	6	2	2	1	3	37	4	8	4	4	.	3	5	5	5	38
1	1	9	13	12	.	.	.	.	.	36	.	.	2	10	31	23	32	54	34	186
3	12	3	9	7	6	4	5	3	6	58	5	5	12	15	9	6	14	12	8	86
8	4	6	16	18	6	6	10	8	8	82	20	15	12	13	29	11	1	5	11	117
32	43	18	12	28	32	25	20	12	15	237	28	38	24	27	38	35	42	23	28	283
1	1	2	2	1	1	.	.	1	.	8	.	.	1	1	.	1	.	.	.	3
1	2	.	.	.	.	.	.	.	7	10	.	.	.	.	.	.	3	4	5	12
153	244	184	32	44	40	35	55	55	41	883	56	70	100	95	111	176	59	112	88	867
31	.	.	3	.	3	4	4	11	1	26	3	3	.	1	2	1	4	20	1	35
31	25	10	22	23	38	25	34	30	19	257	38	44	40	39	37	41	17	24	30	310
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	2
8	8	4	12	8	9	9	7	8	4	77	9	9	4	9	10	6	11	3	.	61
5	2	4	3	4	1	2	5	4	5	35	2	3	5	8	13	9	13	5	7	65
6	9	5	7	35	.	3	2	7	9	83	5	9	5	4	12	12	.	13	10	70
1	.	.	2	1	2	3	.	.	3	12	5	2	2	2	7	1	1	3	5	28
252	356	249	142	165	156	118	140	142	121	1841	175	206	211	228	299	325	202	284	233	2163
31	36	39	33	38	40	37	54	65	47	420	67	62	57	54	72	82	69	65	53	581
14	4	3	15	5	13	8	0	5	10	86	16	10	11	5	11	10	12	20	15	110
18	17	24	2	11	14	14	14	12	8	134	14	18	19	22	25	32	14	22	16	182
.	.	.	2	6	.	.	.	.	.	10	1	.	.	1	1	.	.	3	.	6
19	21	16	18	21	22	21	16	19	15	188	15	22	10	25	16	17	23	19	30	177
.	.	2	.	.	.	2	1	.	.	5	1	.	2	.	.	1	.	1	2	7
.	.	.	.	1	1	.	.	.	2	4	1	.	.	1	.	.	.	.	.	2
1	6	.	.	1	.	.	.	.	.	1	.	.	.	.	7	2	.	.	.	9
.	.	.	.	1	1	.	.	.	.	8	.	.	.	1	.	3	.	.	1	5
1	.	.	.	1	1	1	2	1	.	6	1	.	.	3	1	.	.	4	1	10
1	2	.	1	1	.	1	.	1	.	7	2	2	2	.	.	2	.	.	.	8
2	5	3	5	4	5	4	9	5	8	50	12	8	14	11	9	13	10	8	1	95
55	55	48	43	51	57	49	54	44	43	499	63	60	68	69	70	80	59	77	75	611
241	218	211	197	227	161	153	180	160	152	1917	182	126	85	105	88	85	269	182	129	1251

TABLE XI, showing the number of deaths, and the ratio per 1000 by each class of diseases, in the three periods, 1811-1820, 1821-1830, and 1831-1839.

Diseases.	1811-1820.		1821-1830.		1831-1839.	
	Number of d'ths.	Ratio per 1000.	Number of d'ths.	Ratio per 1000.	Number of d'ths.	Ratio per 1000.
Fevers, - - - - -	749	88.4	604	52.7	721	49.5
Eruptive Fevers, - - - - -	64	7.5	402	35.1	1402	96.2
Not classified, - - - - -	380	44.9	1031	89.9	1499	102.9
Total Epidemic, Endemic, &c. diseases,	1193	140.8	2037	177.7	3622	248.6
Nervous system, - - - - -	562	66.4	980	85.4	1515	104.0
Organs of Respiration, - - - - -	2460	290.5	2802	244.3	3214	220.5
Organs of Circulation, - - - - -	25	2.9	90	7.9	200	13.7
Digestive Organs, - - - - -	231	27.3	644	56.1	1107	76.0
Urinary Organs, - - - - -	9	1.1	30	2.6	22	1.5
Organs of Generation, - - - - -	64	7.6	132	11.5	192	13.2
Organs of Locomotion, - - - - -	26	3.1	61	5.3	68	4.7
Integumentary System, - - - - -	3	.3	17	1.5	26	1.8
Uncertain seat, - - - - -	2266	267.6	1841	160.5	2163	148.4
Old Age, - - - - -	379	44.8	420	36.6	581	39.9
Deaths by violence, - - - - -	305	36.0	499	43.5	611	41.9
Unknown causes, - - - - -	945	111.6	1917	167.1	1251	85.8
Total Sporadic diseases, - - - - -	7275	859.2	9433	822.3	10951	751.4
General Total, - - - - -	8468	1000.0	11470	1000.0	14573	1000.0

This article has already extended so far that the author is induced to omit all comparisons between Boston and other places, in regard to the prevalence of particular diseases, or the general mortality. He has a series of the bills of mortality of the principal cities in the United States, and a great mass of similar facts from Europe, which he reserves for a future consideration.

Since the foregoing article was in the hands of the printer the population of Boston, and the bill of mortality for 1840 have been obtained; and it is deemed expedient to annex the following abstract of these documents.

A census was taken by authority of the state, on the first day of May, for the purpose of an apportionment of the representatives in the legislature, which excluded some classes of the inhabitants. According to the census of the United States the whole population was 93,470, whites 91,188, or 97.55 per cent., and coloured 2321, or 2.55 per cent. Of these 10,805 were returned as engaged in navigation, a large portion of whom, being constantly absent, should not be embraced in the comparative estimates of the deaths to the living. The white population, among whom the recorded deaths occur, may be estimated at 84,311, and the coloured at 2321. The deaths in 1840, exclusive of the still born, were 1841 whites, or 1 in 47, or 2.10 per cent. and 64 coloured, or 1 in 36, or 2.75 per cent. being about the average for the

previous years. The whites were distributed according to ages, as in the following table. The male deaths were 951, and the female 890. There were 45 more males than females died under five years of age.

Age.	Population in 1840.				Deaths in 1840.				
	Number in each age.	Number surviving each age.	Proport'n in each age.	Proport'n surviving each age.	Number in each age.	Number surviving each age.	Proport'n in each age.	Proport'n surviving each age.	Proport'n to living each age.
Under 5	11393	84.311	13.51	100.	784	1777	44.12	100.00	6.88
5 to 10	8725	79.918	10.35	86.49	70	993	3.94	55.88	.80
10 to 20	15809	64.193	18.75	76.14	100	923	5.63	51.94	.63
20 to 30	22337	48.384	26.49	57.39	200	823	11.26	46.31	.99
30 to 40	13666	26.047	16.21	30.90	226	623	12.72	35.05	1.65
40 to 50	6546	12.381	7.77	14.69	133	597	7.48	22.33	2.03
50 to 60	3404	5.835	4.04	6.92	110	464	6.19	14.85	3.23
60 to 70	1561	2.431	1.85	2.88	69	154	3.88	8.66	4.42
70 to 80	641	.870	.76	1.03	47	85	2.64	4.78	7.33
80 to 90	202	.229	.24	.27	33	38	1.86	2.14	15.95
Over 90	27	.027	.03	.03	5	5	.28	.28	18.55
	84311		100.00		1777		100.00		2.10

Diseases.—Of 533 deaths caused by endemic, epidemic, and contagious diseases, 97 were from fevers, 202 from eruptive fevers, and 234 from others not classified. Of these 89 were by typhus fever, 76 by scarlatina, 116 by small pox, 55 by cholera, 58 by dysentery, and 70 by whooping cough, showing, by comparing it with Table X, an increased prevalence of some diseases, and a decrease of others.

Of the 1308 deaths caused by sporadic diseases, 200 were by diseases of the nervous system, 402 of the organs of respiration, 18 of the organs of circulation, 126 of the organs of digestion, 1 of the urinary organs, 24 of the organs of generation, 8 of the organs of locomotion, 5 of the integumentary system, 295 of uncertain seat, 64 of old age, 79 by violence, and 86 by unknown causes. The stillborn were 131. This shows no peculiar feature in the prevalence of these diseases, when compared with the prevalence of the same diseases for the previous nine years.