

## VITAL STATISTICS.

Table 17 shows for Boston the death rates per 1,000 of white population during the census year, with distinction of birthplaces of mothers and of certain groups of ages.

TABLE 17.

| BIRTHPLACES OF MOTHERS.      | AGES.     |                 |                 |                 |                 |                 |                 |                 |                    |
|------------------------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|
|                              | All ages. | Under 15 years. | 15 to 20 years. | 20 to 25 years. | 25 to 35 years. | 35 to 45 years. | 45 to 55 years. | 55 to 65 years. | 65 years and over. |
| United States (white) .....  | 21.17     | 37.61           | 5.18            | 5.15            | 7.08            | 9.76            | 14.56           | 23.38           | 68.48              |
| England and Wales.....       | 18.41     | 29.98           | 5.21            | 6.35            | 6.85            | 12.04           | 19.44           | 34.57           | 79.21              |
| Ireland .....                | 28.37     | 40.20           | 8.84            | 13.89           | 17.67           | 23.42           | 29.51           | 50.78           | 114.01             |
| Scotland .....               | 18.62     | 32.83           | 5.18            | 10.08           | 7.92            | 11.34           | 17.69           | 22.06           | 102.48             |
| France.....                  | 17.62     | 40.40           | .....           | 6.06            | 2.71            | 6.33            | 32.09           | 10.99           | 92.59              |
| Germany .....                | 18.56     | 30.19           | 3.46            | 8.38            | 9.88            | 11.05           | 18.24           | 29.90           | 75.14              |
| Canada .....                 | 22.75     | 44.46           | 8.46            | 9.97            | 11.86           | 14.74           | 16.71           | 25.15           | 54.10              |
| Scandinavia .....            | 23.10     | 59.75           | 12.69           | 7.03            | 7.91            | 21.16           | 19.61           | 51.95           | 33.33              |
| Hungary .....                | 35.09     | 64.94           | .....           | .....           | 29.41           | 40.00           | .....           | .....           | 500.00             |
| Bohemia.....                 | 47.62     | 102.56          | .....           | .....           | 74.07           | .....           | .....           | .....           | .....              |
| Italy .....                  | 24.78     | 51.66           | 9.14            | 4.42            | 7.78            | 11.01           | 15.32           | 15.46           | 97.22              |
| Other foreign countries..... | 21.34     | 41.46           | 7.86            | 3.99            | 9.32            | 7.27            | 12.40           | 44.62           | 122.81             |
| Unknown.....                 | 76.72     | 240.07          | 28.48           | 12.58           | 21.78           | 39.03           | 54.82           | 119.54          | 595.16             |

Table 18 shows for Philadelphia the death rates per 1,000 of white population during the census year, with distinction of birthplaces of persons and of certain age groups.

TABLE 18.

| BIRTHPLACES OF PERSONS.      | AGES.     |                 |                 |                 |                 |                 |                 |                 |                    |
|------------------------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------|
|                              | All ages. | Under 15 years. | 15 to 20 years. | 20 to 25 years. | 25 to 35 years. | 35 to 45 years. | 45 to 55 years. | 55 to 65 years. | 65 years and over. |
| United States (white).....   | 22.80     | 36.84           | 6.20            | 8.64            | 10.74           | 12.55           | 17.85           | 29.61           | 89.25              |
| England and Wales.....       | 13.92     | 4.79            | 4.99            | 7.28            | 7.04            | 12.17           | 11.50           | 25.18           | 67.28              |
| Ireland .....                | 26.03     | 10.51           | 8.09            | 11.31           | 13.93           | 18.45           | 21.99           | 36.05           | 101.63             |
| Scotland .....               | 12.43     | 4.16            | 1.70            | 8.75            | 6.97            | 12.56           | 13.10           | 16.47           | 74.89              |
| France.....                  | 13.73     | .....           | 16.67           | 4.15            | 5.96            | 8.61            | 17.24           | 19.29           | 44.72              |
| Germany .....                | 19.74     | 5.13            | 5.69            | 7.55            | 9.20            | 11.85           | 18.97           | 32.25           | 76.72              |
| Canada .....                 | 12.00     | 7.63            | 6.06            | 3.11            | 6.50            | 14.17           | 26.24           | 17.86           | 49.18              |
| Scandinavia .....            | 9.66      | 11.67           | 5.08            | 9.75            | 5.17            | 11.18           | 15.56           | 3.62            | 29.07              |
| Hungary .....                | 2.95      | .....           | 4.81            | 3.50            | .....           | 6.10            | 12.35           | .....           | .....              |
| Bohemia.....                 | 5.29      | .....           | .....           | .....           | 17.54           | .....           | .....           | .....           | .....              |
| Italy.....                   | 15.15     | 8.09            | 10.71           | 11.92           | 13.90           | 13.47           | 23.92           | 25.75           | 87.30              |
| Other foreign countries..... | 7.43      | 1.73            | 1.23            | 4.82            | 5.03            | 9.47            | 12.55           | 21.46           | 65.79              |

Table 19 shows for the children of Irish and of German mothers in Boston during the year ending May 31, 1890, the number of deaths per 100,000 of population, with distinction of certain causes of death and of certain age groups.

TABLE 19.

| CAUSES OF DEATH.                                 | CHILDREN OF IRISH MOTHERS. |                 |                 |                    | CHILDREN OF GERMAN MOTHERS. |                 |                 |                    |
|--|----------------------------|-----------------|-----------------|--------------------|-----------------------------|-----------------|-----------------|--------------------|
|  | All ages.                  | Age periods.    |                 |                    | All ages.                   | Age periods.    |                 |                    |
|  |                            | Under 15 years. | 15 to 45 years. | 45 years and over. |                             | Under 15 years. | 15 to 45 years. | 45 years and over. |
| All causes .....                                 | 2,837.00                   | 4,017.20        | 1,683.93        | 5,149.33           | 1,856.17                    | 3,018.58        | 876.07          | 3,200.07           |
| Males.....                                       | 1,415.39                   | 2,170.99        | 863.82          | 2,307.19           | 1,051.83                    | 1,683.44        | 535.85          | 1,737.64           |
| Females.....                                     | 1,421.61                   | 1,846.22        | 820.11          | 2,842.14           | 804.34                      | 1,335.14        | 340.22          | 1,468.43           |
| Measles.....                                     | 3.11                       | 14.63           |                 |                    |                             |                 |                 |                    |
| Scarlet fever.....                               | 5.60                       | 20.48           | 2.08            |                    | 4.76                        | 19.35           |                 |                    |
| Diphtheria and croup.....                        | 129.41                     | 605.65          | 1.04            |                    | 142.78                      | 580.49          |                 |                    |
| Whooping cough.....                              | 26.13                      | 122.89          |                 |                    | 19.04                       | 77.40           |                 |                    |
| Cerebro-spinal fever.....                        | 1.87                       | 5.85            | 1.04            |                    |                             |                 |                 |                    |
| Typhoid fever.....                               | 52.26                      | 20.48           | 71.81           | 26.26              | 28.56                       |                 | 42.53           | 24.47              |
| Diarrheal diseases and cholera infantum.....     | 102.24                     | 690.50          | 14.57           | 193.63             | 185.62                      | 638.54          | 17.01           | 97.90              |
| Malarial fever.....                              | 1.87                       | 2.93            | 1.04            | 3.28               |                             |                 |                 |                    |
| Erysipelas and septicæmia.....                   | 11.82                      | 23.41           | 7.29            | 13.13              | 4.76                        |                 |                 | 24.47              |
| Veneral diseases.....                            | 6.22                       | 17.56           | 3.12            | 3.28               |                             |                 |                 |                    |
| Alcoholism.....                                  | 20.24                      |                 | 36.43           | 30.38              | 10.04                       |                 | 25.52           | 24.47              |
| Premature birth.....                             | 20.75                      | 125.81          |                 |                    | 28.56                       | 116.10          |                 |                    |
| Stillbirths.....                                 | 93.94                      | 441.80          |                 |                    | 90.43                       | 367.65          |                 |                    |
| Inanition and debility and atrophy.....          | 138.12                     | 488.62          | 5.20            | 164.10             | 76.15                       | 270.90          |                 | 48.95              |
| Old age.....                                     | 66.57                      |                 |                 | 351.17             | 23.80                       |                 |                 | 122.37             |
| Rheumatism.....                                  | 10.58                      | 5.85            | 2.08            | 42.66              |                             |                 |                 |                    |
| Tubercular diseases.....                         | 673.79                     | 441.80          | 737.66          | 609.51             | 380.75                      | 270.90          | 382.75          | 513.95             |
| Consumption.....                                 | 584.20                     | 102.41          | 733.73          | 653.10             | 299.84                      | 38.70           | 357.23          | 465.00             |
| Scrofula and tabes.....                          | 4.36                       | 5.85            | 4.16            | 3.28               | 0.52                        | 38.70           |                 |                    |
| Hydrocephalus.....                               | 32.97                      | 152.14          | 1.04            |                    | 19.04                       | 58.05           |                 | 24.47              |
| Inflammation of the brain.....                   | 41.68                      | 160.92          | 9.37            | 9.85               | 52.35                       | 135.45          | 25.52           | 24.47              |
| Diseases of the bones and joints.....            | 10.58                      | 20.48           | 9.37            | 3.28               |                             |                 |                 |                    |
| Cancer and tumor.....                            | 87.72                      | 2.93            | 43.71           | 321.63             | 66.63                       |                 | 34.02           | 244.74             |
| Diabetes.....                                    | 3.73                       |                 | 2.08            | 13.13              |                             |                 |                 |                    |
| Diseases of the nervous system.....              | 212.78                     | 301.36          | 73.89           | 551.30             | 171.34                      | 154.80          | 59.54           | 513.95             |
| Apoplexy.....                                    | 81.50                      |                 | 23.94           | 354.45             | 85.67                       |                 | 25.52           | 367.11             |
| Tetanus.....                                     | 0.62                       |                 |                 | 3.28               |                             |                 |                 |                    |
| Trismus nascentium and convulsions.....          | 24.26                      | 99.48           | 4.16            | 3.28               | 4.76                        | 19.35           |                 |                    |
| Diseases of the circulatory system.....          | 215.80                     | 70.22           | 120.73          | 679.30             | 152.30                      | 58.05           | 59.54           | 538.42             |
| Aneurism.....                                    | 4.36                       |                 | 4.16            | 9.85               | 0.52                        |                 | 8.51            | 24.47              |
| Heart disease and dropsy.....                    | 208.42                     | 49.74           | 117.60          | 672.79             | 133.26                      | 19.35           | 51.03           | 513.95             |
| Diseases of the respiratory system.....          | 523.23                     | 643.69          | 275.80          | 1,168.36           | 223.69                      | 387.00          | 85.06           | 416.05             |
| Bronchitis.....                                  | 135.63                     | 239.92          | 26.02           | 364.29             | 33.32                       | 38.70           |                 | 122.37             |
| Pneumonia.....                                   | 333.47                     | 266.25          | 227.92          | 741.71             | 138.02                      | 232.20          | 68.04           | 220.26             |
| Diseases of the digestive system.....            | 90.54                      | 84.85           | 55.16           | 255.99             | 71.39                       | 135.45          | 25.52           | 122.37             |
| Diseases of the liver.....                       | 31.73                      | 8.78            | 19.77           | 95.18              | 0.52                        | 19.35           |                 | 24.47              |
| Diseases of the urinary system.....              | 96.43                      | 11.70           | 54.12           | 324.91             | 99.95                       | 38.70           | 51.03           | 318.16             |
| Bright's disease.....                            | 36.71                      |                 | 20.81           | 127.99             | 42.83                       |                 | 17.01           | 171.32             |
| Diseases of the female organs of generation..... | 63.26                      |                 | 63.88           |                    | 620.17                      |                 | 636.23          |                    |
| Affections connected with pregnancy.....         | 648.48                     |                 | 648.48          |                    | 672.46                      |                 | 672.46          |                    |
| Abortion.....                                    | 67.76                      |                 | 67.76           |                    |                             |                 |                 |                    |
| Childbirth and puerperal septicæmia.....         | 627.15                     |                 | 627.15          |                    | 672.46                      |                 | 672.46          |                    |
| Accidents and injuries.....                      | 121.94                     | 73.15           | 106.16          | 226.45             | 85.67                       | 77.40           | 51.03           | 195.79             |
| Drowned.....                                     | 7.47                       | 11.70           | 6.24            | 6.50               | 0.52                        |                 | 8.51            | 24.47              |
| Burns and scalds.....                            | 7.47                       | 2.93            |                 | 16.41              | 9.52                        | 19.35           |                 | 24.47              |
| Gunshot wounds and homicides.....                | 3.11                       |                 | 5.20            |                    |                             |                 |                 |                    |
| Infanticide.....                                 |                            |                 |                 |                    |                             |                 |                 |                    |
| Railroad accidents.....                          | 13.69                      | 5.85            | 11.45           | 29.54              | 9.52                        |                 |                 | 48.95              |
| Suicides.....                                    | 8.71                       |                 | 8.33            | 19.69              | 19.04                       |                 | 17.01           | 48.95              |

a Per 100,000 total females.

b Per 100,000 females 15 to 45 years of age.

This table shows that the death rate of children of Irish mothers was much greater than that of children of German mothers for both sexes, and especially for those between 15 and 45 years of age, being nearly double for the aggregate and more than double for the females. The chief causes of this difference are indicated in the death rates from consumption (Irish, 584.20; German, 299.84), pneumonia (Irish, 333.47; German, 138.02), inanition, debility,

and atrophy (Irish, 138.12; German, 76.15), heart disease and dropsy (Irish, 208.42; German, 133.26), and typhoid fever (Irish, 52.26; German, 28.56).

The death rate of the children of German mothers was markedly greater than that of children of Irish mothers from Bright's disease (German, 42.83; Irish, 36.71), from childbirth and puerperal diseases (German, 72.46; Irish, 27.15), and from suicide (German, 19.04; Irish, 8.71).

Table 20 shows for Philadelphia the death rates per 100,000 of Irish and German population during the year ending May 31, 1890, with distinction of certain causes of death and of certain age groups.

TABLE 20.

| CAUSES OF DEATH.                                  | IRISH.    |                 |                 |                    | GERMAN.   |                 |                 |                    |
|---|-----------|-----------------|-----------------|--------------------|-----------|-----------------|-----------------|--------------------|
|   | All ages. | Age periods.    |                 |                    | All ages. | Age periods.    |                 |                    |
|   |           | Under 15 years. | 15 to 45 years. | 45 years and over. |           | Under 15 years. | 15 to 45 years. | 45 years and over. |
| All causes .....                                  | 2,603.33  | 1,051.05        | 1,457.72        | 4,308.04           | 1,974.10  | 513.39          | 957.74          | 3,584.15           |
| Males .....                                       | 1,222.34  | 563.06          | 770.71          | 1,897.54           | 1,136.44  | 267.86          | 584.47          | 2,022.17           |
| Females.....                                      | 1,380.99  | 487.99          | 687.01          | 2,411.41           | 837.66    | 245.54          | 373.27          | 1,561.98           |
| Measles .....                                     |           |                 |                 |                    |           |                 |                 |                    |
| Scarlet fever .....                               | 1.80      | 37.54           | 1.58            |                    | 1.33      | 22.32           |                 |                    |
| Diphtheria and croup .....                        | 2.70      | 37.54           | 3.16            |                    | 5.34      | 66.96           |                 | 3.36               |
| Whooping cough .....                              |           |                 |                 |                    | 1.33      |                 | 2.46            |                    |
| Cerebro-spinal fever .....                        | 0.90      |                 |                 | 2.22               | 1.33      |                 | 2.46            |                    |
| Typhoid fever .....                               | 74.82     |                 | 115.29          | 22.25              | 93.70     | 22.32           | 142.43          | 50.39              |
| Diarrheal diseases and cholera infantum.....      | 86.54     | 37.54           | 25.27           | 175.74             | 64.02     | 66.96           | 31.92           | 107.49             |
| Malarial fever.....                               | 3.61      |                 | 1.58            | 6.67               | 8.00      |                 | 4.91            | 13.44              |
| Erysipelas and septicaemia.....                   | 16.23     | 37.54           | 15.79           | 15.57              | 26.68     |                 | 22.10           | 36.95              |
| Venereal diseases.....                            |           |                 |                 |                    | 1.33      |                 | 2.46            |                    |
| Alcoholism .....                                  | 29.75     |                 | 28.43           | 33.37              | 20.01     |                 | 12.28           | 33.59              |
| Premature birth .....                             |           |                 |                 |                    |           |                 |                 |                    |
| Stillbirths .....                                 |           |                 |                 |                    |           |                 |                 |                    |
| Inanition and debility and atrophy.....           | 178.48    | 37.54           | 20.53           | 409.32             | 104.04    | 22.32           | 4.91            | 251.63             |
| Old age .....                                     | 147.83    |                 |                 | 364.83             | 52.02     |                 |                 | 131.00             |
| Rheumatism .....                                  | 9.92      | 37.54           | 6.32            | 13.35              | 1.33      |                 |                 | 3.36               |
| Tubercular diseases .....                         | 512.91    | 112.61          | 549.61          | 484.95             | 304.12    | 111.61          | 252.94          | 403.09             |
| Consumption .....                                 | 483.17    |                 | 529.08          | 447.13             | 273.44    | 66.96           | 223.47          | 372.86             |
| Scrofula and tabes .....                          | 4.51      |                 | 3.16            | 6.67               | 6.67      |                 | 7.37            | 6.72               |
| Hydrocephalus .....                               | 3.61      | 37.54           | 4.74            |                    | 2.67      |                 | 2.46            | 3.36               |
| Inflammation of the brain.....                    | 18.03     | 75.08           | 9.48            | 26.69              | 17.34     | 44.64           | 14.73           | 16.80              |
| Diseases of the bones and joints .....            | 3.61      |                 | 3.16            | 4.45               | 4.00      |                 | 4.91            | 3.36               |
| Cancer and tumor.....                             | 122.50    |                 | 33.17           | 255.82             | 120.05    |                 | 27.01           | 265.37             |
| Diabetes .....                                    | 6.31      |                 | 1.58            | 13.35              | 6.67      |                 |                 | 16.80              |
| Diseases of the nervous system.....               | 253.30    | 225.23          | 56.86           | 531.67             | 222.75    | 89.29           | 51.57           | 476.99             |
| Apoplexy .....                                    | 102.76    |                 | 7.90            | 242.48             | 93.70     |                 | 14.73           | 228.42             |
| Tetanus.....                                      | 0.90      |                 | 1.58            |                    | 1.33      |                 |                 | 3.36               |
| Trismus nascentium and convulsions .....          | 4.51      | 112.61          | 1.58            | 2.22               | 4.00      | 22.32           | 2.46            | 3.36               |
| Diseases of the circulatory system .....          | 268.63    |                 | 102.66          | 518.32             | 232.09    | 22.32           | 98.76           | 487.07             |
| Aneurism.....                                     | 7.21      |                 | 4.74            | 11.12              | 1.33      |                 |                 | 3.36               |
| Heart disease and dropsy .....                    | 261.41    |                 | 97.92           | 507.20             | 233.42    | 22.32           | 73.07           | 483.71             |
| Diseases of the respiratory system.....           | 417.36    | 187.69          | 221.11          | 767.41             | 253.77    | 133.93          | 120.33          | 466.91             |
| Bronchitis .....                                  | 72.11     | 37.54           | 25.27           | 140.15             | 30.68     |                 | 4.91            | 70.54              |
| Pneumonia .....                                   | 267.72    | 75.08           | 170.57          | 415.99             | 177.40    | 89.29           | 110.51          | 282.16             |
| Diseases of the digestive system .....            | 157.75    | 112.61          | 86.86           | 260.27             | 152.06    |                 | 63.85           | 295.60             |
| Diseases of the liver.....                        | 54.99     |                 | 23.69           | 102.33             | 65.36     |                 | 22.10           | 134.36             |
| Diseases of the urinary system.....               | 138.82    | 37.54           | 61.59           | 233.60             | 128.05    | 22.32           | 41.75           | 262.01             |
| Bright's disease.....                             | 57.69     |                 | 25.27           | 106.78             | 70.69     |                 | 24.56           | 144.44             |
| Diseases of the female organs of generation ..... |           |                 |                 |                    | a14.12    |                 |                 | b34.64             |
| Affections connected with pregnancy.....          | c30.52    |                 | c30.52          |                    | c26.62    |                 | c26.62          |                    |
| Abortion.....                                     |           |                 |                 |                    |           |                 |                 |                    |
| Childbirth and puerperal septicaemia .....        | c27.75    |                 | c27.75          |                    | c15.97    |                 | c15.97          |                    |
| Accidents and injuries.....                       | 133.41    | 225.23          | 105.82          | 166.84             | 112.04    |                 | 90.86           | 157.88             |
| Drowned.....                                      | 12.62     | 37.54           | 15.79           | 6.67               | 12.00     |                 | 2.46            | 26.87              |
| Burns and scalds .....                            | 13.52     | 75.08           | 6.32            | 20.02              | 9.34      |                 | 14.73           | 3.36               |
| Gunshot wounds and homicides .....                | 4.51      |                 | 4.74            | 4.45               |           |                 |                 |                    |
| Infanticide.....                                  |           |                 |                 |                    |           |                 |                 |                    |
| Railroad accidents.....                           | 24.34     | 37.54           | 25.27           | 22.25              | 8.00      |                 | 4.91            | 13.44              |
| Suicides .....                                    | 10.82     |                 | 11.06           | 11.12              | 34.68     |                 | 24.56           | 53.75              |

a Per 100,000 total females.

b Per 100,000 females 45 years of age and over.

c Per 100,000 females 15 to 45 years of age.

CONJUGAL CONDITION.

Table 21 shows for certain age groups the number of single, married, and widowed in Boston and Philadelphia in each 1,000 of population on June 1, 1890, with distinction of sex, color, nativity, and parental nativity.

TABLE 21.

| SEX, COLOR, NATIVITY, AND PARENTAL NATIVITY. | Conjugal condition. | OVER 15 YEARS. |                    | 15 TO 45 YEARS. |                    | 45 YEARS AND OVER. |                    |
|--|---------------------|----------------|--------------------|-----------------|--------------------|--------------------|--------------------|
|  |                     | Boston.        | Phila-<br>delphia. | Boston.         | Phila-<br>delphia. | Boston.            | Phila-<br>delphia. |
| Total males.....                             | Single.....         | 462.17         | 430.60             | 579.99          | 542.53             | 102.64             | 94.57              |
|  | Married.....        | 488.21         | 520.51             | 398.80          | 438.46             | 761.05             | 766.83             |
|  | Widowed.....        | 43.42          | 44.82              | 15.26           | 15.26              | 129.36             | 133.56             |
| Total females.....                           | Single.....         | 415.17         | 380.74             | 516.06          | 474.39             | 130.76             | 121.69             |
|  | Married.....        | 448.13         | 483.02             | 436.46          | 479.11             | 481.05             | 493.84             |
|  | Widowed.....        | 133.30         | 132.41             | 44.52           | 42.99              | 383.93             | 370.76             |
| Native white, males.....                     | Single.....         | 540.75         | 499.02             | 649.52          | 592.47             | 123.73             | 103.50             |
|  | Married.....        | 415.53         | 461.24             | 329.64          | 389.47             | 744.84             | 764.99             |
|  | Widowed.....        | 35.75          | 35.83              | 13.79           | 14.58              | 119.95             | 125.78             |
| Native white, females.....                   | Single.....         | 484.13         | 435.94             | 577.35          | 512.01             | 161.39             | 140.15             |
|  | Married.....        | 462.87         | 457.55             | 379.74          | 446.98             | 482.95             | 498.62             |
|  | Widowed.....        | 108.21         | 102.82             | 38.86           | 37.51              | 348.33             | 356.78             |
| Both parents native, males.....              | Single.....         | 421.82         | .....              | 563.38          | .....              | 117.93             | .....              |
|  | Married.....        | 515.48         | .....              | 407.19          | .....              | 747.95             | .....              |
|  | Widowed.....        | 49.59          | .....              | 15.95           | .....              | 121.81             | .....              |
| Both parents native, females.....            | Single.....         | 376.89         | .....              | 492.06          | .....              | 160.88             | .....              |
|  | Married.....        | 460.89         | .....              | 451.35          | .....              | 478.79             | .....              |
|  | Widowed.....        | 155.12         | .....              | 49.78           | .....              | 352.68             | .....              |
| Foreign white, males.....                    | Single.....         | 355.53         | 300.40             | 474.80          | 426.55             | 81.98              | 82.47              |
|  | Married.....        | 586.32         | 633.68             | 503.29          | 553.55             | 776.75             | 772.12             |
|  | Widowed.....        | 54.08          | 61.80              | 17.29           | 15.96              | 138.45             | 141.00             |
| Foreign white, females.....                  | Single.....         | 337.33         | 274.42             | 440.81          | 384.27             | 105.48             | 103.73             |
|  | Married.....        | 500.27         | 539.18             | 508.43          | 564.55             | 482.00             | 499.29             |
|  | Widowed.....        | 160.92         | 182.62             | 49.35           | 47.63              | 410.93             | 392.38             |

In each 1,000 males 15 years of age and upward there were married, in Boston, 488.21; in Philadelphia, 520.51, and in each 1,000 females 15 years of age and upward there were married, in Boston, 448.13; in Philadelphia, 483.02. In each 1,000 males 45 years of age and upward there were married, in Boston, 761.05; in Philadelphia, 766.83, and in each 1,000 females, in Boston, 481.05; in Philadelphia, 493.84. For the males 45 years of age and upward the death rates were, in Boston, for the single 46.12, for the married, 35.17; in Philadelphia, for the single 48.87, for the married 37.55. For each 1,000 females 45 years of age and upward the death rates were, in Boston, for the single 39.84, for the married 28.67; in Philadelphia, for the married 38.18, for the single 35.86. In this age group therefore the death rate of the single males was greater than that of the married in Boston and greater in Philadelphia than in Boston. For the females the death rate of the single was greater than that of the married in Boston and less in Philadelphia, and was decidedly greater for the married females in Philadelphia than it was in Boston.

Table 101 shows the number of deaths in Boston during the 6 years ending May 31, 1890, in the aggregate, and for each of certain specified causes and classes of causes, by conjugal condition and sex, with distinction of color, nativity, parental nativity, and of certain age groups, and of the birthplaces of mothers.

Table 102 shows the number of deaths in Philadelphia during the 6 years ending May 31, 1890, in the aggregate, and for each of certain specified causes and classes of causes, by conjugal condition and sex, with distinction of color, nativity, certain age groups, and of birthplaces of persons.

## VITAL STATISTICS.

Table 22 shows the death rates in Boston and Philadelphia during the census year ending May 31, 1890, per 1,000 of total population 15 years of age and upward, with distinction of color, nativity, parental nativity, and conjugal condition.

TABLE 22.

| LOCALITIES AND CONJUGAL CONDITION. | Aggregate. | WHITE. |         |                      |                              |          | Colored. |
|------------------------------------|------------|--------|---------|----------------------|------------------------------|----------|----------|
|                                    |            | Total. | Native. |                      |                              | Foreign. |          |
|                                    |            |        | Total.  | Both parents native. | One or both parents foreign. |          |          |
| <b>Boston:</b>                     |            |        |         |                      |                              |          |          |
| Single.....                        | 13.02      | 12.90  | 11.79   | 7.83                 | 13.73                        | 14.76    | 18.90    |
| Married.....                       | 19.62      | 19.56  | 17.62   | 14.75                | 18.20                        | 21.32    | 22.38    |
| Widowed.....                       | 48.11      | 48.51  | 41.34   | 33.55                | 30.40                        | 54.00    | 31.34    |
| <b>Philadelphia:</b>               |            |        |         |                      |                              |          |          |
| Single.....                        | 11.95      | 11.66  | 10.61   | .....                | .....                        | 13.95    | 18.56    |
| Married.....                       | 19.68      | 19.53  | 16.90   | .....                | .....                        | 22.67    | 23.45    |
| Widowed.....                       | 29.38      | 29.78  | 29.85   | .....                | .....                        | 28.99    | 22.49    |

Table 23 shows the death rates in Boston and Philadelphia during the census year ending May 31, 1890, per 1,000 of population for 2 age groups, with distinction of sex, color, nativity, parental nativity, and conjugal condition.

TABLE 23.

| SEX, LOCALITIES, AND CONJUGAL CONDITION. | 15 TO 45 YEARS. |         |                      |          | 45 YEARS AND OVER. |         |                      |          |
|--|-----------------|---------|----------------------|----------|--------------------|---------|----------------------|----------|
|  | Aggregate.      | White.  |                      |          | Aggregate.         | White.  |                      |          |
|  |                 | Native. |                      | Foreign. |                    | Native. |                      | Foreign. |
|  |                 | Total.  | Both parents native. |          |                    | Total.  | Both parents native. |          |
| <b>Males:</b>                            |                 |         |                      |          |                    |         |                      |          |
| <b>Boston—</b>                           |                 |         |                      |          |                    |         |                      |          |
| Single.....                              | 12.55           | 12.04   | 5.96                 | 13.16    | 46.12              | 32.37   | 24.54                | 61.06    |
| Married.....                             | 13.02           | 12.29   | 8.03                 | 13.51    | 35.17              | 30.74   | 26.18                | 38.79    |
| Widowed.....                             | 17.31           | 15.35   | 7.19                 | 19.61    | 69.86              | 69.49   | 51.57                | 60.85    |
| <b>Philadelphia—</b>                     |                 |         |                      |          |                    |         |                      |          |
| Single.....                              | 11.36           | 10.14   | .....                | 13.23    | 48.87              | 48.85   | .....                | 43.44    |
| Married.....                             | 11.35           | 10.32   | .....                | 11.84    | 37.55              | 34.83   | .....                | 38.13    |
| Widowed.....                             | 11.53           | 10.10   | .....                | 15.33    | 45.23              | 48.83   | .....                | 40.88    |
| <b>Females:</b>                          |                 |         |                      |          |                    |         |                      |          |
| <b>Boston—</b>                           |                 |         |                      |          |                    |         |                      |          |
| Single.....                              | 9.00            | 8.40    | 4.29                 | 9.74     | 39.84              | 35.26   | 20.75                | 45.21    |
| Married.....                             | 13.40           | 13.06   | 8.71                 | 13.67    | 28.67              | 24.46   | 20.46                | 31.38    |
| Widowed.....                             | 17.61           | 13.26   | 7.66                 | 22.68    | 55.13              | 47.07   | 37.13                | 60.72    |
| <b>Philadelphia—</b>                     |                 |         |                      |          |                    |         |                      |          |
| Single.....                              | 8.05            | 7.85    | .....                | 7.33     | 35.86              | 32.83   | .....                | 35.65    |
| Married.....                             | 10.97           | 10.56   | .....                | 11.09    | 38.18              | 34.09   | .....                | 40.16    |
| Widowed.....                             | 9.72            | 9.65    | .....                | 9.99     | 32.55              | 35.30   | .....                | 29.60    |

Table 24 shows the death rates per 1,000 of children of native, Irish, and German mothers in Boston, New York, Brooklyn, and the District of Columbia for the census year ending May 31, 1890, with distinction of sex and conjugal condition, and the corresponding rates for Prussia, Belgium, and Bavaria.

TABLE 24.

| BIRTHPLACES OF MOTHERS.                  | 15 TO 45 YEARS. |          |          |          | 45 YEARS AND OVER. |          |          |          |
|--|-----------------|----------|----------|----------|--------------------|----------|----------|----------|
|  | Males.          |          | Females. |          | Males.             |          | Females. |          |
|  | Single.         | Married. | Single.  | Married. | Single.            | Married. | Single.  | Married. |
| <b>Boston:</b>                           |                 |          |          |          |                    |          |          |          |
| Children of native mothers (white) ..... | 6.64            | 8.78     | 4.82     | 9.17     | 29.75              | 27.03    | 30.59    | 21.44    |
| Children of Irish mothers .....          | 18.27           | 19.06    | 12.08    | 18.15    | 65.66              | 47.63    | 46.72    | 36.47    |
| Children of German mothers .....         | 7.58            | 12.98    | 7.65     | 7.36     | 57.85              | 26.14    | 56.34    | 24.79    |
| <b>New York:</b>                         |                 |          |          |          |                    |          |          |          |
| Children of native mothers (white) ..... | 9.42            | 8.70     | 6.01     | 9.71     | 39.37              | 31.20    | 40.36    | 24.26    |
| Children of Irish mothers .....          | 20.86           | 23.65    | 10.06    | 23.93    | 82.82              | 43.97    | 57.23    | 44.19    |
| Children of German mothers .....         | 10.99           | 13.13    | 4.98     | 10.80    | 65.59              | 36.87    | 46.83    | 24.99    |
| <b>Brooklyn:</b>                         |                 |          |          |          |                    |          |          |          |
| Children of native mothers (white) ..... | 7.74            | 8.27     | 6.09     | 9.38     | 38.92              | 28.97    | 36.75    | 22.11    |
| Children of Irish mothers .....          | 17.31           | 18.75    | 8.13     | 19.83    | 58.59              | 42.10    | 46.32    | 37.51    |
| Children of German mothers .....         | 10.42           | 10.44    | 5.61     | 9.51     | 60.51              | 33.51    | 81.25    | 23.24    |
| <b>District of Columbia:</b>             |                 |          |          |          |                    |          |          |          |
| Children of native mothers (white) ..... | 7.77            | 6.75     | 4.94     | 7.53     | 22.86              | 22.06    | 15.74    | 14.83    |
| Children of Irish mothers .....          | 19.45           | 13.61    | 9.92     | 19.81    | 78.84              | 42.06    | 33.00    | 23.32    |
| Children of German mothers .....         | 7.09            | 12.63    | 6.64     | 6.50     | 78.77              | 33.48    | 105.26   | 19.61    |
| Prussia, 1885 .....                      | 8.11            | 10.13    | 5.87     | 9.02     | 50.21              | 32.83    | 38.82    | 23.94    |
| Belgium, 1880 .....                      | 8.43            | 8.62     | 6.84     | 9.14     | 41.29              | 31.72    | 35.60    | 22.39    |
| Bavaria, 1878 .....                      | 8.14            | 8.58     | 5.93     | 10.28    | 55.04              | 33.46    | 45.34    | 26.75    |

It will be seen from this table that, as a general rule, taking persons 15 years of age and upward, the death rate of those whose mothers were born in the United States is lower than that of those whose mothers were born in Ireland or in Germany, and that of the 3 classes the death rate of those whose mothers were born in Ireland is much the highest.

For the age group 15 to 45 the death rate is, as a rule, higher among the married than among the single for both males and females.

For those 45 years of age and upward the death rate is decidedly greater among the single than among the married for both sexes and for each nationality.

MONTH AND SEASON.

Some data for estimating the influence of month and season upon the death rates due to certain causes in Boston and Philadelphia are given in the following table and diagram.

Table 25 shows for the 6-year period in Boston and Philadelphia the average annual death rates per 10,000 of population for each month in the aggregate and for children under 5 years of age.

TABLE 25.

| MONTHS.         | BOSTON.   |                | PHILADELPHIA. |                |
|-----------------|-----------|----------------|---------------|----------------|
|                 | All ages. | Under 5 years. | All ages.     | Under 5 years. |
| January .....   | 22.55     | 75.08          | 21.37         | 72.93          |
| February .....  | 17.71     | 64.32          | 18.25         | 66.56          |
| March .....     | 20.44     | 73.91          | 21.03         | 78.23          |
| April .....     | 20.29     | 74.54          | 20.05         | 77.84          |
| May .....       | 19.24     | 71.54          | 18.52         | 74.32          |
| June .....      | 16.75     | 61.86          | 18.07         | 82.91          |
| July .....      | 22.83     | 130.30         | 24.23         | 132.02         |
| August .....    | 22.35     | 117.48         | 19.95         | 96.77          |
| September ..... | 19.93     | 96.55          | 16.74         | 70.66          |
| October .....   | 19.01     | 75.03          | 16.80         | 65.48          |
| November .....  | 17.69     | 65.04          | 16.80         | 63.28          |
| December .....  | 19.94     | 71.05          | 18.51         | 66.87          |
| Unknown .....   | 0.02      | 0.04           | 0.04          | 0.07           |

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It will be seen from this table that the heaviest death rate of the children under 5 years of age occurred in both cities in the month of July, for which month it was about double the rates for October and for November.

For the months of February, March, April, May, June, and July, the death rates of the children under 5 years of age were heavier in Philadelphia than in Boston, while in the months of August to January, inclusive, the rates were heavier in Boston.

The following diagram shows the average death rate by months in Boston and Philadelphia for the 6 years ending May 31, 1890:

DIAGRAM 7

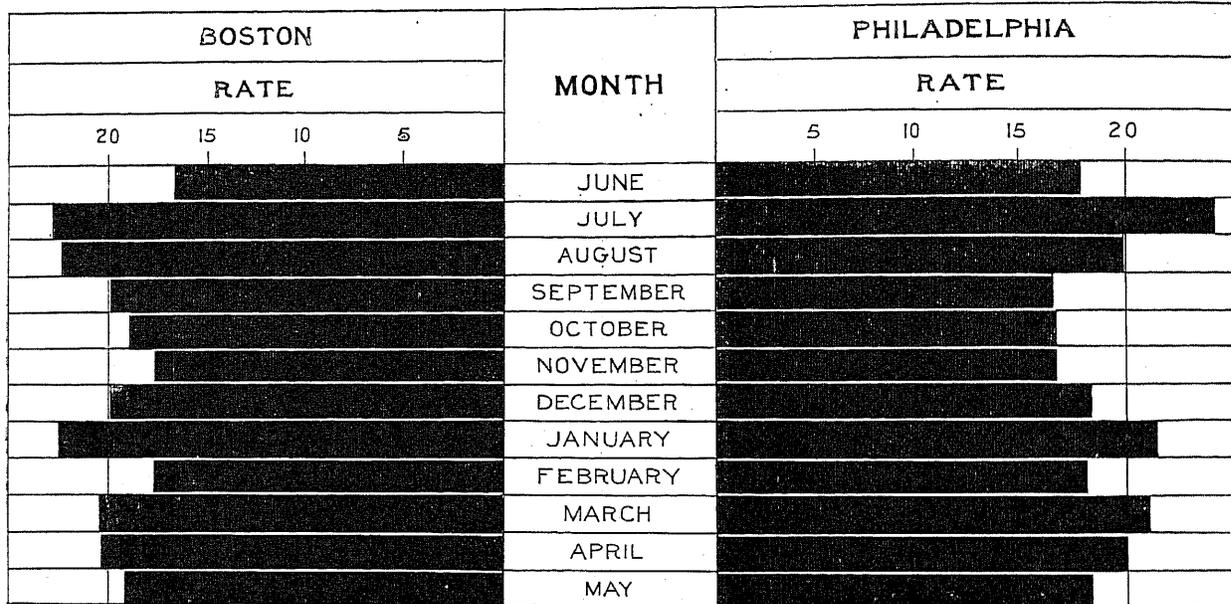


Table 99 shows the number of deaths in each month in Boston for the 6 years ending May 31, 1890, in the aggregate, and from certain specified diseases and classes of diseases, with distinction of sex and of 3 age groups.

Table 100 shows the number of deaths in each month in Philadelphia for the 6 years ending May 31, 1890, in the aggregate, and from certain specified diseases and classes of diseases, with distinction of sex and of 3 age groups.

Table 26 shows for Boston, by months, the number of deaths due to certain causes per 1,000 deaths from all causes during the 6 years ending May 31, 1890.

TABLE 26.

| CAUSES OF DEATH.                                  | MONTHS.   |            |        |        |       |       |       |          |             |           |            |            |
|---|-----------|------------|--------|--------|-------|-------|-------|----------|-------------|-----------|------------|------------|
|   | Jan-uary. | Feb-ruary. | March. | April. | May.  | June. | July. | Aug-ust. | Sep-tember. | Oc-tober. | No-vember. | De-cember. |
| Measles.....                                      | 0.28      | 0.43       | 0.35   | 0.70   | 0.75  | 0.52  | 0.70  | 0.15     | 0.10        | 0.17      | 0.15       | 0.57       |
| Scarlet fever.....                                | 1.07      | 0.57       | 1.05   | 1.05   | 0.88  | 0.68  | 0.60  | 0.50     | 0.73        | 0.80      | 1.28       | 1.43       |
| Diphtheria.....                                   | 4.48      | 3.37       | 3.10   | 3.22   | 3.45  | 3.30  | 2.13  | 2.27     | 2.73        | 4.13      | 3.77       | 4.50       |
| Whooping cough.....                               | 0.35      | 0.48       | 0.55   | 0.53   | 0.43  | 0.65  | 1.10  | 1.70     | 1.02        | 0.58      | 0.32       | 0.45       |
| Cerebro-spinal fever.....                         | 0.15      | 0.10       | 0.27   | 0.10   | 0.13  | 0.15  | 0.20  | 0.13     | 0.13        | 0.13      | 0.08       | 0.07       |
| Typhoid fever.....                                | 0.63      | 0.62       | 0.73   | 0.90   | 0.88  | 0.83  | 1.32  | 2.13     | 2.90        | 2.53      | 1.60       | 1.27       |
| Diarrhcal diseases.....                           | 1.87      | 1.38       | 1.88   | 2.07   | 2.13  | 3.63  | 26.96 | 25.36    | 14.36       | 5.60      | 2.77       | 1.73       |
| Malarial fever.....                               | 0.07      | .....      | 0.07   | 0.05   | ..... | 0.07  | 0.03  | 0.15     | 0.08        | 0.10      | 0.07       | 0.05       |
| Inanition, debility and atrophy, and old age..... | 5.33      | 5.43       | 5.81   | 6.01   | 5.76  | 4.53  | 7.26  | 8.30     | 8.11        | 7.33      | 4.65       | 5.90       |
| Consumption.....                                  | 15.80     | 12.41      | 14.41  | 14.29  | 13.18 | 12.83 | 12.68 | 12.51    | 13.33       | 13.20     | 13.03      | 14.10      |
| Diseases of the nervous system.....               | 9.11      | 7.83       | 9.28   | 10.20  | 8.90  | 8.23  | 9.13  | 9.11     | 7.60        | 7.68      | 7.30       | 7.71       |
| Diseases of the respiratory system.....           | 24.54     | 16.33      | 19.81  | 18.34  | 15.21 | 9.18  | 6.33  | 5.40     | 7.71        | 10.93     | 14.66      | 18.50      |
| Affections connected with pregnancy.....          | 0.62      | 0.72       | 0.77   | 0.75   | 0.47  | 0.33  | 0.43  | 0.37     | 0.45        | 0.40      | 0.47       | 0.48       |
| Accidents and injuries.....                       | 3.30      | 3.00       | 3.55   | 3.13   | 3.82  | 4.15  | 5.11  | 4.27     | 3.88        | 3.63      | 3.42       | 3.53       |
| Suicides.....                                     | 0.20      | 0.33       | 0.42   | 0.53   | 0.27  | 0.42  | 0.42  | 0.38     | 0.32        | 0.43      | 0.30       | 0.60       |
| Sunstroke.....                                    | .....     | .....      | 0.02   | .....  | 0.03  | 0.17  | 0.90  | 0.15     | 0.10        | .....     | .....      | .....      |

Table 27 shows for Philadelphia, by months, the number of deaths due to certain causes per 1,000 deaths from all causes during the 6 years ending May 31, 1890.

TABLE 27.

| (CAUSES OF DEATH.)                                | MONTHS.   |            |        |        |       |       |       |          |             |           |            |            |
|---|-----------|------------|--------|--------|-------|-------|-------|----------|-------------|-----------|------------|------------|
|   | Jan-uary. | Feb-ruary. | March. | April. | May.  | June. | July. | Aug-ust. | Sep-tember. | Oc-tober. | No-vember. | De-cember. |
| Measles.....                                      | 0.33      | 0.39       | 0.53   | 1.10   | 0.85  | 0.59  | 0.44  | 0.05     | 0.04        | 0.06      | 0.07       | 0.19       |
| Scarlet fever.....                                | 1.25      | 1.00       | 1.13   | 1.03   | 0.95  | 1.19  | 0.75  | 0.56     | 0.39        | 0.32      | 1.06       | 1.25       |
| Diphtheria.....                                   | 2.37      | 1.62       | 1.76   | 1.62   | 1.59  | 1.24  | 1.17  | 1.25     | 1.79        | 2.31      | 2.53       | 2.68       |
| Whooping cough.....                               | 0.32      | 0.41       | 0.46   | 0.32   | 0.53  | 0.42  | 0.65  | 0.67     | 0.49        | 0.25      | 0.19       | 0.24       |
| Cerebro-spinal fever.....                         | 0.17      | 0.19       | 0.24   | 0.25   | 0.23  | 0.17  | 0.13  | 0.16     | 0.20        | 0.14      | 0.14       | 0.16       |
| Typhoid fever.....                                | 2.66      | 2.28       | 2.48   | 1.96   | 2.08  | 1.82  | 2.36  | 3.95     | 3.47        | 2.51      | 2.31       | 2.22       |
| Diarrheal diseases.....                           | 1.57      | 1.59       | 2.08   | 2.19   | 2.87  | 8.46  | 23.95 | 13.75    | 5.54        | 2.68      | 1.50       | 1.59       |
| Malarial fever.....                               | 0.22      | 0.14       | 0.26   | 0.22   | 0.25  | 0.31  | 0.34  | 0.37     | 0.27        | 0.24      | 0.27       | 0.22       |
| Inanition, debility and atrophy, and old age..... | 9.45      | 8.04       | 9.93   | 9.39   | 8.67  | 9.73  | 15.67 | 14.26    | 11.17       | 8.94      | 7.65       | 8.76       |
| Consumption.....                                  | 12.73     | 10.99      | 12.60  | 12.10  | 11.09 | 9.44  | 10.06 | 9.50     | 9.30        | 10.42     | 9.92       | 11.15      |
| Diseases of the nervous system.....               | 11.94     | 11.09      | 13.10  | 13.12  | 12.25 | 12.14 | 14.86 | 11.32    | 9.70        | 9.30      | 9.16       | 10.39      |
| Diseases of the respiratory system.....           | 20.43     | 14.37      | 15.99  | 15.01  | 10.90 | 7.00  | 4.86  | 4.56     | 5.96        | 9.65      | 11.68      | 14.25      |
| Affections connected with pregnancy.....          | 0.35      | 0.42       | 0.56   | 0.53   | 0.40  | 0.26  | 0.23  | 0.35     | 0.30        | 0.27      | 0.25       | 0.30       |
| Accidents and injuries.....                       | 2.91      | 2.57       | 2.60   | 2.68   | 3.17  | 3.58  | 5.22  | 3.71     | 3.17        | 2.75      | 3.20       | 2.97       |
| Suicides.....                                     | 0.32      | 0.31       | 0.27   | 0.31   | 0.42  | 0.41  | 0.34  | 0.32     | 0.37        | 0.35      | 0.24       | 0.20       |
| Sunstroke.....                                    |           |            |        |        | 0.02  | 0.10  | 1.50  | 0.36     | 0.16        |           |            |            |

The influence of season upon the death rates from diphtheria, typhoid fever, and diarrheal diseases is indicated in the diagram given in a subsequent part of this report, in the sections relating to these several classes of diseases.

#### OCCUPATIONS.

The influence of occupation as a special predisposing cause of sickness or death should be taken into consideration, when it is possible to do so, in comparing the death rates of different localities. It is not at this time possible to give death rates for the several occupations, but something can be learned by comparing the proportion of deaths due to certain causes occurring among persons of different occupations.

Table 103 shows the number of deaths in Boston and in Philadelphia during the 6 years ending May 31, 1890, among males engaged in certain occupations, with distinction of color, nativity, parental nativity, and of certain causes of death.

## VITAL STATISTICS.

Table 28 shows for males 15 years of age and upward engaged in certain occupations in Boston and Philadelphia during the 6 years ending May 31, 1890, the number dying and the number of deaths from certain causes per 1,000 deaths from all causes for each specified occupation.

TABLE 28.

| OCCUPATIONS.  | Locality.      | Total number of deaths. | NUMBER OF DEATHS PER 1,000 DEATHS FROM ALL CAUSES. |              |         |                |                                 |                                     |                   |           |  |
|---|----------------|-------------------------|--|--------------|---------|----------------|---------------------------------|-------------------------------------|-------------------|-----------|--|
|   |                |                         | Typhoid fever.                                     | Consumption. | Cancer. | Heart disease. | Diseases of the nervous system. | Diseases of the respiratory system. | Bright's disease. | Suicides. | Accidents and injuries (except burns). |
| All selected occupations.....                       | Boston.....    | 14,046                  | 29.47  | 267.83       | 27.41   | 91.27          | 93.12                           | 162.54                              | 28.05             | 12.32     | 77.89                                  |
|   | Philadelphia.. | 13,159                  | 55.17  | 229.73       | 24.77   | 100.46         | 116.27                          | 110.11                              | 32.30             | 14.29     | 75.69                                  |
| Clergymen.....                                      | Boston.....    | 48                      | 20.83  | 83.33        | 62.50   | 83.33          | 145.83                          | 125.00                              | 20.83             | .....     | 41.67                                  |
|   | Philadelphia.. | 121                     | 24.79  | 140.50       | 41.32   | 148.76         | 140.50                          | 107.44                              | 33.06             | 8.26      | 33.06                                  |
| Lawyers.....  | Boston.....    | 83                      | 12.05  | 96.39        | .....   | 120.48         | 120.48                          | 168.67                              | 84.34             | 48.19     | 48.19                                  |
|   | Philadelphia.. | 115                     | 43.48  | 139.13       | 34.78   | 86.96          | 147.83                          | 156.52                              | 26.09             | 8.70      | 17.39                                  |
| Physicians and surgeons.....                        | Boston.....    | 100                     | 20.00  | 90.00        | 40.00   | 100.00         | 150.00                          | 190.00                              | 30.00             | 30.00     | 10.00                                  |
|   | Philadelphia.. | 184                     | 38.04  | 135.87       | 21.74   | 163.04         | 163.04                          | 163.04                              | 43.48             | .....     | 10.87                                  |
| Accountants, bookkeepers, clerks, etc.....          | Boston.....    | 1,043                   | 31.64  | 422.82       | 7.67    | 72.87          | 84.37                           | 131.85                              | 24.93             | 15.34     | 40.27                                  |
|   | Philadelphia.. | 741                     | 68.83  | 327.94       | 10.80   | 79.62          | 110.66                          | 103.91                              | 47.23             | 17.54     | 41.84                                  |
| Dealers, retail.....                                | Boston.....    | 873                     | 22.91  | 155.78       | 32.07   | 145.48         | 166.09                          | 146.62                              | 37.80             | 9.16      | 33.22                                  |
|   | Philadelphia.. | 724                     | 44.20  | 176.80       | 37.29   | 127.07         | 151.93                          | 118.78                              | 33.15             | 19.34     | 35.91                                  |
| Saloon keepers, bartenders, etc.....                | Boston.....    | 170                     | 11.76  | 276.47       | 17.65   | 58.82          | 94.12                           | 152.94                              | 29.41             | 41.18     | 35.29                                  |
|   | Philadelphia.. | 210                     | 47.62  | 223.81       | 14.29   | 80.95          | 138.10                          | 119.05                              | 28.57             | 33.33     | 57.14                                  |
| Barbers and hairdressers.....                       | Boston.....    | 110                     | 18.18  | 436.36       | 27.27   | 72.73          | 109.09                          | 90.91                               | 27.27             | 18.18     | 9.09                                   |
|   | Philadelphia.. | 129                     | 69.77  | 317.83       | .....   | 147.29         | 100.78                          | 100.78                              | 7.75              | 38.76     | 54.26                                  |
| Policemen, watchmen, and detectives.....            | Boston.....    | 132                     | 15.15  | 113.64       | 37.88   | 181.82         | 128.70                          | 181.82                              | 30.30             | .....     | 68.18                                  |
|   | Philadelphia.. | 210                     | 9.52   | 161.90       | 38.10   | 152.38         | 176.19                          | 142.86                              | 38.10             | 9.52      | 42.86                                  |
| Soldiers, sailors, and marines (United States)..... | Boston.....    | 17                      | .....  | 117.65       | 58.82   | 176.47         | 117.65                          | 117.65                              | 58.82             | .....     | 58.82                                  |
|   | Philadelphia.. | 21                      | 47.62  | 142.86       | 95.24   | 47.62          | 190.48                          | 190.48                              | .....             | 47.62     | .....                                  |
| Laborers.....                                       | Boston.....    | 3,876                   | 35.35  | 267.54       | 27.86   | 70.46          | 74.05                           | 205.62                              | 17.80             | 5.42      | 93.40                                  |
|   | Philadelphia.. | 1,199                   | 55.05  | 221.02       | 21.68   | 101.75         | 96.75                           | 135.95                              | 15.85             | 6.67      | 98.42                                  |
| Servants.....                                       | Boston.....    | 314                     | 44.59  | 334.89       | 15.92   | 127.39         | 47.77                           | 117.83                              | 19.11             | 19.11     | 57.32                                  |
|   | Philadelphia.. | 292                     | 37.67  | 304.79       | 10.27   | 103.59         | 113.01                          | 75.34                               | 34.25             | 20.55     | 41.10                                  |
| Bakers and confectioners.....                       | Boston.....    | 131                     | 38.17  | 236.64       | 30.53   | 91.60          | 160.31                          | 129.77                              | 15.27             | .....     | 61.07                                  |
|   | Philadelphia.. | 244                     | 131.15   | 188.52       | 32.70   | 94.26          | 122.95                          | 94.26                               | 28.69             | 16.39     | 90.16                                  |
| Blacksmiths.....                                    | Boston.....    | 183                     | 21.28  | 202.13       | 21.28   | 106.38         | 95.74                           | 143.62                              | 26.60             | 10.64     | 58.51                                  |
|   | Philadelphia.. | 185                     | 43.24  | 237.84       | 16.22   | 102.70         | 86.49                           | 108.11                              | 32.43             | 16.22     | 81.03                                  |
| Boot and shoe makers.....                           | Boston.....    | 272                     | 18.38  | 257.35       | 40.44   | 80.88          | 62.50                           | 136.03                              | 33.09             | 22.06     | 73.53                                  |
|   | Philadelphia.. | 521                     | 17.27  | 216.89       | 32.63   | 122.84         | 134.36                          | 88.29                               | 32.63             | 15.36     | 42.23                                  |
| Carpenters and joiners.....                         | Boston.....    | 625                     | 30.40  | 208.00       | 46.40   | 99.20          | 110.40                          | 147.20                              | 25.60             | 12.80     | 88.00                                  |
|   | Philadelphia.. | 619                     | 48.47  | 184.17       | 27.46   | 103.39         | 116.32                          | 108.24                              | 35.54             | 8.08      | 103.39                                 |
| Compositors, printers, and pressmen.....            | Boston.....    | 216                     | 18.52  | 430.56       | 9.26    | 60.44          | 78.70                           | 138.89                              | 23.15             | 9.26      | 50.93                                  |
|   | Philadelphia.. | 172                     | 52.33  | 377.91       | 5.81    | 87.21          | 116.28                          | 104.65                              | 63.95             | .....     | 34.88                                  |
| Marble and stone cutters.....                       | Boston.....    | 161                     | 37.27  | 496.89       | .....   | 49.69          | 43.48                           | 111.80                              | 68.32             | .....     | 43.48                                  |
|   | Philadelphia.. | 84                      | 35.71  | 261.90       | 23.81   | 71.43          | 142.86                          | 95.24                               | 83.33             | 11.90     | 33.33                                  |
| Masons, brick and stone.....                        | Boston.....    | 203                     | 9.85   | 187.19       | 34.48   | 83.74          | 98.52                           | 187.19                              | 24.63             | 9.85      | 123.15                                 |
|   | Philadelphia.. | 236                     | 55.08  | 241.53       | 29.66   | 93.22          | 114.41                          | 110.17                              | 42.37             | 8.47      | 72.03                                  |
| Painters, glaziers, and varnishers.....             | Boston.....    | 415                     | 26.51  | 279.52       | 14.46   | 67.47          | 86.75                           | 146.69                              | 60.24             | 12.05     | 72.29                                  |
|   | Philadelphia.. | 311                     | 48.23  | 212.22       | 19.29   | 96.46          | 147.91                          | 80.39                               | 54.66             | 19.29     | 93.25                                  |
| Plumbers and gas and steam fitters.....             | Boston.....    | 155                     | 25.81  | 380.65       | 19.35   | 77.42          | 58.06                           | 167.74                              | 51.61             | .....     | 58.06                                  |
|   | Philadelphia.. | 71                      | 14.08  | 309.86       | .....   | 84.51          | 112.68                          | 98.59                               | 28.17             | 14.80     | 98.59                                  |
| Tailors.....  | Boston.....    | 305                     | 6.56   | 255.74       | 39.34   | 78.69          | 114.75                          | 160.66                              | 22.95             | 9.84      | 52.40                                  |
|   | Philadelphia.. | 350                     | 34.29  | 231.43       | 40.00   | 120.00         | 122.86                          | 108.57                              | 34.29             | 22.86     | 37.14                                  |
| Draymen, hackmen, teamsters, etc.....               | Boston.....    | 782                     | 43.48  | 299.23       | 25.56   | 81.84          | 76.73                           | 173.91                              | 30.69             | 7.67      | 95.91                                  |
|   | Philadelphia.. | 418                     | 47.85  | 263.16       | 19.14   | 88.52          | 129.19                          | 112.44                              | 21.53             | 7.18      | 129.19                                 |
| Farmers, planters, and overseers.....               | Boston.....    | 143                     | 27.97  | 83.92        | 90.91   | 69.93          | 132.87                          | 153.85                              | 34.07             | 20.98     | 83.92                                  |
|   | Philadelphia.. | 241                     | 20.75  | 103.73       | 29.05   | 120.33         | 153.53                          | 95.44                               | 41.49             | 8.30      | 62.24                                  |
| Sailors, fishermen, and oystermen.....              | Boston.....    | 334                     | 17.96  | 227.54       | 23.95   | 89.82          | 65.87                           | 140.72                              | 26.95             | 8.98      | 132.63                                 |
|   | Philadelphia.. | 271                     | 40.50  | 173.43       | 29.52   | 118.08         | 118.08                          | 77.49                               | 29.52             | 7.38      | 107.01                                 |

It will be seen from this table that consumption caused more than one-fourth of all the deaths among males having specified occupations, and that the proportion of deaths from this cause was above the average in barbers and hairdressers, servants, printers, marble and stone cutters, plumbers, and draymen and hackmen. A considerable proportion of the barbers and hairdressers were colored, and the majority of the draymen and hackmen were Irish. Consumption caused a greater proportion of deaths among professional men in Philadelphia than it did in Boston. Typhoid fever caused a remarkably large proportion of deaths among bakers and confectioners in Philadelphia. Cancer caused more than the average proportion of deaths among clergymen, soldiers, and sailors. Heart disease caused more than the average proportion of deaths among physicians and policemen. Bright's disease and suicide caused an unusually large proportion of deaths among lawyers in Boston. Suicide was most frequent among saloon keepers and clerks in Philadelphia.

Table 104 shows the number of deaths in Boston and in Philadelphia during the 6 years ending May 31, 1890, among females engaged in certain occupations, with distinction of color, nativity, parental nativity, and of certain causes of death.

Table 29 shows for the females 15 years of age and upward engaged in certain occupations in Boston and Philadelphia during the 6 years ending May 31, 1890, the number dying and the number of deaths from certain causes per 1,000 deaths from all causes for each specified occupation.

TABLE 29.

| OCCUPATIONS.                               | Locality.      | Total number of deaths. | NUMBER OF DEATHS PER 1,000 DEATHS FROM ALL CAUSES. |              |         |                |                                 |                                     |                   |           |  |
|--|----------------|-------------------------|--|--------------|---------|----------------|---------------------------------|-------------------------------------|-------------------|-----------|--|
|  |                |                         | Typhoid fever.                                     | Consumption. | Cancer. | Heart disease. | Diseases of the nervous system. | Diseases of the respiratory system. | Bright's disease. | Suicides. | Accidents and injuries (except burns). |
| All selected occupations.....              | Boston.....    | 2,608                   | 33.73  | 301.26       | 47.91   | 101.19         | 68.61                           | 137.60                              | 22.61             | 4.98      | 23.38                                  |
|  | Philadelphia.. | 1,321                   | 65.86  | 250.57       | 47.69   | 99.92          | 94.63                           | 108.71                              | 32.55             | 7.57      | 23.47                                  |
| Teachers in schools.....                   | Boston.....    | 44                      | 22.73  | 477.27       | -----   | 90.91          | 113.64                          | 45.45                               | 22.73             | -----     | 22.73                                  |
|  | Philadelphia.. | 43                      | 69.76  | 441.86       | 46.51   | 93.02          | 116.23                          | 93.02                               | -----             | -----     | 23.26                                  |
| Accountants, bookkeepers, clerks, etc..... | Boston.....    | 49                      | 20.41  | 448.98       | -----   | 122.45         | 20.41                           | 102.04                              | 20.41             | -----     | -----                                  |
|  | Philadelphia.. | 6                       | 166.67   | 166.07       | -----   | -----          | -----                           | -----                               | -----             | -----     | 333.33                                 |
| Laundresses.....                           | Boston.....    | 66                      | 75.76  | 318.18       | 30.30   | 121.21         | 15.15                           | 196.97                              | 15.15             | -----     | 30.30                                  |
|  | Philadelphia.. | 51                      | -----  | 254.90       | 19.61   | 156.86         | 98.04                           | 196.08                              | 58.82             | -----     | -----                                  |
| Nurses and midwives.....                   | Boston.....    | 49                      | -----  | 204.08       | 20.41   | 122.45         | 163.27                          | 81.63                               | 40.82             | -----     | -----                                  |
|  | Philadelphia.. | 30                      | 166.67   | 66.07        | 100.00  | 133.33         | 66.67                           | 66.67                               | 33.33             | 33.33     | 33.33                                  |
| Servants.....                              | Boston.....    | 1,728                   | 36.46  | 270.25       | 49.77   | 101.27         | 71.76                           | 141.20                              | 19.68             | 5.79      | 25.46                                  |
|  | Philadelphia.. | 818                     | 73.35  | 215.16       | 53.79   | 111.25         | 89.24                           | 107.58                              | 26.89             | 7.33      | 25.67                                  |
| Dressmakers and seamstresses.....          | Boston.....    | 229                     | 26.20  | 388.65       | 78.60   | 91.70          | 56.77                           | 139.74                              | 17.47             | 4.37      | 26.20                                  |
|  | Philadelphia.. | 74                      | 40.54  | 405.41       | 27.03   | 67.57          | 54.05                           | 40.54                               | 40.54             | 27.03     | 13.51                                  |

It will be seen from this table that consumption caused a somewhat greater proportion of deaths among females having specified occupations than it did among the males. It was most fatal among school teachers and dressmakers and seamstresses. The proportion of deaths from typhoid fever was higher among the laundresses in Boston than in Philadelphia and among the accountants and clerks in Philadelphia than in Boston.

## VITAL STATISTICS.

## CAUSES OF DEATH.

The relative influence of different causes of death in the production of differences in death rates is of much interest in connection with the mortality of different districts.

Tables 76 and 77 show for Boston and Philadelphia the number of deaths which occurred from certain causes during the 6 years ending May 31, 1890, in each ward or sanitary district, and Tables 78 and 79 show the corresponding average annual death rates per 100,000 of population in each district. The relation of certain causes to the death rates in each ward or sanitary district for this period is given in the discussion of the characteristics of the several districts.

Table 30 shows for the 6-year period the average annual death rates in Boston and Philadelphia from certain causes per 100,000 of mean population.

TABLE 30.

| CAUSES OF DEATH.                              | AVERAGE ANNUAL<br>DEATH RATES PER 100,000<br>OF POPULATION, 6 YEARS,<br>1884-1890. |               |
|---|--|---------------|
|   | Boston.  | Philadelphia. |
| All causes .....                              | 2,387.44   | 2,303.43      |
| Scarlet fever.....                            | 25.42  | 26.18         |
| Typhoid fever.....                            | 39.02  | 69.35         |
| Malarial fever.....                           | 1.75   | 7.21          |
| Diphtheria and croup.....                     | 124.50   | 98.30         |
| Diarrheal diseases.....                       | 102.54   | 70.31         |
| Consumption.....                              | 386.51   | 297.87        |
| Pneumonia.....                                | 221.40   | 164.17        |
| Measles.....                                  | 11.61  | 10.67         |
| Whooping cough.....                           | 19.49  | 11.39         |
| Cancer and tumor.....                         | 73.55  | 54.73         |
| Heart disease and dropsy.....                 | 150.36   | 146.27        |
| Childbirth and puerperal diseases.....        | 14.92  | 10.06         |
| Other diseases of the respiratory system..... | 149.44   | 98.23         |
| Diseases of the digestive system.....         | 91.09  | 100.42        |
| Diseases of the nervous system.....           | 243.71   | 318.83        |
| Diseases of the urinary system.....           | 84.84  | 74.90         |
| Stillbirths.....                              | (a)  | 117.68        |
| Suicides.....                                 | 11.02  | 9.12          |
| Other accidents and injuries.....             | 95.90  | 79.69         |
| All other causes.....                         | 511.53   | 538.04        |

a Number of stillbirths in Boston reported for the census year only.

This table indicates that consumption, pneumonia, diarrheal diseases, diphtheria and croup, cancer and tumor, whooping cough, and childbirth and puerperal diseases caused decidedly greater death rates in Boston than in Philadelphia, while typhoid fever, malarial fever, diseases of the digestive organs, and diseases of the nervous system caused heavier death rates in Philadelphia than in Boston.

Table 31 shows for the aggregate and for the white population of Boston the number of deaths during the census year per 100,000 of population, with distinction of certain causes of death and of certain age groups.

TABLE 31.

| CAUSES OF DEATH.                                  | AGGREGATE. |               |                |                |                 |                    | WHITE.    |               |                |                |                 |                    |
|---|------------|---------------|----------------|----------------|-----------------|--------------------|-----------|---------------|----------------|----------------|-----------------|--------------------|
|   | All ages.  | Age periods.  |                |                |                 |                    | All ages. | Age periods.  |                |                |                 |                    |
|   |            | Under 1 year. | Under 5 years. | 5 to 15 years. | 15 to 45 years. | 45 years and over. |           | Under 1 year. | Under 5 years. | 5 to 15 years. | 15 to 45 years. | 45 years and over. |
| All causes .....                                  | 2,478.83   | 32,869.11     | 10,185.74      | 710.21         | 1,211.81        | 4,074.94           | 2,462.22  | 32,576.37     | 10,049.30      | 609.84         | 1,202.43        | 4,059.08           |
| Males .....                                       | 1,266.06   | 18,195.20     | 5,557.22       | 341.40         | 624.86          | 1,914.52           | 1,257.60  | 18,051.87     | 5,493.62       | 343.66         | 616.77          | 1,907.99           |
| Females .....                                     | 1,212.77   | 14,673.91     | 4,628.52       | 368.82         | 586.45          | 2,160.42           | 1,204.63  | 14,524.50     | 4,555.68       | 356.18         | 585.66          | 2,151.09           |
| Measles .....                                     | 3.57       | 67.93         | 32.37          | 4.11           |                 |                    | 3.64      | 69.16         | 32.87          | 4.17           |                 |                    |
| Scarlet fever .....                               | 7.36       | 56.61         | 39.84          | 17.82          | 1.60            |                    | 7.50      | 57.64         | 40.45          | 18.09          | 1.64            |                    |
| Diphtheria and croup .....                        | 142.26     | 407.61        | 1,035.75       | 271.47         | 8.40            | 3.51               | 144.36    | 414.99        | 1,046.64       | 274.09         | 8.59            | 3.57               |
| Whooping cough .....                              | 24.97      | 611.41        | 273.88         | 2.74           |                 |                    | 23.87     | 599.42        | 200.40         | 2.78           |                 |                    |
| Cerebro-spinal fever .....                        | 2.90       | 56.61         | 19.92          | 4.11           | 0.80            |                    | 2.96      | 57.64         | 20.23          | 4.17           | 0.82            |                    |
| Typhoid fever .....                               | 38.80      | 22.64         | 7.47           | 19.19          | 55.21           | 22.25              | 38.87     | 23.05         | 7.58           | 18.09          | 55.66           | 22.59              |
| Diarrheal diseases and cholera infantum .....     | 199.12     | 7,167.12      | 1,872.32       | 16.45          | 10.80           | 119.44             | 198.91    | 7,100.86      | 1,858.17       | 16.70          | 10.64           | 121.26             |
| Malarial fever .....                              | 2.68       |               |                | 2.74           | 2.40            | 4.68               | 2.50      |               |                | 1.30           |                 | 4.76               |
| Erysipelas and septicæmia .....                   | 11.37      | 124.55        | 34.86          |                | 7.60            | 21.08              | 10.91     | 126.80        | 35.39          |                | 6.55            | 21.40              |
| Venereal diseases .....                           | 8.70       | 351.00        | 84.65          |                | 1.60            | 1.17               | 8.87      | 357.35        | 85.96          |                | 1.64            | 1.19               |
| Alcoholism .....                                  | 18.06      |               |                |                | 22.40           | 29.27              | 18.19     |               |                |                | 22.51           | 29.72              |
| Premature birth .....                             | 39.47      | 2,004.08      | 440.69         |                |                 |                    | 38.65     | 1,959.65      | 429.78         |                |                 |                    |
| Stillbirths .....                                 | 134.68     | 6,838.77      | 1,503.83       |                |                 |                    | 132.99    | 6,743.52      | 1,478.95       |                |                 |                    |
| Inanition and debility and atrophy .....          | 136.91     | 5,321.56      | 1,277.26       | 8.23           | 4.00            | 99.53              | 136.17    | 5,314.12      | 1,269.12       | 6.96           | 4.09            | 97.48              |
| Old age .....                                     | 46.38      |               |                |                |                 | 243.56             | 47.28     |               |                |                |                 | 247.27             |
| Rheumatism .....                                  | 8.03       | 11.32         | 4.98           | 6.86           | 2.40            | 26.93              | 8.18      | 11.53         | 5.06           | 6.96           | 2.46            | 27.24              |
| Tubercular diseases .....                         | 485.42     | 2,411.68      | 1,060.65       | 153.56         | 498.45          | 461.36             | 475.35    | 2,374.64      | 1,041.59       | 146.09         | 489.90          | 448.17             |
| Consumption .....                                 | 375.72     | 351.00        | 176.78         | 71.30          | 470.44          | 434.43             | 365.78    | 345.82        | 164.33         | 62.61          | 468.20          | 422.02             |
| Scrophula and tabes .....                         | 9.14       | 192.48        | 54.78          | 5.48           | 4.00            | 5.85               | 9.09      | 184.44        | 53.09          | 5.57           | 4.09            | 5.94               |
| Hydrocephalus .....                               | 40.36      | 758.61        | 380.94         | 28.79          | 2.40            | 1.17               | 40.46     | 749.28        | 381.75         | 29.22          | 2.05            | 1.19               |
| Inflammation of the brain .....                   | 51.28      | 1,098.28      | 433.22         | 30.16          | 9.20            | 12.88              | 51.15     | 1,083.57      | 427.25         | 30.61          | 9.41            | 13.08              |
| Diseases of the bones and joints .....            | 8.92       | 11.32         | 14.94          | 17.82          | 6.40            | 5.85               | 8.87      | 11.53         | 15.17          | 18.09          | 6.14            | 5.94               |
| Cancer and tumor .....                            | 79.38      | 11.32         | 7.47           | 2.74           | 34.40           | 310.30             | 80.70     | 11.53         | 7.58           | 2.78           | 35.20           | 313.84             |
| Diabetes .....                                    | 5.80       |               |                | 1.37           | 2.80            | 21.08              | 5.91      |               |                | 1.39           | 2.86            | 21.40              |
| Diseases of the nervous system .....              | 222.75     | 2,490.94      | 841.55         | 50.73          | 57.01           | 562.06             | 222.56    | 2,466.86      | 829.23         | 51.48          | 58.12           | 561.10             |
| Apoplexy .....                                    | 70.46      | 22.64         | 4.98           | 1.37           | 15.20           | 322.01             | 70.25     | 11.53         | 2.53           | 1.39           | 15.55           | 319.78             |
| Tetanus .....                                     | 0.89       |               |                |                | 1.20            | 1.17               | 0.91      |               |                |                | 1.23            | 1.19               |
| Trismus nascentium and convulsions .....          | 27.87      | 1,041.67      | 291.31         |                | 2.40            | 2.34               | 27.96     | 1,048.99      | 293.26         |                | 2.05            | 2.38               |
| Diseases of the circulatory system .....          | 179.72     | 500.51        | 122.00         | 32.91          | 86.41           | 605.39             | 175.95    | 495.68        | 116.29         | 33.39          | 81.85           | 599.14             |
| Aneurism .....                                    | 3.57       |               |                |                | 2.40            | 11.71              | 3.41      |               |                |                | 2.05            | 11.89              |
| Heart disease and dropsy .....                    | 170.35     | 260.42        | 67.22          | 32.91          | 84.81           | 586.65             | 167.09    | 265.13        | 65.73          | 33.39          | 80.63           | 580.12             |
| Diseases of the respiratory system .....          | 408.94     | 3,759.06      | 1,581.02       | 91.86          | 176.02          | 810.30             | 405.79    | 3,700.29      | 1,532.04       | 90.44          | 178.03          | 807.18             |
| Bronchitis .....                                  | 105.24     | 1,630.43      | 585.10         | 16.45          | 16.00           | 216.63             | 103.21    | 1,602.31      | 558.72         | 15.30          | 16.37           | 216.36             |
| Pneumonia .....                                   | 251.29     | 1,607.79      | 672.24         | 49.36          | 144.01          | 539.81             | 249.84    | 1,579.25      | 647.20         | 48.70          | 145.70          | 537.33             |
| Diseases of the digestive system .....            | 89.41      | 656.70        | 209.14         | 23.31          | 56.81           | 185.01             | 89.80     | 668.59        | 209.83         | 23.65          | 57.30           | 184.26             |
| Diseases of the liver .....                       | 22.07      | 147.19        | 34.86          | 4.11           | 11.00           | 62.06              | 22.28     | 149.86        | 35.30          | 4.17           | 11.87           | 61.82              |
| Diseases of the urinary system .....              | 81.16      | 56.61         | 22.41          | 9.60           | 43.60           | 279.86             | 80.70     | 57.64         | 22.75          | 6.96           | 43.79           | 278.17             |
| Bright's disease .....                            | 32.55      |               |                | 1.37           | 17.20           | 119.44             | 32.51     |               |                |                | 17.60           | 118.88             |
| Diseases of the female organs of generation ..... | 112.57     |               |                |                | 614.75          | 119.70             | 112.79    |               |                |                | 615.04          | 119.97             |
| Affections connected with pregnancy .....         | 646.59     |               |                |                | 645.81          | 1.17               | 647.50    |               |                |                | 646.71          |                    |
| Abortion .....                                    | 64.66      |               |                |                | 64.66           |                    | 64.75     |               |                |                | 64.75           |                    |
| Childbirth and puerperal septicæmia .....         | 631.83     |               |                |                | 631.06          | 1.17               | 632.46    |               |                |                | 631.67          |                    |
| Accidents and injuries .....                      | 109.04     | 486.87        | 164.33         | 34.28          | 95.61           | 186.18             | 109.35    | 495.68        | 166.86         | 34.78          | 95.77           | 185.45             |
| Drowned .....                                     | 8.03       | 11.32         | 4.98           | 6.86           | 7.20            | 12.88              | 8.18      | 11.53         | 5.06           | 6.96           | 7.37            | 13.08              |
| Burns and scalds .....                            | 7.58       | 11.32         | 19.92          |                | 6.40            | 11.71              | 7.73      | 11.53         | 20.23          |                | 6.55            | 11.89              |
| Gunshot wounds and homicides .....                | 2.45       | 11.32         | 2.49           | 1.37           | 3.60            |                    | 2.50      | 11.53         | 2.53           | 1.39           | 3.68            |                    |
| Infanticide .....                                 |            |               |                |                |                 |                    |           |               |                |                |                 |                    |
| Railroad accidents .....                          | 12.93      |               |                | 6.86           | 13.60           | 22.25              | 13.19     |               |                | 6.96           | 13.92           | 22.59              |
| Suicides .....                                    | 12.04      |               |                |                | 12.80           | 25.76              | 12.28     |               |                |                | 13.10           | 26.15              |

a Per 100,000 total females.

b Per 100,000 females 15 to 45 years of age.

c Per 100,000 females 45 years of age and over.

Table 32 shows for the aggregate and for the white population of Philadelphia the number of deaths during the census year per 100,000 of population, with distinction of certain causes of death and of certain age groups.

TABLE 32.

| CAUSES OF DEATH.                             | AGGREGATE. |               |                |                |                 |                    | WHITE.    |               |                |                |                 |                    |
|--|------------|---------------|----------------|----------------|-----------------|--------------------|-----------|---------------|----------------|----------------|-----------------|--------------------|
|  | All ages.  | Age periods.  |                |                |                 |                    | All ages. | Age periods.  |                |                |                 |                    |
|  |            | Under 1 year. | Under 5 years. | 5 to 15 years. | 15 to 45 years. | 45 years and over. |           | Under 1 year. | Under 5 years. | 5 to 15 years. | 15 to 45 years. | 45 years and over. |
| All causes.....                              | 2,267.32   | 29,572.66     | 9,077.54       | 567.33         | 1,048.26        | 3,777.52           | 2,228.22  | 28,778.77     | 8,811.55       | 544.24         | 1,025.51        | 3,743.57           |
| Males.....                                   | 1,186.10   | 16,212.25     | 4,913.56       | 291.10         | 558.06          | 1,866.16           | 1,165.92  | 15,764.30     | 4,779.98       | 276.51         | 546.06          | 1,849.53           |
| Females.....                                 | 1,081.13   | 13,360.41     | 4,163.98       | 276.23         | 490.20          | 1,911.36           | 1,062.30  | 12,974.47     | 4,031.56       | 267.73         | 479.48          | 1,894.04           |
| Measles.....                                 | 10.32      | 146.91        | 96.10          | 3.10           | 0.36            | .....              | 10.43     | 152.01        | 97.15          | 2.74           | 0.37            | .....              |
| Scarlet fever.....                           | 17.86      | 34.57         | 113.40         | 31.87          | 1.43            | 0.51               | 18.58     | 35.77         | 116.07         | 32.92          | 1.50            | 0.53               |
| Diphtheria and croup.....                    | 80.61      | 259.26        | 584.28         | 114.74         | 2.68            | 2.57               | 82.00     | 253.78        | 595.76         | 113.57         | 2.02            | 2.12               |
| Whooping cough.....                          | 9.36       | 276.54        | 89.37          | 1.59           | 0.18            | 0.51               | 9.14      | 268.25        | 86.24          | 1.05           | 0.19            | 0.53               |
| Cerebro-spinal fever.....                    | 2.07       | 25.93         | 13.45          | 3.19           | 0.71            | 2.05               | 2.48      | 22.35         | 12.89          | 3.29           | 0.37            | 2.12               |
| Typhoid fever.....                           | 73.55      | 25.93         | 29.79          | 38.78          | 103.22          | 45.20              | 72.82     | 22.35         | 29.74          | 36.76          | 103.60          | 43.46              |
| Diarrheal diseases and cholera infantum..... | 153.01     | 4,234.54      | 1,197.40       | 18.06          | 19.82           | 108.38             | 151.40    | 4,140.03      | 1,171.70       | 17.56          | 19.45           | 109.17             |
| Malarial fever.....                          | 5.73       | 30.25         | 10.57          | 3.19           | 3.93            | 10.79              | 5.66      | 31.30         | 9.91           | 3.29           | 3.93            | 10.60              |
| Erysipelas and septicæmia.....               | 17.10      | 120.09        | 39.40          | 3.15           | 15.18           | 24.60              | 16.99     | 116.24        | 38.60          | 3.29           | 14.77           | 24.91              |
| Veneral diseases.....                        | 4.97       | 168.52        | 38.44          | 0.53           | 1.01            | 1.03               | 4.57      | 165.42        | 37.67          | 0.55           | 1.12            | 0.53               |
| Alcoholism.....                              | 9.26       | 4.32          | 0.96           | 0.53           | 10.00           | 20.03              | 9.44      | 4.47          | 0.99           | 0.55           | 10.47           | 19.61              |
| Premature birth.....                         | 16.24      | 730.24        | 163.37         | .....          | .....           | .....              | 15.40     | 688.51        | 153.65         | .....          | .....           | .....              |
| Stillbirths.....                             | 138.21     | 6,252.43      | 1,390.56       | .....          | .....           | .....              | 135.61    | 6,102.74      | 1,353.11       | .....          | .....           | .....              |
| Inanition and debility and atrophy.....      | 224.46     | 6,675.88      | 1,644.26       | 7.44           | 10.18           | 201.76             | 220.15    | 6,460.41      | 1,586.06       | 7.13           | 10.47           | 289.88             |
| Old age.....                                 | 43.84      | .....         | .....          | .....          | .....           | 235.77             | 43.71     | .....         | .....          | .....          | .....           | 233.18             |
| Rheumatism.....                              | 4.11       | .....         | 0.96           | 3.72           | 2.68            | 10.27              | 3.87      | .....         | 0.99           | 3.29           | 2.81            | 9.01               |
| Tubercular diseases.....                     | 360.85     | 1,477.77      | 607.35         | 88.71          | 386.98          | 417.10             | 350.39    | 1,479.86      | 592.79         | 79.00          | 375.13          | 412.83             |
| Consumption.....                             | 279.57     | 112.34        | 60.54          | 33.47          | 366.44          | 384.74             | 269.42    | 107.00        | 50.56          | 24.60          | 354.94          | 380.50             |
| Scrofula and tabes.....                      | 7.93       | 129.63        | 42.28          | 2.66           | 3.75            | 6.68               | 7.75      | 129.66        | 39.65          | 2.19           | 3.93            | 6.89               |
| Hydrocephalus.....                           | 13.66      | 229.01        | 104.75         | 10.09          | 2.14            | 1.54               | 13.21     | 228.01        | 101.11         | 9.88           | 2.06            | 1.06               |
| Inflammation of the brain.....               | 55.68      | 685.18        | 388.24         | 37.72          | 11.79           | 21.57              | 56.03     | 692.53        | 389.58         | 37.31          | 11.59           | 21.73              |
| Diseases of the bones and joints.....        | 4.01       | 21.60         | 11.53          | 4.78           | 2.86            | 2.57               | 3.97      | 22.35         | 11.90          | 4.94           | 2.62            | 2.65               |
| Cancer and tumor.....                        | 55.88      | 4.32          | 2.88           | 2.66           | 22.86           | 230.64             | 56.63     | 4.47          | 2.97           | 2.74           | 22.25           | 234.77             |
| Diabetes.....                                | 4.58       | .....         | .....          | 0.53           | 2.86            | 15.92              | 4.67      | .....         | .....          | 0.55           | 2.99            | 15.90              |
| Diseases of the nervous system.....          | 305.36     | 4,653.67      | 1,548.16       | 81.28          | 58.75           | 567.09             | 302.01    | 4,533.46      | 1,503.78       | 77.91          | 58.16           | 567.05             |
| Apoplexy.....                                | 58.45      | 90.74         | 27.87          | 3.19           | 11.96           | 261.97             | 59.21     | 80.42         | 26.76          | 3.29           | 12.16           | 263.92             |
| Tetanus.....                                 | 1.15       | .....         | .....          | 1.59           | 1.07            | 1.54               | 0.99      | .....         | .....          | 1.65           | 0.75            | 1.59               |
| Trismus nascentium and convulsions.....      | 93.70      | 2,847.51      | 871.62         | 19.12          | 5.00            | 5.14               | 91.00     | 2,754.06      | 841.60         | 16.46          | 5.05            | 5.30               |
| Diseases of the circulatory system.....      | 177.66     | 1,136.41      | 278.69         | 43.03          | 76.07           | 546.03             | 174.15    | 1,106.90      | 282.52         | 43.34          | 72.37           | 591.01             |
| Aneurism.....                                | 2.67       | .....         | .....          | .....          | 1.96            | 8.73               | 2.28      | .....         | .....          | .....          | 1.50            | 7.95               |
| Heart disease and dropsy.....                | 161.04     | 358.64        | 106.67         | 44.09          | 76.25           | 547.06             | 157.16    | 366.61        | 105.08         | 44.44          | 72.93           | 532.00             |
| Diseases of the respiratory system.....      | 330.38     | 2,860.48      | 1,409.78       | 106.24         | 134.29          | 534.22             | 322.47    | 2,709.35      | 1,346.17       | 99.85          | 131.65          | 531.01             |
| Bronchitis.....                              | 56.93      | 555.55        | 322.89         | 7.97           | 11.61           | 92.46              | 55.53     | 831.58        | 306.31         | 7.13           | 11.41           | 93.27              |
| Pneumonia.....                               | 187.11     | 1,343.82      | 612.15         | 48.34          | 103.93          | 333.37             | 180.31    | 1,220.55      | 565.03         | 43.89          | 101.54          | 329.63             |
| Diseases of the digestive system.....        | 93.60      | 695.67        | 201.81         | 19.12          | 52.50           | 226.01             | 92.89     | 675.10        | 194.29         | 19.20          | 51.80           | 226.29             |
| Diseases of the liver.....                   | 27.22      | 103.70        | 27.87          | 1.06           | 13.21           | 92.46              | 27.82     | 102.83        | 27.76          | 1.10           | 13.28           | 94.86              |
| Diseases of the urinary system.....          | 78.04      | 43.21         | 23.83          | 9.56           | 45.00           | 265.57             | 75.80     | 40.24         | 25.77          | 8.23           | 44.32           | 257.03             |
| Bright's disease.....                        | 34.67      | .....         | .....          | 4.78           | 21.25           | 120.71             | 33.48     | .....         | .....          | 3.20           | 20.38           | 117.65             |
| Diseases of female organs of generation..... | 68.02      | .....         | .....          | .....          | 68.71           | 617.34             | 67.58     | .....         | .....          | .....          | 68.04           | 616.92             |
| Affections connected with pregnancy.....     | 624.38     | .....         | .....          | .....          | 624.38          | .....              | 624.84    | .....         | .....          | .....          | 624.84          | .....              |
| Abortion.....                                | 62.09      | .....         | .....          | .....          | 62.09           | .....              | 62.10     | .....         | .....          | .....          | 62.19           | .....              |
| Childbirth and puerperal septicæmia.....     | 614.63     | .....         | .....          | .....          | 614.63          | .....              | 614.61    | .....         | .....          | .....          | 614.61          | .....              |
| Accidents and injuries.....                  | 88.64      | 406.17        | 145.11         | 48.87          | 76.97           | 130.47             | 88.12     | 371.08        | 135.81         | 49.93          | 76.67           | 131.96             |
| Drowned.....                                 | 11.84      | .....         | 4.80           | 15.94          | 11.01           | 12.33              | 12.02     | .....         | 4.96           | 16.46          | 11.59           | 12.72              |
| Burns and scalds.....                        | 9.65       | 8.64          | 31.71          | 12.75          | 5.36            | 7.19               | 9.44      | 8.94          | 30.73          | 12.62          | 5.05            | 7.42               |
| Gunshot wounds and homicides.....            | 2.48       | .....         | .....          | 0.53           | 3.93            | 1.54               | 2.38      | .....         | .....          | 0.55           | 3.74            | 1.59               |
| Infanticide.....                             | 0.10       | 4.32          | 0.96           | .....          | .....           | .....              | 0.10      | 4.47          | 0.99           | .....          | .....           | .....              |
| Railroad accidents.....                      | 10.32      | .....         | .....          | 4.78           | 13.04           | 13.36              | 10.63     | .....         | .....          | 4.94           | 13.46           | 13.78              |
| Suicides.....                                | 9.07       | .....         | .....          | .....          | 9.82            | 20.55              | 9.34      | .....         | .....          | .....          | 10.10           | 21.20              |

a Per 100,000 total females.

b Per 100,000 females 15 to 45 years of age.

c Per 100,000 females 45 years of age and over.

Some of the differences between the 2 cities indicated by the 2 preceding tables are worth noting.

Alcoholism gives a death rate in Boston about twice as great as in Philadelphia. Convulsions in infants caused over 3 times as great a death rate in Philadelphia as in Boston. The death rate from inanition and debility and atrophy among infants in Philadelphia was much greater than in Boston.

The proportion of deaths due to accidents and injuries was decidedly greater in Boston than in Philadelphia.

The comparative number and proportion of deaths from certain causes and classes of causes in the two cities during the 6-year period are graphically presented in the diagram on the following page.

DIAGRAM 8

| Number | BOSTON   | PHILADELPHIA                                   | Number |
|--------|--|--|--------|
| 639    | SCARLET FEVER 14.21                            | SCARLET FEVER 16.37                            | 1533   |
| 981    | TYPHOID FEVER 21.82                            | CANCER AND TUMOR 34.22                         | 3205   |
| 1849   | CANCER AND TUMOR 41.13                         | TYPHOID FEVER 43.37                            | 4061   |
| 2133   | DISEASES OF THE URINARY SYSTEM 47.44           | DIARRHEAL DISEASES 43.96                       | 4117   |
| 2290   | DISEASES OF THE DIGESTIVE SYSTEM 50.94         | DISEASES OF THE URINARY SYSTEM 46.84           | 4386   |
| 2411   | ACCIDENTS AND INJURIES 53.63                   | ACCIDENTS AND INJURIES 49.83                   | 4666   |
| 2578   | DIARRHEAL DISEASES 57.34                       | OTHER DISEASES OF THE RESPIRATORY SYSTEM 61.42 | 5752   |
| 3130   | DIPHTHERIA AND CROUP 69.62                     | DIPHTHERIA AND CROUP 61.47                     | 5756   |
| 3757   | OTHER DISEASES OF THE RESPIRATORY SYSTEM 83.56 | DISEASES OF THE DIGESTIVE SYSTEM 62.79         | 5880   |
| 3780   | HEART DISEASE AND DROPSY 84.07                 | HEART DISEASE AND DROPSY 91.46                 | 8565   |
| 3566   | PNEUMONIA 123.80                               | PNEUMONIA 102.65                               | 9613   |
| 6127   | DISEASES OF THE NERVOUS SYSTEM 126.28          | CONSUMPTION 186.26                             | 17442  |
| 9717   | CONSUMPTION 216.13                             | DISEASES OF THE NERVOUS SYSTEM 199.36          | 18669  |

## VITAL STATISTICS.

## CONSUMPTION.

During the 6-year period consumption caused 9,717 deaths in Boston, or 386.51 deaths annually per 100,000 of mean population. During the census year it caused 1,685 deaths, or 375.72 deaths per 100,000 of population, the rate being below the average for the 6 years.

In Philadelphia the death rates due to this cause were less; 17,442 deaths from it occurred during the 6 years, or 297.87 per 100,000 of mean population, and 2,927 deaths during the census year, or 279.57 per 100,000, being also below the average for the 6 years.

Table 33 shows the death rates due to consumption during the census year for 2 groups of ages per 100,000 of population of those ages.

TABLE 33.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                    |
|-------------------|--|--------------------|
|                   | 15 to 45 years.                        | 45 years and over. |
| Boston.....       | 476.44                                 | 434.43             |
| Philadelphia..... | 366.44                                 | 384.74             |

Table 34 shows the number of deaths due to consumption during the census year per 100,000 of population in Boston and Philadelphia, with distinction of color, nativity, and parental nativity.

TABLE 34.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 365.78                                 | 269.42        |
| Native born.....                        | 302.25                                 | 242.98        |
| Both parents native .....               | 176.07                                 | .....         |
| One or both parents foreign.....        | 418.30                                 | .....         |
| Foreign born.....                       | 480.60                                 | 342.22        |
| Colored .....                           | 884.75                                 | 532.52        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 168.69                                 | 242.98        |
| Ireland .....                           | 584.20                                 | 483.17        |
| Germany.....                            | 299.84                                 | 273.44        |

It will be seen from this table that the death rate from consumption was greatest among the colored, and among the white that it was greatest among those whose mothers were born in Ireland or who were themselves natives of Ireland, being more than 3 times the corresponding rate for those whose mothers were born in the United States, and almost double the rate for those who were themselves natives of this country. Among those whose mothers were born in Germany the death rate from this cause was much less than it was among those of Irish descent, but greater than it was among those whose mothers were born in the United States.

Tables 68 and 69 give the death rates due to consumption in each sanitary district according to average altitude, from which it appears that the rates become less as the altitude of the district increases.

Tables 28 and 29 show the different proportions of deaths due to consumption out of the total number of deaths in persons of certain occupations, and Tables 76 to 79 show the number of deaths due to consumption during the 6 years and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate due to this cause in Boston during the 6-year period was in ward 8, being 671.56 per 100,000 of mean population, and the lowest occurred in sanitary district B of ward 9, being 93.79 per 100,000 of mean population.

In Philadelphia the highest death rate was 498.02 per 100,000 of mean population in ward 5 and the lowest 143.47 in ward 33.

The shaded maps, which indicate the relative prevalence of consumption in the different districts in Boston and in Philadelphia, should be examined in connection with the maps showing the relative mortality from all causes in these districts. They indicate that consumption was, upon the whole, more fatal in the lower districts, but that there are exceptions to this rule, and upon examining the tables for the different wards and districts it will be found that the most important factors in giving a high or low death rate from this disease are the race and age distribution of the population and its density, and in a less degree the altitude of the locality.

PNEUMONIA.

During the 6-year period pneumonia caused 5,566 deaths in Boston, or 221.40 per 100,000 of mean population. During the census year it caused 1,127 deaths, or 251.29 per 100,000 of population, the rate being above the average for the 6 years.

In Philadelphia the death rates due to this cause were less, the number of deaths during the 6 years being 9,613, or 164.17 per 100,000 of mean population. During the census year the number of deaths was 1,959, and the death rate was 187.11 per 100,000 of population, being also above the average for the 6 years.

Table 35 shows the death rates due to pneumonia during the census year for 2 groups of ages per 100,000 of population of those ages.

TABLE 35.

| LOCALITIES.        | DEATH RATES PER 100,000 OF POPULATION. |                |                 |                    |
|--------------------|--|----------------|-----------------|--------------------|
|                    | Under 5 years.                         | 5 to 15 years. | 15 to 45 years. | 45 years and over. |
| Boston .....       | 672.24                                 | 49.36          | 144.01          | 539.81             |
| Philadelphia ..... | 612.15                                 | 48.34          | 103.93          | 333.37             |

Table 36 shows the death rates due to pneumonia per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 36.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 249.84                                 | 180.31        |
| Native born .....                       | 225.98                                 | 172.82        |
| Both parents native .....               | 170.91                                 | .....         |
| One or both parents foreign .....       | 276.67                                 | .....         |
| Foreign born .....                      | 292.96                                 | 200.93        |
| Colored .....                           | 325.96                                 | 356.07        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white) .....             | 180.26                                 | 172.82        |
| Ireland .....                           | 333.47                                 | 267.72        |
| Germany .....                           | 138.02                                 | 177.40        |

It will be seen from this table that the death rate from pneumonia of the white whose mothers were born in Ireland (333.47) was greater than that of the colored (325.96), and much greater than that of those whose mothers were born in the United States (180.26), the lowest rate of all being for those whose mothers were born in Germany (138.02).

Tables 76 to 79 show the number of deaths due to pneumonia during the 6 years and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate due to this cause in Boston during the 6 year period occurred in ward 12, being 372.93 per 100,000 of mean population, and the lowest occurred in ward 11, being 132.51 per 100,000 of mean population.

In Philadelphia the highest death rate due to this cause was 296.30 in ward 4 and the lowest was 92.99 in ward 32.

The shaded maps, which show the relative prevalence of pneumonia in the different parts of Boston and Philadelphia, correspond, in a general way, to the maps for consumption, and the relative prevalence of the disease in a given locality appears to be influenced by much the same factors, namely, race and age distribution of the population, its density, and the altitude of the locality.

## VITAL STATISTICS.

## DIARRHEAL DISEASES.

During the 6-year period diarrheal diseases caused 5,387 deaths in Boston, or 214.28 deaths annually per 100,000 of mean population. During the census year it caused 893 deaths, or 199.12 per 100,000 of population, the rate being below the average for the 6 years.

In Philadelphia the corresponding rates were less, the number of deaths during the 6-year period being 9,141, or 156.11 per 100,000 of mean population, and during the census year 1,602, or 153.01 per 100,000 of population, which was below the average for the 6 years.

Table 37 shows the death rates due to diarrheal diseases during the census year for 3 groups of ages per 100,000 of population of those ages.

TABLE 37.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                |                    |
|-------------------|--|----------------|--------------------|
|                   | Under 1 year.                          | Under 5 years. | 45 years and over. |
| Boston.....       | 7,167.12                               | 1,872.32       | 119.44             |
| Philadelphia..... | 4,234.54                               | 1,197.40       | 108.38             |

Table 38 shows the death rates due to diarrheal diseases per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 38.

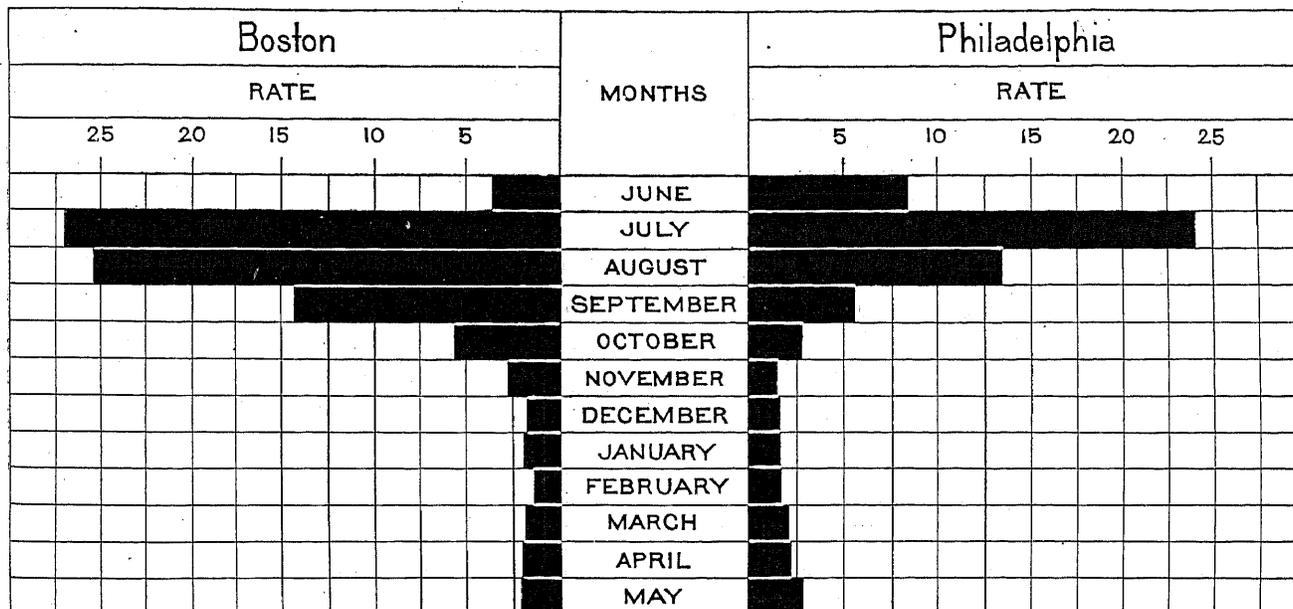
| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 198.91                                 | 151.40        |
| Native born .....                       | 269.77                                 | 182.57        |
| Both parents native .....               | 135.55                                 | .....         |
| One or both parents foreign .....       | 393.30                                 | .....         |
| Foreign born .....                      | 70.85                                  | 65.61         |
| Colored .....                           | 209.55                                 | 193.19        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 170.05                                 | 182.57        |
| Ireland .....                           | 192.24                                 | 86.54         |
| Germany.....                            | 185.02                                 | 64.02         |

It will be seen from this table that the death rate from diarrheal diseases in both cities was greatest among the colored, and that among the white in Boston it was greatest among those whose mothers were born in Ireland (192.24), next among those whose mothers were born in Germany (185.02), and lowest among those whose mothers were born in the United States (170.05).

The fact that the death rate from this class of diseases was much greater among the native than among the foreign born depends upon the fact that these diseases affect chiefly young children, the proportion of whom, among the foreign, is comparatively small; and this also accounts for the fact that in Philadelphia the death rate from this cause is more than twice as great among persons born in the United States as among those born in Ireland and in Germany.

The following diagram shows the relative death rates produced by diarrheal diseases in each month of the 6 years in Boston and in Philadelphia:

DIAGRAM 9



The influence of the earlier occurrence of warm weather in Philadelphia will be seen in this diagram, the death rate in May and June in Philadelphia from this cause being considerably greater than in Boston, in which city the months of maximum mortality are July and August, and the death rate in September and October was much greater than in Philadelphia.

Tables 28 and 29 show the proportions of deaths due to diarrheal diseases out of the total number of deaths among persons engaged in certain occupations, and Tables 76 to 79 show the number of deaths due to diarrheal diseases during the 6 years, and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate due to this cause during the 6-year period in Boston occurred in ward 13, being 369.58 per 100,000 of mean population, and the lowest occurred in sanitary district B of ward 10, being 47.89 per 100,000 of mean population.

In Philadelphia the highest death rate due to this cause was 297.72 per 100,000 of mean population in ward 16 and the lowest was 80.31 in ward 32.

The relations of the death rate from diarrheal diseases to local altitude are shown for Boston and Philadelphia in Tables 68 and 69.

The shaded maps, showing the relative prevalence of diarrheal diseases in Boston and in Philadelphia, indicate that the localities in which these diseases were most fatal were low lying and tenement house districts, in which there were comparatively large proportions of children.

DISEASES OF THE NERVOUS SYSTEM.

During the 6-year period diseases of the nervous system caused 6,127 deaths in Boston, or 243.71 annually per 100,000 of mean population. During the census year they caused 999 deaths, or 222.75 per 100,000 of population, the rate being below the average for the 6 years.

In Philadelphia the death rate due to this class of causes was greater both in the 6 years and in the census year. The number of deaths during the 6-year period was 18,669, or 318.83 per 100,000 of mean population, while during the census year the number of deaths due to these causes was 3,197, or 305.36 per 100,000 of population, which was below the average for the 6 years.

## VITAL STATISTICS.

Table 39 shows the death rates due to diseases of the nervous system during the census year for 4 groups of ages per 100,000 of population of those ages.

TABLE 39.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                |                 |                    |
|-------------------|--|----------------|-----------------|--------------------|
|                   | Under 5 years.                         | 5 to 15 years. | 15 to 45 years. | 45 years and over. |
| Boston.....       | 841.55                                 | 50.73          | 57.61           | 562.06             |
| Philadelphia..... | 1,548.16                               | 81.28          | 58.75           | 567.09             |

Table 40 shows the number of deaths due to diseases of the nervous system per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 40.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 222.56                                 | 302.01        |
| Native born .....                       | 242.22                                 | 336.84        |
| Both parents native .....               | 256.37                                 | .....         |
| One or both parents foreign.....        | 229.20                                 | .....         |
| Foreign born .....                      | 187.01                                 | 206.15        |
| Colored.....                            | 232.83                                 | 388.86        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 254.40                                 | 336.84        |
| Ireland .....                           | 212.78                                 | 253.30        |
| Germany .....                           | 171.34                                 | 222.75        |

It will be seen from this table that the death rate from this class of diseases was somewhat greater among the colored than among the white, and that among the white it was greatest among the native and among those whose mothers were born in the United States or who were themselves natives of this country. This is due to the fact that a large part of the mortality reported as due to diseases of the nervous system is due to convulsive diseases of infants, the proportion of whom is much greater among the native than among the foreign born.

Tables 76 to 79 show the number of deaths due to diseases of the nervous system during the 6 years and the average annual death rate per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

During the 6-year period the highest death rate due to this class of causes in Boston occurred in sanitary district A of ward 4 and the lowest in sanitary district A of ward 22, being 385.61 and 115.01, respectively, per 100,000 of mean population.

In Philadelphia the highest death rate due to these causes was 460.55 per 100,000 of mean population in ward 16 and the lowest was 191.09 per 100,000 of mean population in ward 33.

## DIPHTHERIA AND CROUP.

During the 6-year period diphtheria and croup caused 3,130 deaths in Boston, or 124.50 deaths annually per 100,000 of mean population. During the census year they caused 638 deaths, or 142.26 per 100,000 of population, the rate being above the average.

In Philadelphia the death rates due to these causes were much less; 5,756 deaths occurred during the 6 years, or 98.30 per 100,000 of mean population; 844 deaths during the census year, or 80.61 per 100,000 of population, which was below the average for the 6 years.

Table 41 shows the death rates due to diphtheria and croup during the census year for 4 groups of ages per 100,000 of population of those ages.

TABLE 41.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                |                |                    |
|-------------------|--|----------------|----------------|--------------------|
|                   | Under 1 year.                          | Under 5 years. | 5 to 15 years. | 15 years and over. |
| Boston .....      | 407.61                                 | 1,035.75       | 271.47         | 7.16               |
| Philadelphia..... | 259.26                                 | 584.28         | 114.74         | 2.65               |

Table 42 shows the number of deaths due to diphtheria and croup per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

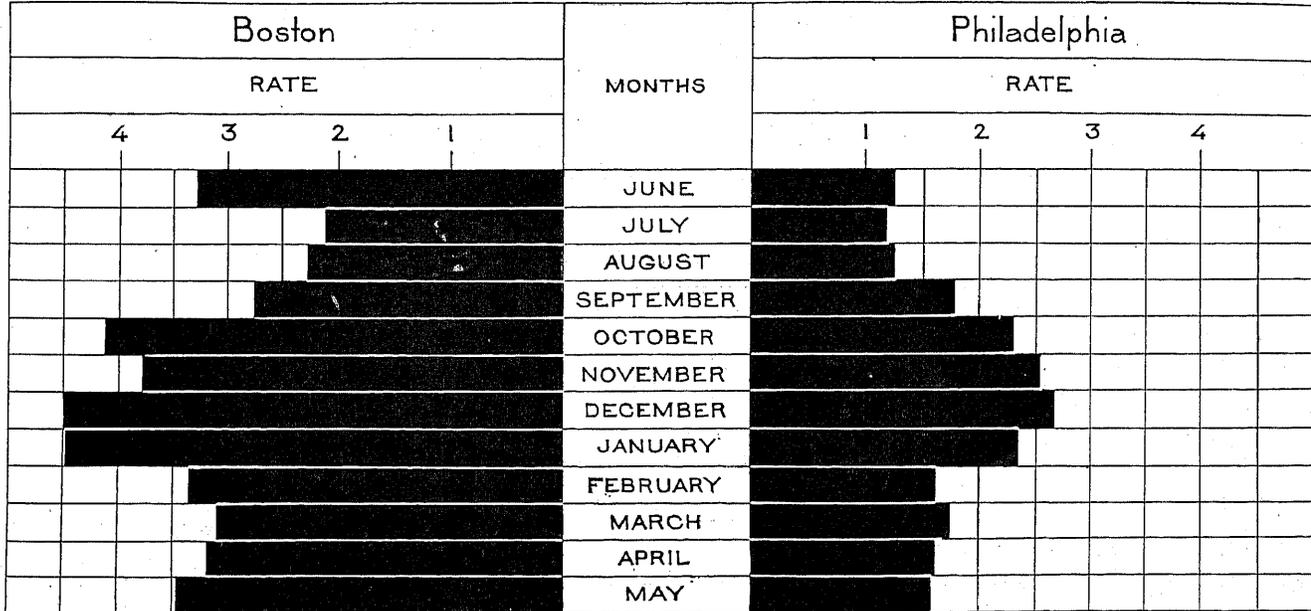
TABLE 42.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 144.36                                 | 82.06         |
| Native born .....                       | 208.68                                 | 109.98        |
| Both parents native .....               | 125.98                                 | .....         |
| One or both parents foreign .....       | 284.81                                 | .....         |
| Foreign born .....                      | 28.08                                  | 5.22          |
| Colored .....                           | 34.92                                  | 44.58         |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white) .....             | 152.37                                 | 109.98        |
| Ireland .....                           | 129.41                                 | 2.70          |
| Germany .....                           | 142.78                                 | 5.34          |

This table shows that the death rate from diphtheria and croup in each city was much smaller among the colored than among the white, which is due mainly to the fact that there was a much smaller proportion of children among the colored. The fact that diphtheria is especially a disease of infancy and childhood, explains the greater death rate among the native than among the foreign born, and the greater death rate among those whose mothers were born in the United States or who were themselves natives, than those whose mothers were born in Ireland and Germany or who were themselves born in those countries.

The following diagram shows the relative death rates produced by diphtheria in each month of the 6 years in Boston and in Philadelphia:

DIAGRAM 10



It will be seen that in each city the heaviest death rates occurred during the winter months, the rate being highest in December in each city and lowest in July and August.

Tables 76 to 79 show the number of deaths due to diphtheria and croup during the 6 years and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate during the 6-year period due to this cause was, in Boston, 209.70 in ward 8 and the lowest was 11.05 in sanitary district B of ward 10.

In Philadelphia the highest rate was 169.58 per 100,000 of mean population in ward 25 and the lowest was 63.40 in ward 32.

## VITAL STATISTICS.

The shaded maps, which show the relative prevalence of diphtheria and croup in the different parts of Boston and Philadelphia, indicate that the districts in which these diseases were especially fatal were mostly low lying and waterside districts, yet there are a number of such districts in which the mortality from these causes was very small. As a rule, it was most prevalent in densely populated districts, where there were large numbers of children under 5 years of age.

## DISEASES OF THE URINARY ORGANS.

During the 6-year period diseases of the urinary organs caused 2,133 deaths in Boston, or 84.84 deaths annually per 100,000 of mean population. During the census year they caused 364 deaths, or 81.16 per 100,000 of population, the rate being below the average for the 6 years.

In Philadelphia the death rates due to these causes were less, the number of deaths during the 6-year period being 4,386, or 74.90 per 100,000 of mean population. For the census year the number of deaths was 817 and the death rate was 78.04 per 100,000, being above the average for the 6 years.

Table 43 shows the death rates due to diseases of the urinary organs during the census year for 3 groups of ages per 100,000 of population of those ages.

TABLE 43.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                 |                    |
|-------------------|--|-----------------|--------------------|
|                   | Under 15 years.                        | 15 to 45 years. | 45 years and over. |
| Boston.....       | 14.15                                  | 43.60           | 279.86             |
| Philadelphia..... | 16.42                                  | 45.00           | 265.57             |

The greater death rate from this cause in Boston was entirely among those 45 years of age and upward, the death rate for those under 45 years of age being less in Boston than it was in Philadelphia.

Table 44 shows the number of deaths due to diseases of the urinary organs per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 44.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 80.70                                  | 75.80         |
| Native born .....                       | 63.91                                  | 60.81         |
| Both parents native.....                | 79.56                                  | .....         |
| One or both parents foreign.....        | 49.50                                  | .....         |
| Foreign born .....                      | 111.06                                 | 117.06        |
| Colored .....                           | 104.77                                 | 133.75        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 66.66                                  | 60.81         |
| Ireland .....                           | 96.43                                  | 183.82        |
| Germany .....                           | 99.95                                  | 123.05        |

This table shows that the death rate from this group in both cities was decidedly greater among the colored than among the white, and that it was greater among those whose mothers were born in Ireland or who were themselves born in Ireland, and among those whose mothers were born in Germany or who were themselves born in Germany, than it was among those who were born in the United States or who were themselves natives of this country.

These differences are largely due to the facts that diseases of the urinary organs are mainly diseases of adult life, and that the proportion of adults in these cities was much greater among the colored, among the foreign born, and among those whose mothers were born in Ireland or in Germany or who were themselves natives of these countries, than it was among the natives.

Tables 76 to 79 show the number of deaths due to diseases of the urinary organs during the 6-year period, and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

During the 6-year period the highest death rate due to these causes in Boston was 122.62 in ward 12 and the lowest was 42.38 in sanitary district B of ward 4.

In Philadelphia the highest death rate was 128.02 in ward 8 and the lowest was 36.02 in ward 33.

HEART DISEASE AND DROPSY.

During the 6-year period heart disease and dropsy caused 3,780 deaths in Boston, or 150.36 deaths annually per 100,000 of mean population. During the census year they caused 764 deaths, or 170.35 per 100,000, the rate being above the average for the 6 years.

In Philadelphia the death rates due to these causes were less, the number of deaths during the 6 years being 8,565, or 146.27 per 100,000 of mean population. During the census year the number of deaths was 1,686 and the death rate was 161.04 per 100,000, being also above the average for the 6 years.

Table 45 shows the death rates due to heart disease and dropsy during the census year for 2 groups of ages, per 100,000 of mean population of those ages.

TABLE 45.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                    |
|-------------------|--|--------------------|
|                   | 15 to 45 years.                        | 45 years and over. |
| Boston.....       | 84.81                                  | 586.65             |
| Philadelphia..... | 76.25                                  | 547.06             |

Table 46 shows the number of deaths due to heart disease and dropsy per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 46.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White.....                              | 167.09                                 | 157.16        |
| Native born.....                        | 131.35                                 | 134.49        |
| Both parents native.....                | 173.13                                 | .....         |
| One or both parents foreign.....        | 92.90                                  | .....         |
| Foreign born.....                       | 231.69                                 | 219.57        |
| Colored.....                            | 337.60                                 | 257.59        |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 148.29                                 | 134.49        |
| Ireland.....                            | 208.42                                 | 261.41        |
| Germany.....                            | 133.26                                 | 233.42        |

This table shows that the death rate from this class of diseases was decidedly greater among the colored than among the white in both cities, that it was greater among the foreign born than among the native, and that it was greater among those who were born in Ireland (261.41) than among those born in Germany (233.42), and nearly twice as great as among those born in the United States (134.49). In Boston it was greatest among those whose mothers were born in Ireland (208.42) as compared with those whose mothers were born in the United States (148.29) or those whose mothers were born in Germany (133.26).

This was partly due to the fact that this class of diseases affects especially adults, of whom the proportion was greater in the colored or in the foreign born than it was in the native.

Tables 76 to 79 show the number of deaths due to heart disease and dropsy during the 6-year period and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate due to these causes in Boston was 231.34 per 100,000 of mean population in ward 12 and the lowest was 86.77 in sanitary district B of ward 2.

In Philadelphia the highest death rate due to these causes was 248.02 in ward 5 and the lowest was 76.92 in ward 33.

## VITAL STATISTICS.

## CANCER AND TUMOR.

During the 6-year period cancer and tumor caused 1,849 deaths in Boston, or 73.55 deaths annually per 100,000 of mean population. During the census year they caused 356 deaths, or 79.38 per 100,000, the rate being above the average for the 6 years.

In Philadelphia the death rates due to these causes were less, the number of deaths during the 6 years being 3,205, or 54.73 per 100,000 of mean population. During the census year the number of deaths was 585 and the death rate was 55.88 per 100,000, being also above the average for the 6 years.

Table 47 shows the death rates due to cancer and tumor during the census year for 2 groups of ages per 100,000 of population of those ages.

TABLE 47.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                    |
|-------------------|--|--------------------|
|                   | 15 to 45 years.                        | 45 years and over. |
| Boston.....       | 34.40                                  | 310.30             |
| Philadelphia..... | 22.86                                  | 230.64             |

Table 48 shows the number of deaths due to cancer and tumor per 100,000 of population in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 48.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 30.70                                  | 56.63         |
| Native born .....                       | 60.73                                  | 39.82         |
| Both parents native .....               | 106.09                                 | .....         |
| One or both parents foreign.....        | 18.90                                  | .....         |
| Foreign born .....                      | 116.80                                 | 102.89        |
| Colored .....                           | 11.64                                  | 37.15         |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 93.19                                  | 39.82         |
| Ireland .....                           | 87.72                                  | 122.59        |
| Germany .....                           | 66.63                                  | 120.05        |

It will be seen from this table that the death rate from cancer and tumor was much greater among the white than among the colored, that it was greater among the foreign white than among the native, and that in Philadelphia it was greatest among those born in Ireland (122.59), next among those born in Germany (120.05), and lowest among those born in the United States (39.82).

Here again the influence of age dominates the ratios, since these diseases increase steadily in mortality with advancing age.

Tables 76 to 79 show the number of deaths due to cancer and tumor during the 6-year period and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

During the 6-year period the highest death rate due to these causes in Boston was 135.12 in sanitary district B of ward 5 and the lowest was 35.24 in sanitary district B of ward 22.

In Philadelphia the highest death rate was 91.53 in ward 27 and the lowest was 19.54 in ward 33.

DISEASES OF THE LIVER.

During the 6-year period diseases of the liver caused 589 deaths in Boston, or 23.43 deaths annually per 100,000 of mean population. During the census year they caused 99 deaths, or 22.07 per 100,000, the rate being below the average for the 6 years.

In Philadelphia the death rates due to these causes were greater, the number of deaths during the 6 years being 1,615, or 27.58 per 100,000 of mean population. For the census year the number of deaths was 285 and the death rate was 27.22 per 100,000, being also slightly below the average for the 6 years.

Table 49 shows the death rates due to diseases of the liver during the census year for 3 groups of ages per 100,000 of population of those ages.

TABLE 49.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                 |                    |
|-------------------|--|-----------------|--------------------|
|                   | Under 15 years.                        | 15 to 45 years. | 45 years and over. |
| Boston.....       | 15.03                                  | 11.60           | 62.06              |
| Philadelphia..... | 10.61                                  | 13.21           | 92.46              |

It is evident from this that the greater death rate from these causes in Philadelphia was entirely among those over 15 years of age, the rate for those under 15 years of age being less in Philadelphia than it was in Boston.

Table 50 shows the death rates due to diseases of the liver during the census year per 100,000 of population in Boston and Philadelphia, with distinction of color, nativity, and parental nativity.

TABLE 50.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White.....                              | 22.28                                  | 27.82         |
| Native born.....                        | 18.71                                  | 19.10         |
| Both parents native.....                | 17.68                                  | .....         |
| One or both parents foreign.....        | 19.67                                  | .....         |
| Foreign born.....                       | 28.72                                  | 51.82         |
| Colored.....                            | 11.64                                  | 12.38         |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 19.73                                  | 19.10         |
| Ireland.....                            | 31.73                                  | 54.99         |
| Germany.....                            | 9.52                                   | 65.36         |

It will be seen from this table that the death rate from diseases of the liver was about twice as great among the white as among the colored, that it was decidedly greater among the foreign born than among the native, and that in Philadelphia it was greatest among those born in Germany (65.36), next among those born in Ireland (54.99), and lowest among those born in the United States (19.10). In Boston it was highest among those whose mothers were born in Ireland (31.73), next among those whose mothers were born in the United States (19.73), and lowest among those whose mothers were born in Germany (9.52).

The fact that the death rate from this class of diseases is much the greatest in those 45 years of age and upward accounts for a large part of the differences in death rates between the native and the foreign born.

Tables 76 to 79 show the number of deaths due to diseases of the liver during the 6 years and the average annual death rate per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

During the 6-year period the highest death rate due to this cause in Boston was 37.45 in sanitary district A of ward 5 and the lowest was 7.54 in sanitary district B of ward 2.

In Philadelphia the highest rate was 50.47 in ward 17 and the lowest was 14.97 in ward 21.

## VITAL STATISTICS.

## MALARIAL FEVER.

During the 6-year period malarial fever as reported caused 44 deaths in Boston, or 1.75 annually per 100,000 of mean population. During the census year it caused 12 deaths, or 2.68 per 100,000 of population, the rate being above the average for the 6 years.

Probably in all the cases the disease was either caused outside the city or was really typhoid fever.

In Philadelphia the death rates from this cause were greater; 422 deaths reported as due to it occurred during the 6-year period, or 7.21 per 100,000 of mean population, and 60 deaths during the census year, or 5.73 per 100,000 of population, being above the average for the 6 years. Probably a considerable number of these deaths were really due to typhoid fever.

Table 51 shows the death rates due to malarial fever during the census year for 3 groups of ages per 100,000 of population of those ages.

TABLE 51.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                 |                    |
|-------------------|--|-----------------|--------------------|
|                   | Under 15 years.                        | 15 to 45 years. | 45 years and over. |
| Boston.....       | 1.77                                   | 2.40            | 4.68               |
| Philadelphia..... | 5.82                                   | 3.93            | 10.79              |

Table 52 shows the number of deaths from malarial fever during the census year per 100,000 of population in Boston and Philadelphia, with distinction of color, nativity, and parental nativity.

TABLE 52.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 2.50                                   | 5.66          |
| Native born.....                        | 3.18                                   | 6.09          |
| Both parents native .....               | 2.95                                   | .....         |
| One or both parents foreign .....       | 3.39                                   | .....         |
| Foreign born.....                       | 1.28                                   | 4.47          |
| Colored.....                            | 11.64                                  | 7.43          |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white) .....             | 3.40                                   | 6.09          |
| Ireland .....                           | 1.87                                   | 3.61          |
| Germany .....                           | .....                                  | 8.00          |

It will be seen from this table that the death rates from malarial fever were greater among the colored than among the white. The number of deaths, however, was so small, especially in Boston, that the rates calculated from them have little significance.

Tables 28 and 29 show the different proportions of deaths due to malarial fever out of the total number of deaths of persons engaged in certain occupations.

Tables 76 to 79 show the number of deaths due to malarial fever during the 6 years and the average number of deaths per 100,000 of mean population in each sanitary district in Boston and in Philadelphia, and Tables 68 and 69 give the death rates due to malarial fever in each sanitary district according to average altitude.

The highest death rate during the 6-year period in Boston due to this cause was 6.42 per 100,000 of mean population in sanitary district A of ward 2 and the lowest was 0.76 per 100,000 of mean population in ward 20.

In Philadelphia the highest death rate due to this cause was 16.82 in ward 17 and the lowest 3.05 in ward 33.

TYPHOID FEVER.

During the 6-year period typhoid fever caused 981 deaths in Boston, or 39.02 annually per 100,000 of mean population. During the census year it caused 174 deaths, or 38.80 deaths per 100,000 of population, the rate being somewhat below the average for the 6 years.

In Philadelphia the death rates due to this cause were much greater, 4,061 deaths occurring during the 6-year period, or 69.35 per 100,000 of mean population, and 770 deaths during the census year, or 73.55 per 100,000 of population, the death rate for the census year being somewhat above the average for the 6 years.

Table 53 shows the death rates due to typhoid fever during the census year for 3 groups of ages per 100,000 of population of those ages.

TABLE 53.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                 |                    |
|-------------------|--|-----------------|--------------------|
|                   | Under 15 years.                        | 15 to 45 years. | 45 years and over. |
| Boston.....       | 15.03                                  | 55.21           | 22.25              |
| Philadelphia..... | 35.58                                  | 103.22          | 45.20              |

Table 54 shows the number of deaths from typhoid fever during the census year per 100,000 of population in Boston and Philadelphia, with distinction of color, nativity, and parental nativity.

TABLE 54.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White.....                              | 38.87                                  | 72.82         |
| Native born.....                        | 27.89                                  | 70.56         |
| Both parents native.....                | 17.68                                  | .....         |
| One or both parents foreign.....        | 37.30                                  | .....         |
| Foreign born.....                       | 58.72                                  | 79.03         |
| Colored.....                            | 34.02                                  | 91.64         |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 21.09                                  | 70.56         |
| Ireland.....                            | 52.26                                  | 74.82         |
| Germany.....                            | 28.56                                  | 98.70         |

It will be seen from this table that the death rate from typhoid fever was slightly greater among the white than among the colored in Boston. It was greater among the colored than among the white in Philadelphia. It was greater among the foreign born than among the native in both cities. In Philadelphia the death rate was greatest among those born in Germany (98.70), next among those born in Ireland (74.82), and lowest among those born in the United States (70.56).

The fact that the death rate from typhoid fever is greatest in persons from 15 to 45 years of age accounts for a large part of the above mentioned differences.

## VITAL STATISTICS.

The following diagram shows the relative magnitude of the death rate from typhoid fever in Boston and in Philadelphia in each month of the 6 years:

DIAGRAM II.

| Boston |  |   |  |   |  | MONTHS    | Philadelphia |  |   |  |   |  |
|--------|--|---|--|---|--|-----------|--------------|--|---|--|---|--|
| RATE   |  |   |  |   |  |           | RATE         |  |   |  |   |  |
| 3      |  | 2 |  | 1 |  |           | 1            |  | 2 |  | 3 |  |
|        |  |   |  |   |  | JUNE      |              |  |   |  |   |  |
|        |  |   |  |   |  | JULY      |              |  |   |  |   |  |
|        |  |   |  |   |  | AUGUST    |              |  |   |  |   |  |
|        |  |   |  |   |  | SEPTEMBER |              |  |   |  |   |  |
|        |  |   |  |   |  | OCTOBER   |              |  |   |  |   |  |
|        |  |   |  |   |  | NOVEMBER  |              |  |   |  |   |  |
|        |  |   |  |   |  | DECEMBER  |              |  |   |  |   |  |
|        |  |   |  |   |  | JANUARY   |              |  |   |  |   |  |
|        |  |   |  |   |  | FEBRUARY  |              |  |   |  |   |  |
|        |  |   |  |   |  | MARCH     |              |  |   |  |   |  |
|        |  |   |  |   |  | APRIL     |              |  |   |  |   |  |
|        |  |   |  |   |  | MAY       |              |  |   |  |   |  |

It will be seen from this diagram that the heaviest death rate in the year occurred in August in Philadelphia and in September in Boston, but in every month the death rate was heavier in Philadelphia than in Boston, and remarkably so in the months of January and March.

Tables 28 and 29 show the different proportions of deaths due to typhoid fever out of the total number of deaths in persons of certain occupations, and Tables 76 to 79 show the number of deaths due to typhoid fever during the 6 years and the average annual death rates per 100,000 of mean population in each sanitary district in Boston and in Philadelphia.

The highest death rate due to this cause during the 6-year period in Boston occurred in sanitary district A of ward 4, being 63.35 per 100,000 of mean population, and the lowest occurred in sanitary district A of ward 22, being 9.58 per 100,000 of mean population.

In Philadelphia the highest death rate due to this cause was 153.20 per 100,000 of mean population in ward 16 and the lowest was 39.57 per 100,000 of mean population in ward 9.

#### CHILDBIRTH AND PUERPERAL DISEASES.

The death rates per 100,000 of population due to childbirth and puerperal diseases vary greatly in different localities in Boston and Philadelphia, but these differences depend so much on the proportion of women of childbearing ages present in the different districts that they have little scientific interest or value. If we take the women between 15 and 45 years of age we find that during the census year out of each 100,000 there died of childbirth and puerperal diseases in Boston 46.59 and in Philadelphia 24.38.

#### STILLBIRTHS.

No record of stillbirths in Boston during the 5 years preceding the census year was obtained. The number of stillbirths during the census year was 604, the rate per 100,000 of population being 134.68. In Philadelphia 6,891 stillbirths were reported as occurring during the 6 years, the average number per 100,000 of population being 117.68. The rate for the census year was higher, being 138.21. The number of stillbirths in the census year was 1,447.

Table 55 shows for Boston and Philadelphia the number of stillbirths during the census year per 100,000 of population, with distinction of color, and for Boston of birthplaces of mothers.

TABLE 55.

| COLOR AND BIRTHPLACES.       | DEATH RATES PER 100,000 OF POPULATION. |               |
|------------------------------|--|---------------|
|                              | Boston.                                | Philadelphia. |
| White .....                  | 132.99                                 | 135.61        |
| Colored.....                 | 221.19                                 | 203.10        |
| Birthplaces:                 | Of mothers.                            | Of persons.   |
| United States (white) .....  | 150.33                                 | 184.87        |
| England and Wales .....      | 110.74                                 |               |
| Ireland .....                | 93.94                                  |               |
| Scotland .....               | 110.16                                 |               |
| France .....                 | 125.87                                 |               |
| Germany .....                | 90.43                                  |               |
| Russia and Poland.....       | 256.00                                 |               |
| Canada .....                 | 105.02                                 |               |
| Scandinavia .....            | 180.18                                 |               |
| Hungary .....                | 438.60                                 |               |
| Bohemia .....                | 476.19                                 |               |
| Italy .....                  | 261.70                                 |               |
| Other foreign countries..... | 112.57                                 |               |

It will be seen from this table that the proportion of stillbirths was much greater among the colored than among the white in each city. In Boston the proportion of stillbirths was greatest among those whose mothers were born in Bohemia, in Hungary, in Italy, and in Russia and Poland, and lowest among those whose mothers were born in Germany and in Ireland.

The ratios of stillbirths to total population are of very little interest or value. The comparisons should be made between the number of stillbirths and the number of women of childbearing ages.

Table 56 shows for Boston for the census year the number of stillbirths per 100,000 of women from 15 to 45 years of age, with distinction of color and of birthplaces of mothers.

TABLE 56.

| COLOR AND BIRTHPLACES OF MOTHERS. | Death rate per 100,000 women in Boston. |
|-----------------------------------|---|
| White .....                       | 463.14                                  |
| Colored .....                     | 765.20                                  |
| Birthplaces of mothers:           |   |
| United States (white) .....       | 608.06                                  |
| England and Wales.....            | 392.41                                  |
| Ireland .....                     | 292.80                                  |
| Scotland .....                    | 358.04                                  |
| France.....                       | 418.41                                  |
| Germany.....                      | 344.20                                  |
| Russia and Poland.....            | 1,086.96                                |
| Canada.....                       | 485.22                                  |
| Scandinavia .....                 | 507.50                                  |
| Hungary.....                      | 1,694.92                                |
| Bohemia .....                     | 2,173.91                                |
| Italy .....                       | 1,233.67                                |
| Other foreign countries .....     | 495.66                                  |

It will be seen from this table that the proportion of stillbirths per 100,000 women from 15 to 45 years of age in Boston was much greater among the colored (765.20) than among the white (463.14), and that it was excessively great among those whose mothers were born in Bohemia (2,173.91), in Hungary (1,694.92), in Italy (1,233.67), and in Russia and Poland (1,086.96), while it was lowest for those whose mothers were born in Ireland (292.80), in Germany (344.20), and in Scotland (358.04).

## VITAL STATISTICS.

## SUICIDES.

During the 6-year period there were 277 suicides in Boston, or 11.02 annually per 100,000 of mean population. During the census year there were 54, or 12.04 per 100,000 of population, the rate being above the average.

In Philadelphia the death rate due to this cause was much less; 534 suicidal deaths occurred during the 6 years and 95 during the census year, the rates per 100,000 of population being for the 6 years 9.12, and for the census year 9.07, the rate for the census year being slightly below the average for the 6 years.

Table 57 shows the death rates per 100,000 of population due to suicides during the census year at 2 groups of ages.

TABLE 57.

| LOCALITIES.        | DEATH RATES PER 100,000 OF POPULATION. |                    |
|--------------------|--|--------------------|
|                    | 15 to 45 years.                        | 45 years and over. |
| Boston .....       | 12.80                                  | 25.76              |
| Philadelphia ..... | 9.82                                   | 20.55              |

Table 58 shows the death rates per 100,000 of population over 15 years of age due to suicides in Boston and in Philadelphia during the census year, with distinction of color, nativity, and parental nativity.

TABLE 58.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION 15 YEARS OF AGE AND UPWARD. |               |
|---|---|---------------|
|   | Boston.   | Philadelphia. |
| White .....                             | 16.44   | 12.99         |
| Native born.....                        | 15.95   | 7.40          |
| Both parents native .....               | 10.35   | .....         |
| One or both parents foreign.....        | 11.47   | .....         |
| Foreign born.....                       | 17.05   | 23.57         |
| Colored .....                           | .....   | 3.20          |
| Birthplaces:                            | Of mothers.   | Of persons.   |
| United States (white).....              | 17.14   | 7.40          |
| England .....                           | .....   | 17.12         |
| Ireland .....                           | 11.06   | 11.08         |
| Scotland .....                          | .....   | 26.42         |
| France.....                             | 77.40   | .....         |
| Germany .....                           | 25.25   | 36.88         |
| Russia and Poland.....                  | .....   | 16.41         |
| Canada .....                            | 15.82   | 43.07         |
| Scandinavia .....                       | 109.46  | 27.99         |
| Hungary .....                           | .....   | .....         |
| Bohemia.....                            | 757.58  | .....         |
| Italy.....                              | 23.42   | 34.42         |
| Other foreign countries.....            | .....   | 46.24         |

BOSTON AND PHILADELPHIA.

Table 59 shows for each ward and sanitary district in Boston and in Philadelphia the average annual death rates per 100,000 of mean population due to suicides and to accidents during the 6-year period.

TABLE 59.

| BOSTON.                       |  |   | PHILADELPHIA. |  |   |
|-------------------------------|--|---|---------------|--|---|
| Wards and sanitary districts. | Average annual death rates per 100,000 population. |   | Wards.        | Average annual death rates per 100,000 population. |   |
|                               | Suicides.  | Accidents and injuries (except suicides). |               | Suicides.  | Accidents and injuries (except suicides). |
| Total .....                   | 11.02  | 95.90                                     | Total .....   | 9.12   | 79.69                                     |
| Ward 1 .....                  | 3.70   | 67.49                                     | Ward 1 .....  | 8.60   | 67.15                                     |
| A .....                       | 4.38   | 74.41                                     | Ward 2 .....  | 7.62   | 89.84                                     |
| B .....                       | 2.52   | 55.52                                     | Ward 3 .....  | 6.87   | 88.42                                     |
| Ward 2 .....                  | 7.02   | 90.23                                     | Ward 4 .....  | 4.19   | 111.32                                    |
| A .....                       | 8.56   | 111.28                                    | Ward 5 .....  | 13.89  | 106.15                                    |
| B .....                       | 5.66   | 71.68                                     | Ward 6 .....  | 18.35  | 102.78                                    |
| Ward 3 .....                  | 6.61   | 83.34                                     | Ward 7 .....  | 7.66   | 93.61                                     |
| A .....                       |  | 112.27                                    | Ward 8 .....  | 30.12  | 148.73                                    |
| B .....                       | 10.42  | 66.69                                     | Ward 9 .....  | 26.91  | 172.52                                    |
| Ward 4 .....                  | 9.45   | 52.66                                     | Ward 10 ..... | 9.82   | 57.44                                     |
| A .....                       | 18.77  | 57.84                                     | Ward 11 ..... | 45.06  | 297.39                                    |
| B .....                       | 5.30   | 47.67                                     | Ward 12 ..... | 20.94  | 67.49                                     |
| Ward 5 .....                  | 5.58   | 96.18                                     | Ward 13 ..... | 9.19   | 60.65                                     |
| A .....                       | 8.32   | 129.01                                    | Ward 14 ..... | 11.00  | 74.65                                     |
| B .....                       |  | 29.56                                     | Ward 15 ..... | 4.88   | 79.42                                     |
| Ward 6 .....                  | 11.13  | 144.69                                    | Ward 16 ..... | 13.49  | 80.93                                     |
| Ward 7 .....                  | 14.14  | 131.14                                    | Ward 17 ..... | 13.46  | 74.03                                     |
| Ward 8 .....                  | 16.72  | 144.09                                    | Ward 18 ..... | 3.42   | 80.99                                     |
| Ward 9 .....                  | 13.18  | 73.81                                     | Ward 19 ..... | 9.66   | 76.97                                     |
| A .....                       | 6.37   | 78.59                                     | Ward 20 ..... | 8.69   | 64.26                                     |
| B .....                       | 21.32  | 66.00                                     | Ward 21 ..... | 7.48   | 87.70                                     |
| Ward 10 .....                 | 27.53  | 84.43                                     | Ward 22 ..... | 6.13   | 59.30                                     |
| A .....                       | 36.58  | 106.09                                    | Ward 23 ..... | 10.28  | 67.31                                     |
| B .....                       | 18.42  | 62.63                                     | Ward 24 ..... | 6.73   | 76.28                                     |
| Ward 11 .....                 | 9.17   | 64.17                                     | Ward 25 ..... | 7.32   | 104.23                                    |
| Ward 12 .....                 | 22.75  | 139.06                                    | Ward 26 ..... | 6.36   | 71.92                                     |
| Ward 13 .....                 | 9.81   | 112.38                                    | Ward 27 ..... | 3.37   | 93.21                                     |
| Ward 14 .....                 | 6.87   | 61.12                                     | Ward 28 ..... | 3.65   | 53.85                                     |
| Ward 15 .....                 | 4.89   | 57.70                                     | Ward 29 ..... | 10.31  | 57.52                                     |
| Ward 16 .....                 | 22.37  | 95.32                                     | Ward 30 ..... | 7.19   | 77.94                                     |
| Ward 17 .....                 | 15.28  | 58.94                                     | Ward 31 ..... | 6.67   | 61.09                                     |
| Ward 18 .....                 | 7.72   | 67.30                                     | Ward 32 ..... | 5.64   | 40.86                                     |
| Ward 19 .....                 | 12.09  | 91.43                                     | Ward 33 ..... | 7.94   | 47.62                                     |
| Ward 20 .....                 | 5.30   | 61.36                                     |               |  |   |
| A .....                       | 5.43   | 72.73                                     |               |  |   |
| B .....                       | 5.01   | 35.00                                     |               |  |   |
| Ward 21 .....                 | 7.47   | 44.84                                     |               |  |   |
| Ward 22 .....                 | 7.63   | 64.89                                     |               |  |   |
| A .....                       |  | 57.50                                     |               |  |   |
| B .....                       | 11.75  | 72.82                                     |               |  |   |
| C .....                       | 5.79   | 59.85                                     |               |  |   |
| Ward 23 .....                 | 7.93   | 70.56                                     |               |  |   |
| Ward 24 .....                 | 9.99   | 62.59                                     |               |  |   |
| Ward 25 .....                 | 11.56  | 115.61                                    |               |  |   |

## VITAL STATISTICS.

## OTHER ACCIDENTS AND INJURIES.

During the 6-year period there were 2,411 deaths in Boston due to accidents and injuries, excluding suicides, or 95.90 deaths annually per 100,000 of mean population. During the census year there were 435 deaths, or 96.99 per 100,000 of population, the rate being somewhat above the average for the 6 years.

In Philadelphia the death rates due to these causes were less, both in the census year and in the average for the 6 years. The number of deaths due to these causes during the 6 years was 4,666, or 79.69 annually per 100,000 of mean population. During the census year there were 833 deaths, or 79.56 per 100,000 of population, the rate being slightly below the average for the 6 years.

Table 60 shows the death rates per 100,000 of population due to accidents and injuries during the census year at 2 groups of ages.

TABLE 60.

| LOCALITIES.       | DEATH RATES PER 100,000 OF POPULATION. |                    |
|-------------------|--|--------------------|
|                   | 15 to 45 years.                        | 45 years and over. |
| Boston.....       | 82.81                                  | 160.42             |
| Philadelphia..... | 38.22                                  | 68.32              |

Table 61 shows the death rates due to accidents and injuries per 100,000 of population during the census year, with distinction of color, nativity, and parental nativity.

TABLE 61.

| COLOR, NATIVITY, AND PARENTAL NATIVITY. | DEATH RATES PER 100,000 OF POPULATION. |               |
|---|--|---------------|
|   | Boston.                                | Philadelphia. |
| White .....                             | 97.07                                  | 78.78         |
| Native born.....                        | 86.16                                  | 71.92         |
| Both parents native .....               | 69.99                                  | .....         |
| One or both parents foreign.....        | 101.04                                 | .....         |
| Foreign born .....                      | 116.80                                 | 97.67         |
| Colored .....                           | 93.13                                  | 99.07         |
| Birthplaces:                            | Of mothers.                            | Of persons.   |
| United States (white).....              | 65.30                                  | 71.92         |
| Ireland .....                           | 113.23                                 | 122.59        |
| Germany .....                           | 66.63                                  | 77.36         |

## SANITARY DISTRICTS.

The location and boundaries of the sanitary districts in each city are shown by the maps and are given in detail in the description of each district. The death rates of the different districts during the 6-year period are shown by the following tables.

BOSTON AND PHILADELPHIA.

Table 62 shows for different sanitary districts in Boston during the 6-year period the average annual death rates per 1,000 of mean population, with distinction of color, nativity, and parental nativity, stillbirths included.

TABLE 62.

| WARDS AND SANITARY DISTRICTS. | DEATH RATES, INCLUDING STILLBIRTHS. |        |         |                      |                              |          | Colored. |
|-------------------------------|-------------------------------------|--------|---------|----------------------|------------------------------|----------|----------|
|                               | Aggregate.                          | White. |         |                      |                              | Foreign. |          |
|                               |                                     | Total. | Native. |                      |                              |          |          |
|                               |                                     |        | Total.  | Both parents native. | One or both parents foreign. |          |          |
| Total .....                   | 23.87                               | 23.71  | 24.94   | 20.59                | 28.91                        | 21.51    | 31.92    |
| Ward 1—A .....                | 20.46                               | 20.51  | 22.70   | 21.19                | 24.77                        | 15.59    | 10.58    |
| B .....                       | 20.24                               | 20.23  | 23.01   | 19.78                | 24.41                        | 15.96    | 33.33    |
| Ward 2—A .....                | 27.09                               | 27.02  | 29.30   | 25.20                | 31.41                        | 23.47    | 83.33    |
| B .....                       | 20.30                               | 20.36  | 24.01   | 23.75                | 24.10                        | 15.92    | -----    |
| Ward 3—A .....                | 28.86                               | 28.83  | 26.03   | 30.04                | 25.27                        | 33.22    | 55.56    |
| B .....                       | 22.34                               | 22.46  | 22.35   | 21.50                | 23.44                        | 22.75    | 5.95     |
| Ward 4—A .....                | 30.05                               | 29.95  | 30.29   | 27.13                | 35.21                        | 29.05    | 37.78    |
| B .....                       | 18.51                               | 18.41  | 18.71   | 19.18                | 18.21                        | 17.63    | 27.78    |
| Ward 5—A .....                | 26.59                               | 26.59  | 26.81   | 24.61                | 23.55                        | 26.19    | 26.67    |
| B .....                       | 18.37                               | 18.26  | 18.37   | 18.56                | 18.03                        | 17.94    | 125.00   |
| Ward 6 .....                  | 32.17                               | 32.12  | 39.08   | 44.96                | 39.14                        | 24.70    | 46.95    |
| Ward 7 .....                  | 28.08                               | 28.74  | 35.21   | 20.92                | 43.17                        | 22.64    | 88.05    |
| Ward 8 .....                  | 34.86                               | 34.43  | 37.78   | 31.06                | 42.17                        | 29.54    | 48.08    |
| Ward 9—A .....                | 31.14                               | 24.11  | 29.11   | 22.00                | 36.82                        | 23.93    | 40.78    |
| B .....                       | 15.94                               | 15.96  | 19.48   | 20.33                | 16.89                        | 9.38     | 15.63    |
| Ward 10—A .....               | 24.29                               | 24.48  | 28.31   | 22.95                | 38.15                        | 20.06    | 19.19    |
| B .....                       | 12.78                               | 12.55  | 14.34   | 13.44                | 21.06                        | 7.20     | 18.13    |
| Ward 11 .....                 | 15.88                               | 15.60  | 17.73   | 15.70                | 23.51                        | 11.61    | 20.98    |
| Ward 12 .....                 | 32.41                               | 32.41  | 33.28   | 26.05                | 37.88                        | 31.27    | 32.29    |
| Ward 13 .....                 | 33.45                               | 33.49  | 36.51   | 45.42                | 35.02                        | 29.71    | 18.52    |
| Ward 14 .....                 | 22.60                               | 22.00  | 22.25   | 19.86                | 24.05                        | 23.33    | 24.24    |
| Ward 15 .....                 | 24.97                               | 24.93  | 26.86   | 25.84                | 27.42                        | 21.31    | 44.44    |
| Ward 16 .....                 | 26.87                               | 27.32  | 29.99   | 22.62                | 36.07                        | 23.59    | 17.60    |
| Ward 17 .....                 | 21.79                               | 21.32  | 20.59   | 16.55                | 27.53                        | 22.92    | 32.49    |
| Ward 18 .....                 | 18.61                               | 18.50  | 18.99   | 18.22                | 20.81                        | 17.25    | 22.77    |
| Ward 19 .....                 | 28.09                               | 27.68  | 29.07   | 22.66                | 33.04                        | 25.37    | 39.63    |
| Ward 20—A .....               | 26.99                               | 27.02  | 29.05   | 25.83                | 31.13                        | 23.23    | 22.12    |
| B .....                       | 15.87                               | 15.83  | 16.12   | 12.72                | 23.30                        | 15.04    | 27.78    |
| Ward 21 .....                 | 17.36                               | 17.31  | 18.40   | 17.66                | 19.71                        | 14.22    | 41.07    |
| Ward 22—A .....               | 13.80                               | 13.67  | 13.75   | 9.37                 | 23.56                        | 13.46    | 25.00    |
| B .....                       | 20.20                               | 20.21  | 21.67   | 20.04                | 22.21                        | 17.98    | 16.67    |
| C .....                       | 22.34                               | 22.31  | 24.54   | 21.38                | 25.20                        | 19.33    | 166.67   |
| Ward 23 .....                 | 19.04                               | 18.98  | 19.92   | 19.33                | 20.48                        | 17.08    | 25.14    |
| Ward 24 .....                 | 18.45                               | 18.42  | 19.15   | 16.49                | 23.36                        | 16.47    | 32.61    |
| Ward 25 .....                 | 21.16                               | 20.68  | 23.02   | 20.64                | 25.90                        | 15.70    | 51.28    |

## VITAL STATISTICS.

Table 63 shows for different wards in Philadelphia during the 6-year period the average annual death rates per 1,000 of mean population, with distinction of color and nativity, stillbirths included.

TABLE 63.

| WARDS.        | DEATH RATES, INCLUDING STILLBIRTHS. |        |         |          |          |
|---------------|-------------------------------------|--------|---------|----------|----------|
|               | Aggregate.                          | White. |         |          | Colored. |
|               |                                     | Total. | Native. | Foreign. |          |
| Total .....   | 23.03                               | 22.69  | 25.62   | 14.70    | 31.25    |
| Ward 1 .....  | 23.49                               | 23.30  | 25.48   | 14.91    | 35.24    |
| Ward 2 .....  | 25.45                               | 25.45  | 31.49   | 13.92    | 25.16    |
| Ward 3 .....  | 25.46                               | 25.55  | 34.11   | 13.18    | 23.45    |
| Ward 4 .....  | 33.98                               | 32.18  | 50.82   | 12.93    | 46.34    |
| Ward 5 .....  | 30.67                               | 27.29  | 35.99   | 14.69    | 51.59    |
| Ward 6 .....  | 26.06                               | 25.66  | 32.58   | 14.91    | 50.93    |
| Ward 7 .....  | 27.37                               | 25.24  | 29.25   | 17.06    | 32.37    |
| Ward 8 .....  | 26.23                               | 25.20  | 30.24   | 14.57    | 30.99    |
| Ward 9 .....  | 26.27                               | 26.44  | 30.20   | 17.02    | 23.24    |
| Ward 10 ..... | 20.54                               | 20.81  | 23.05   | 13.96    | 15.15    |
| Ward 11 ..... | 30.92                               | 30.02  | 39.69   | 15.57    | 560.61   |
| Ward 12 ..... | 23.47                               | 22.87  | 28.05   | 13.55    | 47.21    |
| Ward 13 ..... | 21.95                               | 21.67  | 25.62   | 11.07    | 30.81    |
| Ward 14 ..... | 22.66                               | 22.57  | 25.11   | 14.44    | 23.78    |
| Ward 15 ..... | 21.13                               | 21.13  | 23.75   | 13.85    | 21.07    |
| Ward 16 ..... | 29.69                               | 29.56  | 35.18   | 18.29    | 47.83    |
| Ward 17 ..... | 30.61                               | 30.85  | 36.07   | 19.52    | 68.63    |
| Ward 18 ..... | 25.60                               | 25.54  | 27.62   | 17.49    | 98.48    |
| Ward 19 ..... | 25.16                               | 25.01  | 28.43   | 16.75    | 52.54    |
| Ward 20 ..... | 21.78                               | 21.84  | 23.37   | 16.41    | 19.89    |
| Ward 21 ..... | 20.48                               | 20.34  | 23.27   | 12.50    | 56.78    |
| Ward 22 ..... | 18.64                               | 18.69  | 20.62   | 12.89    | 17.44    |
| Ward 23 ..... | 19.14                               | 19.14  | 20.62   | 13.10    | 19.37    |
| Ward 24 ..... | 19.47                               | 18.93  | 20.32   | 13.23    | 36.38    |
| Ward 25 ..... | 26.02                               | 25.94  | 20.65   | 15.67    | 36.36    |
| Ward 26 ..... | 20.67                               | 20.70  | 22.85   | 14.47    | 19.40    |
| Ward 27 ..... | 33.25                               | 32.74  | 37.11   | 19.36    | 40.44    |
| Ward 28 ..... | 16.50                               | 16.50  | 18.43   | 10.46    | 16.60    |
| Ward 29 ..... | 21.31                               | 21.32  | 22.42   | 17.16    | 20.79    |
| Ward 30 ..... | 23.07                               | 23.06  | 24.54   | 19.54    | 23.33    |
| Ward 31 ..... | 22.77                               | 22.74  | 25.52   | 15.39    | 57.47    |
| Ward 32 ..... | 15.63                               | 15.62  | 16.26   | 11.42    | 16.39    |
| Ward 33 ..... | 14.11                               | 14.06  | 17.68   | 6.93     | 22.77    |

Table 64 shows for different sanitary districts in Boston during the 6-year period the average annual death-rates per 1,000 of mean population, with distinction of color, nativity, and parental nativity, and of children under 5 years of age, stillbirths excluded.

TABLE 64.

| WARDS AND SANITARY DISTRICTS. | DEATH RATES, EXCLUDING STILLBIRTHS. |                |                      |                |           |                |           |                |
|-------------------------------|-------------------------------------|----------------|----------------------|----------------|-----------|----------------|-----------|----------------|
|                               | Aggregate.                          |                | White.               |                |           |                |           |                |
|                               |                                     |                | Native.              |                |           |                | Foreign.  |                |
|                               | Total.                              |                | Both parents native. |                |           |                |           |                |
|                               | All ages.                           | Under 5 years. | All ages.            | Under 5 years. | All ages. | Under 5 years. | All ages. | Under 5 years. |
| Total .....                   | 23.59                               | 94.42          | 24.49                | 94.09          | 20.31     | 83.08          | 21.51     | 61.18          |
| Ward 1—A .....                | 20.24                               | 76.12          | 22.38                | 77.84          | 20.89     | 76.96          | 15.59     | 36.23          |
| B .....                       | 20.01                               | 79.36          | 22.64                | 81.84          | 19.64     | 81.73          | 15.96     | 23.81          |
| Ward 2—A .....                | 26.84                               | 100.31         | 28.88                | 101.21         | 24.98     | 85.78          | 23.47     | 65.48          |
| B .....                       | 19.99                               | 94.82          | 23.46                | 95.21          | 23.37     | 97.70          | 15.92     | 87.30          |
| Ward 3—A .....                | 28.65                               | 96.14          | 26.30                | 95.05          | 29.47     | 87.48          | 33.22     | 166.67         |
| B .....                       | 22.69                               | 70.04          | 22.01                | 72.51          | 21.03     | 67.52          | 22.75     | 29.76          |
| Ward 4—A .....                | 29.58                               | 107.03         | 29.64                | 110.33         | 26.69     | 97.58          | 29.05     | 15.87          |
| B .....                       | 18.38                               | 78.69          | 18.52                | 77.85          | 18.96     | 76.15          | 17.63     | 44.44          |
| Ward 5—A .....                | 26.36                               | 92.25          | 26.49                | 91.92          | 24.46     | 90.72          | 26.19     | 107.84         |
| B .....                       | 17.99                               | 51.89          | 17.86                | 54.07          | 18.29     | 50.85          | 17.94     | .....          |
| Ward 6 .....                  | 31.73                               | 122.74         | 39.06                | 124.14         | 42.85     | 125.67         | 24.70     | 89.35          |
| Ward 7 .....                  | 28.53                               | 107.73         | 34.28                | 110.55         | 20.77     | 163.79         | 22.64     | 56.74          |
| Ward 8 .....                  | 34.56                               | 132.77         | 37.29                | 123.94         | 30.66     | 129.44         | 29.54     | 85.63          |
| Ward 9—A .....                | 30.90                               | 153.87         | 28.76                | 130.95         | 21.81     | 119.90         | 23.93     | 83.33          |
| B .....                       | 15.84                               | 38.03          | 19.31                | 38.61          | 20.18     | 34.25          | 93.76     | .....          |
| Ward 10—A .....               | 24.07                               | 163.24         | 27.88                | 171.53         | 22.73     | 173.76         | 20.06     | 47.62          |
| B .....                       | 12.67                               | 94.85          | 14.18                | 83.33          | 13.38     | 53.76          | 7.20      | .....          |
| Ward 11 .....                 | 15.76                               | 88.24          | 17.57                | 82.75          | 15.67     | 67.21          | 11.61     | 48.39          |
| Ward 12 .....                 | 32.06                               | 145.13         | 32.65                | 145.34         | 25.65     | 153.17         | 31.27     | 119.05         |
| Ward 13 .....                 | 32.98                               | 115.09         | 35.67                | 115.71         | 44.28     | 132.72         | 29.71     | 101.85         |
| Ward 14 .....                 | 22.31                               | 80.96          | 21.82                | 81.40          | 19.60     | 79.58          | 33.33     | 66.67          |
| Ward 15 .....                 | 24.44                               | 90.59          | 26.05                | 90.90          | 25.06     | 85.75          | 21.31     | 48.48          |
| Ward 16 .....                 | 26.61                               | 129.71         | 29.53                | 131.52         | 22.31     | 169.72         | 23.59     | 70.99          |
| Ward 17 .....                 | 21.57                               | 106.62         | 20.31                | 103.74         | 16.44     | 105.73         | 22.92     | 107.14         |
| Ward 18 .....                 | 18.39                               | 100.42         | 18.68                | 96.31          | 17.89     | 83.33          | 17.25     | 181.82         |
| Ward 19 .....                 | 27.78                               | 114.23         | 23.58                | 112.55         | 22.23     | 101.41         | 25.37     | 72.92          |
| Ward 20—A .....               | 29.73                               | 109.65         | 28.66                | 110.93         | 25.66     | 107.32         | 23.23     | 54.26          |
| B .....                       | 15.79                               | 53.45          | 16.01                | 52.39          | 12.57     | 28.81          | 15.04     | 92.59          |
| Ward 21 .....                 | 17.12                               | 59.74          | 18.08                | 59.58          | 17.49     | 47.72          | 14.22     | 39.68          |
| Ward 22—A .....               | 13.61                               | 49.28          | 13.48                | 48.48          | 9.37      | 25.86          | 13.46     | 83.33          |
| B .....                       | 19.83                               | 75.32          | 21.04                | 75.96          | 19.42     | 67.68          | 17.98     | 55.56          |
| C .....                       | 21.86                               | 80.56          | 23.69                | 83.86          | 20.39     | 69.96          | 19.38     | 68.38          |
| Ward 23 .....                 | 18.83                               | 58.35          | 19.61                | 59.30          | 19.16     | 50.33          | 17.08     | 22.73          |
| Ward 24 .....                 | 18.19                               | 64.56          | 18.80                | 65.36          | 16.33     | 47.26          | 16.47     | 29.57          |
| Ward 25 .....                 | 20.96                               | 86.41          | 22.78                | 86.04          | 20.55     | 74.50          | 15.70     | 20.83          |

## VITAL STATISTICS.

Table 65 shows for different wards in Philadelphia during the 6-year period the average annual death rates per 1,000 of mean population, with distinction of color and nativity, and of children under 5 years of age, stillbirths excluded.

TABLE 65.

| WARDS.        | DEATH RATES, EXCLUDING STILLBIRTHS. |                |           |                |           |                |           |                |
|---------------|-------------------------------------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|
|               | Aggregate.                          |                | White.    |                |           |                | Colored.  |                |
|               | All ages.                           | Under 5 years. | Native.   |                | Foreign.  |                | All ages. | Under 5 years. |
|               |                                     |                | All ages. | Under 5 years. | All ages. | Under 5 years. |           |                |
| Total .....   | 21.86                               | 82.83          | 24.05     | 82.12          | 14.70     | 14.60          | 29.52     | 149.22         |
| Ward 1 .....  | 22.25                               | 83.94          | 23.94     | 84.35          | 14.91     | 17.44          | 33.07     | 123.11         |
| Ward 2 .....  | 23.94                               | 79.61          | 29.17     | 83.26          | 13.92     | 7.41           | 24.21     | 89.95          |
| Ward 3 .....  | 23.81                               | 83.87          | 31.33     | 88.17          | 13.18     | 14.93          | 21.71     | 86.27          |
| Ward 4 .....  | 31.68                               | 109.53         | 46.48     | 108.33         | 12.93     | 6.44           | 43.38     | 215.34         |
| Ward 5 .....  | 28.85                               | 107.86         | 33.31     | 97.72          | 14.09     | 12.03          | 48.46     | 272.06         |
| Ward 6 .....  | 24.70                               | 95.47          | 30.34     | 99.00          | 14.91     | 15.72          | 49.77     | 400.00         |
| Ward 7 .....  | 26.16                               | 116.45         | 27.85     | 98.15          | 17.06     | 13.89          | 30.54     | 164.20         |
| Ward 8 .....  | 25.15                               | 111.89         | 28.86     | 97.96          | 14.57     | 37.04          | 29.25     | 164.31         |
| Ward 9 .....  | 25.25                               | 103.88         | 28.75     | 102.71         | 17.02     | 30.30          | 22.32     | 147.02         |
| Ward 10 ..... | 19.63                               | 90.05          | 21.82     | 88.85          | 13.96     | .....          | 14.51     | 166.67         |
| Ward 11 ..... | 29.11                               | 100.26         | 36.82     | 101.23         | 15.57     | 7.81           | 500.00    | 2,416.67       |
| Ward 12 ..... | 22.14                               | 83.20          | 26.03     | 82.93          | 13.55     | 16.13          | 44.85     | 152.38         |
| Ward 13 ..... | 20.92                               | 112.77         | 24.25     | 112.24         | 11.07     | 13.89          | 28.76     | 177.54         |
| Ward 14 ..... | 21.53                               | 99.18          | 23.66     | 96.78          | 14.44     | 16.67          | 22.38     | 143.07         |
| Ward 15 ..... | 20.09                               | 79.49          | 22.33     | 79.67          | 13.85     | 26.96          | 20.18     | 109.93         |
| Ward 16 ..... | 28.16                               | 107.40         | 32.90     | 108.46         | 18.29     | 35.71          | 46.38     | 115.38         |
| Ward 17 ..... | 29.14                               | 116.21         | 33.84     | 116.67         | 19.52     | 9.26           | 64.95     | 378.79         |
| Ward 18 ..... | 24.47                               | 103.77         | 26.21     | 104.88         | 17.49     | 30.61          | 90.91     | .....          |
| Ward 19 ..... | 23.88                               | 94.12          | 26.62     | 94.13          | 16.75     | 30.30          | 51.33     | 325.40         |
| Ward 20 ..... | 20.70                               | 79.51          | 21.99     | 80.10          | 16.41     | 18.52          | 18.64     | 76.92          |
| Ward 21 ..... | 19.59                               | 65.32          | 22.05     | 65.82          | 12.50     | 7.94           | 56.78     | 2,333.33       |
| Ward 22 ..... | 17.69                               | 61.17          | 19.39     | 61.54          | 12.89     | 6.17           | 15.91     | 71.43          |
| Ward 23 ..... | 18.51                               | 63.28          | 19.83     | 63.17          | 13.10     | 26.52          | 18.07     | 87.50          |
| Ward 24 ..... | 18.48                               | 65.34          | 19.10     | 63.84          | 13.23     | 2.45           | 35.11     | 157.21         |
| Ward 25 ..... | 24.36                               | 89.10          | 27.41     | 90.42          | 15.67     | 26.32          | 33.33     | 118.28         |
| Ward 26 ..... | 19.44                               | 70.40          | 21.20     | 71.54          | 14.47     | 11.11          | 18.15     | 64.97          |
| Ward 27 ..... | 32.44                               | 141.47         | 36.01     | 141.40         | 19.36     | 12.50          | 39.86     | 179.95         |
| Ward 28 ..... | 15.57                               | 52.94          | 17.19     | 53.10          | 10.46     | 15.63          | 15.96     | 90.58          |
| Ward 29 ..... | 20.16                               | 73.92          | 20.99     | 73.37          | 17.16     | 24.51          | 19.09     | 111.11         |
| Ward 30 ..... | 22.10                               | 82.34          | 23.21     | 81.81          | 19.54     | 15.87          | 21.74     | 109.31         |
| Ward 31 ..... | 21.49                               | 84.00          | 23.76     | 84.60          | 15.39     | 22.22          | 57.47     | 833.33         |
| Ward 32 ..... | 14.60                               | 58.33          | 15.10     | 57.63          | 11.42     | 23.81          | 13.66     | 250.00         |
| Ward 33 ..... | 13.11                               | 46.27          | 16.19     | 47.12          | 6.93      | 5.75           | 18.63     | 71.43          |

Tables 62 and 63, compared with Tables 64 and 65, show the differences in the death rates in the aggregate and for the total in each class due to the number of stillbirths, and compared with Tables 66 and 67 show the differences in the rates under 5 years of age due to the same cause. The rates given in Tables 66 and 67 for 5 years of age and over are not affected by the exclusion of the stillbirths.

Table 66 shows for different sanitary districts in Boston during the 6-year period the average annual death rates per 1,000 of mean population, with distinction of color, nativity, and parental nativity of children under 5 years of age, and of persons 5 years of age and-upward, stillbirths included.

TABLE 66.

| WARDS AND SANITARY DISTRICTS. | DEATH RATES, INCLUDING STILLBIRTHS. |                   |                      |                   |                |                   |                |                   |
|-------------------------------|-------------------------------------|-------------------|----------------------|-------------------|----------------|-------------------|----------------|-------------------|
|                               | Aggregate.                          |                   | White.               |                   |                |                   |                |                   |
|                               |                                     |                   | Native.              |                   |                |                   | Foreign.       |                   |
|                               | Total.                              |                   | Both parents native. |                   |                |                   |                |                   |
|                               | Under 5 years.                      | 5 years and over. | Under 5 years.       | 5 years and over. | Under 5 years. | 5 years and over. | Under 5 years. | 5 years and over. |
| Total .....                   | 97.67                               | 16.69             | 97.42                | 13.69             | 86.30          | 14.42             | 61.13          | 21.19             |
| Ward 1—A .....                | 78.40                               | 14.30             | 80.23                | 13.86             | 80.36          | 15.61             | 36.23          | 15.32             |
| B .....                       | 81.19                               | 11.64             | 83.76                | 8.24              | 82.53          | 6.69              | 23.81          | 15.85             |
| Ward 2—A .....                | 102.99                              | 19.05             | 103.99               | 15.94             | 88.24          | 16.27             | 65.48          | 23.08             |
| B .....                       | 97.96                               | 12.04             | 98.51                | 9.09              | 100.57         | 11.79             | 87.30          | 15.15             |
| Ward 3—A .....                | 98.04                               | 19.92             | 96.98                | 12.26             | 90.24          | 14.25             | 166.67         | 32.53             |
| B .....                       | 72.82                               | 17.34             | 75.43                | 15.30             | 71.81          | 16.20             | 29.76          | 22.65             |
| Ward 4—A .....                | 112.37                              | 22.13             | 116.00               | 19.19             | 102.56         | 19.85             | 15.87          | 29.23             |
| B .....                       | 80.05                               | 11.91             | 79.26                | 9.45              | 78.30          | 12.55             | 44.44          | 17.40             |
| Ward 5—A .....                | 94.67                               | 19.49             | 94.17                | 15.49             | 92.12          | 16.71             | 107.84         | 25.70             |
| B .....                       | 57.39                               | 15.47             | 59.80                | 14.28             | 55.08          | 16.12             | -----          | 18.14             |
| Ward 6 .....                  | 126.68                              | 20.14             | 128.28               | 14.73             | 134.30         | 16.06             | 89.35          | 24.01             |
| Ward 7 .....                  | 112.28                              | 19.85             | 115.47               | 16.48             | 166.67         | 12.95             | 56.74          | 22.15             |
| Ward 8 .....                  | 135.98                              | 24.08             | 133.05               | 19.85             | 133.33         | 19.44             | 85.03          | 29.00             |
| Ward 9—A .....                | 157.07                              | 21.22             | 134.04               | 16.01             | 122.30         | 13.46             | 83.33          | 23.71             |
| B .....                       | 40.45                               | 14.84             | 41.43                | 18.09             | 38.81          | 19.70             | -----          | 9.39              |
| Ward 10—A .....               | 170.09                              | 19.46             | 178.83               | 19.01             | 180.85         | 17.93             | 47.62          | 19.96             |
| B .....                       | 93.94                               | 11.78             | 94.70                | 13.23             | 59.14          | 12.95             | -----          | 7.21              |
| Ward 11 .....                 | 91.16                               | 12.74             | 85.54                | 13.55             | 68.31          | 13.89             | 48.39          | 11.44             |
| Ward 12 .....                 | 150.42                              | 23.95             | 150.82               | 18.08             | 158.73         | 15.69             | 119.05         | 30.94             |
| Ward 13 .....                 | 119.04                              | 21.97             | 119.76               | 14.58             | 137.35         | 15.38             | 101.85         | 29.32             |
| Ward 14 .....                 | 83.94                               | 16.03             | 84.47                | 12.24             | 82.01          | 12.47             | 66.67          | 22.94             |
| Ward 15 .....                 | 94.37                               | 16.05             | 95.68                | 12.81             | 90.59          | 13.56             | 48.48          | 21.05             |
| Ward 16 .....                 | 133.25                              | 18.38             | 135.20               | 15.19             | 175.84         | 14.48             | 70.99          | 23.21             |
| Ward 17 .....                 | 110.70                              | 16.77             | 107.58               | 13.68             | 108.66         | 13.13             | 107.14         | 22.67             |
| Ward 18 .....                 | 105.72                              | 14.83             | 101.90               | 14.04             | 93.02          | 15.54             | 181.82         | 16.81             |
| Ward 19 .....                 | 117.42                              | 18.49             | 115.80               | 13.65             | 105.76         | 13.60             | 72.92          | 24.99             |
| Ward 20—A .....               | 112.15                              | 17.09             | 113.40               | 13.45             | 108.70         | 14.13             | 54.26          | 22.97             |
| B .....                       | 54.35                               | 12.36             | 53.31                | 11.47             | 30.51          | 10.99             | 92.59          | 14.63             |
| Ward 21 .....                 | 62.93                               | 13.64             | 62.71                | 13.43             | 50.09          | 15.07             | 39.68          | 14.12             |
| Ward 22—A .....               | 52.17                               | 11.08             | 51.52                | 10.07             | 25.86          | 8.17              | 83.33          | 13.17             |
| B .....                       | 78.79                               | 13.07             | 79.54                | 9.44              | 71.72          | 10.65             | 55.56          | 17.66             |
| C .....                       | 84.52                               | 13.72             | 84.98                | 8.77              | 75.10          | 8.58              | 68.38          | 18.86             |
| Ward 23 .....                 | 60.26                               | 14.05             | 61.31                | 12.33             | 51.97          | 15.48             | 22.73          | 17.01             |
| Ward 24 .....                 | 67.16                               | 13.20             | 68.03                | 11.82             | 49.00          | 13.11             | 29.57          | 16.35             |
| Ward 25 .....                 | 88.47                               | 13.97             | 87.84                | 12.76             | 75.45          | 14.91             | 20.83          | 15.65             |

## VITAL STATISTICS.

Table 67 shows for each ward in Philadelphia and for the city as a whole the average annual death rates for the 6-year period per 1,000 of mean population, with distinction of color, nativity, and of those under 5 years of age and 5 years of age and upward, stillbirths included.

TABLE 67.

| WARDS.        | DEATH RATES, INCLUDING STILLBIRTHS. |                   |                |                   |                |                   |                |                   |
|---------------|-------------------------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|
|               | Aggregate.                          |                   | White.         |                   |                |                   | Colored.       |                   |
|               |                                     |                   | Native.        |                   | Foreign.       |                   |                |                   |
|               | Under 5 years.                      | 5 years and over. | Under 5 years. | 5 years and over. | Under 5 years. | 5 years and over. | Under 5 years. | 5 years and over. |
| Total .....   | 94.79                               | 15.20             | 94.00          | 15.16             | 14.60          | 14.70             | 171.44         | 19.42             |
| Ward 1 .....  | 94.80                               | 14.32             | 95.25          | 14.00             | 17.44          | 14.89             | 142.05         | 21.47             |
| Ward 2 .....  | 92.40                               | 16.46             | 96.82          | 18.00             | 7.41           | 14.04             | 97.88          | 15.35             |
| Ward 3 .....  | 97.66                               | 15.66             | 102.68         | 17.86             | 14.93          | 13.15             | 103.92         | 14.62             |
| Ward 4 .....  | 127.39                              | 20.16             | 126.29         | 26.78             | 6.44           | 13.09             | 248.53         | 26.53             |
| Ward 5 .....  | 128.04                              | 21.00             | 115.86         | 22.16             | 12.03          | 14.13             | 325.98         | 34.68             |
| Ward 6 .....  | 110.44                              | 17.64             | 114.88         | 19.09             | 15.72          | 14.90             | 433.33         | 37.17             |
| Ward 7 .....  | 132.63                              | 18.86             | 111.04         | 19.24             | 13.89          | 17.07             | 188.82         | 19.77             |
| Ward 8 .....  | 132.47                              | 20.34             | 117.45         | 23.57             | 37.04          | 14.48             | 190.25         | 19.55             |
| Ward 9 .....  | 120.27                              | 19.98             | 119.51         | 21.78             | 30.30          | 16.97             | 161.90         | 13.73             |
| Ward 10 ..... | 104.05                              | 15.02             | 103.85         | 15.82             | 14.00          | 14.00             | 184.21         | 8.77              |
| Ward 11 ..... | 117.07                              | 20.49             | 117.87         | 23.45             | 7.81           | 15.67             | 3,083.33       | 308.33            |
| Ward 12 ..... | 97.84                               | 16.06             | 97.67          | 16.98             | 16.13          | 13.53             | 176.19         | 33.02             |
| Ward 13 ..... | 128.29                              | 14.40             | 127.68         | 15.70             | 13.89          | 11.05             | 202.90         | 15.64             |
| Ward 14 ..... | 114.98                              | 15.58             | 112.05         | 16.32             | 16.67          | 14.43             | 160.77         | 12.02             |
| Ward 15 ..... | 92.43                               | 14.88             | 92.76          | 15.32             | 26.96          | 13.78             | 125.86         | 14.93             |
| Ward 16 ..... | 121.83                              | 18.82             | 123.13         | 18.98             | 35.71          | 18.21             | 128.21         | 37.58             |
| Ward 17 ..... | 130.01                              | 18.74             | 130.54         | 18.00             | 9.26           | 19.53             | 424.24         | 37.33             |
| Ward 18 ..... | 115.43                              | 15.96             | 116.68         | 15.50             | 30.61          | 17.38             | 68.18          | 68.18             |
| Ward 19 ..... | 105.89                              | 15.32             | 106.05         | 14.55             | 30.30          | 16.68             | 341.27         | 28.76             |
| Ward 20 ..... | 92.92                               | 15.54             | 93.63          | 15.40             | 18.52          | 16.40             | 89.74          | 12.39             |
| Ward 21 ..... | 73.13                               | 13.75             | 73.81          | 14.17             | 7.94           | 12.55             | 2,333.33       | 31.48             |
| Ward 22 ..... | 71.39                               | 13.25             | 71.68          | 13.56             | 6.17           | 12.93             | 86.96          | 9.84              |
| Ward 23 ..... | 69.97                               | 13.79             | 69.91          | 14.06             | 26.52          | 13.00             | 95.83          | 12.38             |
| Ward 24 ..... | 75.14                               | 13.23             | 73.59          | 12.72             | 2.45           | 13.29             | 173.76         | 24.96             |
| Ward 25 ..... | 101.55                              | 14.43             | 103.12         | 13.90             | 26.32          | 15.54             | 139.78         | 19.40             |
| Ward 26 ..... | 80.74                               | 12.58             | 82.01          | 11.78             | 11.11          | 14.50             | 77.68          | 13.01             |
| Ward 27 ..... | 150.88                              | 22.12             | 151.03         | 22.40             | 12.50          | 19.40             | 183.41         | 29.35             |
| Ward 28 ..... | 61.01                               | 10.66             | 61.31          | 10.80             | 15.63          | 10.42             | 97.83          | 8.75              |
| Ward 29 ..... | 87.00                               | 15.01             | 86.34          | 14.52             | 24.51          | 17.14             | 132.72         | 11.22             |
| Ward 30 ..... | 92.95                               | 16.02             | 92.12          | 14.55             | 15.87          | 19.56             | 127.71         | 13.44             |
| Ward 31 ..... | 95.94                               | 14.00             | 96.70          | 13.38             | 22.22          | 15.36             | 833.33         | 29.76             |
| Ward 32 ..... | 71.56                               | 10.91             | 70.50          | 10.89             | 23.31          | 11.39             | 354.17         | 7.30              |
| Ward 33 ..... | 53.79                               | 7.98              | 54.68          | 8.60              | 5.75           | 6.94              | 103.17         | 10.71             |

ALTITUDE.

The following tables show some of the relations between altitude and death rates in Boston and Philadelphia.

Table 68 shows the average altitude of the different districts in Boston and their average annual death rates, exclusive of stillbirths, during the 6 years ending May 31, 1890, per 1,000 of mean population; also the average annual death rates per 100,000 of mean population due to certain specified causes.

TABLE 68.

| WARDS AND SANITARY DISTRICTS. | Average altitude (in feet) June 1, 1890. | AVERAGE ANNUAL DEATH RATES, EXCLUDING STILLBIRTHS. |                |           |                |                      |                |       |        |                                 |                |                     |
|-------------------------------|--|--|----------------|-----------|----------------|----------------------|----------------|-------|--------|---------------------------------|----------------|---------------------|
|                               |  | Per 1,000 of mean population.                      |                |           |                |                      |                |       |        | Per 100,000 of mean population. |                |                     |
|                               |  | Aggregate.   |                | White.    |                |                      |                |       |        | Due to—                         |                |                     |
|                               |  |  |                | Native.   |                | Foreign.             |                |       |        |                                 |                |                     |
|                               |  |  |                | Total.    |                | Both parents native. |                |       |        | Malarial fever.                 | Con- sumption. | Diarrheal diseases. |
| All ages.                     | Under 5 years.                           | All ages.  | Under 5 years. | All ages. | Under 5 years. | All ages.            | Under 5 years. |       |        |                                 |                |                     |
| The city.....                 | 70                                       | 23.59  | 94.42          | 24.40     | 94.09          | 20.31                | 83.08          | 21.51 | 61.18  | 1.75                            | 386.51         | 214.28              |
| Ward 1—B .....                | 10                                       | 20.01  | 79.36          | 22.64     | 81.84          | 19.64                | 81.73          | 15.96 | 23.81  | .....                           | 343.23         | 217.04              |
| Ward 2—A .....                | 10                                       | 26.84  | 100.31         | 28.88     | 101.21         | 24.98                | 85.78          | 23.47 | 65.48  | 6.42                            | 468.67         | 250.39              |
| Ward 3—A .....                | 10                                       | 28.05  | 98.14          | 26.30     | 95.05          | 29.47                | 87.48          | 33.22 | 166.67 | 3.62                            | 499.78         | 304.22              |
| Ward 4—B .....                | 10                                       | 18.38  | 78.69          | 18.52     | 77.85          | 18.96                | 76.15          | 17.63 | 44.44  | 2.65                            | 262.20         | 180.09              |
| Ward 5—A .....                | 10                                       | 26.36  | 92.25          | 26.49     | 91.92          | 24.46                | 90.72          | 26.19 | 107.84 | 2.08                            | 426.55         | 193.51              |
| Ward 11 .....                 | 10                                       | 15.76  | 88.24          | 17.57     | 82.75          | 15.67                | 67.21          | 11.61 | 48.39  | 4.17                            | 190.84         | 75.00               |
| Ward 16 .....                 | 10                                       | 26.61  | 129.71         | 29.53     | 131.52         | 22.31                | 169.72         | 23.59 | 70.99  | 1.95                            | 447.40         | 227.59              |
| Ward 17 .....                 | 10                                       | 21.57  | 106.62         | 20.31     | 103.74         | 16.44                | 105.73         | 22.92 | 107.14 | 1.09                            | 360.18         | 162.63              |
| Ward 18 .....                 | 10                                       | 18.39  | 100.42         | 18.68     | 96.31          | 17.89                | 83.33          | 17.25 | 181.82 | 2.21                            | 239.42         | 107.02              |
| Ward 13 .....                 | 11                                       | 32.98  | 115.09         | 35.67     | 115.71         | 44.23                | 132.72         | 29.71 | 101.85 | 2.26                            | 587.56         | 369.58              |
| Ward 22—A .....               | 11                                       | 13.61  | 49.28          | 13.48     | 48.48          | 9.37                 | 25.86          | 13.46 | 83.33  | .....                           | 230.02         | 76.67               |
| Ward 1—A .....                | 12                                       | 20.24  | 76.12          | 22.38     | 77.84          | 20.89                | 76.96          | 15.59 | 36.23  | 2.92                            | 288.89         | 161.95              |
| Ward 12 .....                 | 13                                       | 32.06  | 145.13         | 32.65     | 145.34         | 25.65                | 153.17         | 31.27 | 119.05 | 1.26                            | 537.27         | 230.08              |
| Ward 8 .....                  | 14                                       | 34.56  | 132.77         | 37.29     | 129.94         | 30.66                | 129.44         | 29.54 | 85.03  | .....                           | 671.56         | 263.73              |
| Ward 6 .....                  | 15                                       | 31.73  | 122.74         | 39.06     | 124.14         | 42.85                | 125.07         | 24.70 | 89.35  | 0.93                            | 476.72         | 265.26              |
| Ward 7 .....                  | 15                                       | 28.53  | 107.73         | 31.23     | 110.55         | 20.77                | 163.79         | 22.64 | 56.74  | 1.29                            | 506.57         | 205.71              |
| Ward 15 .....                 | 15                                       | 24.44  | 90.59          | 26.05     | 90.90          | 25.06                | 85.75          | 21.31 | 48.48  | .....                           | 406.86         | 245.49              |
| Ward 19 .....                 | 15                                       | 27.78  | 114.23         | 28.58     | 112.55         | 22.23                | 101.41         | 25.37 | 72.92  | 2.27                            | 426.17         | 272.02              |
| Ward 2—B .....                | 16                                       | 19.99  | 84.82          | 23.46     | 95.21          | 23.37                | 97.70          | 15.02 | 87.30  | .....                           | 239.55         | 213.14              |
| Ward 20—A .....               | 17                                       | 26.73  | 109.65         | 28.66     | 110.93         | 25.66                | 107.32         | 23.23 | 54.26  | .....                           | 373.43         | 271.39              |
| Ward 22—C .....               | 18                                       | 21.86  | 80.56          | 23.69     | 80.86          | 20.39                | 69.96          | 19.38 | 68.38  | .....                           | 316.65         | 252.93              |
| Ward 10—A .....               | 24                                       | 24.07  | 163.24         | 27.88     | 171.53         | 22.73                | 173.76         | 20.06 | 47.62  | 3.66                            | 365.82         | 131.69              |
| Ward 9—A .....                | 25                                       | 30.90  | 153.87         | 28.76     | 130.95         | 21.81                | 119.90         | 23.93 | 83.33  | .....                           | 556.48         | 237.88              |
| Ward 5—B .....                | 27                                       | 17.99  | 51.89          | 17.86     | 54.07          | 18.29                | 50.85          | 17.94 | .....  | 4.22                            | 240.69         | 105.57              |
| Ward 9—B .....                | 31                                       | 15.84  | 38.03          | 19.31     | 38.61          | 20.18                | 34.25          | 93.76 | .....  | .....                           | 93.79          | 59.05               |
| Ward 14 .....                 | 32                                       | 22.31  | 80.96          | 21.82     | 81.40          | 19.60                | 79.58          | 33.33 | 66.67  | 2.06                            | 372.87         | 189.53              |
| Ward 3—B .....                | 40                                       | 22.09  | 70.04          | 22.01     | 72.51          | 21.09                | 67.52          | 22.75 | 29.76  | 2.08                            | 425.16         | 193.82              |
| Ward 4—A .....                | 42                                       | 29.58  | 107.03         | 29.64     | 110.33         | 26.69                | 97.58          | 29.05 | 15.87  | .....                           | 495.79         | 190.05              |
| Ward 24 .....                 | 55                                       | 18.19  | 64.56          | 18.80     | 65.36          | 16.33                | 47.26          | 16.47 | 29.57  | 3.33                            | 256.37         | 174.46              |
| Ward 25 .....                 | 58                                       | 20.96  | 86.41          | 22.78     | 86.04          | 20.55                | 74.50          | 15.70 | 20.83  | 1.65                            | 264.26         | 204.80              |
| Ward 20—B .....               | 60                                       | 15.79  | 53.45          | 16.01     | 52.39          | 12.57                | 28.81          | 15.04 | 92.59  | 2.51                            | 285.76         | 80.21               |
| Ward 10—B .....               | 65                                       | 12.67  | 84.85          | 14.18     | 83.33          | 13.38                | 53.76          | 7.20  | .....  | 3.68                            | 125.26         | 47.89               |
| Ward 22—B .....               | 71                                       | 19.83  | 75.32          | 21.04     | 75.96          | 19.42                | 67.68          | 17.98 | 55.56  | .....                           | 310.08         | 218.46              |
| Ward 21 .....                 | 88                                       | 17.12  | 59.74          | 18.08     | 59.58          | 17.49                | 47.72          | 14.22 | 39.68  | .....                           | 217.56         | 126.22              |
| Ward 23 .....                 | 121                                      | 18.83  | 58.35          | 19.61     | 59.30          | 19.16                | 50.33          | 17.08 | 22.73  | 0.79                            | 256.89         | 153.81              |

RECAPITULATION BY GROUPS OF ALTITUDES IN BOSTON.

|                                    |       |        |       |        |       |        |       |       |      |        |        |
|------------------------------------|-------|--------|-------|--------|-------|--------|-------|-------|------|--------|--------|
| Under 15 feet in altitude .....    | 24.86 | 106.54 | 25.73 | 106.12 | 20.84 | 101.82 | 23.31 | 76.19 | 2.26 | 409.05 | 206.94 |
| 15 to 25 feet in altitude .....    | 26.58 | 106.02 | 29.33 | 106.72 | 24.62 | 103.71 | 22.46 | 68.78 | 0.93 | 407.01 | 246.26 |
| 25 to 35 feet in altitude .....    | 22.78 | 88.31  | 22.00 | 82.69  | 19.81 | 78.57  | 21.23 | 57.97 | 1.63 | 362.59 | 175.38 |
| 35 to 65 feet in altitude .....    | 20.20 | 72.54  | 20.78 | 73.21  | 18.24 | 57.14  | 18.32 | 29.61 | 2.39 | 311.43 | 173.18 |
| 65 feet and over in altitude ..... | 17.79 | 61.96  | 18.67 | 62.43  | 17.56 | 51.04  | 15.63 | 31.09 | 0.63 | 237.77 | 142.92 |

Table 69 shows the average altitude of the different wards in Philadelphia and their average annual death rates, exclusive of stillbirths, during the 6 years ending May 31, 1890, per 1,000 of mean population; also the average annual death rates per 100,000 of mean population due to certain specified causes.

VITAL STATISTICS.

TABLE 69.

| WARDS.        | Average altitude (In feet) June 1, 1890. | AVERAGE ANNUAL DEATH RATES, EXCLUDING STILLBIRTHS. |                |           |                |           |                |           |                |                                 |                |                     |
|---------------|--|--|----------------|-----------|----------------|-----------|----------------|-----------|----------------|---------------------------------|----------------|---------------------|
|               |  | Per 1,000 of mean population.                      |                |           |                |           |                |           |                | Per 100,000 of mean population. |                |                     |
|               |  | Aggregate.   |                | White.    |                |           |                | Colored.  |                | Due to—                         |                |                     |
|               |  |  |                | Native.   |                | Foreign.  |                |           |                |                                 |                |                     |
|               |  | All ages.  | Under 5 years. | All ages. | Under 5 years. | All ages. | Under 5 years. | All ages. | Under 5 years. | Malarial fever.                 | Con- sumption. | Diarrheal diseases. |
| The city..... | 129                                      | 21.86  | 82.83          | 24.05     | 82.12          | 14.70     | 14.60          | 29.52     | 149.22         | 7.21                            | 207.87         | 156.11              |
| Ward 1.....   | 23                                       | 22.25  | 83.94          | 23.94     | 84.35          | 14.91     | 17.44          | 33.07     | 123.11         | 9.26                            | 275.54         | 153.48              |
| Ward 16.....  | 24                                       | 28.16  | 107.40         | 32.90     | 108.46         | 18.29     | 35.71          | 46.38     | 115.38         | 12.53                           | 311.21         | 237.72              |
| Ward 18.....  | 24                                       | 24.47  | 103.77         | 26.21     | 104.88         | 17.49     | 30.61          | 90.91     | .....          | 9.13                            | 304.57         | 180.80              |
| Ward 26.....  | 24                                       | 19.44  | 70.40          | 21.20     | 71.54          | 14.47     | 11.11          | 18.15     | 64.97          | 6.36                            | 238.37         | 158.81              |
| Ward 5.....   | 29                                       | 28.85  | 107.86         | 33.81     | 97.72          | 14.09     | 12.03          | 48.46     | 272.06         | 5.95                            | 498.02         | 176.59              |
| Ward 11.....  | 29                                       | 29.11  | 100.26         | 36.82     | 101.23         | 15.57     | 7.81           | 500.00    | 2,416.67       | 7.72                            | 330.86         | 224.01              |
| Ward 17.....  | 29                                       | 29.14  | 116.21         | 33.84     | 116.67         | 19.52     | 9.26           | 64.95     | 378.79         | 16.82                           | 355.83         | 227.06              |
| Ward 31.....  | 29                                       | 21.49  | 84.00          | 23.76     | 84.60          | 15.39     | 22.22          | 57.47     | 833.33         | 6.67                            | 284.92         | 123.72              |
| Ward 2.....   | 31                                       | 23.94  | 79.61          | 29.17     | 83.26          | 13.92     | 7.41           | 24.21     | 89.95          | 4.90                            | 316.35         | 176.41              |
| Ward 12.....  | 34                                       | 22.14  | 83.20          | 26.03     | 82.93          | 13.55     | 16.13          | 44.85     | 152.38         | 8.14                            | 314.16         | 154.75              |
| Ward 3.....   | 35                                       | 23.81  | 83.87          | 31.33     | 88.17          | 13.18     | 14.93          | 21.71     | 86.27          | 5.15                            | 313.33         | 185.42              |
| Ward 6.....   | 35                                       | 24.70  | 95.47          | 30.34     | 99.00          | 14.91     | 15.72          | 49.77     | 400.00         | 9.18                            | 418.46         | 159.67              |
| Ward 4.....   | 39                                       | 31.68  | 109.53         | 46.48     | 108.33         | 12.98     | 6.44           | 43.38     | 215.34         | 12.56                           | 441.11         | 250.27              |
| Ward 7.....   | 39                                       | 26.16  | 116.45         | 27.85     | 98.15          | 17.06     | 13.89          | 30.54     | 164.20         | 4.93                            | 408.91         | 184.47              |
| Ward 8.....   | 44                                       | 25.15  | 111.89         | 28.86     | 97.96          | 14.57     | 37.04          | 29.25     | 164.31         | 7.53                            | 332.28         | 121.43              |
| Ward 9.....   | 44                                       | 25.25  | 103.88         | 28.75     | 102.71         | 17.02     | 30.30          | 22.32     | 147.62         | 11.08                           | 364.04         | 150.36              |
| Ward 10.....  | 44                                       | 19.63  | 90.05          | 21.82     | 88.85          | 13.96     | .....          | 14.51     | 166.67         | 9.07                            | 278.12         | 121.68              |
| Ward 13.....  | 44                                       | 20.92  | 112.77         | 24.25     | 112.24         | 11.07     | 13.89          | 28.76     | 177.54         | 3.68                            | 260.98         | 136.92              |
| Ward 30.....  | 44                                       | 22.10  | 82.34          | 23.21     | 81.81          | 10.54     | 15.87          | 21.74     | 109.31         | 8.29                            | 349.35         | 146.48              |
| Ward 14.....  | 49                                       | 21.53  | 99.18          | 23.66     | 96.78          | 14.44     | 16.67          | 22.38     | 143.07         | 4.71                            | 320.62         | 146.95              |
| Ward 19.....  | 54                                       | 23.88  | 94.12          | 26.62     | 94.13          | 10.75     | 30.30          | 51.33     | 325.40         | 7.41                            | 310.44         | 180.01              |
| Ward 27.....  | 54                                       | 32.44  | 141.47         | 36.01     | 141.40         | 19.36     | 12.50          | 39.86     | 179.95         | 7.30                            | 504.81         | 217.31              |
| Ward 25.....  | 59                                       | 24.36  | 89.10          | 27.41     | 90.42          | 15.67     | 26.32          | 33.33     | 118.28         | 10.14                           | 271.55         | 200.00              |
| Ward 20.....  | 69                                       | 20.70  | 79.51          | 21.99     | 80.10          | 16.41     | 18.52          | 18.64     | 76.92          | 5.67                            | 303.14         | 134.56              |
| Ward 15.....  | 74                                       | 20.09  | 79.49          | 22.33     | 79.67          | 13.85     | 26.96          | 20.18     | 109.93         | 9.76                            | 288.71         | 118.15              |
| Ward 33.....  | 84                                       | 13.11  | 46.27          | 16.19     | 47.12          | 6.93      | 5.75           | 18.63     | 71.43          | 3.05                            | 143.47         | 101.34              |
| Ward 23.....  | 94                                       | 18.51  | 63.28          | 19.33     | 63.17          | 13.10     | 26.52          | 18.67     | 87.50          | 9.25                            | 219.39         | 157.22              |
| Ward 29.....  | 94                                       | 20.16  | 73.92          | 20.99     | 73.37          | 17.16     | 24.51          | 19.09     | 111.11         | 8.64                            | 293.26         | 136.99              |
| Ward 32.....  | 109                                      | 14.69  | 58.33          | 15.10     | 57.63          | 11.42     | 23.81          | 13.66     | 250.00         | 3.52                            | 192.32         | 80.31               |
| Ward 28.....  | 119                                      | 15.57  | 52.94          | 17.19     | 53.10          | 10.46     | 15.63          | 15.96     | 90.58          | 3.19                            | 185.73         | 124.58              |
| Ward 24.....  | 159                                      | 18.48  | 65.34          | 19.10     | 63.84          | 13.23     | 2.45           | 35.11     | 157.21         | 5.89                            | 269.24         | 123.96              |
| Ward 21.....  | 309                                      | 19.59  | 65.32          | 22.05     | 65.82          | 12.50     | 7.94           | 56.78     | 2,333.33       | 4.76                            | 242.86         | 178.23              |
| Ward 22.....  | 309                                      | 17.69  | 61.17          | 19.39     | 61.54          | 12.89     | 6.17           | 15.91     | 71.43          | 3.68                            | 241.27         | 123.50              |

RECAPITULATION BY GROUPS OF ALTITUDES IN PHILADELPHIA.

|                                    |       |       |       |       |       |       |       |        |      |        |        |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|------|--------|--------|
| Under 30 feet in altitude.....     | 23.68 | 89.60 | 26.10 | 89.74 | 15.94 | 16.01 | 40.92 | 182.48 | 8.79 | 300.91 | 176.76 |
| 30 to 40 feet in altitude.....     | 25.56 | 94.20 | 31.16 | 92.09 | 14.15 | 10.14 | 32.71 | 165.14 | 6.87 | 365.95 | 187.95 |
| 40 to 50 feet in altitude.....     | 22.09 | 95.90 | 24.37 | 93.30 | 15.50 | 17.95 | 24.25 | 146.32 | 7.24 | 310.54 | 137.19 |
| 50 to 70 feet in altitude.....     | 24.71 | 97.30 | 27.14 | 97.51 | 16.91 | 24.41 | 32.85 | 141.67 | 7.41 | 338.14 | 178.04 |
| 70 to 100 feet in altitude.....    | 18.61 | 66.64 | 20.42 | 66.68 | 12.96 | 18.60 | 19.42 | 101.76 | 8.17 | 251.55 | 129.03 |
| 100 feet and over in altitude..... | 17.38 | 60.98 | 18.59 | 60.59 | 12.27 | 8.46  | 24.64 | 118.11 | 4.42 | 233.24 | 125.59 |

It will be seen from these tables that in general the death rate diminishes as the altitude increases, but that there are numerous exceptions to this rule. For the districts in Boston under 15 feet in altitude the death rate was 24.86, for those from 15 to 25 feet it was 26.58, for those from 25 to 35 feet it was 22.78, for those from 35 to 65 feet it was 20.20, and for those 65 feet and over it was 17.79.

If we take the death rates of children under 5 years of age the decrease in mortality as the altitude increases is continuous, it being for those localities under 15 feet in altitude, 106.54; for those from 15 to 25 feet, 106.02; for those from 25 to 35 feet, 88.31; for those from 35 to 65 feet, 72.54, and for those 65 feet and upward, 61.96.

In Philadelphia the relations of death rate to altitude are less evident. The death rates were: for wards under 30 feet in altitude, 23.68; for those from 30 to 40 feet, 25.56; for those from 40 to 50 feet, 22.09; for those from 50 to 70 feet, 24.71; for those from 70 to 100 feet, 18.61, and for those 100 feet and upward, 17.38.

The death rates for those under 5 years of age were: for the districts under 30 feet in altitude, 89.60; for those from 30 to 40 feet, 94.20; for those from 40 to 50 feet, 95.90; for those from 50 to 70 feet, 97.30; for those from 70 to 100 feet, 66.64, and for those 100 feet and upward, 60.98.

The relations of altitude to the proportion of deaths caused by malarial fever, consumption, and diarrheal diseases are indicated by the tables. In Boston such relations are seen in the death rates from consumption, which were: for districts under 15 feet in altitude, 409.05; for those from 15 to 25 feet, 407.01; for those from 25 to 35 feet, 362.59; for those from 35 to 65 feet, 311.43, and for those 65 feet and upward, 237.77, showing a diminution in the mortality from this disease with increasing altitude.

In Philadelphia the gradation is less regular, the death rates from consumption having been: for the wards under 30 feet in altitude, 300.91; for those from 30 to 40 feet, 365.95; for those from 40 to 50 feet, 316.54; for those from 50 to 70 feet, 338.14; for those from 70 to 100 feet, 251.55, and for those 100 feet and upward, 233.24.

Table 70 shows for Boston and Philadelphia the area and proportion of area and the number and proportion of the population at different altitudes, and the corresponding death rates for the census year, with distinction of nativity and parental nativity.

TABLE 70.

| CHARACTERISTICS OF ALTITUDES.        | Boston.  | Philadelphia. | CHARACTERISTICS OF ALTITUDES.        | Boston. | Philadelphia. |
|--------------------------------------|----------|---------------|--------------------------------------|---------|---------------|
| Average altitude (in feet).....      | 70       | 129           | Altitude 30 to 45 feet—Continued.    |         |               |
| Total area (in acres).....           | 24, 231  | 82, 807       | Death rates per 1,000 of population: |         |               |
| Population, aggregate.....           | 448, 477 | 1, 046, 964   | Aggregate.....                       | 24. 58  | 24. 92        |
| Native, white.....                   | 283, 209 | 738, 341      | Native, white.....                   | 24. 42  | 26. 25        |
| Both parents native.....             | 135, 740 |               | Both parents native.....             | 19. 82  |               |
| Foreign, white.....                  | 156, 078 | 268, 249      | Foreign, white.....                  | 24. 35  | 19. 10        |
| Death rates per 1,000 of population: |          |               | Altitude 45 to 60 feet:              |         |               |
| Aggregate.....                       | 24. 79   | 22. 67        | Area (in acres).....                 | 7, 594  | 10, 715       |
| Native, white.....                   | 25. 94   | 23. 04        | Per cent in this group.....          | 31. 34  | 12. 94        |
| Both parents native.....             | 18. 75   |               | Population, aggregate.....           | 41, 670 | 145, 132      |
| Foreign, white.....                  | 22. 24   | 20. 19        | Per cent in this group.....          | 9. 29   | 13. 86        |
| Altitude under 15 feet:              |          |               | Native, white.....                   | 29, 595 | 103, 193      |
| Area (in acres).....                 | 4, 258   |               | Per cent in this group.....          | 10. 45  | 13. 98        |
| Per cent in this group.....          | 17. 57   |               | Both parents native.....             | 17, 611 |               |
| Population, aggregate.....           | 168, 741 |               | Per cent in this group.....          | 12. 97  |               |
| Per cent in this group.....          | 37. 63   |               | Foreign, white.....                  | 11, 885 | 37, 784       |
| Native, white.....                   | 104, 361 |               | Per cent in this group.....          | 7. 55   | 14. 09        |
| Per cent in this group.....          | 36. 85   |               | Death rates per 1,000 of population: |         |               |
| Both parents native.....             | 50, 949  |               | Aggregate.....                       | 19. 01  | 27. 63        |
| Per cent in this group.....          | 37. 53   |               | Native, white.....                   | 19. 06  | 27. 70        |
| Foreign, white.....                  | 60, 525  |               | Both parents native.....             | 14. 71  |               |
| Per cent in this group.....          | 38. 63   |               | Foreign, white.....                  | 17. 83  | 23. 98        |
| Death rates per 1,000 of population: |          |               | Altitude 60 to 90 feet:              |         |               |
| Aggregate.....                       | 26. 11   |               | Area (in acres).....                 | 1, 618  | 3, 984        |
| Native, white.....                   | 27. 25   |               | Per cent in this group.....          | 6. 08   | 4. 81         |
| Both parents native.....             | 19. 12   |               | Population, aggregate.....           | 42, 500 | 130, 356      |
| Foreign, white.....                  | 23. 53   |               | Per cent in this group.....          | 9. 48   | 12. 45        |
| Altitude 15 to 30 feet:              |          |               | Native, white.....                   | 30, 155 | 93, 018       |
| Area (in acres).....                 | 1, 830   | 9, 897        | Per cent in this group.....          | 10. 65  | 12. 60        |
| Per cent in this group.....          | 7. 55    | 11. 92        | Both parents native.....             | 18, 356 |               |
| Population, aggregate.....           | 124, 792 | 244, 731      | Per cent in this group.....          | 13. 52  |               |
| Per cent in this group.....          | 27. 33   | 23. 38        | Foreign, white.....                  | 12, 085 | 34, 038       |
| Native, white.....                   | 71, 062  | 174, 898      | Per cent in this group.....          | 7. 71   | 12. 69        |
| Per cent in this group.....          | 25. 09   | 23. 69        | Death rates per 1,000 of population: |         |               |
| Both parents native.....             | 24, 713  |               | Aggregate.....                       | 19. 51  | 20. 24        |
| Per cent in this group.....          | 18. 21   |               | Native, white.....                   | 20. 53  | 23. 90        |
| Foreign, white.....                  | 50, 160  | 64, 902       | Both parents native.....             | 15. 96  |               |
| Per cent in this group.....          | 32. 01   | 24. 19        | Foreign, white.....                  | 16. 55  | 17. 27        |
| Death rates per 1,000 of population: |          |               | Altitude 90 feet and over:           |         |               |
| Aggregate.....                       | 28. 18   | 24. 03        | Area (in acres).....                 | 8, 079  | 55, 820       |
| Native, white.....                   | 30. 87   | 24. 15        | Per cent in this group.....          | 33. 34  | 67. 41        |
| Both parents native.....             | 23. 63   |               | Population, aggregate.....           | 24, 997 | 304, 999      |
| Foreign, white.....                  | 22. 97   | 21. 93        | Per cent in this group.....          | 5. 57   | 29. 13        |
| Altitude 30 to 45 feet:              |          |               | Native, white.....                   | 16, 592 | 233, 816      |
| Area (in acres).....                 | 852      | 2, 421        | Per cent in this group.....          | 5. 86   | 31. 67        |
| Per cent in this group.....          | 3. 52    | 2. 92         | Both parents native.....             | 8, 016  |               |
| Population, aggregate.....           | 45, 777  | 221, 746      | Per cent in this group.....          | 5. 91   |               |
| Per cent in this group.....          | 10. 21   | 21. 18        | Foreign, white.....                  | 8, 192  | 63, 629       |
| Native, white.....                   | 31, 444  | 133, 416      | Per cent in this group.....          | 5. 23   | 23. 72        |
| Per cent in this group.....          | 11. 10   | 18. 07        | Death rates per 1,000 of population: |         |               |
| Both parents native.....             | 16, 095  |               | Aggregate.....                       | 17. 96  | 18. 63        |
| Per cent in this group.....          | 11. 86   |               | Native, white.....                   | 18. 68  | 18. 40        |
| Foreign, white.....                  | 13, 881  | 67, 896       | Both parents native.....             | 14. 47  |               |
| Per cent in this group.....          | 8. 86    | 25. 31        | Foreign, white.....                  | 16. 72  | 18. 01        |

## VITAL STATISTICS.

## DENSITY OF POPULATION.

Table 71 shows the area and population of the different districts in Boston on June 1, 1890, and the average annual death rates during the 6 years ending May 31, 1890, per 1,000 of mean population, with distinction of color, nativity, and parental nativity, according to density of population.

TABLE 71.

| DISTRICTS AND GROUPS OF DISTRICTS. | JUNE 1, 1890.  |             |  | AVERAGE ANNUAL DEATH RATES FOR 6 YEARS, EXCLUDING STILLBIRTHS. |         |        |                      |        |           |                |
|------------------------------------|--|-------------|--|--|---------|--------|----------------------|--------|-----------|----------------|
|                                    | Area (in acres), excluding parks, cemeteries, and water-surface. | Population. | Persons to the acre, excluding parks and cemeteries. | Aggregate.   | White.  |        |                      |        |           |                |
|                                    |  |             |  |  | Native. |        |                      |        | Foreign.  |                |
|                                    |  |             |  |  | Total.  |        | Both parents native. |        | All ages. | Under 5 years. |
| All ages.                          | Under 5 years.   | All ages.   | Under 5 years.                                       |  |         |        |                      |        |           |                |
| The city .....                     | 22,401   | 448,477     | 20.02  | 23.59  | 24.49   | 94.09  | 30.31                | 83.08  | 21.51     | 61.18          |
| Ward 16.....                       | 98   | 18,048      | 184.16   | 26.61  | 29.53   | 131.52 | 22.31                | 169.72 | 23.59     | 70.90          |
| Ward 8.....                        | 72   | 13,026      | 180.92   | 34.56  | 37.29   | 129.94 | 30.66                | 129.44 | 29.54     | 85.03          |
| Ward 9—A.....                      | 47   | 7,856       | 167.15   | 30.90  | 28.76   | 130.95 | 21.81                | 119.90 | 23.93     | 83.33          |
| Ward 7.....                        | 105  | 13,145      | 125.19   | 28.53  | 34.28   | 110.55 | 20.77                | 163.79 | 22.64     | 56.74          |
| Ward 3—A.....                      | 40   | 4,783       | 119.58   | 28.65  | 26.30   | 95.05  | 29.47                | 87.48  | 33.22     | 166.07         |
| Ward 5—B.....                      | 38   | 4,097       | 107.82   | 17.99  | 17.86   | 54.07  | 18.29                | 50.85  | 17.94     | .....          |
| Ward 6.....                        | 173  | 13,447      | 106.63   | 31.73  | 39.06   | 124.14 | 42.85                | 125.67 | 24.70     | 89.25          |
| Ward 19.....                       | 217  | 23,016      | 106.06   | 27.78  | 28.58   | 112.55 | 22.23                | 101.41 | 25.37     | 72.52          |
| Ward 10—B.....                     | 40   | 4,088       | 102.20   | 12.67  | 14.18   | 83.33  | 13.38                | 53.76  | 7.20      | .....          |
| Ward 17.....                       | 160  | 15,638      | 97.74  | 21.57  | 20.31   | 103.74 | 16.44                | 105.73 | 22.92     | 107.14         |
| Ward 9—B.....                      | 54   | 4,804       | 88.96  | 15.84  | 19.31   | 88.01  | 20.18                | 34.25  | 93.76     | .....          |
| Ward 18.....                       | 195  | 16,035      | 82.23  | 18.39  | 18.68   | 96.31  | 17.89                | 83.33  | 17.25     | 181.82         |
| Ward 4—A.....                      | 90   | 6,295       | 69.94  | 29.58  | 29.64   | 110.33 | 26.69                | 97.58  | 29.05     | 15.87          |
| Ward 2—B.....                      | 132  | 9,194       | 69.65  | 19.99  | 23.46   | 95.21  | 23.37                | 97.70  | 15.92     | 87.30          |
| Ward 2—A.....                      | 129  | 8,163       | 62.81  | 26.84  | 28.88   | 101.21 | 24.98                | 85.78  | 23.47     | 65.48          |
| Ward 12.....                       | 212  | 12,585      | 59.36  | 32.06  | 32.65   | 145.34 | 25.65                | 153.17 | 31.27     | 119.05         |
| Ward 22—C.....                     | 172  | 9,890       | 57.50  | 21.86  | 23.69   | 80.86  | 20.39                | 69.96  | 19.38     | 68.38          |
| Ward 10—A.....                     | 74   | 4,117       | 55.64  | 24.07  | 27.88   | 171.53 | 22.73                | 173.76 | 20.06     | 47.62          |
| Ward 5—A.....                      | 156  | 8,315       | 53.30  | 26.86  | 26.49   | 91.92  | 24.46                | 90.72  | 26.10     | 107.84         |
| Ward 1—B.....                      | 135  | 7,192       | 53.27  | 20.01  | 22.64   | 81.84  | 19.64                | 81.73  | 15.96     | 23.81          |
| Ward 3—B.....                      | 158  | 8,311       | 52.60  | 22.09  | 22.01   | 72.51  | 21.09                | 67.52  | 22.75     | 29.76          |
| Ward 15.....                       | 352  | 18,049      | 51.28  | 24.44  | 26.05   | 90.90  | 25.06                | 85.75  | 21.31     | 48.48          |
| Ward 11.....                       | 424  | 21,660      | 51.08  | 15.76  | 17.57   | 82.75  | 15.67                | 67.21  | 11.61     | 48.39          |
| Ward 14.....                       | 519  | 26,367      | 50.80  | 22.31  | 21.82   | 81.40  | 19.60                | 79.58  | 23.33     | 66.67          |
| Ward 13.....                       | 495  | 22,375      | 45.20  | 32.98  | 35.67   | 115.71 | 44.28                | 132.72 | 29.71     | 101.85         |
| Ward 20—A.....                     | 402  | 16,981      | 42.24  | 26.73  | 28.66   | 110.93 | 25.66                | 107.32 | 23.23     | 54.26          |
| Ward 4—B.....                      | 195  | 6,547       | 33.57  | 18.38  | 18.52   | 77.85  | 18.96                | 76.15  | 17.63     | 44.44          |
| Ward 21.....                       | 838  | 22,930      | 27.36  | 17.12  | 18.08   | 59.58  | 17.49                | 47.72  | 14.22     | 39.08          |
| Ward 20—B.....                     | 274  | 7,354       | 26.84  | 15.79  | 16.01   | 52.39  | 12.57                | 28.81  | 15.04     | 92.59          |
| Ward 22—B.....                     | 370  | 8,128       | 21.97  | 19.33  | 21.04   | 75.96  | 19.42                | 67.68  | 17.98     | 55.56          |
| Ward 1—A.....                      | 1,025  | 12,441      | 12.14  | 20.24  | 22.38   | 77.84  | 20.89                | 76.96  | 15.59     | 36.23          |
| Ward 24.....                       | 4,942  | 29,638      | 6.00   | 18.19  | 18.80   | 65.36  | 16.33                | 47.26  | 16.47     | 29.57          |
| Ward 25.....                       | 2,573  | 12,032      | 4.68   | 20.96  | 22.78   | 86.04  | 20.55                | 74.50  | 15.70     | 20.83          |
| Ward 23.....                       | 6,914  | 24,997      | 3.62   | 18.83  | 19.61   | 59.30  | 19.16                | 50.33  | 17.08     | 22.73          |
| Ward 22—A.....                     | 581  | 1,693       | 3.43   | 18.61  | 13.48   | 48.48  | 9.37                 | 25.86  | 13.46     | 83.33          |

## RECAPITULATION BY GROUPS OF DENSITY OF POPULATION OF BOSTON.

|                                       |        |         |        |       |       |        |       |        |       |       |
|---------------------------------------|--------|---------|--------|-------|-------|--------|-------|--------|-------|-------|
| Under 50 persons to the acre.....     | 18,609 | 165,416 | 8.89   | 21.53 | 22.33 | 80.69  | 19.25 | 66.35  | 19.74 | 45.03 |
| 50 to 100 persons to the acre.....    | 2,962  | 176,555 | 59.61  | 22.37 | 23.19 | 92.87  | 20.07 | 87.02  | 20.79 | 64.38 |
| 100 persons and over to the acre..... | 830    | 106,566 | 128.32 | 28.45 | 30.59 | 117.63 | 23.11 | 117.45 | 24.56 | 74.27 |

Table 72 shows the area and population of the different wards in Philadelphia on June 1, 1890, and the average annual death rates during the 6 years ending May 31, 1890, per 1,000 of mean population, with distinction of color and nativity, according to density of population.

TABLE 72.

| WARDS AND GROUPS OF WARDS. | JUNE 1, 1890.                                    |             |  | AVERAGE ANNUAL DEATH RATES FOR 6 YEARS, EXCLUDING STILLBIRTHS. |           |                |           |                |           |                |
|----------------------------|--|-------------|--|--|-----------|----------------|-----------|----------------|-----------|----------------|
|                            | Area (in acres), excluding parks and cemeteries. | Population. | Persons to the acre, excluding parks and cemeteries. | Aggregate.   | White.    |                |           |                | Colored.  |                |
|                            |  |             |  |  | Native.   |                | Foreign.  |                | All ages. | Under 5 years. |
|                            |  |             |  |  | All ages. | Under 5 years. | All ages. | Under 5 years. |           |                |
| Total.....                 | 78,577   | 1,046,964   | 13.32  | 21.86  | 24.05     | 82.12          | 14.70     | 14.60          | 29.52     | 149.22         |
| Ward 3.....                | 121  | 19,925      | 164.67   | 23.81  | 31.33     | 88.17          | 13.18     | 14.93          | 21.71     | 86.27          |
| Ward 4.....                | 144  | 20,384      | 141.56   | 31.68  | 46.48     | 108.33         | 12.93     | 6.44           | 43.38     | 215.34         |
| Ward 14.....               | 152  | 20,737      | 136.43   | 21.53  | 23.66     | 96.78          | 14.44     | 16.67          | 22.38     | 143.07         |
| Ward 19.....               | 439  | 55,545      | 126.53   | 23.88  | 26.62     | 94.13          | 16.75     | 30.30          | 51.33     | 325.40         |
| Ward 17.....               | 159  | 19,546      | 122.93   | 20.14  | 33.84     | 116.67         | 10.52     | 9.26           | 64.95     | 378.79         |
| Ward 32.....               | 253  | 30, (5)     | 118.77   | 14.60  | 15.10     | 57.63          | 11.42     | 23.81          | 13.66     | 250.00         |
| Ward 2.....                | 273  | 31,563      | 115.62   | 23.94  | 29.17     | 83.26          | 13.92     | 7.41           | 24.21     | 89.95          |
| Ward 12.....               | 124  | 14,170      | 114.27   | 22.14  | 26.03     | 82.93          | 13.55     | 16.13          | 44.85     | 152.38         |
| Ward 7.....                | 274  | 30,179      | 110.14   | 26.16  | 27.85     | 98.15          | 17.06     | 13.89          | 30.54     | 164.20         |
| Ward 13.....               | 163  | 17,923      | 109.96   | 20.92  | 24.25     | 112.24         | 11.07     | 13.89          | 28.76     | 177.54         |
| Ward 15.....               | 528  | 52,705      | 99.82  | 20.09  | 22.33     | 79.67          | 13.85     | 26.96          | 20.18     | 109.93         |
| Ward 10.....               | 218  | 21,514      | 98.69  | 19.63  | 21.82     | 88.85          | 13.06     | .....          | 14.51     | 166.67         |
| Ward 11.....               | 135  | 12,953      | 95.95  | 29.11  | 36.82     | 101.23         | 15.57     | 7.81           | 500.00    | 2,416.67       |
| Ward 16.....               | 180  | 17,087      | 94.93  | 28.16  | 32.90     | 108.46         | 18.29     | 35.71          | 46.38     | 115.38         |
| Ward 20.....               | 469  | 44,480      | 94.84  | 20.70  | 21.99     | 80.10          | 16.41     | 18.52          | 18.64     | 76.92          |
| Ward 30.....               | 332  | 30,614      | 92.21  | 22.10  | 23.21     | 81.81          | 19.54     | 15.87          | 21.74     | 109.31         |
| Ward 5.....                | 191  | 16,987      | 88.94  | 28.85  | 33.31     | 97.72          | 14.09     | 12.03          | 48.46     | 272.06         |
| Ward 29.....               | 628  | 54,759      | 87.20  | 20.16  | 20.99     | 73.37          | 17.16     | 24.51          | 19.09     | 111.11         |
| Ward 31.....               | 456  | 32,974      | 72.31  | 21.49  | 23.76     | 84.60          | 15.39     | 22.22          | 57.47     | 833.33         |
| Ward 18.....               | 406  | 29,164      | 71.83  | 24.47  | 26.21     | 104.88         | 17.49     | 30.61          | 90.91     | .....          |
| Ward 8.....                | 277  | 16,971      | 61.27  | 25.15  | 28.86     | 97.96          | 14.57     | 37.04          | 29.25     | 164.31         |
| Ward 6.....                | 195  | 8,712       | 44.68  | 24.70  | 30.34     | 99.00          | 14.91     | 15.72          | 49.77     | 400.00         |
| Ward 9.....                | 256  | 9,791       | 38.25  | 25.25  | 28.75     | 102.71         | 17.02     | 30.30          | 22.32     | 147.62         |
| Ward 1.....                | 3,513  | 53,882      | 15.34  | 22.25  | 23.94     | 84.35          | 14.91     | 17.44          | 33.07     | 123.11         |
| Ward 28.....               | 3,174  | 46,390      | 14.62  | 15.57  | 17.19     | 53.10          | 10.46     | 15.63          | 15.96     | 90.58          |
| Ward 25.....               | 2,495  | 35,945      | 14.41  | 24.36  | 27.41     | 90.42          | 15.67     | 26.32          | 33.33     | 118.28         |
| Ward 24.....               | 4,711  | 66,277      | 14.07  | 18.48  | 19.10     | 63.84          | 13.23     | 2.45           | 35.11     | 157.21         |
| Ward 26.....               | 4,715  | 62,138      | 13.18  | 19.44  | 21.20     | 71.54          | 14.47     | 11.11          | 18.15     | 64.97          |
| Ward 33.....               | 2,713  | 33,171      | 12.23  | 13.11  | 16.19     | 47.12          | 6.93      | 5.75           | 18.63     | 71.43          |
| Ward 21.....               | 4,174  | 26,900      | 6.44   | 19.59  | 22.05     | 65.82          | 12.50     | 7.94           | 56.78     | 2,333.33       |
| Ward 27.....               | 7,302  | 32,905      | 4.51   | 32.44  | 36.01     | 141.40         | 19.36     | 12.50          | 39.86     | 179.95         |
| Ward 22.....               | 12,326   | 45,329      | 3.68   | 17.69  | 19.39     | 61.54          | 12.89     | 0.17           | 15.91     | 71.43          |
| Ward 23.....               | 27,081   | 35,294      | 1.30   | 18.51  | 19.83     | 63.17          | 13.10     | 26.52          | 18.67     | 87.50          |

RECAPITULATION BY GROUPS OF DENSITY OF POPULATION OF PHILADELPHIA.

|                                       |        |         |        |       |       |       |       |       |       |        |
|---------------------------------------|--------|---------|--------|-------|-------|-------|-------|-------|-------|--------|
| Under 50 persons to the acre.....     | 72,655 | 456,734 | 6.29   | 20.22 | 22.16 | 73.14 | 13.44 | 13.64 | 27.61 | 118.88 |
| 50 to 100 persons to the acre.....    | 3,820  | 330,208 | 86.44  | 22.40 | 24.36 | 86.96 | 16.04 | 19.85 | 28.26 | 152.03 |
| 100 persons and over to the acre..... | 2,102  | 260,022 | 123.70 | 23.81 | 27.03 | 93.13 | 14.85 | 12.19 | 31.73 | 167.70 |

These tables do not indicate any very definite relation between the density of population and the magnitude of the death rates in different wards and districts of these cities. In Boston the highest death rate for the 6-year period, 22.09, was in the districts having less than 50 persons to the acre; and the lowest, 13.23, in those having from 50 to 100 persons to the acre, while it was 16.74 in those districts having 100 persons and upward to the acre.

In Philadelphia the lowest death rate, 20.22, occurred, as is usually the case, in the least densely populated districts, namely, those having under 50 persons to the acre, while in those having from 50 to 100 persons to the acre the death rate was 22.40, and in those having 100 persons and over to the acre it was 23.81.

In order to give some data for estimating the influence of density of population, vicinity of parks and open spaces, character of habitations, and other local peculiarities upon the death rates of the different localities and upon the death rates due to particular forms of disease, the following topographical descriptions of the two cities and of each ward and sanitary district therein are appended.

## BOSTON.

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Boston is situated on Boston harbor, in latitude  $42^{\circ} 21'$  north, longitude  $71^{\circ} 4'$  west from Greenwich.

The elevations range from sea level to 335 feet above. A large part of the present city was originally marsh land, at about the level of high tide, which had been filled with clean gravel or with ashes and other refuse of a large city to a height of 6 or 8 feet. The extensions of the shore line of the old city were made by cutting down some of the higher natural elevations.

The total area within the city limits, which extended to the harbor lines, was 27,596 acres. This included 3,365 acres of water surface, which will be excluded in stating the areas of each ward and sanitary district. Exclusive of water surface there were 24,231 acres, and the population on June 1, 1890, was 448,477, giving an average of 18.51 persons to each acre of land area.

The actual building area, however, was much less, there being 1,130 acres embraced in parks, 613 acres in cemeteries, and 87 acres in the navy yard. Excluding these areas, the remainder is found to be 22,401 acres, and the population density rises to 20.02 persons to the acre. The area covered by streets and alleys was not computed.

There are great differences in the density of population in different parts of the city, and the corresponding figures for these will be shown in certain of the tables presented as well as in the description of the sanitary districts into which the city was divided.

At the close of the census year, June 1, 1890, the number of dwellings in the city was 52,669, containing 89,716 families, with an average of 5.00 persons to each family and 8.52 persons to each dwelling.

To obtain some data with regard to the relations between local sanitary conditions and death rates, the city was subdivided within ward lines into sanitary districts, the boundaries of which are indicated upon the maps by dotted lines, while the ward boundaries are indicated by heavier lines of solid color.

The characteristics of the several sanitary districts are shown in the description given below, which were prepared by Dr. Samuel H. Durgin, of the board of health. These notes relate to the period for which the deaths were returned and not to the present time. The statements are purely historical, and are intended to furnish the means of estimating the relations of altitude, character of people, and nature of surroundings to the death rates during the 6 years ending May 31, 1890.

In the small tables given for each sanitary district the statement showing the death rates per 1,000 of white population is exclusive of stillbirths, while the rates given according to birthplaces of mothers include stillbirths.

Rates given for mothers born in "Other foreign countries" refer to all foreign countries not specified in Table 97.

The statements concerning highest and lowest rates according to birthplaces of mothers refer only to those birthplaces given in the comparative tables in which the numbers of population and of deaths are of sufficient size to warrant comparison.

### WARD 1.

This ward, including Breeds island, contained 1,256 acres, 2,651 dwellings, and a total population of 19,633. There were 86 acres of parking and 10 acres of cemeteries, excluding which, there was an average density of 16.93 persons and 2.29 dwellings to the acre, with 7.41 persons to each dwelling. The ward was divided into 2 districts.

**SANITARY DISTRICT A.**—Bounded by Chelsea creek, Boston harbor, Porter, Bremen, Putnam, Lamson, Swift, and Bennington streets, Central square, Border street, and boundary line between First and Second wards from Border street to Mystic river. Area, 1,121 acres; park area, 86 acres; cemetery area, 10 acres; population, 12,441, giving an average of 12.14 persons to each acre of area, exclusive of parks and cemeteries.

This was principally high land, having fairly good sewers tidelocked at high tide. The houses were mostly frame, occupied by people of from poor to well-to-do condition.

## VITAL STATISTICS.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |        |                |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                | Total. | Under 5 years. |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| District A..... | 22.38                                   | 77.84          | 20.89                | 76.96          | 24.42                        | 78.37          | 15.59    | 36.23          |        |                |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Scotland.       |                    | Canada.         |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 30.68           | 14.95              | 42.38           | 10.73              |
| District A..... | 34.46   | 16.23              | 32.51           | 18.17              | 20.83              | 11.60              | 35.09           | 17.30              | 34.11           | 11.66              |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                |                 |
|-----------------|--|---------------------|----------------|--------------|----------------|-----------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Scarlet fever. | Whooping cough. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 25.42          | 19.49           |
| District A..... | 124.02                                     | 161.95              | 26.26          | 288.89       | 39.39          | 26.26           |

During the 6-year period the death rate in this district was somewhat below the city average, and decidedly so for the children under 5 years of age and for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 18.17 as against 17.30 for those whose mothers were born in Scotland and 16.23 for those whose mothers were born in the United States.

Scarlet fever and whooping cough caused more than the average proportion of deaths. The death rates from cancer and tumor and from old age were also somewhat above the average.

**SANITARY DISTRICT B.**—Bounded by Bennington, Swift, Lamson, Putnam, Bremen, and Porter streets. Area, 135 acres; population, 7,192, giving an average of 53.27 persons to each acre of area.

There was much low land in this district; some was marshy, and a considerable portion had been filled and built up with frame dwellings and stores occupied principally by poor people. The drainage was poor. The eastern part of the district contained some dwellings of a better class.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B..... | 22.64                                   | 81.84          | 19.64                | 81.73          | 23.93                        | 81.88          | 15.96    | 23.81          |

# BOSTON AND PHILADELPHIA.

## SANITARY DISTRICT B—Continued.

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Scotland.       |                    | Canada.         |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 30.68           | 14.95              | 42.38           | 10.73              |
| District B..... | 41.80   | 7.62               | 34.43           | 19.38              | 18.24              | 8.77               | 4.90            | 15.77              | 27.20           | 6.25               |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                |            |
|-----------------|--|---------------------|----------------|--------------|----------------|------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Scarlet fever. | Pneumonia. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 25.42          | 221.40     |
| District B..... | 116.09                                     | 217.04              | 22.71          | 343.23       | 25.24          | 214.52     |

During the 6-year period the death rate in this district was decidedly below the city average, and especially so for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 19.38 as against 7.62 for those whose mothers were born in the United States and 6.25 for those whose mothers were born in Canada. Diarrheal diseases caused more than the average proportion of deaths.

### WARD 2.

This ward contained 263 acres, 1,816 dwellings, and a total population of 17,297. There were 2 acres of parking, exclusive of which there was an average density of 66.27 persons and 6.96 dwellings to the acre, with 9.52 persons to each dwelling. This ward was divided into 2 districts.

**SANITARY DISTRICT A.**—Bounded by the boundary line between First and Second wards, beginning at Mystic river, Border street, Central square, Porter, Bremen, Maverick, and Orleans streets, and Charles and Mystic rivers. Area, 129 acres; population, 8,103, giving an average of 62.81 persons to each acre of area.

This was mostly low land, largely filled with poor material. It contained many stores, wharves, and manufacturing establishments, with dwellings of medium grade.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.09          | 20.81                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District A..... | 28.88                                   | 101.21         | 24.98                | 85.78          | 30.93                        | 107.33         | 23.47    | 65.48          |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.62              | 42.38           | 10.73              |
| District A..... | 42.48   | 17.67              | 34.40           | 27.59              | 28.21           | 13.75              | 25.55              | 11.22              | 50.60           | 13.39              |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                 |
|-----------------|--|---------------------|----------------|--------------|------------|-----------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Whooping cough. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 19.49           |
| District A..... | 113.42                                     | 250.39              | 21.40          | 468.67       | 282.49     | 27.82           |

## VITAL STATISTICS.

During the 6-year period the death rate in this district was above the city average, and especially so for the children under 5 years of age. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 27.59 as against 17.67 for those whose mothers were born in the United States, 13.75 for those whose mothers were born in Germany, and 13.39 for those whose mothers were born in Canada.

Consumption, pneumonia, diarrheal diseases, whooping cough, and diseases of the nervous system caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Porter street, Boston harbor, Charles river, and Orleans, Maverick, and Bremen streets. Area, 134 acres; park area, 2 acres; population, 9,194, giving an average of 69.65 persons to each acre of area, exclusive of park area.

In the center of this district was a hill reaching an elevation of 40 to 50 feet above tidewater, on which was a residence section, the dwellings being brick and frame, in fair condition, and occupied by people of the middle class. Outside of this area the district was mostly made land, the filling of poor quality. Here were cheap frame dwellings, stores, wharves, and warehouses. The sewers were tidelocked or discharged on the flats.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.           | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|------------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                  | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                  | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                  |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city .....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B ..... | 23.46                                   | 95.21          | 23.37                | 97.70          | 23.49                        | 94.52          | 15.92    | 87.30          |

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|------------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                  | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scandinavia.    |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city .....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 42.38           | 10.73              | 38.53           | 8.88               |
| District B ..... | 43.19   | 12.09              | 29.30           | 14.45              | 34.84              | 13.45              | 35.42           | 7.53               | 36.28           | 10.75              |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                |
|------------------|--|---------------------|----------------|--------------|------------|----------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Scarlet fever. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 25.42          |
| District B ..... | 79.22                                      | 213.14              | 24.52          | 239.55       | 228.23     | 28.29          |

During the 6-year period the death rate in this district was decidedly below the city average, and especially so for the foreign born, and was above the average for the children under 5 years of age. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 14.45 as against 12.09 for those whose mothers were born in the United States and 7.53 for those whose mothers were born in Canada.

Scarlet fever, pneumonia, measles, whooping cough, and diseases of the nervous system caused more than the average proportion of deaths.

## WARD 3.

This ward contained 296 acres, 1,646 dwellings, and a total population of 13,094. There were 87 acres of the navy yard, 5 acres of parking, and 6 acres of cemeteries, excluding which there was an average density of 66.13 persons and 8.31 dwellings to the acre, with 7.96 persons to each dwelling. The ward was divided into 2 districts.

SANITARY DISTRICT A.—Bounded by Mystic and Charles rivers, and Mount Vernon, Chelsea, Vine, Bunker Hill, and Lexington streets. Area, 127 acres; navy yard, 87 acres; population, 4,783, giving an average of 119.58 persons to each acre, exclusive of the navy yard area.

This was principally low land, crowded with cheap frame dwellings occupied by poor people. There were some stores. The sewers were fairly good.

BOSTON AND PHILADELPHIA.

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The death rates in this district, compared with the average rates for the city, were as follows :

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District A..... | 26.90                                   | 95.05          | 29.47                | 87.48          | 25.04                        | 99.11          | 33.22    | 166.67         |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | Canada.         |                    | England and Wales. |                    | Scotland.       |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 42.38           | 10.73              | 30.36              | 13.62              | 30.68           | 14.95              |
| District A..... | 44.79   | 16.60              | 32.99           | 26.21              | 40.74           | 16.41              | 25.64              | 20.20              | 6.67            | 19.23              |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                |
|-----------------|--|---------------------|----------------|--------------|------------|----------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Scarlet fever. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 25.42          |
| District A..... | 123.13                                     | 304.22              | 28.97          | 499.78       | 300.59     | 54.32          |

During the 6-year period the death rate in this district was decidedly above the city average, and especially so for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 26.21 as against 16.60 for those whose mothers were born in the United States.

Scarlet fever, malarial fever, diarrheal diseases, consumption, pneumonia, and whooping cough caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Mystic river, Lexington, Bunker Hill, Vine, Chelsea, Adams, and Mount Vernon streets, Mount Vernon avenue, and Chestnut, Lexington, High, Pearl, Medford, and Mystic streets. Area, 169 acres; park area, 5 acres; cemetery area, 6 acres; population, 8,311, giving an average of 52.60 persons to each acre, exclusive of parks and cemeteries.

This was generally high ground. Extremes in dwellings and occupants existed. It had a dense population, the buildings being crowded in narrow streets. The sewers were old but fairly good.

The death rates in this district, compared with the average rates for the city, were as follows :

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.40                                   | 94.00          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B..... | 22.01                                   | 72.51          | 21.09                | 67.52          | 23.18                        | 76.65          | 22.75    | 29.76          |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scotland.       |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 42.38           | 10.73              | 30.68           | 14.95              |
| District B..... | 30.60   | 16.32              | 32.37           | 22.95              | 12.96              | 12.30              | 33.82           | 10.40              | 41.67           | 21.21              |

## VITAL STATISTICS.

## SANITARY DISTRICT B—Continued.

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                |                   |
|------------------|--|---------------------|----------------|--------------|----------------|-------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Scarlet fever. | Cancer and tumor. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 25.42          | 73.55             |
| District B ..... | 66.69                                      | 193.82              | 14.59          | 425.16       | 41.68          | 87.53             |

During the 6-year period the death rate in this district was below the city average, and especially so for the children under 5 years of age. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 22.95 as against 21.21 for those whose mothers were born in Scotland and 16.32 for those whose mothers were born in the United States.

Scarlet fever, consumption, cancer and tumor, and diseases of the nervous system caused more than the average proportion of deaths.

## WARD 4.

This ward contained 291 acres, 1,830 dwellings, and a total population of 12,842. There were 6 acres of cemeteries, excluding which there was an average density of 45.06 persons and 6.42 dwellings to the acre, with 7.02 persons to each dwelling. The ward was divided into 2 districts.

SANITARY DISTRICT A.—Bounded by Mystic river, and Mystic, Medford, Pearl, High, Walker, Main, and Beach streets. Area, 96 acres; cemetery area, 6 acres; population, 6,295, giving an average of 69.94 persons to each acre of area, exclusive of cemeteries.

It was principally high ground, containing old frame and brick dwellings and stores in fair condition. The residents were of those in poor and moderate circumstances, and the sewers were old but fairly good.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.           | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|------------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                  | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                  | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. | Total. | Under 5 years. |
|                  |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |        |                |
| The city .....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| District A ..... | 29.64                                   | 110.33         | 26.69                | 97.58          | 34.23                        | 121.55         | 29.05    | 15.87          |        |                |

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|------------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                  | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city .....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.62              | 42.38           | 10.73              |
| District A ..... | 46.22   | 20.87              | 40.66           | 27.45              | 41.67           | 14.37              | 37.04              | 11.81              | 53.33           | 19.90              |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                   |
|------------------|--|---------------------|----------------|--------------|------------|-------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Cancer and tumor. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 73.55             |
| District A ..... | 112.93                                     | 190.05              | 63.35          | 495.79       | 297.47     | 104.67            |

During the 6-year period the death rate in this district was decidedly above the city average, but was below it for the foreign born children under 5 years of age. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 27.45 as against 20.87 for those whose mothers were born in the United States, 19.90 for those whose mothers were born in Canada, and 14.37 for those whose mothers were born in Germany.

Scarlet fever, typhoid fever, consumption, pneumonia, measles, whooping cough, cancer and tumor, heart disease and dropsy, diseases of the nervous system, and diseases of the urinary organs caused more than the average proportion of deaths. The proportion of stillbirths was also higher, being 44.07 per 100,000, while the average for the whole city was 28.84.

SANITARY DISTRICT B.—Bounded by Mystic river, Beach, Main, and Lincoln streets, and the city boundary line. Area, 195 acres; population, 6,547, giving an average of 33.57 persons to each acre of area.

This was low, principally made, land, the filling material poor, and with poor sewers. The dwellings were generally cheap frame, with small stores. The residents were poor.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B..... | 18.52                                   | 77.85          | 18.96                | 76.15          | 18.06                        | 78.95          | 17.63    | 44.44          |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scotland.       |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 42.38           | 10.73              | 30.68           | 14.95              |
| District B..... | 34.67   | 12.40              | 23.44           | 14.46              | 22.06              | 13.23              | 27.32           | 7.95               | 43.21           | 6.41               |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                 |
|-----------------|--|---------------------|----------------|--------------|------------|-----------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Whooping cough. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 19.49           |
| District B..... | 97.99                                      | 180.09              | 52.97          | 262.20       | 209.23     | 21.19           |

During the 6-year period the death rate in this district was decidedly below the city average for both children and adults. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 14.46 as against 12.40 for those whose mothers were born in the United States and 7.95 for those whose mothers were born in Canada.

Typhoid fever and whooping cough caused more than the average proportion of deaths.

WARD 5.

This ward contained 196 acres, 1,505 dwellings, and a total population of 12,412. There were 2 acres of cemeteries, excluding which there was an average density of 63.98 persons and 7.76 dwellings to the acre, with 8.25 persons to each dwelling. The ward was divided into 2 districts.

SANITARY DISTRICT A.—Bounded by Main, Warren, Henley, and Chelsea streets, navy yard, Charles and Millers rivers, and Lincoln street. Area, 158 acres; cemetery area, 2 acres; population, 8,315, giving an average of 53.30 persons to each acre of area, exclusive of cemeteries.

This was mostly low land, with one considerable elevation, occupied largely for purposes of business, with some good dwellings and many poor ones. The sewers were old, poor, and with little pitch.

## VITAL STATISTICS.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |  |  |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--|--|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |  |  |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |  |  |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |  |  |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |  |  |
| District A..... | 26.49                                   | 91.92          | 24.46                | 90.72          | 28.09                        | 92.48          | 26.19    | 107.84         |  |  |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN-- |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|--|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.   |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scotland.       |                    |
|                 | Under 15 years.  | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76  | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 42.38           | 10.73              | 30.68           | 14.95              |
| District A..... | 39.70  | 17.68              | 38.87           | 24.02              | 35.71              | 9.22               | 41.50           | 9.89               | 35.71           | 25.09              |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO-- |                     |                |              |            |                |
|-----------------|---|---------------------|----------------|--------------|------------|----------------|
|                 | Diphtheria and croup.                       | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Scarlet fever. |
| The city.....   | 124.50                                      | 214.28              | 39.02          | 386.51       | 221.40     | 25.42          |
| District A..... | 106.12                                      | 193.51              | 56.18          | 426.55       | 251.77     | 43.70          |

During the 6-year period the death rate in this district was somewhat above the city average and very much above the average for the foreign born children under 5 years of age. For those 15 years of age and upward it was above the average for those whose mothers were born in the United States and Scotland, but was highest among those whose mothers were born in Scotland.

Scarlet fever, typhoid fever, consumption, pneumonia, whooping cough, cancer and tumor, childbirth and puerperal diseases, diseases of the nervous system, and diseases of the urinary organs caused more than the average proportion of deaths.

**SANITARY DISTRICT B.**—Bounded by High, Lexington, and Chestnut streets, Mount Vernon avenue, and Mount Vernon, Chelsea, Henley, Warren, Main, and Walker streets. Area, 38 acres; population, 4,097, giving an average of 107.82 persons to each acre of area.

This was generally high ground, containing dwellings and stores, with residents of the middle class. The sewers were fairly good.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B..... | 17.86                                   | 54.07          | 18.29                | 50.85          | 17.06                        | 56.71          | 17.94    | .....          |

SANITARY DISTRICT B—Continued.

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                    |                    |
|------------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|
|                  | United States.  |                    | Ireland.        |                    | Germany.        |                    | Canada.         |                    | England and Wales. |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. |
| The city .....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 42.38           | 10.73              | 30.36              | 13.62              |
| District B ..... | 24.98   | 16.01              | 20.54           | 15.54              | .....           | 11.90              | 29.07           | 11.69              | 19.23              | 18.94              |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                 |                   |
|------------------|--|---------------------|----------------|--------------|-----------------|-------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Malarial fever. | Cancer and tumor. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 1.75            | 73.55             |
| District B ..... | 33.78                                      | 105.57              | 42.23          | 240.69       | 4.22            | 135.12            |

During the 6-year period the death rate in this district was decidedly below the city average, and especially so for the children under 5 years of age. For those 15 years of age and upward it was above the average for those whose mothers were born in the United States, in Canada, and in England and Wales, and below it for those whose mothers were born in Ireland and Germany. It was highest for those whose mothers were born in England and Wales, being 18.94 as against 16.01 for those whose mothers were born in the United States, 15.54 for those whose mothers were born in Ireland, and 11.90 for those whose mothers were born in Germany.

Typhoid fever, malarial fever, cancer and tumor, childbirth and puerperal diseases, and diseases of the nervous system caused more than the average proportion of deaths.

WARD 6.

This ward contained 176 acres, 1,391 dwellings, and a total population of 18,447. There were 3 acres of cemeteries, excluding which there was an average density of 106.63 persons and 8.04 dwellings to the acre, with 13.26 persons to each dwelling. This ward formed 1 district.

This ward was in the oldest part of the city. The streets were narrow, with a good many narrow and unpaved alleys. The buildings were principally brick, high, and generally crowded. Many old houses had been converted into tenements, and were occupied by Irish, Italians, and Polish Jews. The sewers were old, small, and with but little pitch.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 6 .....   | 39.06                                   | 124.14         | 42.85                | 125.67         | 38.42                        | 123.84         | 24.70    | 89.35          |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                          |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | Canada.         |                    | Italy.          |                    | Other foreign countries. |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.          | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 42.38           | 10.73              | 44.53           | 8.23               | 33.14                    | 8.76               |
| Ward 6 .....   | 62.73   | 18.17              | 46.06           | 33.80              | 75.76           | 17.42              | 47.10           | 8.72               | 47.60                    | 8.92               |

## VITAL STATISTICS.

## WARD 6—Continued.

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |          |
|----------------|--|---------------------|----------------|--------------|------------|----------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Measles. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 11.61    |
| Ward 6 .....   | 178.07                                     | 265.26              | 51.01          | 476.72       | 334.82     | 47.30    |

During the 6-year period the death rate in this ward was much above the city average, and especially so for the native. For those 15 years of age and upward it was 33.80 for those whose mothers were born in Ireland, 18.17 for those whose mothers were born in the United States, and 8.72 for those whose mothers were born in Italy.

Scarlet fever, typhoid fever, diphtheria and croup, diarrheal diseases, consumption, pneumonia, measles, whooping cough, heart disease and dropsy, childbirth and puerperal diseases, and diseases of the urinary organs caused more than the average proportion of deaths. The proportion of stillbirths was also higher, being 41.74 per 100,000 as against the average of 28.84.

## WARD 7.

This ward contained 105 acres, 953 dwellings, and a total population of 13,145, giving an average density of 125.19 persons and 9.08 dwellings to each acre of area, with 13.79 persons to each dwelling. This ward formed 1 district.

The general characteristics of this ward were similar to those of ward 6.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 7 .....   | 34.28                                   | 110.55         | 20.77                | 163.79         | 41.80                        | 104.77         | 22.64    | 56.74          |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                          |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | Canada.         |                    | Italy.          |                    | Other foreign countries. |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.          | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 42.38           | 10.73              | 44.53           | 8.23               | 33.14                    | 8.76               |
| Ward 7 .....   | 77.01   | 13.18              | 53.10           | 35.77              | 64.99           | 13.29              | 42.83           | 7.21               | 26.94                    | 4.75               |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                                    |
|----------------|--|---------------------|----------------|--------------|------------|------------------------------------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Childbirth and puerperal diseases. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 14.92                              |
| Ward 7 .....   | 155.57                                     | 205.71              | 43.71          | 506.57       | 293.14     | 25.71                              |

During the 6-year period the death rate in this ward was above the city average, especially for the natives, being below the average for the foreign born children under 5 years of age. For those 15 years of age and upward it was 35.77 for those whose mothers were born in Ireland, 13.29 for those whose mothers were born in Canada, 13.18 for those whose mothers were born in the United States, and 7.21 for those whose mothers were born in Italy.

Scarlet fever, typhoid fever, diphtheria and croup, consumption, pneumonia, measles, heart disease and dropsy, childbirth and puerperal diseases, and diseases of the liver caused more than the average proportion of deaths. The proportion of stillbirths was also high, being 42.43 per 100,000 of population as against the average of 28.84.

WARD 8.

This ward contained 76 acres, 1,217 dwellings, and a total population of 13,026. There were 4 acres of parking, excluding which there was an average density of 180.92 persons and 16.90 dwellings to each acre, with 10.70 persons to each dwelling. This ward formed 1 district.

This ward was part high and part low land, containing mostly brick buildings occupied as dwellings and stores. It was an old part of the city, with narrow streets and old but fairly good sewers.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. | Total. | Under 5 years. |
|                |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |        |                |
| The city ..... | 24.40                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| Ward 8 .....   | 37.29                                   | 129.94         | 30.66                | 129.44         | 41.61                        | 130.11         | 29.54    | 85.03          |        |                |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                          |                    |
|----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|--------------------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Other foreign countries. |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.          | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.02              | 42.38           | 10.73              | 33.14                    | 8.76               |
| Ward 8 .....   | 63.96   | 20.20              | 62.88           | 34.71              | 49.30              | 19.38              | 84.86           | 22.91              | 19.01                    | 3.98               |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                |            |
|----------------|--|---------------------|----------------|--------------|----------------|------------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Scarlet fever. | Pneumonia. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 25.42          | 221.40     |
| Ward 8 .....   | 209.70                                     | 263.73              | 55.32          | 671.56       | 47.60          | 297.18     |

During the 6-year period the death rate in this ward was higher than in any other ward in the city, being 34.56 as against the average of 23.59. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 34.71 as against 22.91 for those whose mothers were born in Canada and 20.20 for those whose mothers were born in the United States. For the children under 15 years of age whose mothers were born in Canada the death rate was double that for the average for the same class throughout the city.

Scarlet fever, typhoid fever, diphtheria and croup, diarrheal diseases, consumption, pneumonia, whooping cough, cancer and tumor, heart disease and dropsy, childbirth and puerperal diseases, diseases of the liver, and diseases of the urinary organs caused more than the average proportion of deaths.

WARD 9.

This ward contained 107 acres, 1,453 dwellings, and a total population of 12,660. There were 6 acres of parking, excluding which there was an average density of 125.35 persons and 14.39 dwellings to the acre, with 8.71 persons to each dwelling. This ward was divided into 2 districts.

SANITARY DISTRICT A.—Bounded by Allen, Blossom, Cambridge, Joy, Myrtle, Grove, Reveré, Charles, and Cambridge streets, and Charles river. Area, 53 acres; park area, 6 acres; population, 7,856, giving an average of 167.15 persons to each acre of area, exclusive of the parks.

This was part high and part low land, containing brick and frame dwellings and stores occupied by poor to middle class of people, both white and colored. Much of the low land had been filled with unclean material.

## VITAL STATISTICS.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49 | 94.09                                   | 20.31          | 83.08                | 28.31          | 98.93                        | 21.51          | 61.18    |                |
| District A..... | 28.76 | 130.95                                  | 21.81          | 119.90               | 36.31          | 137.38                       | 23.93          | 83.33    |                |

| AREAS.          |       | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|-----------------|-------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                 |       | United States.  |                    | Ireland.        |                    | Canada.         |                    | England and Wales. |                    | Scotland.       |                    |
|                 |       | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76 | 14.79   | 39.03              | 24.12           | 42.38              | 10.73           | 30.56              | 13.62              | 30.68              | 14.95           |                    |
| District A..... | 44.91 | 1.79  | 39.43              | 28.92           | 69.50              | 15.17           | 56.55              | 10.56              | 31.75              | 17.06           |                    |

| AREAS.          |        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                           |
|-----------------|--------|--|---------------------|----------------|--------------|------------|---------------------------|
|                 |        | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Heart disease and dropsy. |
| The city.....   | 124.50 | 214.28                                     | 39.02               | 386.51         | 221.40       | 150.36     |                           |
| District A..... | 95.58  | 237.88                                     | 57.35               | 556.48         | 290.98       | 210.27     |                           |

During the 6-year period the death rate in this district was much above the city average, and especially so for the children under 5 years of age. For those 15 years of age and upward it was above the average for those whose mothers were born in Ireland, Canada, and Scotland, and below it for those whose mothers were born in the United States and in England and Wales.

Scarlet fever, typhoid fever, diarrheal diseases, consumption, pneumonia, measles, whooping cough, cancer and tumor, heart disease and dropsy, childbirth and puerperal diseases, and diseases of the urinary organs caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Cambridge, Charles, Revere, Grove, Myrtle, Joy, Beacon, and Otter streets, and Charles river. Area, 54 acres; population, 4,804, giving an average of 88.96 persons to each acre of area. This was mostly a residence district; and west of Charles street was made land.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49 | 94.09                                   | 20.31          | 83.08                | 28.31          | 98.93                        | 21.51          | 61.18    |                |
| District B..... | 19.31 | 38.61                                   | 20.18          | 34.25                | 16.67          | 41.67                        | 93.76          | .....    |                |

| AREAS.          |       | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|-------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 |       | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scotland.       |                    |
|                 |       | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76 | 14.79   | 39.03              | 24.12           | 30.36              | 13.62              | 42.38              | 10.73           | 30.68              | 14.95           |                    |
| District B..... | 14.06 | 18.83   | 26.14              | 8.80            | 5.38               | 11.54              | 14.93              | 5.70            | 500.00             | 12.66           |                    |

# BOSTON AND PHILADELPHIA.

## SANITARY DISTRICT B—Continued.

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                   |                                 |
|------------------|--|---------------------|----------------|--------------|-------------------|---------------------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Cancer and tumor. | Diseases of the urinary organs. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 73.55             | 84.84                           |
| District B ..... | 27.79                                      | 59.05               | 20.84          | 93.79        | 118.10            | 104.21                          |

During the 6-year period the death rate in this district was much below the city average, and especially so for the children under 5 years of age, but was much above the average for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in the United States, being 18.83 as against 8.80 for those whose mothers were born in Ireland and 5.70 for those whose mothers were born in Canada.

Cancer and tumor, heart disease and dropsy, and diseases of the urinary organs caused more than the average proportion of deaths.

### WARD 10.

This ward contained 215 acres, 746 dwellings, and a total population of 8,205. There were 78 acres of Boston commons and the public gardens, together with 23 acres of cemeteries, in this ward, excluding which there was an average density of 71.97 persons and 6.54 dwellings to the acre, with 11 persons to each dwelling. The ward was divided into 2 districts.

**SANITARY DISTRICT A.**—Bounded by Beacon, Park, Tremont, Court, State, Devonshire, Summer, Lincoln, Beach, Hudson, Kneeland, Eliot, Tremont, Boylston, and Arlington streets. Area, 173 acres; 78 acres of Boston commons and public gardens, 21 acres of cemeteries; population, 4,117, giving an average of 55.64 persons to the acre, exclusive of the commons and cemeteries.

This was generally a business section. The ground was partly high and partly low. A small area in the southern end had a considerable tenement house population. The sewers in the business section were good and in the tenement section poor.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.           | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|------------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                  | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                  | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. | Total. | Under 5 years. |
|                  |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |        |                |
| The city .....   | 24.40                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| District A ..... | 27.88                                   | 171.53         | 22.73                | 173.76         | 37.35                        | 170.37         | 20.06    | 47.62          |        |                |

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|------------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                  | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
|                  | The city .....  | 37.76              | 14.79           | 39.03              | 24.12           | 28.44              | 13.52              | 30.36              | 13.62           | 42.38              |
| District A ..... | 75.24   | 16.55              | 63.83           | 21.38              | 26.67           | 17.66              | 43.21              | 13.51              | 66.67           | 14.87              |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                 |                                 |
|------------------|--|---------------------|----------------|--------------|-----------------|---------------------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Malarial fever. | Diseases of the urinary organs. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 1.75            | 84.84                           |
| District A ..... | 87.80                                      | 131.69              | 36.58          | 365.82       | 3.66            | 113.40                          |

## VITAL STATISTICS.

During the 6-year period the death rate in this district was very slightly above the city average and was above it for the children under 5 years of age. For those 15 years of age and upward it was above the general city average for those whose mothers were born in the United States and Germany and in Canada and below it for those whose mothers were born in Ireland and in England and Wales.

Malarial fever, heart disease and dropsy, childbirth and puerperal diseases, diseases of the liver, and diseases of the urinary organs caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Cambridge street, Bowdoin square, Bulfinch, Howard, and Court streets, Tremont park, and Beacon and Joy streets. Area, 42 acres; cemetery area, 2 acres; population, 4,088, giving an average of 102.20 persons to each acre of area, exclusive of cemeteries.

This was a residence section with some business houses and hotels.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. | Total. | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |        |                |
| The city.....   | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| District B..... | 14.18                                   | 83.33          | 13.38                | 53.76          | 20.72                        | 153.85         | 7.20     |                |        |                |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                    |                    |                 |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | England and Wales. |                    | Canada.         |                    | Scotland.       |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 30.36              | 13.62              | 42.38           | 10.73              | 30.68           | 14.95              |
| District B..... | 27.52   | 15.16              | 66.67           | 9.59               | 15.15              | 5.38               | 64.10           | 6.13               |                 | 7.04               |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                           |                        |
|-----------------|--|---------------------|----------------|--------------|---------------------------|------------------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Heart disease and dropsy. | Diseases of the liver. |
| The city.....   | 124.50                                     | 214.28              | 89.02          | 386.51       | 156.36                    | 23.43                  |
| District B..... | 11.05                                      | 47.89               | 29.47          | 125.26       | 162.10                    | 29.47                  |

During the 6-year period the death rate in this district was lower than in any other district in the city, being 12.67 as against 23.59, the average for the whole city. For those 15 years of age and upward it was above the city average for those whose mothers were born in the United States, being 15.16, for those whose mothers were born in Ireland it was 9.59, and for those whose mothers were born in Canada it was 6.13.

Malarial fever, heart disease and dropsy, and diseases of the liver caused more than the average proportion of deaths.

## WARD 11.

This ward contained 424 acres, 2,457 dwellings, and a total population of 21,660, giving an average density of 51.08 persons and 5.79 dwellings to each acre, with 8.82 persons to each dwelling. This ward formed 1 district.

This ward, originally all marshy land, was filled with clean gravel and had wide streets with many open squares, and was occupied mainly by wealthy people in fine dwellings of brick and stone. The sewers were good.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.        | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|---------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|               | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|               | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|               |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.78          |
| Ward 11.....  | 17.57                                   | 82.75          | 15.67                | 67.21          | 22.99                        | 94.20          | 11.61    | 48.39          |

| AREAS.        | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|---------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|               | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|               | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.02              | 42.38           | 10.73              |
| Ward 11.....  | 24.97   | 13.41              | 45.03           | 13.38              | 26.67           | 12.84              | 23.81              | 11.22              | 42.59           | 5.46               |

| AREAS.        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                 |                                    |
|---------------|--|---------------------|----------------|--------------|-----------------|------------------------------------|
|               | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Malarial fever. | Childbirth and puerperal diseases. |
| The city..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 1.75            | 14.02                              |
| Ward 11.....  | 58.34                                      | 75.00               | 27.50          | 190.84       | 4.17            | 7.50                               |

During the 6-year period the death rate in this ward was much below the city average, and especially so for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in the United States, being 13.41 as against 13.38 for those whose mothers were born in Ireland, 12.84 for those whose mothers were born in Germany, and 5.46 for those whose mothers were born in Canada.

Malarial fever caused more than the average proportion of deaths.

WARD 12.

This ward contained 212 acres, 1,066 dwellings, and a total population of 12,585, giving an average density of 59.36 persons and 5.03 dwellings to each acre, with 11.81 persons to each dwelling. This ward formed 1 district. This was part high and part low, with a large water frontage and many wharves. It had a considerable tenement house population.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.        | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|---------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|               | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|               | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|               |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 12.....  | 32.65                                   | 145.34         | 25.65                | 153.17         | 37.11                        | 142.78         | 31.27    | 119.05         |

## VITAL STATISTICS.

## WARD 12—Continued.

| AREAS.        | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                    |                    |
|---------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|
|               | United States.  |                    | Ireland.        |                    | Germany.        |                    | Canada.         |                    | England and Wales. |                    |
|               | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. |
| The city..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 42.38           | 10.73              | 30.36              | 13.62              |
| Ward 12.....  | 73.94   | 13.97              | 49.58           | 33.62              | 23.81           | 12.78              | 65.12           | 12.88              | 79.86              | 16.48              |

| AREAS.        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                           |
|---------------|--|---------------------|----------------|--------------|------------|---------------------------|
|               | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Heart disease and dropsy. |
| The city..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 150.36                    |
| Ward 12.....  | 108.72                                     | 230.08              | 44.25          | 537.27       | 372.93     | 231.34                    |

During the 6-year period the death rate in this ward was much above the city average, and especially so for the children under 5 years of age. For those 15 years of age and upward it was below the city average for those whose mothers were born in the United States and in Germany, but above the average for those whose mothers were born in Ireland, in Canada, and in England and Wales. It was highest among those whose mothers were born in Ireland, being 33.62 as against 13.97 for those whose mothers were born in the United States and 12.78 for those whose mothers were born in Germany.

Typhoid fever, diarrheal diseases, pneumonia, heart disease and dropsy, diseases of the nervous system, and diseases of the urinary organs caused more than the average proportion of deaths.

## WARD 13.

This ward contained 495 acres, 2,033 dwellings, and a total population of 22,375, giving an average density of 45.20 persons, and 4.11 dwellings to the acre, with 11.01 persons to each dwelling. This ward formed 1 district.

Much of this area was made land. The buildings were principally frame, many being tenements. The sewers were in fair condition.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.        | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|---------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|               | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|               | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|               |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 13.....  | 35.67                                   | 115.71         | 44.28                | 132.72         | 34.22                        | 112.24         | 29.71    | 101.85         |

| AREAS.        | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                    |                    |
|---------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|
|               | United States.  |                    | Ireland.        |                    | Germany.        |                    | Canada.         |                    | England and Wales. |                    |
|               | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. |
| The city..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 42.38           | 10.73              | 30.36              | 13.62              |
| Ward 13.....  | 60.55   | 17.53              | 45.40           | 28.47              | 34.24           | 17.00              | 53.64           | 15.49              | 33.94              | 18.99              |

| AREAS.        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |          |
|---------------|--|---------------------|----------------|--------------|------------|----------|
|               | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Measles. |
| The city..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 11.61    |
| Ward 13.....  | 190.83                                     | 369.58              | 62.60          | 587.56       | 265.50     | 24.14    |

During the 6-year period the death rate in this ward was higher than in any other ward in the city except ward 8, being 32.98 as against the average of 23.59. It was especially high among the children under 5 years of age. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 28.47 as against 17.53 for those whose mothers were born in the United States and 17.00 for those whose mothers were born in Germany.

Typhoid fever caused a higher death rate in this ward than in any other part of the city except in ward 4.

Diphtheria and croup, diarrheal diseases, consumption, pneumonia, measles, whooping cough, diseases of the liver, and diseases of the nervous system also caused more than the average proportion of deaths.

WARD 14.

This ward contained 533 acres, 3,294 dwellings, and a total population of 26,367. There were 14 acres of parking, excluding which there was an average density of 50.80 persons and 6.35 dwellings to each acre, with 8.00 persons to the dwelling. This ward formed 1 district.

This ward was mostly surrounded by water. The surface was rolling, with good drainage. The dwellings were generally frame, comparatively new, and occupied by people of moderate circumstances. There were but few tenement houses in this section.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 14 .....  | 21.82                                   | 81.40          | 19.60                | 79.58          | 23.50                        | 82.30          | 23.33    | 66.07          |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.02              | 42.38           | 10.73              |
| Ward 14 .....  | 34.90   | 12.87              | 29.56           | 23.15              | 33.92           | 11.46              | 25.10              | 15.38              | 35.25           | 11.21              |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                 |
|----------------|--|---------------------|----------------|--------------|------------|-----------------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Whooping cough. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 19.49           |
| Ward 14 .....  | 121.54                                     | 189.53              | 48.07          | 372.87       | 177.85     | 21.97           |

During the 6-year period the death rate in this ward was somewhat below the city average, but was above it for the foreign born. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 23.15 as against 15.38 for those whose mothers were born in England and Wales, 12.87 for those whose mothers were born in the United States, 11.46 for those whose mothers were born in Germany, and 11.21 for those whose mothers were born in Canada. The death rate of the German children under 15 years of age was above the city average.

Typhoid fever and whooping cough caused more than the average proportion of deaths.

WARD 15.

This ward contained 353 acres, 2,146 dwellings, and a total population of 18,049. There was 1 acre of cemeteries, excluding which there was an average density of 51.28 persons and 6.10 dwellings to the acre, with 8.41 persons to each dwelling. This ward formed 1 district.

This was mostly low land, a considerable portion having been filled. The drainage was fair. The dwellings were generally frame and small, with few apartment or tenement houses. Residents were generally in humble circumstances.

## VITAL STATISTICS.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49 | 94.09                                   | 20.31          | 83.08                | 28.31          | 98.93                        | 21.51          | 61.18    |                |
| Ward 15 .....  | 26.05 | 90.90                                   | 25.06          | 85.75                | 26.58          | 99.49                        | 21.31          | 48.48    |                |

| AREAS.         |       | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|----------------|-------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                |       | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                |       | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city ..... | 37.76 | 14.79   | 30.03              | 24.12           | 28.44              | 13.52           | 30.36              | 13.62              | 42.38              | 10.73           |                    |
| Ward 15 .....  | 44.81 | 14.98   | 30.52              | 21.64           | 38.95              | 17.64           | 28.71              | 12.14              | 44.51              | 12.36           |                    |

| AREAS.         |        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |          |
|----------------|--------|--|---------------------|----------------|--------------|------------|----------|
|                |        | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Measles. |
| The city ..... | 124.50 | 214.28                                     | 39.02               | 386.51         | 221.40       | 11.61      |          |
| Ward 15 .....  | 192.67 | 245.49                                     | 53.79               | 406.86         | 198.54       | 19.56      |          |

During the 6-year period the death rate in this ward was about the city average, being slightly above it for the native and slightly below it for the foreign born for both children and adults. For those 15 years of age and upward it was highest among those whose mothers were born in Ireland, being 21.64 as against 17.64 for those whose mothers were born in Germany and 14.98 for those whose mothers were born in the United States.

Typhoid fever, diphtheria and croup, diarrheal diseases, consumption, measles, and whooping cough caused more than the average proportion of deaths. The proportion of stillbirths was higher than in any other district in the city, being 49.88 per 100,000 as against 28.84, the average.

## WARD 16.

This ward contained 98 acres, 1,451 dwellings, and a total population of 18,048, giving an average of 184.16 persons and 14.81 dwellings to the acre, with 12.14 persons to each dwelling. This ward formed 1 district.

This was low and mostly made land. The buildings were principally brick. It contained many apartment houses, and also a large number of originally private dwellings which has been changed into tenement houses. Some of the streets were quite narrow, with crowded houses. Some sewers were good and some bad, while others were small and without sufficient pitch.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49 | 94.09                                   | 20.31          | 83.08                | 28.31          | 98.93                        | 21.51          | 61.18    |                |
| Ward 16 .....  | 29.53 | 131.52                                  | 22.31          | 169.72               | 35.50          | 122.83                       | 23.59          | 70.99    |                |

BOSTON AND PHILADELPHIA.

WARD 16—Continued.

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                 |                    |                          |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------------|--------------------|
|                | United States   |                    | Ireland.        |                    | Germany.        |                    | Canada.         |                    | Other foreign countries. |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.          | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 42.38           | 10.73              | 33.14                    | 8.76               |
| Ward 16 .....  | 62.80   | 15.31              | 58.09           | 31.66              | 20.88           | 14.29              | 63.55           | 12.47              | 27.55                    | 6.94               |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |          |
|----------------|--|---------------------|----------------|--------------|------------|----------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Measles. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 11.61    |
| Ward 16 .....  | 118.66                                     | 227.59              | 35.01          | 447.40       | 256.77     | 22.37    |

During the 6-year period the death rate in this ward was above the city average, especially for the native children under 5 years of age. For those 15 years of age and upward it was especially high among those whose mothers were born in Ireland, being 31.66 as against 14.29 for those whose mothers were born in Germany and 15.31 for those whose mothers were born in the United States.

Consumption, pneumonia, measles, childbirth and puerperal diseases, diseases of the liver, diseases of the nervous system, and diseases of the urinary organs caused more than the average proportion of deaths.

WARD 17.

This ward contained 160 acres, 1,620 dwellings, and a total population of 15,638, giving an average density of 97.74 persons and 10.13 dwellings to the acre, with 9.65 persons to each dwelling. This ward formed 1 district.

A large part of this ward was made land. It was principally a residence section, with brick houses occupied by a good class of residents. The streets were wide and the sewers in good condition. It contained but few tenement houses.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |        |                              |        |          |                |
|----------------|---|----------------|----------------------|--------|------------------------------|--------|----------|----------------|
|                | Native.                                 |                |                      |        |                              |        | Foreign. |                |
|                | Total.                                  | Under 5 years. | Both parents native. |        | One or both parents foreign. |        | Total.   | Under 5 years. |
| Total.         |   |                | Under 5 years.       | Total. | Under 5 years.               |        |          |                |
| The city ..... | 24.40                                   | 94.09          | 20.31                | 83.08  | 28.31                        | 98.93  | 21.51    | 61.18          |
| Ward 17 .....  | 20.31                                   | 103.74         | 16.44                | 105.73 | 26.94                        | 102.86 | 22.92    | 107.14         |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.02              | 42.38           | 10.73              |
| Ward 17 .....  | 39.64   | 12.84              | 38.54           | 25.64              | 28.99           | 18.43              | 35.58              | 13.37              | 45.12           | 9.44               |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                   |                                 |
|----------------|--|---------------------|----------------|--------------|-------------------|---------------------------------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Cancer and tumor. | Diseases of the urinary organs. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 73.55             | 84.84                           |
| Ward 17 .....  | 80.77                                      | 162.63              | 41.48          | 360.18       | 91.68             | 88.41                           |

## VITAL STATISTICS.

During the 6-year period the death rate in this ward was below the city average, but was above it for the children under 5 years of age and for the foreign born. For those 15 years of age and upward it was unusually high among those whose mothers were born in Germany, being 18.43 as against the city average of 13.52 for those of this class.

Typhoid fever, cancer and tumor, and diseases of the urinary organs caused more than the average proportion of deaths.

## WARD 18.

This ward contained 202 acres, 1,712 dwellings, and a total population of 16,035. There were 7 acres of parking, excluding which there was an average density of 82.23 persons and 8.78 dwellings to the acre, with 9.37 persons to each dwelling. This ward formed 1 district.

This was low land and a residence section. The houses were generally of brick and of good size, but were rapidly changing to boarding and lodging houses.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.        | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|---------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|               | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|               | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|               |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 18.....  | 18.68                                   | 96.31          | 17.89                | 83.33          | 20.55                        | 106.10         | 17.25    | 181.82         |

| AREAS.       | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|--------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|              | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|              | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
|              | The city.....   | 37.76              | 14.79           | 39.03              | 24.12           | 28.44              | 13.52              | 30.36              | 13.62           | 42.38              |
| Ward 18..... | 34.57   | 16.38              | 31.43           | 19.44              | 24.34           | 9.64               | 42.19              | 13.73              | 39.49           | 7.81               |

| AREAS.        | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                   |
|---------------|--|---------------------|----------------|--------------|------------|-------------------|
|               | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Cancer and tumor. |
| The city..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 73.55             |
| Ward 18.....  | 80.54                                      | 107.02              | 23.17          | 239.42       | 172.12     | 78.34             |

During the 6-year period the death rate in this ward was considerably below the city average, but was above it for the children under 5 years of age, especially for the foreign born. For those 15 years of age and upward the death rate was above the average for those whose mothers were born in the United States and in England and Wales and below it for those whose mothers were born in Ireland, in Germany, and in Canada.

Cancer and tumor caused more than the average proportion of deaths.

## WARD 19.

This ward contained 220 acres, 2,437 dwellings, and a total population of 23,016. There were 3 acres of parking, excluding which there was an average density of 106.06 persons and 11.23 dwellings to the acre, with 9.44 persons to each dwelling. This ward formed 1 district.

This was nearly all low land, much of it made by filling, containing stores and dwellings in fair condition and occupied by people of the middle classes. The drainage was poor and the sewers fair.

The death rates in this ward, compared with the average rates for the city, were as follows:

|               |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|---------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|               |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
| AREAS.        |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|               |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
|               |       |   |                | The city .....       | 24.49          | 94.09                        | 20.31          |          |                |
| Ward 19 ..... | 28.58 | 112.55                                  | 22.23          | 101.41               | 32.52          | 116.25                       | 25.37          | 72.92    |                |

|               |       | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|---------------|-------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|               |       | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
| AREAS.        |       | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
|               |       | The city .....  | 37.76              | 14.79           | 39.03              | 24.12           | 28.44              | 13.52              | 30.36              | 13.62           | 42.88              |
| Ward 19 ..... | 42.67 | 14.02   | 44.31              | 28.68           | 42.65              | 17.68           | 41.31              | 13.59              | 44.33              | 11.34           |                    |

|                |  | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                                 |
|----------------|--|--|---------------------|----------------|--------------|------------|---------------------------------|
| AREAS.         |  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Diseases of the nervous system. |
| The city ..... |  | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 243.71                          |
| Ward 19 .....  |  | 173.79                                     | 272.02              | 34.76          | 426.17       | 240.29     | 259.18                          |

During the 6-year period the death rate in this ward was above the city average, especially for the children under 5 years of age. For those 15 years of age and upward it was above the city average for those whose mothers were born in Ireland, in Germany, and in Canada and below it for those whose mothers were born in the United States.

Scarlet fever, diphtheria and croup, diarrheal diseases, consumption, pneumonia, whooping cough, diseases of the liver, and diseases of the nervous system caused more than the average proportion of deaths.

WARD 20.

This ward contained 680 acres, 3,043 dwellings, and a total population of 24,335. There were 3 acres of parking and 1 acre of cemeteries, excluding which there was an average density of 36.00 persons and 4.50 dwellings to the acre, with 8.00 persons to each dwelling. This ward was divided into 2 districts.

SANITARY DISTRICT A.—Bounded by East Lenox, Fellows, Tileston, Albany, and East Chester Park streets, Roxbury canal, South bay, Willow court, and Boston, Cottage, Dudley, Dennis, Winthrop, Greenville, Dudley, Warren, and Washington streets. Area, 406 acres; park area, 3 acres; cemetery area, 1 acre; population, 16,981, giving an average of 42.24 persons to each acre of area, exclusive of parks and cemeteries.

This was mostly low land, composed of a marsh very poorly drained, and sparsely settled for the greater part by poor people. The southern part was more elevated and had a better class of residents in good houses. The sewers in this ward were fairly good.

The death rates in this district, compared with the average rates for the city, were as follows:

|                  |       | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|------------------|-------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                  |       | Native.                                 |                |                      |                |                              |                | Foreign. |                |
| AREAS.           |       | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                  |       |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
|                  |       |   |                | The city .....       | 24.49          | 94.09                        | 20.31          |          |                |
| District A ..... | 28.66 | 110.93                                  | 25.66          | 107.32               | 30.60          | 112.57                       | 23.23          | 54.26    |                |

## VITAL STATISTICS.

## SANITARY DISTRICT A—Continued.

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|------------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                  | United States.  |                    | Ireland         |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city .....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.62              | 42.38           | 10.73              |
| District A ..... | 50.15   | 15.56              | 38.54           | 23.47              | 34.14           | 21.51              | 28.57              | 14.20              | 48.55           | 12.14              |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                 |                                    |
|------------------|--|---------------------|----------------|--------------|-----------------|------------------------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Whooping cough. | Childbirth and puerperal diseases. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 19.49           | 14.92                              |
| District A ..... | 188.89                                     | 271.39              | 36.91          | 373.43       | 33.65           | 19.54                              |

During the 6-year period the death rate in this district was above the average, but was below it for the foreign born children under 5 years of age. For those 15 years of age and upward it was below the city average for those whose mothers were born in Ireland and above it for those whose mothers were born in the United States, in Germany, in England and Wales, and in Canada.

Diphtheria and croup, diarrheal diseases, whooping cough, heart disease and dropsy, childbirth and puerperal diseases, and diseases of the liver caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Winthrop, Dennis, Dudley, Cottage, Boston, Columbia, and Quincy streets and Blue Hill avenue. Area, 274 acres; population, 7,354, giving an average of 26.84 persons to each acre of area.

This was nearly all high land with good natural drainage and good sewers, occupied by good to first class dwellings.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.           | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|------------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                  | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                  | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                  |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city .....   | 24.49                                   | 94.09          | 20.31                | 33.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B ..... | 16.01                                   | 52.39          | 12.57                | 28.81          | 23.30                        | 83.32          | 15.04    | 92.59          |

| AREAS.           | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|------------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                  | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                  | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city .....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.62              | 42.38           | 10.73              |
| District B ..... | 15.92   | 11.39              | 42.19           | 16.93              | 12.82           | 15.67              | 21.28              | 10.51              | 28.83           | 8.27               |

| AREAS.           | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                                    |
|------------------|--|---------------------|----------------|--------------|------------|------------------------------------|
|                  | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Childbirth and puerperal diseases. |
| The city .....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 14.92                              |
| District B ..... | 115.31                                     | 80.21               | 20.05          | 285.76       | 175.46     | 15.04                              |

During the 6-year period the death rate in this district was below the city average, but was above it for the foreign born children under 5 years of age and for those under 15 years of age whose mothers were born in Ireland. For those 15 years of age and upward it was above the city average for those whose mothers were born in Germany, but below it for those whose mothers were born in the United States, in Ireland, in England and Wales, and in Canada.

Childbirth and puerperal diseases caused a little more than the average proportion of deaths.

WARD 21.

This ward contained 856 acres, 3,263 dwellings, and a total population of 22,930. There were 14 acres of parking and 4 acres of cemeteries, excluding which there was an average density of 27.36 persons and 3.89 dwellings to the acre, with 7.03 persons to each dwelling. This ward formed 1 district.

This was nearly all high land with good natural drainage and good sewers, good streets, and detached houses occupied by residents of a good class.

The death rates in this ward, compared with the average rates for the city, were as follows:

| AREAS.         | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city ..... | 24.49                                   | 94.09          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| Ward 21 .....  | 18.08                                   | 59.58          | 17.49                | 47.72          | 19.14                        | 70.13          | 14.22    | 39.68          |

| AREAS.         | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city ..... | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.62              | 42.38           | 10.73              |
| Ward 21 .....  | 21.21   | 15.86              | 30.42           | 16.31              | 20.44           | 8.77               | 12.75              | 15.30              | 27.88           | 7.43               |

| AREAS.         | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |            |                        |
|----------------|--|---------------------|----------------|--------------|------------|------------------------|
|                | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Pneumonia. | Diseases of the liver. |
| The city ..... | 124.50                                     | 214.28              | 39.02          | 386.51       | 221.40     | 23.43                  |
| Ward 21 .....  | 83.87                                      | 126.22              | 21.59          | 217.56       | 155.28     | 24.08                  |

During the 6-year period the death rate in this ward was much below the city average, especially for the foreign born. For those 15 years of age and upward it was above the city average for those whose mothers were born in the United States and in England and Wales, but below it for those whose mothers were born in Ireland, in Germany, and in Canada.

Diseases of the liver caused slightly more than the average proportion of deaths.

WARD 22.

This ward contained 1,344 acres, 2,025 dwellings, and a total population of 20,011. There were 221 acres of parking, excluding which there was an average density of 17.82 persons and 1.80 dwellings to the acre, with 9.88 persons to each dwelling. This ward was divided into 3 districts.

SANITARY DISTRICT A.—Bounded by Charles river, West Chester Park street, Huntington avenue, Francis street, Longwood stream, and St. Mary street. Area, 726 acres; park area, 145 acres; population, 1,993, giving an average of 3.43 persons to each acre of area, exclusive of parks.

Nearly all of this district was originally marsh land, including the "Back Bay fens". The natural drainage was poor and the sewers few but good. It was sparsely built up. The residents were generally of a good class.

## VITAL STATISTICS.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |        |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|--------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |        |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. | Total. | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |        |                |
| The city.....   | 24.49                                   | 94.09          | 29.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |        |                |
| District A..... | 13.48                                   | 48.48          | 9.37                 | 25.86          | 22.69                        | 73.72          | 13.46    | 83.33          |        |                |

| AREAS.          | DEATH RATES PER 1,000 PERSONS WHOSE MOTHERS WERE BORN IN— |                    |                 |                    |                 |                    |                    |                    |                 |                    |
|-----------------|---|--------------------|-----------------|--------------------|-----------------|--------------------|--------------------|--------------------|-----------------|--------------------|
|                 | United States.  |                    | Ireland.        |                    | Germany.        |                    | England and Wales. |                    | Canada.         |                    |
|                 | Under 15 years.   | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years. | 15 years and over. | Under 15 years.    | 15 years and over. | Under 15 years. | 15 years and over. |
| The city.....   | 37.76   | 14.79              | 39.03           | 24.12              | 28.44           | 13.52              | 30.36              | 13.02              | 42.38           | 10.73              |
| District A..... | 11.44   | 7.89               | 73.53           | 20.00              | 55.56           | 13.61              | 26.32              | 9.80               | 38.46           | 4.69               |

| AREAS.          | DEATH RATES PER 100,000 POPULATION DUE TO— |                     |                |              |                   |                                    |
|-----------------|--|---------------------|----------------|--------------|-------------------|------------------------------------|
|                 | Diphtheria and croup.                      | Diarrheal diseases. | Typhoid fever. | Consumption. | Cancer and tumor. | Childbirth and puerperal diseases. |
| The city.....   | 124.50                                     | 214.28              | 39.02          | 386.51       | 73.55             | 14.92                              |
| District A..... | 57.50                                      | 76.67               | 9.58           | 230.02       | 86.26             | 19.17                              |

During the 6-year period the death rate in this district was lower than that of any other district in the city except sanitary district B of ward 10, but was above the city average for the foreign born children under 5 years of age. For those 15 years of age and upward whose mothers were born in the United States it was but little more than one-half of the average city rate. It was decidedly above the city rate for those under 15 years of age whose mothers were born in Ireland and in Germany.

Cancer and tumor, childbirth and puerperal diseases, and diseases of the liver caused more than the average proportion of deaths.

SANITARY DISTRICT B.—Bounded by Francis and Tremont streets, Boston and Providence railroad, Centre and Perkins streets, and Longwood stream. Area, 446 acres; park, 76 acres; population, 8,128, giving an average of 21.97 persons to each acre of area, exclusive of parks.

This was nearly all high land, sparsely settled by residents of the middle class, excepting a small portion of low swampy land, with a poorer class of residents. The natural drainage was good and the sewers but few.

The death rates in this district, compared with the average rates for the city, were as follows:

| AREAS.          | DEATH RATES PER 1,000 WHITE POPULATION. |                |                      |                |                              |                |          |                |
|-----------------|---|----------------|----------------------|----------------|------------------------------|----------------|----------|----------------|
|                 | Native.                                 |                |                      |                |                              |                | Foreign. |                |
|                 | Total.                                  | Under 5 years. | Both parents native. |                | One or both parents foreign. |                | Total.   | Under 5 years. |
|                 |   |                | Total.               | Under 5 years. | Total.                       | Under 5 years. |          |                |
| The city.....   | 24.49                                   | 94.00          | 20.31                | 83.08          | 28.31                        | 98.93          | 21.51    | 61.18          |
| District B..... | 21.04                                   | 75.96          | 19.42                | 67.68          | 21.50                        | 78.31          | 17.98    | 55.56          |