

**The causes of death among the assured of the Scottish Widows' Fund Life Assurance Society, from 1867 to 1873 inclusive / by J. Warburton Begbie.**

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**Publication/Creation**

Edinburgh : Constable, 1874.

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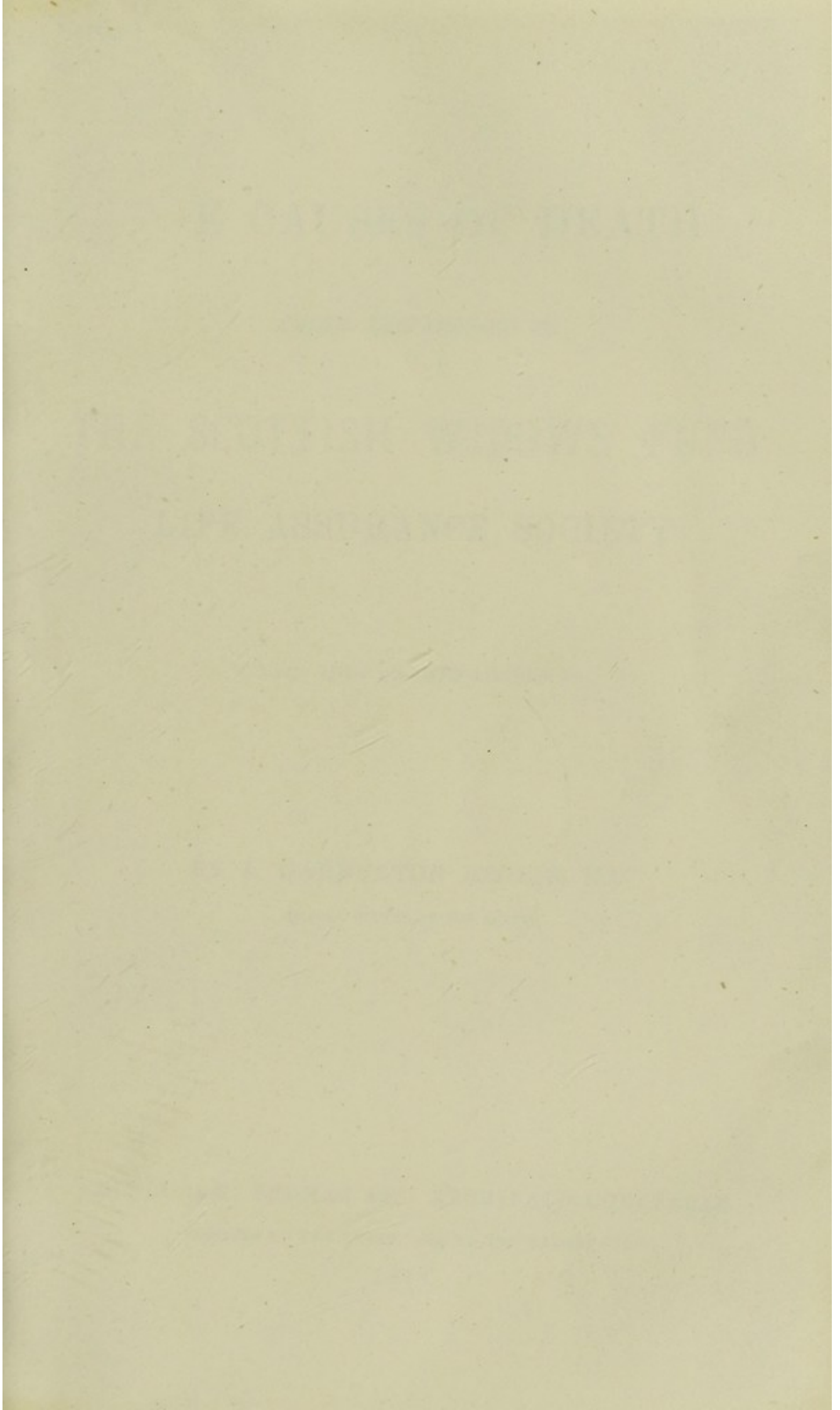
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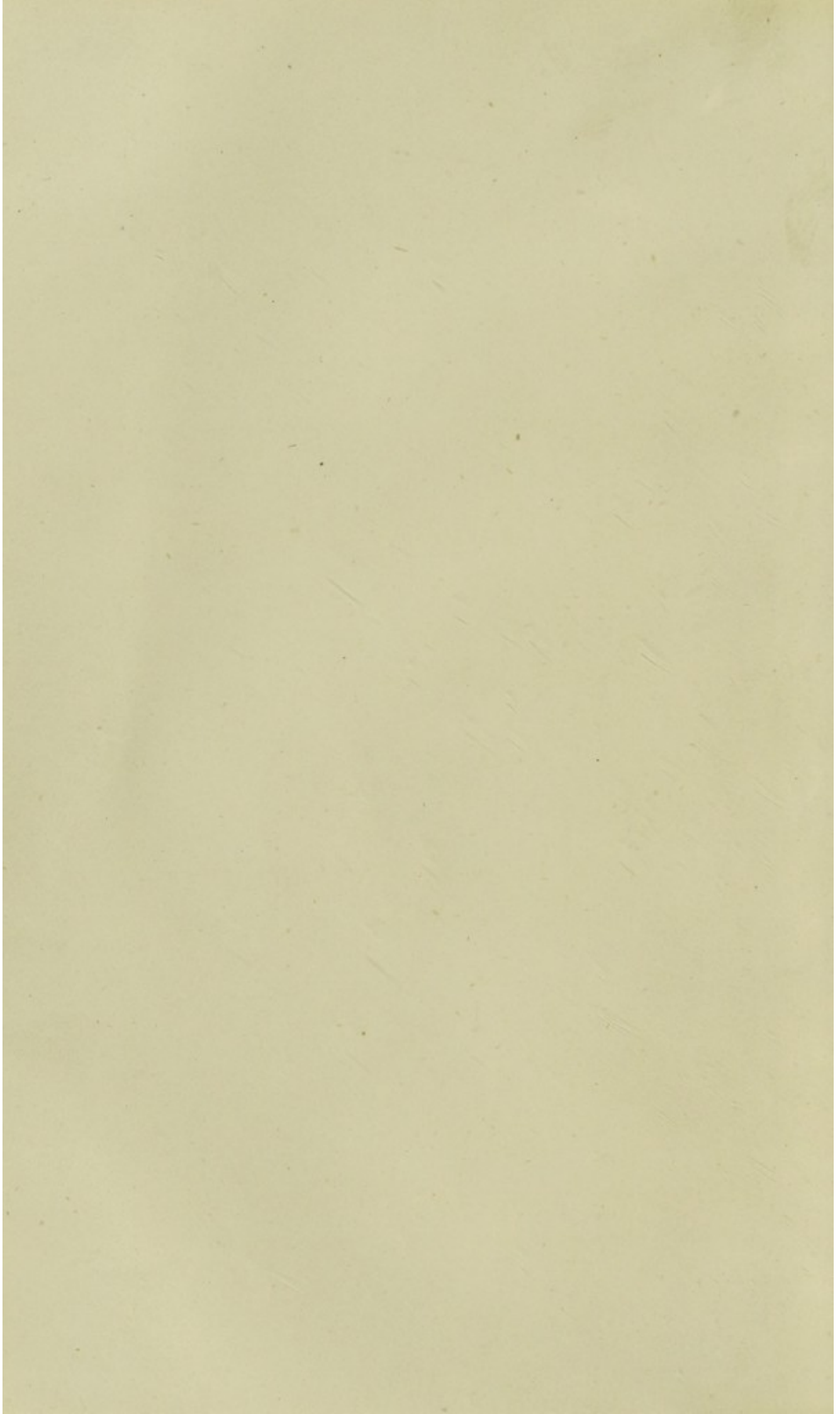
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# THE CAUSES OF DEATH

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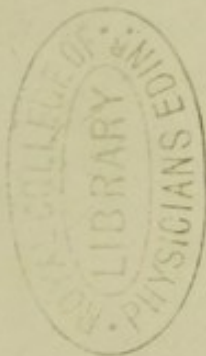
## THE SCOTTISH WIDOWS' FUND

### LIFE ASSURANCE SOCIETY

From 1867 to 1873 Inclusive.

BY J. WARBURTON BEGBIE, M.D.

MEDICAL OFFICER OF THE SOCIETY.



EDINBURGH: THOMAS AND ARCHIBALD CONSTABLE,

PRINTERS TO THE QUEEN, AND TO THE UNIVERSITY.

1874.

"Si non errasset, fecerat ille minus."

MARTIAL.

THE present is the fifth report on the Mortality of the "SCOTTISH WIDOWS' FUND AND LIFE ASSURANCE SOCIETY" submitted to its Board of Directors. The earliest of the four previous reports was presented to the Board in 1846, and the latest in 1867. These were prepared by my Father, the late Dr. Begbie, who, during the long period of thirty-eight years, acted as the chief Medical Adviser of the Society. To Dr. Begbie is due the merit of first directing the attention of the medical profession to the valuable statistics of mortality contained in the records of Life Assurance Offices; and the example he set has not only been followed at septennial intervals by the Office with which he was so long connected, but by several among the leading Assurance Companies of the United Kingdom.<sup>1</sup>

The total number of deaths in the septennium which closed on the 31st December 1873 has been greatly in advance of the number during any previous septennial period. This experience, however, has been according to expectation. The increasing mortality has depended on the large additions made to the membership of the Society, whereby the number of individuals exposed to the risk of death has been correspondingly augmented, and it has likewise been due to the increasing age of the Society. Owing to the latter circumstance, the causes of death which are common in the instance of persons of advanced years have become greatly more numerous. Contrast, by way of example, the number of claims included under the head of Natural Decay and Old Age, in the five different Investigations. During the period which elapsed from the institution of the Society in 1815 to 1846, there occurred 6 deaths from old age; from 1846 to 1852 inclusive, 21; from 1853 to 1859, 29; from 1860 to 1866, 40; from 1867 to 1873, 74.

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<sup>1</sup> *British and Foreign Medico-Chirurgical Review.* July 1854.

It is interesting to trace the gradual increase of the total mortality during the increasing age of the Society. The number of deaths declared at the end of 1845, the thirtieth year of its existence, was 642; a further experience of seven years added 690 claims; another seven years, 975; yet another, 1398; and now, at the close of the last Septennial Investigation, we have to add 1928 deaths.

Thus the total mortality of the SCOTTISH WIDOWS' FUND SOCIETY, from its institution in 1815 to the end of 1873, has been 5633; and 3326 deaths have occurred during the last fourteen years.

Little need be said in the way of explanation regarding the following report. The plan pursued has been similar to that which has been followed in the previous Investigations. The causes of death have been briefly considered under the different classes, the arrangement of which has been nearly the same as that in the earlier reports.

It is still a matter of regret that little care is exercised by many in making the return of the cause of death. The contrast which is offered by different certificates is immense. Some are models of accuracy, others are equally conspicuous by their defects. While imperfections of the nature now alluded to exist, it must needs be in vain to look to these records of mortality as doing more than merely indicating the nature of the diseases which prove fatal in the instance of carefully selected lives. When the experience of the Society, founded on a consideration of the mortality, appears suggestive of guidance in the selection of lives for assurance, advantage has been taken of the occasion to offer some observations. The writer ventures to hope that an increased experience may hereafter enable him, as it may also entitle him, to write with greater authority on some topics.

The causes of death, and the number in each class, are arranged and considered as follows:—

1. Epidemic and Contagious Diseases, . . . .	142
2. Diseases of Uncertain Seat, . . . .	180
3. Diseases of the Nervous System, . . . .	395
4. Diseases of the Respiratory Organs, . . . .	403

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Carry forward, 1120

	Brought forward,	1120
5. Diseases of the Heart and Bloodvessels, . . . . .		324
6. Diseases of the Digestive Organs, . . . . .		190
7. Diseases of the Urinary Organs, . . . . .		116
8. Diseases of the Generative Organs, . . . . .		5
9. Diseases of the Organs of Locomotion, . . . . .		34
10. Diseases of the Integumentary System, . . . . .		10
11. Violent Deaths, . . . . .		53
12. Old age and Natural Decay, . . . . .		74
13. Cause of Death not ascertained, . . . . .		2
	Total, . . . . .	1928

### I. Epidemic, Endemic, and Contagious Diseases.

Under this class are included Cholera, Diarrhœa, Diphtheria, Dysentery, Erysipelas, Fever, Influenza, Measles, Scarlatina, and Small-pox.

The total mortality from these diseases has been 142.

1. CHOLERA.—From Cholera there were *four* deaths, all in males ; of the four, three were examples of Asiatic or Epidemic Cholera. One of the three occurred at Buenos Ayres, the disease proving fatal on the second day ; a second at Palamacottah, Madras Presidency, in which death took place in twelve hours ; the third at Liverpool in 1867, the person surviving the same number of hours. The fourth instance of Cholera was one of British Cholera, proving rapidly fatal. Two deaths occurred between 20 and 30 ; one between 50 and 60 ; and one between 60 and 70.

2. DIARRHŒA.—From this cause there were *thirteen* claims, 11 in males, and 2 in females. Of the 13, 8 had attained a greater age than three score years and ten ; and only one of the 13 was below 50 years of age.

3. DIPHTHERIA was the cause of death in *six*, all males. One of the six had attained the age of 66 years ; another of 58 ; two were 39 years old ; and the remaining two 29 and 27 respectively. In one the illness lasted only 48 hours ; in a second, 2 days ; in two, 5 days. Of the remaining cases, Paralysis led to the fatal result in one, after a month's illness (æt. 29), while the 6th (æt. 27) had Pericarditis, as a complication, death occurring on the third day. The insured had suffered from an attack of diphtheritic sore



throat before his acceptance. The mean age of these members at death was 43, which is certainly a more advanced age than that of the usual sufferers from Diphtheria.

From the institution of the Society in 1815 to the year 1866 inclusive, there had only been one claim on account of Diphtheria. The recent experience of the "SCOTTISH WIDOWS' FUND" illustrates two important facts: *first*, that the disease is more prevalent than formerly; and *second*, that fatal Diphtheria, in the adult, cannot be regarded as uncommon.

4. DYSENTERY.—This disease accounts for *seven* deaths, 5 in males and 2 in females.

Two of the sufferers were above 80 years; one was 65; two between 50 and 60; one 45, and one 32. One death occurred during an epidemic prevalence of the disease at Limerick in 1870. One took place at Sydney, and one at Ontario. In one instance the dysentery was of chronic character and contracted in China; in another, disease of the liver had supervened on the affection of the bowels.

5. ERYSIPELAS.—*Fifteen* claims there were on account of this disease, all in males. Of these, 2 occurred between 30 and 40; 1 between 40 and 50; 4 between 50 and 60; 6 between 60 and 70; and 2 between 70 and 80.

One of the fifteen was insured at the age of 40, with ten years added to his age on account of a damaged heart from previous Rheumatic Fever; he died at 53, thirteen years after his acceptance, and seventeen short of his expectation.

One case resulted from wound occasioned by a fall, and in another the Erysipelas supervened on an abscess.

6. FEVER.—Under the head of Fever there rank *sixty-nine* deaths, of which number 67 occurred in males, and 2 in females.

A scrutiny of those sixty-nine claims has resulted in the following divisions:—

a. Typhus Fever,	. . . . .	21
b. Typhoid Fever,	. . . . .	31
c. Senile Fever,	. . . . .	7

Carry forward, 59

	Brought forward,	59
d. Gastric Fever,	.	1
e. Bilious Fever,	.	1
f. Continued Fever,	.	1
g. Remittent Fever,	.	2
h. Yellow Fever,	.	4
i. Jungle Fever,	.	1
	Total,	69

Of the two deaths among females, one was from Typhoid Fever at New York in 1868, the other from Gastric Fever at Tain in Ross-shire.

a. TYPHUS.—Eleven deaths from Typhus Fever occurred in *Scotland*—4 of these in Edinburgh, 4 in Dundee, 2 in Glasgow, and 1 in Lanark.

Five deaths from the same fever occurred in *England*—2 in York, 1 each in Newcastle-on-Tyne, and in rural districts of Lancashire and Warwickshire; and five deaths likewise occurred in *Ireland*—1 in each of the following places, Dublin, Londonderry, Lurgan in Armagh, Limerick, and Cavan.

The occupations of the persons who died of Typhus were very various, 3 were butchers, 2 medical men, 2 solicitors, 2 farmers, 1 city missionary, 1 clergyman, 1 grocer, 1 fishcurer, 1 printer, 1 tobacconist, 1 clothier, 1 boot and shoe merchant, 1 clerk in newspaper office, 1 stockbroker, 1 merchant, 1 draper.

Of the 21 deaths from Typhus, 1 occurred between 20 and 30; 5 between 30 and 40; 5 between 40 and 50; 5 between 50 and 60; 3 between 60 and 70; and 2 between 70 and 80.

In the claims from Typhus, death is stated to have taken place on the 3d day of the disease in 1; on the 4th day in 1; on the 8th day in 6; the 9th in 2; the 12th in 2; the 13th in 1; the 14th in 5; the 18th in 1; in the 3d week in 1; and in the 5th week in 1 from nervous exhaustion.

b. TYPHOID OR ENTERIC FEVER.—Of the *thirty-one* deaths from this form of fever, 10 occurred in *Scotland*—2 in Edinburgh, 1 in Musselburgh, 1 in Glasgow, 1 in Melrose, 1 in Kirkcudbrightshire, 1 in Bute, 1 in Chirnside, Berwickshire, and 2 in Kirkcaldy; 8 took place in *England*—1 in London, 1 in Manchester, 1 in Huddersfield, 1 in York, 1 in Nottingham, 1 in Chiswick, 1 in Wimbledon, and

1 in Lancashire; 3 occurred in *Ireland*—1 in Dublin, 1 in Tipperary, and 1 in Kilkenny.

Ten occurred in foreign parts—2 in New York, 1 in New Zealand, 1 in South Australia, 1 in Cairo, Egypt, 1 in Teheran, Persia, 1 in Florence, 1 in Malta, 1 in St. Petersburg, and 1 in Dresden.

There is material for contrast between the occupations of those who died from Typhoid and from Typhus Fever. Of the former, 5 were independent gentlemen, 4 were clerks in offices, 3 were solicitors, 3 clergymen (one of these died at Florence), 2 farmers, 2 drapers, 1 commercial traveller, 1 watchmaker, 1 manufacturer, 1 baker and corn-dealer, 1 regimental bandmaster, 1 banker, 1 merchant, 1 engineer, 1 leather dresser, 2 bookkeepers, 1 female.

Of the 31 deaths from Typhoid Fever, 4 took place between 20 and 30; 12 between 30 and 40; 3 between 40 and 50; 3 between 50 and 60; 4 between 60 and 70; 3 between 70 and 80; and 2 above 80.

In one case, hæmorrhage from the bowels was the immediate cause of death. This took place in the third week of the disease; in a second instance perforation of the bowel with peritonitis occurred on the 17th day of the fever; in two, chest complications led to the fatal result. One was ill for ten weeks, another for six, a third for three weeks, a fourth for four, a fifth for five, a sixth for "some weeks." One succumbed after an illness of three months, attended by bed sores, and another after the disease had lasted a still longer time.

*c. FEBRIS SENILIS.*—From the "fever of old age" there resulted seven deaths, all in males—2 occurred between 60 and 70; 1 between 70 and 80; 3 between 80 and 90; and 1 above 90; in the last case there were bed sores. In all of these the expectation of life was exceeded, and in two of the seven, by fully twenty years.

*d. e. f. GASTRIC, BILIOUS, CONTINUED FEVER.*—Under each of these heads one death has been recorded.

*g. REMITTENT FEVER.*—Of two deaths from this cause, one took place at Callao, Peru, the other at Calcutta; the age of the former was 24, of the latter 35. Both were recently insured, and both were for the first time visitors to foreign climates.

*h.* YELLOW FEVER.—*Four* deaths occurred from this much-dreaded malady. One at Jamaica, within two years of the individual's acceptance; one at Rio de Janeiro, within a similar period, but seven years had been added to his age owing to death of a brother from Consumption at 22; one at Pernambuco in the third year after acceptance; the fourth at Callao, Peru, that member having been assured a little over one year.

*i.* JUNGLE FEVER.—*One* death from Jungle Fever took place at Colombo, Ceylon, in the person of an Indian Civil servant, *æt.* 25, who had been insured a little over four years.

7. INFLUENZA accounts for *five* claims, all in males; four of these were above 70 years of age; two of the four above 80. The fifth died at 27, before the expiry of the first year of his assurance.

8. MEASLES.—*One* male, *æt.* 34, died of Measles. The fatal event occurred on the ninth day of the disease, and was probably due to an intestinal complication.

9. SCARLATINA.—*Four* deaths were due to Scarlet Fever, and all of these took place between 30 and 40 years of age. In one of the four sufferers, five years had been added to age at acceptance on account of a previous attack of Gout. One of the four was a medical man, and it may be presumed that the disease was in his case contracted during his professional avocations.

10. SMALL-POX.—*Eighteen* deaths, of which 17 were in males and 1 a female, resulted from Small-Pox.

Of these, 3 occurred between 20 and 30; 7 between 30 and 40; 2 between 40 and 50; 4 between 50 and 60; 1 between 60 and 70; and 1 between 70 and 80.

One of the 18 had, on acceptance, had five years added to age, on account of delicacy in appearance. In three the disease is described as confluent. In 1 case the disease proved fatal on the 4th day; in 3 cases on the 5th day; in 1 on the 6th day; in 1 on the 7th day; in 1 on the 8th day; in 2 on the 9th day; in 4 on the 10th day; in 1 on the 11th day; in 1 on the 13th day;

in 1 on the 16th day; in 1 on the 17th day; in 1 from subsequent Pneumonia in the 4th week; in this case, moreover, an addition of five years to age, on acceptance, had been made on account of mother's death from Phthisis.

Of the eighteen deaths from Small-Pox, 9, or one-half, occurred during 1871; 6 during 1872; and 3 during 1873.

Five deaths took place in London, all in 1871; 1 in Manchester; 1 in Norwich; 1 in Wiltshire; 2 in Edinburgh; 1 in Leith; 2 in Forfar; 1 in Falkirk; 1 in Dalkeith; 1 in Glasgow; 1 in St. Petersburg; and 1 in Oporto.

The number of deaths from Small-Pox during the past septennium, is exactly double that of the deaths from this cause from the institution of the Society in 1815 to 1866, at which time the present investigation commences. This increased mortality from Small-Pox is due to the circumstance of an epidemic prevalence of the disease in different parts of the country, as well as abroad, during the years 1871, 1872, and 1873.

There can be little doubt that a more rigid performance of re-vaccination than is often carried out would have prevented some at least of these deaths.

## II. Diseases of Uncertain Seat.

Under this class are included, Abscess, Addison's Disease, Atrophy, Cancer, Debility, Diabetes, Dropsy, Gout, Hæmorrhage, Inflammation, Leukæmia, Mortification, Pyæmia, Sudden Deaths, Ulcer.

The total mortality from these diseases has been 180.

1. ABSCESS accounts for *eight* claims, seven males and one female; the particulars of these are as follows:—

Male æt. 24.—Abscess of Back and Breast.

Male æt. 41.—Abscess consequent on Rheumatic Fever.

Male æt. 42.—Tubercular Mesenteric and Hepatic Abscess.

Male æt. 52.—Psoas Abscess, 18 months ill.

Female æt. 57.—Lumbar Abscess from Vertebral disease, after an illness of 18 months. Three adult brothers and a sister had died before her acceptance at 52.

Male æt. 60.—Abscess in loin, following Empyema, five months ill.

Male æt. 63.—Abdominal Abscess, died from exhaustion.

Male æt. 67.—Abscess supervening on Carbuncle, three and a half months ill.

2. ADDISON'S DISEASE.—Male, æt. 43, was insured at 38; his expectation of life was then 38 years, and he survived 5. There was no *post-mortem* examination.

3. ATROPHY.—The information regarding the 4 claims on account of this cause, 3 males and 1 female, is very meagre, 1 died at 59; 1 at 68; and 2 at 69.

4. CANCER.—Under this head there rank the large number of *eighty-eight* claims, of which 73 are males, and 15 females, a complete reversing of the degree of liability of the sexes to Cancer, but to be explained, like many other facts of a similar nature in the mortality of the assured, by the limited number of policies held by females.

It is to be regretted that in only 9 out of the 88 instances of Cancer, was a *post-mortem* examination made.

Of these eighty-eight claims, 1 occurred between 20 and 30; 3 between 30 and 40; 17 between 40 and 50; 25 between 50 and 60; 30 between 60 and 70; and 12 between 70 and 80.

Of the 15 females whose deaths resulted from Cancer, 3 occurred between 40 and 50; 3 between 50 and 60; 8 between 60 and 70; and 1 between 70 and 80.

In 6 of these 15, the uterus was the seat of Cancer; in 1 the Breast; 1 the Liver and Pancreas; 1 the Liver alone; 1 the Ovary; 1 the Rectum; 1 the Pylorus of Stomach, and Ovary; while in the remaining 3 the particular seat of the disease is not signalized.

Of the 73 deaths from Cancer in males, the seat of the disease is stated to have been as follows:—In the Stomach in 12; in Stomach and Duodenum, 1; in Duodenum, 1; at Pylorus, 4; in Colon, 1; in descending Colon, 1; in Sigmoid flexure of Colon, 1; in Caput Caecum Coli, 1; in Rectum, 4; in Mesentery, 1; in Omentum, 1; in Liver, 3; in Bowel or Bowels, 3; in Œsophagus, 3; in Throat or Neck, 1; in Throat, 1; in Neck, 1; in Lip, 1; in Tongue, 3; in Parotid and Cervical Glands, 1; in Mouth, 1;

in Neck and Mouth, 1; in Orbit, 1; in Bladder, 2; in Bladder and Prostate, 1; in Urinary organs, 1; in Abdomen, 3; in Pelvic Lymphatics, and Pleura, 1; in Lung, 1; in Ilium, 1; in Groin, open cancer, 1; Cancer without specification of seat, 14.

In looking over the various returns connected with these eighty-eight claims from Cancer, the following appear worthy of special notice:—

1. Male æt. 66.—“Open Cancer of groin,” of ten months’ duration. Foot had been amputated on account of ulcer of sole, five years before acceptance. Father had died at 50, cause unknown. Endurance of policy was 1 year and 73 days. The life was accepted on the recommendation of one of the ablest and most distinguished physicians in the United Kingdom.

2. Male æt. 58.—“Scirrhus of Stomach.” Mother had died æt. 66, of “Fungus hæmatodes.”

3. Male æt. 65.—“Cancer of Omentum,” accepted as a Hernia risk, with usual addition to premium. There was a *post-mortem* examination in this case.

4. Male æt 63.—“Cancer of Ilium,” a Hernia risk, accepted with addition to premium on that account.

5. Male æt. 52.—“Cancerous Tumour involving the Orbit.” Mother had died of uterine disease. Maternal uncle of Cancer of Face. Paternal aunt of Cancer of Face. There was a *post-mortem* examination in this case.

6. Male æt. 55.—“Cancer of Stomach.” Brother had died of Liver complaint before his acceptance.

7. Male æt. 46.—“Cancer of Rectum;” two years and six months ill; had “Fistula in Ano” the year before acceptance. Expectation of life 26 years; lived only four.

8. Male æt. 55.—“Cancer of Pelvic Lymphatics, and Pleura.” There was a *post-mortem* examination in this case.

9. Male æt. 45.—“Cancer of Lung.” There was a *post-mortem* examination in this case.

10. Male æt. 29.—“Cancer of Duodenum, with fatal hæmorrhage.”

Expectation of life on acceptance 36 years, actual endurance 2 years. There was a *post-mortem* examination in this case.

11. Male æt. 51.—“ Epithelial Cancer of Lip,” subsequent suppuration of glands in the neck.

5. DEBILITY is assigned as the cause of death in *twenty-two* instances, of which 19 were males and 3 females; 1 death occurred between 30 and 40; 3 between 40 and 50; 4 between 50 and 60; 3 between 60 and 70; 8 between 70 and 80; and 3 between 80 and 90.

6. DIABETES proved fatal in *twenty-two* instances, of which 21 were males and 1 female. Of these twenty-two deaths, 2 occurred between 20 and 30; 1 between 30 and 40; 3 between 40 and 50; 5 between 50 and 60; 8 (including the one female claim from this cause) between 60 and 70; 2 between 70 and 80; and 1 between 80 and 90.

One of the twenty-two was accepted with an extra premium for Gout, from which he had previously suffered in a mild form. In one the fatal disease was complicated with Paralysis; in one with Pleurisy; in one with Apoplexy; in one with Effusion on the Brain. One of the sufferers from Diabetes died suddenly. In one instance the disease was consequent upon extreme mental depression, and in this case it is recorded that Anthrax and Boils appeared on different parts of the body.

7. DROPSY still appears in the Mortality list as a cause of death, but happily the numbers it includes are few—*seven* in all—6 males and 1 female; 1 member died between 40 and 50; 3 between 50 and 60; 1 between 60 and 70; and 2 between 70 and 80.

Dropsy is given as the cause of death in 4. Ascites in 1. Dropsy, and Œdema of Lungs in 1. Dropsy, general, with Bronchitis in 1.

8. GOUT is assigned as the cause of death in *seven*, these all males. In 3 the fatal event occurred between 50 and 60; in 3 between 60 and 70; and in 1 between 70 and 80.

In only one of these seven had an extra charge been made on



account of a previous attack of Gout, and that only on the individual effecting a further insurance.

A glance at these seven claims may not be uninteresting :—

1. Æt. 65.—Rheumatic Gout—fell short of expectation by four years. Fatal disease complicated with Bronchitis.
2. Æt. 79.—Had suffered from indigestion before acceptance—survived his expectation by four years.
3. Æt. 64.—In this case a Gout extra had been charged on a recent insurance. The fatal disease was complicated for four days before death with Purpura.
4. Æt. 55.—Gout with obstruction of the Bowels. Had rheumatic attack before acceptance.
5. Æt. 57.—Rheumatic Gout.
6. Æt. 65.—Gout complicated with Pneumonia.
7. Æt. 55.—Retrocedent Gout.

9. HÆMORRHAGE was fatal in *four* males—

1 æt. 31—source of Hæmorrhage not stated; 1 æt. 37—Hæmoptysis; 1 æt. 40—Hæmorrhage from stomach; and 1 æt. 62—Pulmonary Hæmorrhage—sudden death.

10. INFLAMMATION.—*One* case only of Inflammation in a male, æt. 72, appears, the internal ear being the seat of the disease.

11. LEUKÆMIA.—*One* male. Accepted at 44, died at 56. Expectation of life 25, survived 12 years.

12. MORTIFICATION appears as a fatal cause in *six* instances, all males; in 1 between 50 and 60; 3 between 70 and 80; and in 2 between 80 and 90.

In three of these cases the disease is characterized as senile Gangrene, depending upon degeneration of the arterial system, and in these three the subjects were all above 70, two being octogenarians. In two others the mortification is described as of the leg, and in one of the foot.

13. PYÆMIA.—*Five* deaths resulted from this cause in males;

2 were between 40 and 50; 1 between 50 and 60; 1 between 60 and 70; and 1 between 70 and 80.

The disease was consequent upon Phlebitis and Prostatic enlargement in one instance; on Gangrene of foot in a second; upon Perineal abscess in a third; upon disease of the Tarsal bones in a fourth; and on Mediastinal abscess in the fifth.

14. SUDDEN DEATH is given in *three* instances, all males, as the entry for the Mortality Register, without any definite explanation, although it may reasonably be concluded that in each of the three, disease of the heart determined the fatal event.

1st, æt. 56, was in reduced circumstances; 2nd, æt. 49, had been suffering from Dyspepsia and mental disturbance. He had not been insured one year. 3rd, æt. 75, died while at stool, and when suffering from biliary derangement.

15. ULCER.—*One* male died, æt. 67, from Ulcer of the foot.

### III. Diseases of the Brain and Nerves.

The total mortality from diseases affecting the Brain and Nervous system has been 395.

Under this class are included Apoplexy, Cephalitis, Chronic Alcoholism, Delirium Tremens, Disease of Brain, Epilepsy, Hemiplegia, Insanity, Locomotor Ataxy, Meningitis, Nervous Exhaustion, Paralysis, Paraplegia, Sun-stroke.

1. APOPLEXY.—From this fatal disease there are *one hundred and twenty* claims, 116 being males and 4 females.

Of the 120 deaths, 1 occurred between 20 and 30; 10 between 30 and 40; 17 between 40 and 50; 29 between 50 and 60; 39 between 60 and 70; 16 between 70 and 80; 7 between 80 and 90; and 1 between 90 and 100.

No fewer than sixty different occupations or positions in life are included under the 120 sufferers from Apoplexy. Two were noblemen; 13 merchants; 6 clergymen; 5 bankers; 3 medical men.

Curiously enough, two of those who reached the greatest age

were distillers. One of the two died at 92, having insured at 49—his expectation of life being then 21 years; the endurance of his policy was 43 years. The other died at 84; he had assured originally at 40, and subsequently re-insured at 53. Under the former policy his expectation of life was 27 years; its actual endurance, 44: under the latter, expectation was 18 years, and endurance 31.

The occurrence of fatal Apoplexy under 40 years of age is to be regarded as exceptional; those changes of a degenerative character in the blood-vessels, which are intimately connected with the Cerebral extravasation, rarely taking place till a somewhat advanced period of life has been attained. The influence of irregular habits, of Syphilis, Gout and Rheumatism, in inducing, at an earlier age, degeneration in the Vascular system, including the Cerebral, must not be overlooked.

Of the 11 deaths from Apoplexy, in the experience of the Society, which occurred under 40 years of age, 3 took place in hot climates; 1 in Ceylon, the gentleman, *æt.* 34, being found dead; the 2nd, *æt.* 38, died from heat Apoplexy at Hydrabad, East Indies; and the 3rd, *æt.* 37, at Allahabad. A fourth death resulted from exposure to great heat at Madras; but the sufferer in this instance had reached the age of 66. The youngest sufferer from Apoplexy had only reached the age of 22; his father had died of the same disease at 66.

In 31 of the 120, the expectation of life fell considerably short of the actual endurance. The longest endurance was in the instance of the distiller already referred to, in which the expectation of life was exceeded by 22 years. Endurance extended to 20 years beyond expectation in the case of a venerable and highly esteemed Peer, long a prominent office-bearer of the Society. The shortest endurance was in the instance of a locomotive superintendent, who died at Allahabad in India, within a twelvemonth after acceptance. His is a class of risks not likely to prove profitable to Assurance offices.

Of these 120 deaths from Apoplexy, the largest number in any one month took place in January, namely 16; and the smallest in December, 5. In September and November each, 12 occurred; in July and August each, 11; in February, March and May each, 10; in April, 9; in June and October each, 7.

The duration of the fatal illness varied from a few minutes to several days. In 62, or more than one-half, death occurred within twenty-four hours of the seizure. One death is stated to have resulted from the immoderate use of alcoholic liquors on board of a ship, of which the victim was captain.

One had suffered from periostitis before acceptance, raising the suspicion of Syphilis. *Post-mortem* examination in one instance revealed the existence of hypertrophy of the heart, consequent upon rheumatism. In another, examination of the body after death determined the existence of fatty heart; blood had in this case been extravasated into the lateral ventricles of the brain.

In one instance the fatal Apoplexy occurred during the progress of a case of Diabetes. The intimate connexion of disease of the heart and still more of the blood-vessels with Apoplexy, and of the former of these with Rheumatism, is amply illustrated in those claims on account of death from Cerebral Hæmorrhage.

2. CEPHALITIS.—*Five* males are reported to have died from Cephalitis. 1 at 24; 1 at 25; 1 at 51; 1 at 70; and 1 at 78. The youngest of these died at Alexandria in Egypt. Of the second youngest it is recorded that a brother and sister died at 30 and 19 years of age respectively, probably of Consumption.

3. CHRONIC ALCOHOLISM.—From this form of disease of the Nervous System, the direct consequence of the abuse of intoxicating drinks, there died *three* males, of the ages of 35, 42, 51. In one of these Pneumonia existed as a complication.

4. DELIRIUM TREMENS led to the death of *nine* males. One death occurred between 20 and 30; 3 between 30 and 40; 1 between 40 and 50; 2 between 50 and 60; 1 between 60 and 70; and 1 above 70.

The occupations of these victims were as follows:—One Militia Officer; one Hotel-keeper; one Victualler; one Farmer and Contractor; one Medical man; one Newspaper Editor; one Sheriff Clerk; one Writer, and one Grocer.

In three of the nine an extra premium had been exacted at the time of acceptance: in the instance of the Victualler, on account of occupation—he was then stated to take drink moderately; in the

Militia Officer, on account of a previous rheumatic attack; in the case of the Farmer and Contractor, because although his habits were stated to be regular, he was overwhelmed with business.

It is matter for congratulation that the number of claims on the Society on account of Delirium Tremens, and Chronic Alcoholism, two diseases which are the direct results of intemperance, are so limited, being twelve in all. Notwithstanding the great and increasing care which is exercised by the Directors in reference to the habits of Proposers, it can scarcely be expected that these two diseases can be altogether removed from our lists of mortality. The youthful age at which many insure, an age earlier in not a few instances than the formation of habits, will undoubtedly prevent such a consummation, although devoutly to be wished for.

The wise and wholly just rule of the Directors to decline under all circumstances the proposals of Spirit-dealers, of Travellers in the Spirit trade, and to exercise a very careful scrutiny in respect to the habits and character of Hotel-keepers, Commercial Travellers, and others who are of necessity exposed to peculiar temptations in the matter of drink, have done much and will do more to protect the interests of the assured from such claims as intemperance is apt directly to produce.\*

5. DISEASE OF BRAIN.—Under this head are included *one hundred and eighteen* claims, of which 109 were males and nine females.

Of the 118 deaths, 2 occurred between 20 and 30; 14 between 30 and 40; 15 between 40 and 50; 21 between 50 and 60; 28 between 60 and 70; 31 between 70 and 80; and 7 between 80 and 90.

Of the 118 cases of disease of the Brain, many are described simply as Disease of Brain, others as Softening, others as Congestion of the Brain, others as Convulsions, one as Tumour. In this case

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\* NOTE.—PUBLICANS.—Looking to the facts shown in the Registrar-General's Returns, that Innkeepers or Publicans are subject to a higher rate of mortality than any other class in the community, the Directors have resolved to decline assuring the lives of persons engaged in that occupation, as well as travellers, salesmen, and others connected, in their daily avocations, with the retail Spirit trade. Keepers of Hotels, properly so called, are not necessarily ineligible, but the Directors are very particular in requiring full and satisfactory evidence as to their habits.—“Instructions to Agents,” p. 15.

there was a *post-mortem* examination. The life insured, a gentleman, had long suffered from stomach disorder. Accepted at 45, his policy lapsed at 51.

The following particulars taken from some of those cases are of sufficient interest to quote :—

1st, Male, died of Congestion of Brain at 27, 4 years after acceptance. His father had died of Epilepsy at 56.

2d, Male, died of Congestion of Brain at 29, 3 years after acceptance; his mother had died of Consumption shortly after his birth; on that account five years had been added to his age on acceptance.

3d, Male, died of Convulsions, *æt.* 43, 3 years after acceptance. He had rheumatic fever when a youth, and occasional irregularity of the heart's action had been noticed before acceptance.

4th, Male, died at 37, having been accepted at 27. In this case disease of the Brain first showed itself in the form of Epilepsy, and to Epilepsy succeeded Insanity.

In the instances of *Softening of the Brain*, the duration of the illness is stated to have been in one 5 years, in four 4 years, in one 3 years, in three 2 years, in one 18 months, in two 1 year, in one 10 months, in one 9 months, in one 8 months, in one 4 months, in one 3 months; while in several the disease is stated to have been chronic.

The occupation or position in life of the sufferers from Softening of the Brain, was as follows :—1 Female, 1 Farmer, 1 Farmer and Brewer, 1 Secretary of Benevolent Society, 2 Clergymen, 1 Clerk, 1 Engineer, 1 Wool Merchant, 1 Merchant, 1 Commission Merchant, 1 Banker, 1 Cashier, 1 Solicitor, 1 Tea-dealer, 1 Cotton-spinner, 1 Bookseller and Stationer, 1 Brassfounder, 1 Potter, 1 Gentleman.

Syphilis had existed in one case of Cerebral softening in which the duration of the policy was little more than one year. The injurious influence of constitutional Syphilis on the vascular system, the blood, and the great nervous centres, likewise in the production of Liver and Kidney disease, is now better known and understood. A proposer who has suffered from Constitutional Syphilis in a severe and still more in a protracted form, ought not under any circumstances to be considered as a first class Life for assurance.

In the cases of Softening of the Brain, death occurred in 1 between 30 and 40; in 2 between 40 and 50; in 5 between 50 and 60; in 9 between 60 and 70; and in 6 between 70 and 80.

6. EPILEPSY was the cause of death in *twelve* male members.

In 2 death took place between 20 and 30, in 1 between 30 and 40, in 4 between 40 and 50, in 2 between 50 and 60, in 2 between 60 and 70, and in 1 at 80.

In three of these the occupation is worthy of notice. 1st, A Wine Merchant, was one month ill; he had become intemperate some little time after his insurance was effected. His father had died from the effects of drinking. His policy existed for little more than one year.

The hereditary character of the tendency to excess in the use of stimulants is painfully illustrated in this instance, and quite as notably so in many other cases in the Society's experience. 2d, An Inn-keeper, was insured 8 years, his expectation of life at the time of acceptance being 21 years. 3d, An Hotel-keeper, was insured only three years.

In one of the 12 sufferers from Epilepsy, death succeeded a fall during a fit. In one who exactly reached his expectation period, 34 years, the fatal malady showed itself for the first time 2 years before death.

7. HEMIPLEGIA.—*Nine* deaths are returned under this head, 8 in males and 1 a female.

The ages at death were 47, 58, 69, 70, 72, 73, 74, 77, and 81.

In one of the nine it is noted that the Hemiplegia of the right side existed with Aphasia. In one the Hemiplegia is described as having been on the left side.

8. INSANITY.—*Insanity* is stated to have been the cause of death in *four* males, of the ages of 38, 46, 55, and 56. Two of the four were farmers, one a bank-teller, and one a merchant. In the family history of none of the four was there any evidence of unsoundness of mind.

One of the four was a case of Acute Mania, proving fatal on the 10th day. Two of the four died in Asylums. One of the two was choked when attempting to swallow a large piece of bread.

All four fell far short of their expectation of life.

9. LOCOMOTOR ATAXY.—*Three* deaths resulted from this form of disease of the nervous system, which for the first time finds a place in the Nosological arrangement adopted by the Society.

1st, Bank Agent, died *æt.* 75, having been accepted at 40. The certificate of death in this case bears that the Progressive Locomotor Ataxy was complicated with Heart Disease and Dropsy. 2d, Physician, died at 60, having been insured at 43; the disease had existed for five years. 3. Wine and Spirit Merchant, died at 45, was insured at 41. Duration of illness stated to have been four years. This man had become intemperate in habits.

10. MENINGITIS.—*Five* male members are stated to have died from Inflammation of the Membranes of the Brain.

The ages of the five were, 33, two 55, 66 and 76.

In one the fatal disease supervened on Mania, in a second on Otitis. One was a case of chronic Meningitis, in which the duration of the disease was fully twelve months. In one case the disease ran a very acute course, and was accompanied by Paralysis. The sufferer scarcely survived acceptance one year. His mother had died of Apoplexy at 47.

11. NERVOUS EXHAUSTION.—Under this head *two* deaths, both in males, are recorded, at the ages of 68 and 71. In the latter the great heat of the weather (August 18, 1868) is assigned as the cause.

12. PARALYSIS.—*One hundred and two* deaths are returned under the name of Paralysis—one hundred being males and two females. Of these 102 deaths, 5 took place between 30 and 40; 6 between 40 and 50; 22 between 50 and 60; 28 between 60 and 70; 36 between 70 and 80; and 5 between 80 and 90.

Three were cases of Paralysis Agitans. These proved fatal at 70, 71, and 73 years respectively, and the disease had existed for 3 years in 1, for 8 years in 1, and during "several years" in the third.

General Paralysis existed in 5; General Paralysis of the insane in 4. In 1 of these four it was known that the sufferer, a commercial traveller, had become very intemperate; he survived his acceptance 15 years, but his expectation of life at that time was 40 years. The other three died in asylums; one surviving acceptance 11 years, while his expectation was 25; another dying within the



first year of his insurance, his expectation being 33 years. In this case family and personal history, as given in the papers, were quite clear; in particular, the habits in both were exemplary. In the remaining case, that of a traveller, the habits were stated to be sober; he died within two years of his acceptance.

In one of the instances of General Paralysis, the disease had continued 20 years; he was accepted at 47, and died at 68; his expectation was 23 years, and he completed 22. Before acceptance he had suffered from rheumatic pains in the limbs, and had also been subject to a spasmodic affection in them. Paralysis in one case occurred in the course of Diabetes, in another the disease was consequent upon spinal curvature. In one instance the Paralysis was complicated with Heart Disease, in another with Myelitis, in one connected with Gangrene of the nates and feet; and in two with long-continued disease of the bladder.

As in the instance of Apoplexy, the members of the learned professions, the Church, Law, and Medicine, are fully represented in those dying from Paralysis. Merchants, bankers, agents, commercial travellers, and military men rank next in order, and many of the industrial occupations are represented, but in less number than holds true of the former class.

13. PARAPLEGIA.—*One* death in a male member of 55 is thus recorded. Bed sores and hæmorrhage had occurred towards the close of life.

14. SUN-STROKE.—*Two*, 1 male and 1 female, died from this cause. The former, an accountant, æt. 27, whose endurance of life after acceptance was only 7 years and 110 days. He died in August 1873. The latter died in July 1872, after an illness of 5 days, in Merionethshire, Wales, æt. 71, having nearly fulfilled her expectation of life.

#### IV. Diseases of the Respiratory Organs.

The total mortality from Diseases affecting the Respiratory Organs has been 403.

Under this class are included the following diseases:—Asthma,

Bronchitis, Consumption, Disease of the Lungs, Hæmoptysis, Hydrothorax, Laryngitis, Pleurisy, Pneumonia, Quinsy.

1. ASTHMA.—There are *eight* claims on account of Asthma, 7 males and 1 female; of these 3 died between 50 and 60; 2 between 60 and 70; and 3 above 70. Two of these cases are described as proving quickly fatal, and were in all probability instances of Cardiac disease.

2. BRONCHITIS accounts for no fewer than *one hundred and twenty-five* deaths, 115 in males and 10 in females. Of these 125 deaths, 2 occurred between 20 and 30; 2 between 30 and 40; 15 between 40 and 50; 29 between 50 and 60; 30 between 60 and 70; 33 between 70 and 80; and 14 between 80 and 90. Or 48 of the 125 deaths happened under 60 years of age, and 77 above that period. The contrast afforded between the fatal ages of Bronchitis and Consumption is striking. Bronchitis is especially a fatal disease in the elderly, and the experience of the Society confirms this.

In 3 only of the 125 claims on account of Bronchitis was an extra premium required at the date of entry. In 1st, who insured at 39 and died at 58, whose expectation of life was 28 years and his realization 19, on account of rheumatic attacks before acceptance, 5 years were added to age. In 2nd, insured at 45, and died at 62, expectation of life being 24 years, and realization 18, 3 years were added on acceptance, on account of liability to colds. In 3rd, insured at 37, with addition of 5 years to age, on account of heart's action being feeble and liability to Bronchitis. This member only survived seven years. His proposal ought to have been declined.

In 72 of these 125 risks the duration of life fell short of the expectation; in 48 the duration exceeded the expectation, and in 5 duration exactly equalled expectation. It will be seen, however, from a glance at the ages of the emerged risks, that many others very nearly reached their expectation period.

Take three of the most remarkable endurances under this head, 1st, Male insured at 56; expectation 16 years, died at 88, having exactly doubled his expectation in living 32 years. 2nd, Male insured at 39; expectation 28, died at 83, having lived 43 years

from the time of acceptance, or 15 years in excess of expectation. 3rd, Male insured at 50; expectation 21 years, died at 84, having lived 35 years from the time of acceptance, or 14 years in excess of expectation.

3. CONSUMPTION includes *one hundred and forty-five* deaths; 137 being those of males, and 8 of females. Of these 145 deaths, 25 occurred between 20 and 30; 46 between 30 and 40; 42 between 40 and 50; 21 between 50 and 60; 8 between 60 and 70; and 3 above 70 years of age.

The Society's experience may be very strikingly put, as follows:— Of 145 deaths from Consumption, as many occurred above as under 40 years of age. Of the 3 instances fatal above 70 years it so happens that two were seen by me, and both of these were unequivocal examples of chronic Pulmonary Consumption. The first of these 3, with a clear personal and family history, insured at the age of 41; his expectation of life was then 25 years, and he survived 28. The second, with similar personal and hereditary qualifications, insured at 37; his expectation of life being then 29 years, he survived 35. The third insured at a later period of life than these two, his first premium being paid at the age of 56, and his last at 72; he had exactly fulfilled his expectation period.

Take the instances, eight in number, fatal above 60 and under 71 years of age. 1st, Insured at 42, died at 63; his expectation 26, his realization 22 years. 2nd, Insured at 46, died at 68; his expectation 23, his realization 22 years. 3rd, Insured at 30, died at 65; his expectation 34, his realization 35 years. 4th, Insured at 42, died at 61; his expectation 26, his realization 20 years. (A sister of this member had died, before his acceptance, of consumption at 23 years of age). 5th, Insured at 29, died at 61; his expectation 34, his realization 33 years. 6th, Insured at 50, died at 65; his expectation 21, his realization 16 years. (The father of the insured had died at 40 from intemperance, and his mother at the same age, after having borne a large family). 7th, Insured at 30, died at 67; his expectation 34, his realization 37 years. 8th, Insured at 38, died at 62; his expectation 28, his realization 24 years.

It is worthy of remark that of the eleven Members of the Society whose deaths occurred from Consumption above 60 years of

age, only three had entered at age 35, the remaining eight entered above 35,—6 of the eight above 40, and 2 of these six above 50.

Of the 145, only 14 were admitted on special terms as under average lives, and with addition to premiums. It may be interesting to look at the future of these fourteen members in detail. 1st, A dyer insured at 18 years, with addition of 5 years to age. Two brothers at 7 and 15 years, and a sister at 7, had died of head affection; his expectation of life was 42 years, he only lived 2. 2nd, A watchmaker insured at 35, with addition of 3 years to age; described as "pigeon-breasted and delicate in appearance;" his expectation of life was 30 years, and he lived 18. 3rd, A writer insured at 20, with addition of 5 years to age. A brother had died of consumption, and a sister of gradual wasting. His expectation of life was 41 years, he survived 5. 4th, A farmer insured at 28, with addition of 3 years to age, "delicate in appearance;" his expectation of life 35 years, his endurance 10. 5th, A solicitor insured at 30, with addition of 5 years to age. Brother had died of pulmonary hæmorrhage at 27. His expectation of life 34 years,—he lived 4; death was occasioned by hæmorrhage from the lungs. 6th, A shoemaker insured at 24, with addition of 5 years to age. Brother had died of consumption at 19. His expectation of life 38 years,—lived 13. 7th, A clergyman insured at 30, with addition of 5 years to age. One sister had died of consumption at 23, and a second of pleurisy at 19. His expectation of life 34 years,—he lived 3. 8th, A banker's clerk insured at 26, with addition of 3 years to age; had an attack of bronchitis before acceptance; his expectation of life 37 years,—lived 17. 9th, A mercantile clerk insured at 24, with 3 years added to age. Brother had died of consumption at 18. His expectation of life 38 years, endurance of policy, 10. 10th, A clerk insured at 27, with 3 years added to age, "not robust in appearance;" his expectation of life 36 years,—he lived 4. 11th, A married woman insured at 38, with 6 years added to age. A brother and sister had died of "glandular disease." Her expectation of life 33 years,—she lived 4. 12th, A merchant insured at 23, with 5 years added to age. A sister had died of consumption. His expectation of life 39 years,—lived one year. 13th, A married woman insured at 36, with 5

years added to age. Two sisters, both younger, had died of consumption, and a third in childbed. Her expectation of life 30 years, she lived 3. 14th, A Justice of Peace insured at 34, with 7 years added to age. Mother had died of consumption at 38. Habits of member had not been strictly temperate before marriage; his expectation 31 years,—he lived 12.

Of the 145 claims on account of Consumption, the expectation of life was not reached in 140; in only 5 instances was it attained. In several it was very nearly reached.

The most serious losses to the Society under the head of Consumption were as follows:—1st, A butcher, æt. 31, died within a year after effecting his assurance; his fatal illness lasted three months; his parents were both living at 80. 2nd, A hosier, æt. 21, died within a year of effecting his insurance, after an illness of three months. His family history had one flaw,—a sister having died of Diabetes in her fifth year. Personally he was pronounced eligible by a physician of the very highest reputation and undoubted skill. 3rd, A bank clerk, æt. 27, died within a year of acceptance; his personal and family history were faultless. 4th, A grocer, æt. 27, died in the year following his acceptance; his father had died of “uncertain cause” at 30. Proposer himself was styled “not robust but eligible.” 5th, An accountant, æt. 25; 6th, A clerk, æt. 21; and 7th, a merchant, æt. 26. These three died in the course of the year following their acceptance. In each of the three, personal and family history were quite unexceptionable. 9th, Married woman, æt. 39, died of rapid consumption, beginning with uterine derangement, within two years of her acceptance.

Of the 145, *seventy-five* were admitted to the benefits of Life Assurance after a careful scrutiny of personal and family history, being described as not only free from any consumptive taint, but in both respects eligible. To the remaining *seventy*, a flaw, in the great majority very slight, attached, only fourteen having, as we have already seen, been accepted on special terms. Of the 56 accepted on ordinary terms, although either on personal or family grounds not altogether free from taint,—in 6 the imperfection was personal; in 48 on account of family history; in 2 on both grounds. Of the *five* included under the first head,—one had suffered from congestion of the lungs before acceptance, one from

slight bronchitis, two had spat a little blood, and the fifth was not robust in his appearance. In these five the preponderating excellence of the family history overruled all objections to the acceptance of the lives on the ordinary terms of assurance. In the *two* instances in which there existed objections both on personal and family grounds,—1st, proposer had been dyspeptic; and one brother, in a large family, and younger than himself, had died of consumption. 2nd, proposer had an attack of bronchitis before acceptance. His father had died at 31 through intemperance, and his mother in childbed. In the *thirty-nine* instances in which a flaw existed in the family history alone, the imperfection had been very various in character. In 17 of the 39 a member or members (never more than two in number, and almost invariably younger than proposer) of the immediate family had died of consumption. In 3 the mother of proposer had died shortly after confinement. There is good reason for believing that in females not a few instances of death during confinement, so reported, are cases of consumption, and it is necessary on this account to make as careful an inquiry as possible into the nature and duration of the fatal illness in the mother or sister, as the case may be, of proposers who have died after the birth of children. In 3 the parents, or one parent, had died at an early period of life of some disease unknown to proposer, raising the suspicion of consumption. In 2 the father died at an early age through intemperance; in 1 the father of proposer committed suicide through intemperance; in 2 the father or mother had died of bronchitis; in 1 a brother died at 18 through exposure; in 1 an aunt died of consumption; in 1 father died at 40, described as “always feeble”; in 1 a brother died through intemperance; in 1 a brother died of kidney disease; in 1 a sister died of diabetes; in 1 mother died at 40, “having had a large family”; in 1 brother and sister died of “glandular disease”; in 1 brother and sister had spinal disease; in 1 brother and sister died of chest disease, stated expressly not to have been consumption; in 1 sister died, *æt.* 36, after her confinement.

On a careful review of the deaths from consumption, and more especially of those in which, by reason of some unfavourable circumstance in the personal or family history of the proposer, an addition to the ordinary premium has been charged, it appears

abundantly clear that the extra premium imposed has fallen far short of the requirement in every individual case.

The Society's rule not to accept a proposer in whose immediate family more than two members have died of consumption, although on the whole a reasonable, as it unquestionably is a safe one, may admit of exceptions being made. The hereditary character of pulmonary consumption is undoubted, but the disease is not always of this nature, and it may with confidence be affirmed that even in families where several deaths have occurred from consumption, the matter of heredity has by no means been established.

If the proposer have survived by several years the age at which consumption proved fatal to his relatives, and possess, as is not very unfrequently the case in consumptive families, an evidently vigorous constitution, he or she may be regarded as an eligible subject for Life Assurance.

4. DISEASE OF THE LUNGS.—Under this head there appear *fifty-one* emerged risks; all males.

Of these 51, 1 died between 20 and 30; 11 between 30 and 40; 14 between 40 and 50; 6 between 50 and 60; 11 between 60 and 70; 7 between 70 and 80; and 1 above 80.

Three of the fifty-one were accepted with an additional premium. 1st, Insured at 41, with 5 years added to age on account of chronic bronchial affection; expectation of life 26 years, realization only one year. 2nd, Insured at 26, with 5 years added to age, "of a strumous family," died at sea of "Congestion of Lungs;" his expectation was 38 years,—he lived 6. 3rd, accepted at 25, with 3 years added to age, "look of delicacy;" expectation 37,—lived 16 years.

"Congestion of Lungs" and "Chronic Disease of Lungs" are the terms chiefly employed in the certificates of death included under this head. There can, however, be little doubt that several instances of Consumption are ranked under "Disease of the Lungs."

5. HÆMOPTYSIS.—*Three* males. Of these 3, death occurred in 1 at 57; in 1 at 64; and in 1 at 78. The first survived his

expectation period, which was 12 years, by 3 years; the second fell short of that by 2, and the third by 8 years.

6. HYDROTHORAX.—*One* male, æt. 77, insured at 54, survived expectation of 18 years by 5 years.

7. LARYNGITIS.—*Six* males. Of these 6, 2 died between 40 and 50; 1 between 50 and 60; 1 between 60 and 70; and 2 between 70 and 80.

Two of the 6 were instances of acute Laryngitis, 4 were chronic, in 2 of the 4 the disease was malignant. In two tracheotomy was performed, the patient in one case surviving the operation for several weeks, in the other for exactly one week.

One of the six considerably exceeded his expectation of life; a second nearly equalled it; in a third, the expectation being 30 years, he reached 19; in the three remaining instances, including the two cases of acute Laryngitis, the duration of life fell far short of the expectation.

8. PLEURISY.—There are *eight* claims on account of Pleurisy, all in males. Of these 8, death occurred in 1 between 40 and 50; in 1 between 50 and 60; in 4 between 60 and 70; and in 2 between 70 and 80.

Two of the 8 surpassed their expectation of life, 4 nearly reached it, and 2 fell far short of it.

In 6 of the 8 the disease was of brief continuance. In one, sudden Syncope, a not uncommon termination in acute Pleurisy, carried off the patient on the fourth day of the disease.

In one of the 8, an extra premium, equivalent to the addition of three years to his age, was charged at the time of acceptance.

9. PNEUMONIA.—*Fifty-five*, being 53 males and 2 females, died from Pneumonia.

Of these, 9 died between 30 and 40; 9 between 40 and 50; 16 between 50 and 60; 10 between 60 and 70; 9 between 70 and 80; and 2 between 80 and 90.

Of those above 70, 11 in number, 1st insured at 43, and died at 71; his expectation was 25 years, and he lived 28. 2nd insured at 36, and died at 72; his expectation was 30 years, and



he lived 36. 3rd insured at 54, and died at 80; his expectation was 18 years, and he lived 26. 4th insured at 58, and died at 76; his expectation was 15 years, and he lived 18. 5th insured at 36, and died at 76; his expectation was 30 years, and he lived 40. 6th insured at 43, and died at 74; his expectation of life was 25 years, and he lived 32. 7th insured at 46, and died at 84; his expectation was 25 years, and he lived 38. 8th insured at 51, and died at 77; his expectation was 20 years, and he lived 27. 9th insured at 60, and died at 79; his expectation of life was 14 years, and he lived 20. 10th insured at 36, and died at 78; his expectation of life was 30 years, and he lived 42. 11th insured at 30, and died at 76; his expectation of life was 34 years, and he lived 46.

Adding these years of expectation and of realization of life in the 11 instances now quoted, the result is as follows:—266 years represent their total expectation, and the actual attainment of life reaches 353 years.

By way of contrast.—1st insured at 31; his expectation of life was 33 years, and he lived 1 year. 2nd insured at 64; his expectation was 12 years, and he lived 2. 3rd insured at 34; his expectation 31 years, and he lived 3. 4th insured at 33; his expectation 32 years, and he lived 2. 5th insured at 32; his expectation 33 years, and he lived 3. 6th insured at 28; his expectation of life 35 years, and he lived 5.

Adding these years, there results 16 years of actual attainment of life in 6 instances, to be put against 176 years of expectation.

All of those members were accepted on the ordinary terms. In one instance the Pneumonia is stated to have terminated in Abscess of the Lung. In some the inflammation of the lung is stated to have been associated with Pleurisy.

10. QUINSY.—One member, at the age of 55, died from Quinsy.

## V.—Diseases of Heart and Bloodvessels.

The total Mortality from diseases affecting the organs of circulation has been 324.

Under this class are included the following diseases:—Aneurism, Disease of Heart, Pericarditis, and Phlebitis.

1. ANEURISM.—From this cause there are *eight* claims.

Of these 8 members, 3 died between 30 and 40; 1 between 40 and 50; 1 between 50 and 60; 2 between 60 and 70; and 1 between 70 and 80.

These were all returned as cases of "Aneurism of Aorta." In one of the 8, "Aneurism or Intrathoracic Tumour" is entered in the certificate of death. In one instance only was a *post-mortem* examination made. The subject of it had insured at 52, and died suddenly at 77; his expectation of life was 19 years, and he attained 25. The Aneurism was found to have ruptured into the Pleura.

In one of the 8 an additional premium was exacted. The proposer was accepted at 35 with five years added to age, his father having died at 55 of Bright's Disease, and his mother at 32 of Consumption. He died eleven months after effecting his insurance, during five of which he had been complaining.

2. DISEASE OF HEART.—Under this head there rank no fewer than *three hundred and eleven* claims, of which 299 were males, and 12 females.

In 8 of the 311, *post-mortem* examinations had been made.

In 23 instances death is stated to have occurred "suddenly," or the person was "found dead."

In 26 of the 311, the disease of the heart is certified to have been "Fatty Degeneration;" in 12, "Angina Pectoris;" in 23, "Valvular disease;" in 2, "Endocarditis;" in 3, "Gouty, or in connexion with Gout;" in 4, "Rheumatic, or connected with Rheumatic fever"—of course many of the Valvular and other cases owed their beginning to this cause; in 6, "Dilatation;" in 4, "Hypertrophy;" in 1, "Softening of the Heart;" in 1, "Weak Heart;" in 2, "Disease of Heart with profound Anæmia."

These taken together amount to 84; in the remaining 227 the Certificate of death simply bears "Disease of the Heart."

In 40 of the 311, the disease of the heart is stated to have been complicated with Dropsy. Disease of Liver, Congestion of Lungs, Pulmonary Apoplexy, Bronchitis, and Disease of the Kidneys, are mentioned as complications in several cases.

Of the 311 sufferers from Heart Disease, 2 died under 30 (one of the 2 at 18, the other at 23); 15 between 30 and 40; 35

between 40 and 50 ; 70 between 50 and 60 ; 110 between 60 and 70 ; 68 between 70 and 80 ; and 11 between 80 and 90.

One of the 2 very early claims relates to a member at 16, who perished at 18 from an attack of Pericarditis, Endocarditis, and Inflammation of Heart and Lungs in connexion with Rheumatism ; the other insured at 19, and died at 23, of Disease of Heart with Bronchitis.

Seventy-nine of the 311 members who died of Disease of the Heart exceeded their expectation of life, and other 14 exactly reached it, leaving 218 who fell short of that period.

Of the 79 who exceeded their expectation of life, 1 did so by 21 years, 1 by 17, 2 by 15, 2 by 13, 2 by 12, 3 by 11, 4 by 10, 5 by 8, 7 by 10, 5 by 6, 6 by 5, 8 by 4, 10 by 3, 11 by 2, and 12 by 1.

Of the 14 who exactly equalled their expectation of life, 1 had been insured 34 years ; 1, 33 years ; 1, 31 years ; 1, 30 years ; 1, 28 years ; 3, 26 years ; 1, 23 years ; 1, 22 years, 1, 21 years ; 1, 15 years ; 1, 14 years ; and 1, 10 years.

Of the 218 who fell short of their expectation, 12 did so by 1 year, 15 by 2 years, 15 by 3 years, 8 by 4 years, 18 by 5 years, 14 by 6 years, 9 by 7 years, 6 by 8 years, 10 by 9 years, 8 by 10 years, 5 by 11 years, 4 by 12 years, 7 by 13 years, 9 by 14 years, 4 by 15 years, and the remainder by more than 15 and up to 42 years.

It is worthy of note that, among the 79 sufferers from Heart Disease whose lives continued beyond their expectation period, 11 were Merchants ; 6, Gentlemen of independence ; 4, Manufacturers ; 8, Clergymen ; 4, Writers to the Signet ; 7, Solicitors ; 2, Physicians ; and 2, Farmers ; and 2 were females. Among the 14 who exactly reached their expectation period, 3 were females, and 2, Clergymen. In the list of those who, dying of Disease of the Heart, fell short of their expectation period, there appear 6 females, 5 Commercial Agents, 7 Clergymen, 26 Merchants, 6 Drapers, 4 Clerks, 5 Solicitors, 3 Pawnbrokers, 11 Medical men, 6 Gentlemen of independence, 3 Naval Officers, 3 Gardeners—the remainder under each of the three divisions being made up of the ordinary occupations of life in the single number.

In 15 of the 311 an extra premium was charged at the time of acceptance. These instances may be looked at in detail :—

1st insured at 43 ; died at 45 from "Disease of Heart complicated with Epilepsy : " expectation of life was 25 years ; its realization, 3. On acceptance, 5 years were added to age, because proposer was described as "not strong-looking. Father had died at 40 ; cause of death unknown : his mother at 65, of Cancer." 2nd insured at 52 ; died at 66 from "Disease of Heart : " expectation of life was 19 years ; its realization, 14. On acceptance, 3 years were added to age on account of a previous attack of Bronchitis. 3rd insured at 40 ; died at 51 from "Valvular Disease of Heart and general Dropsy : " expectation of life was 27 years ; its realization, 11. On acceptance, 3 years were added to age, because 12 years previously he had acute Rheumatism, at which time "slight pericardial mischief" was noted. 4th insured at 27 ; died at 33 from "Disease of Heart : " expectation of life, 36 years ; realization, 7. Three years added to age on acceptance, on account of "a slight cardiac bruit." 5th insured at 53 ; died at 68 from "Disease of Heart, and Dropsy : " expectation of life, 21 years ; realization, 15. Five years added to age on acceptance, because proposer had suffered from Sciatica, and had passed a small calculus of oxalate of lime. 6th insured at 34 ; died at 40 from "Disease of Heart : " expectation of life, 31 years ; realization, 6. Five years had been added to age, because both parents had died under 50. 7th insured at 38 ; died at 45 from "Disease of Heart with Bronchitis : " expectation of life, 28 years ; realization, 7. Three years had been added to age on acceptance, on account of "cardiac bruit, supposed to be anæmic." 8th insured at 48 ; died at 69 from "Valvular Disease of Heart : " expectation of life, 22 years ; realization, 21. Five years were added to age on acceptance, on account of defective family history. One brother had died of Consumption, and a second was suspected to have been affected by the same disease. 9th insured at 40 ; died at 41 : expectation of life, 27 years ; realization, 1 year. Three years added to age on acceptance, on account of family history, Asthma and Bronchitis having proved fatal to two of its members. 10th insured at 34 ; died at 41 from Disease of Heart, with pulmonary complication : expectation of life, 31 years ; realization, 7. Five years had been added to age on account of proposer being "subject to winter's cough." 11th insured at 38 ; died at 63 from "Disease of Heart, Liver, and

Dropsy :” expectation of life, 28 years ; realization, 25. Four years had been added to age on account of proposer being a “reformed drunkard.” 12th insured at 53 ; died at 63 from “Disease of Heart and Kidneys :” expectation of life, 18 years ; realization, 11. Five years had been added to age owing to “peculiar pecuniary position” of proposer. 13th insured at 67 ; died at 80 from Disease of Heart with Bronchitis : expectation of life, 10 years ; realization, 13. Three years had been added to age on account of proposer being subject to Bronchitis. 14th insured at 32 ; died at 56 from Disease of Heart : expectation of life, 33 years ; realization, 24. Three years had been added to age on account of slight hæmoptysis before acceptance. 15th insured at 49 ; died at 54 from Disease of Heart : expectation of life, 21 years ; realization, 6. Three years had been added to age on account of “very full habit of body.”

3. PERICARDITIS.—There were *three* claims, all in male members, from Pericarditis. Their ages were 48, 38, and 33.

In 1 Pericarditis was complicated with Pneumonia. On acceptance, the papers as regards both personal and family history, were quite clear. The expectation of life was 22 years, but he died within 1 year of effecting his insurance. In 2 an acute attack of Pericarditis proved fatal on the 5th day. The expectation of life was 38 years, its endurance 13. In 3 Pericarditis was complicated with disease of the Liver. The papers were quite clear. Expectation of life was 33 years, its endurance only 1 year.

In none of these instances was there any personal or family history of rheumatism in any form.

4. PHLEBITIS.—*Two* males are certified to have died from Inflammation of the Veins.

1. A Surgeon, æt. 42 on acceptance, died at 71 ; his expectation of life was 26 years, he survived 29. Phlebitis in this case was in the leg and connected with disease of the liver. 2. Sergeant-Major, insured at 40 ; his expectation of life 27 years, he survived 3.

## VI. Diseases of the Digestive Organs.

The total number of deaths from diseases affecting the organs of Digestion and Assimilation was 190.

Under this class are included Ascites, Colic or Ileus, Disease of Liver, Disease of Spleen, Disease of Stomach and Bowels, Gastritis-Enteritis, Hæmatemesis, Hepatitis, Hernia, Intussusception, Jaundice, Perforation of Bowels, Peritonitis, Stricture of Bowels.

1. ASCITES.—Under the head of Ascites there are *two* deaths, both in males, ages 55 and 64. Both members fell short of their expectation of life, 1 by 17, the other by 2 years.

2. COLIC OR ILEUS.—*Eight* members, 7 males and 1 female, perished from this cause. Their ages were 53, 57, 58, 61, 62, 63, 63, 65. All fell short of their expectation of life, 1 by 2 years, 1 by 5 years, 1 by 6 years, 1 by 7 years, 2 by 8 years, 1 by 10 years, and 1 by 16 years.

One was accepted at an advance of three years to age on account of "not having been strong;" he lived six instead of eleven years. One was a Gout risk, having had two attacks of Gout previous to acceptance; he lived eleven in place of eighteen years.

3. DISEASE OF LIVER.—*Ninety-nine* deaths, of which 95 occurred in males and 4 in females, are returned under the head of Disease of Liver. To these may be added three cases of undoubted Cancer of the Liver placed under Cancer in Class 2, and 4 of Hepatitis, to be adverted to immediately.

By so doing the deaths from Disease of the Liver in the experience of the Society have been 106. Of the 99, 12 died between 30 and 40; 20 between 40 and 50; 32 between 50 and 60; 24 between 60 and 70; 8 between 70 and 80; and 3 between 80 and 90.

The ninety-nine instances of Disease of the Liver may be tabulated from the returns as follows:—

Disease of Liver with Ascites, . . . . .	9
Disease of Liver with Dropsy, . . . . .	11
Acute Disease of Liver, resulting from impacted Gallstone in Cystic duct, . . . . .	1
Disease of Liver and Dropsy, Kidneys affected, . . . . .	1
Disease of Liver and Stomach, . . . . .	1
Cirrhosis of Liver, . . . . .	6
	<hr/>
Carry forward,	29

	Brought forward,	29
Disease of Liver with Diarrhoea, . . . . .		3
Disease of Liver, . . . . .		38
Disease of Liver and Spleen, fatal Hæmatemesis, . . . . .		1
Disease of Liver and Spleen, . . . . .		1
Disease of Liver and Kidneys, . . . . .		5
Fatty Disease of Liver, . . . . .		1
Disease of Liver, fatal Hæmatemesis, . . . . .		1
Disease of Liver, Jaundice, . . . . .		5
Disease of Liver, Bronchitis, . . . . .		1
Disease of Liver, complicated with Epilepsy, . . . . .		1
Disease of Liver, Abscess, rupture into Pleura and Abdomen, . . . . .		1
Disease of Liver, complicated with Carbuncle, . . . . .		1
Disease of Liver, Abscess, . . . . .		2
Disease of Liver, enlargement, . . . . .		1
Disease of Liver and Lungs, . . . . .		3
Disease of Liver, Enlargement, with Dropsy, . . . . .		1
Disease of Liver, Pyæmia, . . . . .		1
Inflammation of Liver, . . . . .		1
Congestion of Liver, . . . . .		1
Rupture of Abscess in Liver, . . . . .		1
	Total,	<u>99</u>

In five an extra premium was charged, namely :—

(1.) Gentleman, æt. 51 on acceptance, died at 54. Expectation of life 20 years, lived 3. Had Gout previous to insurance. Gout extra equivalent to addition of three years to age was charged. Certificate of death bore "Disease of Liver."

(2.) Clerk, æt. 53 on acceptance, died at 56. Expectation of life 18 years, lived 3. Had internal bleeding piles before acceptance. Three years were added to age. Died of "Enlargement of Liver and Dropsy."

(3.) Draper, æt. 35 on acceptance, died at 52. Expectation of life 30 years, lived 17. Had frequent attacks of Dyspepsia. Three years added to age. Died of "Disease of Liver and Dropsy."

(4.) Coal-master, æt. 45 on acceptance, died at 53. Expectation of life 24 years, lived 8. Mother had died of Consumption. Five years added to age. Died of "Disease of Liver."

(5.) Commercial Traveller, æt. 36 on acceptance, died at 37. Expectation of life 30 years, lived 2. Had been anaemic with

disturbed action of Heart. Five years added to age. Died of "Disease of Liver and Jaundice."

Of the ninety-nine sufferers from Liver Disease, 14 were closely connected with the manufacture or sale of intoxicating liquors, and three were commercial travellers, a class notoriously of intemperate habits.

The bearing of habits on the production of Liver Disease may be further seen from the following facts culled from the same list :—

1. *Gentleman* certified on acceptance as "strictly temperate," endurance of policy 6 years in place of 28. At decease, declared to have been a dipsomaniac for years. 2. *Flesher*, "more than twelve months intemperate before death." 3. *Colliery Manager*, "had lived very freely." 4. *Agent*, "lived very freely."

Of the ninety-nine, 15 exceeded the expectation of life, 3 equalled it, and 81 fell short of it.

4. DISEASE OF SPLEEN. *One* male member died of Disease of the Spleen, æt. 57. He was accepted at 34, his expectation of life being then 31 years, the endurance of the policy was 23 years. The fatal illness lasted twelve months.

5. DISEASE OF STOMACH AND BOWELS. *Twenty-five* claims are included under this head, 24 males and 1 female.

The ages of these twenty-five members were at death as follows:— 2 between 20 and 30 ; 1 between 30 and 40 ; 6 between 40 and 50 ; 6 between 50 and 60 ; 7 between 60 and 70 ; and 3 between 70 and 80.

In 3 of the twenty-five, the expectation of life was exceeded by the endurance, in 1 by 2 years, in 1 by 3, and in 1 by 9 years. In 1 the expectation and realization were exactly equal, and in 21 the endurance fell short of the expectation, in 1 by 1 year, in 2 by 2 years, in 1 by 4 years, in 1 by 5 years, in 1 by 6 years, in 2 by 7 years, in 1 by 9 years, in 1 by 10 years, in 1 by 11 years, in 1 by 13 years, in 2 by 15 years, in 1 by 19 years, in 1 by 20 years, in 2 by 21 years, in 1 by 28 years, in 1 by 35, and in 1 by 40 years.

The twenty-five cases are thus described :—

Ulcer of Stomach, Perforation and Peritonitis, . . . . .	1
Disease of Stomach, . . . . .	11
Gastritis, . . . . .	1
	<hr/>
Carry forward,	13



	Brought forward,	13
Disease of Bowels,	.	1
Mesenteric Disease,	.	1
Stricture of Œsophagus,	.	1
Disease of Rectum,	.	1
Ulcer of Duodenum,	.	1
Perforating Ulcer of Bowels,	.	1
Ulcer of Stomach,	.	2
Inflammation of Stomach,	.	2
Disease of Bowels, Diarrhoea,	.	1
Disease of Stomach, Hæmatemesis,	.	1
	Total,	<u>25</u>

In three of the twenty-five a *post-mortem* examination was made. 1st, Clergyman insured at 25 : expectation of life 37 ; actual endurance 20 ; he died, æt. 45, of "Ulcer of Stomach, Perforation and Peritonitis," fatal illness lasted 22 hours. 2nd, Merchant, insured at 56 : expectation of life 16 years ; actual endurance 18 ; died at 73, "Ulcer of Duodenum"; had symptoms of the disease for four years. 3rd, Broker, insured at 29 : expectation 34 years ; actual endurance 25, died at 53, "Disease of Stomach."

Cases of disease affecting Stomach and Bowels, styled Cancer, have been placed under the head of Cancer in Class II.

6. GASTRITIS-ENTERITIS.—Under this head *eight* claims are returned, 6 in males, and 2 in females.

The ages of the eight were 28, 29, 44, 47, 61, 73, 75, and 77 ; of these, 3 exceeded their expectation period by 6, 7, and 8 years respectively ; and 5 fell short of it by 5, 18, 19, 32, and 34 years.

The disease was styled acute in five instances, 2 days, 3 days, 5 days, 8 days, and 12 days being mentioned as the duration of the fatal illness in these. In one the duration is described as many months, in two the duration is not mentioned.

7. HÆMATEMESIS.—*Eight* claims occur from this cause, 7 in males, and 1 female. Ages 34, 35, 46, 54, 55, 57, 60, and 70. All fell short of expectation by 1, 4, 10, 14, 17, 18, 19, and 30 years.

One case is described as Hæmatemesis occurring in the course of fever ; and another in a person of 70 years of age, as due to arterial degeneration. There can be little doubt that under the

names of Disease of the Liver, and more particularly Cirrhosis, and Ulcer of the Stomach, these instances of fatal Hæmatemesis would have been more correctly classed.

8. HEPATITIS accounts for *four* deaths, 3 males and 1 female. Ages at death, 31, 49, 67, and 77. One of the four exceeded expectation by 6 years; 1 equalled, and 2 fell short of expectation; 1 by 10, the other by 13 years. As none of the four cases of so-called Hepatitis occurred in warm climates, it is very likely that the use of the term is erroneous.

9. HERNIA.—The claims on account of Hernia have been *six*, 3 in males, and 3 in females.

Ages, 50, 64, 72, 80, at which age there were two, and 84. Two fell short of expectation of life, 1 by 4, the other by 11 years; 4 exceeded expectation by 5, 7, 11, and 16 years respectively.

The length of fatal illness is stated to have been 18 hours in 1; a day in 1; 3 days in 1; 5 days in 2; and 2 weeks in 1, this was a case of strangulated umbilical hernia, and occurred in a female aged 84.

10. INTUSSUSCEPTION.—*Six* members died from this cause; they were all males, of the ages, 41, 43, 60, 61, 74, and 85. In two of these the expectation of life was exceeded, in 1 by 7, in the other by 10 years. In four the expected age was not reached, in two by 7, and in two by 22 years.

The illness proved fatal in 1 case in 4 days; in 2 cases in 6 days; in 1 in 7 days; in 1 in 10 days; and in the 6th case the duration of the illness is not stated. In one case where the age was 29 at the time of acceptance, and 41 at death, the fatal obstruction occurred during an attack of Delirium Tremens.

11. JAUNDICE.—There are *four* deaths recorded under the head of Jaundice. Of these 3 occurred in males, and 1 in a female. Happily this name, which is that of a symptom and not of a disease, is disappearing from our Nosological registers.

The ages of these sufferers were 61, at which age 2 deaths occurred, 62, and 64; all fell short of their expectation of life, 1 by a single year; 2 by 6; and 1 by 7 years.

12. PERFORATION OF BOWELS.—From this there resulted *three* deaths in male members. Ages, 32, 57, and 65. All fell short of their expectation period, 1 by 2 years; 1 by 8; and 1 by 29. One case was styled “Chronic Ulceration of Bowels, with Perforation;” a second simply “Perforation,” 24 hours ill; the third Perforation consequent upon obstruction,” 12 days ill.

13. PERITONITIS.—There appear *twelve* deaths from Peritonitis, 11 males and 1 female. Ages, 34, 37 (2 deaths), 45, 47 (2 deaths), 53, 54, 57, 58, 65, and 78. In 1, expectation was exceeded by 11 years; in 1 exactly attained; and in the remaining 10 the duration of life fell short of expectation by 9, 10, 11, 12, 20, 20, 22, 25, 28, and 29 years.

Two of the 12 had been accepted with an extra premium. One of 5, the other of 3 years.

The 1st, a Wharfinger, was accepted, *æt.* 24, with 5 years added to age; described as “not robust,” had Diarrhœa with bloody flux the year before acceptance; family history good; died at 31, of Tubercular Peritonitis, after an illness of 5 or 6 months.

The 2nd, a Manufacturer, accepted, *æt.* 29, with 3 years added to age; mother having died of Pulmonary disease; died at 34, after an illness of 30 hours, simply styled “Peritonitis.”

Of the 12 cases the disease was *acute* in 8; of the 8, 1 died in 22 hours; 1 in 24; and 1 in 30; 2 in 2 days; 1 in 5; and 2 in 10. In 3 the disease was *chronic*; in one the illness lasted 1 month; in one 5 or 6 months; and in one 7 months. In one the duration of the illness is not specified.

14. STRICTURE OF THE BOWEL.—This proved fatal to *four* members, 3 males and 1 female. Their ages at death were 45, 62, 66, and 75.

One of the four, a Corn-merchant, insured at 45; his expectation of life being 24 years. The papers were quite clear, but he died within a year after effecting his assurance from “Stricture of the small intestine.” A second, a Merchant, insured at 49; his expectation of life being then 21 years; he died at 66, of “Stricture of Bowel causing obstruction.” A third, Mrs. —, insured at 47; her expectation being 23 years; died at 62. The fourth, a Post-master, insured at 37, his expectation being 29 years; he died at

75, having exceeded the period of his calculated survivancy by 10 years.

## VII. Diseases of the Urinary Organs.

The total number of deaths from diseases of the Urinary Organs was 116.

Under this class are included, Cystitis, Disease of Bladder, Disease of Kidneys, Disease of Prostate Gland, Fistula in Perineo, Haematuria and Ischuria.

1. CYSTITIS.—From this disease there died *eleven* males, 2 died between 40 and 50; 2 between 50 and 60; 2 between 60 and 70; and 5 between 70 and 80.

In 5 of the 11 the period of expectation of life was exceeded, and in 6 it was not attained. In one case the inflammation was accompanied by Hæmorrhage.

2. DISEASE OF BLADDER.—*Sixteen* deaths, all in males, are thus recorded. Of these 2 died between 80 and 90; 4 between 70 and 80; 7 between 60 and 70; 2 between 50 and 60; and 1 between 30 and 40. Eight of the 16 exceeded and 8 fell short of their expectation period. In 2 a *post-mortem* examination was made, but no further details are given in either report of these cases.

In 7 of the 16 there existed *Stone in the Bladder*, and in 3 of the 7 Lithotomy had been performed. The ages of the 3 were 64, 67 and 68.

In one Rupture of the Bladder occasioned death. In the remaining 8 acute and chronic disease of the bladder is assigned as the cause of death.

3. DISEASE OF KIDNEYS. (Renal disease).—From this cause there died *seventy-three*, 71 males and 2 females; of the 73, death occurred between 20 and 30 in 1; between 30 and 40 in 8; between 40 and 50 in 13; between 50 and 60 in 16; between 60 and 70 in 28; between 70 and 80 in 7.

In 61, the realization of life fell short of its expectation, in 10 the latter was exceeded, and in 2 nearly equalled.

Three of the 73 were accepted with an extra premium, in each equivalent to the addition of 3 years to age.

1st, An agent, insured at 50, died at 66; his expectation of life was 21 years, he lived 16. 2nd, A solicitor, insured at 42, died at 53; his expectation 26 years, he lived 12. 3rd, A commercial traveller, insured at 33, died at 49; his expectation was 32 years, he lived 17.

In a fourth case, an extra premium on account of Gout was charged.

In one only of the 73 was a *post-mortem* examination made.

The cases of Renal disease may be tabulated as follows:—

Acute disease of Kidneys 3; Chronic disease of Kidneys 41; Disease of Kidneys and Dropsy 4; Disease of Kidneys, with Heart Disease, 3; Bright's Disease 16; Pyelitis 1; Malignant disease of left Kidney 1; Albuminuria 2; Renal Calculus 1; Nephritis 1.

Among the occupations of those who died of disease of the Kidneys there appear—grocers, hotel-keepers, brewers, spirit-dealers, and commercial travellers, all of which may be considered as favouring the consumption of alcoholic drinks. Gentlemen of independence, clergymen, medical men, lawyers, officers of army and navy retired, bankers, manufacturers, and various other occupations are likewise represented.

4. DISEASE OF PROSTATE GLAND.—*Twelve* members died from this disease.

Of these 12, 1 died at 86, 6 between 70 and 80; and 5 between 60 and 70. In 8 the expectation of life was surpassed; in 4 it was not reached. In 1 the insured survived his expectation by 17 years; insured at 45 years of age; he died at 86. In 3 of the 12 stricture of the Urethra co-existed with disease of the Prostate.

In 1, retention of urine was the immediate cause of death.

5. FISTULA IN PERINEO.—*One* male. A barrister, insured at 36, died at 67; expectation of life 30 years; realization 32.

6. HÆMATURIA.—*One* male. Governor of Debtors' prison, insured at 36, died at 63; expectation of life 30 years, survived 28. Fatal illness was consequent upon an attack of Pleuro-Pneumonia.

7. ISCHURIA.—*Two* males. 1st, Schoolmaster, insured at 26, died at 36; expectation 37 years, only survived 10 years. Fatal illness lasted forty-eight hours. 2nd, Agent for Lloyd's, insured at

57, died at 80; expectation of life 16 years, its realization 24. Fatal illness lasted 10 days.

### VIII. Diseases of the Organs of Generation.

The total number of Deaths recorded under this class is *five*.

1. CHILD-BIRTH.—From this cause there were 4 female deaths. The ages of the 4 were 46, 42, 36, and 29.

Two of the 4 were joint-assurances with husbands, payable at the death of first.

One of the 4 survived acceptance 8 years, her expectation of life being 34 years. The other 3 only survived acceptance 2 years each—36, 27, and 25, being respectively the expectation period in these three.

In one instance Placenta prævia existed with flooding. Delivery was accomplished by turning the child: death occurred one hour after delivery was completed. This lady was accepted in the fourth month of her third pregnancy; her previous labours had been quite natural. She perished at the close of her fourth pregnancy, at the age of 42.

In one case rupture of the uterus took place during delivery; this lady was 36.

In the third case a lady died on the seventh day after delivery, of Septicæmia. She was 5 months pregnant when proposal of assurance was first made in December 1869, and that proposal was declined. Previous pregnancies, 3 in number, had been natural. She died *æt.* 29.

In the fourth, Syncope occurred 3 hours after parturition.

The Society's rule is now rigidly adhered to, not to accept the life of a pregnant female, however unexceptionable in every other respect. To this rule it has been objected that every married female proposing an assurance within the child-bearing period, although not pregnant at the time, may become so, and no doubt this argument has weight. It appears, however, reasonable to decline assurance benefits to those who, as in the instance of a pregnant female, present at the time a decidedly increased risk.

2. DISEASE OF UTERUS.—*One* female. Married lady, accepted

at 36, died at 50 ; her expectation of life was 30 years, its endurance 14. Stated to have died of disease of the Uterus "of years' standing."

Six cases of Cancer of the Womb, and one of Ovarian Disease, are included in Class II.

### IX. Diseases of the Organs of Locomotion.

The total number of claims recorded under this head are *thirty-four*.

1. ARTHRITIS.—*One* male. An auctioneer, insured at 41, died at 72 ; expectation of life 26, endurance 31 years. "Chronic Arthritis" entered as the cause of death in certificate.

2. DISEASE OF FOOT.—*One* male. A clergyman, insured at 41, died at 45 ; expectation of life 26 years, its endurance 4. Amputation had been performed on account of disease.

3. DISEASE OF JOINT.—*Four* males. Ages of four at death, 48, 48, 58, and 72. Nature of disease, in 1, Malignant disease of knee-joint ; 2, Necrosis of Femur at knee ; 3, Acute Necrosis of Femur, with disease of knee-joint, only 2 weeks ill ; 4, Strumous disease of knee-joint.

One of the 4 survived his expectancy by 5 years ; and 3 fell short of that period by 31, 18, and 14 years respectively.

4. DISEASE OF SPINE.—*Eight* males. Ages of the 8 at death, 38, 54, 54, 56, 59, 61, 65, 70. One of these only exceeded expectation of life, and that by 5 years. In the remaining 7 the endurance of policy fell short of expectation by 27, 12, 11, 9, 6, 3, and 2 years respectively.

The nature of the disease is specified in the individual certificates of death as follows :—Disease of Spine, 3 ; Caries of Dorsal Vertebrae, 1 ; Caries of Vertebral Column, with abscesses,—convulsions of epileptic character, 1 ; Injury to Spinal Cord and Spine, 1 ; Disease of Spine, Kidneys, and Bladder, 1 ; Spondylarthrocace, 1.

5. RHEUMATISM.—From Rheumatism there died *twenty*, 18 males and 2 females.

The age at death of the 20 was as follows :—1 between 20 and 30 ; 3 between 30 and 40 ; 4 between 40 and 50 ; 4 between 50 and 60 ; 6 between 60 and 70 ; and 2 between 70 and 80.

In 16 the endurance of life fell short of expectation, in 2 equalled, and in 2 exceeded.

The fatal disease is styled *Rheumatic Fever* or Acute Rheumatism in 14, and in 4 of the 14 it is stated that the heart was affected. In 3 there was Brain Complication, and in 2 Pulmonary.

In 4 of the 20, the disease is called *Chronic Rheumatism*. In 1 of the four, Syphilis is stated to have existed in combination with rheumatism. In the remaining 2, the disease is simply designated *Rheumatism*.

In one instance there was a *post-mortem* examination.

In 2 of the 20 an additional premium was charged—1. *Æt.* 34 on acceptance, died at 37 ; seven years were added to age because father had died of Paralysis at 57, and brother of Consumption at 22. 2. *Æt.* 47 on acceptance, died at 61 ; three years were added to age on account of liability to diarrhœa.

## X. Diseases of Integumentary System.

The total number of deaths ranked under this class was ten.

1. CARBUNCLE.—*Nine* males. Ages at death, 37, 49, 50, 55, 56, 60, 66, 72, and 80. In 7 endurance fell short of expectation, and in 2 exceeded it. In one of these two, by 17 years.

2. PEMPHIGUS.—*One* Male. A merchant insured at 55, died at 89 ; his expectation of life was 17 years, his realization 35.

## XI. Violent Deaths.

In number *Fifty-three*. 52 males and 1 female.

In four of the fifty-three, endurance of life exceeded expectation. In the remaining forty-nine it fell short ; in many instances lamentably short.



The class forms a dismal catalogue of tragedy and disaster. The fifty-three deaths admit of a division into accidental and suicidal; of the former there were 46, of the latter 7.

1. ACCIDENTAL DEATHS.—These 46 deaths may be classified as follows :—

a. <i>Drowning</i> (1 of the 4 while fishing, 1 while diving), . . . . .	4
b. <i>Crushed to death</i> by wheel, . . . . .	1
c. <i>Suffocation</i> while eating a beef-steak in Railway refreshment rooms. Two portions found in Œsophagus, . . . . .	1
d. <i>Bursting of Boiler</i> on board Steamship, . . . . .	1
e. <i>By fall of House</i> during violent gale, January 24th, 1868, . . . . .	1
f. <i>Run over by Engine</i> on Railway, . . . . .	1
g. <i>Fall from Railway train</i> in motion, . . . . .	1
h. <i>Fall from Steamship into sea</i> (while intoxicated), . . . . .	1
i. <i>Railway Accidents</i> ,—1 Abergele, 1 Canada, . . . . .	2
j. <i>By falls</i> down stairs, from roof, or through floor, or otherwise, including 3 falls in very old persons, . . . . .	13
k. <i>By fall from Gig, Dog-cart, Carriage</i> or other conveyance, . . . . .	4
l. <i>By fall from horseback</i> , . . . . .	2
m. <i>By exposure in Bush, Australia</i> , . . . . .	1
n. <i>Lost at Sea</i> , . . . . .	5
o. <i>By discharge of Gun</i> , . . . . .	2
p. <i>Burn</i> , . . . . .	1
q. <i>By suffocation</i> when intoxicated, found dead lying on his face, . . . . .	1
r. <i>Not detailed</i> , . . . . .	4
Total, . . . . .	46

2. SUICIDAL DEATHS.—Five of the 7 were insane at the time of committing the rash act. In 4 of the 5 the verdict of insanity was returned by a Coroner's jury. In other 2 of the 7 the plea of insanity could not be supported.

The mode of suicide was cutting of throat, 1; pistol wound of head, 1; pistol wound in right lung, 1; gun-shot wound of head, 1; hanging, 2; poisoning by laudanum, 1.

## XII. Old Age and Natural Decay.

The total number of deaths classed under this head is *seventy-four*, of which number 64 are males and 10 females.

Of the 74, 3 were at death above 90 years; 48 were between 80 and 90; 22 were between 70 and 80; and 1 was 68.

In 71 of the 74 the expectation of life was exceeded; in 1 endurance of policy exactly equalled expectation; in 2 the expectation was not realized.

Take the three deaths of members above 90 :—

1. Insured at 51, lived to 91; his expectation of life was 20 years, his realization 41.
2. Insured at 58, lived to 91; his expectation of life was 15 years, his realization 33.
3. Insured at 64, lived to 91; his expectation of life was 12 years, his realization 27.

Complications are stated to have existed in 13 of the 74, but in all *Old Age* is assigned as the cause of death.

Of these 13, Dropsical swelling existed in 2; Chronic Rheumatism in 1; Urinary irritation in 1; Biliary derangement in 1; Congestion of Brain in 1; Cancer of Lip in 1; Shingles and Gout in 1; Bronchitis in 1; Cold in 1; Death hastened by a fall in 1; Sudden Syncope in 2.

It is interesting to notice the age at which assurance was first effected in these long livers. Forty-two insured above 50 years of age, and thirty-two below 50.

In the two instances in which death occurred within the expectation period—1. Was insured at 71; his expectation of life was then 8 years, he lived 5. 2. Was insured at 67; his expectation was 10 years, he lived 8. In the single instance in which the expectation period was exactly reached, the insurance took place at 51; expectation was then 20 years, he lived to 71.

Among these long survivors many occupations and positions in life are represented; 10 were females, 5 clergymen, 6 gentlemen of independence, 4 medical men, 8 merchants, 5 agents, 3 lawyers, 2 bankers, 3 manufacturers, 3 retired officers of army and navy.

### XIII. Cause of Death not ascertained.—2 Males.

1. A miller insured at 30 years; his expectation 34, endurance of policy 18. Claim allowed in the 48th year of the insured's life. "Disappeared," supposed to be dead, from 12th November 1868.

2. Gentleman retired from business, died in New Zealand at the age of 72, probably of Senile fever, but the cause of death has not been accurately ascertained. His age at entry was 43; his expectation of life 25 years, and he lived 30.

It is gratifying to find only two instances out of 1928 claims in which the cause of death has not been satisfactorily ascertained.

TABLE No. I.\*

Showing the Causes of Death among the Assured of the SCOTTISH WIDOWS' FUND LIFE ASSURANCE SOCIETY,

From 1867 to 1873, both inclusive.

CAUSES OF DEATH.	AGE-AT DEATH.							TOTAL.
	All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	
<i>1. Epidemic, Endemic, and Contagious Diseases.</i>								
Cholera, .....	2	...	...	1	1	...	..	4
Diarrhoea, .....	...	...	1	...	4	7	1	13
Diphtheria, .....	2	2	...	1	1	...	...	6
Dysentery, .....	...	1	1	2	1	...	2	7
Erysipelas, .....	...	2	1	4	6	2	...	15
Fever, .....	10	20	9	9	9	6	6	69
Influenza, .....	1	...	...	...	...	2	2	5
Measles, .....	...	1	...	...	...	...	...	1
Scarlatina, .....	...	4	...	...	...	...	...	4
Small-pox, .....	3	7	2	4	1	1	...	18
<i>2. Uncertain Seat.</i>								
Abscess, .....	1	...	2	2	3	...	...	8
Addison's Disease, .....	...	...	1	...	...	...	...	1
Atrophy, .....	...	...	...	1	3	...	...	4
Cancer, .....	1	3	17	25	30	12	...	88
Debility, .....	...	1	3	4	3	8	3	22
Diabetes, .....	2	1	3	5	8	2	1	22
Dropsy, .....	...	...	1	3	1	2	...	7
Gout, .....	...	...	...	3	3	1	...	7
Hæmorrhage, .....	...	2	1	...	1	...	...	4
Inflammation, .....	...	...	...	...	...	1	...	1
Leukæmia, .....	...	...	...	1	...	...	...	1
Mortification, .....	...	...	...	1	...	3	2	6
Pyæmia, .....	...	...	2	1	1	1	...	5
Sudden Deaths, .....	...	...	1	1	...	1	...	3
Ulcer, .....	...	...	...	...	1	...	...	1
<i>3. Nervous System.</i>								
Apoplexy, .....	1	10	17	29	39	16	8	120
Cephalitis, .....	2	...	...	1	...	2	...	5
Carry forward, .....	25	54	62	98	116	67	25	447

\* The following Tables have been prepared by Mr. WILLIAM BRAID, the Assistant Actuary of the Society, to whom I am also indebted for valuable assistance in the preparation and revision of the Report.

TABLE No. I.—Continued.

CAUSES OF DEATH.	AGE AT DEATH.							TOTAL.
	All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	
Brought forward, .....	25	54	62	98	116	67	25	447
Chronic Alcoholism, .....	...	1	1	1	...	...	...	3
Delirium Tremens, .....	1	3	1	2	1	1	...	9
Disease of Brain, .....	2	14	15	21	28	31	7	118
Epilepsy, .....	2	1	4	2	2	...	1	12
Hemiplegia, .....	...	...	1	1	1	5	1	9
Insanity, .....	...	1	1	2	...	...	...	4
Locomotor Ataxy, .....	...	...	1	...	1	1	...	3
Meningitis, .....	...	1	...	2	1	1	...	5
Nervous Exhaustion, .....	...	...	...	...	1	1	...	2
Paralysis, .....	...	5	6	22	28	36	5	102
Paraplegia, .....	...	...	...	1	...	...	...	1
Sunstroke, .....	1	...	...	...	...	1	...	2
<i>4. Respiratory Organs.</i>								
Asthma, .....	...	...	...	3	2	3	...	8
Bronchitis, .....	2	2	15	29	30	33	14	125
Consumption, .....	25	46	42	21	8	3	...	145
Disease of Lungs, .....	1	11	14	6	11	7	1	51
Hæmoptysis, .....	...	...	...	1	1	1	...	3
Hydrothorax, .....	...	...	...	...	...	1	...	1
Laryngitis, .....	...	...	2	1	1	2	...	6
Pleurisy, .....	...	...	1	1	4	2	...	8
Pneumonia, .....	...	9	9	16	10	9	2	55
Quinsy, .....	...	...	...	1	...	...	...	1
<i>5. Organs of Circulation.</i>								
Aneurism, .....	...	3	1	1	2	1	...	8
Disease of Heart, .....	2	15	35	70	110	68	11	311
Pericarditis, .....	...	2	1	...	...	...	...	3
Phlebitis, .....	...	...	1	...	...	1	...	2
<i>6. Digestive Organs.</i>								
Ascites, .....	...	...	...	1	1	...	...	2
Colic or Ileus, .....	...	...	...	3	5	...	...	8
Disease of Liver, .....	...	12	20	32	24	8	3	99
Disease of Spleen, .....	...	...	...	1	...	...	...	1
Disease of Stomach and Bowels, .....	2	1	6	6	7	3	...	25
Gastritis-Enteritis, .....	2	...	2	...	1	3	...	8
Hæmatemesis, .....	...	2	1	3	1	1	...	8
Hepatitis, .....	...	1	1	...	1	1	...	4
Hernia, .....	...	...	...	1	1	1	3	6
Intussusception, .....	...	...	2	...	2	1	1	6
Carry forward, .....	65	184	245	349	401	293	74	1611

TABLE No. I. — Continued.

CAUSES OF DEATH.	AGE AT DEATH.							TOTAL.
	All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	
Brought forward, .....	65	184	245	349	401	293	74	1611
Jaundice, .....	...	...	...	...	4	...	...	4
Perforation of Bowels, ...	...	1	...	1	1	...	...	3
Peritonitis, .....	...	3	3	4	1	1	...	12
Stricture of Bowels, .....	...	...	1	...	2	1	...	4
<i>7. Urinary Organs.</i>								
Cystitis, .....	...	...	2	2	2	5	...	11
Disease of Bladder, .....	...	1	...	2	7	4	2	16
Disease of Kidneys, .....	1	8	13	16	28	7	...	73
Disease of Prostate Gland,	...	...	...	...	5	6	1	12
Fistula in Perineo, .....	...	...	...	...	1	...	...	1
Hæmaturia, .....	...	...	...	...	1	...	...	1
Ischuria, .....	...	1	...	...	...	...	1	2
<i>8. Organs of Generation.</i>								
Childbirth, .....	1	1	2	...	...	...	...	4
Disease of Uterus, .....	...	...	...	1	...	...	...	1
<i>9. Organs of Locomotion.</i>								
Arthritis, .....	...	...	...	...	...	1	...	1
Disease of Foot, .....	...	...	1	...	...	...	...	1
Disease of Joint, .....	...	...	2	1	...	1	...	4
Disease of Spine, .....	...	1	...	4	2	1	...	8
Rheumatism, .....	1	3	4	4	6	2	...	20
<i>10. Integumentary System.</i>								
Carbuncle, .....	...	1	1	3	2	1	1	9
Pemphigus, .....	...	...	...	...	...	...	1	1
<i>11. Violent Deaths, .....</i>								
4	15	10	12	9	2	1	53	
<i>12. Old Age and Natural Decay, .....</i>								
...	...	...	...	1	22	51	74	
<i>13. Cause not ascertained, .....</i>								
...	...	1	...	...	1	...	2	
Totals, .....	72	219	285	399	473	348	132	1928

TABLE No. II.

Showing the Causes of Death among the Assured of the SCOTTISH  
WIDOWS' FUND LIFE ASSURANCE SOCIETY,

From 1815 to 1873 inclusive.

Arranged as nearly as possible according to the Classification of the Registrar-General.

CLASS AND ORDER.	CAUSES OF DEATH.	AGE AT DEATH.							TOTAL.
		All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	
I. Order 1.	ZYMOTIC DISEASES. <i>Miasmatic.</i>								
	Small-pox, .....	6	10	4	5	1	1	...	27
	Measles, .....	...	1	...	...	...	...	...	1
	Scarlatina, .....	1	9	6	1	...	...	...	17
	Diphtheria, .....	2	2	...	1	1	1	...	7
	Quinsy, .....	...	...	1	1	1	...	...	3
	Fever, .....	27	71	75	77	48	12	8	318
	Erysipelas, .....	2	6	9	12	13	10	2	54
	Carbuncle, .....	...	1	2	6	3	2	1	15
	Influenza, .....	1	1	4	3	10	13	4	36
	Dysentery, .....	3	3	7	9	18	6	3	49
	Diarrhoea, .....	1	2	3	8	10	16	2	42
	Cholera, .....	6	7	14	23	11	2	...	63
	Ague, .....	...	...	1	...	...	...	...	1
Rheumatism, .....	1	7	10	8	9	2	...	37	
	Total, .....	50	120	136	154	125	65	20	670
Order 2.	<i>Enthetic.</i>								
	Hydrophobia, .....	...	...	...	1	...	...	...	1
	Total, .....	...	...	...	1	...	...	...	1
Order 3.	<i>Dietic.</i>								
	Purpura, .....	...	...	1	...	...	...	...	1
	Delirium Tremens, ...	3	11	15	7	3	1	...	40
	Chronic Alcoholism, ...	...	1	1	1	...	...	...	3
	Total, .....	3	12	17	8	3	1	...	44
	Class I.—Total, ...	53	132	153	163	128	66	20	715
II. Order 1.	CONSTITUTIONAL <i>Diathetic.</i>								
	Gout, .....	...	2	1	11	8	4	1	27
	Dropsy, .....	...	2	5	12	6	5	...	30
	Cancer, .....	2	6	34	45	62	18	2	169
	Carry forward, ...	2	10	40	68	76	27	3	226

TABLE No. II.—Continued.

CLASS AND ORDER.	CAUSES OF DEATH.	AGE AT DEATH.							TOTAL.
		All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.	
II. Order 1.	Brought forward, ...	2	10	40	68	76	27	3	226
	Mortification, .....	1	1	1	6	11	5	2	27
	Inflammation, .....	...	...	1	...	2	1	1	5
	Hæmorrhage, .....	1	4	3	2	2	2	...	14
	Tumour, .....	...	2	1	6	4	3	...	16
	Abscess, .....	1	2	6	4	3	1	...	17
	Total, .....	5	19	52	86	98	39	6	305
Order 2.	<i>Tubercular.</i>								
	Scrofula, .....	...	...	1	...	...	...	...	1
	Phthisis, .....	62	135	115	75	30	4	...	421
	Hæmoptysis, .....	...	...	...	3	1	1	...	5
Total, .....	62	135	116	78	31	5	...	427	
	Class II.—Total, ...	67	154	168	164	129	44	6	732
III. Order 1.	<i>LOCAL.</i>								
	<i>Nervous System.</i>								
	Cephalitis, .....	5	11	17	14	7	2	1	57
	Apoplexy, .....	5	26	62	101	123	53	17	387
	Paralysis, .....	1	12	23	63	87	103	16	305
	Hemiplegia, .....	...	...	1	1	1	5	1	9
	Paraplegia, .....	...	...	...	1	...	1	...	2
	Insanity, .....	...	4	5	5	...	1	...	15
	Epilepsy, .....	2	4	9	6	2	2	1	26
	Convulsions, .....	...	...	1	1	...	...	...	2
	Brain Disease, .....	9	43	78	77	86	60	10	363
	Meningitis, .....	...	1	...	2	1	1	...	5
	Spinal Marrow Disease, .....	...	...	...	1	...	...	...	1
	Locomotor Ataxy, ...	...	...	1	...	1	1	...	3
	Nervous Exhaustion, ...	...	...	...	...	1	1	...	2
	Sunstroke, .....	1	...	...	...	...	1	...	2
	Tetanus, .....	...	...	2	2	...	...	...	4
Total, .....	23	101	199	274	309	231	46	1183	
Order 2.	<i>Organs of Circulation.</i>								
	Pericarditis, .....	...	5	4	1	2	...	...	12
	Aneurism, .....	...	6	10	13	16	1	2	48
	Heart Disease, .....	3	40	94	187	248	143	22	737
	Phlebitis, .....	...	...	1	...	...	1	...	2
	Leukæmia, .....	...	...	...	1	...	...	...	1
Total, .....	3	51	109	202	266	145	24	800	



TABLE No. II.—Continued.

CLASS AND ORDER.	CAUSES OF DEATH.	AGE AT DEATH.						TOTAL.	
		All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.		Above 80.
III. Order 3.	<i>Respiratory Organs.</i>								
	Laryngitis, .....	...	4	6	2	5	3	...	20
	Bronchitis, .....	4	12	34	63	85	85	31	314
	Pleurisy, .....	1	3	6	5	10	3	..	28
	Pneumonia, .....	1	20	33	50	32	24	5	165
	Asthma, .....	...	1	1	6	4	4	...	16
	Lung Disease, .....	4	25	33	36	29	17	5	149
	Hydrothorax, .....	...	1	9	9	8	6	2	35
	Total, .....	10	66	122	171	173	142	43	727
Order 4.	<i>Digestive Organs.</i>								
	Gastritis-Enteritis, ...	4	6	9	10	7	5	...	41
	Peritonitis, .....	5	5	9	7	4	1	...	31
	Ascites, .....	...	...	...	1	1	...	...	2
	Ulceration of Intestines, .....	...	3	4	1	4	2	...	14
	Perforation of Intestines, .....	...	1	1	1	1	1	...	5
	Hernia, .....	...	1	1	1	2	1	5	11
	Ileus, .....	...	2	3	7	9	5	...	26
	Obstruction of Bowels	...	...	1	...	2	1	...	4
	Intussusception, .....	...	...	2	2	3	1	1	9
	Stomach Disease, etc.	7	16	23	50	45	21	2	164
	Pancreas Disease, ...	...	...	1	...	1	...	...	2
	Hæmatemesis, .....	...	3	3	10	6	2	...	24
	Hepatitis, .....	2	2	4	5	4	2	...	19
	Jaundice, .....	...	1	1	1	8	...	...	11
Liver Disease, .....	1	27	68	90	58	33	5	282	
Spleen Disease, .....	...	...	...	2	...	1	...	3	
	Total, .....	19	67	130	188	155	76	13	648
Order 5.	<i>Urinary Organs.</i>								
	Ischuria, .....	...	1	...	2	...	2	1	6
	Diabetes, .....	2	3	6	10	11	3	1	36
	Stone, .....	...	...	...	...	1	1	...	2
	Cystitis, .....	...	...	2	3	5	11	1	22
	Kidney Disease, .....	2	20	25	65	59	12	3	186
	Prostatic Disease, ...	...	...	...	...	5	6	1	12
	Bladder Disease, .....	...	1	...	5	25	24	7	62
	Hæmaturia, .....	...	...	...	...	1	...	...	1
	Addison's Disease, ...	...	...	1	...	...	...	...	1
	Stricture of Uræthra,	...	...	...	1	...	1	...	2
	Total, .....	4	25	34	86	107	60	14	330



ABSTRACT OF TABLE NO. II., showing the number of Deaths caused by each class of Disease, and their percentage on the Total Deaths which have occurred since the SOCIETY was founded in 1815, to 31st December 1873.

CLASS AND ORDER.	CAUSES OF DEATH.	AGE AT DEATH.							TOTAL.	Percentage of Deaths caused by each Class of Disease.
		All up to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	Above 80.		
<b>I. ZYMOTIC DISEASES.</b>										
Order 1.	Miasmatic, .....	50	120	136	154	125	65	20	670	11.891
Order 2.	Enthetic, .....	...	...	...	1	...	...	...	1	.018
Order 3.	Dietic, .....	3	12	17	8	3	1	...	44	.781
	Class I.—Total,...	53	132	153	163	128	66	20	715	12.693
<b>II. CONSTITUTIONAL DISEASES.</b>										
Order 1.	Diathetic, .....	5	19	52	86	98	39	6	305	5.414
Order 2.	Tubercular, .....	62	135	116	78	31	5	...	427	7.581
	Class II.—Total,...	67	154	168	164	129	44	6	732	12.995
<b>III. LOCAL DISEASES.</b>										
Order 1.	Nervous System, ...	23	101	199	274	309	231	46	1183	21.001
Order 2.	Organs of Circulation,	3	51	109	202	266	145	24	800	14.202
Order 3.	Respiratory Organs,	10	66	122	171	173	142	43	727	12.906
Order 4.	Digestive Organs, ...	19	67	130	188	155	76	13	648	11.503
Order 5.	Urinary Organs, .....	4	25	34	86	107	60	14	330	5.858
Order 6.	Organs of Generation,	...	...	4	1	3	...	...	8	.142
Order 7.	Organs of Locomotion	1	3	5	6	3	6	...	24	.426
Order 8.	Integumentary System, .....	...	1	3	1	3	1	1	10	.178
	Class III.—Total,	60	314	606	929	1019	661	141	3730	66.216
<b>IV. DEVELOPMENTAL DISEASES.</b>										
Order 2.	Childbirth, .....	2	6	4	...	...	...	...	12	.212
Order 3.	Old Age, .....	...	...	...	...	7	65	98	170	3.018
Order 4.	Atrophy and Debility	2	5	6	11	19	12	5	60	1.066
	Class IV.—Total,	4	11	10	11	26	77	103	242	4.296
V.	VIOLENT DEATHS, ...	12	41	37	42	20	3	3	158	2.805
VI.	SUDDEN DEATHS, ...	...	4	4	4	3	5	...	20	.355
VII.	CAUSES NOT SPECIFIED OR ASCERTAINABLE, .....	...	...	...	...	...	...	...	36	.640
<b>TOTAL OF ALL CLASSES,</b>		196	656	978	1313	1325	856	273	5633	100.000