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REPORT

ON THE

SANITARY CONDITION

OF THE

County Borough

OF

Birkenhead,

FOR THE YEAR 1898,

BY

R. SYDNEY MARSDEN,

D. Sc., M.B., Mast. Surg., D.P.H., F.R.S. & F.R.P.S., Edin.

Fellow of the Institute of Chemistry. Fellow of the Chemical Society, Fellow and Ex-President of the Royal Medical Society and Hon. Member of the University Natural Science Club of Edinburgh. Member of the Sanitary Institute. Member of the Incorporated Society of Medical Officers of Health. Physician to the Birkenhead Hospital for Infectious Diseases. Ex-President of the Birkenhead Medical Society, Medical Officer to the School Board, and Medical Officer of Health for the County Borough of Birkenhead, &c.

BIRKENHEAD:

WILSON & JONES, PRINTERS AND STATIONERS, 70 ARGYLE STREET.

1899.

HEALTH COMMITTEE

OF THE

BIRKENHEAD TOWN COUNCIL,

1898-99.

---

†*Mr. Alderman WILLIAM GETLEY, J.P., Chairman.

†*Mr. Councillor H. LAIRD PEARSON, M.R.C.S., Deputy-Chairman.

†Mr. Alderman THOMAS SHAW.

†Mr. Alderman JOSEPH PERRIN.

†*Mr. Alderman JAMES WOODCOCK.

Mr. Alderman THOMAS CHARLES CLARKE.

*Mr. Alderman EDWARD PAYSON SMITH.

Mr. Councillor MICHAEL BYRNE.

*Mr. Councillor T. L. DODDS, J.P.

*Mr. Councillor JOHN EDWARDS.

Mr. Councillor J. HEAP.

Mr. Councillor R. ROWLAND HUGHES.

*Mr. Councillor BENEDICT JONES, J.P.

Mr. Councillor E. G. MASON.

Mr. Councillor GODFREY ALLAN SOLLY.

AND

HIS WORSHIP THE MAYOR
(James T. Thompson, Esq.)

Day of Meeting every alternate Tuesday at 4-30 p.m.
*Members of the Health Sub-Committee.
†Members of the Hospital Sub-Committee.

OFFICIALS

OF THE

PUBLIC HEALTH DEPARTMENT, 1898.

Medical Officer of Health.

R. SYDNEY MARSDEN, D.Sc., M.B., MAST. SURG., DIP. PUB. HLTH, F.R.S. AND F.R.P.S., EDIN., F. INST. CHEM., &c.

Borough Analyst.

J. CARTER BELL, ASSOC. ROY. SCH. MINES., F. INST. CHEM., F.C.S., &c.

Chief Inspector and Inspector under the Food and Drugs Act.

*WILLIAM DAWSON, ASSOC. SAN. INST.

Chief Clerk.

EDWARD H. CARTER.

Junior Clerks.

WILLIAM RILEY. JOSEPH BENNETT.

Inspector of Meat, Fish, and Slaughter Houses.

ROBERT WAGSTAFFE.

District Sanitary Inspectors.

*WILLIAM FITZGERALD. *JOHN LEE. *H. T. TAYLOR.

Inspector of Workshops and Bakehouses.

HENRY MOUNTFIELD.

Inspector of Back Passages and Ashpits.

*W. H. TILSTON.

Inspector of Common Lodging Houses and Houses let in Lodgings.

WILLIAM SCOTT.

Disinfecting Inspector.

ISAAC TAYLOR.

Keeper of Disinfecting House.

JOHN NOBES.

Disinfecting Labourers.

ROBERT NIELD. JOHN JACKMAN.

Those marked thus * have passed the examination of the Sanitary Institute.

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To the Mayor, Aldermen, and Council of the County Borough of Birkenhead.

GENTLEMEN,

In accordance with the duty which annually devolves upon me, I have the honour of submitting to you my Seventh Report to the Health Committee on the Health of Birkenhead, viz., that for the year 1898.

The recurrence of this duty has always been a source of pleasure and satisfaction to me, and this year will prove no exception to the rule, as I am privileged to record a more healthy condition of the Borough than on any previous occasion.

The Report follows much the same lines as in previous years, and will be found to contain a detailed account of the work done by the Public Health Department, together with a few reports and

recommendations which I have made to the Health Committee during the year under review, and I trust it may meet with the same favourable reception which has always been given on previous occasions.

I have again to express my thanks and indebtedness to the members of my staff and others who have given me assistance in its preparation, and to the members of the Health Committee for their kindness to me personally throughout the year.

I have the honour to be, Gentlemen,

Your obedient servant,

R. SYDNEY MARSDEN,

MEDICAL OFFICER OF HEALTH,

PUBLIC HEALTH DEPARTMENT,

TOWN HALL, BIRKENHEAD,

17TH APRIL, 1899.

COUNTY BOROUGH OF BIRKENHEAD

DURING 1898.

SHORT SUMMARY.

Area in Acres ...	3,850, or a little more than 6 square miles
Number of Inhabited Houses, Dec. 31st...	20,090
Population (at Midsummer)	113,094
Rateable Value	£530,400
1d. in the £ yields for General Purposes...	£2,100
1d. in the £ yields for Sanitary Purposes	£1,920
Number of Persons per Acre (Density of Population) ...	29·37
Birth Rate per 1,000 living	30·34
Death Rate do.	17·50
Zymotic Death Rate do.	2·78
Deaths of Children under 1 year of age to 1,000 Births	186·7
Percentage of Uncertified Deaths...	0·80
Percentage of Children successfully vaccinated	85·23

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THE SANITARY CONDITION

OF THE

COUNTY BOROUGH OF BIRKENHEAD

DURING 1898.

Report of the Medical Officer of Health to the Health Committee.

In presenting my Seventh Annual Report it is again my privilege to state that the health of Birkenhead in 1898, as estimated by the general mortality during the year, was in a more satisfactory condition than at any former period during the past twenty-one years—*i.e.*, since the incorporation of the Borough—with the single exception of the year 1881, when it was almost the same as this year.

The steady improvement in the sanitary condition of the town, revealed by the statistics of the two preceding years, has been fully sustained by those of the year now under consideration, and it will be a matter of satisfaction to the Health Committee to find that notwithstanding the large annual increase in the population which is taking place, and the consequent considerable increase of density, or in other words,

number of persons per acre, yet their efforts to maintain a high state of sanitation in the Borough have borne fruit in a marked degree, and in a gratifying and continued improvement in the public health.

It must not be forgotten that increase of the density of population in the absence of the countervailing influence of sanitary work would probably have greatly increased the mortality, and the improvement indicated could not possibly have taken place.* Now the average death-rate in Birkenhead during the ten years 1883-92 was equal to 20·03 per 1000 persons living. In the five years 1893-97 it was 19·2 per 1000, and in 1898 it did not exceed 17·5 per thousand.

It is obvious, therefore, that the death-rate of the Borough has considerably declined of late years in spite of the considerable increase of density, and as showing what this means practically, had the death-rate in Birkenhead during the past year been at the same rate as the average death-rate during the previous twenty years, some 255 persons more would have been dead who were living at the end of 1898. It follows, therefore, that a saving of 255 lives has been effected in the year 1898, and the Committee are entitled to the credit for this result.

Dr. Farr has estimated the minimum value of the population of the United Kingdom, men, women, and children, at £159 per head (an estimate which has never been proved incorrect); that is, the value inherent in them as a productive money earning race.† We find, therefore, that the life saving which has been effected during 1898, taken on this estimate, is represented by a money value of £40,545.

* Dr. Farr has shown that the death-rate increases as the density of population increases, and that the law of increase is such that for every increase of density the mortality increases nearly as the eighth root of that density.

† "As land, houses, railways, and other categories in the Income Tax Schedules are of value because they yield annual returns, so for the same reason, and on the same principle, the income of the population, derived from pay of every kind for professional and other services, can be capitalised, not precisely, it is true, but sufficiently near to the true value to show that the value of the population itself is the most important factor in the wealth of the country."—Dr. Tatham.

But in case anyone should consider this an over estimate I have got out the value in another way, which will probably be accepted without question.

At the time of the census in 1891 there were in the Borough some 30,000 males over eighteen years of age, and it is, therefore, reasonable to infer, taking the same proportion of population, that out of the 255 lives saved during 1898 some 76 of these were males over eighteen years of age, and if we take the sum of £150 as the average value inherent in each of these as a productive money-earning unit, we shall find that even on this estimate it represents no less a sum than £11,400 and the Health Committee may, therefore, justly take credit for this amount of salvage.

The following table shows the comparative figures for the different townships for 1878 and 1898.

	Estimated Population.		Number of Persons per acre.		Death-rate per 1000 per annum.	
	1878	1898	1878	1898	1878	1898
Birkenhead Township	50336	66013	39·33	51·58	22·3	17·2
Tranmere "	18906	34748	17·64	32·43	17·7	15·7
Claughton "	2854	3975	6·50	9·05	8·7	13·8
Oxton "	3056	5016	3·75	6·16	10·7	9·7
Bebington "	2108	3342	8·56	12·32	12·8	5·08
Whole Borough	77260	113094	20·06	29·37	21·4	17·5

Had the death-rate in Birkenhead during the twenty years, 1878-97 been at the same rate as that for 1898, some 4,281 persons would have been living on the 31st December, 1898, who had died during that period of time.

In writing my successive Annual Reports it has been my custom to draw attention to such injurious conditions as existed from time to time, and which seemed to me to require the special attention of the Committee; and also as to such steps as have

been taken for their improvement. Following in these lines the present Report will be found to contain an account of the conditions inimical to health which still remain, and it will thus be seen at a glance what are the principal sanitary works requiring attention during the coming year.

Housing of the Working Classes.—It has been my duty, from time to time, to draw attention to the wretched habitations of the poor in certain of the lower parts of the Borough, and in a number of cases the Committee, acting on my advice, have ordered the improvement of these dwellings or the closure of them as unfit for human habitation; and in one or two instances whole blocks of such property have been entirely swept away. Much more, however, will have to be done in this direction before the town can be considered as in a satisfactory condition.

I regret to state, however, that much of the new property which has been put up in recent years, in consequence of architectural errors such as lack of proper internal air-space and other conditions, or of owners availing themselves of every inch of ground possible under the bye-laws, will in a very few years be pest houses little better than many of the filthy and insanitary dwellings now happily doomed to demolition.

I do not mean to imply that people in this district are worse than those in other places, for the same thing is being done all over the country, but I do wish to point out that there is too great a tendency amongst owners to avail themselves to the utmost of the absolutely minimum amount of space which the Bye-laws demand, and in my opinion our Bye-laws, like those of many other towns, are not nearly stringent enough in certain of their requirements.

I think there is a crying need for greater powers of control by the Sanitary Authority over the building plans of new houses,

and steps ought to be taken to secure those powers if possible; and I trust that Corporations will not rest satisfied until such powers are granted.

When we consider that houses are being run up every day without any proper regard being taken to secure that the amount of internal air-space to be provided is such as might reasonably be expected for the average number of persons who will occupy them, and with a total lack of provision for the decent storage of food in almost every case, together with minor defects such as insufficient or inconvenient methods of lighting, the opening of the bedroom stairs into a dwelling room or the kitchen, and often such an arrangement of the doors as to make the rooms as uncomfortable and inconvenient as can be conceived. When I say we have at present no power to compel changes in these matters I think I have said sufficient to show there is ample need for reform.

Other matters which, in my opinion, call for attention, are:—

1.—The imperfect paving of the yards and back passages.

2.—The entire abolition of privy middens and open ashpits.

3.—The more frequent emptying of ashpits.

4.—The closing of all surface ventilators to the sewers in the courts and narrower streets.

5.—A more thorough scavenging of the back streets and back passages, and the entire abolition of cobble paving with its gaping joints and catch pools for filth.

In the succeeding pages of this Report will be found details of the work carried on by the Public Health Department, together with the vital and mortal statistics of the Borough during the year under consideration, as follows:—

THE WORK OF THE PUBLIC HEALTH DEPARTMENT DURING 1898.

Ordinary Sanitary Operations.—The ordinary sanitary operations of the Department have continued to receive unremitting attention. House-to-house inspections of the cottage property in the Borough have been regularly made. Gulleys and passage drains have been periodically cleansed, public fountains &c. have been scoured and kept in order, and the systematic removal of ashpit refuse at stated intervals has been carefully superintended.

Summary of Nuisances, &c.—The summary of nuisances investigated and dealt with during 1898 is as follows:—

	1898.
Number of nuisances reported	4715
Number abated without formal notice	200
Number of formal notices given	4515
Number abated after formal notice and without proceedings	4511
Number of cases in which proceedings were taken for ordinary nuisances	4
Number abated after proceedings	3
Number of cases in which summonses were issued for non-payment of disinfecting expenses. Amounts and costs received in each case...	2
Number of cases in which proceedings were taken for keeping a common lodging house in an improper manner, in accordance with Bye-Law 8	0
House disinfecting notices	1380

Under Infectious Diseases (Prevention) Act ...	1188
Nuisances at houses let in lodgings	54
Nuisances at common lodging houses	0
Notice for cleansing of filthy house	1

A brief statement of the other measures taken in 1898 for correcting or getting rid of whatever appeared to be prejudicial to health is subjoined.

	1898.
Sanitary defects reported by the Inspectors and referred for the action of the Borough Surveyor	229
Houses or parts of houses specially disinfected by sulphurous acid or other disinfectants ...	1107
Notice to whitewash and efficiently cleanse milk-houses, cowsheds and dairies, given and complied with	320
Offensive privies ordered for conversion into water-closets	167
Parcels of infected bedding and clothes disinfected at the Disinfecting House	653
Parcels of infected or discarded bedding and clothes destroyed	534
Carcases of dogs and cats &c. removed from pools or waste land and buried	67
Deposits of putrid fish and other objectionable refuse removed	6
Total	3083

In addition to the above,

376 excavations were made for the purpose of testing the condition of house drains.

229 smoke tests were applied to drains of premises reconstructed under the supervision of this Department.

40 water tests were applied to drains.

364 smoke tests were applied to the drains of new buildings, in conjunction with the Borough Surveyor's Department.

14 library books were taken and destroyed from houses where infective diseases had been notified to exist.

It will be seen from the above that the Department is kept well at work, and there is a constant tendency to increase—this is in part due to the new Acts of Parliament which have come into force since 1st January, 1892, to the ever-increasing population and consequent greater crowding, and also on account of the more thorough manner in which examinations are now made. The latter tends to the advantage of the public, both as regards health and comfort, and every effort is made to keep down public or private nuisances dangerous to the community.

District Inspections.—The following is a statement of the work done by the District Inspectors of Nuisances and the Disinfecting Inspector during 1898.

		Number of Visits and Revisits made to Insanitary Property.
District I.—Inspector Fitzgerald ...	...	5765
,, II.— ,, Lee ...	...	3970
,, III.— ,, H. T. Taylor	...	4066
Disinfecting Inspector Isaac Taylor	...	7039
Total	...	20840

Smoke Nuisances.—Forty observations were taken of the smoke emitted from the factory and other chimneys of the Borough during the year 1898.

In twelve cases the Health Committee felt called upon to prosecute the offenders against the Acts, and in eleven of these cases penalties and costs were imposed by the magistrates.

The reduction of the smoke nuisance is one which is very carefully watched by the Inspectors, and much benefit has resulted in the past by their vigilance in this matter.

Inspection of Common Lodging Houses and Houses let in Lodgings.

The following is a statement of the work performed during the year by the Inspector of Common Lodging Houses and Houses let in Lodgings, viz:—

REGISTERED COMMON LODGING HOUSES.

	1898.
Day Inspections	796
Night Inspections	94

There have been *no* additions to the register during the year, and at present the total number of registered lodging houses is 10.

There was one night visit paid to an unregistered house suspected of taking in nightly lodgers.

REGISTERED HOUSES LET IN LODGINGS.

Day Inspections	3436
Night Inspections	10

Thirty-three additional houses were put on the register after being properly measured up, and duly certified as fit for the purpose. The total number of houses let in lodgings on the register at the end of 1898 was 562.

Overcrowding and Cellar-occupation.—Though the repression of overcrowding and cellar-occupation presents exceptional difficulties, much has been accomplished in the past year. Four cellar dwellings were reported by the Inspector, and in every case suppressed.

FACTORY AND WORKSHOP ACTS,

1878 to 1891.

In connection with the carrying out of the provisions of these Acts, the following is a statement of the work done by the Inspector during the year, viz:—

1365 visits have been made to workshops.

375 visits have been made to bakehouses.

61 workshops, including 2 bakehouses, have been placed on the Register during the year, making a total of 637 up to the end of 1898, of which 75 are bakehouses and 33 are confectioners' shops.

25 workshops have been closed.

27 workshops have been transferred to more suitable premises.

378 nuisances in connection with workshops have been reported and abated.

66 notices have been served for the abatement of nuisance arising out of defective drainage, and 20 for inefficient ventilation.

83 notices to cleanse and limewash the workshops have been served and complied with.

63 occupiers of workshops have limewashed their premises under inspection, but without waiting for the formal notice.

2 underground bakehouses have been permanently done away with.

1 case of overcrowding has been reported and stopped.

49 new workshops and removals have been notified to H.M. Inspector of Factories as referred to in section 3, sub-section 3, of the Act.

Lists of out-workers have been carefully kept, and notices in the form prescribed by the Secretary of State, as given in my Report for 1892 (pp. 57 and 58) have been served when necessary.

Bakehouses.—The duties involved in carrying out the provisions of the Acts relating to the sanitary condition of bakehouses, have been put under a special Inspector, and during the year 375 visits have been made to bakehouses, and very special attention has been paid to the keeping of the bakehouses in a clean and healthy state, free from all effluvia from drains, privies, and other nuisances. Many sanitary defects have been discovered and remedied. Great attention has also been paid to see that a proper water supply is provided for each bakehouse, and that efficient ventilation can be secured; whilst regular limewashing has been required and enforced in every case.

There has been a very great improvement secured by this systematic inspection.

"Shop Hours Act, 1892."

In carrying out the provisions of this Act, the Inspector has paid 459 visits to different shops, and the occupiers' names and addresses have been placed upon a Register specially kept for the purpose, together with the date of his visits.

The Hours of Barmaids.

The Shop Hours Act gives power to the Sanitary Authorities to restrict the hours of barmaids also to 74 hours per week. In some hotels, as I have remarked in former years, these girls are required to follow their occupation for upwards of 100 hours a week, which is altogether too long. I would again call attention to the fact that I consider it desirable that the benefits of the Act should be extended to these girls, and recommend the matter to the serious consideration of the Authority.

Laundries.

150 visits were made during the year to the 25 laundries at present on the Register.

Ashpits, &c.—A good deal of interest has been taken in this subject during the year, and I may remind you that the question as to the number of privies and compound middens in the Borough was carefully gone into in 1893, and it was then estimated that at Midsummer of that year the approximate number still in existence within the Borough was about 2721.

The Health Committee has been dealing with these middens year after year as opportunities have arisen, and during the past year 167 have been converted into water-closets and dry ashpits, properly covered in and ventilated, and provided with efficient doors and fastenings.

Since the above number of of 2721 compound middens was estimated, there have been 1982 conversions ordered; thus leaving a balance of 739 remaining to be dealt with at the end of the year. But in addition to those abolished under notice a large number have been done away with by the owners themselves, and I estimate that not more than 600 privies now remain. On the 15th November I was asked to make a special Report on the subject of ashpits, &c., and the Report which I presented will be found in the appendix.

Public Urinals.—From time to time I have called the attention of the Committee to the insufficient accommodation in the form of public urinals which is provided in the Borough; and which leads to the objectionable use of many passages and other places for such purposes, creating thereby a serious nuisance and a number of insanitary spots which ought not to exist if the subject was properly grappled with. I can only again repeat the statement so that the matter may not be lost sight of.

I am glad to say that some slight effort has been made to provide these conveniences, but considerably more will have to be done in this direction before the town is at all adequately provided for.

Open Sewer-Ventilators in the Road.

During the year 1898 the number of complaints received regarding nuisances arising from the effluvia from the "sewer-ventilators," which form a direct communication between the public sewers and the streets, has again been very large.

Year after year I have expressed the opinion that the number of these openings is far beyond our requirements, and that in the narrower streets they furnish a distinct danger, and should be abolished altogether. Since writing my last Report I have learned nothing to alter the opinions which I then stated, but am convinced as much as ever that they are a nuisance.

On the 7th of November an important action bearing on this subject was tried in the Birkenhead County Court, in which Mr. W. G. Wall claimed, on behalf of his daughter, the sum of £5 from the Birkenhead Corporation on account of an illness contracted from smells arising from the town's sewers in Prenton Road West. After a long hearing the case was dismissed. A full account of the case is given in the "Birkenhead News" for Wednesday, November 9th, 1898.

Water Supply.

It is important for the health and well-being of the community that a proper and full supply of water should be obtainable. I

have, therefore, thought it desirable to ascertain the amount of water supplied to the population for different purposes, and have obtained the information with regard to Birkenhead for the period extending over the last fourteen years.

It will be seen by referring to the following table that at the present time the average supply, per head, per day is no less than seventeen gallons, a very satisfactory amount.

The quality of the water supplied is also excellent, and is obtained from the new red sandstone at three different pumping stations from an average depth of 207 feet.

I am indebted to the Water Engineer (Mr. W. A. Richardson, C.E.) for the following table of extracts from his Annual Reports, showing at a glance the amount of water delivered in the townships of Birkenhead, Claughton, and Tranmere, for various purposes, for the year ending 25th March, 1885, to March 25th, 1898.

Year	Sewer Flushing	Street Watering	Trade per Meter	Work-shops	Water for domestic use	Estimated population of Birkenhead, Claughton and Tranmere townships	Average rate per head per day of population for domestic purposes	Average rate per head per day of population for domestic use, allowing 5°/₀ for slip of pump
	Gallons	Gallons	Gallons	Gallons	Gallons		Gallons	Gallons
1885	1746180	6996300	149940500	250000	650078826	84478	21·08	*19·61
1886	1822240	6295900	135378100	250000	573425110	85877	18·29	*17·01
1887	1832410	5134900	147510000	250000	563700726	87276	17·69	*16·46
1888	1936520	8987820	161113600	250000	527263758	88675	16·24	*15·11
1889	1409160	4254400	147525700	250000	547706280	90074	16·65	15·82
1890	2251100	5757700	161820400	250000	567655019	91473	17·00	17·85
1891	1900430	5130700	170173800	100000	617870234	92872	18·22	+17·31
1892	2007840	5018900	191164230	100000	616302947	94271	17·86	16·97
1893	2061070	6944300	198346950	100000	657043827	96145	18·72	17·79
1894	2245820	11120200	195420200	200000	690494922	97822	19·33	18·37
1895	2308470	8454160	204828800	500500	728536688	99522	20·05	19·05
1896	4614300	11146500	218323200	2500500	690390427	100776	18·76	17·83
1897	8059180	9052210	230771100	500500	681727998	102798	18·16	17·26
1898	8338730	11338000	249498300	500500	699018636	104736	18·28	17·37

*Allowing 7°/₀ for slip of pump.

+In consequence of 6 weeks continued frost there was an extra delivery of 32,308,000 gallons. If this is deducted from the total for domestic supply the rate per head per day would be 17·27 gallons, or allowing 5°/₀ for slip of pump, 16·41 gallons.

Seizure and Destruction of Unwholesome Meat, Fish, and Vegetables.

The Meat and Food Inspector, Mr. Robert Wagstaffe, has furnished the following particulars of meat, &c., unfit for human food, seized and destroyed during 1898.

The total number of seizures made was 1639, being 21 more than the number of seizures last year. The weight of the meat taken amounted to 424,730 lbs., being 22,078 lbs. more than was seized last year, and above the average of the last few years. This amount was made up as follows :—

		lbs.
108¼ carcases of beef	weighing	82,904
Portions of beef	,,	5,752
1743 calves	,,	70,193
Portions of veal	,,	8
217 sheep and lambs	,,	65,368
Portions of sheep and lambs	,,	323
16 pigs	,,	1,786
Portions of pigs	,,	491
Hams and bacon	,,	—
Offal (*i.e.*, liver, lung, tongues, hearts, spleens or melts, kidneys, tails, midriffs, feet, &c.)	,,	197,905
Total of meat taken in 1898		424,730

In addition to the above, there were also seized 12 lbs. of bad fish, 4 grouse, 2 tins of tomatoes, 720 lbs of apples, 350 lbs. of pears, and 1 ton 2 qrs. and 15 lbs. of potatoes.

As in all recent years, a considerable proportion of the meat seized was on premises in connection with the Foreign Animals Wharf, Woodside; and of the 1743 calves many were newly born animals, or calves taken away after the slaughter of the mother from cows landed at Woodside.

An analysis of this return shows that out of the total amount of meat, &c., taken during the year, the relative proportions from different places is as follows :—

WOODSIDE AND WALLASEY LAIRAGES.

Amount taken	Meat	219,380
	Offal	186,862
Total		406,242
Amount to which the Inspector's attention was called by the butchers		24,672
Balance seized ...		381,570

TOWN ABATTOIRS AND SHOPS.

		lbs.
Total Amount	Meat	6,211
	Offal	3,175
		9,386
Amount voluntarily surrendered		2,468
Balance seized		6,918
Amount taken from shops	Meat	1,229
	Offal	7,868
		9,097

There were 1,357 seizures made at Woodside and Wallasey Lairages and Stage, and 282 seizures at the Abattoirs and Shops. Out of this total of 1,639 seizures, the Inspector was asked to examine the meat in 61 cases; or putting the matter into weights, it will be seen that 27,140 lbs. were voluntarily given up out of a total of 424,730 lbs., or about 6·3 per cent of the whole amount.

The whole of the bad meat seized is dealt with at the Old Potteries, Seacombe, without creating noticeable effluvia; in accordance with an arrangement entered into in February, 1887.

Seven applications were made to a Justice for an order to destroy diseased or unsound food (under the Public Health Act, 1875, clause 117) and granted in every case. Four persons were summoned before the magistrates for exposing for sale food unfit for human consumption, and convictions obtained in two cases, and two were dismissed on payment of costs.

Tuberculosis.—During the year 53½ carcases of beasts, weighing 41,571 lbs., 10 carcases of pigs, weighing 1,191 lbs, and 1 calf weighing 123 lbs.; and 11,695 lbs. of offal were seized and destroyed through being affected with tuberculosis; the total amount weighing 54,580 lbs.

The following tables having reference to the subject of tuberculosis may also be interesting:—

Tranmere Abattoirs.

Year.	Number of Cattle Slaughtered.	Number affected with Tuberculosis.	Number of Cows affected.
1892	899	33	30
1893	404	8	8
1894	443	10	9
1895	757	15	12
1896	685	5	5
1897	557	11	9
1898	632	13	5

Tranmere Abattoirs.

Year.	Estimated Number of Cattle slaughtered from Cheshire and Wales.	Number affected with Tuberculosis.
1892	409	33
1893	300	8
1894	243	10
1895	357	15
1896	285	5
1897	333	11
1898	350	17

At the Abattoirs there were 3,805 pigs killed, 55 of which were affected with tuberculosis; 20 of these coming from Cheshire, and 35 out of Wales. In the case of sheep, but very few are affected; thus in 1895 there were 11,311 sheep killed, not one of which was affected with tuberculosis; whilst in 1896 only 8 were affected out of a total of 11,120; in 1897 there were 10,500 sheep and lambs killed, not one of which was affected with tuberculosis, and in 1898 there were 12,714 killed, 3 of which were affected; there were also 616 calves slaughtered, 1 of which was affected with tuberculosis, all of these coming from Cheshire.

Woodside and Wallasey Lairages.

Year.	Number of Cattle Inspected by us.	Number affected with Tuberculosis.	Number of Carcases taken for Tuberculosis.	Number of cases where only the offal or other parts were taken.
1894	202,047	4	2	2
1895	178,798	11	7	4
1896	223,014	53	12	41
1897	241,717	113	26	87
1898	204,892	258	49	209

of these 258 animals affected with tuberculosis, 18 were from the United States, 24 were from Canada, and 216 were from South America.

"Proceedings taken under the Sale of Food and Drugs Acts, 1875 and 1879, and Margarine Act, 1887."

The Chief Inspector of Nuisances (Mr. William Dawson) gives the following summary of proceedings taken under these Acts during 1898.

The total number of samples taken during the year was 101, viz.:—Butter 29, Cheese 2, Coffee 9, Lard 13, Milk 40, Mustard 5, Vinegar 2, and Cocoa 1.

Out of the above, 8 samples of Butter, 4 of Coffee, and 2 of Milk were reported adulterated by the Public Analyst, and proceedings were taken in respect of 8 samples of Butter, and 4 of Coffee, the results of which are as follows, viz.:—

Quarter Ending	No.	Article.	Amount of Adulteration.	Penalty imposed excluding Costs.
1898.				£ s. d.
March 31	168	Butter ..	Margarine	0 15 0
,, 31	172	Butter .	Margarine	0 15 0
,, 31	176	Coffee ..	65 per cent. of Chicory	0 0 6
,, 31	177	Coffee ..	60 per cent. of Chicory	0 1 0
June 30	182	Butter ..	Margarine .. .	0 1 0
Decem. 31	227	Butter ..	Margarine	0 6 6
,, 31	229	Butter ..	Margarine	0 16 6
,, 31	231	Coffee ..	40 per cent. of Chicory	0 3 0
,, 31	232	Coffee ..	30 per cent. of Chicory	0 3 0
,, 31	243	Butter ..	Margarine	1 0 0
,, 31	244	Butter ..	Margarine	7 0 0
,, 31	245	Butter ..	Margarine	7 0 0

As I have repeatedly said, the penalties in most of these cases are totally inadequate to the offences, and seem to me to make our inspection of the food supply little better than a farce —a most unsatisfactory state of things.

The Milkhouses.—The regulation of dairies, cowsheds, and milk-shops, and the supervision of milk-sellers, has had systematic attention for a number of years. Special care is taken that the ventilation, lighting, cleansing, draining, and water supply of premises used for the milk-trade are thoroughly efficient. Towards the close of the year 1888, new regulations for the more efficient control of the trade were drafted, and these were approved and made by the Town Council, acting as the Local Authority for the Borough, on January 2nd, 1889. A copy of these regulations was appended to the Report for 1888, and printed copies are supplied free to dairymen, milk-shop keepers, &c. The register of milk-sellers is revised week by week. The total number of milk-shops is 165, in addition there are 24 cowsheds, and 47 farmers resident outside the Borough, registered to purvey milk inside the Borough.

Twice every year notice is sent to all the milk-sellers requiring that the walls and ceilings of every room in the occupation of Registered Milk-sellers, used for storage or sale of milk, shall be lime-washed twice every year, that is to say, in March and September; but if the walls are painted, then they must be washed and thoroughly cleansed twice every year, in March and September.

Meteorological Results.

By way of introduction to the remarks it is proposed to make on the noteworthy features of the meteorology of the year, the following tabular statement is submitted of the mean temperature and atmospheric pressure, and the amount of rainfall in each month of 1898. It has kindly been prepared by W. E. Plummer, Esq., M.A., F.R.A.S., Director of the Observatory, Bidston Hill, Birkenhead, who also furnishes particulars weekly of the daily observations taken under his directions, from which Table IV. in the appendix is compiled, and also the information on which the remarks with reference to meteorological conditions and epidemics are based.

1898	Mean Temperature	Mean Barometer	Rainfall 1 ft. above ground
	o	Inches	Inches
January	45·1	30·264	1·578
February	41·3	29·895	1·807
March	40·4	29·928	0·755
April	47·5	29·863	1·911
May	50·1	29·833	4·511
June	56·7	29·968	2·331
July	58·7	30·114	0·475
August	61·2	29·967	3·837
September	58·8	30·058	1·394
October	52·1	29·796	3·496
November	45·5	29·808	1·668
December	46·6	29·952	1·956

The meteorological results show as follows: —

Barometer.—The mean barometer of 1898 (29·953 inches) was higher than in recent years. The monthly mean was high in January, July and September. It was low in February, April, May and October. The highest reading during the year was on the 15th of January, when 30·60 inches was reached. The lowest barometer touched was 28·76 on November 25th.

Temperature.—The mean Temperature in 1898 was 50·33 degrees F., about the mean yearly temperature in the locality. The severest weather was experienced in the first quarter and last month of the year. There was freezing, more or less, on two days in January, seven days in February, nine days in March, and one in April, and on five days in November, and two in December. The lowest temperature reached at any time during

1898 was 28·0 degrees F. on November 23rd. The highest temperature reached was 79·9 degrees F. on the 12th of August.

Rainfall.—The rainfall in 1898 (25·664 inches) was lower than last year, and below the average. The number of hours at which rain fell during the year was 678 as compared with 779 last year, which is about the yearly average. The heaviest fall on any single day was on May 22nd (1·030 inches).

Wind.—The average wind force in 1898 was at a rate of 16·68 miles an hour, somewhat higher than last year, but about the local average. The most rapid motion of air during any single hour of the year was on February 2nd—on this day the rate of wind per hour was from 42 miles to 68 miles. The rate for the whole twenty-four hours of the day was 1,364 miles, a very exceptional rate, and a storm of great severity, giving a mean hourly motion of air of 56·8 miles. There were three hours in the year in which there was no wind—these calm hours occurred on January 2nd, April 24th, and December 21st; 65·51 per cent. of the winds were westerly, including due south, a percentage above the average.

Humidity of the Air.—The mean difference between the wet and dry bulb of the thermometer in 1898 was 47·32, about the average.

Cloud.—The proportion of cloud to clear sky is estimated twice daily. In 1898 the proportion was 66·96 per cent. This percentage is less than the mean proportion.

The connection between Meteorological Conditions and Epidemics.—In endeavouring to trace any connection between Meteorological Conditions and Epidemics, it is obvious that there are only two circumstances likely to have any effect. First, temperature, and secondly, rainfall or humidity; and with regard to the first, since the temperature curve will always have a maximum in the summer, and a minimum in the winter, it seems more important to consider the *variations of temperature from the normal condition* than the absolute temperature itself. Exceptional circumstances cannot be explained by ordinary

phenomena, and the weekly variations of both temperature and rainfall, from the regular amounts have therefore been tabulated. These variations are set down in the following table.

Weekly Return of Cases of Scarlet Fever, Measles, Typhoid, and Diphtheria notified during 1898, and the weekly variations of Temperature and Rainfall.

No. of week since Jan. 1st, 1898	Excess of rain in inches	Excess of temp. in degrees F.	Number of cases of scarlatina reported	No. of cases of measles reported	No. of cases of typhoid reported	No. of cases of diphtheria reported
	in.	°				
1	+·640	+4·4	9	36	3	3
2	—·347	+3·9	11	34	1	1
3	—·425	+6·6	17	39	3	1
4	—·459	+6·2	19	46	5	4
5	+·396	+5·4	15	40	7	6
6	—·120	+2·2	15	70	3	1
7	—·027	+1·8	23	28	5	1
8	+·025	—5·0	31	25	2	3
9	—·112	—1·3	23	28	3	6
10	—·236	—3·9	21	22	1	5
11	—·072	+3·4	31	32	6	2
12	—·310	—2·7	12	21	1	7
13	—·272	—3·1	14	14	2	4
14	—·222	+1·7	16	9	1	6
15	+·767	+2·3	17	14	0	2
16	—·377	—1·2	13	13	1	5
17	+·087	—1·2	12	6	1	8
18	—·094	0·0	19	4	2	2
19	+·669	—1·9	18	7	3	1
20	+·524	—3·7	15	14	1	4
21	+·982	0·0	9	5	3	3
22	+·787	—4 4	6	0	3	6
23	—·324	+1·6	7	2	2	3
24	—·472	+0·2	9	3	5	1
25	+·873	—0·3	4	4	3	8
26	+·360	—2·5	15	2	0	1
27	—·555	—3·1	25	3	3	6
28	—·639	—2·2	10	1	1	3
29	—·554	+0·3	8	1	2	3
30	—·602	—3·2	3	0	4	1
31	+·741	—0·5	6	1	6	1
32	—·082	—0·1	11	1	2	3
33	—·413	+2·0	8	2	5	1
34	+·171	+2·9	14	0	5	3
35	+·125	—0·4	4	1	6	6
36	—·555	+7·9	8	3	11	4
37	—·664	+5·6	6	2	3	7
38	—·197	+0·7	8	2	10	2
39	—·014	—3·4	10	6	18	1
40	—·798	+3·6	10	2	6	0
41	—·623	—1·7	13	4	6	8
42	+1·030	+2·2	8	5	11	4
43	+·005	+6·0	17	2	11	6
44	+·199	+4·1	13	3	16	7
45	—·576	+3·7	18	2	14	10
46	—·156	+6·9	9	1	11	8
47	+·107	—2·5	8	3	4	0
48	—·499	+2·0	7	2	9	3
49	—·187	+9·7	9	0	4	2
50	—·213	+9·7	6	3	0	2
51	—·228	+3·3	7	2	9	3
52	+·455	+4·3	4	1	2	0

Relative Mortality of different portions of the year.—The year's meteorology naturally introduces the next subject to be considered, viz.:—the distribution of the mortality over the four quarters, as the relative mortality of different portions of the year must necessarily be effected by the atmospheric conditions which have marked its progress. Of the sum of the deaths registered in Birkenhead and Claughton, 265 were entered to the first quarter, 255 to the second, 370 to the third, and 302 to the fourth; of the sum of the deaths in Tranmere and Oxton, 159 appear in the first quarter, 131 in the second, 167 in the third, and 141 in the fourth. In Bebington the numbers of deaths registered in the four quarters were respectively 5, 6, 4, 2; and in the Union Hospital and Workhouse the numbers 48, 43, 40, and 42. Expressed in death rates per thousand living, the mortality of the whole Borough in 1898 was 16·8 in the first quarter, 15·3 in the second quarter, 20·5 in the third quarter, and 17·2 in the fourth quarter.

PREVALENCE OF ZYMOTIC SICKNESS DURING 1898.

Notification of Cases of Dangerous Infectious Diseases.—The 75th section of the Birkenhead Corporation Act, 1881, which requires householders and medical men in attendance to notify cases of dangerous infectious diseases to the Sanitary Authority, gives facilities for supplementing the statement of the mortality from zymotic diseases with a statement of cases of sickness due to some of the chief zymotic diseases, month by month, as they were reported. The diseases the Authority understand by the term "dangerous infectious diseases" are--

Small-pox,	Fevers { Typhus, Tyhoid, Continued, Relapsing,
Measles,	
German Measles,	
Scarlatina,	
Diphtheria,	Puerperal Septicæmia,
Membranous Croup,	Cholera.

The cases notified appear in the following return, showing that 1695 cases were notified during the year, being 332 less in number than during 1897, and 1382 less than in 1896. Of the whole number 1979 were notified by duly qualified medical

practitioners; 41 were notified by school attendance officers, such notifications being subsequently verified by the occupiers; and 8 cases were notified by the occupier only. This may be assumed to represent proximately the extent of the failure of compulsory notification.

The following Table gives the number of Notifications of Dangerous Infectious Diseases in each month of the year.

1898	Smallpox	Measles	German Measles	Scarlatina	Diphtheria	Typhus Fever	Typhoid Fever	Puerperal Fever.	Fever	Cholera	Croup	Total
January....	1	176	3	66	14	1	15	1	..	..	..	277
February ..	..	147	..	76	8	..	15	4	..	..	..	250
March	..	112	2	96	23	..	12	1	1	..	..	247
April	..	55	..	58	23	..	5	1	1	..	..	143
May	..	35	1	66	12	..	10	3	..	..	..	127
June	..	11	..	35	14	..	12	1	..	..	..	73
July	..	6	..	55	15	..	11	2	..	..	..	89
August	..	5	..	40	12	..	24	..	..	..	..	81
September..	..	12	1	34	16	..	40	..	..	..	..	103
October	..	17	..	50	23	..	39	1	..	..	1	131
November..	..	6	1	43	22	..	44	1	..	..	1	118
December ..	..	7	1	24	8	..	16	..	..	..	1	57
	1	589	9	643	190	1	243	15	2	..	3	1696

and the next Table the number of cases of the different diseases notified in each year since 1882, when compulsory notification came into force.

The statement is as follows:—

Year	Smallpox	Measles	German Measles	Scarlatina	Diphtheria	Typhus Fever	Typhoid Fever	Fever	Croup	Cholera	Total
1882	..	615	..	152	9	99	86	25	..	1	987
1883	3	548	..	169	19	42	76	17	..	..	874
1884	131	941	..	277	13	17	74	9	..	1	1463
1885	24	1001	..	556	21	1	38	2	..	..	1643
1886	6	595	10	617	24	18	58	4	..	..	1332
1887	..	1334	12	914	21	8	142	4	..	..	2435
1888	..	819	4	438	36	13	234	2	..	..	1546
1889	..	1057	13	262	30	..	191	1	..	..	1554
1890	..	1620	17	247	35	64	182	1	..	..	2166
1891	..	524	38	180	28	38	197	2	..	..	1007
1892	12	1542	5	218	25	10	150	4	..	..	1966
1893	15	540	11	421	77	4	221	9	..	..	1298
1894	12	1818	16	379	133	7	194	6	..	..	2565
1895	3	258	32	430	142	3	192	12	9	..	1081
1896	..	2166	35	606	115	..	149	6	1	..	3078
1897	..	1141	5	630	80	2	152	17	1	..	2028
1898	1	589	9	643	190	1	243	17	3	..	1696
	207	17108	207	7139	998	327	2579	138	14	2	28719

Small-pox —One case of small-pox was reported in the Borough during 1898.

Chicken-pox.—There was one death registered from this disease during the year.

Measles.—There were 589 cases of measles reported during 1898, which is about half the number that occurred last year. There were a few cases notified in each month throughout the year, but the epidemic was at its height during January, February and March. 30 deaths were registered during the year.

German Measles.—There were nine cases of German measles reported during the year, but no deaths from this disease.

Scarlatina.—Was prevalent during the whole year, 643 cases being notified during the twelve months, or some 13 more cases than occurred in 1897. The greatest number reported was during the first three months of the year. The disease was not confined to any one quarter of the town, but pretty evenly distributed over the whole Borough. The number of deaths, 31, was low in proportion to the number of cases reported.

Diphtheria.—One-hundred-and-ninety cases of diphtheria were reported during the year, being 110 more than in 1897. Of these 44 died, a mortality of 23·1 per cent., or just 6 per cent. higher than last year, and of these 44 who died 25 were under 5 years of age at the time of death. The very large increase in the number of cases of diphtheria notified would be a very serious matter were it conclusive that all the cases were absolutely genuine cases of the disease. I am satisfied, however, from my own observation, that many cases of ulcerative and follicular sore throat are notified under the head of this disease, but as these cases are infective, it is perhaps as well that we should know of their existence.

Croup.—There were twelve deaths attributed to croup, ten of these being in children under five years of age.

Fevers.—The number of cases of fever notified in 1898 was 261, of these 243 were ascribed to Typhoid Fever, Typhus 1, Puerperal Septicæmia 15, and Continued Fever 2.

Typhus Fever.—There was 1 case notified to the Sanitary Authority during the year, death occurring in this case.

Typhoid Fever.—As previously stated, there were 243 cases of Typhoid Fever noted during 1898, this disease being practically never absent from the town. The number of cases this year being, however, less than the average. The number of deaths 36, being 11 more than last year.

Simple Continued Fever.—No deaths were registered from this cause. Two cases were notified as having occurred.

Puerperal Septicæmia.—Fifteen cases were notified during 1898, and eight deaths occurred from this disease.

Diarrhœa.—The year has been marked by a considerable increase in the number of deaths from Summer Diarrhœa, 122 deaths being attributed to this cause, as compared with 102 of last year. Of the deaths 113 were of children under two years of age.

Influenza.—This is not one of the diseases notifiable under the Local Act, and consequently we have no direct means of knowing to what extent it prevailed in the district. There were, however, 14 deaths directly attributed to this cause, being eleven more than last year.

Whooping Cough.—This also is not one of the notifiable diseases, and consequently, we have here also no record of the number of cases occurring. There were, however, 7 deaths registered under this head, being 23 less than last year.

Erysipelas.—This is also not notifiable. There were, however, 3 deaths attributed to it.

Cholera.—No case of cholera was known to the Sanitary Authority as having occurred in the district during 1898.

Rabies and the Muzzling Order.—The returns as to Rabies in Dogs in this County for the year 1898 are most satisfactory, as published in the *London Gazette* for the 3rd of January, 1899. They are as follows, viz.:—

1895	...	672 cases	1897	...	155 cases
1896	...	438 ,,	1898	...	17 ,,

The Disinfecting House.—Good service continues to be rendered by the Disinfecting House in Prince Edward Street. Mattrasses, palliasses, beds, pillows, bolsters, woollen clothing, and fabrics from infected rooms are brought here and disinfected by super-heated steam. The bedding and clothing are fetched and delivered by the Corporation officers in light covered vans provided for the purpose. Occasionally, when the bedding is exceptionally foul, it is destroyed at the disinfecting house furnace, and replaced or allowed for at the cost of the Authority. There is a man specially appointed to take charge of the apparatus; and a disinfecting inspector to supervise the disinfection of premises, the removal and delivery of bedding, &c.

The Refuse Destructors.—In all large towns the disposal of street sweepings, midden refuse and other non-manurial rubbish, becomes an increasingly difficult task as the population grows in density. This difficulty had been felt in Birkenhead for some time, and as far back as 1892 the Health Committee determined to grapple with it by erecting furnaces for its destruction.

There are now two refuse destructors, one in New Chester Road and one in Livingstone Street.

The refuse from the ashpits and shop garbage of all kinds is here taken to be destroyed, and, the supply being constant, the fires are practically never allowed to go out. Each destructor consists of twelve cells, each cell burning a little over six tons a day, and thus giving an average for each destructor of about 75 tons per day of twenty-four hours.

The residue left after the burning should be, roughly-speaking, about one-third of the whole bulk treated. Part of this residue is mixed with lime, &c., and converted into mortar, which finds a ready sale at 6/6 per ton, and the demand is equal to all we can produce with our present plant of two pans.

VITAL AND MORTAL STATISTICS FOR THE YEAR.

Area.—The Borough has an area of 3850 acres, or a little more than six square miles.

Population.—The population of the Borough of Birkenhead on the 30th of June, 1898, was according to the estimate of the Registrar-General 113,189, an addition to the estimated population on the 30th of June, 1897, of 1940 persons.

Before accepting this estimate as correct, and taking it as the basis of our calculations for the different birth and death rates, &c., in our vital statistics for the year, we must look closer into the matter and see whether this estimate corresponds with the estimate arrived at by other means from information obtainable within the Borough. If we do this we shall find that the Registrar-General's estimate for 1898 is too large by about 95.

The following are the statistics on which I make this statement :—

In 1891, at the time the census was taken, there were in Birkenhead 17,495 inhabited houses with an average of 5·7 individuals per house, giving a population of 99,857. Since that time, however, there have been 1417 new houses built and 221 houses demolished up to Midsummer 1898, or taking the one from the other an addition of 1292 houses to the total number in the Borough. To get at the actual number of inhabited houses at Midsummer, 1898, wants a little further calculation, thus: —

Number of inhabited houses at time of census	17,495
Number of uninhabited do do	1,545
Number of houses built since census less those demolished ..	1,292
Total number of houses in the Borough, 30th June, 1898....	20,332
Number of uninhabited houses, 30th June, 1898.....	491
Total number of inhabited houses do	19,841

Allowing the same number of persons per house as was found to exist at the time of the census return, viz., 5·7, and

multiplying this by the number of inhabited houses, we shall arrive at a more accurate estimate of the population than by the method adopted by the Registrar-General. In this way 5·7 × 19841 = 113,094, a difference of 95 on these two estimates.

In calculating the rates, &c., contained in the following tables, I have therefore taken this revised estimate as my basis.

Population, Area in Acres, and Density of Population.—The next table shows the population of the several townships forming the Borough as given in the census of 1891, and the estimated population at Midsummer, 1898, the area in acres, and the number of persons per acre, as follows:

Townships	Population at Census 1891	Population at Midsummer 1898	Area in Acres	Persons per Acre
Birkenhead	58287	66013	1279¾	51·58
Claughton	3510	3975	438¾	9·05
Tranmere	30680	34748	1071¼	32·43
Oxton	4429	5016	814	6·16
Higher Bebington (part of)	2951	3342	246¼	12·32
Birkenhead Borough	99,857	113,094	3850	29·37

Uninhabited Property in the Borough.—I am indebted to the Chief Constable (W. S. Davies, Esq.) for the particulars contained in the following table, showing the amount of uninhabited property in the town during the year:—

Return of Uninhabited Property in the Borough, 1897-98

	District.	Private Houses	Shops	Cottages	Dock Cottages	Total
For the Half-year ending 31st December, 1897.	Birkenhead	44	62	152	..	258
	Claughton and Oxton..	42	2	30	74	148
	Tranmere & Bebington	95	9	63	..	167
	Total for Borough..	181	73	245	74	573
For the Half-year ending 30th June, 1898.	Birkenhead	56	72	220	..	348
	Claughton and Oxton..	39	2	29	59	129
	Tranmere & Bebington	89	15	58	..	162
	Total for Borough..	184	89	307	59	639
For the Half-year ending 31st December, 1898.	Birkenhead	48	60	92	..	200
	Claughton and Oxton..	48	2	33	64	147
	Tranmere & Bebington	72	15	86	..	173
	Total for Borough..	168	77	211	64	520

It will be seen from the above that the number of uninhabited premises on the 31st December, 1898, was 53 less than that for the half-year ending 31st December, 1897. The fact that 438 new houses were built and 125 old houses pulled down during the year must also be taken into account, making an actual addition of 313 houses during the year. The number of uninhabited and unoccupied premises on the 30th June, 1898, was 639.

The total number of inhabited houses on the 31st December, 1898, was 20,090.

The number of new houses built during the last eight years is 1650 as shown in the following table, for which I am indebted to the Borough Surveyor. The number of houses demolished during the same period being 221.

The total number of houses in the Borough on the 31st December, 1898, was approximately 20,469, and the approximate estimate of warehouses, schoolrooms, &c., in the Borough is 1268 as estimated by the Police Authorities.

Number of New Houses erected in the Borough, 1891-98.

January 1st to	December 31st,	1891	87
,,	,,	1892	99
,,	,,	1893	108
,,	,,	1894	139
,,	,,	1895	175
,,	,,	1896	255
,,	,,	1897	349
,,	,,	1898	438
		Total	1650

The number of houses demolished during 1898 was 125.

Births and Deaths in Birkenhead.—During the year 1898 the returns of the local registrars recorded 3432 births and 1980 deaths in the Borough of Birkenhead. The natural increase in

the population in 1898 was therefore 1452. Of the births 1750 were males and 1682 were females; of the deaths 1003 were males and 977 were females.

The excess of births over deaths during the last six years is shown in the following table:—

	1892	1893	1894	1895	1896	1897	1898
Births	3341	3431	3246	3304	3477	3517	3432
Deaths	1967	2132	1915	2116	2116	2042	1980
Excess of Births over Deaths	1374	1299	1331	1188	1361	1475	1452

Further particulars as to the births and deaths in the Borough in 1898, that is to say, the number registered in each quarter of the year, and the number referred to each township, are given in the table subjoined. The births and deaths in the premises belonging to the Union are entered separately.

Births	1st Qr.		2nd Qr.		3rd Qr.		4th Qr.		1898		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Birkenhead	270	246	256	247	294	276	283	282	1103	1051	2154
Claughton	11	6	8	14	8	11	11	7	38	38	76
Tranmere	148	139	119	117	118	145	155	118	540	519	1059
Oxton	7	3	10	8	5	11	7	13	29	35	64
Bebington	3	4	3	4	10	4	5	5	21	17	38
Union Hospital	4	4	8	6	4	5	3	7	19	22	41
Birkenhead Borough ..	443	402	404	396	439	452	464	432	1750	1682	3432

Deaths	1st Qr.		2nd Qr.		3rd Qr.		4th Qr.		1898.		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Birkenhead	140	175	112	128	194	160	134	157	580	560	1140
Claughton	4	6	6	9	9	7	7	4	26	26	52
Tranmere	71	76	61	57	81	75	59	69	272	277	549
Oxton.....	4	8	5	8	7	4	8	5	24	25	49
Bebington	4	1	4	2	1	3	1	1	10	7	17
Union Hospital	23	25	20	23	23	17	25	17	91	82	173
Birkenhead Borough ..	246	231	208	227	315	266	232	263	1003	977	1980

Birth-rates & Death-rates in Birkenhead.—The annual rates, per 1,000 living, of births and deaths, for the whole incorporated area and the townships within it, appear in the next table.

1898	Annual Rate per 1000 Living	
	Births.	Deaths
Birkenhead	32·6	17·2
Claughton	19·1	13·08
Tranmere	30·4	15·7
Oxton	12·7	9·7
Bebington	11·3	5·08
Birkenhead Borough including B. and D. in Union premises	30·34	17·50

The birth-rate for 1898 is 1·34 per 1000 lower than last year, and 1·89 per 1000 lower than the average birth-rate during the ten years preceding. The death-rate is 0·89 per 1000 lower than that recorded last year, and 2·00 per 1000 lower than the average death-rate for the preceding ten years.

The death-rate of Birkenhead township being 1·5 per 1000 living higher than the death-rate in Tranmere, and 4·2 per 1000 higher than that of Claughton, is in part accounted for by the much greater density of population in Birkenhead. The death-rates of Oxton and Bebington being low is in part due to these being practically rural districts, to the easy circumstances of most of the inhabitants, and the large proportion of domestic servants and unmarried adults therein.

The next table shews the population of Birkenhead as corrected from the complete census return, the density and the number of births, deaths, and zymotic deaths in past years since the incorporation of the Borough, and also the birth and death-rates deducible from these figures; together with the figures for this year.

Year	Estimated Population at Midsummer	Persons per acre.	Births.		Deaths.		Zymotic Deaths.	
			Number of Births	Birth rate per 1000 per annum	Number of Deaths	Death rate per 1000 per annum	Number of Deaths	Death rate per 1000 per annum
1878	77260	20·06	2932	37·94	1656	21·43	383	4·95
1879	79642	20·68	3112	39·07	1631	20·47	307	3·85
1880	82023	21·30	3048	37·16	1624	19·79	331	4·03
1881	84404	21·92	3059	36·24	1462	17·32	231	2·73
1882	85993	22·33	3156	36·70	1742	20·25	319	3·70
1883	87582	22·74	3145	35·90	1770	20·20	226	2·58
1884	89171	23·16	3459	38·79	1769	19·83	273	3·06
1885	90760	23·57	3224	35·52	1816	20·00	311	3·42
1886	92349	23·98	3218	34·84	1808	19·57	274	2·96
1887	93938	24·39	3161	33·64	2053	21·85	385	4·09
1888	95527	24·81	3082	32·26	1788	18·71	225	2·35
1889	97116	25·22	3207	33·02	1830	18·84	315	3·24
1890	98705	25·63	3302	33·45	2084	21·11	329	3·33
1891	100294	26·00	3286	32·76	2100	20·93	262	2·61
1892	102038	26·50	3341	32·74	1967	19·27	309	3·02
1893	103817	26·96	3431	33·04	2132	20·53	388	3·73
1894	105627	27·43	3246	30·73	1915	18·12	340	3·21
1895	107468	27·61	3304	30·74	2116	19·68	304	2·82
1896	108818	28·26	3475	31·93	2116	19·44	362	3·32
1897	111001	28·83	3517	31·68	2042	18·39	293	2·63
1898	113094	29·37	3432	30·34	1980	17·50	315	2·78

The proportion of Deaths of Infants under One year to the Births registered.—The proportion in Birkenhead Borough in 1898 was equal to 186·7 per 1000, which is considerably above the average (165·8) for ten years—1888-97—and much higher than that recorded last year, when it was 163·7; this excess of deaths was due to Enteritis, Diarrhœa, Premature Births, and Marasmus. In the thirty-three great cities and boroughs in England and Wales, amongst which Birkenhead is classed, the proportion of deaths under one year to births registered in 1898 was 178. It varied greatly in the different towns, ranging from 150 in Croydon to 225 in Preston.

Birth-rates and Death-rates in the thirty-three great towns in England.—In order that the birth-rates and death-rates of the Borough of Birkenhead in 1898 may be compared with the corresponding rates of the most populous cities and boroughs in England, the following table has been compiled from the Registrar General's Quarterly Returns of Births, Deaths, and causes of Death in London and the other great towns, 1898. The table gives the estimated population of the thirty-three large towns and the estimated number of persons per acre in each at Midsummer, 1898. The birth-rates and death-rates are for the fifty-two weeks ending 31st December, 1898.

Thirty-three Great Towns—Population, Persons to Acre, Births, Deaths, &c., for the Year 1898.

(As estimated by the Registrar General.)

Cities and Boroughs.	Estimated Population at Midsummer 1898	Births.	Deaths.	Annual Rate per 1000 Living			Deaths from								Deaths of Children under one year of age to 1000 Births.
				Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhœa.	
33 Towns	11218378	339350	212848	30·3	19·0	2·85	31752	13	6290	1570	3419	4658	2190	13612	178
32 Provincial Towns..	6713612	206918	128912	30·9	19·3	2·87	19187	12	3215	987	1647	2498	1592	9236	185
London	4504766	132432	83936	29·5	18·7	2·78	12565	1	3075	583	1772	2160	598	4376	167
West Ham	289654	8749	4406	30·6	15·4	2·68	765	..	91	23	180	119	72	280	170
Croydon	124421	3146	1723	25·4	13·9	1·99	248	..	34	9	17	35	11	142	150
Brighton	122310	3024	2062	24·8	16·9	2·36	288	..	82	7	21	21	18	139	180
Portsmouth	189618	4974	3033	26·7	16·3	2·16	402	..	69	32	55	43	43	160	156
Plymouth	99136	2935	1932	29·7	19·5	2·15	212	..	70	4	10	28	6	94	170
Bristol	316900	9055	5437	28·6	17·2	2·69	852	..	307	14	44	115	25	347	164
Cardiff	177770	5520	2627	31·1	14·8	2·24	396	..	50	8	129	43	17	149	158
Swansea	102001	2941	1889	28·9	18·6	3·21	326	..	88	11	124	40	13	50	184
Wolverhampton.. ..	88051	3140	1868	35·8	21·3	3·19	280	..	19	23	38	9	20	171	200
Birmingham	510343	17316	10179	34·0	20·0	2·78	1417	..	181	46	131	251	114	694	191
Norwich	111699	3329	2112	29·9	19·0	3·26	363	..	75	23	14	37	45	169	192
Leicester	208662	6156	3522	29·6	16·9	3·35	697	..	214	44	62	19	30	328	191
Nottingham	236137	6800	4160	28·9	17·7	2·37	558	..	104	34	24	58	56	282	178
Derby	104834	2861	1759	27·4	16·8	2·26	235	..	53	20	9	28	28	97	169
BIRKENHEAD	**113094**	**3432**	**1980**	**30·3**	**17·5**	**2·78**	**315**	..	**30**	**31**	**44**	**7**	**37**	**122**	**186**
Liverpool	633645	22224	15153	35·2	24·0	3·22	2034	2	276	143	147	326	166	974	184
Bolton	122495	3776	2368	30·9	19·4	2·93	358	..	31	23	8	45	38	213	168
Manchester . ..	539079	17591	11766	32·7	21·9	3·11	1673	..	271	65	53	170	125	989	197
Salford . ..	215702	7475	4884	34·7	22·7	4·03	867	..	99	62	32	130	80	464	212
Oldham	148288	3748	2600	25·3	17·6	2·15	319	..	85	24	10	65	22	113	175
Burnley	109546	2964	1781	27·1	16·3	2·04	224	..	8	6	30	7	27	146	195
Blackburn	133228	3595	2451	27·1	18·4	2·57	342	..	50	16	31	5	32	208	206
Preston	116356	3596	2245	31·0	19·3	3·07	356	..	2	4	8	61	43	238	225
Huddersfield	102454	2295	1627	22·5	15·9	1·61	164	..	32	10	13	11	10	88	153
Halifax	96729	2210	1724	22·9	17·9	2·15	207	..	70	14	8	35	18	62	163
Bradford	233737	5594	4102	24·0	17·6	2·12	493	.	104	11	17	68	49	244	185
Leeds..	416618	12968	7983	31·2	19·2	3·12	1295	2	191	119	223	161	92	507	182
Sheffield	356478	12044	7197	33·9	20·2	3·82	1358	.	175	56	94	219	142	672	195
Hull	229887	7666	4269	33·4	18·4	2·99	686	..	92	28	17	68	58	423	182
Sunderland	143849	5077	3247	35·4	22·6	3·69	532	2	85	32	9	68	69	267	202
Gateshead	103775	3679	2133	35·5	20·6	3·10	320	3	51	19	10	66	18	154	208
Newcastle-on-Tyne ..	223021	7041	4764	31·4	21·4	2·82	634	3	126	25	30	139	67	244	190

Out of the whole number of cities and boroughs in this list sixteen had lower birth-rates and nine lower death-rates than Birkenhead. The birth-rate of the gross population of the great cities and boroughs was the same as that of Birkenhead, and the death-rate 1·5 per 1,000 living higher than the corresponding rate in Birkenhead. The population of Birkenhead it will be noted is greater than nine on the list of great towns, and the density of population (persons per acre) is greater than in nineteen towns in the list.

The birth-rate of the thirty-three towns in 1898 (30·3) is lower than the mean rate of the ten preceding years, 1886-97, and lower than last year (30·7). The death-rate of the thirty-three towns in 1898 (19·0) is 0·1 per 1,000 lower than last year (19·1), but below the average rate in the preceding ten years (21·5).

Tabular Statements.—In the appendix to this Report are tabular statements of the year's mortality within the Borough, classified according to the diseases, ages, and localities, a weekly register of deaths and of meteorological results, a monthly summary of deaths from all causes and zymotic diseases, with the rates per 1,000 per annum, together with a table specifying the occupation or "description" of each person whose death was entered during the year, a return of deaths in the Birkenhead Union Hospital and Workhouse, and a sketch map of the town showing the boundaries of the wards, &c.

Table I. shows the deaths registered in the whole Borough during 1898, arranged with reference to the age at which death occurred in each case. They are disposed in four sub-tables—the deaths in the townships of Birkenhead and Claughton in the first, deaths in Tranmere (exclusive of the Union premises) and Oxton in the second, the deaths in the incorporated portion of Higher Bebington in the third, and the deaths in the Union Hospital and Workhouse in the fourth. The deaths of infants are entered up in three columns—those under one year, those of one year and under two years, and those turned two years and under five. Then follow the deaths of children and young

persons, those turned five years and under twenty; and of adults those turned twenty and under forty, and those turned forty and under sixty. In the last two columns are the deaths of old people, those turned sixty and under eighty, and those of eighty and upwards. Refernce to this table will show that, of the gross local mortality for 1898, the deaths of infants under one year of age accounted for 641, those over one year but under five years of age 275, children and young persons 125, adults 544, old people over sixty years of age 395. In the townships of Birkenhead and Claughton 438 deaths occurred among infants, 164 in children over one and under five, 68 among children and young persons, 317 among adults, and 205 among old persons. In Tranmere and Oxton the number of deaths of infants under one year was 184, of those under five and over one year 108, of children and young persons 51, of adults 140, and of old people 115.

In Bebington Ward there were 3 deaths of infants under one year, none over one and under five years, 1 of children and young persons, 5 of adults, and 8 of old people.

The relative proportion of deaths in 1898 among the infants, children and young persons, adults and old people, to the whole number of deaths, in certain sub-divisions of the borough, in the premises controlled by the Guardians of the Poor, and in the entire incorporated area, is readily shown in tabular form, thus:—

Percentage of Deaths at Certain Ages to Total Deaths.	Under 1 Year	Age between			60 years and upwards
		1—5	5—20	20—60	
Birkenhead and Claughton	22·1	8·2	3·4	16·01	10·3
Tranmere and Oxton	9·2	5·4	2·5	7·07	5·8
Bebington	0·1	0·0	0·05	0·2	0·2
Union Hospital and Workhouse	0·8	0·1	0·2	4·1	3·3
Birkenhead Borough	32·3	13·8	6·3	27·4	19·9

In this respect the local mortality compares favourably with the mortality in most great cities and boroughs. The local mortality for 1898 also compares favourably with the local mortality during the decade 1881-97. The percentages taken out for Bebington have little significance, the number of deaths being so small.

Table II. is the weekly register of deaths in the Borough of Birkenhead for 1898. The deaths are entered as in Table I., into four sub-tables, representing Birkenhead and Claughton, Tranmere and Oxton, Bebington, and the Union Hospital and Workhouse. Table III. is a summary of the weekly register of deaths. Table IV. is a Weekly Condensed Register of Meteorological Results. Table V. is a Lunar Monthly Table of deaths from all causes, and Zymotic Diseases, with the rates per 1,000 per annum. Table VI. a street register of deaths; and Table VII. a register giving the description of those who died.

The Classification of Death Causes.—The causes of death, as they appear in Tables I. and II. in the appendix, are systematically classified according to the principles laid down by the late Dr. W. Farr, the nosology being that adopted by the Registrar-General until within the last few years, which experience has shown to be well suited for statistical purposes. The death causes are arranged under classes and orders, the latter corresponding to the families of Natural History. Genera, or what in diseases would be called varieties, are not distinguished. All death causes are thus conveniently classified under 116 heads, some of which, however, include diseases very distinct from one another.

At the beginning of Table I. are the totals of deaths from all causes, and on the next line the totals of deaths from specified causes. The deaths which it is necessary to refer to unspecified causes are not only those ascribed, in legal phraseology, to "visitation of God" or "natural causes," but also those, which, with almost equal vagueness, are classified as due to "tumour," "coma," &c. The deaths from specified causes are then divided into five classes. Class I. (the zymotic) embraces all diseases, either epidemic, endemic, or contagious, which are induced by some specific body, or by want of, or by the bad quality of food. The diseases coming under Class II. (constitutional or cachectic) appear to be due to a bad habit of body, and are sometimes hereditary. Class III. takes in diseases the effects of which are manifest in disturbing or obliterating the function of particular organs or systems. Class IV. includes the conditions tending to

produce death, which are the incidental results of the formative, reproductive, and nutritine processes. Class V. groups together all deaths which are the evident and direct result of physical or chemical forces.

Of the 1980 deaths registered in the Borough during 1898, 1970 were ascribed to specified causes; that is to say 315 to zymotic diseases, 296 to constitutional diseases, 998 to local diseases, 314 to developmental diseases, and 47 to violence. The proportion of deaths from zymotic diseases to the whole number of deaths was thus 15·9 per cent. The proportions which deaths ascribed to zymotic diseases bear to deaths from all causes is, however, a matter of no great significance, as of course the general death-rate varies considerably from year to year, and any increase in the fatality of non-zymotic diseases, such as phthisis or pneumonia (which are closely allied to zymotic diseases) makes the proportion of deaths from zymotic diseases compare more favourably.

An accurate estimate of the relative mortality from zymotic diseases, and from the other four classes of death-causes just referred to, can only be made by taking out the death-rate per 1000 living, as respects each of the five classes. This has been done, and the results are displayed in the following table. Parallel with the column containing the death-rates for 1898 are the corresponding corrected death-rates for 1892 to 1897 and the mean of the corresponding corrected death-rates in the ten years 1881-90.

Classes	Annual Death-rate per 1000 Living							
	1881-90 Average	1892	1893	1894	1895	1896	1897	1898
Zymotic Diseases	3·11	3·05	3·73	3·21	2·85	3·32	2·63	2·78
Constitutional Diseases	2·75	2·25	2·38	2·86	2·93	2·65	3·01	2·61
Local Diseases	9·63	9·53	10·01	8·40	10·23	9·51	9·25	8·82
Developmental Diseases	3·16	3·40	3·50	2·84	2·68	3·08	2·58	2·77
Violent Deaths.....	0·82	0·07	0·63	0·50	0·68	0·56	0·51	0·41

This table shows that the death-rate as regards zymotic diseases in 1898 was below the average of the last ten years by 0·25 per 1000. The constitutional death-rate was slightly below the mean by 0·18, and local diseases 0·81 below average

for last ten years. The death-rate as regards developmental diseases was 0.32 lower than the mean rate. The proportion of deaths due to violence was 0·25 below the mean.

Deaths from Zymotic Diseases.—The deaths from zymotic diseases include 162 by what have been termed the chief zymotics (certain diseases belonging to the miasmatic order), viz. measles 30, scarlatina 31, diphtheria 44, membraneous croup 12, fevers 37, and puerperal septicæma 8. The remaining 153 were entered to what have been called minor zymotics (diseases less prevalent, less fatal, or less obviously zymotic in character), viz: chicken pox 1, whooping cough 7, erysipelas 3, carbuncle 1, influenza 14, diarrhœa 122, and syphilis 5. The mortality from the chief zymotics in 1898 was equal to a death-rate of 1·43 per 1,000 living.

Relative Fatality of Chief Zymotic Diseases.

The following table shows at a glance the relative fatality of the chief zymotic diseases for each year since the incorporation of the Borough.

Year	Deaths from Zymotic Diseases.								Death rate per 1000 living.							
	Smallpox	Measles	Scarlatina	Diphtheria	Whooping Cough	Typhus Fever	Typhoid Fever	Diarrhœa	Smallpox	Measles	Scarlatina	Diphtheria	Whooping Cough	Typhus Fever	Typhoid Fever	Diarrhœa
1878	..	72	28	14	90	18	20	74	0·00	0·93	0·36	0·18	1·16	0·23	0·25	0·95
1879	..	23	125	19	14	15	10	33	0·00	0·28	1·56	0·23	0·17	0·18	0·12	0·41
1880	..	15	74	11	69	13	8	77	0·00	0·18	0·90	0·13	0·84	0·15	0·09	0·93
1881	..	49	20	5	45	12	11	37	0·00	0·58	0·23	0·05	0·53	0·14	0·13	0·43
1882	..	34	17	3	89	27	16	63	0·00	0·39	0·19	0·03	1·03	0·31	0·18	0·73
1883	..	40	23	2	31	10	13	45	0·00	0·45	0·26	0·02	0·35	0·11	0·14	0·51
1884	11	40	27	8	9	4	17	82	0·12	0·44	0·30	0·08	0·10	0·04	0·19	0·91
1885	2	78	29	14	66	1	12	28	0·02	0·85	0·31	0·15	0·72	0·01	0·13	0·30
1886	2	22	40	15	18	4	11	91	0·02	0·23	0·43	0·16	0·19	0·04	0·11	0·98
1887	..	81	89	10	31	3	21	74	0·00	0·86	0·94	0·10	0·33	0·03	0·22	0·78
1888	..	15	34	7	23	6	31	37	0·00	0·15	0·35	0·07	0·24	0·06	0·32	0·38
1889	..	61	13	8	93	..	34	56	0·00	0·62	0·13	0·08	0·95	0·00	0·35	0·57
1890	..	89	15	11	38	13	30	70	0·00	0·90	0·15	0·11	0·38	0·13	0·30	0·70
1891	..	34	5	11	30	15	31	35	0·00	0·33	0·04	0·10	0·29	0·14	0·30	0·34
1892	1	63	8	6	59	2	22	57	0·009	0·61	0·07	0·05	0·57	0·01	0·21	0·55
1893	1	15	12	16	68	1	26	171	0·009	0·14	0·11	0·15	0·65	0·009	0·25	1·64
1894	1	94	10	38	66	..	18	57	0·009	0·88	0·09	0·35	0·62	0·00	0·17	0·53
1895	..	3	15	42	43	1	40	87	0·00	0·02	0·13	0·39	0·40	0·00	0·37	0·80
1896	..	113	31	20	54	..	25	71	0.00	1·03	0·28	0·18	0·49	0·00	0·22	0·65
1897	..	54	21	24	30	2	25	102	0·00	0·48	0·18	0·21	0·27	0·01	0·22	0·91
1898	..	30	31	44	7	1	36	122	0·00	0·26	0·27	0·28	0·06	0·00	0·31	1·07

This table shows that in 1898 the mortality from measles was lower and from scarlet fever higher than last year, the mortality from typhoid rather higher than the average.

Constitutional, Local, and Developmental Diseases and Death Rates.—Having given the death-rates in Birkenhead in respect of the five classes into which death-causes have been divided, and the principal and other zymotics, a table is now submitted showing the death-rates in the Borough as respects the orders under which the death-causes belonging to Classes II., III., and IV. have been grouped. Parallel with the columns containing the rates of 1898 are the corresponding death-rates for 1891 to 1897, and the mean of the corresponding corrected death-rates in the ten years of 1881-90.

Constitutional, Local, and Developmental Diseases.	Annual Death-rate per 1000 Living								
	1881-90 Average	1891	1892	1893	1894	1895	1896	1897	1898
Dietetic Diseases	0·18	0·06	0·26	0·17	0·06	0·10	0·10	0·09	0·18
Parasitic Diseases	0·02	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
Diathetic Diseases	0·63	0·58	0·58	0·59	0·86	0·93	1·01	1·04	0·79
Tubercular Diseases	2·11	2·49	1·66	1·79	2·57	1·99	1·54	1·87	1·63
Diseases of Nervous System ..	2·81	3·00	2·66	2·64	2·31	2·77	2·21	2·19	1·55
,, Organs of Circulation	1·21	1·29	1·07	1·35	1·22	1·33	1·46	1·29	1·36
,, Respiratory Organs ..	3·91	5·32	4·07	3·90	3·31	4·17	3·78	3·82	3·31
,, Digestive Organs ..	1·08	1·00	1·13	1·44	0·98	1·32	1·40	1·31	2·04
,, Urinary Organs ..	0·41	0·27	0·37	0·44	0·42	0·57	0·54	0·52	0·40
,, Organs of Generation	0·01	0·01	0·15	0·10	0·00	0·04	0·01	0·00	0·01
,, Organs of Locomotion	0·05	0·08	0·00	0·01	0·00	0·02	0·01	0·01	0·01
,, Integumentary System	0·08	0·06	0·03	0·09	0·09	0·03	0·06	0·07	0·10
Developmental Diseases of Children	0·80	0·73	1·03	1·06	0·62	0·60	0·71	0·68	0·84
,, ,, Adults ..	0·15	0·18	0·00	0·10	0·05	0·05	0·05	0·05	0·04
,, ,, Old People	0·84	1·07	1·20	1·26	1·21	1·03	1·00	0·86	0·84
Diseases of Nutrition	1·36	1·18	1·16	1·06	0·95	1·39	1·31	0·98	1·05

The four orders under which constitutional diseases are arranged have little in common except that in typical diseases in each order new morbid products are deposited. Twenty-one deaths took place from dietetic diseases during 1898, viz:—inanition 11, alcoholism 7, and 1 each from privation, purpura, and rickets. Diathetic diseases account for 90 deaths, of which 48 were due to cancer, 10 to rheumatism, 3 to anæmia, 3 to mortification, 3 to dropsy, 21 were ascribed to tumour, 1 to gout, and 1 to cancrum oris. All but 19 out of the 90 were deaths of adults. Tubercular diseases account for 185 deaths, of which 139 were due to phthisis pulmonalis, 23 to hydrocephalus, 21 to

tabes mesenterica, and 2 to hæmoptysis. One hundred and thiry-seven of the deaths in this order were of children and young persons, and 48 of adults. The diathetic disease death-rate of 1898 is the same as the local mean rate, and the tubercular disease death-rate of 1898 is below that for last year, and considerably below the local mean rate.

Of the eight orders under which local diseases have been arranged, the first four account for an overwhelming proportion of the mortality referred to this class. The deaths from diseases of the brain and nervous system in 1898 were 176; the deaths from diseases of the heart and blood vessels were 154; the deaths from diseases of the respiratory organs were 375; and the deaths from diseases of the digestive organs were 231. The deaths entered to diseases under the remaining four orders were 62. Of the 998 deaths from local diseases, 406 were of infants under five years of age, and 48 were of children and young persons over five years and under twenty. It will be seen that the death-rate as regards diseases of the respiratory organs in 1898 was much below that for last year, and below that of the mean rate. The death-rate as regards diseases of the nervous system and diseases of the organs of circulation in 1898 were also about the mean rates. The death-rates in respect of diseases of the digestive and urinary organs in 1898 were also about the mean rates.

Of the deaths caused in Class IV., 95 were ascribed to so-called developmental diseases of children, *i.e.*, premature birth, malformations, and teething; 95 to old age; and 119 to diseases of nutrition, that is, atrophy, debility, and marasmus. The death-rates for 1898 in this class do not compare unfavourably with the corresponding local mean rates. The number of deaths ascribed to old age is considerably less than the average, and the number ascribed to the diseases of nutrition are considerably less than the mean. There is some reason to believe that the number of deaths due to child-birth is under-stated year by year; many deaths in child-bed being certified to secondary causes, "peritonitis," "convulsions," &c.

Inquests.—The number of inquests held during 1898 was 135, thus 6·8 per cent. of the sum of the deaths in the borough formed the subject of official enquiries. Of these inquests, 95 were in the township of Birkenhead, 33 were in Tranmere, 2 in Claughton, 4 in Oxton, and 1 was held in the Workhouse; 76 were on the bodies of males, and 59 on the bodies of females. In 1897 the number of inquests held was 149, in 1896—153, in 1895—165, and in 1894—146. Out of the 134 inquests held, in 16 cases, or in 11·9 per cent., it does not appear that the actual *cause* of death was ascertained at all. Thus it is stated as follows:—

Convulsions	8
Nature of disease unascertained	8

The number of these cases is enormously reduced as compared with the year 1897, when no less than 41·6 per cent. were thus accounted for, and it may therefore reasonably be anticipated that our present Coroner will obliterate these unsatisfactory returns entirely, which will be a very great advance on previous years.

Deaths not Certified.—Not all the death causes which are classified represent diseases or symptoms observed and certified by medical men in attendance during the last illness, or verdicts following official investigation. A significant proportion of the death causes are entered in the register on the doubtful testimony of deceased persons' relatives or friends, or fellow lodgers. The registrars have, therefore, been required to mark in the returns furnished, every death not certified by a registered practitioner, or made the subject of a coroner's inquest. In 1898, out of the 1,980 deaths registered, 16 (13 males and 3 females) were marked "not certified,"—that is 0·80 per cent. Seven of these uncertified deaths took place in the township of Birkenhead, seven in Tranmere, and two in Claughton. Fourteen of these deaths were of infants under 1 year of age. *I would repeat again what I have previously said, that it is a great defect of our present law that such deaths should be allowed to be registered without an official enquiry into their cause.* The causes of the 16 deaths were entered in accordance with the statements of persons giving information to the registrars as follows:—

Premature birth	6
Convulsions	1
Bronchitis	1
Gastritis	2
Enteritis	1
Hæmorrhage	1
Pneumonia	1
Debility	3

though how such conclusions were arrived at does not appear.

The proportion of uncertified deaths to the sum of the deaths was as already stated, 0·80 per cent. as compared with 1·1 per cent. in 1897, 0·94 per cent. in 1896, 0·99 per cent. in 1895, and with 0·52 per cent. in 1894.

Deaths classified according to localities.—Tables I., II., III., IV., and V., in the appendix, having been fully discussed, are followed by Table VI., in which the deaths registered during 1898 are classified according to the localities in which they occurred. The Street Register is divided into three parts—the part marked "A" including the streets and places in the old Birkenhead Improvement District; the part marked "B" the streets and places in Tranmere and Oxton; and the part marked "C" the streets and places in the incorporated portion of Bebington. Opposite each street or place is the number of deaths from all causes and from zymotic diseases, registered as occurring in that street or place during the year. In the headings to the different parts of this table (and in Tables I., II., and III.) the names of townships are not placed as indicating the locality referred to, but the names of wards. Thus the old Improvement District appears as Cleveland, Claughton, Grange, and Argyle Wards; Tranmere and Oxton appear as Oxton, Egerton, Clifton, and Mersey Wards; and the portion of Bebington incorporated appears as Bebington Ward. As it was felt that particulars of the number of deaths from all causes, zymotic diseases, and causes not certified, in each ward, would prove interesting, and as the Street Register does not afford this information, the table here submitted has been drawn up.

1898	Deaths from All Causes		Deaths from Zymotic Diseases		Deaths from Causes Uncertified		No. of Inquests held.	
	M.	F.	M.	F.	M.	F.	M.	F.
Cleveland Ward ..	178	173	35	29	2	..	16	9
Claughton ,, ..	26	26	4	3	2	..	1	1
Grange ,, ..	249	239	27	36	2	..	17	17
Argyle ,, ..	153	148	26	19	1	2	20	16
Oxton ,, ..	24	25	5	6	..	..	3	1
Egerton ,, ..	76	78	15	16	1	..	6	3
Clifton ,, ..	135	135	29	26	3	..	5	5
Mersey ,, ..	61	64	14	13	2	1	7	7
Bebington ,, ..	10	7	1	..	..	..	..	..
Birkenhead Borough including deaths in Union premises	1003	977	163	152	13	3	76	59

This table will, with the Street Register, furnish all the information that can be required on the subject. It is well to note that the streets opposite which the highest death totals appear are not the streets in which the mortality was really the highest. In 1898, as in past years, the sickness and mortality was most prevalent in the smaller streets and alleys inhabited by the very poor.

The following table shows the relative mortality of the wards during 1898.

1898	Population at Census 1891.	Estimated Population at Midsummer 1897	General Death-rate per 1000 Living	Zymotic Death-rate per 1000 Living
Cleveland Ward	17345	19644	17·8	3·2
Claughton ,, ...	3510	3975	13·0	1·7
Grange ,, ...	25353	28714	16·9	2·1
Argyle ,, ...	15589	17655	17·0	2·5
Oxton ,, ...	4429	5016	9·7	2·1
Egerton ,, ...	9987	11311	13·5	2·7
Clifton ,, ...	15091	17092	15·7	3·2
Mersey ,, ...	5602	6345	19·7	4·2
Bebington ,, ...	2951	3342	5·0	0·2
Birkenhead Borough including deaths in Union premises ..	99857	113094	17·50	2·78

The deaths in the Borough Hospital, instead of being entered as occurring in Cleveland Ward, have been referred to the wards from which the patients who died were received. Similarly, the deaths in the Birkenhead and Wirral Children's Hospital and Lying-in Hospital have not been entered to Grange Ward and

Argyle Ward respectively, but as occurring in the wards from which the patients who died were received. It will be seen that the ward showing the highest zymotic death-rate in 1898 was Mersey Ward. The highest death-rate was also in Mersey Ward, and that all the three wards in the township of Birkenhead show a high death-rate compared with the wards in the remainder of the Borough, except Mersey Ward, which has a similar class of population.

Deaths in the Union Hospital and Workhouse.—As a supplement to the Street Register, it is deemed advisable to add a return of the deaths in the Union Hospital and Workhouse, giving in each case the address of the deceased when admitted into the Union, and date of admission. The sex, age, occupation, date and cause of death are extracted from the register, and the information in the last column has been supplied by the Master of the Workhouse. The return is an important one in many respects. From it is prepared the summary here submitted of the localties from, and years in which patients dying in the Union during 1898 were received.

Localities from which Patients Dying in the Union Hospital & Workhouse during 1898 were Received.	Year when Admitted to Union Workhouse.														Total.
	1881	1884	1885	1886	1887	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	
Cleveland Ward..	1	..	..	..	..	..	1	..	..	..	..	1	3	6	18	30
Claughton ,, ...	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Grange ,, ...	..	..	..	..	1	..	..	..	1	1	..	1	2	7	27	40
Argyle ,, ...	..	1	1	1	1	1	1	1	1	..	2	1	3	8	37	59
Birkenhead-Ward not specified	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3
Egerton Ward	..	..	..	..	..	.	..	..	..	..	..	1	2	2	6	11
Clifton ,, ...	..	..	..	..	..	..	..	..	1	..	..	..	..	1	10	12
Mersey ,, ...	..	..	..	..	..	..	..	..	..	..	..	1	..	2	3	6
Union Workhouse	..	..	..	..	..	..	..	..	..	..	..	..	..	2	9	11
Total Deaths	1	1	1	1	2	1	2	1	3	1	2	5	10	29	113	173

General and Zymotic Death-rate month by month throughout the year.—Table V. in the appendix shows the general and zymotic mortality, month by month, throughout the year. The general death-rate was highest in the month ending August 12th, 26·5, and lowest in the month ending October 7th, 15·1. The zymotic death-rate ranged from 7·49 in August to 1·17 in February and March respectively.

Description of those who died during 1898.—The last of the tables appended, Table VII., gives the "description" of all those whose deaths have been registered during the year with the exception of the deaths taking place at the Union Hospital and Workhouse. The information is furnished in each case by the person registering the death, and is doubtless trustworthy. The table may be of some use in supplying the material for a rough estimate of the effects of the year's mortality on the community, *i.e.*, the local loss sustained by the professional and commercial classes, the artisan and labouring classes, and that largest class of all, the non-productive. Those also employed in any recognised form of skilled or unskilled labour may here see the number of deaths, in 1898, in the ranks of fellow-workers in the Borough. The number of bread-winners removed by death from the local community, in 1898, is computed thus:—The first two columns of Table VII. are cast and added together, and from this is substracted the sum of those described as annuitants, pensioners, ladies and gentlemen of independent means, retired tradesmen &c., or whose occupation is "unknown." It does not, of course, follow that everyone described as belonging to any particular trade or calling was necessarily working for a living within a reasonable time of his or her decease, or that everyone described as a son, daughter, wife, or widow was non-productive, or merely occupied with domestic duties. Still, a proximately correct estimate of those among the deceased who were self-supporting and family-supporting, as distinguished from those who were wholly dependent, or only partially self-supporting. The number of those who must have been wholly dependent on others may be computed from figures in the age table.

Illegitimacy.—Statistics relating to illegitimacy are important, not merely on account of the bearing which such a subject has upon the social life of the community, but also with a view ultimately of showing to some extent the influence which illegitimacy exerts upon the "chances of life" of infants, as it is well known that the death-rate of illegitimate children is considerably greater than that of those born in wedlock. I have

thought it desirable, therefore, to continue these statistics in this report, as the subject is one of some interest.

The following table gives the total number of legitimate and illegitimate births, with the rate per 1000 of births and per 1000 living, and statistics relative to the deaths of such children under one year of age.

Illegitimate Birth and Death Rates, 1898.

Registrar's Sub-District	Estimated Population 1898.	Births		Illegitimate Births		Total deaths of children under one year of age	Deaths of Illegitimate children under one year of age	Proportion of deaths of Illegitimates to total deaths under one year of age.
		Legitimate	Illegitimate	to 1000 living	to 1000 births			
Birkenhead ..	66013	2090	64	0·96	29·7	425	30	14·1
Tranmere, Oxton, Claughton, and Bebington ..	47081	1223	55	1·16	43·0	216	18	12·0
Total	113094	3313	119	1·05	34·6	641	48	13·3

It will be seen from the above that for every 1000 *legitimate* births registered during the year 178·9 deaths of *legitimate* children under one year of age took place, whilst for every 1000 *illegitimate* births registered during the same period no less than 404·3 deaths of *illegitimate* children under one year of age took place In other words, 40·3 per cent of the illegitimate children born died within the first year of life. These numbers are higher by 9·5 per cent. than those for last year, but are very far from satisfactory.

Vaccination.—Mr. John Carter, Clerk to the Board of Guardians of the Birkenhead Poor Law Union, has kindly supplied me with the following *latest completed* information relative to vaccination in the District, viz:—

Returns as to the vaccination of children born during the year from 1st July, 1897, to 30th June, 1898.

Births	Successfully Vaccinated	Insusceptible	Had Small-pox	Died Unvaccinated	Number in respect of whom certificates of conscientious objection has been received	Postponed by Medical Certificate	Removed to Districts the Vaccination Officers of which were duly notified	Removed to places unknown or which cannot be reached	In Abeyance
3400	2898	6	nil	348	2	41	13	69	32

The percentage of children successfully vaccinated out of the total number of births was therefore 85·23 as compared with 86·32 last year—a very good record.

The number of deaths of unvaccinated children, viz: 348, gives a percentage of 10·23 as compared with 10·40 last year.

Pauperism.—The latest information obtainable is for the year Michaelmas, 1897, to Michaelmas, 1898. The cost of relief during this period was as follows, viz:—

In maintenance in year ended Michaelmas, 1898, was	£11064	5	3½
Out-door relief (including non-resident and boarded-out paupers	8178	15	1
Total	£19243	0	4½

The lowest number of In-door Poor in any week during 1898 was 759, and the highest number 906.

The lowest number of Out-door poor in any week during 1898 was 1485, and the highest number 1646.

Marriages.—The number of marriages in the whole of the Superintendent Registrar's District of Birkenhead during the year 1898 was 1064, giving an annual rate per 1000 living of 9·40 as compared with 9·40 last year. There were 20 marriages more during 1898 than in the previous year, an increase of 1·91 per cent.

Sketch Map of the Borough.—A sketch map of the Borough has been added.

HOUSING OF THE WORKING CLASSES ACT, 1890.

Under the provisions of this Act, on the 31st January, 1898, I made a representation under Part II. of the Act respecting the insanitary condition of the premises, Nos. 27, 29, 31, 33, 35, 37, 39, 41 and 43 Lansdowne Road, and Nos. 1, 2, 3, 4, 5, 6, 7, 8 and 9 Gillbrook Cottages. These premises generally were in a very filthy, insanitary, and delapidated condition, and the owners decided to pull them down rather than put them into repair. They have since been entirely demolished.

On the 29th March, 1898, I made a representation under Part II. of the Act, respecting the condition of the premises, Nos. 24, 26, 28, 30, 32, 34, 26 and 38 Field Street, which were in a state so dangerous and injurious to health as to be unfit for human habitation. These premises were also subsequently pulled down and entirely demolished.

On the 15th November, 1898, I made a representation under the same part of the Act respecting premises, Nos. 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62 and 64 Egerton Street, and although at the close of the year these houses had not yet been demolished, I have reason to believe that by the time I have to write another annual report these may have been done away with also.

Considerable progress was made during the year in dealing with the insanitary property. On the 6th December, 1898, I made the following representation under Part I. of the Act, viz —

COUNTY BOROUGH OF BIRKENHEAD.

To the Health Committee of the Council of the County Borough of Birkenhead, being the Local Authority under Part I. of the Housing of the Working Classes Act, 1890, for the Urban Sanitary District of the said County Borough.

In accordance with the provisions of the Housing of the Working Classes Act, 1890, I do hereby make a representation that as regards the following areas in the District of the said Authority, viz.—

(1) The area consisting of the houses Nos. 65 and 67 Tunnel Road, Nos. 80 and 82 Egerton Street, and No. 12 Waterloo Place and the stable attached thereto.

(2) The area consisting of the houses Nos. 9 and 13 Waterloo Place, Rushton's Court and the houses situate therein.

(3) The area consisting of the houses Nos. 63, 65, 67, 71, 73, 75, 77, 79, 81, 85, 87 and 91 Egerton Street, Evans' Place, Chester Street, May Place, Waterloo Court, Scott's Court, and Carpenter's Row, and the houses situate therein respectively.

(4) The area consisting of Ivy Court and the houses situate therein.

The narrowness, closeness, bad arrangement, and bad condition of the houses within such areas respectively, and the want of light, air, ventilation, and proper conveniences and other sanitary defects, or one or more of such causes are dangerous or injurious to the health of the inhabitants, both of the buildings in the said areas respectively and of the neighbouring buildings, and that the evils connected with the houses, courts, or alleys, and the sanitary defects in such areas respectively cannot be effectually remedied otherwise than by an improvement scheme for the re-arrangement and re-construction of the streets and houses within such areas respectively, or of some of such streets or houses.

Dated this twenty-eighth day of November, 1898.

R. SYDNEY MARSDEN, M.B., D.Sc., &c., &c.,
Medical Officer of Health for the County Borough of Birkenhead.

Public Health Department,
Town Hall, Birkenhead.

It will be remembered that under the provisions of this Act I made a representation to the Health Committee on the 13th of May, 1895, as to the very insanitary and delapidated condition of certain houses in Tunnel Road, Egerton Street, Meacock Street, Mersey Place, Walter's Court, and Meacock's Court; and it will be remembered that the Health Committee, after considering it, resolved to recommend the Council to adopt an improvement scheme, which should clear away the whole of this insanitary property. After a local enquiry had been held on the last day of the year 1895, the Local Government Board early in 1896 issued a Provisional Order for confirming the improvement scheme, and subsequently it was confirmed in all its stages by Act of Parliament. Under these circumstances all that remained to be done was to come to terms with the owners of the various portions of the property, and then clear the existing buildings away. Some difficulties arose as to price with regard to one or two of the properties, however, and consequently the matter had ultimately to go to arbitration, and on the 24th June, 1898, the enquiry was held, and below I give a detailed account of the evidence given and of the subsequent award—and as this involved the purchase of an old standing public house, the matter is one of some interest and value.

THE EGERTON STREET IMPROVEMENT SCHEME.

ARBITRATION PROCEEDINGS.

On the 24th of June, 1898, Mr. George Ranken Askwith, barrister-at-law, of London, the arbitrator appointed by the local government board, attended at the Town Hall for the purpose of assessing the compensation to be paid to the owners of the land required by the Birkenhead Corporation, to carry out the Scheme for the Improvement of Egerton Street, made under the Housing of the Working Classes Act, 1890, and confirmed in 1896 by the Local Government Board's Provisional Orders Confirmation (Housing of the Working Classes) Act. Amongst those present were the mayor (Mr. E. G. Mason), Mr. Alderman Getley, Mr.

Alderman E. P. Smith, Mr. Alderman Clarke, Mr. A. Gill (town clerk), Mr. James Fearnley (deputy town clerk), Mr. Charles Brownridge (borough engineer), Dr. R. Sydney Marsden (medical officer of health), Mr. William Dawson (chief inspector of nuisances), and Mr. Brattan, etc. The parties concerned in the arbitration were the corporation, who were represented by Mr. Collingwood Hope (instructed by Mr. A. Gill, town clerk); Miss Meacock, owner of six of the houses, for whom Mr. A. G. Steel (instructed by Messrs. Oliver, Jones, Billson and Co., Liverpool), appeared; and Messrs. Peter Walker and Sons, of Warrington and Burton, Brewers, whose interests were watched by Mr. John Rutherford (instructed by Messrs. Miller, Peel, Hughes and Co., Liverpool).—Mr. A. G. Steel intimated that Miss Meacock had sold the beer-house and four of the cottages included in the property required and situated at the corner of Meacock and Egerton streets, and the purchasers were Messrs. Peter Walker and Sons, who were separately represented.—Mr. Hope here took objection to Mr. Rutherford's "locus standi," because Messrs. Walker's interest in the property only dated from the beginning of the present year, after the notice to treat had been given; but the objection was over-ruled.—The arbitrator then proceeded with a number of those interested to inspect the property.—Upon the arbitrator's return, Mr. Hope stated that though the property was at present divided, it all came within the same class from the standpoint upon which it was viewed by the corporation, and the 10s. per yard which the corporation offered for the land was a fair price for the whole of the property. In answer to Mr. Rutherford, he said that the beer-house was also insanitary, and therefore came under the same category as the rest of the property.—Mr. Rutherford: I say it doesn't! continuing he said that the gross assessment of the beer-house and four cottages amounted to £61, and £700 had been paid by his clients for the property in May last, when the conveyance was made. Mr. Collingwood Hope then called a number of witnesses.—Dr. Sydney Marsden, medical officer of health for the borough, said that in May, 1895, he presented to the Health Committee of the Town

Council, an official representation under part I. of "The Housing of the Working Classes Act, 1890," which embraced the two areas afterwards included in the Egerton Street Improvement Scheme. The property was all more or less insanitary, and unfit for human habitation.

At the enquiries before the Local Government Board Inspectors held in Birkenhead in December, 1895, and March, 1896, he gave evidence, and eventually the whole property was included in the Egerton Street Improvement Scheme, which was confirmed by the "Local Government Board's Provisional Orders Confirmation (Housing of the Working Classes) Act, 1896.

With regard to the property at present under consideration, belonging to Miss Susan Meacock, he was of opinion that it should be treated as property of the 3rd class, mentioned in section 21 of the principal Act, and said that "the houses and premises are unfit, and not reasonably capable of being made fit for human habitation," and he thought that the compensation payable should be "the value of the land and the materials of the buildings thereon."

As regards numbers 1 and 3 Meacock street, and 34 Egerton street, his reasons for arriving at these conclusions were as follows:—

"The walls, roofs and chimnies of the main building are in very bad order, the mortar and brickwork being perished. There is no rainwater spouting to the rear roofs, and the chimnies are in a dangerous condition.

Owing to the perished state of the roofs and walls as described, the walls of all the bedrooms are very wet and damp and the wall paper is hanging in strips from them, and the rooms are dangerous to the health of the people occupying them.

There are no proper means of drainage to the premises, the waste pipe of the scullery sink of No. 3 discharging on to the surface of the common court.

The beer-cellar under the front part of the premises is undrained, and the surface is in bad order and cannot be kept properly clean.

The cellar under the kitchen of No. 1 is bricked up, but the occupier stated that it was full of filth and otherwise objectionable.

The pan of the water closet in the court is broken, the drain is stopped, there is no door to the closet and the floor is in bad order. The walls of the water closet and ashpit are in a delapidated condition and there is no roofing to the ashpit.

The yard or court space at the back of the houses is altogether too confined and lacking in air space, and no rearrangement of it could be made to give anything approaching to a proper allowance of air space to the premises; the buildings are altogether too thickly crowded on the amount of ground."

The same general description applies to the other houses contained in this block of property, and I am prepared to give full details and my reasons for arriving at these conclusions.

At the Local Government Board enquiry into this matter, held on the 31st December 1895, I gave the following evidence, which I adhere to and repeat. I stated as follows:—

"That I considered nothing short of what I had recommended (the pulling down of this property) would be satisfactory, as nothing could be done to render the property habitable. The death rate within the prescribed area was 60·3 as against 19·8 for the whole of the Borough; the deaths were more than three to one within this area as against the rest of the Borough. This was the average for a period of ten years. The zymotic death rate also for a period of ten years in the same area was 8·7 as against 3·1 in the town. The total number of houses on the site was 101 and 5 lock-up shops. The number of residents varied; on December 30th, 1895, there were 186 as against 179 a month before. The people were about the lowest class in the town; only Mersey Place was inhabited by what might be called

legitimate artizans. Some of the courts were little better than colonies of women and children. I did not think there was any necessity for the Corporation taking upon itself the obligation to build new houses; there was ample accommodation for the population which would be displaced within 220 yards. Yesterday (the 30th December, 1896) there were 44 unoccupied houses within that distance which might easily be rendered habitable at slight expense, and I anticipated that owners of adjoining property would put it into suitable condition. Some of the owners I knew were waiting the results of this scheme to put their property in good condition. Some of it was then back property, but when the Road and Improvement Committee made the new street from Tunnel Road to Chester Street it would become front property."

In reply to Mr. Lees I said pulling down the houses in Mersey Place would open up Connor's Court and improve it at the expense of other property. Mersey Place was totally unfit for habitation; the death rate there was 41·4 as against 19·8 in the rest of the Borough, and the zymotic death rate 12·1 as against 3·1 in the rest of the Borough. The Court was narrow, ill-ventilated, and lacking in sanitary conveniences. It was not a fact that these houses had been included in the scheme simply for the purpose of making the suggested road; I condemned the houses on sanitary grounds, and the proposal to make a road through was one suggested afterwards by the Borough Surveyor.

In reply to Mr. Hosking I said nothing could be done to improve the property in Tunnel Road. The death rate there was 120·8 per 1000 as against 19·8 for the rest of the Borough. It was an open space, but the death rate showed that the houses must be in a fearful condition. The marine store at the corner of Tunnel Road and Meacock Street was delapidated.

Cross-examined, Dr. Marsden, in reply to the Arbitrator, said he did not think that the fact of the public house being at the corner of the streets made its sanitary condition materially better as there was no proper through ventilation. As regards the

death rate of Meacock Street (and all the property in it was of a similar kind) he might say that at the time of the original representation the average death rate for the ten years previously was 53·3 per 1000 as against 19·8 for the whole Borough, and the zymotic death rate 6·6 as against 3·1 for the whole Borough.

Mr. William Dawson, Assoc. San. Inst., and Chief Inspector of Nuisances, said he was a surveyor by profession. He gave corroborative evidence as to the condition of the property described by the Medical Officer of Health, and agreed with his general conclusions. He valued the land at 10s. per yard.

Mr. Charles Brownridge, Borough Engineer, said as a whole the property was bad, it was practically perished, it was bad sanitarily, and was generally imperfect and unfit for habitation. Nothing short of re-building would make the houses fit for habitation. The area of the land was 590 square yards, and he estimated the value of the land at 10s. per yard. and this he considered a good price for it, in fact he might say that was the value put upon it for re-sale after the suggested improvements had been carried out. During the five years he had occupied his present position he had bought for the Corporation numerous properties in and about Birkenhead. From his experience he considered £50 a fair price for the materials on the ground. Further interrogated, Mr. Brownridge said he did not attach any enhanced value to the property by reason of its being a licensed house. Five hundred and nine yards at 10s. per yard amounted to £305. The six houses owned by Miss Meacock were worth £85. Mr. Steel: Do I understand that it is the intention of the Corporation to build cottage property upon the site of these delapidated cottages? Mr. Brownridge answered that the Corporation had not yet come to a decision in the matter, but under the order they were forced to build cottages for 90 people. The length of the whole frontage in Meacock Street was about 148 feet.

Mr. Alderman E. P. Smith also thought 10s. per yard a very big price for the land. The property was in a shocking condition;

it could scarcely be worse. He had collected the rents of the houses 25 years ago, and the property was in nearly as bad a condition then as now. He was not aware that there was a mortgage of £1,500 on this property.

Mr. Brattan, architect and surveyor, said he had had forty years' experience of valuing in Birkenhead; he agreed that the valuation of the Borough Surveyor was a fair one.

Police Superintendent Bennett deposed that during the last 14 or 15 years five licenses had lapsed in the neighbourhood of the Globe Vaults, and previous to that time two licenses had lapsed. Since he remembered the neighbourhood the population had decreased considerably. There was only about half a barrel of beer a week sold at this house; there were never many people in the place, and frequently when he had visited it there had been no one there. He considered half a barrel would be the amount the Globe Inn would sell per week. This concluded the case for the Corporation, and witnesses were called on behalf of the respective property owners.

Mr. W. E. Mills, of the firm of Messrs Mills and Fletcher, surveyors and valuers, said with regard to the land on which the six cottages in Meacock Street stood, in his opinion it was not cottage land at all. It was outside that category altogether, because it was too narrow to build cottages on under the Corporation's bye-laws. Considering the uses to which it could be put for manufacturing or mercantile purposes, or as a team owner's or contractor's yard it was excellently situated for such purposes, and as such he valued the land at from 30s. to 40s. a yard. With respect to the material, the bricks, estimated at 142,080, were worth £85 4s. 11d.; they were good hard red bricks, better bricks than were made now-a-days. By Mr. Rutherford: The beer house and four cottages were capable of being repaired. Capitalised on a 25 years' purchase, he put Messrs. Walker's property at £1,133 7s. 9d. In answer to Mr. Hope witness said five cottages and the public house used one yard, and while it was not desirable that people in the public house and the cottages should use the same convenience, he

would not condemn it as insanitary. Asked as to how he arrived at the value of Messrs. Walker's property, witness said he took the liquor consumed at five barrels a week. Five barrels at 2½d. per pint worked out to 3,600 pence, allow for waste and what was called "long pull," 25 per cent. (900 pence), reducing it to 2,700 pence, which meant £11 5s., or £585 per annum. A tenant for that class of house would be willing to pay 7½ per cent. of his gross takings, viz., about £44 a year.

Mr. Edmund Kirby, architect and surveyor, estimated the 160,000 bricks in Miss Meacock's houses to be worth £80. They were very superior bricks made in old fashioned times when bricks were taken more care of than now, and they were really valuable for use in re-constructions. The value of the old materials on the property he put at £85 1s. The land on which the property was situate was in a part of the town which was developing commercially into an important centre. Having a very shallow depth it might be considered all as group land without any waste, and with frontages to three streets. It also possessed a value in important rights of light, which dominated and kept down any buildings on the adjoining lands. A prospective value lay in the property's close proximity to the Town Station, which had a very increasing business. Sites with an extensive area for trade purposes were getting restricted in the busy part of the town. It was fair that the owner should have any advantage accruing from these facts, and he did not think the property should be parted with under 30s. a square yard. Messrs. Walker's public house and cottage adjoining could be made fit for habitation by partial re-construction. He estimated the gross takings of the house in proper order at £15 per week, and as this was a tied house he reckoned the rent as four weeks' takings, which gave £60 as the rental. He took off ten per cent. for repairs and leakages, and reckoning the purchase at 30 years, which was the ordinary figure taken in this part of England as a fair number of years for public house valuation, this amounted to £1,620, from which he deducted half a year's rental for reconstruction or rebuilding that might occur. Taking it that there were 107 yards of land to be built upon, £4 per yard would be ample for all contingencies to partially recon-

struct the premises, which amounted to £420, while for fittings a further sum of £50 should be deducted. The total deductions amounted to £505, which subtracted from £1,620 left £1,115, which he considered the value of the premises of Messrs. Walker.

Mr. Ellis, secretary to Messrs. P. Walker and Sons, said the average weekly sale at the public house from December to May was 5½ barrels, and 8s. per barrel was profit to the brewers. All the beer was sold at 2½d. per pint. Mr. Jones, Messrs. Walker's Birkenhead agent, said Mr. Corkish the manager had complained of loss of trade on account of the people leaving the adjoining houses, but he had never complained that the house was rapidly losing money week by week. This concluded the evidence, and the arbitrator said he should consider the matter and lodge his award with the Local Government Board. Mr. Collingwood Hope again pointed out that the transaction between Miss Meacock and Messrs. Walker and Sons had taken place since the property was scheduled, and submitted that the Corporation ought not to be placed in a worse position either through costs or anything else from this sale. Mr. Askwith said he quite followed that. Mr. Rutherford said there were not two persons appearing there for one owner; the owners were perfectly independent. There was nothing in any of the Acts to prevent anything like a transfer of different rights to different people. This would not swell the compensation.

The Arbitrator's Award, dated 1st July, 1898, was subsequently received by the Town Clerk, the amounts allowed by him for the different properties being as follows, viz:—

27 and 29 Tunnel Road, 9, 11, 13, and 15 Meacock Street ...	£234	0	0
1, 3, 5, and 7 Meacock Street, 34, 36, and 40 Egerton Street (including the public house) ...	556	0	0
The costs awarded by the Arbitrator to the parties claiming	£31	10	0
Total	£821	10	0

Thus it will be seen a considerable amount of work in Sanitary administration and improvements was accomplished during the year, and the results I think must be satisfactory to the Health Committee.

I am, Gentlemen,

Your obedient servant,

R. SYDNEY MARSDEN,

MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,

TOWN HALL,

10th APRIL, 1899.

THE INFECTIOUS DISEASES HOSPITAL,

FLAYBRICK HILL.

Report for the Year 1898.

HOSPITAL VISITING SUB-COMMITTEE.

Mr. Alderman William Getley, J.P., Chairman.

" " Thomas Shaw.

" " Joseph Perrin.

" " James Woodcock.

" Councillor H. L. Pearson, M.R.C.S.

MATRON:

Miss Emily Yeomans.

THE INFECTIOUS DISEASES HOSPITAL.

The hospital consists of four isolation wards, containing twelve beds and two cots in each ward, and two observation wards containing four beds and two cots each. The total number of available beds is therefore 56 and 12 cots in addition.

During a large part of the year, however, these proved quite unequal to the wants of the town, and patients had repeatedly to be refused admission. I consider that another ward ought to be provided, but this would entail considerable enlargement of the Administration Block, the accommodation of which is now insufficient to meet the requirements of the staff, either for nurses or servants.

The floor space allowed for each bed in the hospital is 156 superficial feet, and the air space per bed 2,028 cubic feet.

The Nursing Staff consists of five charge nurses and ten assistant nurses.

The total number of patients treated in in the hospital during the year (Jan. 1st to Dec. 31st) was 405, an increase of 120 on the number treated last year. Out of this number 29 died, giving a death rate of 7·1 per cent, and when the serious nature of the disease is considered, and the exhausted condition in which many of the cases are received, it is satisfactory to find that the death rate is so low.

The following table gives a summary of the cases treated in the hospital during the year 1898, along with the results obtained.

Diseases		M.	F.	Recovered		Died	
				M.	F.	M.	F.
Scarlatina	remaining ..	20	16	20	16	..	..
	admitted ..	132	117	126	111	6	6
Typhoid Fever	remaining ..	5	3	4	3	1	..
	admitted ..	51	49	46	42	5	7
Diphtheria	,, ..	5	6	3	4	2	2
Tonsillitis	,, ..	..	1	..	1	..	..
Total		213	192	199	177	14	15

The case of Tonsillitis was sent in as Diphtheria.

APPENDIX.

REPORT to the Health Committee on the Storing and Collection of House Refuse.

TABLE I.—Deaths Registered in the County Borough of Birkenhead during the year ending December 31st, 1898, classified according to age.

TABLE II.—Weekly Register of Deaths in the County Borough of Birkenhead for the year ending December 31st, 1898.

TABLE III.—Weekly Condensed Register of Deaths for 1898.

TABLE IV.—Weekly Condensed Register of Meteorological Results for 1898.

TABLE V.—Lunar Monthly Table of Deaths from all causes and Zymotic Diseases in 1898, with the rate per 1000 per annum.

TABLE VI.—Street Register of Deaths—1898.

A. Cleveland, Claughton, Grange, and Argyle Wards.
B. Oxton, Egerton, Clifton, and Mersey Wards.
C. Bebington Ward.

SUPPLEMENT TO TABLE VI.—Return of Deaths in Birkenhead Union Hospital and Workhouse, registered in 1898.

TABLE VII.—"Description" of those who died during 1898.

SKETCH MAP of the Borough of Birkenhead, showing the Boundaries of the Wards, &c.

Report on the Storing and Collection of House Refuse.

To the Chairman and Members of the
Health Committee.

Gentlemen,

In accordance with your instructions of the 15th November, 1898, I now beg to hand you my report on the expediency of changing the present system of storing and collecting house refuse—and more particularly upon:—

(a)—The desirability or otherwise of removing all existing ashpits.

(b)—The exclusion of ashpits from plans of new property; and

(c)—What substitute (if any) might be made in place of the present ashpit system.

Before entering upon a consideration of the above questions, it seemed desirable that information bearing on these points should be gathered from the thirty-two other large towns in the country, so that you might have before you a complete statement showing what is done in these places, what is the relative expense, and what advantages (if any) accrue from the adoption of any particular method of refuse storage and removal.

With this object, I sent out to the Sanitary Department of each of the thirty-two large towns, the following questions, viz.:

1. Estimated Population.
2. Area of Borough.
3. No. of Dwelling Houses.
4. No. of Privy Middens.
5. No. of Ashpits.
6. No. of Ashbins.
7. If Ashbins are in use, what is their minimum size
8. Of what material are they constructed
9. What is the cost per Ashbin.
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner.
11. What is the annual cost of the "wear and tear" of the Ashbins.
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner.
13. How frequently are they emptied as regards:—
    (a) Privy Middens.
    (b) Ashpits.
    (c) Ashbins.
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made.
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime.
16. Is the Refuse collected in covered or open carts.
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts
18. What is the total annual cost of collecting and removing the Refuse.
19. What is the width of the back passages.

The replies to these have been carefully tabulated, and will be found at the end of this report.

It will be seen from these that only five towns (West Ham, Croydon, Brighton, Plymouth and Cardiff) have entirely done away with the Privy and Ashpit System, and adopted the Ashbin in its place. The majority of the towns having a mixed system, but there seems a disposition in many places to get rid of the Privy Midden.

In the following table I have classified the replies so as to show at a glance the Population; relative number of Privy Middens, Ashpits and Ashbins and the time when these are emptied; the total cost of refuse removal; the relative cost per 100,000 inhabitants in each town; and the average Death rate for the last ten years.

	Town.	Estimated Population.	Number of Privy midd'ns	Number of Ashpits	Number of Ash-bins.	When emptied.	Total cost of refuse removal.	Cost per 100,000 Inhabitants.	Death rate per 1000 during 10 years 1887-96.
							£	£	
SOUTH.	West Ham . .	273,000	nil	nil	41,293	Daytime	7,150	2,619	17·8
	Croydon	125,000	nil	nil	24,000	Daytime	6,500	5,200	14·5
	Brighton	122,310	nil	very few	20,000	Daytime	7,334	5,995	17·7
	Portsmouth	186,657	1 or 2	large number.	large number	Daytime	7,000	3,750	17·6
	Plymouth	99,136	nil	nil	11,000	Daytime	6,000	6,000	20·9
MIDLANDS.	Wolverhampton ..	88,051	520	6,394	3,131	Privies night others day	5,000	5,678	22·0
	Birmingham	510,343	..	5,624	86,400	Ashpits night Ashbins day	59,449	11,651	20·7
	Leicester	208,000	120	27,000	8,000	Privies night others day	18,140	8,721	18·7
	Nottingham	239,386	400	1,700	39,985	Night	18,000	7,519	19·0
	Derby	104,834	2,938	1,263	10,000	Privies night others day	9,164	8,741	17·6
LANCASHIRE DISTRICT.	Birkenhead	115,162	600	19,603	25	Night	4,233	3,675	19·9
	Liverpool	668,645	nil	70,000	900	Daytime	116,000	17,348	25·7
	Bolton	122,495	12,745	6,200	7,000	Night	11,773	9,611	22·4
	Manchester	541,296	22,990	743	53,318	Ashpits night others day	80,570	14,884	25·3
	Salford	216,000	..	12,835	12,573	Night	21,301	9,861	24·7
	Oldham	148,288	nil	10,400	2,000	Daytime	4,800	3,236	22·5
	Blackburn	133,228	4,000	3,877	11,915	Privies night others day	8,130	6,102	23·3
	Preston	116,356	5,600	400	12,074	Ditto	Not stated	..	25·1
	Burnley	101,000	nil	18,123	179	Daytime	2,400	2,376	21·1
YORKSHIRE.	Huddersfield	102,454	1,013	12,000	nil	Daytime	11,879	11,584	19·0
	Halifax	97,000	660	530	16,481	Privies night others day	7,250	7,474	19·7
	Bradford	233,737	32,900	23,900	334	Night	8,500	3,636	19·9
	Leeds	416,618	8,749	22,220	1,416	Privies night others day	20,195	4,847	20·
	Sheffield	356,478	..	..	nil	Night	27,580	7,736	21·5
EAST COAST.	Norwich	115,000	10,000	100	6,000	Night	6,000	5,217	19·1
	Hull	229,887	50,000	6,000		Daytime	9,913	4,312	20·0
	Sunderland	143,849	11,400	1,000	1,400	Privies & ashp's night others day	11,000	7,646	21·8
	Gateshead	103,777	12,000	6,000	nil	Ditto	12,000	11,563	19·9
	Newcastle-on-Tyne..	223,000	2,250	5,000	17,500	Ditto	15,000	6,726	21·0
SOUTH WEST.	Bristol	318,000	nil	?	106	Daytime	10,695	3,363	18·9
	Cardiff	177,770	nil	nil	nil	Not stated	16,000	9,000	19·0
	Swansea	101,700	nil	?	..	Night	Not stated	..	19·5

It will be noticed in the above Table that the average death rates seem to be dependent more upon the District than on anything related with method of refuse storage.

This table speaks for itself and requires no further comment.

The refuse when removed in the day time is mostly done in carts having some kind of covering, but when done at night privy and ashpit refuse is removed in open carts.

In most cases the work is carried out by the Corporations, and only in four cases, Birkenhead, Burnley, Halifax and Hull, is the work done by contract, although in several towns horses or carts, or both, are provided by the Sanitary Authority.

As regards the cost, this varies from £2376 per 100,000 inhabitants in Burnley, to £17348 per 100,000 inhabitants in Liverpool, a very wide difference. It is evident, therefore, that many circumstances must be taken into account in dealing with this item—distance and difficulties of cartage; access to convenient tips; nature of the refuse as influenced by locality; and removal during night will, as a rule, cost more proportionately than when done in the day time. Again, the frequency with which the receptacles are emptied will also bear materially on the cost.

In the following table I have classified the periods of emptying in different towns as follows:—

Number of towns in which	Daily.	2 or 3 times weekly.	Weekly.	Fort-nightly.	Monthly.	6-weekly.	Quarterly.	When required.	Periodically	With Notice.	Without Notice.
Privy Middens are Emptied	..	..	1	..	6	3	4	7	1	3	18
Ashpits are Emptied..	..	1	2	2	7	6	3	5	..	3	21
Ashbins are Emptied	..	8	19	1	1	..	..	..	..	..	24

Ashbins.—It will be seen that the size, material, and cost of the ashbins is very various; they are in the great majority of cases provided by the property owner, and only in few towns by the Sanitary Authority.

The cost of wear and tear falls generally upon the property owner and, therefore, cannot be given; but in one town, Halifax, where the cost is borne by the Sanitary Authority it is stated to be £540 per annum on 16481 ashbins, and in three other towns it is estimated to cost the following amounts, viz:—Norwich with 6000 bins, £750; Wolverhampton with 3131 bins (made from old petroleum casks cut in two), £156 10s. 0d.; and Liverpool, 900 bins cost £56 5s. 0d.

The above information does not appear to show any advantage of one system over another, and in considering the question as to the desirability of changing from our present system of storing and removing house refuse, stronger evidence will be required to convince me of the desirability of doing so in view of the great cost which such a change would necessarily involve.

The only other method of dealing with the refuse which is suggested, or which is practicable, is the substitution of ashbins for the present ashpit, and, personally, I see no advantage whatever, from a health point of view, which would be obtained from such a change. As to the desirability of abolishing the privy midden there can be no two opinions, and we are gradually and as rapidly as possible converting all privies into water closets and dry ashpits, and they will soon be entirely done away with in this Borough; but it is with respect to the ashpits that differences of opinion arise.

By Section 36 of the Public Health Act, 1875, every ashpit is required to be furnished with a proper door and covering, and if this is done so that the wet is kept out, and if the ashpits are not too large so as to allow of refuse storage for too long a time, I can see no objection on sanitary grounds to their use.

Of course it is absolutely impossible to prevent the ordinary quantities of animal and vegetable house garbage from being thrown into the ashpits however stringent rules you may make, and it has, therefore, to be considered from a practical point of

view. It is alleged that this garbage creates a dangerous nuisance and, therefore, all the existing ashpits should be abolished. When the ashpits are uncovered, allowing wet to get in, there is probably a good deal of truth in the statement, but I cannot see that such a danger exists in dry ashpits. Decomposition require light and *moisture* for it to be carried on at all rapidly, but in an ashpit provided with a proper door and covering both light and rain are excluded, and if any small amount of water is thrown in along with the garbage this would be rapidly absorbed by the dry ashes and thus reduce any nuisance from such a cause to a minimum. This we find in actual practice to be the case. What I would advise, therefore, is the covering in of all existing ashpits; the regular and more frequent emptying of ashpits by the Corporation without notice from the occupiers, and a strict supervision and cleansing of the surfaces of back passages, and wherever the latter are not properly paved that they should at once be so.

As regards ashbins I am not in favour of them, they necessitate the constant moving about of the refuse, a portion of which, in the process of emptying, is always dusted about the streets and blows into the faces of the passers by, thereby causing a most objectionable form of nuisance.

For the reasons above stated I cannot recommend the exclusion of ashpits from plans for new property.

I am, Gentlemen,

Your obedient servant,

R. SYDNEY MARSDEN,

Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,

TOWN HALL.

BOROUGH OF BIRKENHEAD.

Schedule of Replies and Information collected from the Chief Towns of the Kingdom as to the kind of receptacle in use and the removal of House Refuse, &c.

QUESTIONS.	LONDON (City.)	WEST HAM.	CROYDON.	BRIGHTON.
1. Estimated Population	See Census Returns	273,000	125,000	122,310
2. Area of Borough	6,721 acres	4,705 acres	9,014 acres	2,620 acres
3. No. of Dwelling Houses	27,827	41,293	24,000	19,543 in 1891
4. No. of Privy Middens		None	None, practically only w.c.'s in use, not a dozen privies in the place	None
5. No. of Ashpits		None	None	
6. No. of Ashbins		The Occupier is required, under a Local Act and Bye-law to provide a "moveable receptacle" and to place it outside twice a week in a convenient position for the dustmen	One to nearly every house, say about 24,000	Brick receptacles were formerly used for storage of ashes and house refuse, some of them being covered and some uncovered, but these have now been almost all removed and replaced by movable galvanized iron covered dust bins
7. If Ashbins are in use, what is the minimum size	Galvanized Skips in use, about 1,000 given to poor only		Sufficient to contain a fortnight's accumulation	
8. Of what material are they constructed..		All kinds of receptacles are provided—zinc tins, pails, boxes, buckets, &c.	Some of brick, some of wood, but many now of galvanized iron	
9. What is the cost per Ashbin			Various	
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Yes	Occupier	Property owner	Galvanized dust bins from 6/- to 12/- ea. By the Owner
11. What is the annual cost of the "wear and tear" of the Ashbins			Unknown, being borne entirely by owners	Doubtful
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner		Occupier	Property owner	By the Owner
13. How frequently are they emptied as regards:—				
(a) Privy Middens				
(b) Ashpits				
(c) Ashbins		Twice a week	Once in every 9 working days, once a week in some cases	Weekly as a rule, but special arrangements with large establishments
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made		Periodically without notice	Periodically without notice	Periodically and without notice
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime		Daytime	Daytime	Daytime
16. Is the Refuse collected in covered or open carts	Covered	Covered, some being vans with sliding tops, and others carts covered with tarpaulins	Open carts with tarpaulin covers	Covered vans specially constructed for tipping
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	Yes	Own horses and carts	Own men and carts, horses under contract	Horses and carters supplied by contract. Vans belong to Corporation. Dust men engaged by Corporation
18. What is the total annual cost of collecting and removing the Refuse ..	Apply to Engineer's Department	£7150 17/11 for year ending Lady day '98	About £6,500	£7334 10/- for 1897 and '98
19. What is the width of the back passages	Apply to Engineer's Department	Very few "back passages" exist at all, and are not used for public collection	There are very few back passages, most houses having side entrances giving access to dust bins	There are not many back passages and there is no rule as to their width

QUESTIONS.	PORTSMOUTH.	PLYMOUTH.	BRISTOL.	CARDIFF.
1. Estimated Population	186,657 (middle of 1898	99,136	318,000	177,770
2. Area of Borough	4,483 acres	2,417 acres	11,397 acres	8,351 acres
3. No. of Dwelling Houses	34,193	About 11,000	No record at present owing to extension of city boundaries	29,852
4. No. of Privy Middens	One or two on outskirts of town	None	Nil	
5. No. of Ashpits	Very large number	None		
6. No. of Ashbins	,, ,,	Not known as some have more than one	106	No Middens, Ashpits, or Ashbins, in the District.
7. If Ashbins are in use, what is their minimum size	Not laid down by S. A.	2 cubic feet as a rule. No standard size	4 ft. by 2 ft. 3 in. by 3 ft. 6 in.	
8. Of what material are they constructed..	Not laid down by S. A., usually zinc	Galvanized iron	Boiler plate	
9. What is the cost per Ashbin		8/- to 12/-	£3 to £7	
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Owner	Property owner	Sanitary Authority	
11. What is the annual cost of the "wear and tear" of the Ashbins		Not known	About 7/6 each	
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Owner	Property owner	By Sanitary Authority	
13. How frequently are they emptied as regards:—				
(a) Privy Middens				
(b) Ashpits	Twice a week			
(c) Ashbins	,, ,,	Twice and three times per week	Twice a week	
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Periodically	Emptied at above mentioned periods	Periodically without notice	
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime..	Daytime	Daytime	Daytime	
16. Is the Refuse collected in covered or open carts	Leather covers	Covered carts and wagons	Covered	In partially covered carts
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	By Sanitary Authorities, own horses and carts	All done by the Corporation	By Corporation horses and carts	By Corporation horses and carts
18. What is the total annual cost of collecting and removing the Refuse ..	House Refuse, £7,000. Street scavenging, £5,000	£6,000	Year ending Mar. 25, '98, £10,695	Wages amount to about £16,000 annually
19. What is the width of the back passages			(1) Where a back street exceeds 100 yards in length, 16 feet (2) Where it is less than 100 yards in length, 13 feet	

QUESTIONS.	SWANSEA.	WOLVERHAMPTON.	BIRMINGHAM.	NORWICH.
1. Estimated Population	101,700	88,051	510,343	115,000
2. Area of Borough	5,963 acres	3,525 acres	12,705 acres	7,558
3. No. of Dwelling Houses	18,686	18,844 (about)	About 105,000	22,000
4. No. of Privy Middens	None. There are, however, privies with privy pits attached which do not receive ashes, and these are being every year reduced in number by conversion into water closets	520	32,991 pan closets, 53,409 water closets	About 10,000
5. No. of Ashpits		6,394	5,624	About 100
6. No. of Ashbins	In a large portion of the Borough there are no ashbins, the ashes being put out in the street and collected daily by the Corporation Scavengers	3,131	Most of the pan closets and water closets are provided with ashtubs or ashpans We supply galvanized iron ashpans at 10/- each, with covers 2/6 extra, size 24 in. high, 22 in. diameter. Property owners provide wooden ashtubs in some cases	About 6,000 portable receptacles
7. If Ashbins are in use, what is their minimum size		Ashtubs—Petroleum casks cut in half and handles affixed		18 in. high and 18 in. in diameter circular in section with close fitting covers
8. Of what material are they constructed..		Oak		Galvanized iron
9. What is the cost per Ashbin		2/-		7/6
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Property owner	Property owner	Property owner	Property owner
11. What is the annual cost of the "wear and tear" of the Ashbins		About 1/-		About 2/6
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Property owner	Property owner	Property owner	Property owner
13. How frequently are they emptied as regards:—				Average about once in six weeks, many once a fortnight and once a month
(a) Privy Middens	None	When required		Monthly
(b) Ashpits	Weekly	Weekly, fortnightly, or monthly	When required	Once a week, many twice a week in centre of city
(c) Ashbins	Weekly	Weekly	Weekly	
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Without notice	Ashpits and ashtubs periodically without notice. Privy middens by request	Ashpits chiefly attended to without notice, although notice is required. Other places weekly	Without notice, but we receive many requests as it is inconvenient for many when we visit the neighbourhood
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime	At night	Privy middens at night, others day	Pan closets and ashpits are attended to during the night. Refuse from place provided with water closets is removed during the day	Privy middens at night, aspits and ashbins in day
16. Is the Refuse collected in covered or open carts	Open drums and carts	Open carts	For ashpits—box carts, pans and ashes—ordinary pan wagon, dry refuse—chiefly Glover's tip wagons covered with tarpaulin sheet	Open at night, covered for daywork
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	In part by Contract and in part by Sanitary Authority	Own men, carts, and horses	Own horses and carts	We contract for wagons and horses and supply own men to fill. The day wagons belong to Corporation
18. What is the total annual cost of collecting and removing the Refuse ..		About £5000 per annum	Annual expenditure including interest and repayment of loans £67,913 6/10; Annual income exclusive of rate £8,464 7/1; For year ending March 31st, 1898 £59,448 19/9	About £6,000
19. What is the width of the back passages	Some 6 feet and others 10 feet	Vary from 3 to 6 feet	We have no system of back passages of the kind which I believe is found in some Lancashire and other towns	Passages vary considerably; some 4 feet, some 7 feet, and a number 10 feet wide, which is the width now enforced

QUESTIONS.	LEICESTER.	NOTTINGHAM.	DERBY.	LIVERPOOL.
1. Estimated Population	208,000	239,386	104,834	668,645
2. Area of Borough	8,586 acres	10,935 acres	3,445 acres	13,236 exclusive of river
3. No. of Dwelling Houses	41,214	52,051	22,000 estimated	132,500 approximately
4. No. of Privy Middens	120 (about)	400	2,938	None
5. No. of Ashpits	27,000	1,700	1,263	About 70,000
6. No. of Ashbins	8,000	39,985	About 9,950 wooden boxes and a few galvanized iron	About 900
7. If Ashbins are in use, what is their minimum size	About 2 cubic feet	Ashtubs 2 ft. 6 in. by 1 ft. 6 in. of uniform pattern, prescribed and supplied by Health Department	Galvanized iron 4 ft. 3 in in circumference, 20 in. high, wooden boxes 2 ft. 6 in. by 2 ft. 6 in. by 1 ft. 6 in.	22 in. by 26 in.
8. Of what material are they constructed..	Galvanized iron	Half barrels, of oak	Galvanized iron	Galvanized iron
9. What is the cost per Ashbin	From 7 6 to 10/6, according to quality	4/- per tub, and 4/- per cover	5/-	12/-
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Property owner	Property owner	Property owner	Property owner at present
11. What is the annual cost of the "wear and tear" of the Ashbins			Cannot say	About 1/3
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Property owner	Property owner	Property owner	Property owner at present
13. How frequently are they emptied as regards:—				
(a) Privy Middens	When required	Average, once a quarter	When required. No record kept of times	See No. 4
(b) Ashpits	Monthly, oftener if required	,, ,,		About once monthly
(c) Ashbins	Weekly	Once daily to once weekly	Weekly or bi-weekly	Weekly
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Yes	Periodically for most part	Notice has to be given for privy middens and ashpits. Ashbins emptied without notice	Without notice
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime..	During day, except privy middens which are emptied at night	At night	Privy middens at night. Dry ashpits and ashbins in the daytime	Daytime
16. Is the Refuse collected in covered or open carts	Open carts	Open carts with tarpaulin covers	Both	Covered
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	Partly own carts, some by contract	By Corporation, except in one out-lying suburb	Own horses and carts	Corporation horses and carts
18. What is the total annual cost of collecting and removing the Refuse ..	£18,140	The total annual cost of collecting and disposing of above refuse and that also from 40,000 pail closets is about £18,000	March, 1898, £9,164	£116,000 approximately
19. What is the width of the back passages	The passages are about 3 feet in width, some few are 2 feet 6 in., others more. When the passages are between pairs of houses the width is usually 2 ft. 6 in.		About 3 feet	*Vide Bye-laws 5 to 9*

QUESTIONS.	BOLTON.	MANCHESTER.	SALFORD.	OLDHAM.
1. Estimated Population	122,495	541,296, estimated to middle of 1898	216,000	148,288
2. Area of Borough	2,361	12,788 acres	5,176 acres	4,729 acres
3. No. of Dwelling Houses	27,585	105,728	44,832	31,837
4. No. of Privy Middens	12,745	12,271 wet middens. Privies, 22,990		None
5. No. of Ashpits	6,200	743 dry middens. Pail closets, 76,863	12,835	10,400
6. No. of Ashbins	7,000 boxes and dry ashpits	53,318 ash boxes. Water closets, 32,201	12,573 ash barrels, including 400 of Dr. Quine's ashbins	2,000
7. If Ashbins are in use, what is their minimum size		2 ft. 6 in. long by 1 ft. 6 in. deep by 1 ft. 6 in. wide	Bins 3 ft. 6 in. by 1 ft. 6 in. by 1 ft. 6 in. Barrels 35 in. by 34 in. Boxes and barrels hold about the same quantity	Ashcans 22 in. deep outside, 19½ in. diameter inside, 21 in. deep inside
8. Of what material are they constructed..		Wood with iron handles at sides	Barrels of wood. Bins of iron	Twentys guage best iron well galvanized with flap top, hoop 1¼ by ⅛ in.
9. What is the cost per Ashbin		3/6 each	Barrels cost us 2/-, we charge 3/6 for them and bear cost of renewal. The price of bins we do not know	Ash cans, 5/6 each
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Property owner	Sanitary Authority	Property owner	Property owner
11. What is the annual cost of the "wear and tear" of the Ashbins			We cannot say	
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner			Barrels by Corporation. Bins by Property owner	Property owner
13. How frequently are they emptied as regards :—				
(a) Privy Middens	Every month	About every six or eight weeks	Twelve times a year	Once a month
(b) Ashpits	Every two or three weeks, according to size			
(c) Ashbins	From every day to seven days	At least once per week, in some cases twice	Fifty-two times a year	Once a week, some twice per week
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Without notice	Without notice, except in residential districts where the occupiers object to emptying unless we are sent for	Without notice	Without notice
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime	Privy ashpits at night and boxes night and day	Pail closets and ash boxes, summer months at night, winter months in day. Ashpits always at night	At night	During the daytime
16. Is the Refuse collected in covered or open carts	Covered	Pail closets and ash boxes, special covered vans. Ashpits, open carts	In open carts, except excreta which is collected in closed vans	Open carts
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	Corporation	By own staff and horses	Own horses, carts, and men	Own horses and carts
18. What is the total annual cost of collecting and removing the Refuse ..	Net cost, including scavenging streets, £11,773	Net cost, including collection of refuse from slaughter houses, emptying of closets, ashpits, &c., and disposing of the refuse for twelve months ending 31st March, 1898 £80,570 8/6	Cost of day scavenging for year 1898, £12,403. Cost of night scavenging for year 1898, £21,301	£4,800
19. What is the width of the back passages		Various		10 feet wide

QUESTIONS.	BURNLEY.	BLACKBURN.	PRESTON.	HUDDERSFIELD.
1. Estimated Population	101,000	133,228	116,356	102,454
2. Area of Borough	4,015 acres	6,974		11,852 acres
3. No. of Dwelling Houses	21,770	28,635	About 23,000	20,930 inhabited houses at census of 1891
4. No. of Privy Middens	None	4,000	About 5,000	1,013
5. No. of Ashpits	18,123	3,877	About 400	12,000
6. No. of Ashbins	179	11,915	About 12,074	Practically none
7. If Ashbins are in use, what is their minimum size	No standard size	2 ft. 6 in. by 2 ft.	Various sizes	
8. Of what material are they constructed ..	Mostly wood	Wood – Oak	Galvanized iron with lids	
9. What is the cost per Ashbin		3/6 each		
10. Are the provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Property owner	Property owner	Property owner	
11. What is the annual cost of the "wear and tear" of the Ashbins			Depends on tenant	
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Property owner	Property owner	Property owner	
13. How frequently are they emptied as regards :—				
(a) Privy Middens		Nine or ten weeks	When full	As required
(b) Ashpits	Every eight weeks, oftener if required	Five or six weeks	Do.	Do.
(c) Ashbins	Every week	Once a fortnight	At least every week	
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Without notice	Without notice	Middens and ashpits by request	Without notice
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime	Daytime	Privy middens, night. Ashpits and ashbins, day	Middens by night Others by day	Daytime
16. Is the Refuse collected in covered or open carts	Open carts	Open	Open carts	Covered carts
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	By contract	Own horses and carts	By Corporation	Our own horses and carts
18. What is the total annual cost of collecting and removing the Refuse ..	About £2,400	£8,130		1897, £11,879
19. What is the width of the back passages	About 12 feet wide	12 feet	12 feet	New property must have passages at side at least 3 ft. 6 in. wide or a back street

QUESTIONS.	HALIFAX.	BRADFORD.	LEEDS.	SHEFFIELD.
1. Estimated Population	97,000	233,737	416,618	356,478
2. Area of Borough	8,209 acres	10,776 acres	21,572 acres	19,651 acres
3. No. of Dwelling Houses	21,000	49,000	88,866	76,000
4. No. of Privy Middens	660	32,900	Wet ashpits 8,749 (exclusive of 830 pails)	Not known
5. No. of Ashpits	530 (dry)	23,900	Dry ashpits, 22,220	Not known
6. No. of Ashbins	16,481	334	1,416	No ashbins except for trade purposes
7. If Ashbins are in use, what is their minimum size	Various	2 ft. deep, 19 in. diameter, circular	4 cubic feet	For trade refuse no specific size
8. Of what material are they constructed..	Stone and brick	Galvanized iron	New ones galvanized iron. Others out of paraffin casks	Galvanized iron
9. What is the cost per Ashbin	Ashpits and ashbins are taken in one contract		12/6, galvanized iron. 4/6, wood	
10. Are they provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Sanitary Authority	Property owner	Property owner	Property owner
11. What is the annual cost of the "wear and tear" of the Ashbins	£540		Don't know	Not known
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Sanitary Authority	Property owner	Property owner	Property owner
13. How frequently are they emptied as regards :—				
(a) Privy Middens	Quarterly and oftener if required	Every six weeks	Time varies, according to size &c.	When full, about every three months
(b) Ashpits	Do. do.	Do.	Average every 30 days	Every six weeks on an average
(c) Ashbins	Ten days	Every Friday night	,, ,, 18 days	Trade refuse ashbins every week
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Without notice	We endeavour to empty periodically without notice but if a request is made it is immediately attended to	,, ,, 7 days Yes, except in a few stray cases of the wet ashpits in locked yards	Privy middens and ashpits have required notice, but we are now emptying on the block system
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime	Privy middens at night. Dry ashpits and ashbins in the daytime	At night	Privy middens at night. Others during day	Night
16. Is the Refuse collected in covered or open carts	Open carts at present	Midden and ashpit refuse in open carts. Ashbin refuse in covered carts	Open carts covered by a tarpaulin	Open carts
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	By contract	The Corporation took over this work in July last	Own horses now (almost entirely)	Own horses and carts. We hire some
18. What is the total annual cost of collecting and removing the Refuse ..	Contract amount £7250	£8,500	Estimate 1898'99 £24,835, less £4,640, net £20,195	£27,580
19. What is the width of the back passages		The back passages are wide enough to admit a horse and cart	Back streets behind through houses, now not less than 15 ft. exclusive of yards, formerly 12 feet	No back passages

QUESTIONS.	HULL.	SUNDERLAND.	GATESHEAD.	NEWCASTLE-upon-TYNE.
1. Estimated Population	229,887	143,849	103,777	223,000
2. Area of Borough	9,202	3,397 acres	3,231 acres	5,371 acres
3. No. of Dwelling Houses	56,861	About 21,300 (inhabited)	About 18,000	About 32,000
4. No. of Privy Middens	50,000	About 11,400 with open middens and 4,500 with roofed middens. In addition there are about 800 pan closets	About 12,000	About 2,250
5. No. of Ashpits	6,000	About 1,000 fixed receptacles for house refuse only	About 6,000	Ashpits with privies about 1500. Dry Ashpits about 5,000
6. No. of Ashbins		About 1,400		Privy pans about 5,400. Dry ashtubs about 17,500
7. If Ashbins are in use, what is their minimum size	Minimum about three cubic feet	Regulation size 2ft. by 1ft. 4in. by 1ft. 4in.	Cannot say	Dry ashtubs 16 in. high, 20 in. diameter. Privy pans 14 in. high, 16 in. diameter.
8. Of what material are they constructed ..	Wood, galvanized iron, zinc, &c.	Galvanized iron	Wood, tin, and iron	Dry ashtubs, wood. Privy pans, galvanized iron
9. What is the cost per Ashbin	Vary from 5/- upwards, according	About 7/6		Dry ashtubs, 3/6 ea. Privy pans, 4/- ea.
10. Are the provided in the first instance at the cost of the Sanitary Authority or the Property Owner	Property owner	Property owner	Property owner	Property owner
11. What is the annual cost of the "wear and tear" of the Ashbins	No data	On an average an ashbin lasts about three years	Cannot say	
12. Is the cost of the "wear and tear" of the Ashbins borne by the Authority or Property Owner	Property owner	Property owner	Property owner	Property owner
13. How frequently are they emptied as regards:—				
(a) Privy Middens	Once a week	Open privies every six weeks. Covered privy middens every three weeks	Once in five weeks	Once every four or six weeks
(b) Ashpits		Every few weeks		Ditto
(c) Ashbins		Twice or thrice a week	Twice a week	Dry ashtubs, twice; and privy pans three times per week
14. Are the Privy Middens, Ashpits, and Ashbins, emptied periodically without notice, or do you wait for requests for emptying to be made	Without notice. The Contractor is compelled by contract to clear all privies, ashpits, and ashbins, once a week; and in the summer they are disinfected by carbolic powder provided by the Corporation	Without notice	Without notice	Periodically
15. Are the Privy Middens, Ashpits, and Ashbins, emptied at night or during the daytime	Daytime, between the hours of 5-30 to 9 a.m.	Privy middens and ashpits at night, and the ashbins during the daytime	Ashpits during the night. Ashbins during the day	Privy middens, ashpits, and privy pans during the night. Dry ashtubs during the day
16. Is the Refuse collected in covered or open carts	Open carts, covered after collection with tarpaulin	The ashbins in covered patent tip vans; all other refuse in open carts	Open carts	Ashpits and privy pans in open carts. Dry ashtubs in covered carts
17. Is the work of collecting the Refuse carried out by Contract, or with your own horses and carts	By yearly contract. Corporation find carts	With our own horses and carts, and in addition a certain number of hired horses and carts are employed every day	By Corporation horses and carts	Partly own horses and carts and partly hired by the day
18. What is the total annual cost of collecting and removing the Refuse ..	£9,912 19/4	About £11,000	Total cost of cleaning £12,000	About £15,000
19. What is the width of the back passages	From 2 ft. 6 in. to 3 ft. 6 in.	Since 1867 the regulation width of all streets has been 18 ft., before that date the width varies		

TABLE 1.—Deaths Registered in the Borough of Birkenhead during the Year ending December 31st, 1898.

Class	Causes of Death	Cleveland, Claughton, Grange and Argyle Wards (Ages at Death; Sex M F; Total)	Oxton, Egerton, Clifton and Mersey Wards (Ages at Death; Sex M F; Total)	Bebington Ward (Ages at Death; Sex M F; Total)	Union Hospital (Ages at Death; Sex M F; Total)	Sum (Sex M F; Total)
	All Causes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Specified Causes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	(Classes.)					
I.—	Zymotic Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
II.—	Constitutional Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
III.—	Local Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IV.—	Developmental Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
V.—	Violent Deaths	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	(Orders.)					
I.—	1. Miasmatic Diseases	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2. Enthetic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
II.—	1. Dietetic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2. Parasitic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	3. Diathetic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	4. Tubercular	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
III.—	1. Diseases of Nervous System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2. Organs of Circulation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	3. Respiratory Organs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	4. Digestive Organs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	5. Urinary Organs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	6. Organs of Generation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	7. Organs of Locomotion	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	8. Integumentary System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IV.—	1. Developmental Diseases of Children	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2. Adults	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	3. Old People	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	4. Diseases of Nutrition	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
V.—	1. Accident or Negligence	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2. Homicide	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	3. Suicide	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	4. Violent Deaths not classed	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Causes not specified, or ill-defined	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE II.—Weekly Register of Deaths in the County Borough of Birkenhead for the Year ending December 31st, 1898.

CLEVELAND, CLAUGHTON, GRANGE AND ARGYLE WARDS.

Class.	Cause of Death.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.	Total for the Borough.
I.—	Small pox						1
	Chicken Pox	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Measles	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Scarlatina (Scarlet Fever)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Diphtheria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Quinsy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Membranous Croup	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Whooping Cough	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Typhus Fever	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Typhoid or Enteric Fever	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Simple Continued Fever	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Erysipelas	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Puerperal Fever	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Carbuncle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Influenza	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Dysentery	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Diarrhœa (Bowel Complaint)	[illegible]	[illegible]	[illegible]	[illegible]	85	122
	Cholera						
	Ague						
	Remittent Fever						
	Other Zymotic Diseases						5
	Syphilis						
	Stricture of Urethra						
	Hydrophobia						
	Glanders						
II.—	Privation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Inanition of Infancy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Purpura and Scurvy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Rickets	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Alcoholism—Delirium Tremens	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Thrush	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Worms &c.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Gout	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Dropsy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Anæmia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cancer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Noma (Cancrum Oris)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Mortification	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Abscess or Tumour	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Rheumatism	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Scrofula	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Tabes Mesenterica	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Phthisis (Consumption)	[illegible]	[illegible]	[illegible]	[illegible]	77	139
	Hæmoptysis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Hydrocephalus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
III.—	Cephalitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Myelitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Apoplexy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Paralysis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Insanity	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Chorea	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Epilepsy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Convulsions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Spinal Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Brain Disease (undistinguished)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Tetanus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pericarditis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Aneurism	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Angina Pectoris	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Embolism	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Rupture of Blood Vessel	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Heart Disease (undistinguished)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Laryngitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Laryngismus Stridulus	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Bronchitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pleurisy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pneumonia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Asthma	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Congestion of Lungs	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Disease of Lungs (undistinguished)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Stomatitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pharyngitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Gastritis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Enteritis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Peritonitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Ascites	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Perforation of Intestines (ulceratn.)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Hernia (Rupture)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Obstruction of Bowels	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Intussusception	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Stricture of Intestines	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Fistula	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Hæmatemesis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Stomach Diseases (undisting'hed)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pancreas Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Jaundice	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Hepatitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Lead Colic	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Liver Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cirrhosis of Liver	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Spleen Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Nephritis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Ischuria	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Bright's Disease (Nephria)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Diabetes	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Stone (Calculus)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cystitis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Bladder Disease (unclassed)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Addison's Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Kidney Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Ovarian Dropsy	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Uterus Disease &c.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Arthritis (Synovitis)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Joint and Bone Disease	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Pyæmia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Phlegmon	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Ulcer	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Skin Disease &c.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
IV.—	Premature Birth	[illegible]	[illegible]	[illegible]	[illegible]	34	58
	Cyanosis	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Spina Bifida	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cleft Palate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Other Malformations	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Teething	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Childbirth (see Puerperal Fever)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Old Age (Senile)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Premature Decay	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Atrophy and Debility	[illegible]	[illegible]	[illegible]	[illegible]	80	119
V.—	Fractures and Contusions	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Wounds (Gunshot, Cut, Stab)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Wounds from Needle	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Burns and Scalds	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Poison	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Drowning	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Suffocation	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Manslaughter	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Murder	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Strangulation (Hanging)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Other Violent Deaths (not classed)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Causes not specified, or ill-defined	6				6	10
	Males	144	118	203	141	606	[illegible]
	Females	121	137	167	161	586	[illegible]
	Total	265	255	370	302	1192	[illegible]

Note.—The weeks end January 7th, 14th, 21st, &c., the last week in the year includes two days extra.

TABLE II.—Weekly Register of Deaths in the County Borough of Birkenhead for the Year ending December 31st, 1898.

OXTON, EGERTON, CLIFTON AND MERSEY WARDS.

Class	Cause of Death	Year	Total for the Borough
I.—	Small pox	[illegible]	1
	Chicken Pox	17	30
	Measles	13	31
	Scarlatina (Scarlet Fever)	34	44
	Diphtheria	1	32
	Quinsy	4	7
	Membranous Croup		1
	Whooping Cough	6	36
	Typhus Fever		
	Typhoid or Enteric Fever	[illegible]	[illegible]
	Simple Continued Fever	[illegible]	[illegible]
	Erysipelas	[illegible]	[illegible]
	Puerperal Fever	[illegible]	[illegible]
	Carbuncle	[illegible]	[illegible]
	Influenza	[illegible]	[illegible]
	Dysentery	[illegible]	[illegible]
	Diarrhœa (Bowel Complaint)	35	122
	Cholera		
	Ague		
	Remittent Fever		
	Other Zymotic Diseases	2	5
	Syphilis	[illegible]	[illegible]
	Stricture of Urethra	[illegible]	[illegible]
	Hydrophobia	[illegible]	[illegible]
	Glanders	[illegible]	[illegible]
II.—	Privation	[illegible]	[illegible]
	Inanition of Infancy	[illegible]	[illegible]
	Purpura and Scurvy	[illegible]	[illegible]
	Rickets	[illegible]	[illegible]
	Alcoholism—Delirium Tremens	[illegible]	[illegible]
	Thrush	[illegible]	[illegible]
	Worms &c.	[illegible]	[illegible]
	Gout	[illegible]	[illegible]
	Dropsy	[illegible]	[illegible]
	Anæmia	[illegible]	[illegible]
	Cancer	[illegible]	[illegible]
	Noma (Cancrum Oris)	[illegible]	[illegible]
	Mortification	[illegible]	[illegible]
	Abscess or Tumour	[illegible]	[illegible]
	Rheumatism	[illegible]	[illegible]
	Scrofula	[illegible]	[illegible]
	Tabes Mesenterica	[illegible]	[illegible]
	Phthisis (Consumption)	35	139
	Hæmoptysis	[illegible]	[illegible]
	Hydrocephalus	[illegible]	[illegible]
III.—	Cephalitis	[illegible]	[illegible]
	Myelitis	[illegible]	[illegible]
	Apoplexy	[illegible]	[illegible]
	Paralysis	[illegible]	[illegible]
	Insanity	[illegible]	[illegible]
	Chorea	[illegible]	[illegible]
	Epilepsy	[illegible]	[illegible]
	Convulsions	[illegible]	[illegible]
	Spinal Disease	[illegible]	[illegible]
	Brain Disease (undistinguished)	[illegible]	[illegible]
	Tetanus	[illegible]	[illegible]
	Pericarditis	[illegible]	[illegible]
	Aneurism	[illegible]	[illegible]
	Angina Pectoris	[illegible]	[illegible]
	Embolism	[illegible]	[illegible]
	Rupture of Blood Vessel	[illegible]	[illegible]
	Heart Disease (undistinguished)	40	166
	Laryngitis	[illegible]	[illegible]
	Laryngismus Stridulus	[illegible]	[illegible]
	Bronchitis	48	168
	Pleurisy	[illegible]	[illegible]
	Pneumonia	[illegible]	[illegible]
	Asthma	[illegible]	[illegible]
	Congestion of Lungs	[illegible]	[illegible]
	Disease of Lungs (undistinguished)	[illegible]	[illegible]
	Stomatitis	[illegible]	[illegible]
	Pharyngitis	[illegible]	[illegible]
	Gastritis	[illegible]	[illegible]
	Enteritis	[illegible]	[illegible]
	Peritonitis	[illegible]	[illegible]
	Ascites	[illegible]	[illegible]
	Perforation of Intestines (ulceration)	[illegible]	[illegible]
	Hernia (Rupture)	[illegible]	[illegible]
	Obstruction of Bowels	[illegible]	[illegible]
	Intussusception	[illegible]	[illegible]
	Stricture of Intestines	[illegible]	[illegible]
	Fistula	[illegible]	[illegible]
	Hæmatemesis	[illegible]	[illegible]
	Stomach Diseases (undistinguished)	[illegible]	[illegible]
	Pancreas Disease	[illegible]	[illegible]
	Jaundice	[illegible]	[illegible]
	Hepatitis	[illegible]	[illegible]
	Lead Colic	[illegible]	[illegible]
	Liver Disease	[illegible]	[illegible]
	Cirrhosis of Liver	[illegible]	[illegible]
	Spleen Disease	[illegible]	[illegible]
	Nephritis	[illegible]	[illegible]
	Ischuria	[illegible]	[illegible]
	Bright's Disease (Nephria)	[illegible]	[illegible]
	Diabetes	[illegible]	[illegible]
	Stone (Calculus)	[illegible]	[illegible]
	Cystitis	[illegible]	[illegible]
	Bladder Disease (unclassed)	[illegible]	[illegible]
	Addison's Disease	[illegible]	[illegible]
	Kidney Disease	[illegible]	[illegible]
	Ovarian Dropsy	[illegible]	[illegible]
	Uterus Disease &c.	[illegible]	[illegible]
	Arthritis (Synovitis)	[illegible]	[illegible]
	Joint and Bone Disease	[illegible]	[illegible]
	Pyæmia	[illegible]	[illegible]
	Phlegmon	[illegible]	[illegible]
	Ulcer	[illegible]	[illegible]
	Skin Disease &c.	[illegible]	[illegible]
IV.—	Premature Birth	22	58
	Cyanosis	[illegible]	[illegible]
	Spina Bifida	[illegible]	[illegible]
	Cleft Palate	[illegible]	[illegible]
	Other Malformations	[illegible]	[illegible]
	Teething	[illegible]	[illegible]
	Childbirth (see Puerperal Fever)	[illegible]	[illegible]
	Old Age (Senile)	[illegible]	[illegible]
	Premature Decay	[illegible]	[illegible]
	Atrophy and Debility	[illegible]	[illegible]
V.—	Fractures and Contusions	[illegible]	[illegible]
	Wounds (Gunshot, Cut, Stab)	[illegible]	[illegible]
	Wounds from Needle	[illegible]	[illegible]
	Burns and Scalds	[illegible]	[illegible]
	Poison	[illegible]	[illegible]
	Drowning	[illegible]	[illegible]
	Suffocation	[illegible]	[illegible]
	Manslaughter	[illegible]	[illegible]
	Murder	[illegible]	[illegible]
	Strangulation (Hanging)	[illegible]	[illegible]
	Other Violent Deaths (not classed)	[illegible]	[illegible]
	Causes not specified, or ill-defined	4	10
	Males	296	1003
	Females	302	977
	Total	598	1980

NOTE.—The weeks end January 7th, 14th, 21st, &c., the last week in the year includes two days extra.

TABLE II.—Weekly Register of Deaths in the County Borough of Birkenhead for the Year ending December 31st, 1898.

BEBINGTON WARDS.

CLASS.	CAUSE OF DEATH.	Weeks. 1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.	TOTAL FOR THE PERIODS.
I.—	Small pox						1
	Chicken Pox						30
	Measles						31
	Scarlatina (Scarlet Fever)				1	1	44
	Diphtheria						
	Quinsy						12
	Membranous Croup						1
	Whooping Cough						1
	Typhus Fever						36
	Typhoid or Enteric Fever						
	Simple Continued Fever						3
	Erysipelas						3
	Puerperal Fever						1
	Carbuncle						14
	Influenza						
	Dysentery						122
	Diarrhœa (Bowel Complaint)						
	Cholera						
	Ague						
	Remittent Fever						
	Other Zymotic Diseases						5
	Syphilis						
	Stricture of Urethra						
	Hydrophobia						
	Glanders						
II.—	Privation						1
	Inanition of Infancy						11
	Purpura and Scurvy						1
	Rickets						1
	Alcoholism—Delirium Tremens						7
	Thrush						
	Worms &c.						1
	Gout						3
	Dropsy						3
	Anæmia						3
	Cancer						48
	Noma (Cancrum Oris)						1
	Mortification						3
	Abscess or Tumour						23
	Rheumatism	1	1			1	10
	Scrofula						
	Tabes Mesenterica						22
	Phthisis (Consumption)	1				1	119
	Hæmoptysis						2
	Hydrocephalus						23
III.—	Cephalitis						1
	Myelitis						
	Apoplexy						42
	Paralysis	1	1			1	15
	Insanity						1
	Chorea						
	Epilepsy						7
	Convulsions						59
	Spinal Disease						1
	Brain Disease (undistinguished)						28
	Tetanus						1
	Pericarditis						1
	Aneurism						1
	Angina Pectoris						
	Embolism						
	Rupture of Blood Vessel						9
	Heart Disease (undistinguished)	1	1	1	1	4	139
	Laryngitis						7
	Laryngismus Stridulus						2
	Bronchitis						166
	Pleurisy		1	1		1	5
	Pneumonia	1	2			1	148
	Asthma						
	Congestion of Lungs						21
	Disease of Lungs (undistinguished)						4
	Stomatitis						
	Pharyngitis						1
	Gastritis						10
	Enteritis						159
	Peritonitis						11
	Ascites						1
	Perforation of Intestines (ulcerat.)						2
	Hernia (Rupture)						3
	Obstruction of Bowels						3
	Intussusception						5
	Stricture of Intestines						2
	Fistula						
	Hæmatemesis						3
	Stomach Diseases (undistinguished)						
	Pancreas Disease						2
	Jaundice						6
	Hepatitis						3
	Lead Colic						
	Liver Disease						7
	Cirrhosis of Liver						17
	Spleen Disease						1
	Nephritis						19
	Ischuria						
	Bright's Disease (Nephria)	1	1			1	9
	Diabetes						3
	Stone (Calculus)						2
	Cystitis	1				1	16
	Bladder Disease (unclassed)						
	Addison's Disease						
	Kidney Disease						4
	Ovarian Dropsy						
	Uterus Disease &c.						1
	Arthritis (Synovitis)						2
	Joint and Bone Disease						1
	Pyæmia						1
	Phlegmon						2
	Ulcer						
	Skin Disease &c.						6
IV.—	Premature Birth	1					7
	Cyanosis	1	1			2	18
	Spina Bifida						
	Cleft Palate						4
	Other Malformations						2
	Teething						4
	Childbirth (see Puerperal Fever)						28
	Old Age (Senile)						3
	Premature Decay	1	1			2	10
	Atrophy and Debility						
V.—	Fractures and Contusions						119
	Wounds (Gunshot, Cut, Stab)						15
	Wounds from Needle						2
	Burns and Scalds						
	Poison						5
	Drowning						4
	Suffocation						6
	Manslaughter						12
	Murder						
	Strangulation (Hanging)						1
	Other Violent Deaths (not classed)						1
	Causes not specified, or ill-defined						1
							10
	Males	5	6	1	1	10	1003
	Females	1	2	3	1	7	957
	Total	6	8	4	2	17	1960

NOTE.—The weeks end January 7th, 14th, 21st, &c., the last week in the year includes two days extra.

TABLE II.—Weekly Register of Deaths in the County Borough of Birkenhead for the Year ending December 31st, 1898.

CLASS.	CAUSE OF DEATH.	UNION HOSPITAL. Weeks. 1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Year.	TOTAL FOR THE PROVINCE.
I.—	Small pox						
	Chicken Pox						1
	Measles						30
	Scarlatina (Scarlet Fever)						81
	Diphtheria						46
	Quinsy						
	Membranous Croup						12
	Whooping Cough						7
	Typhus Fever						1
	Typhoid or Enteric Fever			1 1	2 1 1 1 1 3	5	30
	Simple Continued Fever						
	Erysipelas						3
	Puerperal Fever	1				1	8
	Carbuncle						2
	Influenza						14
	Dysentery						
	Diarrhœa (Bowel Complaint)		1	1	1	2	122
	Cholera						
	Ague						
	Remittent Fever						
	Other Zymotic Diseases						
	Syphilis	1	1	2	1	3	3
	Stricture of Urethra						
	Hydrophobia						
	Glanders						
II.—	Privation						1
	Inanition of Infancy						11
	Purpura and Scurvy						1
	Rickets						1
	Alcoholism—Delirium Tremens			1	1	1	7
	Thrush						
	Worms &c.						
	Gout						1
	Dropsy						3
	Anæmia						3
	Cancer	2 1 1	1	3	1 1 1 2 4	10	48
	Noma (Gangrena Oris)						1
	Mortification				1 1	1	3
	Abscess or Tumour	2	1		1 1 1 3	6	21
	Rheumatism						10
	Scrofula						
	Tabes Mesenterica						21
	Phthisis (Consumption)	2 1 1 1 1 2 9	1 2 3	1 2 1 2 1 1	5 1 1 5	26	139
	Hæmoptysis						2
	Hydrocephalus				1 1	1	23
III.—	Cephalitis						1
	Myelitis						
	Apoplexy	1 1 1 1 4	1 1 1 1 1	1 1 1 1 1	3 1 1	9	62
	Paralysis	1 1 2	1 1	1 1	1 1	4	25
	Insanity						1
	Chorea						
	Epilepsy	1 1	1			2	7
	Convulsions						39
	Spinal Disease				1 1	1	3
	Brain Disease (undistinguished)	1 1 2			1 1	2	38
	Tetanus						1
	Pericarditis						3
	Aneurism			1	1	1	1
	Angina Pectoris						2
	Embolism						9
	Rupture of Blood Vessel						
	Heart Disease (undistinguished)	1 1 4	1 1 2 2 1 1 1 2 11	1 1 1	3 1 2 1 1	5	139
	Laryngitis						7
	Laryngismus Stridulus						2
	Bronchitis	1 1 1 1 5	1 1 2	1 1	2 1 1 1	2 11	466
	Pleurisy					1 1	5
	Pneumonia	1 1 3	1 1 1 2	2 2 1 1	4	10	168
	Asthma						2
	Congestion of Lungs	1 1	1	1		1	21
	Disease of Lungs (undistinguished)				1 1	1	4
	Stomatitis						2
	Pharyngitis						1
	Gastritis			1	1	1	10
	Enteritis			1	2 1 1	4	129
	Peritonitis					1	2
	Ascites						2
	Perforation of Intestines (ulcerat.)						3
	Hernia (Rupture)	1 1				1	7
	Obstruction of Bowels						0
	Intussusception						2
	Stricture of Intestines						
	Fistula						
	Hæmatemesis						3
	Stomach Diseases (undisting'hed)						
	Pancreas Disease				1 1	2	6
	Jaundice						7
	Hepatitis						
	Lead Colic						
	Liver Disease						7
	Cirrhosis of Liver				1 1	17	
	Spleen Disease						1
	Nephritis	1	1	2	1 1	1	19
	Icterus						
	Bright's Disease (Nephrit.)						
	Diabetes						9
	Stone (Calculus)						1
	Cystitis	1				1	7
	Bladder Disease (unclassed)	1		1 1		2	10
	Addison's Disease						
	Kidney Disease						
	Ovarian Dropsy			1	1	1	4
	Uterus Disease &c.						
	Arthritis (Synovitis)				1 1	1	2
	Joint and Bone Disease						1
	Pyæmia						1
	Phlegmon	1				1	1
	Ulcer						3
	Skin Disease &c.	1	1			1	6
IV.—	Premature Birth					1	1
	Cyanosis						
	Spina Bifida						38
	Cleft Palate						
	Other Malformations						4
	Teething						1
	Childbirth (see Puerperal Fever)						4
	Old Age (Senilis)						28
	Premature Decay	1 1 1 1 1 1 2 8	1 1 1	1 3	1 1 2 1	1 1	5
	Atrophy and Debility				1 1 2 1 1 7	20	95
V.—	Fractures and Contusions		1 1 2 4	1 1	2	6	119
	Wounds (Gunshot, Cut, Stab)						
	Wounds from Needle						15
	Burns and Scalds						7
	Poison						
	Drowning						5
	Suffocation						4
	Manslaughter			1			6
	Murder				1	1	12
	Strangulation (Hanging)						1
	Other Violent Deaths (not classed)						1
Causes not specified, or ill-defined							1
	Males	3 1 2 1 2 2 2 2 1 2 1 2 2 23	1 2 2 1 1 2 1 1 2 2 1 1 2 2 1 20	4 1 3 1 1 2 3 1 2 2 3 1 2 2 23	2 1 3 2 2 3 1 3 2 3 2 1 25	91	1003
	Females	1 3 1 3 1 3 3 5 1 1 25	1 2 1 1 1 3 2 2 5 2 2 23	1 2 1 1 2 1 3 5 1 17	1 1 2 2 4 3 4 1 2 17	82	977
	Total	3 1 2 4 3 5 5 5 4 5 6 3 3 48	1 1 4 3 1 1 2 3 8 3 3 7 4 3 43	5 2 2 3 2 2 3 1 3 6 6 2 3 40	3 1 3 3 2 4 4 1 6 6 4 2 3 42	173	2080

NOTE.—The weeks end January 7th, 14th, 21st, &c., the last week in the year includes two days extra.

TABLE III.—Weekly Condensed Register of Deaths for 1898.

	CAUSES OF DEATH.	Weeks. 1	2	3	4	5	6	7	8	9	10	11	12	13	1st Qr.	Weeks. 14	15	16	17	18	19	20	21	22	23	24	25	26	2nd Qr.	Weeks. 27	28	29	30	31	32	33	34	35	36	37	38	39	3rd Qr.	Weeks. 40	41	42	43	44	45	46	47	48	49	50	51	52	4th Qr.	YEAR.
Borough of Birkenhead.	All Causes	34	28	22	29	42	43	38	38	37	37	41	40	48	477	38	38	39	32	31	30	29	37	33	32	35	35	26	435	20	31	42	50	42	50	49	59	46	48	52	46	46	581	38	33	38	43	29	43	35	30	45	45	34	30	44	487	1980
	Specified Causes	32	28	22	28	42	41	37	38	36	37	41	40	48	470	38	38	39	32	31	30	29	37	33	32	35	35	26	435	20	31	41	50	41	50	49	59	46	48	52	46	46	579	38	33	37	43	29	43	35	30	45	45	34	30	44	486	1970
	I.—Zymotic Diseases ..	2	4	4	5	8	8	7	10	3	7	3	9	7	77	5	4	6	2	3	4	6	2	4	3	3	5	..	47	..	2	16	19	8	16	9	21	12	19	6	7	11	146	1	3	4	5	6	1	6	..	8	4	3	4	..	45	315
	II.—Constitutional Diseases..	4	5	6	4	4	5	5	4	3	7	8	7	11	73	5	6	7	4	4	6	4	8	6	7	9	4	7	77	7	6	4	7	2	7	10	5	6	7	7	6	3	77	6	4	6	6	3	8	2	7	5	8	5	5	4	69	296
	III.—Local Diseases	19	8	6	14	20	20	20	17	18	21	24	16	26	229	22	18	20	20	18	18	15	19	17	17	15	18	13	230	10	13	16	19	23	17	23	28	16	15	31	19	18	248	22	22	16	24	18	29	22	18	26	27	19	17	31	291	998
	IV.—Developmental Diseases	5	9	4	3	10	7	4	7	10	1	5	7	4	76	6	9	6	5	5	2	1	7	6	2	7	7	6	69	3	10	4	4	8	9	6	5	9	7	7	14	12	98	8	2	11	6	2	4	3	5	5	6	7	4	8	71	314
	V.—Violent Deaths	2	2	2	2	..	1	1	..	2	1	1	1	..	15	..	1	..	1	1	..	3	1	..	3	1	1	..	12	..	..	1	1	..	1	1	..	3	..	1	..	2	10	1	2	..	2	..	1	2	..	1	..	..	..	1	10	47
Cleveland, Claughton, Grange and Argyle Wards.	All Causes	24	22	14	16	16	23	24	19	17	21	21	18	30	265	28	22	24	20	24	19	18	19	16	15	13	21	16	255	12	19	24	32	27	35	35	39	25	31	33	29	29	370	25	25	21	27	17	28	21	20	28	26	15	19	30	302	1192
	Specified Causes	23	22	14	15	16	21	23	19	16	21	21	18	30	259	28	22	24	20	24	19	18	19	16	15	13	21	16	255	12	19	24	32	27	35	35	39	25	31	33	29	29	370	25	25	21	27	17	28	21	20	28	26	15	19	30	302	1186
	I.—Zymotic Diseases	1	2	3	4	..	3	2	3	..	2	2	3	2	27	3	3	4	1	2	4	4	1	2	2	1	2	..	29	..	2	9	13	6	12	5	15	5	16	3	4	7	97	1	2	1	3	5	..	4	..	5	2	2	1	..	26	179
	II.—Constitutional Diseases..	2	3	4	..	2	1	4	2	2	3	3	2	8	36	4	3	4	3	2	4	2	4	2	4	2	4	5	43	6	2	4	3	2	3	8	2	1	5	4	4	2	46	3	2	2	4	..	7	..	5	1	5	2	3	4	41	163
	III.—Local Diseases	15	6	3	8	9	10	13	12	10	16	11	11	16	140	18	9	13	13	15	9	10	8	8	9	8	12	10	142	4	9	8	14	14	12	17	17	11	5	21	13	12	157	14	18	11	15	10	17	14	13	20	19	8	11	22	192	631
	IV.—Developmental Diseases	4	9	3	1	5	6	3	2	3	..	4	1	4	45	3	7	3	2	4	2	..	5	4	..	2	3	1	36	2	6	3	2	5	7	4	5	7	5	4	8	6	64	6	2	7	3	2	3	2	2	2	..	3	4	4	40	185
	V.—Violent Deaths	1	2	1	2	..	1	1	..	1	..	1	1	..	11	..	..	..	1	1	..	2	1	..	..	..	..	..	5	..	..	..	..	..	1	1	..	1	..	1	..	2	6	1	1	..	2	..	1	1	..	..	..	..	..	..	6	28
Oxton, Egerton, Clifton and Mersey Wards.	All Causes	7	5	4	9	22	14	11	14	16	11	12	19	15	159	8	12	12	11	6	9	7	10	12	13	15	10	6	131	3	10	16	14	13	12	11	19	18	11	12	15	13	167	10	7	14	13	10	11	10	9	11	13	14	8	11	141	598
	Specified Causes	6	5	4	9	22	14	11	14	16	11	12	19	15	158	8	12	12	11	6	9	7	10	12	13	15	10	6	131	3	10	15	14	12	12	11	19	18	11	12	15	13	165	10	7	13	13	10	11	10	9	11	13	14	8	11	140	594
	I.—Zymotic Diseases.. ..	1	2	1	1	8	5	4	7	3	5	1	6	5	49	2	1	1	1	1	..	2	..	2	1	1	3	..	15	..	..	7	6	2	4	3	6	6	2	2	3	4	45	..	1	3	1	1	1	1	..	2	2	1	2	..	15	124
	II.—Constitutional Diseases..	..	1	..	3	1	3	1	1	1	3	3	5	1	23	..	2	3	1	2	2	2	1	3	3	4	..	..	23	..	2	..	2	..	4	1	3	4	1	2	2	1	22	2	2	3	1	1	1	1	2	3	1	..	1	..	18	86
	III.—Local Diseases	3	2	2	4	9	6	5	2	5	2	8	4	9	61	3	7	6	6	3	7	2	7	7	4	6	3	1	62	3	4	6	4	7	2	5	10	5	6	6	4	3	65	6	3	4	8	8	8	7	4	3	7	10	5	7	80	268
	IV.—Developmental Diseases	1	..	..	1	4	..	1	4	6	..	..	4	..	21	3	1	2	3	..	..	..	2	..	2	3	3	5	24	..	4	1	2	3	2	2	..	1	2	2	6	5	30	2	..	3	3	..	1	..	3	2	3	3	..	3	23	98
	V.—Violent Deaths	1	..	1	..	..	..	..	..	1	1	..	..	..	4	..	1		..	..	..	1	..	..	3	1	1	..	7	..	..	1	..	..	..	..	..	2	..	..	..	..	3	..	1	..	..	..	..	1	..	1	..	..	..	1	4	18
Bebington Ward.	All Causes	..	..	1	..	1	1	..	..	..	..	2	..	..	5	1	..	..	..	..	..	1	..	2	1	..	..	1	6	..	..	..	1	..	1	..	..	..	..	1	..	1	4	..	..	..	..	..	..	..	..	..	1	1	..	2	17
	Specified Causes	..	..	1	..	1	1	..	..	..	..	2	..	..	5	1	..	..	..	..	..	1	..	2	1	..	..	1	6	..	..	..	1	..	1	..	..	..	..	1	..	1	4	..	..	..	..	..	..	..	..	..	1	1	..	2	17
	I.—Zymotic Diseases.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
	II.—Constitutional Diseases..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	III.—Local Diseases	..	..	..	..	1	..	..	..	..	..	1	..	..	2	1	..	..	..	..	..	..	..	1	1	..	..	..	3	..	..	..	1	..	1	..	..	..	..	1	..	1	4	..	..	..	..	..	..	..	..	..	1	..	..	1	10
	IV.—Developmental Diseases	..	..	1	..	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	1	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
	V.—Violent Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Union Hospital.	All Causes	3	1	3	4	3	5	3	5	4	5	6	3	3	48	1	4	3	1	1	2	3	8	3	3	7	4	3	43	5	2	2	3	2	2	3	1	3	6	6	2	3	40	3	1	3	3	2	4	4	1	6	6	4	2	3	42	173
	Specified Causes	3	1	3	4	3	5	3	5	4	5	6	3	3	48	1	4	3	1	1	2	3	8	3	3	7	4	3	43	5	2	2	3	2	2	3	1	3	6	6	2	3	40	3	1	3	3	2	4	4	1	6	6	4	2	3	42	173
	I.—Zymotic Diseases.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	1	..	..	3	..	..	..	..	..	..	1	..	1	1	1	..	..	4	..	..	..	1	..	..	1	..	1	..	..	..	3	11
	II.—Constitutional Diseases..	2	1	2	1	1	1	..	1	..	1	1	..	2	13	1	1	..	..	..	..	..	3	1	..	3	..	1	10	1	2	..	2	..	..	1	..	1	1	1	..	..	9	1	..	1	1	2	..	1	..	1	2	3	1	..	13	45
	III.—Local Diseases	1	..	1	2	1	4	2	3	3	3	4	1	1	26	..	2	1	1	..	2	3	4	1	3	1	3	2	23	3	..	2	..	2	2	1	1	..	4	3	2	2	22	2	1	1	1	..	4	1	1	3	1	..	1	2	18	89
	IV.—Developmental Diseases	..	..	..	1	1	..	..	1	1	1	1	2	..	8	..	1	1	..	1	..	..	..	1	..	2	1	..	7	1	..	..	..	..	..	..	..	1	..	1	..	1	4	..	..	1	..	..	..	1	..	1	3	1	..	1	8	27
	V.—Violent Deaths	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1

TABLE IV.—Weekly Condensed Register of Meteorological Results for 1898.

		Weeks. 1	2	3	4	5	6	7	8	9	10	11	12	13	1st Qr.	14	15	16	17	18	19	20	21	22	23	24	25	26	2nd Qr.
Meteorological Results.	Percentage of time Wind blew from S., S.W., W., and N.W.	55·95	81·54	72·61	95·83	89·88	100·00	82·14	54·76	80·95	49·40	99·40	47·61	42·26	73·21	84·52	83·92	23·80	29·16	58·92	86·90	39·28	39·28	98·21	54·76	56·54	97·61	77·97	63·91
	Mean Hourly Horizontal Motion of the Air in Miles	14·50	10·90	21·12	14·24	32·31	24·28	26·52	17·08	25·40	8·81	20·14	20·42	12·95	19·12	19·07	17·68	13·57	12·65	15·61	17·27	15·64	12·90	22·74	10·61	11·67	17·55	11·80	15·28
	Average Percentage of Cloud to Clear Sky	77·14	67·14	80·00	95·71	77·14	74·28	77·14	42·85	54·28	48·57	67·14	52·85	75·71	68·45	54·28	62·85	55·71	75·71	61·42	72·85	72·85	48·57	88·57	47·14	64·28	74·28	72·85	65·48
	Rainfall in Inches	1·140	0·062	0·129	0·703	0·420	0·370	0·285	0·300	0·151	0·282	0·067	0·114	4·085	0·195	1·104	0·022	0·690	0·289	1·000	1·332	1·030	1·268	0·095	0·100	0·521	1·553	0·537	9·106
	Rainfall as to Hours	39·1	3·9	6·1	3·3	21·9	10·6	17·3	7·3	13·4	3·3	8·5	3·2	4·1	145·0	6·3	21·7	2·2	19·7	11·6	28·7	22·3	8·9	33·9	4·7	3·4	34·1	15·6	213·1
	Thermometer Means	43·90	42·84	46·51	45·60	44·47	43·40	42·78	36·78	39·70	38·07	45·12	39·52	41·58	42·32	48·28	48·07	47·17	47·58	50·54	47·65	48·80	53·34	50·87	58·55	56·73	57·28	57·65	51·73
	Mean of Evaporation	41·82	41·08	43·25	43·27	41·48	40·94	40·17	34·54	37·21	35·18	42·11	37·08	38·85	39·84	43·61	43·80	43·95	44·14	46·94	45·25	45·57	49·40	47·21	54·44	52·72	54·07	53·77	48·06
	Barometer Means, reduced to Sea Level and to 32° Fahrenheit	29·926	30·365	30·313	30·458	29·910	30·027	30·022	29·710	29·869	30·123	29·921	30·090	29·659	30·025	29·955	29·740	29·986	29·768	29·749	29·673	30·034	29·870	29·784	30·034	30·248	29·777	29·973	29·891

		Weeks. 27	28	29	30	31	32	33	34	35	36	37	38	39	3rd Qr.	Weeks. 40	41	42	43	44	45	46	47	48	49	50	51	52	4th Qr.	Year.
Meteorological Results.	Percentage of time Wind blew from S., S.W., W., and N.W.	87·50	91·07	57·14	86·30	99·40	74·40	32·14	69·64	97·61	45·83	67·85	61·90	40·47	70·09	6·54	24·00	26·19	80·95	97·61	15·47	54·76	25·80	66·66	87·50	92·26	72·61	64·28	54·84
	Mean Hourly Horizontal Motion of the Air in Miles	19·78	16·01	15·90	12·21	19·37	14·80	9·22	15·41	23·41	10·48	14·64	14·22	15·11	15·42	11·70	13·17	17·01	15·91	25·48	15·44	8·47	17·94	22·27	23·38	19·78	8·57	21·27	16·92
	Average Percentage of Cloud to Clear Sky	60·00	45·71	70·00	51·42	81·42	64·28	61·28	51·42	75·71	52·85	68·57	54·28	61·42	61·64	82·85	62·85	75·71	74·28	77·14	62·85	65·71	74·28	77·14	77·14	84·28	54·28	77·14	72·30
	Rainfall in Inches	0·000	0·000	0·085	0·037	1·456	0·521	0·246	1·208	0·206	0·159	0·429	0·113	0·693	5·353	0·014	0·275	1·890	0·922	0·814	0·386	0·664	0·743	0·137	0·362	0·322	0·221	1·010	7·120
	Rainfall as to Hours	0·0	0·0	2·2	1·0	27·2	8·4	1·9	23·6	11·9	5·1	4·6	6·9	15·9	108·7	1·1	12·0	20·2	31·0	24·8	6·4	5·2	31·7	5·3	16·4	8·9	8·2	30·2	211·4
	Thermometer Means	57·45	59·20	60·74	57·75	59·52	62·28	62·88	62·38	58·44	65·92	63·07	53·87	51·34	59·60	55·17	48·58	52·52	52·90	49·82	48·55	48·97	39·07	44·01	56·38	49·44	41·85	43·11	48·02
	Mean of Evaporation	53·35	55·24	57·10	53·27	55·88	57·17	59·95	58·12	54·91	62·14	58·48	50·70	48·22	55·73	52·72	46·20	50·55	49·97	46·50	46·99	46·88	37·43	41·54	47·47	47·37	39·06	40·75	45·68
	Barometer Means, reduced to Sea Level and to 32° Fahrenheit	30·221	30·186	29·956	30·093	29·917	29·941	30·189	30·005	30·058	30·085	30·090	30·077	29·929	30·047	30·098	29·852	29·331	29·856	29·587	29·983	30·210	29·474	29·886	29·819	30·228	30·281	29·962	29·847

The Meteorological Results are for the 52 weeks ending December 31st, 1898.

Mean reading of the Barometer for 25 years reduced to the Sea level, and to 32° Fahrenheit=29·919 inches.

TABLE V.

LUNAR MONTHLY TABLE OF DEATHS from all Causes and Zymotic Diseases, with the Rates per 1,000 inhabitants per annum.

1898	No. of Deaths from All Causes.	Annual Rate per 1,000 Living.	No. of Deaths from Zymotic Diseases.	Annual Rate per 1,000 Living.
1st Month ending January 28th	113	12·9	15	1·7
2nd ,, ,, February 25th	161	18·5	33	3·7
3rd ,, ,, March 25th	155	17·8	22	2·5
4th ,, ,, April 22nd	163	18·7	22	2·5
5th ,, ,, May 20th	122	14·0	15	1·7
6th ,, ,, June 17th	137	15·7	12	1·3
7th ,, ,, July 15th	112	12.8	7	0·8
8th ,, ,, August 12th	184	21·1	59	6·7
9th ,, ,, September 9th	202	23·2	61	7·0
10th ,, ,, October 7th	182	20·9	25	2·8
11th ,, ,, November 4th	143	16·4	18	2·0
12th ,, ,, December 2nd	153	17·5	15	1.7
13th ,, (plus 2 days extra) ending Dec. 31st ..	153	16·4	11	1·1
Total	1980	17·50	315	2·78

TABLE VI.

STREET REGISTER OF DEATHS.

A.—Cleveland, Claughton, Grange and Argyle Wards.

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Abbey street	2	1	Burton street	2	0
Abbot street	8	0	Caldy place	1	0
Adelphi street	1	0	Cambridge place ..	5	2
Albert terrace	1	0	Camden street	8	0
Albion street	8	1	Campbell terrace ..	1	0
Albion terrace	1	0	Camperdown street ..	7	3
Alfred road	4	1	Canning street	2	0
Alma street	1	0	Cannon hill	1	0
Anglesey terrace ..	2	0	Cardigan street.. ..	1	0
Argyle street	1	0	Carlisle street	1	0
Arthur street	3	1	Caroline place	1	0
Aspinall street	6	2	Carnforth street ..	8	3
Austin street	2	1	Carpenter's row ..	4	2
Back Arthur street ..	2	1	Castle buildings ..	2	0
Back Havelock street ..	1	1	Cathcart street	6	1
Back Myrtle street ..	1	0	Cavendish road.. ..	1	0
Back Oliver street ..	1	0	Cavendish street ..	1	1
Back Price street ..	1	0	Challis street	2	0
Back St. Anne street ..	11	2	Charles street	1	0
Balls road	3	0	Charlesville	1	0
Balls road east	4	0	Chester street	11	4
Banning street	1	0	Christchurch road ..	2	0
Barton street	3	0	Church street	5	0
Barnston street.. ..	1	0	Clarendon street ..	6	0
Beckwith street.. ..	38	5	Claughton firs	1	0
Belmont..	4	0	Claughton road.. ..	15	1
Bennett's hill	1	0	Clayton street	2	0
Bentinck street.. ..	8	2	Cleveland avenue ..	3	1
Berry street	7	1	Cleveland street ..	16	1
Bertha street	3	0	Club row	2	0
Bessborough road ..	1	0	Clwyd street	2	0
Birkenhead & Wirral			Collingwood street ..	1	0
Children's Hospital ..	1	1	Conway street	14	1
Blackpool street ..	2	0	Cook street	2	0
Borough Hospital ..	7	0	Corfu street	1	0
Borough road	22	2	Corporation road ..	5	0
Brassey street	1	0	Cottage street	4	0
Brattan road	2	0	Craven place	2	0
Bray street . ..	3	1	Craven street	7	1
Briardale road	5	0	Crown street	6	0
Bridge street	5	0	Cumberland place ..	1	0
Bright street	4	2	Cyprus street	1	1
Brimstage street ..	1	0	Dacre street	7	0
Brook place	6	2	Dale street	1	1
Brook square	1	0	Davies street	4	0
Brook street	46	6	Derby street	1	0
Brunswick avenue ..	1	0	Devonshire place ..	1	0

TABLE VI.—*Continued.*

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Devonshire road ..	1	0	Hemingford terrace ..	1	0
Dock (Clover's yard) ..	1	0	Henry street	5	0
Dover street	7	0	Henthorne street ..	1	0
Duke street	4	0	Herbert place	1	0
Duncan street	2	0	Hilton street	2	0
Eagle court	2	1	Hind street	2	0
Eastbourne road ..	1	0	Hope street	5	1
Eastham street	4	2	Horatio street	1	0
Edgar street	3	0	Howard street	1	0
Egerton Dock	1	0	Hughes' buildings ..	2	0
Egerton street	3	0	Infectious Diseases		
Eldon place	3	0	Hospital	1	1
Eldon street	4	1	Ivy street	7	0
Elgin street .. .	2	0	Jackson street	3	0
Elizabeth place ..	1	0	James street	2	0
Elizabeth street ..	1	0	Keightley street ..	2	1
Elm street	1	0	Kendal street	2	0
Eton place	1	0	Kent place	2	0
Euston grove	3	0	Kinmel street	2	0
Exmouth street ..	5	0	Knox street	2	1
Field street	7	2	Laird street	2	1
Flamank street	6	1	Lansdowne road ..	2	1
Flint street	6	1	Leicester street ..	8	1
Florence street	1	0	Leicester terrace ..	2	1
Fore street	5	1	Leta street	8	2
Fox street	5	1	Livingstone street ..	2	0
Frederick street ..	4	2	Lord street	5	0
Freeman street	1	0	Lowther street	6	3
Garfield place	1	0	Lydia terrace	1	0
Garnet street	5	0	Maddock street	4	1
George street	2	1	Marion grove	1	0
Gladstone street ..	5	2	Marion street	9	2
Glover street	4	0	Market street	11	1
Gomer street	4	0	Market street (court) ..	2	0
Grace street	1	0	Marlborough grove ..	1	0
Grace terrace	1	0	Marshall place	1	0
Grange mount	1	0	Mather road	2	0
Grange place	2	0	Meacock street	1	0
Grange road	8	0	Meadow street	2	0
Grange road west ..	5	0	Menai street	1	0
Greenfield street ..	2	0	Mersey place	1	0
Grosvenor road.. ..	4	0	Merton place	1	0
Halcyon road	3	0	Midland street	9	3
Hamilton square	5	1	Milton street	1	0
Hamilton street ..	3	0	Mona street	1	0
Hamilton view	2	0	Moon street	2	2
Hampton street ..	1	1	Mornington street ..	3	0
Harper's court	1	0	Morpeth buildings ..	4	0
Harriet street	3	0	Morpeth Dock	1	0
Heather brow	1	0	Mount grove	2	1

TABLE VI.—*Continued.*

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Munster street	1	0	Ross terrace	1	1
Myrtle court	4	0	Rowland street	4	2
Myrtle street	4	0	Rushton's court ..	1	0
Napier street	1	0	Russell place	2	0
Nelson street	4	0	Russell street	2	0
Neptune street	3	1	St. Anne's balcony ..	2	1
Neston street	3	0	St. Anne street.. ..	32	2
Newton street	1	0	St. Mary's gate.. ..	4	1
Oak bank	2	0	St. Mary's street ..	2	0
Oakfield view	3	0	Salisbury street.. ..	1	0
Oak street	6	0	Sandford street	1	0
Old Bidston road ..	10	0	Saxon street	1	1
Oliver lane	1	0	School place	1	0
Oliver place	2	0	Scott's court	1	1
Oliver street	19	4	Shaw's terrace	1	0
Orderly avenue ..	1	0	Shore road	1	0
Orderly home	1	0	Shrewsbury rd. north ..	2	0
Orderly place	1	1	Sidney street	1	0
Orderly residence ..	5	1	Simpson street	2	1
Oxton road	6	0	Slatey road	2	1
Parkfield avenue ..	19	0	Somerville street ..	2	0
Parkfield place	2	1	Stafford street	2	0
Park road east	2	0	Stanley court	2	1
Park road south ..	2	0	Stanley road	2	0
Park road west.. ..	2	0	Station road	1	1
Park street	10	1	S.S. Branksome Hall ..	1	0
Paterson street.. ..	10	2	Stewart street	1	0
Payson street	13	0	Stoke street	5	2
Penrith street	1	0	Sun street	5	1
Pensby street	4	1	Sussex street	4	1
Pleasant street	2	0	Taylor's buildings ..	5	1
Pool street	3	2	Taylor street	1	0
Price street	30	6	Thomas street	18	1
Princes ter., Balls rd. ..	1	0	Tory place	1	0
Priory court	2	2	Tranmere vale terrace..	1	1
Priory street	3	1	Trinity street	1	0
Prospect place	2	0	Tunnel road	1	0
Quarry bank place ..	3	1	Upper Beckwith street..	5	0
Queen's buildings ..	30	7	Upton road	4	1
Queensbury street ..	7	2	Vernon place	1	0
Ravenscroft road ..	1	0	Vicar's court	2	0
Reedville	1	0	Vincent street	2	0
Rhyl street	4	2	Vine street	7	0
Richmond cottages ..	4	0	Vittoria street	6	3
Richmond terrace ..	1	0	Vittoria Wharf (cottage)	2	1
Ridley street	1	0	Vulcan street ..	5	2
Rimmer's court ..	1	0	Walton street	2	1
River Mersey	1	0	Warwick street	5	2
Robert street	2	0	Waterloo place	2	0
Rose street	5	1	Watson street	10	2

TABLE VI.—*Continued.*

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Wellesley street ..	3	0	William street	8	4
Wesley street	1	0	Wilson street	2	0
Westbourne road ..	8	1	Wilton street	3	2
Westminster road ..	3	1	Windsor street	2	0
White street	5	1	Woodchurch road ..	5	0
Wilbraham terrace ..	2	1	Wood street	7	0
Wilkinson street ..	13	3	Woodville road	7	2

TABLE VI.—*Continued.*

B.—Oxton, Egerton, Clifton and Mersey Wards.

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Adelaide road	1	0	Ebenezer street.. ..	4	2
Albert place	3	2	Egerton Park	2	0
Alison street	2	1	Eldon road	1	0
Allerton grove	2	0	Elm road	1	0
Allerton road	3	0	Fairfield road	3	0
Apple grove	4	0	Fairview road	4	0
Argyle street south ..	3	0	Farm road	9	3
Ash road	1	0	Fountain street.. ..	8	0
Back Portland street ..	6	1	Frodsham street ..	2	0
Beach view ..	1	1	Garner's place	1	0
Beaconsfield road ..	6	3	Gladstone road.. ..	2	0
Bebington road.. ..	1	1	Green lane	3	0
Bedford place	2	0	Green lawn	3	0
Bedford road	3	0	Greenway road	8	2
Beech road	1	1	Grenville road	1	0
Bennett's hill	1	0	Grosvenor street ..	5	0
Beresford road	1	0	Grove road	5	1
Bidston road	6	1	Hampden street ..	5	0
Birch road	1	0	Hatherley street ..	2	1
Blucher street	7	1	Hawthorne cottages ..	1	0
Bold street	3	2	Hazel road	4	1
Booth street	1	1	Heath bank road ..	2	0
Borough road	11	0	Heathfield road ..	1	0
Brougham street ..	9	3	Helmingham road ..	2	1
Brunswick street ..	4	0	Hinderton road.. ..	2	2
Burton terrace	1	0	Holborn hill	1	0
Buxton road	1	0	Holly bank road .	1	1
Caerwys grove	1	0	Holme lane	1	1
Carlton road	1	0	Holt hill..	5	1
Cedar street	1	0	Holt hill convent ..	3	0
Chapel place	2	0	Holt hill terrace ..	1	0
Chatham road	5	1	Holt road	1	1
Church place	2	0	Holt terrace	1	0
Church road	7	0	Hope terrace	1	0
Church terrace.. ..	4	1	Howson street	2	1
Circular road	1	0	Hughes' cottages ..	2	1
Clarence road	1	0	Ingestre road	1	0
Clifton road	1	0	Kellett's place	2	0
Cobden place	3	0	Kingsdown street ..	1	1
Cobden street	9	2	Kingsland road.. ..	3	0
Combermere terrace ..	3	1	Kingsmead road ..	3	0
Comet street	3	0	Larch road	8	1
Dee street	1	0	Laurel road	2	1
Derby road	1	0	Leighton road	1	0
Dingle road	2	0	Lilly street	2	1
Downham road.. ..	2	0	Liversidge road ..	2	0
Earl street	8	0	Livingstone road ..	3	0

TABLE VI.—*Continued.*

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Lorne road	2	0	Rodney street	17	3
Lowwood road	1	0	Roseberry grove ..	3	3
Lunar street	7	2	Rose cottages	1	0
Maple street	1	0	Rose mount .. .	1	1
Marquis street	1	0	Roslyn street	7	1
Meadow lane	4	2	Russell road	9	2
Meadow place	1	1	St. Paul's place.. ..	2	1
Medway road	5	3	St. Paul's road	6	1
Mellor road	2	0	Sea bank cottages ..	1	0
Mersey road	9	0	Seymour street.. ..	3	1
Meteor street	2	0	Shaw street	4	1
Mill bank cottages ..	1	0	Shrewsbury road ..	2	0
Mill street	5	0	Sidney buildings ..	2	0
Milton road	7	0	Sidney road	4	0
Mollington street ..	4	0	South bank	1	1
Moss grove	2	1	Spring villas	3	0
Mulberry road	1	1	Stanley street	6	2
Newburn's lane.. ..	3	1	Star street	5	3
New Chester road ..	11	3	Stewart's place.. ..	1	0
North road	1	0	Storeton road	1	1
Oak tree cottages ..	2	1	Stuart road	1	1
Oak tree place	7	1	Swans place	2	0
Oak tree terrace ..	1	0	Sycamore road	1	0
Old Chester road ..	22	2	Taylor's delph	2	0
Olive crescent	1	0	Temple road (pit on land off)..	1	0
Orchard road	1	1	The Woodlands ..	4	1
Palmerstone street ..	1	0	Thompson street ..	3	0
Peel street	21	4	Tower hill	2	1
Percy place	2	0	Tower road	3	0
Pitt street	8	3	Tudor road	1	0
Planet street	2	2	Union street	3	2
Poplar road	2	1	Victoria road	5	2
Prenton road east ..	1	0	Village road	4	0
Prenton road west ..	1	0	Village terrace	1	0
Price's lane	1	0	Walker place	2	0
Princes place	3	1	Walker street	3	0
Quarry bank	1	0	Warrington street ..	2	1
Queen's buildings ..	5	4	Wellington road ..	1	1
Queen's place	4	0	Wellington terrace ..	2	0
Raffles road	1	1	Well lane	1	0
Railway road	1	1	West view	4	2
Railway terrace.. ..	1	1	Wexford road	3	2
Randle street	5	1	Whetstone lane ..	3	2
Rhoden's place	1	1	Whitfield street.. ..	3	1
Ripon street	1	0	Whitford road	2	1
River Mersey	1	0	Willmer road	1	0
River Mersey (foreshore)	1	0	Willow bank road ..	1	0
Rockville street.. ..	1	0			

TABLE VI.—*Continued.*

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Willy street	2	0	Woodland avenue ..	1	0
Woburn place	2	0	Wycliffe street	4	1
Woodchurch lane ..	2	0	Zetland road	2	0
Woodchurch road ..	5	0			

TABLE VI.—*Continued.*

C.—Bebington Ward.

Streets.	Total from all Causes.	From Zymotic Diseases only.	Streets.	Total from all Causes.	From Zymotic Diseases only.
Bebington road ..	2	0	New Chester road ..	3	1
Dacre Hill	1	0	Old Chester road ..	1	0
Derby park	1	0	Rock lane east	1	0
Highfield south ..	1	0	Rock park	1	0
King street	3	0	Training ship "Conway"	1	0
Nelson road	1	0	Woodlands road ..	1	0

SUPPLEMENT TO TABLE VI.

RETURN OF DEATHS in Birkenhead Union Hospital and Workhouse during 1898.

Date.	Sex.	Age	Occupation &c.	Cause of Death.	Date and Address of Deceased when admitted.	
Jan. 4	M	36	Fireman	Phthisis ..	5-8-97	14 Brunswick street
5	M	40	Labourer ..	do. ..	22-5-97	32 White street
6	M	34	Joiner	Meningitis ..	5-1-98	96 Cobden street
6	M	64	Labourer ..	Sarcoma ..	10-11-97	19 Old Bidston road
13	F	61	Striker's wife ..	Cancer	9-6-96	20 Livingstone street
16	M	53	Labourer ..	Sarcoma ..	9-11-97	6 Waterloo place
17	M	64	do. ..	Pneumonia ..	14-1-98	29 Eldon place
21	F	65	Charwoman ..	Senility.. ..	6-1-98	10 Vine street
21	F	62	Engineer's widow	Cancer	9-11-97	Union tramp-sheds
24	M	47	Labourer ..	Lupus	18-6-90	18 Priory court
25	F	74	Labourer's widow	Cardiac disease	27-1-98	9 St. Anne street
27	M	29	Fireman	Phthisis ..	20-1-98	Ship in dock
29	M	85	Plasterer ..	Senility.. ..	28-5-97	18 Wilkinson street
31	F	15	Wareh'seman's d.	Dementia paral.	16-2-97	23 Exmouth street
Feb. 4	F	70	Seaman's widow..	Cerebral hæmor.	11-7-97	2 Grove road
4	F	60	Tinsmith's wife..	Cardiac disease	22-1-98	5 Chapel place
7	F	66	Farm lab'rer's wid	Pneumonia ..	22-7-93	12 Crown street
8	M	55	Labourer ..	Bronchitis ..	26-10-97	Birkenhead
9	M	16	Painter's son ..	Phthisis ..	7-1-98	209 Market street
14	M	40	Butcher	Cystisis ..	6-1-98	21 Abbot street
14	F	31	Labourer's wife..	Puerpural septic	12-2-98	1 Ross ter., Brook st.
15	M	54	Cabinet maker ..	Bronchitis ..	25-9-97	136 New Chester rd.
19	F	26	Labourer's wife ..	Pyæmia.. ..	15-2-98	33 Planet street
21	F	85	Clothes d'l'r's wid	Senility ..	9-2-87	11 Grange mount
21	F	56	Labourer's wife ..	Cerebral hæmor.	11-10-97	205 St. Anne street
22	M	56	Labourer ..	Bronchitis ..	22-1-98	15 Brunswick aven.
22	M	57	Shoemaker ..	Phthisis ..	11-2-98	18 White street
25	F	52	Auctioneer's wife	Cerebral hæmor.	15-2-98	82 Egerton street
25	F	73	Labourer's widow	Hernia	22-2-98	9 Milton street
26	F	85	Domestic servant	Senility ..	22-1-96	9 Whitford road
27	M	29	Painter	Epilepticus ..	13-1-98	10 Salisbury street
Mar. 3	M	42	Waterman ..	Phthisis ..	2-3-98	1 Coventry street
5	F	60	Hawker's widow..	Paralysis ..	13-3-95	1 Pover's court
5	F	63	Labourer's widow	Cerebral hæmor.	29-5-95	15 Lunar street
6	M	29	Labourer ..	Pulmon. conges.	6-3-97	25 Payson street
6	F	66	Labourer's widow	Senility ..	1-1-98	19 Field street
11	M	53	Watchman ..	Phthisis ..	10-3-98	Birkenhead
13	F	77	Blacksmith's wife	Cardiac disease	24-2-98	35 Stanley street
16	F	61	Labourer's wife ..	Bronchitis ..	6-1-98	10 White street
17	F	56	do.	Cerebr'l soft'ning	15-3-98	6 Rushton's court
17	F	25	Labourer's daugh.	Pneumonia ..	11-3-98	8 Albion terrace
18	F	65	L'mptrimm'r's wid	Senility ..	31-5-97	177 St. Anne street
23	F	45	Labourer's wife ..	Cardiac disease	19-2-98	19 William street
23	M	71	Labourer ..	Senility.. ..	27-3-85	4 h. 132 c. Market st.
24	M	73	Cotton porter ..	do. ..	6-12-97	17 Dover street
28	F	48	Labourer's wife ..	Phthisis ..	25-3-98	356 Price street
30	M	43	Labourer ..	do. ..	2-10-97	72 Dacre street

SUPPLEMENT TO TABLE VI.—*Continued.*

Date.	Sex.	Age	Occupation &c.	Cause of Death.	Date and Address of Deceased when admitted.	
Mar 30	M	58	Labourer ..	Bronchitis ..	25-3-98	15 Back St. Anne st.
31	F	78	Labourer's widow	Cancer	25-1-90	16 Old Bidston road
April 8	F	60	Labourer's wife .	Senile decay ..	21-8-94	10 Leicester street
9	F	54	Seaman's widow	Cardiac disease	29-12-97	Connor's court
11	M	68	Cab driver ..	Pneumonia ..	17-8-96	24 Egerton street
13	M	63	Labourer ..	Cancer of tongue	2-10-97	22 Back Portland st.
18	M	16	Porter's son ..	Nephritis ..	1-2-98	3 Beckwith street
19	M	3 m.	Dom.servant's son	Cong. syphilis ..	18-1-98	Union Workhouse
21	F	68	Hawker's widow..	Senile decay ..	25-2-84	9 Chapel place
25	F	63	Stonemason's wid.	Hemiplegia ..	5-2-98	324 Price street
May 3	M	42	Labourer ..	Debility.. ..	11-1-98	87 Borough road
6	M	58	do. ..	Bronchitis ..	18-3-98	2 Elgin street
12	F	54	Labourer's widow	Heart disease ..	25-4-98	4 Oakfield view
14	F	74	Bricklayer's widow	do. ..	16-4-98	4 Hope terrace
14	M	34	Labourer ..	Pneumonia ..	9-5-98	128 St. Anne street
15	M	70	do. ..	Heart disease ..	2-7-91	140 Chester street
19	F	75	Labourer's widow	do ..	18-5-98	4 Fore street
20	F	74	Shipwright's wid.	Epilepsy ..	21-7-87	1 Chapel place
23	M	43	Plasterer.. ..	Asthma ..	28-7-97	4 Davies street
23	F	57	Labourer's widow	Heart disease ..	22-1-98	37 Leicester street
23	M	36	Stableman ..	Phthisis ..	28-3-98	32 Grange road
23	M	33	Labourer ..	do. ..	13-1-98	22 Egerton street
25	M	69	do. ..	Cancer of liver..	22-6-95	22 Queen's buildings
25	M	1	Charwoman's son	Syphilis ..	26-4-98	Union workhouse
28	F	31	Fish hawker ..	Phthisis ..	14-7-97	38 Payson street
29	M	2 h.	Dom. servant's son	Atelectasis ..	29-5-98	Union Workhouse
31	F	34	Bricklayer's wife	Pneumonia ..	30-5-98	3 Davies street
June 2	F	2 m.	Dom. serv. daugh.	Bronchitis ..	10-5-98	Union Workhouse
3	M	65	Labourer ..	Heart disease ..	9-4-95	102 Beckwith street
4	F	74	F'rnit're d'ler's wid	Cerebral hæmor.	16-12-97	184 Cleveland street
11	F	2 m.	Unknown ..	Debility.. ..	4-4-98	Seymour street
12	M	49	Labourer ..	Heart disease ..	18-8-96	10 William street
12	M	48	do. ..	Phthisis ..	9-4-97	124 Brook street
13	F	27	Labourer's wife ..	do. ..	5-4-98	71 Wood street
15	F	5 m.	Dom. serv. daugh	Diarrhœa ..	18-5-98	3 Cambridge place
16	F	42	Labourer's wife ..	Phthisis ..	4-4-98	104 Brook street
17	F	6 m.	Clerk's son ..	Debility ..	22-5-98	4 Warwick street
19	F	70	Porter's widow ..	Senile debility ..	27-6-96	15 Coburg street
20	M	81	Timekeeper ..	Nephritis ..	1-6-98	79 Claughton road
22	F	29	Domestic servant	Heart disease ..	20-3-98	7 Claughton firs
22	M	67	Labourer ..	Ulcer	1-12-96	7 Upper Beckwith st
28	M	49	do. ..	Heart disease ..	31-5-98	6 Waterloo place
29	F	68	Boiler maker's wif	do ..	16-6-98	263 Borough road
29	F	36	Labourer's widow	Phthisis ..	8-11-97	7 Taylor's buildings
July 3	M	45	Labourer ..	Pneumonia ..	21-6-98	10 Cumberland place
4	M	62	Bricklayer ..	Phthisis ..	19-4-98	75 Market street
4	F	70	Labourer's widow	Pneumonia ..	27-5-98	13 Queensbury street
5	M	3 m.	Tripe dresser's son	Bronchitis ..	14-6-98	2 h. 132 c. Market st.
6	M	28 d.	Dom. servant's son	Debility ..	7-6-98	Union Workhouse
7	F	30	Egg merch't's wife	Phthisis ..	28-2-98	27 Tunnel road
15	F	34	Domestic servant	do. ..	13-6-98	163 Beckwith street
15	F	66	Watchmaker's wid	Cerebral hæmor.	14-4-98	24 William street

SUPPLEMENT TO TABLE VI.—*Continued.*

Date.	Sex.	Age	Occupation &c.	Cause of Death.	Date and Address of Deceased when admitted.	
July 19	M	70	Copper smith ..	Nephritis ..	9-7-98	11 Sidney buildings
21	M	47	Laundress' son ..	Suffocation ..	6-7-98	Union Workhouse
24	M	47	Fitter	Phthisis ..	14-6-97	4 Miller's place
26	M	2 m.	Saddler	Sarcoma ..	6-7 98	202 Chester street
31	M	60	Engineer.. ..	Aneurism ..	9-5-98	52 Priory street
Aug. 3	F	3 m.	Tailor's daughter	Enteritis ..	3-8-98	16 Leicester street
6	F	33	R'lway porter's wif	Gastritis ..	1-8-98	44 Beckwith street
10	F	32	Labourer's wife ..	Pneumonia ..	9-8-98	33 Pitt street
13	M	50	Cab driver ..	Phthisis ..	30-7-98	137 Brook street
13	M	75	Labourer.. ..	Cerebral hæmor.	15-2-98	3 Berry street
15	M	24 d.	Unknown .	Syphilis ..	22-7-98	Laurel road
26	M	69	Commission agent	Paralysis ..	20-8-98	50 Thompson street
26	M	36	Greengrocer ..	Alcoholism ..	22-8-98	134 Craven street
27	M	5 m.	Fireman's son ..	Marasmus ..	20-3-98	Union Workhouse
28	F	21	Lamp-lighter's da	Enteric fever ..	17-8-98	40 Oak tree place
Sept. 2	M	75	Joiner	Diarrhœa ..	29-12-92	75 Market street
4	F	63	Gardener's wife ..	Myelitis ..	18-8-98	22 Mill street
6	F	62	Labourer's widow	Cerebral hæmor.	15-3-97	105 Back Price street
6	M	20	Labourer ..	Pneumonia ..	5-9-98	32 Star street
7	M	71	do. ..	Cancer	1-5-96	24 Back Portland st.
8	F	50	Ret'd p'b'can's wif	Uræmia ..	11-7-98	19 Wycliffe street
11	F	4 m.	Timekeeper's da.	Enteritis ..	21-7-98	Union Workhouse
11	F	11 m	Laundress' daugh	do. ..	11-3-98	2 Windsor place
12	F	70	Labourer's widow	Heart disease ..	11-12-96	5 Chapel street
13	M	43	Labourer.. ..	Enteric fever ..	5-9-98	8 Orderly residence
14	F	58	Labourer's widow	Senile decay ..	18-10-97	7 Oak street
15	F	40	Joiner's wife ..	Gangrene ..	14-9-98	9 Blucher street
17	M	17 m	Marble mason's s.	Bronchitis ..	29-7-97	146 Brook street
20	M	44	Drayman.. ..	Gangrene of lung	4-9-98	4 Chapel place
23	F	99	General servant..	Senile decay ..	23-5-96	3 Bright street
24	M	70	Carter	Heart disease ..	23-8-98	8 Gladstone street
29	M	55	Labourer.. ..	Cystisis	14-10-98	93 Back Price street
Oct. 2	F	68	Assistant Matron	Cirrhosis ..	28 10-98	Union Schools
3	M	55	Baker	Nephritis ..	29-10-98	75 Market street
5	M	37	Fireman	Abscess ..	29-9-98	24 Back Oliver street
8	F	55	Labourer's widow	Bronchitis ..	5-10-98	14 Taylor's buildings
14	F	29	Hawker	Pancreas disease	19-7-98	103 Brook street
17	F	78	Med. pract. widow	Senile decay ..	13-3-96	298 Beckwith street
18	M	64	Gardener ..	Epith. of tongue	5-10-98	22 Mill street
20	M	73	Labourer.. ..	Cardiac disease	29-11-89	Grange road
24	M	22	do.	Enteric fever ..	11-10-98	50 Egerton street
25	M	50	do.	Phthisis ..	10-10-98	133 Brook street
27	M	51	Labourer.. ..	Cancer	9-7-98	109 St. Anne street
27	M	31	Church deacon ..	Phthisis ..	7-12-97	6 Waterloo place
Nov. 5	M	45	Labourer.. ..	Bronchitis ..	4-11-98	46 Price street
7	F	33	Farmer's daughter	Peritonitis ..	12-1-86	89 Thomas street
8	F	69	Charwoman ..	Heart disease ..	31-10-98	42 Payson street
10	M	67	Flatman	do. ..	2-11-95	2a Earl street
12	M	39	Watchman ..	Enteric fever ..	28-10-98	23 Fore street
13	F	71	Labourer's wife ..	Senile decay ..	2-11-98	2 Albert terrace
14	M	50	Labourer.. ..	Phthisis ..	7-11-98	4 Queensbury street
15	M	49	Cab driver ..	Pleurisy ..	8 11-98	5 Malta street

SUPPLEMENT TO TABLE VI.—*Continued.*

Date.	Sex.	Age	Occupation &c.	Cause of Death.	Date and Address of Deceased when admitted.	
Nov.21	M	78	Labourer.. ..	Heart disease ..	11-1-94	12 Waterloo place
24	M	2 m.	Labourer's son ..	Enteritis ..	8-11-98	34 Field street
24	F	82	House keeper ..	Tumour ..	1-1-91	4 Stewart's place
26	F	40	Labourer's wife ..	Enteric fever ..	24-11-98	12 Orderly avenue
27	M	78	Labourer.. ..	Senile decay ..	28-5-98	8 Howe street
28	M	89	do ..	Heart disease ..	24-11-98	17 Eldon place
30	F	28	Labourer's wife..	Child-birth ..	19-10-98	32 Payson street
Dec. 2	M	59	Carter	Heart disease ..	1-10-98	4 Cambridge place
3	F	48	Labourer's wife ..	Tumour.. ..	4-11-98	7 Brunswick avenue
3	F	19	R'lway sh'ter's da.	Child-birth ..	2-12-98	11 Cumberland place
4	F	19 m	Dom. serv. daugh.	Meningitis ..	12-4-97	Union Workhouse
6	F	69	Labourer's widow	Senile decay ..	8-7-98	21 Wood street
6	M	70	Tailor	do. ..	19-1-92	4 Exmouth street
8	M	19	Labourer's son ..	Hydrocephalus	7-12-98	12 Farm road
10	M	56	Bricklayer ..	Cancer	7-12-98	42 D Queen's bldgs.
14	M	48	Labourer ..	Epithel. of larynx	30-11-98	12 Waterloo place
15	F	70	Labourer's widow	Senile decay ..	1-10-97	26 Stanley street
17	M	52	Clerk	Phthisis ..	30-8-98	25 Market street
17	M	5 m.	Laundress' son ..	Meningitis ..	9-7-98	44 Back St. Anne st.
22	F	35	F'ct'ry-h'nd's wife	Cere. spinal men.	28-11-98	7 G Queen's bldgs.
30	F	46	Domestic servant	Cerebral hæmor.	25-11-98	30 Queen street
31	M	85	Joiner	Senile decay ..	25-10-81	Birkenhead

TABLE VII.

Description of those who Died during 1898.

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Accountant	..	..	..	..	2	..
Actor	1	..	..	..	..	..
Agent	..	..	..	1	..	..
Annuitant	1	..	..	..	..	..
Army pensioner	1	..	..	..	1	..
Artist	1	..	..	..	..	..
Asphalter	..	..	1	..	..	..
Assistant Cemetery Registrar	..	..	..	1	..	..
Assistant Overseer	1	..	..	..	..	..
Assurance agent	2	..	4	1	1	..
Baker	3	..	1	3	3	..
Baker's manager	1	..	..	..	..	..
Bandmaster	..	..	2	..	1	..
Barman	..	..	2	..	..	..
Blacksmith	6	..	4	5	3	2
Block and spar maker ..	1	..	..	..	..	..
Board of Trade examiner ..	1	..	..	..	..	..
Boat breaker-up	..	..	1	1	..	..
Boat builder	..	..	1	..	..	..
Boatman	..	..	..	1	..	..
Boiler cleaner	..	..	2	..	..	1
Boiler maker	7	..	18	13	8	4
Bookbinder	..	..	1	..	..	..
Book keeper	6	..	2	3	1	2
Boot and shoe maker ..	5	..	1	2	3	3
Boot and shoe repairer ..	1	..	..	..	..	..
Bottle Merchant	1	..	..	..	..	..
Brass finisher	1	..	..	..	..	..
Brass moulder	..	..	..	1	..	..
Brass turner	..	..	1	..	..	..
Brewer's agent	1	..	..	..	..	..
Brewer's manager	..	..	..	1	..	..
Brewer's traveller	1	..	1	..	..	..
Bricklayer	4	..	7	2	2	1
Brick maker	..	..	..	1	..	..
Bridewell keeper	..	..	1	..	..	..
Builder	2	..	1	2	2	1
Butcher	2	..	7	19	6	..
Butcher's manager	..	..	1	..	..	..
Butler	1	..	..	..	..	..
Cab driver	4	..	..	2	..	2
Cabinet maker	1	..	1	..	1	..
Camera maker	..	..	1	..	..	..
Candle packer	..	..	..	..	1	..
Caretaker	..	..	..	..	..	1
Cargo checker	1	..	..	..	..	..
Carpenter	..	..	1	1	1	2
Car proprietor	..	..	..	..	2	1
Carter	6	..	21	23	6	1
Cart owner	..	..	..	1	..	..

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Carver and gilder	..	..	1	..	..	..
Caterer	..	..	..	..	2	..
Catholic priest	1	..	..	..	..	..
Cattle drover	2	..	2	..	..	..
Cellarman	1	..	..	..	1	1
Charwoman	..	2	5	..	..	..
Chemist	1	..	..	1	2	..
Chimney sweeper	1	..	..	..	..	..
China dealer	..	..	1	..	..	..
Chipper and caulker ..	..	..	..	3	..	..
Church keeper	1	..	..	..	..	..
Civil engineer	1	..	..	..	..	..
Clergyman	1	..	2	..	..	..
Clerk	7	..	6	13	2	3
Coachman	3	..	2	5	1	3
Coal heaver	..	..	2	1	..	..
Coal merchant	3	..	1	1	..	1
Coal trimmer..	..	..	..	1	..	..
Colliery proprietor	..	..	..	..	1	..
Commercial agent	1	..	1	..	..	..
Commercial traveller ..	2	..	3	2	1	1
Commission agent	1	..	..	1	..	1
Confectioner	..	1	..	2	..	..
Contractor	..	..	..	1	..	..
Cook	..	4	1	1	..	..
Cooper	..	..	2	1	1	1
Coppersmith	..	..	2	..	..	..
Cop reeler	..	..	1	..	..	..
Corn broker	..	..	..	1	..	..
Corn miller	..	..	..	..	..	1
Corn weigher..	..	..	..	..	1	..
Corporal	..	..	1	..	..	1
Cotton broker	4	..	..	..	1	..
Cotton merchant	1	..	..	1	..	1
Cotton salesman	1	..	..	..	..	..
Cotton weaver	..	1	..	..	..	..
Curtain cleaner	1	..	..	..	..	..
Custom's officer	1	..	..	..	..	..
Dock gateman	..	..	1	..	..	..
Domestic servant	..	9	1	2	..	..
Donkey engine-man	1	..	..	..	..	..
Draper	2	..	1	1	..	1
Draper's manager	1	..	..	..	..	..
Draughtsman	1	..	..	1	..	..
Drayman	1	..	2	1	..	..
Dressmaker	..	..	1	..	..	..
Dyer	..	..	..	..	..	1
Editor..	..	..	..	1	..	..
Egg merchant	..	..	..	1	..	..
Electrician	..	..	2	..	..	..

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Electrical engineer	..	..	..	1	..	..
Emigration agent	1	..	..	..	..	..
Engine driver	2	..	4	1	2	..
Engineer	6	..	7	7	..	6
Engineering agent	1	..	..	..	..	..
Engine fitter	6	..	4	4	2	..
Engraver	..	..	..	..	..	1
Errand boy	1	..	..	..	..	..
Estate agent	..	..	..	..	..	1
Farm bailiff	..	..	..	..	..	1
Farmer	..	..	..	5	1	2
File cutter	..	..	..	2	..	..
Fire brigade man	..	..	..	1	..	..
Fireman	4	..	24	10	2	..
Fisherman	2	..	2	1	1	..
Fishmonger	1	..	1	1	..	..
Flatman	2	..	6	7	1	2
Flautist	..	..	1	1	..	..
Foreman	..	..	..	..	..	1
French polisher	..	..	2	..	2	..
Fruit broker	..	..	..	1	..	..
Fruiterer	1	..	..	1	..	..
Fruit merchant	1	..	..	..	..	..
Furniture dealer	..	..	..	1	1	..
Furniture remover	..	..	..	1	..	..
Game keeper	..	..	..	..	1	..
Gardener	7	..	..	7	5	2
Gas collector	1	..	..	..	..	..
Gas fitter	..	..	..	..	5	..
Gate keeper	..	..	..	1	..	..
General dealer	..	..	1	2	1	1
General merchant	2	..	..	2	1	1
Green grocer	3	..	1	2	..	1
Grocer	2	..	3	2	2	..
Grocer's manager	..	..	..	1	..	..
Groom	..	..	1	1	..	..
Gut scraper	..	..	1	1	..	..
Hair dresser	2	..	4	3	..	..
Hat manufacturer	..	..	..	..	1	..
Hawker	1	..	1	..	..	..
Hide merchant	..	..	..	..	1	..
Historian	..	..	..	..	..	1
Holder-up	3	..	..	..	..	..
Hooper	..	..	..	1	..	..
Horse dealer	1	..	..	..	..	..
Horse driver	..	..	..	1	..	..
Horse keeper	2	..	..	..	..	..
House and estate agent ..	1	..	..	..	..	..
House furnisher	..	..	1	..	..	..
House owner	..	..	..	..	1	..

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Hydraulic man	..	..	1	..	..	..
Industrial Sch. Super'dent ..	..	..	..	1	..	..
Insurance broker	..	..	..	..	1	..
Iron dresser	1	..	..	1	..	..
Iron driller	3	..	5	9	..	1
Iron founder	..	..	1	..	..	..
Ironmonger	1	..	..	..	..	..
Iron moulder..	..	..	2	..	1	..
Iron planer	..	..	..	1	..	..
Iron smith	..	..	..	1	..	..
Iron turner	2	..	3	4	1	..
Jam boiler	..	..	1	..	..	..
Jeweller	..	..	..	1	1	..
Joiner	8	..	11	14	6	5
Joiner and builder	1	..	..	..	..	..
Journalist	..	..	..	2	..	..
Labourer	56	..	133	115	41	24
Labourer's wife	..	..	..	1	..	..
Lace curtain dresser.. ..	..	..	..	1	..	..
Lamp-lighter	..	..	2	1	..	..
Land agent	..	..	..	2	..	..
Landing stageman	1	..	1	..	..	..
Land owner	1	..	..	1	1	1
Laundress	..	1	1	1	..	..
Lead miner	..	..	..	..	1	..
Licensed victualler	4	..	9	6	2	1
Licensed vict. manager ..	2	..	1	1	1	..
Light-house keeper	..	..	..	..	..	1
Machinist	2	..	1	2	..	..
Malster	..	..	..	..	..	1
Managing director	..	..	..	..	1	..
Marine optician	..	..	1	..	..	..
Marine superintendent ..	..	..	..	..	1	..
Master mariner	2	..	2	2	1	..
Master ship builder	1	..	..	..	..	..
Meat salesman	1	..	1	..	..	..
Medical practitioner.. ..	..	..	1	..	..	3
Messenger	1	..	..	..	..	..
Metal merchant	1	..	..	..	..	..
Metal planer	..	..	..	1	..	..
Metal sampler	1	..	..	..	..	..
Milk purveyor	..	1	1	..	2	1
Millwright	..	..	..	..	..	1
Mineral sampler	..	..	..	1	..	..
Mineral water manufacturer	..	..	..	1	..	..
Music seller	..	..	..	..	..	1
Naval architect	1	..	1	..	..	..
Naval pensioner	2	..	..	1	..	..
Naval signalman	..	..	1	..	..	..
News agent	1	..	1	1	1	..
Of independent means ..	2	1	..	..	..	..

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Of no occupation	2	..	..	..	..	..
Occupation unknown ..	3	4	3	3	..	..
Organ builder	1	..	..	..	..	..
Painter	8	..	18	13	4	4
Pattern maker	1	..	..	..	..	..
Pawnbroker	..	..	..	2	..	..
Pensioner	2	..	..	..	..	1
Pier master	..	..	..	..	1	..
Pilot	..	..	..	1	..	..
Plasterer	1	..	1	3	2	2
Platelayer	1	..	1	4	..	..
Plumber	3	..	6	2	2	3
Policeman	2	..	3	..	..	..
Police sergeant	..	..	..	..	..	1
Political sub-reg. agent ..	1	..	..	..	..	..
Pork butcher	1	..	2	1	1	..
Porter	4	..	3	4	3	1
Postman	1	..	2	1	..	..
Printer	..	..	2	1	..	..
Printer's traveller	..	..	1	..	..	..
Produce broker's manager ..	..	..	..	1	..	..
Professional cricketer ..	..	..	1	..	..	..
Property repairer	..	..	..	1	..	..
Provender dealer	..	..	..	..	1	..
Provision dealer	..	..	1	..	..	..
Provision merchant	1	..	..	..	..	..
Pupil teacher..	..	1	..	..	..	..
Property owner	1	..	1	..	1	..
Quarter master	..	..	..	..	1	..
Quarter master's wife ..	..	..	1	..	..	..
Railway servant	16	..	24	18	8	6
Rector..	..	..	1	..	..	..
Refreshment house keeper ..	..	1	..	..	..	..
Registrar of births and deaths	..	..	..	..	..	1
Retired army surgeon ..	1	..	..	..	..	..
,, architect	..	..	..	..	1	..
,, baker	1	..	..	..	..	..
,, banker	..	..	..	..	1	..
,, bank manager ..	1	..	..	..	..	..
,, blacksmith	1	..	..	..	..	..
,, boot and shoe maker	1	..	..	..	..	1
,, carver and gilder ..	1	..	..	..	..	..
,, clergyman	..	..	..	1	..	..
,, corporation official..	..	..	..	..	..	1
,, draper	1	..	..	..	..	..
,, dock master.. ..	..	..	..	1	..	..
,, farmer	1	..	..	..	..	..
,, fruit and rice broker	1	..	..	..	..	..
,, fruit merchant ..	..	..	..	..	..	1
,, general merchant ..	1	..	..	..	..	..
,, iron merchant ..	1	..	..		..	..

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Retired licensed victualler ..	2	..	..	..	1	..
,, marine engineer ..	1	..	..	..	..	..
,, master mariner ..	1	..	..	..	..	..
,, mechanical engineer	1	..	..	..	..	..
,, medical practitioner	1	..	..	..	..	..
,, newspaper proprietor	1	..	..	..	..	..
,, pilot	..	..	..	..	1	..
,, poulterer	..	..	..	..	1	..
,, rice miller	1	..	..	..	..	..
,, school master ..	..	..	..	..	..	1
,, ship-owner	2	..	..	..	..	..
,, solicitor	1	.	..	..	..	..
,, stationer	1	..	..	..	..	..
,, team-owner	1	..	..	..	..	..
,, watchman	1	..	..	..	..	..
Rivetter	1	..	..	2	..	..
Royal navy captain	..	..	..	1	..	..
Sack merchant	1	..	..	1	..	..
Saddler	..	..	2	..	..	..
Sail maker	..	..	1	1	..	..
Salesman	..	..	2	..	..	..
Salt merchant	1	..	..	..	..	1
School board visitor	..	..	..	1	..	..
School master	1	..	..	2	..	..
School mistress	..	2	1	..	..	..
Seaman	7	..	15	14	4	2
Servant	..	1	10	6	..	..
Shepherd	1	..	..	..	..	..
Shingler	..	..	..	..	1	..
Ship broker	1	..	..	1	..	..
Shipping agent	1	..	..	..	..	1
Ship plater	1	..	4	..	1	..
Ship rigger	2	..	1	1	..	1
Ship's cook	1	..	..	1	..	..
Ship smith	1	..	..	1	..	..
Ship steward	..	..	5	4	..	..
Shipwright	3	..	3	3	6	2
Shop assistant	3	1	4	2	..	..
Shop boy	1	..	..	..	..	..
Showman	..	..	1	..	..	..
Slater	1	..	1	2	1	..
Soap boiler	..	..	1	..	..	..
Soap manufacturer	1	..	..	..	..	..
Soldier	1	..	..	1	..	..
Stationer's salesman ..	..	..	1	..	..	..
Steam crane driver	1	..	..	..	..	..
Steam hammer driver ..	..	..	..	1	..	..
Stevedore	1	..	..	2	..	1
Stoker	3	..	8	3	2	..
Stone mason	1	..	2	1	3	3
Stone quarrier	..	..	1	2	..	1

TABLE VII.—*Continued.*

Occupation, &c.	M.	F.	Son.	Daughter.	Wife.	Widow.
Store keeper	1	..	1	..	3	2
Striker	..	..	..	..	..	1
Superannuated boilermaker	1	..	..	..	..	..
Superannuated cust. officer..	..	..	..	..	1	..
Super. inland revenue officer	1	..	..	..	..	..
Superannuated labourer ..	1	..	..	..	..	..
Superannuated pier master..	1	..	..	..	..	..
Superannuated policeman ..	3	..	..	..	..	..
Superannuated rly. cashier..	1	..	..	..	..	..
Superintendent	..	..	1	..	..	..
Surveyor	..	..	1	..	..	..
Tailor	2	..	3	6	..	..
Tailor's cutter	..	..	1	..	..	..
Team owner	..	..	1	..	..	..
Telephone wireman	..	..	..	1	..	..
Time keeper	..	..	..	1	..	1
Tinsmith	4	..	2	1	..	..
Tool grinder	1	..	..	..	..	..
Tool smith	..	..	1	..	..	..
Town clerk	..	..	..	..	..	1
Tramcar checker	..	..	..	1	..	..
Tramcar driver	..	..	..	3	..	..
Union labour master ..	1	..	..	..	..	..
Upholsterer	2	..	..	1	..	1
Vanman	1	..	..	3	..	..
Van driver	..	..	..	1	..	..
Violinist	1	..	..	..	..	..
Waggon sheeter	1	..	..	..	..	..
Waiter..	1	..	..	..	..	..
Waitress	..	2	..	1	..	..
Warehouse keeper	..	..	..	..	2	..
Warehouseman	1	..	3	3	..	1
Warehouse owner	..	..	..	1	..	..
Watchmaker	2	..	..	2	1	1
Watchman	2	..	..	..	2	1
Waterman	..	..	2	..	..	..
Weight taker..	..	..	..	1	..	..
Wharfinger	..	..	..	1	..	..
Wheelwright	..	..	..	1	1	..
Whitesmith	1	..	..	1	..	..
Wholesale chemist's manager	..	..	..	..	..	1
Window cleaner	..	..	1	..	..	..
Wine merchant	..	..	..	..	1	..
Wine and spirit merchant ..	..	..	..	..	..	1
Wire worker	..	..	..	..	1	..
Woodman	..	..	..	..	..	1
Wood moulder	..	..	..	1	..	..
Wood sawyer	1	..	..	..	..	1
Yacht captain	..	..	1	..	..	..
Yard man	1	..	1	..	..	..