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PORT OF LIVERPOOL:



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

PORT SANITARY AUTHORITY.

1896.

[ORDERED BY THE PORT SANITARY AND HOSPITALS COMMITTEE TO BE
PRINTED, 1ST APRIL, 1897.]

LIVERPOOL:

J. R. WILLIAMS & CO., PRINTERS. 8, SCHOOL LANE.

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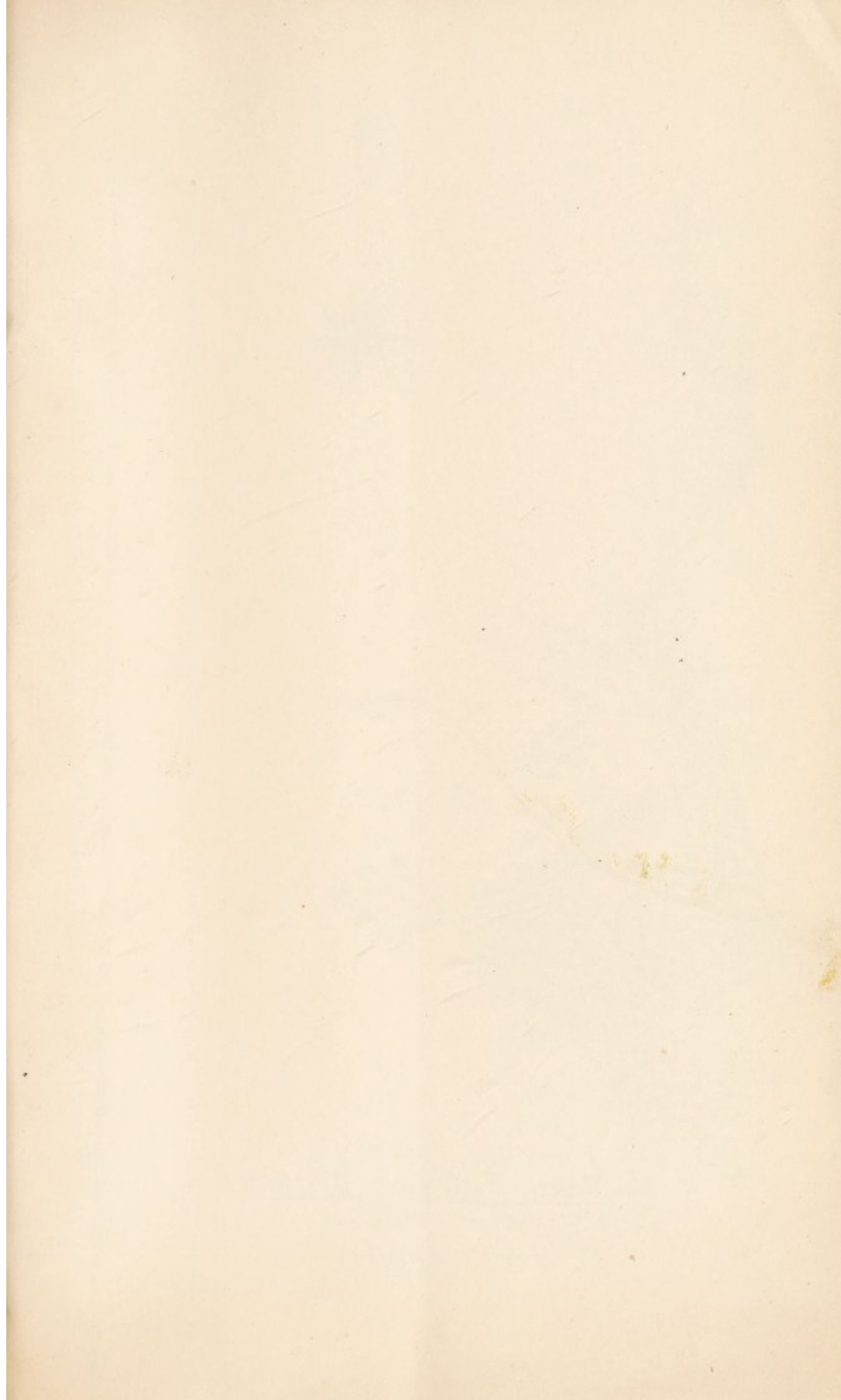
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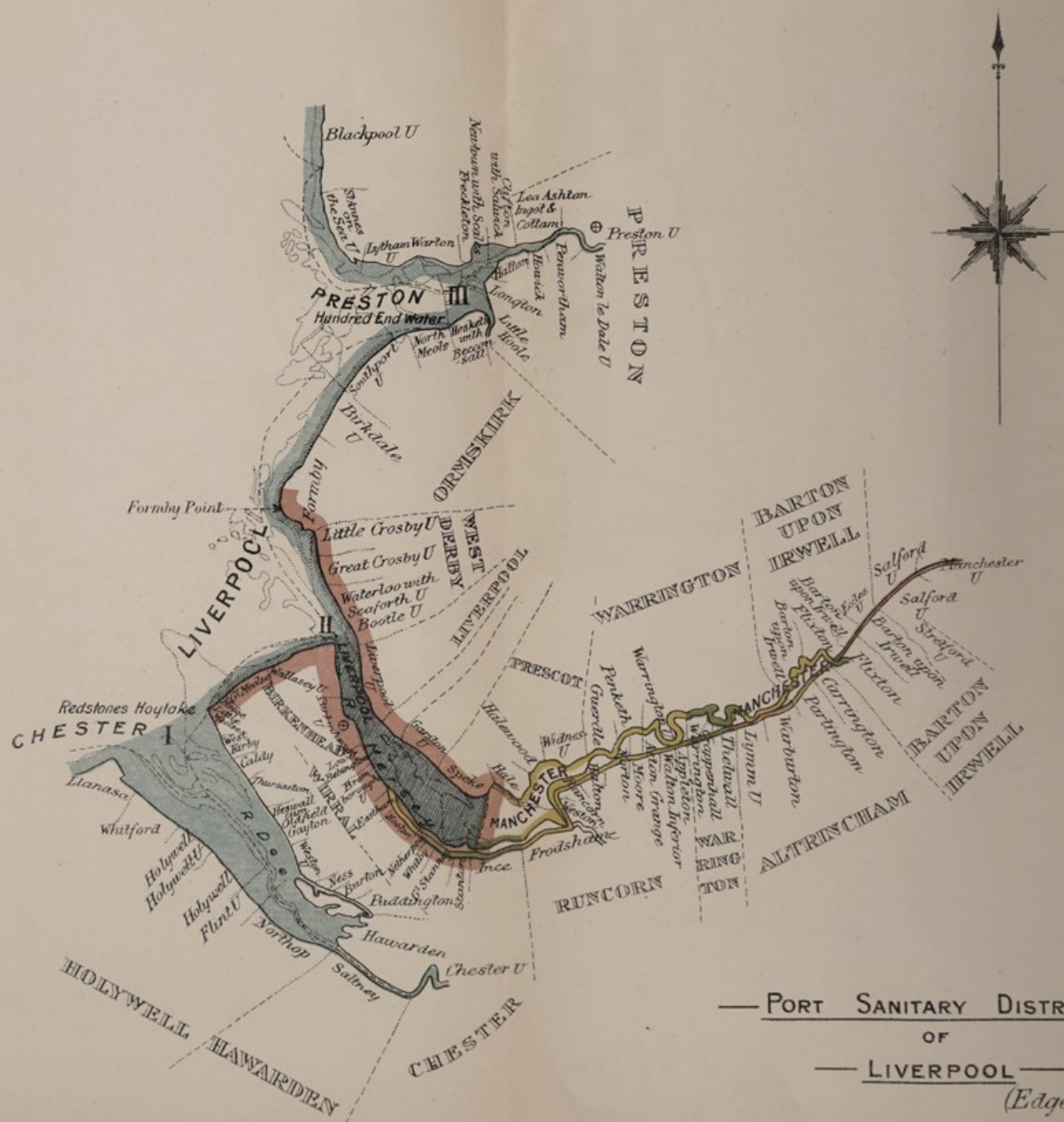
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PORT SANITARY AUTHORITY OF LIVERPOOL.

REPORT FOR THE YEAR 1896,

BY

E. W. HOPE, M.D., D.Sc.,

MEDICAL OFFICER OF HEALTH.

DURING the year the health of the Port has been very satisfactory, a total of 73 cases of one form or other of zymotic disease was dealt with on board vessels arriving in the Port, this total being somewhat in excess of the average for the preceding 10 years.

The number, however, includes several cases which arrived in the Port in an incubative stage of sickness, but in perfect health at the time of arrival. The inclusion of these seven cases raises the total a little.

Nevertheless, considering the great amount of shipping arriving in the Port, the proportion of sickness is excessively low.

No case of Plague, Cholera, Yellow Fever, or Typhus Fever occurred in the Port during the year.

There was a slight increase in the number of cases of Smallpox and Enteric Fever; the minor forms of zymotic disease, such as Measles, Chickenpox, &c., were about the same as the 10 years' average. (Vide Table 4).

By an Order of the Local Government Board, the Council of the City of Liverpool is constituted the Port Sanitary Authority for the Port of Liverpool, and the powers so conferred upon the City Council are delegated, as far as they legally may be, to a Special Committee called the Port Sanitary and Hospitals Committee.

By an Act which received the Royal Assent in July 1896, a slight re-adjustment was made between the boundary of the Port of Liverpool and the Port of Preston. Section 5 of that Act is as follows:—"From and after the passing of this Act the boundary between the Port of Liverpool

and the Port of Preston shall be an imaginary line drawn in a true north-north-west direction, from the inner north-west sea-mark on the beach at Formby Point, shown on the Admiralty Chart of the Survey of the West Coast of England, from Formby Point to Kirkeudbright, published the twenty-third day of October, one thousand eight hundred and ninety-three, until such line intersects the seaward boundary of the Port of Liverpool."

The accompanying map indicates that the boundaries of the Port of Liverpool extend from the termination of the Port of Chester, namely, at the Red Stones at Hilbre Point, up the River Mersey on the Cheshire Shore to the west of the entrance to the Ship Canal at Eastham, thence in an easterly direction across the said entrance, and along the Cheshire Shore of the River to Ince Ferry. It then crosses the Mersey in a line to Dungeon Point, and continues along the coast of the County of Lancashire to the inner north-west sea-mark at Formby Point. All waters, docks, quays, &c., and the open sea for three miles from shore, all boats, vessels, and landing places, and, for the purposes of the Public Health Act, all persons therein, are included in the jurisdiction of the Port Sanitary Authority.

Article IV. of the Order constituting the Port of Liverpool states that :—For the purposes of this Order, the following sections (which are quoted in the Order) of the Public Health Act, 1875 ; the Public Health (Officers) Act, 1884 ; the Public Health (Ships, &c.) Act, 1885 ; the Public Health (Members and Officers) Act, 1885 ; and the Public Health Acts Amendment Act, 1890, shall apply ; and the Port Sanitary Authority shall have, exercise, perform, and be subject to all the powers, rights, duties, capacities, liabilities and obligations of an Urban Sanitary Authority under the same sections, so far as those sections are applicable to the waters within the jurisdiction of the said Port Sanitary Authority, or to ships coming or being within the said jurisdiction, or to persons upon any such ship, or brought by any such ship within the said jurisdiction, or to goods or things upon any such ship, or to goods or things landed from any such ship, and being within the said jurisdiction, and which, in the opinion of the said Authority, or their Medical Officer of Health, require to be disinfected or destroyed.

The staff of the Port Medical Officer consists of an Assistant Medical Officer and three suitably qualified Sanitary Inspectors of Shipping.

All of these Officers devote their whole time to the sanitary work of the Port.

The services of Dr. Roberts were from time to time availed of for the purpose of visiting vessels, but no circumstances arose during the year rendering a special tidal visitation necessary.

The ambulance and disinfecting staff, as well as the general staff of the Health Committee, are available whenever their services are required, and in every case in which the removal of a patient to hospital becomes necessary; when bedding, clothing or other effects require to be disinfected, the Ambulance and Disinfecting staff are utilized for the purpose.

The mooring station is in the Sloyne.

The Collector of Customs, and his Officers, render willing and valuable co-operation to the staff of the Port Sanitary Authority.

REGULATIONS AS TO INFECTIOUS SICKNESS.

(A) CHOLERA, YELLOW FEVER AND PLAGUE.

By the Public Health Act 1896, the whole of the Quarantine Act, 1825, was repealed, and in place of it an Order of the Local Government Board, dated 9th November, 1896, was issued, containing regulations as to Cholera, Yellow Fever and Plague.

This Order revoked the previous Orders dated 28th August, 1890, and 6th September, 1892.

It may be well to refer to some of the main Articles of the Order, *e.g.* :—

Art. 1, Par. 8.—The term “Infected” means infected with Cholera, Yellow Fever, or Plague: Provided that every ship shall be deemed infected in which there is or has been during the voyage, or during the stay of such ship in the port of departure or in a port in the course of such voyage, any case of Cholera, Yellow Fever, or Plague.

Art. 2.—(1.) The Officer of Customs who, on the arrival of any ship from foreign, shall visit the ship shall ascertain, so far as possible, whether such ship is infected, and if he have any reason to suspect that the ship is infected or has come from any infected place shall

require the Master of the ship, or the Surgeon, if the ship carries a Surgeon, to give (in writing under his hand and in the form hereunto appended or in a form to the like effect) a true answer to the following question :—

Question.—Has any case or suspected case of
Cholera,
Yellow Fever, or
Plague

occurred in the ship _____, of which you
are _____, during the voyage from _____, or
during the stay of the ship in that port or in any other port in the
course of the voyage?

Answer.—_____ cases or suspected cases of
occurred on board the _____ during the
voyage from _____ [or during the stay of
the ship in the port of _____].

or

No case or suspected case of Cholera, Yellow Fever or Plague
occurred on board the _____ during the voyage
from _____, or during the stay of the ship in that port
or in any other port in the course of the voyage.

Signed.....,

Master [or Surgeon] of the.....

(2.) The Officer of Customs who, on the arrival of any ship from foreign, shall visit such ship shall, if he find, or have reason to suspect, that the ship is infected, detain such ship, and order the Master forthwith to moor or anchor the same in such position as such Officer of Customs shall direct; and thereupon the Master shall forthwith moor or anchor the ship accordingly.

Art. 3.—Whilst such ship shall be so detained, no person (other than an Officer of Customs or a person acting in the execution of this Order) shall leave the same.

Art. 4.—The Officer of Customs detaining any ship as aforesaid shall forthwith give notice thereof, and of the cause of such detention, to the Sanitary Authority of the place where such ship is lying.

Art. 5.—Such detention by the Officer of Customs shall cease as soon as the ship shall have been duly visited and examined by the Medical Officer of Health ; or, if the ship shall, upon such examination, be found to be infected, as soon as the same shall be moored or anchored in pursuance of Article 10.

Provided, that if the examination be not commenced within twelve hours after the ship shall have been moored or anchored in pursuance of subdivision 2 of Article 2, the ship shall, on the expiration of the said twelve hours, be released from detention.

Art. 7.—The Sanitary Authority, on notice being given to them by an Officer of Customs, under Article 4, shall forthwith cause the ship in regard to which such notice shall have been given, to be visited and examined by their Medical Officer of Health for the purpose of ascertaining whether such ship is infected.

Art. 8.—The Medical Officer of Health, if he have reason to suspect that any ship coming or being within the jurisdiction or district of the Sanitary Authority, whether examined by the Officer of Customs or not, is infected, shall, or, if he have reason to suspect that the ship has come from an infected place, may, visit and examine such ship for the purpose of ascertaining whether such ship is infected ; and may make the like visit and examination in the case of any ship coming or being within the jurisdiction of the Sanitary Authority which has come from an infected place. The Master of any such ship shall permit the same to be so visited and examined.

The Master of any such ship shall also, on being required so to do by the Medical Officer of Health, cause the ship to be brought to, and, if necessary, moored or anchored in some convenient place while the same shall be visited and examined ; but due regard shall be had to the safety of the ship and to the convenience of navigation.

Art. 9.—If the Medical Officer of Health on making such examination as aforesaid (whether under Article 7 or under Article 8) shall be of opinion that the ship is infected, he shall forthwith give a certificate in duplicate in the following Form, or to the like effect, and shall deliver one copy to the Master, and retain the other copy or transmit it to the Sanitary Authority. He shall also give to Us information

as to the arrival of the ship, and such other particulars as We may require.

Certificate.

.....day of.....189.....

.....DISTRICT [*or* TOWN] COUNCIL.

or

.....PORT SANITARY AUTHORITY.

I hereby certify that I have examined the ship
of , now lying in the port of [or detained
at], and that I find that such ship is infected with
[Cholera, or Yellow Fever, or Plague].

.....
Medical Officer of Health [or Medical Practitioner appointed
or employed by the Sanitary Authority].

Art. 10.—The Master of any ship so certified to be infected shall thereupon moor or anchor such ship at the place fixed for that purpose under Article 6, and such ship shall remain there until the requirements of this Order have been duly fulfilled.

Art. 11.—No person (other than an Officer of Customs or a person acting in the execution of this Order) shall leave any such ship until the examination herein-after mentioned shall have been made.

Art. 12.—The Medical Officer of Health shall, as soon as possible after any such ship has been certified to be infected, examine every person on board the same, and in the case of any person suffering from Cholera, Yellow Fever, or Plague, or from any illness which the Medical Officer suspects may prove to be Cholera, Yellow Fever, or Plague, shall certify accordingly.

Art. 13.—Every person certified by the Medical Officer of Health to be suffering from Cholera, Yellow Fever, or Plague shall be removed, if his condition admit of it, to some hospital or other suitable place appointed for that purpose by the Sanitary Authority; and no person so removed shall leave such hospital or place until the Medical Officer of Health shall have certified that such person is free from the said disease.

If any person so certified to be suffering from Cholera, Yellow Fever, or Plague cannot be removed, the ship shall remain subject, for

the purposes of this Order, to the control of the Medical Officer of Health; and such person shall not be removed from or leave the ship, except with the consent in writing of the Medical Officer of Health.

Art. 14.—Any person certified by the Medical Officer of Health to be suffering from any illness which such Officer suspects may prove to be Cholera, Yellow Fever, or Plague, may either be detained on board the ship for any period not exceeding two days, or be taken to some hospital or other suitable place appointed for that purpose by the Sanitary Authority, and detained there, for a like period, in order that it may be ascertained whether the illness is or is not Cholera, Yellow Fever, or Plague.

Art. 16.—The Medical Officer of Health shall, in the case of every ship certified to be infected give directions, and take such steps as may appear to him to be necessary, for preventing the spread of infection, and the Master of the said ship shall forthwith carry into execution such directions as shall be so given to him.

Provision is also made for the disposal of the dead, disinfection or destruction of any article of clothing, and disinfection of the vessel, and also for the prohibition from landing of passengers in a filthy or unwholesome condition, if such a course is desirable, with a view to check the introduction or spread of Cholera, Yellow Fever, or Plague.

The Public Health Act, 1896, provides that the penalty for refusal or obstruction in carrying out the regulations shall be £100, and a further penalty of £50 per day during which the offence continues.

(B) INFECTIOUS SICKNESS OTHER THAN CHOLERA, YELLOW FEVER AND PLAGUE.

On the 1st of August, 1894, the Port Sanitary Authority, with the approval of the Local Government Board, made the following regulations for the Port of Liverpool (pursuant to the Public Health Act, 1875, section 125), for the removal to Hospital of persons brought within the Port by any Ship or Boat who are infected with a Dangerous Infectious Disorder, Cholera being specially dealt with under the Order of the Local Government Board.

1.—In these Regulations the expression “The Port Sanitary Authority” means the Lord Mayor, Aldermen, and Citizens of the City of Liverpool, acting as the Port Sanitary Authority of the Port of Liverpool; the expression “Dangerous Infectious Disorder” means any one of the following diseases :—

Smallpox,
Diphtheria,
Membranous Croup,
Erysipelas,
Scarlatina or Scarlet Fever,
Typhus Fever,
Typhoid or Enteric Fever,
Relapsing Fever,
Continued Fever,
Puerperal Fever.

In these Regulations the expressions “Ship” includes a boat; and the expression “Medical Officer of Health” includes any legally qualified Medical Practitioner lawfully authorised to act on behalf of such Officer.

2.—These Regulations shall remain in force until they are revoked by the Port Sanitary Authority, or until fresh Regulations, under section 125 of the Public Health Act, 1875, are made by the Port Sanitary Authority and approved of by the Local Government Board.

3.—Every master or other person having charge of a ship arriving in the Port of Liverpool, with any person on board, whether a passenger or belonging to the ship's crew, suffering from a dangerous infectious disorder, shall forthwith send notice to the Medical Officer of Health of the Port Sanitary Authority, at his office at the Municipal Offices, Dale Street, Liverpool, that there is a person on board suffering from such a disorder.

4.—The master or other person in charge of the ship shall not allow any infected person to leave the ship without instructions from the Medical Officer of Health.

5.—The Medical Officer of Health, to whom notice is given, as afore-said, shall, as soon as practicable, visit the ship and ascertain whether the person referred to in the notice is suffering from a dangerous infectious disorder, and if, in the opinion of the Medical Officer of Health,

he is, and can properly be removed, and proper accommodation can be provided for him in the hospital of the Port Sanitary Authority, or in some other hospital to which the Port Sanitary Authority are entitled to remove patients, the master or other person having charge of the ship shall give every facility to the Officers of the Port Sanitary Authority to remove the patient to such hospital, according to the directions of the Medical Officer of Health.

6.—If any dangerous infectious disorder shall break out on board of any ship after arrival in the Port, the master or other person having charge of such ship shall give notice to the Medical Officer of Health of the Port Sanitary Authority, at his office at the Municipal Offices, Dale Street, Liverpool, that there is on board a person suffering from such disorder, and if, upon examination, the Medical Officer of Health shall find that he is so suffering, the master or other person having charge of such ship shall give every facility to the Officers of the Port Sanitary Authority to remove the patient to a hospital to which the Port Sanitary Authority are entitled to remove patients, as directed by the Medical Officer of Health.

7.—Every person who shall offend against any of the foregoing Regulations shall be liable for every such offence to a penalty of Forty Shillings. Provided, nevertheless, that the Justices or Court before whom any complaint may be made, or any proceedings may be taken in respect of any such offence, may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this Regulation.

The Corporate Seal of the City of
Liverpool was affixed to these
Regulations on the 1st day of
August, 1894, in the presence of

W. B. BOWRING,
LORD MAYOR.

L.S.

GEORGE J. ATKINSON,
TOWN CLERK.

Approved of by the Local Government Board,
this seventeenth day of August, 1894,

HUGH OWEN,
SECRETARY.

G. SHAW LEFEVRE,
PRESIDENT.

L.S.

The following is an extract from the Infectious Disease (Notification) Act, 1889 :—

NOTIFICATION OF DISEASE.

Notice is required to be given to the Medical Officer of Health of the occurrence of Infectious Disease by—

Every person in charge of, or in attendance on, the patient, and in default of any such person,

The master of the vessel (as soon as he becomes aware that the patient is suffering from an Infectious Disease).

Every Medical Practitioner attending on the patient is required, on becoming aware that the patient is suffering from an Infectious Disease, to send, on arrival in the Port, a Certificate to the Medical Officer of Health, stating the name of the patient, and the Infectious Disease from which, in the opinion of the Practitioner, the patient is suffering.

PENALTY.

Every person failing to give a notice or certificate shall be liable to a fine of not exceeding 40s.

The following are the principal provisions of the Act :—

DEFINITION OF INFECTIOUS DISEASE.

Infectious Disease is defined by the Act to be Smallpox, Cholera, Diphtheria, Membranous Croup, Erysipelas, Scarlatina or Scarlet Fever, and Typhus, Typhoid, Enteric, Relapsing, Continued or Puerperal Fever.

The Local Authority of any District is also authorized, subject to the approval of the Local Government Board, to order that the Act shall apply in their District to any Infectious Disease other than the Diseases specifically mentioned in the Act.

VESSELS, &c.

The provisions of the Act apply to every ship, boat, or vessel, and any ship, vessel, or boat lying in any water not within the district of any Local Authority, shall be deemed within the district of such Authority as may be fixed by the Local Government Board, and where the Local Authority is not so fixed, then of the Local Authority of the district which nearest adjoins the place where the vessel is lying.

The Act is not to apply to any vessel belonging to any Foreign Government, or to any building, ship, vessel, or boat belonging to Her Majesty the Queen or to any inmate thereof.

MANCHESTER SHIP CANAL.

On the 4th September, 1896, an Order of the Local Government Board was issued constituting joint representatives of Manchester, Salford, and Stretford, the Port Sanitary Authority for the Port of Manchester, the Order to come into operation on the 1st December, 1896; consequently the proposed arrangement, that the Officers of the Liverpool Port Sanitary Authority should deal with infectious sickness other than Cholera, Yellow Fever and Plague, on Manchester-bound ships whilst in Liverpool waters, as if such ships were bound for the Port of Liverpool, was no longer necessary.

Dr. Paget, the Acting Medical Officer of the Port of Manchester, is apprised as far as possible of the arrival of any vessel having sickness of any kind on board, but there will, from time to time, arise instances in which a person apparently in perfect health, but yet in an incubative stage of disease, may pass unnoticed through the Port. These instances, though rare, must not be lost sight of, as their occurrence may give rise in the minds of those unacquainted with the natural course of disease, to the belief that such cases ought to have been discovered, and cause unjust reflection upon the Medical Officer of the ship.

SANITARY CONDITIONS OF VESSELS.

For the systematic inspection of the sanitary condition of vessels the Liverpool Port Sanitary District is divided into north, south, and outlying divisions, to each of which an Inspector is appointed to visit and inspect vessels lying within his district, and who makes a daily report to the Assistant Port Medical Officer, Dr. Moore.

The points on which the Inspectors are required to report include the efficiency of sanitary fittings; the condition of the bilges and bilge water; the source of supply and storage of drinking water, cleanliness, accessibility for cleansing purposes, and protection of tanks, &c., from contamination; and the condition of crews' quarters with regard to ventilation, cleanliness, and protection from weather. When structural

alterations are necessary, the Assistant Port Medical Officer visits the vessel, and agents or masters are prepared in the great majority of cases to accept the responsibility of causing the suggestions made to be carried into effect. But if it becomes requisite, or is desired by the master or agent, a notice is served upon the owner in conformity with the provisions of the Public Health (Ships) Act, requiring the necessary work to be done.

The following Table indicates the number of visits paid to vessels by the Inspectors during the year :—

TABLE 1.

Nationality.	Visits.	Re-visits.	Total.
British ...	2,838	1,398	4,236
American ...	2	1	3
German ...	29	15	44
Portuguese ...	14	10	24
Spanish ...	207	86	293
Swedish ...	34	28	62
Norwegian ...	250	192	442
Austrian ...	2	1	3
Danish ...	56	16	72
Dutch ...	15	9	24
French ...	24	11	35
Italian ...	10	3	13
Belgian...	11	7	18
Russian ...	9	17	26
Finnish ...	8	12	20
Greek ...	6	6	12
Brazilian ...	1	9	10
	<u>3,516</u>	<u>1,821</u>	<u>5337</u>

The actual number of vessels visited and examined by the Inspectors was 3,516. Their reports show that on board 1,996 of these the sanitation did not meet the requirements of the Public Health (Ships) Act. The total number of defects found were an average of two per vessel examined. Original faults of construction, such as defective ventilation, unsheathed iron; wear and tear, and neglect of necessary repairs, resulting in insanitary conditions; inattention to cleanliness, &c., are accountable for the defects complained of. The following Table indicates the number of defects found :—

TABLE 2.

VESSELS INSPECTED.

Total Number.	Defective (As per Table below).	Per cent.
3,516	1,996	56

DEFECTS.

Total number 4,551, average per vessel 2.

(a) Of Construction.	Per cent.	(b) Structural.	Per cent.	(c) Dirt.	Per cent.
531	11·6	1,378	30·2	2,642	58·0

In 112 cases notices were served upon the owners, under the Public Health Act. During the year 122 letters were sent to owners and agents in reference to defects found upon inspection, and in addition, 27 communications relating to these matters were sent to Medical Officers of other ports.

The following Table gives the particulars of the Seventy-eight
with the measures

Date 1896.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Jan. 2	Indefatigable (Training Ship)	In the River ...	Scarlatina (3 cases)	Birkenhead ...
Jan. 3	Belgenland	Philadelphia.....	Measles.....	.....
Jan. 4	Akbar (Reformatory Ship)	In the River ..	Scarlatina	Birkenhead ...
Jan. 6	Mongolian	Montreal	Chicken Pox ... (2 cases)	.....
Jan. 8	Indefatigable (Training Ship)	In the River ...	Scarlatina (3 cases)	Parkhill
Jan. 12	Orissa	Monte Video	Enteric.....	Grafton Street
Jan. 12	Asia	Bombay, via Marseilles	Smallpox .....	.....
Jan. 27	Iberia.....	Valparaiso, Bahia, &c.	Smallpox .....	.....
Jan. 28	Dartmoor.....	Black Sea Ports	Enteric.....	.....
Jan. 28	Victoria.....	Savannah	Enteric..... (2 cases)	Grafton Street
Feb. 1	Isaac Pennock.....	Huelva	Smallpox (2 cases)	.....
Feb. 4	Clement.....	Para	Enteric.....	.....
Feb. 13	Caspian	Bombay.....	Enteric.....	Grafton Street
Feb. 18	Lemgo ...	Rio-de-Janeiro and Demerara	Smallpox (2 cases)	.....

Vessels reported as having, or having had, Zymotic Disease on board, adopted in each case.

REMARKS.

- The patients were removed to Hospital at Birkenhead, and the vessel, bedding, &c., disinfected by the ship's crew.
- The patient convalescent on arrival and proceeded home; vessel and bedding disinfected by the Port Sanitary Authority.
- The patient was removed to Hospital at Birkenhead, and the vessel and bedding disinfected by the ship's officers.
- The patients convalescent on arrival and proceeded home; the vessel, bedding, &c., disinfected by the Port Sanitary Authority.
- The patients removed to hospital, together with eleven other boys (who had been in contact with them), for isolation and disinfection. The vessel, bedding, &c., disinfected by the ship's officers.
- The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.
- The case occurred on the 9th instant, and was removed to Hospital at Glasgow, where the vessel was disinfected. On her arrival here the vessel was visited from time to time, but no further sickness occurred.
- The case was landed at Bahia on the 10th January with all his effects. The vessel and bedding disinfected by the crew.
- The captain reported all well on arrival, a member of the crew had been landed at Malta on the 13th December suffering from enteric fever; the vessel and bedding were disinfected by the Port Sanitary Authority.
- The patients removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.
- The vessel passed through the Port of Liverpool on the 29th January, bound for Manchester. At that time the captain reported all well on board. She was visited on arrival in Manchester by the Medical Officer of Health of Salford, and there was then no sickness. The following day two cases of sickness were reported, which ultimately turned out to be smallpox. There was no reason to doubt that the report of the captain was perfectly correct, and that the patients were in an incubative stage of the disease when they passed through the Port of Liverpool.
- One of the crew, who had gone to his home, was reported ill, and was found to be suffering from typhoid fever. The vessel and bedding disinfected by the Port Sanitary Authority.
- The patient was removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.
- Two cases occurred on board, one of which died and the other was removed to hospital at Demerara on the 17th November last, the vessel, &c., disinfected by the Port Authorities at Demerara.

Date 1893.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
March 2	H.M.S. Eagle	In the King's Dock	Measles..... (2 cases)	Brownlow Hill
March 6	Armenia	Bombay.....	Smallpox .....	.....
March 7	Friden	Taltal.....	Enteric.....	Brownlow Hill
March 18	Brenttor	Buenos Ayres ...	Enteric..... (2 cases)	Parkhill
March 18	Majestic	New York	Measles.....	.....
March 20	Pegu	Rangoon	Smallpox .....	.....
April 4	Ormidale	Bombay.....	Smallpox	New Ferry.....
April 15	Marlborough	West Bay.....	Enteric.....	Grafton Street
May 9	Umbria.....	New York	Measles.....	Priory Road.
May 14	Majestic.....	New York	Erysipelas.....	.....
May 18	Victoria.....	River Plate Ports	Typhoid	Mill Lane.....
May 23	Etruria	New York	Measles.....	.....
May 30	Campania	New York	Measles.....	Priory Road
May 31	Arcadia	Alexandria	Cholera.....	.....
June 2	Parisian.....	Quebec	Scarlatina	Mill Lane.....

REMARKS.

The patients removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

This vessel left a patient suffering from smallpox at Port Said on the 9th ultimo. The vessel, &c., disinfected by the ship's surgeon.

A seaman, on joining the vessel at this port, was found to be unwell; he was taken to the Brownlow Hill Hospital, and was then found to be suffering from enteric fever. The vessel, bedding, &c., disinfected by the Port Sanitary Authority.

The patients removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient convalescent on arrival, and allowed to proceed home; the vessel and bedding disinfected by the Port Sanitary Authority.

This vessel had left a patient at Aden on the 27th ultimo, suffering from smallpox; necessary preventive measures were taken by the surgeon on board. All were well on arrival.

The patients were removed to hospital, all infected articles destroyed, and the vessel disinfected by the Port Sanitary Authority.

The patient was removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient convalescent on arrival and proceeded home; the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to private apartments for nursing and isolation, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

Two deaths from cholera occurred on board, one seven days and one six days prior to the vessel's arrival at this port; the bodies had been buried at sea. The vessel was disinfected on arrival at this port in the usual manner.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

Date 1896.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
June 3	Mystic	Londonderry	Measles	Brownlow Hill
June 10	Majestic.....	New York	Measles .....	.....
June 11	Jan Derk	Maracaybo.....	Enteric	Grafton Street
June 12	Lucania	New York	Measles .....	.....
June 22	Flaminian	Genoa	Enteric	Grafton Street
June 25	Dahlia	Savannah	Enteric	Grafton Street
	(for Manchester)			
July 1	Hilda	River Plate, via Falmouth	Enteric .....	.....
July 2	Britannic	New York	Measles	Priory Road.....
July 2	Waesland	Philadelphia.....	Enteric	Grafton Street
July 4	Whitburn.....	River Plate Ports	Enteric	Grafton Street
July 5	Flaxman	Brazilian Ports	Enteric	Grafton Street
	(for Manchester)			
July 15	Courant.....	Quebec	Enteric .....	.....
July 18	Etruria.....	New York	Enteric	Royal Infirmary
July 19	Gallia.....	Boston	Measles .....	.....
			(2 cases)	
July 22	Trinidad	Smyrna.....	Enteric	Grafton Street

REMARKS.

The patient, a passenger from Londonderry, was taken to hospital, and the vessel and bedding disinfected by the crew.

The patient convalescent on arrival and proceeded home, the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient convalescent on arrival, and allowed to proceed home, the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient was removed to hospital at this port, and the vessel disinfected (so far as time permitted) by the Port Sanitary Authority. The Medical Officer of Health at Manchester was communicated with.

A death from enteric fever occurred on board prior to the vessel's arrival at Falmouth. The vessel, &c., disinfected by the Port Sanitary Authority here.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital at this port, and the Medical Officer of Health at Manchester informed of the circumstances.

All well on arrival, but two days later a member of the crew became ill, and on the 24th instant was found to be suffering from enteric fever; he was admitted to the Bootle Infectious Hospital; the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patients were landed at Queenstown, the vessel and bedding disinfected by the Port Sanitary Authority on arrival at this port.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

Date 1896.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
July 28	Hubert	Para	Yellow Fever ...	.....
July 30	Belgenland	Philadelphia.....	Measles.....	Priory Road ...
Aug. 5	Phoenician	Buenos Ayres ...	Enteric.....	Netherfield ...
Aug. 7	Cleaveland	Quebec	Enteric.....	Southern.....
Aug. 7	Lucania	New York	Scarlatina	Netherfield ...
Aug. 22	Ramon-de- Larrinaga	Port Royal.....	Enteric.....	Grafton Street
Aug. 24	Gallia.....	Boston	Measles.....	Priory Road ..
Aug. 24	William Connal ... (for Salford Docks)	Bordeaux	Enteric.....	.....
Aug. 25	Lapland.....	Hamburg	Enteric.....	Brownlow Hill
Aug. 29	Mareotis.	Smyrna and Mediterranean Ports	Smallpox .....	.....
Sept. 1	Familjen.	Savannah.....	Enteric. (2 cases)	Northern.....
Sept. 7	Sard.....	Glasgow.....	Enteric.....	Grafton Street

REMARKS.

The case had been landed at Lisbon on the 23rd July, all infected articles and the vessel disinfected under the supervision of the ship's surgeon.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient was taken to the Southern Hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient remained on board, and the Medical Officer of Health for Salford informed of the circumstances.

On the 1st September a notification was received from the Brownlow Hill Hospital that Frederick Richardson had been admitted to that institution suffering from enteric fever. He came from this vessel. The Master reported all well on arrival; it transpired that the man was in a depressed condition, but he made no complaint of sickness.

A case of smallpox had been landed at Malta on the 8th instant, viz., three weeks prior to the arrival of the vessel, the patient's bedding and effects had been landed with him, and the cabin and berth fumigated and re-painted by the crew.

The patients were removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

Date 1896.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Sept. 18	Cherbourg.....	Constantinople..	Smallpox	Parkhill
Sept. 19	Ida	Pensacola	Enteric	Grafton Street
Sept. 22	Laurentian	Quebec	Diphtheria	Grafton Street
Sept. 30	Navigator	New Orleans ...	Enteric	Grafton Street
Oct. 1	Holgate	Buenos Ayres ...	Enteric	Grafton Street
Oct. 6	Flaminian	Mediterranean Ports	Enteric .....	.....
Oct. 12	Trinidad	Smyrna.....	Smallpox	Parkhill
Oct. 24	Canada	Montreal	Enteric	Netherfield ...
Oct. 26	Chaucer.....	River Plate Ports	Enteric .....	.....
Oct. 28	Rhymland.....	Philadelphia....	Enteric	Grafton Street
Oct. 28	Ararat	Smyrna.....	Smallpox .....	.....
Oct. 30	Trinidad	Smyrna.....	Smallpox .....	.....
Nov. 10	Oporto	Lisbon	Smallpox	Parkhill
			(2 cases)	

REMARKS.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority. All persons, except four who had recently undergone the operation, were re-vaccinated by the Assistant Medical Officer of Health.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

A case of enteric fever was reported to have been left at Gibraltar, on the outward passage. This patient had been in attendance on the case reported 22nd June last.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority. The remainder of the crew, two passengers, and the Pilot were re-vaccinated by the Assistant Medical Officer of Health.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

A death from enteric fever occurred on board on the 6th instant, the effects of the deceased and the vessel were disinfected on arrival by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

A case of smallpox had been landed at Gibraltar on the 23rd instant, where the vessel was disinfected.

This vessel was referred to on October 12th, and a second case occurred in the person of a member of the crew; he was removed to hospital by the Bootle Authorities.

A case of smallpox was landed on the 29th ultimo at Lisbon, the vessel was disinfected in the usual manner by the Officers of the Port Sanitary Authority. On the 13th, the steward of the vessel was removed from an address in the City to Parkhill Hospital, suffering from smallpox.

Date 1896.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Nov. 14	Baracoa	Katakolo	Smallpox (2 cases)	Parkhill
Nov. 21	Algoa	Galveston	Enteric	Netherfield
Nov. 24	Parisian	Montreal	Smallpox .....	.....
Nov. 25	Treasury	Galveston	Enteric	Northern
Nov. 30	H. M. S. Eagle ...	In the King's Dock	Enteric	Children's Infirmary
Dec. 13	Ocean Prince	Lattakia	Enteric	Grafton
Dec. 20	Labrador	Montreal	Measles	Brownlow Hill
Dec. 26	Lucania	New York	Scarlatina .....	.....
Dec. 30	St. Denis	Paris	Enteric	Grafton St.

REMARKS.

The patients removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority. The whole of the crew (with the exception of the captain, who had recently been done) were re-vaccinated. A list of the names of those who were leaving the vessel was obtained, and as they were about to proceed to Norway, this was transmitted to the Norwegian Consul.

The patient was removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The case was that of a workman in whom the disease was so highly modified as to escape recognition by the surgeon on board, and was ascertained through the disease being communicated to a relative in the City. The workman was quite convalescent, and was disinfected in hospital, the vessel and bedding disinfected in the usual manner.

The illness was obscure and was not reported to the Customs, but was removed to a house in the City, whence it was taken to the Northern Hospital.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

On the 21st ultimo the third officer had been landed at Beyrout, suffering from enteric fever, the third engineer was suffering from the disease on arrival at this port, he was removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient removed to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

The patient suffered from a mild form of the disease, and was allowed to proceed to friends in London, special precautions being taken by the Railway Company, and Dr. Winter Blyth, the Medical Officer of Health of the district where the patient was going, being duly notified of the case.

This case was obscure and was not notified to the Customs on arrival; the patient was removed from 71, Caryl Street, in the City, to hospital, and the vessel and bedding disinfected by the Port Sanitary Authority.

TABLE 4.

INFECTIOUS DISEASE.

The actual number of cases of infectious sickness landed from vessels arriving in the Port of Liverpool during 1896, and the comparison with the average of the preceding 10 years, is shown in the following Table :—

Diseases.	1896. Number of Cases.	Average for the preceding 10 years.
Smallpox	10	4·8
Scarlatina	10	6·3
Typhus Fever	0	0·5
Enteric Fever	35	14·2
Diarrhœa	0	0·1
Diphtheria	1	1·0
Measles	14	11·7
Whooping Cough	0	0·0
Erysipelas	1	0·5
Chicken Pox	2	1·5
Cholera	0	0·0
Yellow Fever	0	0·1
Plague	0	0·0
Totals...	73	40·7

The above Table includes seven cases of Enteric Fever arriving in the Port in an incubative stage.

TABLE 5.

INFECTIOUS DISEASE.

The number of cases of infectious sickness reported to have occurred on Liverpool-bound ships, and which were disposed of prior to the arrival of the vessel at this port, and the average of all cases for the preceding 10 years, is as follows :—

Diseases.	1896. Number of Cases.	Average for the preceding 10 years.
Smallpox	9	1·3
Scarlatina	0	0·1
Typhus Fever	0	0·0
Enteric Fever	5	2·1
Diarrhœa	0	0·5
Diphtheria	1	0·1
Measles	2	1·8
Whooping Cough	0	0·1
Erysipelas	0	0·1
Chicken Pox	0	0·5
Cholera	2	1·5
Yellow Fever	1	2·1
Totals	20	10·2

TABLE 6.

NON-INFECTIOUS SICKNESS.

Besides cases referred to on Tables 4 and 5, there was a considerable number of other cases of non-infectious sickness reported, some of which were examined by the Assistant Medical Officer or Dr. Roberts. Among these, none of which were of a character to endanger the public health, were included the following :—

	No. of Cases.			
Rheumatism	12
Beri-beri	15
Dysentery	28
Malaria	247
Syphilis	13
Consumption	38
Tropical Anæmia	8
Scurvy	12
Sea sickness (Fatal)	2
Congestion of the Brain	2
Tropical Abscess of the Liver	3
Abscess	2
Fractured Limb	1
Bronchitis	20
Diarrhœa	9
Pneumonia...	10
Dropsy	9
Dyspepsia	7

TRAINING SHIPS.

Illness on board, which engaged the attention of the Port Sanitary Authority, was limited to seven cases of Scarlatina. Three cases were removed, on January 2nd, from the "Indefatigable" to the Birkenhead Infectious Diseases Hospital, and three on January 8th to the City Hospital, Parkhill. The vessel, bedding, &c., were disinfected by the ship's officers.

One case occurred on board the "Akbar," on January 4th, and was removed to the Birkenhead Hospital. The vessel, bedding, &c., were disinfected by the ship's officers, and no further cases occurred.

EMIGRATION.

The steady diminution in emigration which had continued almost without interruption since 1891 was still further marked during last year; the number of emigrants passing through being 18,917 less than in 1895. No doubt a considerable number of emigrants go direct from the Continent, instead of through Liverpool as in former years.

The following is a return of the number of emigrants, and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1886 to 1896 :—

TABLE 7.

In 1886, 191,491 Emigrants, and 867 Clearances of Ships.			
„ 1887, 237,999	„	973	„
„ 1888, 240,566	„	992	„
„ 1889, 197,855	„	994	„
„ 1890, 190,785	„	917	„
„ 1891, 206,418	„	933	„
„ 1892, 200,786	„	886	„
„ 1893, 167,468	„	808	„
„ 1894, 106,147	„	748	„
„ 1895, 117,196	„	723	„
„ 1896, 98,279	„	758	„

The following Tables, Nos. 8 and 9, relating to Emigration, have been kindly supplied by the Board of Trade.

TABLE 8.

Statement showing the number of Passengers of each Nationality that left the Port of Liverpool for places out of Europe in the year 1896:—

DESTINATION.	NATIONALITY OF PASSENGERS.					
	English.	Scotch.	Irish.	Foreign.	Not known.	Total.
United States ...	31,571	1,478	5,371	38,842	410	72,172
British North America.....	12,768	582	100	7,241	53	20,694
Australia & New Zealand	58	69	26	1	9	163
East Indies .....	...	...	...	...	1,387	1,387
British West Indies.....	5	1	...	...	89	95
Cape of Good Hope & Natal...	...	...	...	...	...	...
Central & South America	950	325	94	328	127	1,824
All other places...	1	...	...	6	1,937	1,944
1896, total	45,353	2,405	5,591	40,918	4,012	98,279
1895, „	57,410	3,303	8,254	44,467	3,759	117,196
Increase .....	...	...	...	...	253	...
Decrease	12,057	901	2,663	3,549	...	18,917

TABLE 9.

Number of Passengers of each Nationality, as given in Table No. 8, that sailed from the Port of Liverpool in each month of the year 1896.

MONTH.	NATIONALITY OF PASSENGERS.					Total.
	English.	Scotch.	Irish.	Foreigners	Not distinguished	
January	1,894	182	193	1,331	261	3,861
February	2,508	213	202	1,824	266	5,013
March	3,338	193	367	4,215	217	8,330
April	5,310	215	1,103	5,744	232	12,604
May.....	4,459	181	891	4,790	189	10,510
June	3,477	153	406	3,846	164	8,046
July.....	4,736	168	412	3,584	221	9,121
August	5,668	363	513	4,670	381	11,595
September	5,802	319	753	5,275	552	12,701
October	4,255	240	452	2,957	812	8,716
November	2,160	93	164	1,590	420	4,427
December	1,746	85	135	1,092	297	3,355
Total	45,353	2,405	5,591	40,918	4,012	98,279

Statistical Department,

Board of Trade,

22nd February, 1897.

INSPECTION OF EMIGRANTS.

Emigrants are medically inspected on board the outward-bound steamers by Dr. Spooner or Dr. Hill, Medical Officers appointed by the Board of Trade, and also, during certain seasons, by Medical Officers acting for the American Government. Emigrants showing symptoms of illness of any kind, or coming from localities where infection is rife, are liable to be rejected; persons likely to be rejected on arrival in America by the Immigration Officers there by reason of liability to become a charge upon the public in America, may be rejected; further, the rejection of one member of a family may necessitate the detention of the rest.

One of the Port Sanitary Committee's Inspectors is present at each medical inspection of Emigrants, to take charge of any who may be rejected, and convey them to an appropriate place. In this way the possibility of an emigrant who may be suffering from any infectious disease being allowed to wander through the streets is obviated.

During the year the Port Sanitary Inspectors have attended at the medical inspections of Emigrants on board of 288 vessels, that being the total number in which medical inspection was required. Rejections took place from 23 of these vessels; 36 persons (7 Adults, 27 Children, and 2 infants) being returned on shore on medical grounds.

The health of emigrants on arrival in the City has been very good, only five cases of zymotic illness arising amongst them, and these being all of a relatively unimportant character, viz.;—4 cases of measles.

The number of emigrants embarked during the year is 92,279. Of the two following tables, the first shows the number of emigrants found to be ill on arriving in Liverpool; the second gives the number of emigrants rejected during the year, the cause of such rejection, and the disposal of the rejected person.

TABLE 10.

Emigrants suffering from sickness on their arrival by land in Liverpool, and sent to Hospital, and the average for the preceding ten years.

Diseases.				1896.	Average for preceding 10 years.
				Number of Cases.	
Cholera	...	...	...	...	1·0
Diarrhœa	..	...	...	...	0·1
Smallpox	...	...	...	...	0·3
Fever	...	...	...	...	1·8
Scarlatina	...	...	...	...	3·2
Diphtheria	...	...	...	...	0·3
Measles	...	...	...	4	16·1
Chicken Pox		...	...	...	1·0
Totals	...	...		4	23·8

TABLE 11.
PARTICULARS OF REJECTIONS OF EMIGRANTS
AFTER MEDICAL INSPECTION ON BOARD SHIP.

Date. 1896.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
Feb. 19	Britannic	Suspicious ..	Boarding House, 17, St. Paul's Square	Child
March 26	Catalonia	Suspicious Rash ..	Boarding House, 4, Gt. George's Square.	„
April 8	Rhymland	Erysipelas of Face	Boarding House, 11, Gt. George's Square.	Adult
„ 15	Britannic	Lupus	Returned home	„
May 26	Aurania	Having been ex- posed to the infection of Measles	„ „ ..	„
June 17	Majestic	Chicken Pox .. (convalescent)	„ „ ..	Child
„ 23	Aurania	Suspicious Erup- tions	Brownlow Hill Hospital	Children (5)
		Imbecility ..	„ „ ..	Adult
		Alcoholism ..	Returned ashore	„
July 15	Adriatic	Mumps	Brownlow Hill Hospital	Child
„ 23	Servia	Whooping Cough	„ „ ..	Infant
Aug. 13	Labrador	Measles	Boarding House, 10, Virginia Street	Child
„ 20	Parisian	Alcoholism ..	Returned ashore	Adult
Sept. 10	Pavonia	Suspicious Rash ..	Boarding House, 3, Gt. George's Square.	Child
„ 17	Catalonia	Chicken Pox ..	Boarding House, 5, Gt. George's Square.	„
„ 24	Parisian	Measles	Boarding House, 20, Lydia Ann Street (for isolation)	„

TABLE 11.—*Continued.*

PARTICULARS OF REJECTIONS OF EMIGRANTS

AFTER MEDICAL INSPECTION ON BOARD SHIP.

Date. 1896.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
Sept. 26	Campania	Suspicious Rash ..	Boarding House, 5, Gt. George's Square.	Child
„ 30	Rhynland	Feverish	Brownlow Hill Hospital	„
Oct. 8	Mongolian	Dirty condition ...	Boarding House, 20, Lydia Ann Street	Children (6) Adult
„ 10	Lucania	Feverish	8, Pierpoint Street, Warrington	Child
„ 14	Germanic	Scabies	Brown low Hill Hospital	„
„ 17	Etruria	„	Braintree, Essex... ..	Children (2)
„ 21	Teutonic	„	Dudley, Staffordshire ..	Infant
Nov. 20	Lake Huron	Chicken Pox	Brownlow Hill Hospital	Child
„ 26	Numidian	„	„	„

TABLE 12.

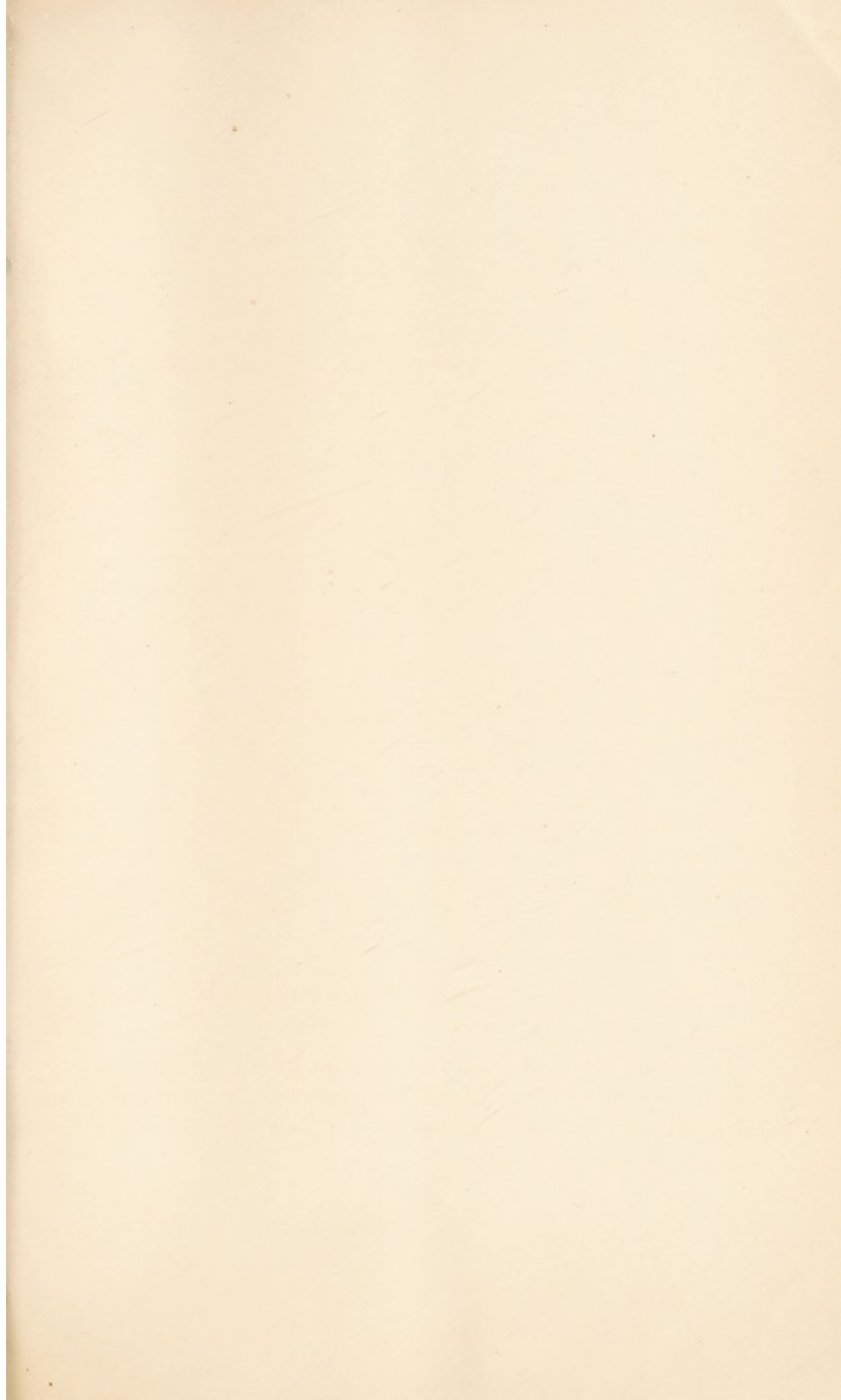
Articles from the Training Ship "Conway," disinfected at the Apparatus,
Chisenhale Street, during the year 1896.

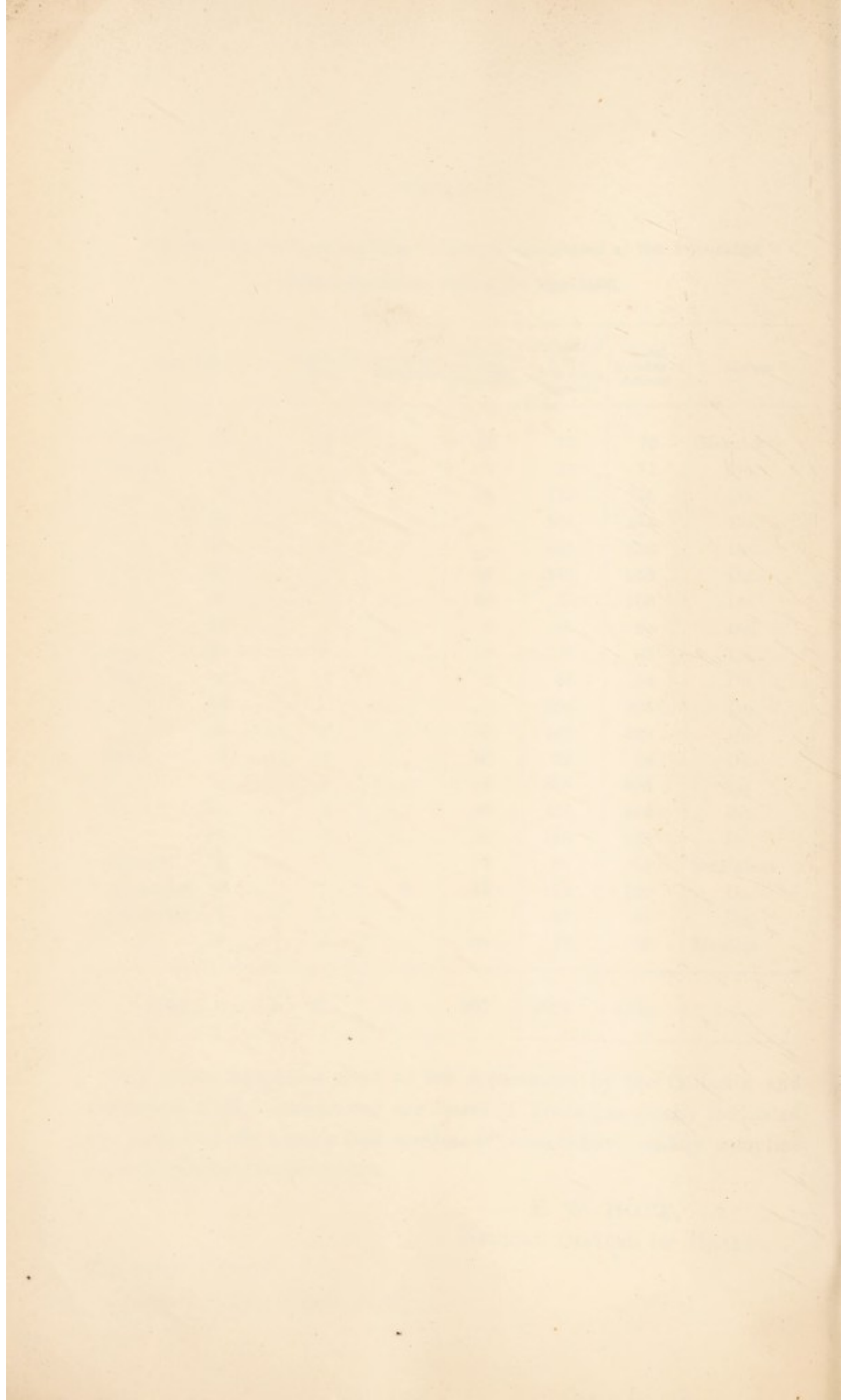
Date—1896.			Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	Number of Pieces of Wearing Apparel.	Total Number of Articles.	Disease.
January	30	.....	9	...	45	16	70	Measles
March	3	.....	...	...	1	70	71	Do.
"	6	.....	4	...	19	110	133	Do.
"	10	.....	...	...	...	354	354	Do.
"	13	.....	...	...	...	623	623	Do.
"	17	.....	7	...	68	278	353	Do.
"	18	.....	7	...	38	55	100	Do.
"	30	.....	1	...	5	56	62	Do.
April	27	.....	1	...	10	56	67	Do.
May	12	.....	1	...	9	44	54	Do.
"	28	.....	...	...	...	296	296	Do.
"	29	.....	8	...	32	442	482	Do.
June	3	.....	6	...	30	22	58	Do.
"	8	.....	4	...	23	868	895	Do.
"	11	.....	1	...	48	405	454	Do.
"	16	.....	7	...	35	133	175	Do.
October	8	.....	1	...	7	66	74	Scarlatina
November	10	.....	1	2	12	112	129	Do.
December	3	.....	...	...	...	45	45	Do.
"	9	.....	3	...	15	12	30	Measles
Total			61	2	397	4063	4523	...

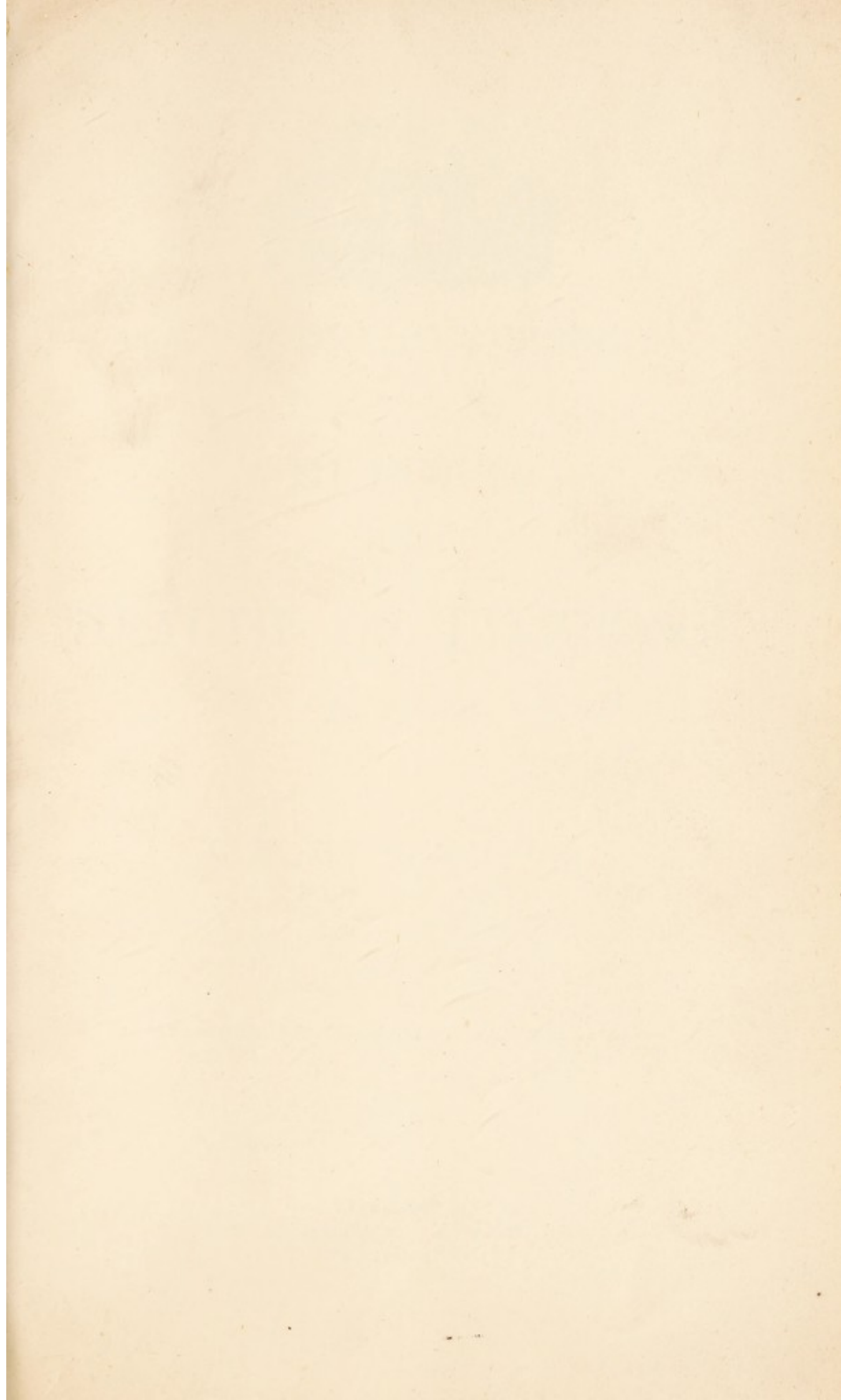
The willing assistance given to the department by the Collector and Officers of H.M. Customs and the Board of Trade has greatly facilitated the work, and the owners and masters of vessels have readily complied with all sanitary requirements.

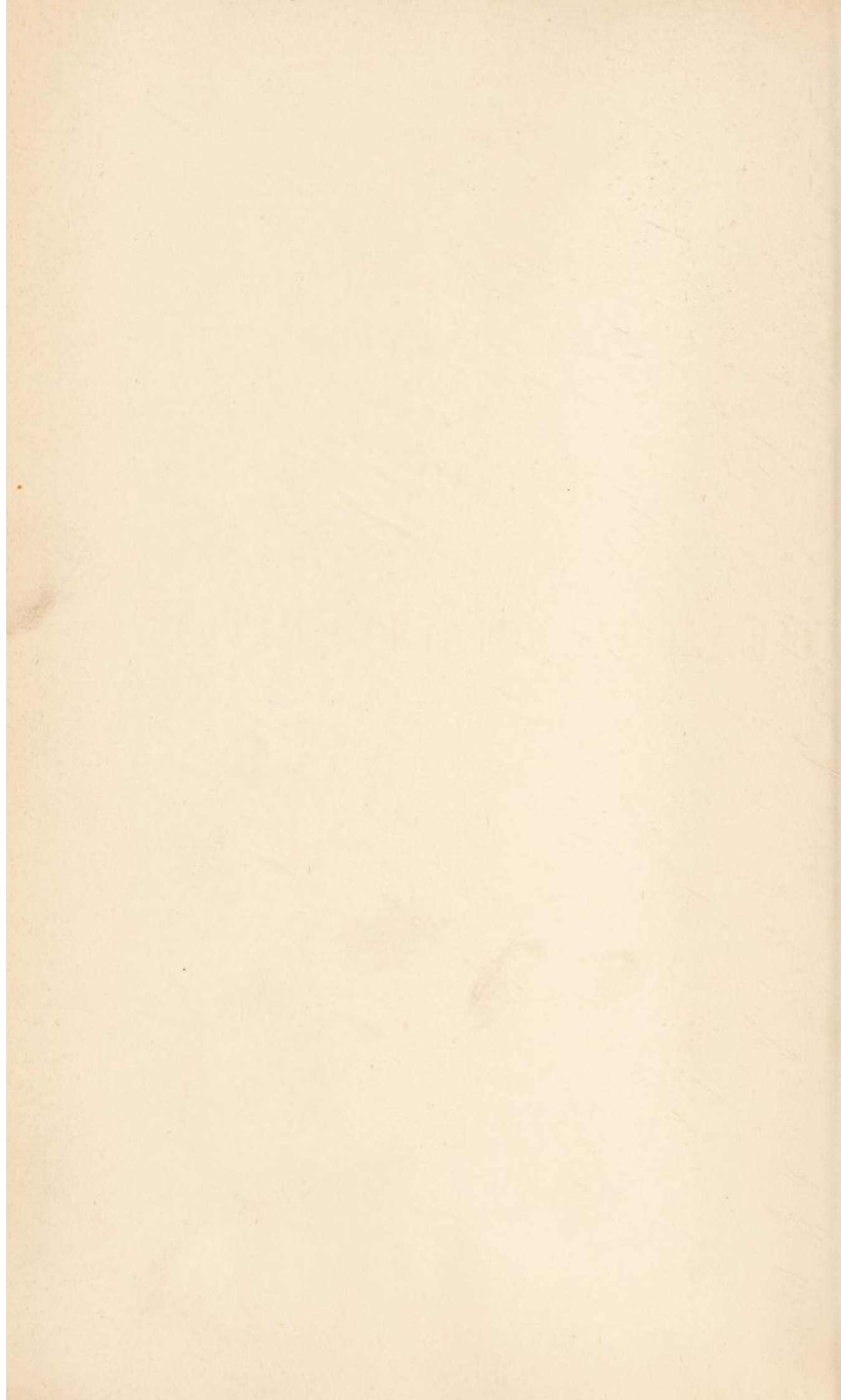
E. W. HOPE,
MEDICAL OFFICER OF HEALTH.

MUNICIPAL OFFICES,
LIVERPOOL, 25th March, 1897.











CITY OF LIVERPOOL.

REPORT

ON THE

HEALTH OF LIVERPOOL

DURING 1896.

BY

E. W. HOPE, M.D., D.Sc.,

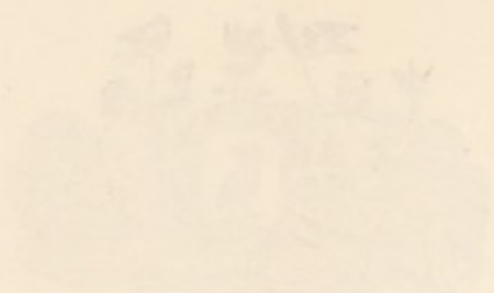
Medical Officer of Health.

(Ordered by the Health Committee to be printed, 10th June, 1897.)

LIVERPOOL:

J. R. WILLIAMS & Co., 8, SCHOOL LANE.

1897.



CITY OF LIVERPOOL

REPORT

HEALTH OF LIVERPOOL

1891

F. W. FROST, M.D., D.S.

Sanitary Officer

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APPENDIX.

A.—Table of General Mortality.

B.—Table of Population, Births and Infectious Sickness.

Diagram illustrating Death Rate since 1861.

C.—Table of Deaths registered in the City.

Map shewing localities of Typhus Fever.

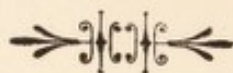


Diagram showing Birth Rate (lines)
 of the
 Death Rate (black)
 Population
 per 1000
 in
 the
 City

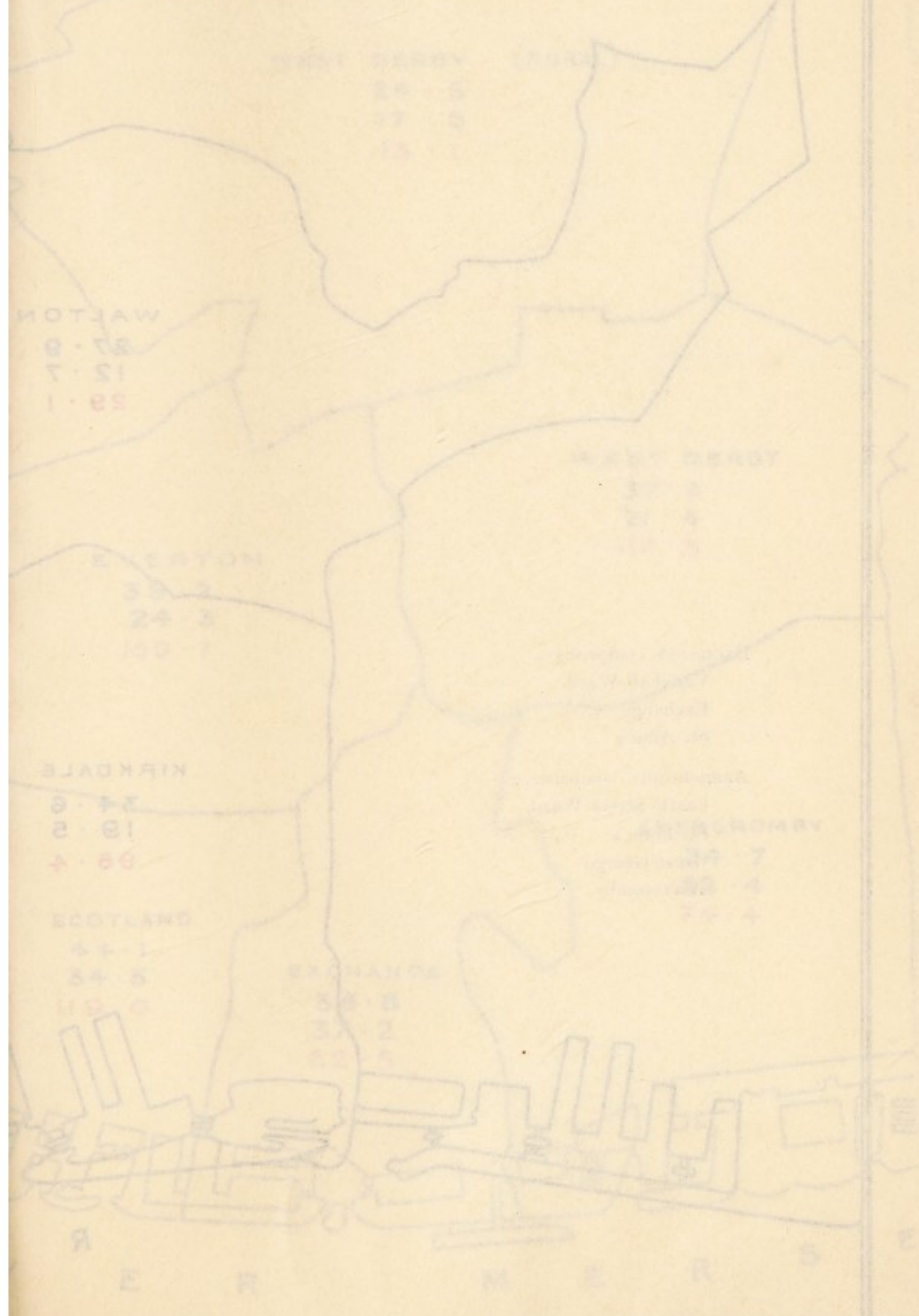
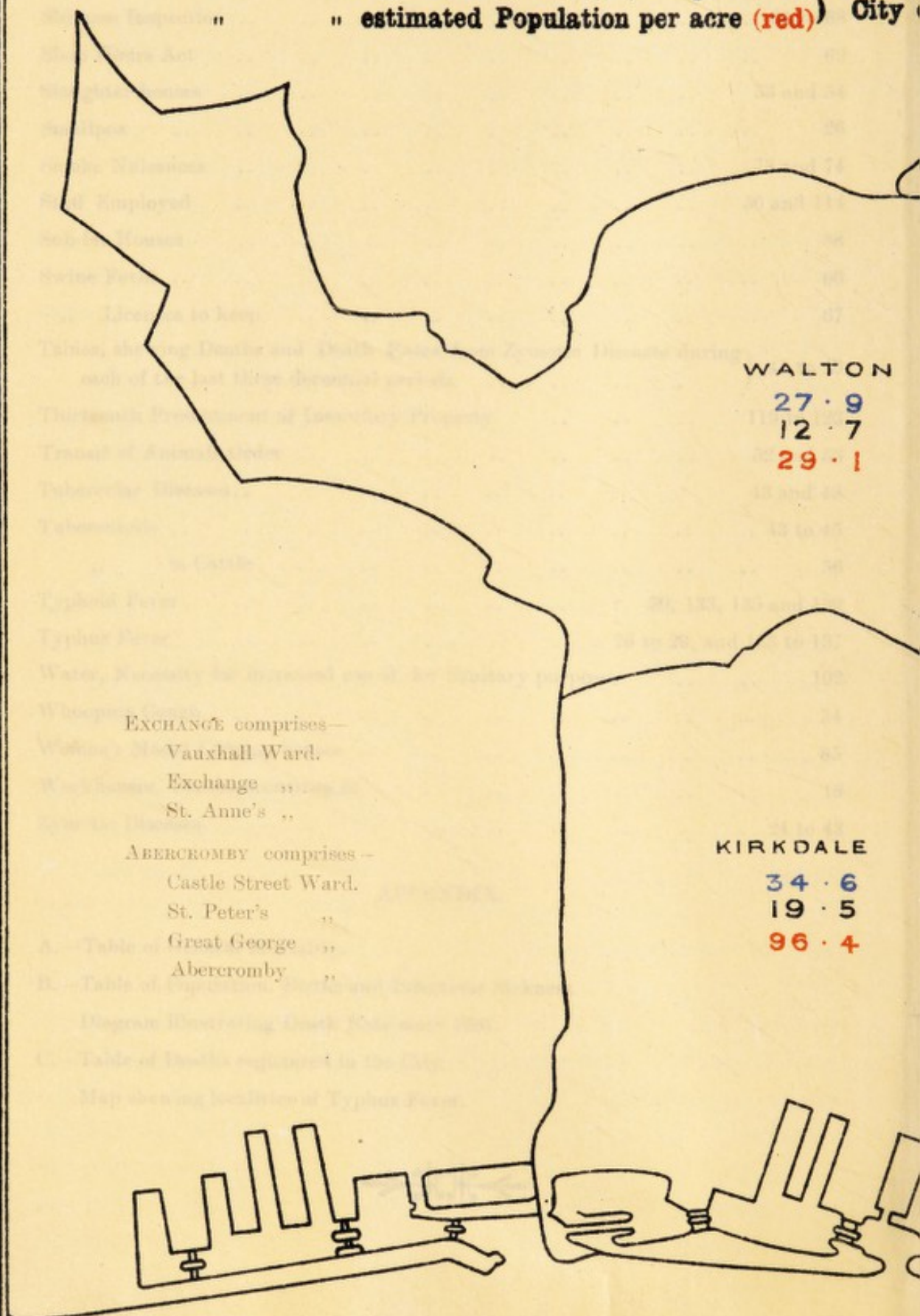


Diagram showing Birth Rate (blue) } per 1000
 " " Death Rate (black) } of the
 " " estimated Population per acre (red) } Population. } in e
 City }



WALTON

27 · 9

12 · 7

29 · 1

EXCHANGE comprises—

Vauxhall Ward.

Exchange „

St. Anne's „

ABERCROMBY comprises—

Castle Street Ward.

St. Peter's „

Great George „

Abercromby „

KIRKDALE

34 · 6

19 · 5

96 · 4

CITY OF LIVERPOOL.

WEST DERBY (RURAL)

24 · 3

17 · 5

13 · 1

WEST DERBY

37 · 2

21 · 4

117 · 5

EVERTON

39 · 2

24 · 3

159 · 7

ABERCROMBY

34 · 7

22 · 4

74 · 4

SCOTLAND

44 · 1

34 · 5

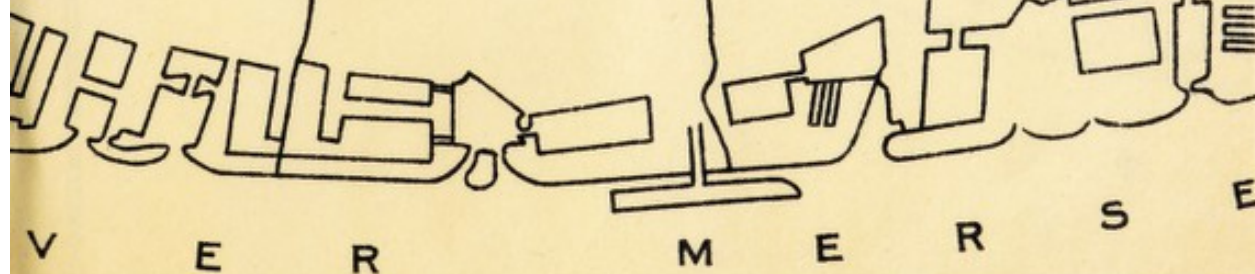
119 · 0

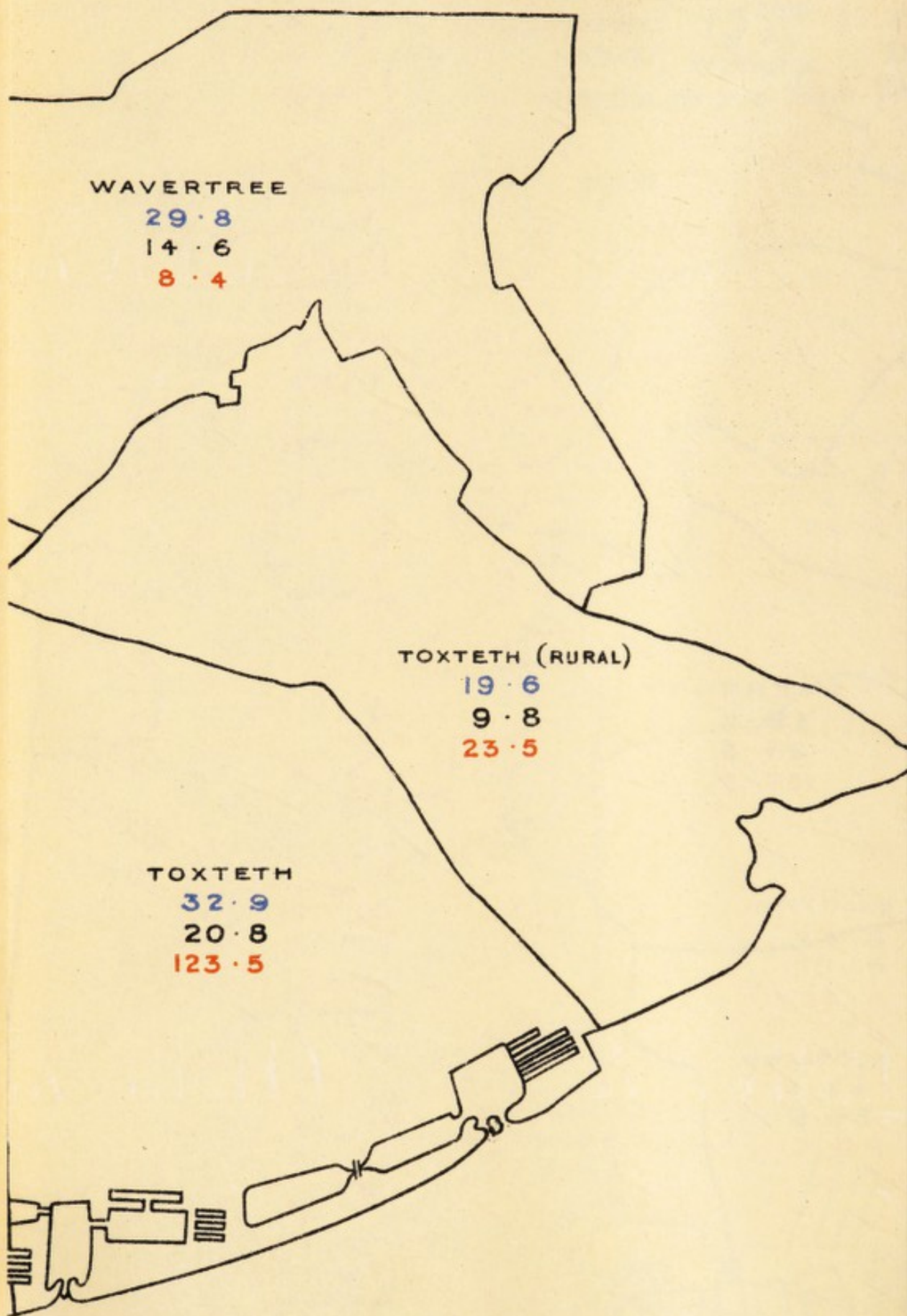
EXCHANGE

36 · 8

37 · 2

82 · 5





VITAL STATISTICS.

GENERAL AND ZYMOTIC DISEASE.

VITAL STATISTICS

GENERAL AND SPECIAL REPORT

AREA AND POPULATION.

THE area under the jurisdiction of the Council of the City of Liverpool, acting as the Urban Sanitary Authority, comprises 13,236 acres ($20\frac{1}{2}$ square miles).

The population of this area at the middle of 1896 is estimated to have been 641,063, and is made up of 140,341 estimated inhabitants of the incorporated districts, giving to those districts a population of 17·4 to the acre, and 500,722 estimated inhabitants of the former City, which is equal to a population of 96·1 to the acre.

It is probable that the estimated population of the City, viz., 641,063, is below the actual number. Various considerations support this view, for example, the estimate assumes that since the last Census in 1891, the population of the City has increased by 11,620, but the natural increase of the population, that is to say, the excess of the births over the deaths, is 32,086. Again, since the last Census, 4,210 houses have been erected, whilst 3,361 houses, mostly insanitary and many unoccupied, have been demolished, leaving a considerable balance of new houses.

It is obviously of importance in the absence of a sufficiently frequent Census, to make as careful an estimate of the population as possible, since the whole system of vital statistics, and the deductions drawn therefrom, have the total population as a basis.

It is interesting to compare the estimated rate of increase according to the Registrar-General's method, per thousand of the population of Liverpool, with that of other large cities and towns.

This is done on page 15, but taking only the great cities, it will be seen that the rate of increase per thousand for Glasgow is 70·3, of Manchester 47·8, Birmingham 48·3, London 44·8, Bradford 57·5, Leeds 95, whilst the estimated rate of increase for Liverpool during the same period is only 4·8, a conclusion which does not harmonise with the natural increase of the population already referred to.

It is perhaps a matter of satisfaction to note that the error, if it be one, is one which tells against the City, and that the death-rate is probably considerably below what it is actually stated to be.

Quite apart from conditions of sanitation, mortality varies widely at different age-periods; consequently the death-rate of a community is largely influenced by the proportions living at each age-period; the effect of a high birth-rate is considerable.

It will be seen from tables on pages 12 and 19 that the districts of highest birth-rate are those of highest death-rate.

The following table shows the actual number who died during last year in Liverpool out of every thousand living at each of the twelve age-periods indicated, and the differences which the figures show are very striking:—

1896.	Under 1 year.	1 to 2	2 to 5	5 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 and upwards.	Total at all Ages.
Rate of Mortality per 1,000 living at ages indi- cated.	219·5	82·3	21·1	6·1	3·5	6·2	12·2	19·4	33·2	58·6	101·4	154·2	21·9
Total Number of Deaths at each Age Period ...	3,804	1,238	970	444	462	674	1,094	1,301	1,445	1,411	958	259	14,060

If, for example, we could conceive that the whole population of Liverpool consisted of persons between the ages of 20 and 30, the death-rate would be 6·2 per 1,000 ; if, on the other hand, we could conceive that it consisted entirely of people under 1 year of age, the death-rate would be about 219·5 per 1,000, and if above 60 years, 74·6 per 1,000, and this with absolutely no change whatever in the condition of municipal sanitation.

The variations in the proportions at different ages vary with extreme slowness, and have but a trifling effect in modifying aggregate results.

The deaths in public institutions of 416 non-residents, equal to a fraction of 0·6 per 1,000 have been eliminated from the table.

BIRTHS.

The birth-rate in the City of Liverpool is exceptionally high. During the last ten years the mean has been 35·0, which is considerably in excess of most of the 35 great towns. Last year it was 34·2 per 1,000, a figure which was only exceeded in three other towns, viz., Gateshead, Salford and Wolverhampton, where it was 35·8, 34·9 and 34·4 respectively, the lowest birth-rate recorded being at Huddersfield, where it was 20·5 per 1,000 ; the rates for the remainder of the 35 large towns ranging between those quoted.

During the fifty-two weeks of the year 1896 (terminating on Saturday, December 27th, 1896), the Returns of the Local Registrars recorded 21,943 births within the City.

Of the total births 11,085 were males and 10,858 were females, making the total birth-rate of the City equal to 34·2 per 1,000 of the population ; the average of the previous ten years for the former City area being 35·0.

The distribution of the births in the different wards and districts of the City is indicated upon the accompanying map, and has also been arranged in the following table :—

BIRTHS.

DISTRICTS AND WARDS.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		1896.		Corrected average Rate per 1000 during the 10 years 1886--1895.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Births.	Rate per 1000	
Scotland	246	229	266	240	256	269	279	268	2053	44.1	39.1
Exchange	174	202	174	175	189	177	170	172	1433	36.8	29.9
Abercromby.....	224	199	219	229	228	224	206	211	1740	34.7	30.0
Everton	560	510	565	558	523	526	568	525	4335	39.2	36.8
Kirkdale	312	315	271	325	286	283	288	279	2359	34.6	36.5
West Derby.....	365	370	399	389	348	341	372	366	2950	37.2	35.6
Toxteth	404	405	424	465	492	429	461	442	3522	32.9	34.5
											35.0
Walton	182	208	211	182	174	188	195	202	1542	27.9	..
West Derby (Rural)	121	118	131	93	126	136	123	103	951	24.3	..
Wavertree	45	57	57	51	67	48	71	64	460	29.8	..
Toxteth (Rural)	67	71	84	73	90	82	72	59	598	19.6	..
City	2700	2684	2801	2780	2779	2703	2805	2691	21943	34.2	..

Without an exception, the birth-rate is higher in the old parts of the City than in the rapidly extending incorporated areas. This is so opposed to what is found usually to obtain in Cities, that whilst not losing sight of the high birth-rate amongst the poorer classes, resulting from very early marriage, there remains strong presumptive evidence that the population of the older parts of the City is under estimated.

From the following Table, showing the Population, Number of Births, and Birth-rate per 1,000 during the last twenty-five years, it will be seen that the Rate has shown no tendency to diminish since 1888.

Year.	Population.	No. of Births.	Rate per 1,000.
1872	499,964	19,343	38·7
1873	505,274	18,716	37·0
1874	510,640	19,861	38·9
1875	516,063	19,869	38·5
1876	521,544	20,426	39·2
1877	527,083	20,333	38·6
1878	532,681	20,612	38·7
1879	538,338	20,844	38·7
1880	544,056	20,783	38·2
1881	551,617	20,762	37·6
1882	548,065	20,498	37·4
1883	544,547	19,907	36·6
1884	541,031	20,071	37·1
1885	537,548	19,464	36·2
1886	534,088	19,559	36·6
1887	530,649	18,414	34·7
1888	527,233	17,777	33·7
1889	523,838	17,676	33·7
1890	520,466	17,592	33·8
1891	517,145	17,832	34·5
1892	513,818	17,758	34·6
1893	510,514	18,328	35·9
1894	507,230	17,893	35·3
*1895	638,291	22,006	†34·5
1896	641,063	21,943	34·2

* City area extended.

† Rate in former City area, 1895, 36·6; 1896, 36·7.

The following table shows the *natural* increase or decrease of population, by the increase or decrease in the number of births over deaths during the year 1896, in the several districts of the City :—

DISTRICTS AND WARDS.							Births.	Deaths.	Increase.	Decrease
Scotland	..	..	..	..	..	..	2053	1609	444	..
Exchange	..	..	..	..	..	..	1433	1451	..	18
Abercromby	..	..	..	..	..	..	1740	1127	613	..
Everton	..	..	..	..	..	..	4335	2697	1638	..
Kirkdale	..	..	..	..	..	..	2359	1333	1026	..
West Derby	..	..	..	..	..	..	2950	1698	1252	..
Toxteth	..	..	..	..	..	..	3522	2231	1291	..
Walton	..	..	..	..	..	..	1542	704	838	..
West Derby (Rural)	..	..	..	..	..	..	951	685	266	..
Wavertree	..	..	..	..	..	..	460	226	234	..
Toxteth (Rural)	..	..	..	..	..	..	598	299	299	..
City							21943	14060	7883	..
Hospitals (Residences outside City)							..	416	..	..
Total.. .. .							21943	14476	7467	..

The following table is prepared from the Census Returns, and from Reports of the Registrar General, and indicates the estimated rate of increase per 1,000 of the population of thirty-four large towns since the last Census.

TOWNS.	Population Census, 1891.	Estimated Population, 1896.	Estimated Increase.	Rate of Increase per 1,000 of Population since 1891.
London	4,232,118	4,421,955	189,837	44·8
West Ham	204,903	261,297	56,394	275·2
Croydon	102,695	118,006	15,311	149·0
Brighton	115,873	120,499	4,626	39·9
Portsmouth	159,251	178,639	19,388	121·7
Plymouth	84,248	90,276	6,028	71·5
Bristol	221,578	230,623	9,045	40·8
Cardiff	128,915	162,690	33,775	261·9
Swansea	90,349	98,645	8,296	91·8
Wolverhampton	82,662	86,530	3,868	46·7
Birmingham	478,113	501,241	23,128	48·3
Norwich	100,970	108,630	7,660	75·8
Leicester	174,624	198,659	24,035	137·6
Nottingham	213,877	229,775	15,898	74·3
Derby	94,146	101,770	7,624	80·9
Birkenhead	99,857	109,343	9,486	94·9
Bolton... ..	115,002	120,380	5,378	46·7
Manchester	505,368	529,561	24,193	47·8
Salford	198,139	210,707	12,568	63·4
Oldham	131,463	143,442	11,979	91·1
Burnley	87,016	102,805	15,789	181·4
Blackburn	120,064	129,459	9,395	78·2
Preston	107,573	113,864	6,291	58·4
Huddersfield	95,420	100,463	5,043	52·8
Halifax	89,832	94,775	4,943	55·0
Bradford	216,361	228,809	12,448	57·5
Leeds	367,505	402,449	34,944	95·0
Sheffield	324,243	347,278	23,035	71·0
Hull	200,044	220,844	20,800	103·9
Sunderland	131,015	140,386	9,371	71·5
Gateshead	85,692	98,436	12,744	148·7
Newcastle-on-Tyne	186,300	212,223	25,923	139·1
Glasgow	658,708	705,052	46,344	70·3
LIVERPOOL	629,443	632,512	3,069	4·8

DEATHS.

The rate of mortality during the year 1896, viz., 21·9, indicates a very considerable decrease in the number of deaths. It is gratifying to notice that a saving of life has been effected at each one of the twelve age-periods referred to on page 10 ; in no single instance has the rate of mortality reached that of the preceding year.

The rate of mortality varies very widely in different districts of the City, and many circumstances combine to bring about this result ; the comfortable circumstances of life of the inhabitants of the suburbs, the sparse population, and the purer atmosphere, contrast markedly with the condition of the poorer localities, where, to the worries of life are added the prejudicial influences of density of population, confinement, unwholesome occupations, overcrowding, insanitary dwellings, &c., whilst in the more squalid localities the mischief is intensified by intemperance and filthy habits of life. These circumstances are common to all great cities, and Liverpool furnishes no exception to the rule.

It will be seen on studying the causes of death that the class of zymotic diseases has occasioned less mortality than in the preceding year, the chief saving having been effected in zymotic disease of the bowels, Typhoid Fever, Measles and Whooping Cough. There was not a single death from Smallpox, but Scarlet Fever shewed an increased mortality.

Deaths from Typhus Fever were 36, as against 24 in the preceding year (vide pages 26 and 27).

The total deaths registered in the City amounted to 14,476, of which 7,417 were of males, and 7,059 of females.

The death-rate of the City was equal to 21·9 per 1,000. The average in the former City area during the previous ten years was 25·8 per 1,000.

Inquests were held on the bodies of 181 infants under 12 months of age, who had been suffocated.

Inquests were held on the bodies of 178 persons, viz. :—53 men and 31 women, whose deaths were directly caused by excessive drinking, 52 men and 34 women, whose deaths were accelerated by excessive drinking, and 3 men and 5 women who died from injuries sustained while in a state of intoxication. In addition to the foregoing, 13 deaths (5 of men and 8 of women) were certified by the medical attendant to be due to alcoholism.

The following table gives the number of deaths allocated to each district :—

DISTRICTS AND WARDS.	1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.		Annual.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Deaths.
Scotland	187	204	193	168	232	195	220	210	1609
Exchange	198	178	177	161	193	153	209	182	1451
Abercromby	175	148	134	124	146	124	139	137	1127
Everton	361	338	325	322	345	326	342	338	2697
Kirkdale	189	177	156	148	201	161	167	134	1333
West Derby	207	220	193	214	212	219	213	220	1698
Toxteth	283	310	252	258	279	292	255	302	2231
Walton	77	88	89	78	97	97	73	105	704
West Derby (Rural)	97	108	98	69	73	74	89	77	685
Wavertree	27	23	25	16	40	29	36	30	226
Toxteth (Rural)	42	53	32	35	35	27	34	41	299
Workhouses and Hospitals (Residences outside the City)	74	43	58	45	70	24	68	34	416
City	1917	1890	1732	1638	1923	1721	1845	1810	14476

Deaths in Public Institutions are referred to the Wards from whence the patients came, but the following table shows that the deaths of 3,457 persons occurred in the undermentioned Institutions for the treatment of the sick :—

Parish Workhouse	...	...	...	...	...	1,157
Royal Infirmary	...	...	...	...	...	237
Children's Infirmary	...	...	...	...	...	119
Lying-in Hospital	...	...	...	...	...	9
Consumption Hospital	...	...	...	...	...	14
Hahnemann Hospital	...	...	...	...	...	17
Northern Hospital	...	...	...	...	...	155
Stanley Hospital	...	...	...	...	...	76
Royal Southern Hospital	...	...	...	...	...	170
Mill Road Infirmary	...	...	...	...	...	397
Hospital for Women	...	...	...	...	...	25
City Hospital North	...	...	...	...	...	73
Do. South	...	...	...	...	...	104
Do. Parkhill	...	...	...	...	...	48
Do. East, Mill Lane	...	...	...	...	...	15
Do. Priory Road	...	...	...	...	...	11
Walton Workhouse	...	...	...	...	...	454
Belmont Road Workhouse	...	...	...	...	...	43
St. Joseph's Home	...	...	...	...	...	27
Toxteth Workhouse	...	...	...	...	...	255
Turner Memorial Home	...	...	...	...	...	6
St. Augustine's Home	...	...	...	...	...	5
Other Public Institutions	...	...	...	...	...	40

From the returns made as to the residences of these persons 3,041 of the deaths in these establishments are classified in the Districts from whence the patients were removed, viz. :—429 under Scotland District, 580 under Exchange District, 336 under Abercromby District, 533 under Everton, 208 under Kirkdale, 268 under West Derby, 433 under

Toxteth, 88 under Walton, 103 under West Derby (rural), 31 under Wavertree, and 32 under Toxteth (rural); 275 were non-residents who had sought relief in Liverpool Institutions, and the remainder, 141, were waifs whose previous residences were unknown. In the absence of definite information, these latter have been recorded as deaths of non-residents.

The results of this allocation of deaths in public institutions to the districts from whence the patients had been removed, are shown in the following table, from which a calculated rate of mortality per 1,000 per annum of the inhabitants has been made. The rates are calculated upon a population increasing or decreasing in the same ratio as between 1881 and 1891. The same applies to the third column of figures showing the corrected average during the preceding ten years.

DISTRICTS AND WARDS.	1896.		Corrected Average Rate per 1,000 during the 10 years 1886—1895.	Rate per 1000, year 1895.
	Deaths.	Rate per 1000		
Scotland	1609	34.5	34.6	38.4
Exchange	1451	37.2	36.6	41.2
Abercromby	1127	22.4	24.5	27.0
Everton	2697	24.3	23.9	27.6
Kirkdale	1333	19.5	22.2	24.4
West Derby	1698	21.4	21.7	24.3
Toxteth	2231	20.8	22.5	24.8
Walton	704	12.7	..	15.7
West Derby (Rural) ..	685	17.5	..	17.7
Wavertree	226	14.6	..	16.2
Toxteth (Rural)	299	9.8	..	10.4
City	14060	21.9	25.8	25.4

The death-rate per 1,000 for 1896 in each of the Districts of the City is indicated upon the appended map.

The following table, taken from the Registrar-General's Reports, gives the recorded birth and death rate of thirty-six of the large towns of the United Kingdom.

The Returns of 53 weeks are dealt with in this table:—

TOWNS.	Estimated Popula- tion in the middle of the year 1896.	Births in 53 Weeks, ending 2nd Jan., 1897.	Deaths in 53 Weeks, ending 2nd Jan., 1897.	Annual Rate to 1,000 of Population.		Population per Acre.
				Births.	Deaths.	
London	4421955	135796	83511	30·2	18·6	59·2
West Ham	261297	8658	4268	32·6	16·1	55·5
Croydon	118006	3009	1706	25·1	14·2	13·1
Brighton	120499	3022	1975	24·7	16·1	47·6
Portsmouth	178639	5006	3009	27·6	16·6	38·3
Plymouth	90276	2643	1796	28·8	19·6	58·6
Bristol	230623	6465	3961	27·6	16·9	49·3
Cardiff	162690	5591	2784	33·8	16·8	26·8
Swansea	98645	3061	1689	30·5	16·8	19·4
Wolverhampton	86530	3023	1755	34·4	20·0	24·5
Birmingham	501241	16603	10600	32·6	20·8	39·5
Norwich	108630	3400	1919	30·8	17·4	14·4
Leicester	198659	6212	3376	30·8	16·7	23·1
Nottingham	229775	6758	4087	28·9	17·5	21·0
Derby	101770	2901	1619	28·0	15·7	29·5
Birkenhead	109343	3527	2133	31·7	19·2	31·3
Bolton	120380	3831	2536	31·3	20·7	51·1
Manchester	529561	17787	12184	33·0	22·6	41·0
Salford	210707	7480	4848	34·9	22·6	40·7
Oldham	143442	3971	2955	27·2	20·3	30·3
Burnley	102805	3245	1830	31·0	17·5	26·2
Blackburn	129459	3649	2351	27·7	17·9	18·6
Preston	113864	3776	2403	32·6	20·8	27·8
Huddersfield	100463	2096	1682	20·5	16·5	8·5
Halifax	94775	2337	1669	24·3	17·3	11·1
Bradford	228809	5939	3840	25·5	16·5	21·2
Leeds	402449	12574	7670	30·7	18·8	18·7
Sheffield	347278	12011	6797	34·0	19·3	17·7
Hull	220844	7171	4245	31·9	18·9	26·8
Sunderland	140386	4873	2828	34·2	19·8	42·6
Gateshead	98436	3583	1910	35·8	19·1	31·4
Newcastle-on-Tyne	212223	6701	3981	31·1	18·5	39·5
Edinburgh	276514	7686	4751	27·3	16·9	44·3
Glasgow	705052	24216	14619	33·8	20·4	59·5
Dublin	349594	10680	8856	30·1	24·9	14·1
LIVERPOOL	641063	22416	14366	34·3	21·9	48·4

INFANT MORTALITY.

Infant mortality, as usual, varied very widely in different districts of the City, *e.g.*, in the Toxteth (incorporated) district, out of every 1,000 infants born, 104 died before attaining the age of twelve months, whilst in other parts of the City, out of an equal number born, more than twice as many, *viz.*, 237, died before attaining the age of twelve months.

It is in the very early ages that danger to life is greatest, and the mortality amongst infants is high, in spite of maternal solicitude.

Excessively heavy infantile mortality is, without doubt, largely owing to ignorance and neglect on the part of the parents—indeed, it is a matter of wonder to those acquainted with the habits and customs of some of the lower sections of the community, not that so many perish, but that so large a number survive.

The condition of the very squalid children begging in the streets, ragged and filthy, indicates the absence of any sense of parental responsibility.

These children, whose condition excites the astonishment of every visitor to the City, are used by their parents for the purpose of begging, and, owing to their apparently miserable plight, they are enabled to support their parents by the gifts of philanthropic but foolish people.

The following table indicates the seasonal mortality, and the incidence, in the various Wards of the City, of Infantile Mortality, and the proportion of deaths under five years to the total deaths :—

DISTRICTS AND WARDS.	Quarters.				Total Deaths.	Deaths under 5 years of age.	Per Cent- age of Deaths under 5 years to Total Deaths.	Per Cent- age of Deaths under 1 year to Total Births.
	March.	June.	Sept.	Dec.				
Scotland	391	361	427	430	1609	769	47·8	22·2
Exchange	376	338	346	391	1451	548	37·8	23·7
Abercromby	323	258	270	276	1127	345	36·1	13·2
Everton	699	647	671	680	2697	1280	47·5	18·5
Kirkdale	366	304	362	301	1333	630	47·3	17·4
West Derby	427	407	431	433	1698	750	44·2	16·8
Toxteth	593	510	571	557	2231	924	41·4	16·2
Walton	165	167	194	178	704	298	42·3	13·4
West Derby (Rural)	205	167	147	166	685	269	39·4	17·5
Wavertree	50	41	69	66	226	99	43·8	13·9
Toxteth (Rural) ..	95	67	62	75	299	100	33·4	10·4
Workhouses & Hos- pitals (Residences outside City) ..	117	103	94	102	416	52	12·5	..
City	3807	3370	3644	3655	14476	6064	41·9	17·5

Deaths in Public Institutions are referred to the Wards from whence the patients came.

CAUSES OF DEATH.

The following table gives a classification of the actual causes of death during the four quarters of the year, grouped under 16 classes.

Full details as to the causes of death are set forth in tables (A and C) in the Appendix; in these tables the age at death and the district in which it occurred will also be found.

CLASSES.	QUARTERS.				YEAR 1896.
	March.	June.	Sept.	Dec.	
1. Zymotic and Septic Diseases	452	446	971	442	2311
2. Diseases of Uncertain or Variable Seat ..	125	129	132	146	532
3. Constitutional Diseases	466	464	410	469	1809
4. Diseases of the Nervous System	383	407	343	359	1492
5. " " Circulatory " " " ..	257	214	200	290	961
6. " " Respiratory " " " ..	1056	731	459	961	3207
7. " " Digestive " " " ..	228	299	285	201	923
8. " " Lymphatic " " " ..	2	5	2	6	15
9. " " Urinary " " " ..	108	91	87	87	373
10. " " Re-productive " " " ..	23	31	18	25	97
11. " " Joints, &c. " " " ..	9	9	10	8	36
12. " " Integumentary System ..	9	8	9	11	37
13. Dietetic Diseases	4	6	7	2	19
14. Developmental Diseases	418	371	461	416	1666
15. Privation, Cold, &c. .. .. .	..	..	..	..	..
16. Causes investigated at Coroner's Inquests ..	262	246	247	228	983
Causes not specified	5	3	3	4	15
All Causes	3807	3370	3644	3655	14476

The Registrars' Returns show that there were 19 deaths (10 of women and 9 of men) at the age of 90 and upwards, viz., 4 males and 4 females at 90, 2 males and 1 female at 91, 1 male and 1 female at 92, 1 male and 1 female at 93, 1 female at 94, 2 females at 95, and 1 male at 97.

ZYMOTICS.

This class of diseases occasioned 2,311 deaths during the year 1896, and accounted for 16·0 per cent. of the total mortality within the City during this period. The death rate from zymotic diseases per 1,000 was 3·6. The deaths were as follows :—

						QUARTERS.				YEAR
						March.	June.	Sept.	Dec.	1896.
Total Zymotics	..	..	..	..	..	452	446	971	442	2311
Smallpox	..	..	..	..	..	..	..	..	..	..
Measles..	..	..	..	..	..	129	97	27	59	312
Scarlatina	..	..	..	..	..	38	31	54	94	217
Diphtheria	..	..	..	..	..	35	21	29	35	120
Membranous Croup	..	..	..	..	..	9	12	7	9	37
Whooping Cough	..	..	..	..	..	120	97	44	37	298
Diarrhoea	..	..	..	..	..	28	80	671	72	851
Fever	{ Typhus					3	13	10	10	36
	{ Typhoid					28	36	43	59	166
	{ Simple Continued					1	1	..	..	2
Other Zymotics	..	..	..	..	..	61	58	86	67	272

It cannot fail to be of interest to note the marked diminution in certain forms of these diseases, notably in those forms of it to which adult life is liable.

On pages 41 to 43 will be found tables indicating the deaths and the death rates from various forms of zymotic disease in the City, during each one of the last three decennial periods. Two of them, Smallpox and Typhus Fever, perhaps two of the most formidable diseases with which the Sanitary Authority has to contend, have become relatively rare, having slowly given ground, year by year, before the means adopted by the Municipality to suppress them. As regards Scarlet Fever, the diminution, though less striking, is still very apparent. The bulk of the patients attacked with this form of disease are children above the age of infancy, and if the diminution is not as great as in the two diseases already mentioned, there is the remarkable fact that the mortality amongst patients treated in the City Hospitals is less than amongst patients left in their homes (see page 139, *re* Hospitals). It is quite true that similar measures, had they been applicable, would have caused a similar diminution in

the zymotic diseases which are so destructive of infant life, but the natural guardian of the infant is the mother, and the safety of the infant depends in a far greater measure upon the amount of domestic care exercised, than upon the operations which the Municipality can put into force. The extent to which the Sanitary Authority can directly interfere in these cases is relatively limited, and the diminution in infantile mortality is proportionately less than in the cases where the influence of the Sanitary Authority can be more directly exercised.

Neither Measles nor Whooping-Cough is included under the Notification Act, and it is very doubtful whether any advantages would result were they to be included. Removal to hospital would, owing to the tender age of the patient, be impracticable, while another difficulty which presents itself in these cases is that the disease is most infectious in its earliest stages. As a consequence the cases of these diseases isolated in hospital are very few.

The following table shows the localities and the periods of the fatal prevalence of Zymotic diseases during 1896 :—

DISTRICTS, WARDS, &c.	Deaths from all Causes.	ZYMOTICS.				
		Quarters.				Per Centage of Zymotic Deaths to Deaths from all Causes.
		March.	June.	Sept.	Dec.	
Scotland	1609	51	45	124	79	18·6
Exchange	1451	23	42	80	48	13·3
Abercromby	1127	27	26	50	18	10·7
Everton	2697	103	88	197	82	17·4
Kirkdale	1333	44	40	122	34	18·0
West Derby	1698	51	59	125	61	17·4
Toxteth	2231	71	58	150	54	14·9
Walton	704	17	22	54	20	16·0
West Derby (Rural)	685	37	36	29	23	18·3
Wavertree	226	5	9	17	11	18·6
Toxteth (Rural)	299	10	14	16	8	16·1
Workhouses and Hospitals (Residences outside City)	416	13	7	7	4	7·4
City	14476	452	446	971	442	16·0

Deaths in Public Institutions are referred to the Wards from whence the patients came.

SMALLPOX.

The City was free from Smallpox until August 10th, when a case was found in Springfield Street. The source of infection could not be traced.

On September 18th a case arrived on S.S. "Cherbourg"; one case arrived on October 12th, on S.S. "Trinidad"; two cases arrived on November 14th, on S.S. "Barracoa"; they were all removed direct from the vessels to the Hospital at Parkhill.

On November 12th, the steward of the "Oporto," was found to have developed the sickness after the vessel arrived in the Port.

On December 7th two cases, mother and child, were removed to hospital from an address in the City, a source external to the City, being the origin of infection.

All the cases were removed to Hospital, and there were no deaths from Smallpox during the year.

TYPHUS.

During the last year there was some increase in Typhus Fever, the number of cases discovered amounting to 305, as against 162 in the preceding year, and the deaths were 36, as against 24 in the preceding year.

The great majority of the cases occurred in the south end of the City, and were, as usual, associated with drunkenness, squalor, and filth. A large proportion of the patients were children, some of them attending

one of the Day Industrial Schools, which thus became a channel for dissemination of the disease.

In every instance in which a case of typhus fever is discovered the patient is immediately removed to the hospital, the bedding and clothing destroyed and replaced by suitable new articles, and the house thoroughly disinfected and cleansed. Every day for a fortnight the Inspector visits the house to inquire whether any other person is sick, and not only that, but he goes through the house to satisfy himself that there is no other sick person in the house.

Inquiries are also made as to persons who may have been visiting the house whilst the sick person was in it, and an inspection is made of the homes of any such visitors, to ascertain whether any of them have contracted the illness. But notwithstanding all precautions the disease sometimes remains unrecognised until a localised outbreak attracts attention.

Difficulties in diagnosis are often considerable ; the disease is one which very rarely comes to the notice of the medical practitioner, and the extremely filthy condition of the patient adds to the difficulty of its identification.

The mildness of the early symptoms, more especially in children, and the close resemblance in the earliest phases in adults to the effects of drink, are apt to throw the observer off his guard.

There were 305 cases found during the year, 36 of which, as the table shows, resulted fatally.

AGES AT DEATH.											
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & up- wards.	All Ages.
—	—	—	—	2	3	7	12	8	2	2	36

List of Streets in the City wherein cases of TYPHUS FEVER occurred
during the Year 1896.

STREETS.	Cases.	Deaths.	STREETS.	Cases.	Deaths.
Argyle	1	1	Denbigh	3	..
Athol	2	..	Dickson Terrace, Soho Street	6	..
Avison	1	..	Drinkwater Gardens ..	1	..
Back Queen Anne ..	1	..	Dryden	2	..
Back Roscommon ..	1	..	Dublin	1	1
Barmouth	1	..	Eldon Place	3	..
Beau Lane	9	..	Elias	3	1
Beaufort	5	..	Essex	6	3
Bevin Lane	2	..	Fletcher	2	..
Beresford Road ..	1	..	Forge Place	2	..
Blenheim	8	1	Gadsby	1	1
Bolton	2	..	Gerard	3	..
Boundary	2	..	Glenny	6	..
Boundary Terrace, Virgil Street	18	3	Gore	2	..
Bran	2	..	Grafton	4	..
Brick	4	..	Greenland	1	..
Buckingham	3	1	Grey	2	..
Byles	1	..	Guest	1	..
Cartwright Place ..	1	1	Hampton	1	..
Clare Terrace	1	..	Haylock	3	1
Clive	10	1	Hilbre	1	..
Combermere	8	..	Hop	1	..
Cotter Place	3	..	Horatio	1	..
Cotter	2	..	Hughson	1	..

List of Streets in the City wherein cases of TYPHUS FEVER occurred
during the year 1896.—*Continued.*

STREETS.	Cases.	Deaths.	STREETS.	Cases.	Deaths.
Ismay	1	1	Rose Vale	1	1
Juliet	1	1	Rutter	5	..
Kent Square	1	..	Salisbury	22	4
„ Street	2	..	Sessions Road .. .	1	..
Lamport	2	..	Shelley	12	..
Lime Grove	1	..	Sherwood	7	3
Llanrwst	8	1	Sheridan	3	..
Mann	16	1	Soho	1	1
Mansfield	1	..	Stanhope	1	..
Mill	1	1	Stitt	3	..
Newhall	1	..	Sumner	1	..
Oakfield Road .. .	1	..	Sussex	2	..
Oliver	1	1	St. George's Hill ..	1	..
Opie	4	..	Tarbet	1	..
Park	1	..	Tatlock	1	..
Paxton	1	1	Townsend	2	..
Phythian	1	..	Upper Bute	1	..
Prince Edwin .. .	9	2	Upper Frederick ..	1	..
Prophet	1	..	Vaughan	1	..
Rachel	2	..	Vronhill	1	..
Raymond	4	1	Wellington Road ..	1	..
Richards Place .. .	3	1	White	7	..
Richmond Row .. .	3	1	Whitley	5	..
Roache	2	..	Wolfe	2	..
Rose Place	7	..	Woodstock	1	..

TYPHOID.

It is gratifying to note that the number of cases of typhoid fever coming under notice during the year was very considerably less than in the preceding year, viz. :—1,063, against 1,306 ; and the fatal cases were 166, as against 197.

It is a very satisfactory sign that the public, more especially the well-to-do classes, are beginning to realise the importance of giving attention to the drainage system of their dwellings, and to the necessity for suitable construction and adequate flushing. The knowledge that typhoid fever is communicable by sewage-fed shell fish as well as by some other kinds of food is more widespread, but it is a curious circumstance that the great element of danger from personal contagion is still under-rated, or even disregarded, and as a consequence disastrous results ensue.

The frequency with which nurses attending typhoid fever patients in general hospitals contract the disease themselves, may be mentioned in this connection.

The attention given by the more highly-educated public is not always as well directed as might be expected. For example, the occurrence during the year of two cases in one district gave rise to extreme alarm amounting almost to panic in the vicinity, exaggerated rumours adding to the apprehensions of the timorous, many of whom vacated their houses.

It is well to remember that intelligent precautionary measures of a reasonable character are valuable, but action under the influence of terror will probably be misdirected and productive of mischief.

Upwards of 50 per cent. of the total number of cases were moved to hospitals. (See page 128).

The following gives the ages at death of the fatal cases :—

AGES AT DEATH.											
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 & up- wards.	All Ages.
—	1	6	14	25	15	47	29	19	8	2	166

Table showing the locality and season of deaths from the various forms of Continued Fever during the year 1896.

DISTRICTS AND WARDS.	1st Quarter.				2nd Quarter.				3rd Quarter.				4th Quarter.				YEAR.			
	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.	Typhus.	Typhoid.	Simple Continued.	Total.
Scotland	1	4	...	5	2	3	...	5	5	3	...	8	1	7	...	8	9	17	...	26
Exchange	...	...	...	...	2	4	...	6	...	6	...	6	1	6	...	7	3	16	...	19
Abercromby	...	2	...	2	...	4	...	4	1	2	...	3	...	2	...	2	1	10	...	11
Everton ...	2	7	...	9	2	6	...	8	...	7	...	7	7	13	...	20	11	33	...	44
Kirkdale	...	1	...	1	...	2	1	3	...	8	...	8	1	7	...	8	1	18	1	20
West Derby	...	4	1	5	...	4	...	4	1	6	...	7	...	7	...	7	1	21	1	23
Toxteth	...	4	...	4	7	7	...	14	2	2	...	4	...	3	...	3	9	16	...	25
Walton ...	...	1	...	1	...	2	...	2	1	4	...	5	...	3	...	3	1	10	...	11
West Derby (Rural)	...	1	...	1	...	3	...	3	...	1	...	1	...	7	...	7	...	12	...	12
Wavertree	...	...	...	...	...	...	...	...	...	1	...	1	...	2	...	2	...	3	...	3
Toxteth (Rural)	...	...	...	...	...	1	...	1	...	1	...	1	...	2	...	2	...	4	...	4
Hospitals (Residences out of City)	...	4	...	4	...	...	...	...	...	2	...	2	...	...	...	...	...	6	...	6
Hospitals (Residences unknown)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTAL FOR WHOLE CITY	3	28	1	32	13	36	1	50	10	43	...	53	10	59	...	69	35	166	2	204

In arranging this Table, all Deaths occurring in Hospitals have been transferred to the Wards from whence the patients came.

SCARLATINA.

The number of cases of this disease reported during the year was in excess of the preceding year; the type, however, was not one of severity. It is important to notice that year by year an increasing proportion of the total number of cases of scarlatina is isolated in hospital. The results of such a course are beneficial, in the first place to the public by the removal of centres of infection, and in the next place to the patient by increasing the chances of recovery. (See page 139).

During the last three years the numbers reported have been 3,963, 2,710, and 3,584, and the removals to hospital 1,415, 1,039, and 1,589, showing that the proportions removed to hospital have been 35·7, 38·3, and 44·3 per cent. respectively, during the three years.

The important influence of isolation in hospital in preventing the spread of infectious diseases has been proved in connection with typhus fever, and there is little doubt that scarlatina is held in check by the same measure.

DEATHS FROM SCARLATINA.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .. .. .						..	3	3	2	3	3	8	6	14	14	28
Exchange						1	..	..	1	2	3	5	2	8	6	14
Abercromby						1	1	1	..	1	1	2	1	5	3	8
Everton						5	4	3	4	9	4	10	7	27	19	46
Kirkdale						4	3	2	1	6	1	6	3	18	8	26
West Derby						2	1	3	4	6	4	12	4	23	13	36
Toxteth						3	4	2	3	5	3	10	7	20	17	37
Walton						1	1	..	..	..	1	2	1	3	3	6
West Derby (Rural) .. .. .						..	2	1	..	1	..	1	2	3	4	7
Wavertree .. .. .						..	..	..	..	..	..	..	2	..	2	2
Toxteth (Rural)						1	1	1	..	1	..	1	1	4	2	6
Hospitals (Residences outside the City) .. .. .						..	..	..	..	..	..	1	..	1	..	1
City						18	20	16	15	34	20	58	36	126	91	217

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
14	39	40	33	29	51	5	..	4	1	1	..	217

Deaths in Public Institutions are referred to the Wards from whence the patients came.

MEASLES.

The following table shows the periods of the year and the localities in which deaths from Measles occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
Scotland	..	..	.	..	..	11	2	6	3	3	1	12	14	32	20	52
Exchange	..	..	..	..	..	4	5	1	3	..	..	3	3	8	11	19
Abercromby	..	..	..	..	..	4	2	1	3	1	1	..	1	6	7	13
Everton	..	..	..	..	..	16	16	7	5	1	..	8	5	32	26	58
Kirkdale	..	..	..	..	..	8	3	11	6	4	3	1	3	24	15	39
West Derby	..	..	..	..	..	3	4	3	4	..	2	2	4	8	14	22
Toxteth..	..	..	..	..	..	1	11	8	3	3	5	1	1	13	20	33
Walton ..	..	..	..	..	..	1	5	3	4	2	..	..	..	6	9	15
West Derby (Rural)	..	..	..	..	..	7	16	11	5	..	..	..	1	18	22	40
Wavertree	..	..	..	..	..	..	2	..	1	..	..	..	..	..	3	3
Toxteth (Rural)	..	..	..	..	..	..	2	2	1	..	1	..	..	2	4	6
Hospitals (Residences outside the City)	..	..	..	..	..	3	3	2	4	..	..	..	..	5	7	12
City	..	..	..	..	..	58	71	55	42	14	13	27	32	154	158	312

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
62	127	64	24	16	18	—	—	1	—	—	—	312

Deaths in Public Institutions are referred to the Wards from whence the patients came.

WHOOPING COUGH.

The following table shows the periods of the year and the localities in which deaths from Whooping Cough occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	..	..	..	..	..	8	11	2	10	3	1	1	4	14	26	40
Exchange	..	..	..	..	..	4	4	7	5	2	2	2	1	15	12	27
Abercromby	..	..	..	..	..	1	4	3	3	2	1	1	..	7	8	15
Everton	.	..	..	..	..	12	13	9	15	3	6	3	6	27	40	67
Kirkdale	..	..	..	..	..	4	8	2	2	..	3	1	1	7	14	21
West Derby	..	..	..	..	..	7	5	5	12	2	3	2	2	16	22	38
Toxteth	..	..	..	..	..	12	13	2	1	1	2	1	1	16	17	33
Walton..	..	..	..	..	..	1	5	3	..	3	1	2	..	9	6	15
West Derby (Rural)	..	..	..	..	..	5	..	2	4	2	2	3	2	12	8	20
Wavertree	..	..	..	..	..	1	..	2	2	1	2	1	3	5	7	12
Toxteth (Rural)	..	..	..	..	..	..	1	2	3	1	1	..	..	3	5	8
Hospitals (Residences outside the City)	..	..	..	..	..	1	..	..	1	..	..	..	..	1	1	2
City	..	..	..	..	..	56	64	39	58	20	24	17	20	132	166	298
AGES AT DEATH.																
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.				
117	93	41	24	13	10	..	..	..	..	..	..	298				

Deaths in Public Institutions are referred to the Wards from whence the patients came.

DIPHTHERIA.

The following table shows the periods of the year and the localities in which deaths from Diphtheria occurred, and also the ages at death.

DISTRICTS AND WARDS.	QUARTERS.								YEAR.		
	March.		June		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	2	1	..	..	3	1	..	2	5	4	9
Exchange .. .. .	..	..	..	..	..	1	..	2	..	3	3
Abercromby	2	1	..	..	1	..	2	..	5	1	6
Everton	5	4	1	2	4	2	3	1	13	9	22
Kirkdale	3	2	1	1	2	..	..	..	6	3	9
West Derby	3	2	2	4	3	2	4	3	12	11	23
Toxteth	5	..	4	1	2	4	5	6	16	11	27
Walton	1	..	1	2	..	..	1	2	3	4	7
West Derby (Rural)	2	..	..	1	..	1	2	2	4	4	8
Wavertree .. .. .	..	1	1	..	..	..	..	..	1	1	2
Toxteth (Rural)	1	..	..	..	1	2	..	..	2	2	4
Hospitals (Residences outside the City) ..	..	..	..	..	..	..	..	..	..	..	..
City	24	11	10	11	16	13	17	18	67	53	120

AGES AT DEATH.

Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60—	All Ages.
20	22	13	17	21	21	4	..	1	..	1	..	..	120

Deaths in Public Institutions are referred to the Wards from whence the patients came.

* CROUP.

The following table shows the periods of the year and the localities in which deaths attributed by the Medical Attendant to Croup occurred, and also the ages at death.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.		M.	F.	Total
						M.	F.	M.	F.	M.	F.	M.	F.			
Scotland .. .. .	..	..	..	..	..	2	1	3	1	1	..	1	1	7	3	10
Exchange .. .. .	..	..	..	..	..	..	..	..	..	..	1	1	1	1	2	3
Abercromby .. .. .	..	..	..	..	..	1	..	..	..	1	..	..	..	2	..	2
Everton .. .. .	..	..	..	..	..	2	2	3	2	3	..	3	2	11	6	17
Kirkdale .. .. .	..	..	..	..	..	..	..	..	2	..	..	..	1	..	3	3
West Derby .. .. .	..	..	..	..	..	2	1	3	..	..	..	2	1	7	2	9
Toxteth .. .. .	..	..	..	..	..	4	6	3	4	4	3	1	1	12	14	26
Walton .. .. .	..	..	..	..	..	..	2	..	2	1	1	2	..	3	5	8
West Derby (Rural) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Wavertree .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Toxteth (Rural) .. .. .	..	..	..	..	..	1	..	..	1	..	1	..	..	1	2	3
Hospitals (Residences outside the City) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
City .. .. .	..	..	..	..	..	12	12	12	12	10	6	10	8	44	38	82

AGES AT DEATH.												
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
12	22	16	7	4	21	..	..	..	..	..	..	82

Deaths in Public Institutions are referred to the Wards from whence the patients came.

* Membranous Croup	37	}	82
Croup	45		

DIARRHŒA.

The following table shows the periods of the year and the localities in which deaths from Diarrhœa occurred, and also the ages at death.

Attention will be at once attracted to the enormous proportion of deaths from this disease which take place below twelve months of age, the mortality rapidly diminishing after the age of two years.

Most of the deaths occur during the earlier months of life—below nine months—and they bear a close relationship to the method employed in feeding.

From a careful investigation into the subject, it appears that the mortality amongst children reared upon breast milk is small, but when artificial foods are employed, unless extreme cleanliness is observed, the mortality at once begins to rise.

Thus the deaths amongst children under three months of age, either wholly or partially fed on artificial foods, are fifteen times as great as they are amongst an equal number of infants fed upon breast milk.

Between the ages of three and six months, for every infant getting breast milk as part of its diet, who dies from diarrhœa, there are six who die amongst an equal number getting no breast milk.

The method of feeding plays a most important part in the causation of diarrhœa; when artificial feeding becomes necessary, the most scrupulous attention should be paid to feeding bottles, &c.

During the summer and autumn months, circulars, giving instructions as to the rearing of children, are widely distributed.

DEATHS FROM DIARRHŒA

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.				
						M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland						3	..	4	6	39	47	6	10	52	63	115
Exchange .. .. .						..	1	6	6	29	26	10	7	45	40	85
Abercromby						1	..	3	4	19	14	3	4	26	22	48
Everton						6	2	9	7	76	69	3	5	94	83	177
Kirkdale .. .. .						..	2	1	6	48	39	3	1	52	48	100
West Derby						4	1	3	7	42	43	3	5	52	56	108
Toxteth						3	..	2	4	60	51	5	1	70	56	126
Walton .. .. .						..	..	3	..	13	14	1	..	17	14	31
West Derby (Rural)						2	..	3	2	12	8	..	1	17	11	28
Wavertree .. .. .						..	..	1	2	6	6	1	1	8	9	17
Toxteth (Rural)						1	1	..	1	3	5	2	..	6	7	13
Hospitals (Residences outside the City) .. .. .						..	1	..	..	1	1	..	..	1	2	3
City						20	8	35	45	348	323	37	35	440	411	851

AGES AT DEATH.													
Under 1 year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	60 & upwards.	All Ages.
613	132	28	7	2	6	2	..	1	5	5	15	35	851

Deaths in Public Institutions are referred to the wards from whence the patients came.

List of Streets in the City wherein Three or more Deaths from
Diarrhœa occurred during the year 1896.

STREETS.	No. of Deaths.	STREETS.	No. of Deaths.
Arkwright	4	Kempston	3
Arlington	5	Kew	3
Athol	3	Lamb	5
Beatrice	5	Lemon	3
Beaufort	6	Netherfield Road South ..	3
Benledi	3	Northumberland Terrace ..	3
Bostock	3	Opie	3
Buckingham	3	Portland	3
Burlington	4	Prince Edwin	3
Butler	4	Raymond	3
Chirkdale	3	Robsart	3
Christopher	3	Rockingham	3
Circus	3	Rutter	3
Collingwood	3	Sessions Road	3
Cornwall	3	Silvester	3
Eldon	5	Smithfield	3
Essex	4	Stockdale	3
Fountains Road	4	St. Arnaud	3
Gloucester Place	4	Tatlock	5
Gordon	3	Teulon	3
Greig	3	Vauxhall Road	3
Great Homer	5	Westmoreland Place	3
Handfield	3	Willoughby	3
Hopwood	3	Wolfe	3
Hornby	3		

In arranging the foregoing list of streets, all deaths occurring in Hospitals have been transferred to the streets from whence the patients were removed.

OTHER ZYMOTICS.

The following table indicates the localities in which deaths from other forms of Zymotic disease occurred during the year :—

DISTRICTS AND WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		Other Zymotics.		YEAR.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland .. .. .	..	..	1	3	5	2	2	1	..	1	2	4	21
Exchange	1	..	1	2	5	5	2	1	..	3	2	2	24
Abercromby	3	4	..	..	3	2	2	2	..	1	2	..	19
Everton	4	3	2	4	8	4	3	2	..	4	5	9	48
Kirkdale	1	..	..	1	1	..	4	4	..	3	5	4	23
West Derby	3	5	1	3	4	3	6	4	..	3	6	5	43
Toxteth	5	6	1	3	1	3	6	2	..	8	6	3	44
Walton	1	4	1	1	..	2	1	..	..	2	9	3	24
West Derby (Rural)	2	1	..	..	1	1	1	1	..	..	3	..	10
Wavertree .. .. .	..	..	..	..	..	..	1	..	..	..	1	1	3
Toxteth (Rural)	2	1	1	..	..	..	..	1	..	1	..	..	6
Hospitals (Residences outside the City)	1	..	1	..	..	1	2	1	..	..	1	..	7
City	23	24	9	17	28	23	30	19	..	26	42	31	272

Deaths in Public Institutions are referred to the Wards from whence the patients came.

ANNUAL AVERAGE NUMBER OF DEATHS FROM SIX OF THE PRINCIPAL ZYMOTIC DISEASES
DURING EACH OF THE LAST THREE DECENNIAL PERIODS.

Years.	Small Pox.	Typhus.	Scarlet Fever.	Measles.	Whooping Cough.	Diarrhoea.
1866—75	237·4	652·8	789·4	425·7	496·8	995·3
1876—85	90·8	238·0	421·2	517·8	472·3	658·4
1886—95	8·8	37·1	257·5	399·5	322·4	600·6

ANNUAL AVERAGE NUMBER OF DEATHS FROM SIX OF THE PRINCIPAL ZYMOTIC DISEASES
DURING EACH OF THE LAST THREE DECENNIAL PERIODS, DISTINGUISHING THOSE
OF PERSONS ABOVE AND BELOW FIVE YEARS OF AGE.

YEARS.	SMALLPOX.		TYPHUS.		SCARLET FEVER.		MEASLES.		WHOPPING COUGH.		DIARRHEA.	
	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.	Above 5.	Below 5.
1866-75 ...	141.7	95.7	* ...	* ...	187.7	601.7	14.4	411.3	9.9	486.9	105.7	889.6
1876-85 ...	62.5	28.3	* ..	* ...	137.0	284.2	35.4	482.4	18.6	453.7	61.9	596.5
1886-95 ...	6.2	2.6	+ 33.2	+ .7	87.6	169.9	28.3	371.2	15.1	307.3	60.2	540.4

* During these years the ages at death from Typhus were not differentiated.

The following table shows the annual average death rate, per 100,000 of the population, during each of the last three decennial periods, and during 1896, from the undermentioned Zymotic Diseases :—

DISEASES.	1866-1875.	1876-1885.	1886-1895.	*1896.
Typhus	132·1	43·0	7·1	5·6
Small Pox	48·0	16·3	1·5	...
Scarlet Fever	159·9	76·2	49·6	33·8
Measles	86·1	93·6	77·0	48·6
Whooping Cough ...	100·5	85·4	62·1	46·4

* Including extended area.

TUBERCULAR DISEASES.

These diseases are associated with insanitary surroundings, and with conditions of life which tend to lower the general health. Improved sanitation is accompanied by a diminished mortality from these forms of disease, as the accompanying table, which relates to the last three decades, indicates :—

	1866-1875.	1876-1885.	1886-1895.	*1896.
Annual Average Death-rate per 100,000 of the population, at all ages, from all forms of Tuberculosis	430·8	349·8	309·8	292·5
Annual Average Death-rate per 100,000 of the population above 5 years of age from Phthisis	362·8	278·6	244·4	233·1
Annual Average Death-rate per 100,000 of the population below 5 years of age from :—				
Tabes Mesenterica	637·1	597·3	539·1	496·9
Hydrocephalus				
Scrofula				

* Former City Area only.

The group of Tubercular Diseases includes Phthisis, Scrofula, Tabes Mesenterica, and Hydrocephalus. They occasioned 1,674 deaths in the City of Liverpool during the year 1896.

DEATHS FROM PHTHISIS.

DISTRICTS AND WARDS.						QUARTERS.								YEAR.		
						March.		June.		Sept.		Dec.		M.	F.	TOTAL
						M.	F.	M.	F.	M.	F.	M.	F.			
Scotland						13	16	11	12	14	18	15	16	53	62	115
Exchange						35	14	30	17	12	20	30	17	107	68	175
Abercromby						20	8	10	14	10	12	24	13	64	47	111
Everton						36	15	34	26	23	10	34	22	127	73	200
Kirkdale						22	9	10	9	7	7	13	3	52	28	80
West Derby						11	24	21	18	22	18	21	21	75	81	156
Toxteth						21	21	25	25	22	21	21	23	89	90	179
Walton						6	6	6	6	8	8	11	7	31	27	58
West Derby (Rural)						5	9	5	5	6	5	4	2	20	21	41
Wavertree						3	1	3	..	3	2	3	3	12	6	18
Toxteth (Rural)						3	6	5	1	4	1	2	1	14	9	23
Hospitals (Residences outside the City) ..						8	2	7	4	7	2	9	3	31	11	42
City						183	131	167	137	138	124	187	131	675	523	1198
AGES AT DEATH.																
Under 1 year.	1—	2—	5—	10—	15—	20—	30—	40—	50—	60 and upw'ds.	All Ages.					
9	9	12	21	32	70	262	352	255	133	43	1198					

Deaths in Public Institutions are referred to the Wards from whence the patients came.

DEATHS FROM OTHER TUBERCULAR DISEASES.

DISTRICTS AND WARDS.	Scrofula.		Tuberc. Mesenterica.		Hydrocephalus.		YEAR.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
Scotland	5	1	12	13	16	20	33	34	67
Exchange .. .	5	..	9	7	4	3	18	10	28
Abercromby .. .	7	5	4	4	6	6	17	15	32
Everton .. .	14	16	23	19	16	10	53	45	98
Kirkdale .. .	5	7	9	11	9	11	23	29	52
West Derby .. .	9	10	7	10	13	16	29	36	65
Toxteth .. .	9	7	11	7	11	7	31	21	52
Walton .. .	2	4	3	3	2	8	7	15	22
West Derby (Rural) .. .	7	2	6	3	5	5	18	10	28
Wavertree .. .	1	3	..	..	1	..	2	3	5
Toxteth (Rural) .. .	6	1	2	2	4	..	12	3	15
Hospitals (Residences outside the City) ..	3	4	2	..	2	1	7	5	12
City .. .	73	60	88	79	89	87	250	226	476

Deaths in Public Institutions are referred to the Wards from whence the patients came.

The following table indicates the number of deaths from Cancer during the last six years, and the part of the body affected by the disease :—

DISEASE.	1891.			1892.			1893.			1894.			1895.			1896.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels	42	45	87	52	39	91	43	52	95	52	44	96	85	73	158	81	56	137
„ Liver	14	24	38	14	16	30	16	24	40	12	30	42	36	24	60	33	41	74
„ Urinary and Generative Organs	6	73	79	8	57	65	8	73	81	9	70	79	12	112	124	7	103	110
„ Breast . . . . .	..	37	37	..	32	32	..	39	39	..	34	34	..	46	46	2	54	56
„ Head and Face	16	3	19	7	3	10	13	6	19	13	5	18	19	4	23	15	3	18
„ Tongue, Neck, and Throat	34	9	43	23	9	32	20	5	25	35	3	38	35	9	44	47	11	58
„ Other parts of the Body	14	7	21	11	13	24	12	8	20	9	9	18	13	9	22	6	11	17
„ Parts not specified ..	9	13	22	7	12	19	12	10	22	6	14	20	15	10	25	12	13	25
Total	135	211	346	122	181	303	124	217	341	136	209	345	215	287	502	203	292	495

The following table shows the death rate per 1,000 of the population, and the number of deaths from Fever and Diarrhœa during the last thirteen years :—

Year.	Death Rate per 1,000 of Population.	Deaths from Diarrhœa.	Deaths from Fever.		
			Typhus.	Typhoid.	Continued.
1884	*26·6	841	77	112	16
1885	*25·6	422	71	95	16
1886	*26·1	781	47	140	11
1887	*26·4	619	52	130	12
1888	*23·1	431	32	125	4
1889	*24·9	575	45	167	...
1890	*27·5	468	23	99	1
1891	26·9	330	37	92	2
1892	24·7	415	18	111	2
1893	27·3	866	44	221	5
1894	23·8	503	50	248	7
†1895	25·4	1,108	24	197	4
1896	21·9	851	36	166	2

* Calculated on corrected population as per Census Returns of 1891.

† City Boundaries extended.

Mr. Plummer, M.A., F.R.A.S., Astronomer to the Mersey Docks and Harbour has Board, kindly supplied the following tables relating to Meteorological observations made by him at the Liverpool Observatory, Bidston:—

LIVERPOOL OBSERVATORY, BIDSTON, BIRKENHEAD.

Latitude 53° 24' 5" N.; Longitude 3° 4' 20" W.

Height above the Mean Level of the Sea, 201 feet.

Year and Month, 1896.	Barometer. Mean.	Temperature. Mean.	Rainfall. Amount.	No. of days on which 0·01 ins. or more rain fell.	Mean Monthly Humidity. Complete Satura- tion equal 100.
	Inches.	Degrees.	Inches.		
January	30·311	41·6	1·220	12	86
February	30·284	41·2	1·064	12	86
March	29·741	44·3	3·186	24	79
April	30·141	48·7	1·144	14	78
May	30·273	54·5	0·390	5	71
June	29·928	61·2	2·081	18	72
July	30·002	61·1	2·553	13	73
August	30·029	58·3	2·503	18	77
September	29·702	55·8	4·456	27	81
October	29·721	45·0	3·566	22	81
November	30·155	41·1	1·068	7	83
December	29·717	39·8	3·402	24	87

DIFFERENCES FROM THE AVERAGE QUANTITIES OBSERVED DURING THE LAST 30 YEARS.

1896.	BAROMETER.		TEMPERATURE.		RAINFALL.	
	Above Average.	Below Average.	Above Average.	Below Average.	Above Average.	Below Average.
	Inches.	Inches.	Degrees.	Degrees.	Inches.	Inches.
January	0·387	..	2·4	..	..	0·917
February	0·329	..	..	0·1	..	0·558
March .....	..	0·167	2·1	..	0·464	..
April	0·237	..	1·4	..	..	0·441
May	0·306	..	2·7	..	..	1·448
June .....	..	0·060	3·8	..	0·087	..
July	0·083	..	0·3	..	..	0·427
August	0·1 17	..	..	2·2	..	0·362
September .....	..	0·229	..	0·4	1 309	..
October .....	..	0·138	..	4·6	..	0·084
November	0·277	..	..	2·1	..	1 660
December .....	..	0·157	..	0·1	0·755	..

OBSERVATIONS OF VELOCITY OF WIND.

1896.	Average Hourly Velocity for Month.	Maximum Hourly Velocity.	Date of Maximum Velocity.	Minimum Hourly Velocity.	Date of Minimum Velocity.
	Miles per hr.	Miles.		Miles.	
January ..	15·6	65	Jan. 15	1	Jan. 3, 6, 7, 8, 14, 20, 26
February ..	15·9	44	Feb. 12	1	Feb. 1, 13, 16, 27
March ..	21·4	63	Mar. 6	0	Mar. 25
April	17·9	51	April 12	0	April 15, 22
May	13·4	51	May 20	1	May 1, 2, 3, 11, 18, 27, 31
June	13·2	45	June 30	0	June 14
July	13·8	50	July 1	1	July 7, 11, 12, 17
August ..	15·6	36	Aug. 13, 24	1	Aug. 5, 14, 20
September ..	17·7	59	Sept. 23	0	Sept. 3, 10
October ..	14·1	49	Oct. 8	0	Oct. 3
November ..	13·5	35	Nov. 15, 20	0	Nov. 4, 24
December ..	17·2	48	Dec. 26	1	Dec. 15, 16, 21, 23

SANITARY ADMINISTRATION.

SANITARY ADMINISTRATION.

For the purpose of carrying out the requirements of the various Sanitary Acts of Parliament, the following staff has been employed during the year :—

*Chief Inspector	...	...	...	...	...	1
*Deputy Inspector	...	...	...	...	...	1
*Prosecuting Inspectors	...	...	...	...	...	6
*Inspectors for General Sanitary Purposes	...	...	...	...	...	25
Inspectors of Meat and Animals	...	...	...	...	...	5
„ under the Diseases of Animals Act	...	...	...	...	...	2
„ of Fish and Fruit	...	...	...	...	...	3
Inspector under the Sale of Food and Drugs Act	...	...	...	...	...	1
*Inspectors „ Workshop and Shop Hours Act...	...	...	...	...	...	3
† „ Smoke	...	...	...	...	...	3
‡ „ Ambulance	...	...	...	...	...	4
„ Disinfecting...	...	...	...	...	...	5
Superintendents of Disinfecting Apparatus	...	...	...	...	...	2
Chief Inspector for Common Lodging and Sub-let Houses	...	...	...	...	...	1
Inspectors for Common Lodging and Sub-let Houses...	...	...	...	...	...	10
Inspector for Canal Boats	...	...	...	...	...	1
* „ „ Bakehouses	...	...	...	...	...	1
*Inspectors for Cowsheds and Milkshops	...	...	...	...	...	2
Notice Servers	...	...	...	...	...	3
Permanent Clerical Staff	...	...	...	...	...	16
Temporary Assistants	...	...	...	...	...	5

Officers are selected for these positions whose previous training and occupation have been such as to fit them for the special duties they are called upon to discharge. Those marked * are required to hold the Certificate of the Sanitary Institute of Great Britain ; those marked † have Marine Engineers' First Class Certificates, and the ‡ Superintendent Ambulance Inspector holds Sanitary Certificate, and also the Certificate of St. John's Ambulance Association.

PROCEEDINGS UNDER THE DISEASES OF ANIMALS ACT, 1894.

The Diseases of Animals Act relates in the main to certain diseases communicable amongst cattle, sheep and swine, and provides for the separation of diseased animals from healthy ones, and for the disinfection and cleansing of vessels, trucks, &c., in which animals have been carried.

The Board of Agriculture, under the powers of this Act, issue orders from time to time dealing with diseases of animals, or with their protection during transit.

The accompanying table gives the statistics of the proceedings taken under the Act or under the Orders of the Board of Agriculture.

	<u>1896.</u>	<u>1895.</u>
Number of Visits to Railway Stations, including inspections made on		
Sundays	2,743	3,094
,, Inspections of pens	94,281	97,569
,, found clean	71,816	74,632
,, ,, dirty and cleansed before being used	22,465	22,935
,, Informations for dirty pens used before being cleansed ..	—	2
,, Inspections of Trucks	35,983	30,412
,, found clean	32,074	27,487
,, ,, dirty and cleansed before being used, or leaving the		
City dirty	3,909	2,925
,, Informations for dirty trucks used before being cleansed ..	—	—
,, Inspections of Horse Boxes	617	203
,, found clean	286	128
,, ,, dirty and cleansed before being used, or leaving the		
City dirty	330	75
,, Informations for dirty horse boxes used before being cleansed	1	—
,, Inspections of Vessels	9,281	8,924
,, found clean	4,050	4,009

	<u>1896.</u>	<u>1895.</u>
Number found dirty and cleansed before being used, or going to Sea		
without cattle or cargo	4,992	4,914
Number of Informations for dirty vessels used before being cleansed ..	2	
„ Inspections of Gangways	8,036	7,244
„ found clean	6,384	5,804
„ „ dirty and cleansed before being used	1,652	1,440
„ Informations for not cleansing gangways	—	—
„ Informations for not disinfecting scrapings and sweepings..	1	—
„ Inspections of Lairage and Sale Yards	5,679	3,721
„ found clean	4,321	2,718
„ „ dirty and cleansed before being used	1,358	1,003
„ Informations for dirty Lairages used before being cleansed	1	—
„ Informations for landing fittings without consent in writing of the Local Authority	1	2
„ „ „ landing broken fodder	—	—
„ „ „ carrying newly-shorn sheep on upper deck	1	—
„ „ „ not providing pens for animals on vessel..	1	1
„ „ „ neglecting to slaughter injured animals ..	1	2
„ „ „ neglecting to securely tie cattle	—	1
„ „ „ removing animals without a license ..	—	5
„ „ „ not providing sufficient ventilation to vessel	1	—
Total Number of Informations	10	14
Fined	8	11
Withdrawn	2	3
Amount of Fines and Costs	£44 2 0	£23 4 6

RETURNS OF CATTLE KILLED IN THE CITY SLAUGHTER-HOUSES, AND OF MEAT IMPORTED FOR SALE.

There is again to be recorded a considerable decrease over the preceding year in the number of cattle slaughtered in the City Slaughter-houses, about 5,000 less being slaughtered than in the preceding year, but the increase in the number of carcasses of dead meat imported for sale is very large; the total being over 18,000 more than in the preceding year. The live cattle are not brought to the market in large numbers when there is a large importation of carcasses; similarly with regard to sheep, there is a decrease of about 16,000 in the number killed in the City, and an increase of about 15,000 in the number of carcasses imported for sale.

STREET.	Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Dead Meat Imported for Sale.			
						Beasts.	Sheep.	Pigs.	Calves.
Abattoir.	4365	121221	..	12902	44647	56841	365178	267	222
Back Butler Street	43	70	14	6	4	..	..	..	..
Back Castle Street	479	65	84	289	6	31	..	2	..
Back Mount Vernon Green..	348	3381	1073	28	4	..	..	..	..
Cotter Street.....	8	10	..	..	2308	..	..	..	..
Corlett Street	51	1053	989	9	8	..	..	..	..
Darnley Street .....	..	..	..	..	2518	..	..	..	..
Edgeware Street	21	496	154	1	..	..	..	..	..
Embledon Street	84	326	136	1	1	..	..	..	..
Foley Street .....	..	..	..	..	6619	..	..	..	..
Gelling Street	305	348	201	223	..	..	..	..	..
Peel Street.....	57	659	253	4	7	..	..	..	..
Bevington Hill	1150	377	..	902	12	70	..	7	..
Byrom Street .....	..	..	..	..	1403	..	..	..	..
Bolton Street.....	98	3009	1176	6	..	..	..	..	..
Back Commutation Row(1)...	13	..	..	..	..	..	..	..	..
„ „ (2)...	209	1708	418	..	..	..	..	..	..
Copperas Hill .....	..	..	..	..	11500	..	..	314	..
Finch Place	502	2382	1001	2	..	..	..	..	..
Frederick Street	11	421	328	6	109	..	..	..	..
Lydia Ann Street.....	75	1262	221	1	..	..	..	..	..
Carried forward	3454	15567	6048	1478	24499	101	..	323	..

RETURNS OF CATTLE KILLED IN THE CITY SLAUGHTER-HOUSES,
AND OF MEAT IMPORTED FOR SALE.—*Continued.*

STREET.	Beasts.	Sheep.	Lambs	Calves	Pigs.	Dead Meat imported for Sale.			
						Beasts.	Sheep.	Pigs.	Calves.
Brought forward	3454	15567	6048	1478	24499	101	..	323	..
Norman Street .....	..	..	..	..	2713	..	..	..	..
Norfolk Street .....	..	1394	834	..	9	..	..	..	..
Soho Street .....	..	..	..	..	2017	..	..	..	..
Upper Milk Street .....	..	..	..	..	6283	..	..	..	..
Salisbury Road, Walton....	146	121	84	9	16	..	..	..	..
West Derby Road, W. Derby	51	1910	444	3	40	..	..	..	..
„ Village „	..	8	..	..	..	..	..	..	..
Town Row „	13	293	79	3	37	..	..	..	..
Prescot Road, Knotty Ash..	2	320	118	5	46	..	..	..	..
101, High Street, Wavertree	14	36	2	5	36	..	..	..	..
105, „ „	27	176	76	8	36	..	..	..	..
Sandown Lane „	40	390	88	..	21	..	..	..	..
Derby Lane, Old Swan ....	..	428	232	..	..	..	..	..	..
Allerton Road, Wavertree..	556	2771	1182	19	48	..	..	..	..
Total in Private Slaughter-houses.....	4303	23414	9187	1530	35801	101	..	323	..
Total in the City	8668	144635	9187	14432	80448	56942	365178	590	222

PRECEDING YEAR.

Total in Private Slaughter-houses.....	5101	19007	6719	1667	28490	353	20	6	..
Total in the City	13623	160964	6719	15318	70886	38501	349975	15	399

There were four applications for transfer of licences of Slaughter-houses during the year, two of which were granted and two refused, viz.:—

Premises.		Date 1896.
Lydia Ann Street	Refused.	28th May.
Corlett Street	Granted.	10th September.
105, High Street, Wavertree..	„	„
4, Embledon Street	Refused.	12th November.

	1896.	1895.
Number of Visits to Slaughterhouses made by Meat Inspectors ..	10,860	10,312
„ „ Butchers' Shops „ „ ..	72,299	58,478
„ „ Fish & Fruit Shops „ Fish Inspectors ..	37,239	39,165
„ „ Poultry Depots	221	443

UNWHOLESOME MEAT, FISH, &c., SEIZED AND DESTROYED.

DATE.—1896.		Beef.	Veal.	Mutton.	Pork.	Poultry	Rabbits and Hares.	* Fish.	Shell fish.	Oysters.	Miscellaneous.
		Lbs.	Lbs.	Lbs.	Lbs.	Head		Lbs.	Bags.		
MARKETS, SLAUGHTER HOUSES.	Abattoir ..	143626	6297	14785	19263	..	..	..	..	..	..
	Back Castle Street ..	20146	1056	39	..	..	..	..	..	..	..
	Bevington Hill ..	35048	1291	479	..	..	..	..	..	..	..
	Bolton Street ..	..	..	120	..	..	..	..	..	..	..
	Byrom Street ..	..	120	..	..	..	..	..	..	..	..
	Copperas Hill ..	..	..	..	3521	..	..	..	..	..	..
	Gelling Street ..	2760	80	398	..	..	..	..	..	..	..
	Norman Street ..	..	..	..	1194	..	..	..	..	..	..
	St. John's ..	7218	52	63	12	556	397	84636	55	400	..
	St. Martin's ..	1855	..	167	445	..	..	..	..	..	..
OTHER PARTS.	Athol Street ..	..	..	..	28	..	..	..	..	..	..
	Back Butler Street ..	..	..	115	..	..	..	..	..	..	..
	Button Street ..	..	..	..	..	..	..	..	..	..	..
	Banastre Street ..	..	..	8100	..	..	..	..	..	..	630 tins Cond. Milk
	Crown Street ..	..	..	..	45	..	..	..	..	..	..
	Danby Street ..	..	..	..	380	..	..	..	..	..	..
	Derby Lane, Old Swan ..	..	..	80	..	..	..	..	..	..	..
	Edge Hill Station ..	150	..	..	560	..	..	..	..	..	..
	Foley Street ..	..	..	..	347	..	..	..	..	..	..
	Frederick Street ..	..	..	..	210	..	..	..	..	..	..
	George's Dock ..	..	..	..	50	..	..	..	..	..	..
	Great Charlotte Street ..	30	..	..	64	..	..	5197	..	..	..
	Great Homer Street ..	425	..	65	..	..	..	..	..	..	..
	Great Howard Street ..	35	..	..	..	..	..	..	..	..	..
	Great Nelson Street ..	..	..	..	..	..	..	..	..	..	..
	Heyworth Street ..	228	..	..	..	..	..	..	..	..	218 Cocoanuts
	Islington ..	..	..	..	..	..	..	..	..	..	..
	Kirkdale Road ..	28	..	..	..	..	..	..	..	..	56 lbs Onions
	Leece Street ..	..	..	..	..	26	..	..	..	..	..
	Manesty Lane ..	..	..	..	..	..	..	94613	..	..	..
	Mill Street ..	..	..	52	..	..	..	..	..	..	..
	Netherfield Road ..	..	..	165	..	..	..	..	..	..	..
	North Haymarket ..	..	..	..	..	..	..	..	..	..	5700 lbs. Onions 2530 .. Apples 2142 .. Tomatoes 12 .. Cherries
	Paddington ..	25	..	..	..	..	..	..	..	..	..
	Pitt Street ..	..	..	..	..	..	..	672	..	..	..
	Portland Street ..	..	..	..	..	..	..	..	..	..	215 lbs. Cauliflowers
	Queen Square ..	..	..	..	..	..	..	..	..	..	1200 lbs. Greengages
	Ranelagh Place ..	..	..	..	..	..	..	..	..	..	150 lbs. Plums and Grapes
	Ranelagh Street ..	..	..	65	..	..	..	..	..	..	..
	Roe Street ..	25	..	..	..	..	..	..	..	..	..
	Roscommon Street ..	100	..	50	..	..	..	..	..	..	..
	Rose Street ..	..	..	..	..	140	..	12850	..	..	..
	Scotland Road ..	16303	..	7642	..	..	..	..	..	..	..
	Upper Milk Street ..	..	..	..	506	..	..	..	..	..	..
	Walton Road ..	..	..	400	..	..	..	..	..	..	..
	West Derby Road, Tue Brook.	..	..	55	..	..	..	..	..	..	..
	Williamson Square ..	4425	..	..	..	..	..	..	..	..	..
	William Henry Street ..	..	..	400	..	..	..	..	..	..	..
Total		232427	8896	33240	26561	786	397	197968	55	400	

Equivalent to—Meat	Tons.	Cwts.	Qrs	Lbs.
...	134	8	2	12
Fish	88	7	2	8

* Foregoing does not include Fish removed as refuse by Veterinary Superintendent.

The amount of unwholesome meat which has been seized and destroyed during the year amounts to upwards of 134 tons, and includes about 19 tons, carcasses of animals smothered aboard a cattle steamer owing to a collision.

The great bulk of this meat was not exposed for sale, and was dealt with under a Local Act, which does not require a Justices' order for its destruction.

The number of smothered and injured cattle is decreasing, the cross channel traffic being attended with less injury and damage to the cattle than formerly, owing to greater care in transit.

SMOTHERED AND INJURED CATTLE.

Beasts.	Sheep.	Pigs.	Number found good.	Number found bad.	Weight of Bad in pounds.
39	52	132	189	34	9,861

The quantity of fish was also in excess of the amount taken last year, and includes a large quantity of fresh fish which had gone bad in transit, and a large quantity of salt fish which had become tainted during transit or storage.

The number of carcasses seized by Medical Officer of Health and Inspectors, distinguishing the number so condemned in consequence of the animal having suffered from Tuberculosis, is as follows:—

	<u>1896.</u>
Number of carcasses seized during the year by Medical Officer of Health and Inspectors under section 116 of the Public Health Act	939
* Number of such carcasses condemned by Justices under section 117 of the Public Health Act	* 1
Number of carcasses so condemned in consequence of the animal having suffered from Tuberculosis	124
Amount of Fines and Costs	£20 4s. 6d.

Police proceedings in respect to meat and fish were as follows:—

	<u>1896.</u>	<u>1895.</u>
Number of Informations in respect to Diseased Meat and Fish ..	4	9
„ Fined	3	8
„ sent to Gaol	—	—
Amount of Fines and Costs	£46 19 0	£47 1 1

* The remainder were dealt with under a Local Act, which does not require a Justices' Order.

GLANDERS AND FARCY.

Veterinary examinations, by request of Board of Agriculture, of horses imported from the American Continent.

Horses Examined.	Horses found affected with		
	Glanders.	Pneumonia.	Strangles.
922	...	26	9

In addition to those referred to in the foregoing table, 1,071 horses, some of which were landed beyond the City boundaries, have been examined at the various Saleyards, with a view to the maintenance of the general health of the animals in the City.

Horses Examined.	Horses found affected with		
	Glanders.	Pneumonia.	Strangles.
1,071	...	12	3

The imported animals were on the whole in very good condition and the mortality very small.

GLANDERS AND FARCY.

The number of cases detected in 1896 shews a considerable increase. Glanders and Farcy have been found to exist on 16 premises. 48 reports of suspicious cases were received, 358 animals were examined, and of these 32 were condemned and destroyed, 30 as being affected with Glanders and Farcy, and 2 suspicious cases. Compensation was paid to the owners.

Animals Examined.	Affected.	Suspicious.	Not Affected.
358	30	2	326

Total Number of Animals in Stables, &c., where the Disease occurred.	SLAUGHTERED.		Died.
	By Order of Owner.	By Order of Local Authority.	
155	8*	32	1

* Five of these animals came from localities outside the City boundaries, viz. :— 2 from Burscough, 1 from Ditton, 1 from Linacre, and 1 belonged to a travelling gipsy.

LUNGS OF HORSES EXAMINED AT KNACKER'S YARD, HOLME STREET,
SANDHILLS.

Since the 18th April, the Veterinary Superintendent has caused to be examined the lungs of all horses sent to the above premises. In every instance where there was evidence of the disease manifested in the lungs, the owners of the animals were notified, and if within the City boundaries, the remainder of their studs were subjected to veterinary examination. In those cases where the existence of Glanders or Farcy was capable of detection during the life of the animal, proceedings were taken against the owners. Of the total number of lungs examined, five, taken from horses that were brought into the City from places outside the boundary were found affected, and in three of these cases proceedings were instituted against the owners; in the remaining two there were no outward manifestations of the disease.

Lungs Examined.	Glandered.	Not Affected.
1,760	14	1,746

PLEURO-PNEUMONIA.

A case of Pleuro-Pneumonia occurred in a shippoon where five cows were kept. The animal had been purchased at an auction, in Oswestry, two months previously; it was ailing for some days, and sent by the owner to the Abattoir, where it was found by the Inspector.

SWINE FEVER.

The following table shows the number of animals affected and the number in the herds slaughtered under the Swine Fever Order.

Total Number in Herds.	HEALTHY.		DISEASED.			Died.	Locality.	Remarks.
	Slaughtered.		Slaughtered.		By Order of Board of Agriculture.			
	By Order of Owners.	By Order of Board of Agriculture.	By Order of Owner.	By Order of Board of Agriculture.				
233	228	...	2	...	3	Abattoir	} These animals came from Ireland.	
66	63	...	2	...	1	Gill Street Market		
17	...	14	...	...	3	Club Moor, West Derby
15	14	...	...	...	1	West Derby
14	5	...	...	2	7	Knotty Ash
8	...	4	..	3	1	Prescot Road, Stanley		
1	...	...	..	...	1	Fulwood Park
3	...	...	...	1	2	Edge Lane
2	...	...	1	...	1	Bishop Eton Monastery
1	...	...	...	...	1	Priory Road, Wavertree
10	...	9	...	...	1	Edge Lane
370	310	27	5	6	22			

RABIES.

During almost the entire year, viz., from the 1st January to 2nd November, a Muzzling Order was in force, and not a single case of rabies was reported.

Post mortem examinations were made by the Veterinary Inspectors during the year on 47 dogs, and none of them shewed signs of having been affected with rabies.

Powers regulating measures for the suppression or control of diseases of animals are vested in the Board of Agriculture, and the case of rabies, although the disease is one communicable to man, is no exception to the rule.

Outbreaks of rabies during the last five years have been localised at different times in different parts of the country. The Board of Agriculture have therefore never deemed it necessary to pass an order requiring muzzling of dogs all over the country, the Board having considered that unless the disease is so extensively spread as to make it difficult or impossible for the Local Authorities concerned, either individually or in combination, to successfully combat the evil, little or no advantage would be likely to be gained by the intervention of the Central Authority.

In 1889, rabies became very prevalent in various parts of the country, more especially in the thickly-populated districts of Lancashire, Yorkshire, and Cheshire. In 1889, a Muzzling Order was adopted by the City Council. As soon as suitable muzzling regulations were brought into operation, the number of cases steadily fell, and in 1892 a minimum of 38 was reported in this country. In February, 1892, the Board of Agriculture authorised the withdrawal of the Muzzling Order

from certain parts of Lancashire, so far as it related to dogs which had a collar with the name and address of the owner of the dog legibly engraved on such collar. This Order also extended to Liverpool. The recurrence of rabies, however, necessitated a re-adoption of the Muzzling Order in the City of Liverpool in January, 1894.

It may be well to state that the greater portion of cases of rabies and hydrophobia relatively to population, occur in cities and densely-populated districts. The reasons, therefore, for a Muzzling Order in cities, are perhaps more cogent than in rural districts.

What is known as a Muzzling Order contains provision for the slaughter of dogs affected with, or suspected of, rabies. It also provides for the seizure, detention, and disposal of stray dogs, and of dogs not muzzled.

So far as the City of Liverpool is concerned, the effect of the provision for the destruction of stray dogs is shewn by the following table, indicating the number of dogs taken from the streets and destroyed during each of the last six years :—

1890	...	...	...	...	4,070
1891	...	...	...	...	1,950
1892	...	...	...	...	1,449
1893	...	...	...	...	830
1894	...	...	...	...	3,146
1895	...	...	...	...	3,312

It will be seen from the foregoing that the streets were fairly cleared of stray dogs in 1890 and 1891 under the Muzzling Order then in operation, but the numbers diminished largely in 1893, when there was no Muzzling Order; since the adoption of the Muzzling Order of 1894 no less than 6,458 unmuzzled dogs have been taken from the streets,

these dogs being, in the language of the Society for the Prevention of Cruelty to Animals, "generally speaking, worthless and diseased."

The official return of the Board of Agriculture for the year 1894 contains the following paragraph:—

"Local Authorities, however, have shown great reluctance to exercise the extensive powers they possess, more especially with regard to the imposition of the muzzle. Muzzling regulations are unpopular among dog owners, and usually bring upon Local Authorities making them the odium of interfering with the right, which each dog owner thinks his dog possesses, to bite at least one person. A popularly-elected body, such as a Town or County Council, is perhaps naturally unwilling to expose itself to unfavourable criticism. But in view of the terrible mental sufferings endured by persons bitten by a rabid animal, and by their friends, and the fearful nature of the death that awaits some of the victims, any measure which could minimise the danger should secure cordial, although it may be silent, approval. Even if this were not the case it would appear to be the duty of the governing body of every district to protect those they represent against the horrors of hydrophobia."

Much has been made, from time to time, of the circumstance that a universal Muzzling Order has not been issued by the Board of Agriculture. It is, no doubt, a matter of very great regret that the Board has not seen its way to issue a universal Muzzling Order, but the fact that the Muzzling Order may have been removed in a rural district where the necessity for an Order may be but slight, and that that district abuts upon an urban one where the necessity may be great, is no reason whatever why precautionary measures should be cast aside in the urban district.

ADMINISTRATION OF COWSHEDS AND SHIPPONS.

The number of Shippons in the City during the years 1889 to 1896 inclusive, together with the number of cows licensed to be kept, and the number of applications for new shippons, is as follows:—

	Shippons.		Cows.		Applications.	
1890	...	378	...	5,104	...	2
1891	...	380	...	4,950	...	1
1892	...	337	...	4,539	...	6
1893	...	344	...	4,634	...	4
1894	...	304	...	4,005	...	2
1895	...	325	...	4,311	...	20
1896	...	404	...	5,393	...	129*

* Including 125 new applications in incorporated area.

Registration of Premises. During the past few years special efforts have been made to improve the condition of the premises in which cows are kept.

The Medical Officer declines to renew the licenses of any premises which do not comply with sanitary requirements, consequently as a suitable season must be selected for structural alterations to be carried out, and a reasonable amount of time must be allowed, a considerable number of shippons are without licenses; the owners or occupiers are proceeding with reasonable despatch to do what is necessary.

At the present time no premises are licensed, and no premises will in future be licensed, until their sanitary condition fulfils in every detail the requirements of the Regulations.

Inspection of Shippons. Shippons are under the immediate supervision of two well-qualified and competent inspectors, whose whole time and undivided attention are devoted to the examination of shippons to ensure that the requirements of the bye-laws as to light, ventilation, cleanliness, &c., are carried out. They are also prepared to advise in regard to the construction of new shippons.

In regard to the health of the cows themselves, the shippons are systematically visited by the Leavelookers, five in number, who examine the cows. The visits and examinations of these Inspectors, which are authorised by the bye-laws, are not objected to by the cowkeepers, and no instance of obstruction has arisen, nor has any cowkeeper refused to remove from the shippon, cows which the Inspector has considered should be removed.

In the event of a cow being found to be in a diseased condition the circumstance is reported to the Medical Officer, and the Veterinary Superintendent or his assistant examines the suspected animal.

Cowkeepers appear now to realise that what is being done is in their own interests, consequently they have on the whole, and with a few notable exceptions, desisted from opposition and evinced willingness to co-operate with the Sanitary Officers.

Inspection of Dairies. All places where milk is sold require to be registered, and applications for registration are not granted until after the District Sanitary Inspector has visited the premises, and any defects which he may have found are dealt with. The premises are then visited by the Milkshop Inspector to ascertain that they are suitable, and that no other business likely to cause contamination of milk is carried on.

In May and November all licensed premises are visited by the District Sanitary Inspectors in order to see that the requisite half-yearly lime-washing has been properly carried out.

Analysis of Milk. 841 Samples of milk were taken for analysis under the Food and Drugs Act.

Consumers would do wisely to boil milk for a few seconds, and not to consume it raw. Objections are raised to this on account of the change in the flavour produced by boiling, and it is also urged that, as milk is a food intended by nature to be taken in the uncooked state, boiling is unnecessary. It must be borne in mind, however, that milk, when supplied in the natural manner to the young infant, passes direct from the gland, to the stomach of the infant, at a suitable temperature and adequately mixed; it contains neither adulterant nor preservative, nor has anything been abstracted from it, and it is, bacteriologically, clean and pure. The milk of commerce, on the other

hand, is exposed to risks of contamination, not only in the open buckets in the shippin, but also in strainers, pails, milk cans and jugs, into which it finds its way in the course of its progress to the table of the consumer ; and although it may be neither skimmed nor watered, yet after being hawked from door to door through the dusty streets it may arrive in a varying degree of staleness, more or less contaminated, and loaded with microbes of various kinds.

Between milk supplied as Nature intended it and milk which has gone through so many vicissitudes, there is a considerable gulf fixed, and a consideration of these facts may modify the prejudices against a few seconds boiling.

STATISTICS respecting licences to keep Cattle, and Registration of Premises for the Sale of Milk, under the Dairies, Cowsheds, and Milkshops Order.

LICENSES TO KEEP COWS.

Number of Applications to keep cows on premises not previously licensed ...	129
" " granted	80
" " standing over pending requisite alterations ...	35
" " withdrawn	10
" " refused	4
Number of cows applied for on above applications ...	1,732
" cows granted...	988
" applications standing over from last year and now granted...	2
" applications for transfer to fresh tenants of shippins which were previously licensed	46
" transfers granted	41
" transfers refused	1
" transfers in abeyance, pending alterations	4
" applications to keep more cows than the number for which the licence was originally issued	10

Number of granted	...	...	...	...	...	...	...	...	9
„ additional cows applied for	..	...	...	...	...	...	...	...	42
„ cows granted	...	...	...	...	...	...	...	...	25
„ applications refused	...	...	...	...	...	...	...	...	1
„ shippons at present licensed	...	...	...	...	...	...	...	...	404
„ cows authorised to be kept	...	...	...	...	...	...	...	...	5,393
„ shippons in added area	...	...	...	...	...	...	...	...	75
„ cows in added area	...	...	...	...	...	...	...	...	919

LICENSES TO KEEP PIGS.

Number of new applications to keep pigs on premises not previously licensed	28
„ „ granted	14
„ „ in added area	27
„ „ in former City area	1
„ pigs applied for on above applications	614
„ pigs granted	177
Total number of premises now licensed	36
„ „ pigs	276

Particulars respecting new applications :—14 granted, 5 refused, 3 premises vacated, 6 in abeyance, pending alterations ; total 28.

MILK SHOPS.

Number of applications for registration	...	...	...	...	...	...	167
Of which transfers were	..	...	...	...	...	...	115
Number of above applications in added area ... ..	...	...	...	...	...	...	153
Number of applications granted	...	...	...	...	...	...	109
„ applications refused...	...	...	...	...	...	...	23
„ applications standing over, pending alterations. (These are in connection with shippons) ... ..	...	...	...	...	...	...	35
Two applications standing over from last year have been granted.							
Number on the register at the end of 1895	...	...	...	...	...	...	1,415
„ „ „ 1896	...	...	...	...	...	...	909

During last year, all the registered milkshops were visited by the District Sanitary Inspectors, and it was found that 567 of these had ceased to sell milk, and were consequently removed from the register.

SHIPPON INSPECTION.

SHOP HOURS ACT, 1892—5.

During 1896, under the above Act, there have been 4,862 visits paid to shops during the day, and 2,792 visits made after six o'clock; in 6,609 instances the shops were found to be correct, and 1,045 incorrect.

The persons concerned have generally evinced readiness to comply with the requirements of the Act, and have thus lessened the difficulties in its administration.

	<u>1896.</u>	<u>1895.</u>
Number of Shops visited (day)	4,862	3,961
„ „ found incorrect	669	631
„ „ visited after 6 p.m.	2,792	2,014
„ „ „ found incorrect	376	298
„ copies of Act distributed by the Inspectors	1,076	1,022
„ Informations for excessive hours	4	—
„ Convictions „ „	4	—
being 1 Grocer (2 informations), 1 Fishmonger and 1 Baker.		
„ Informations for not exhibiting Notice of Act and number of hours	8	1
„ Convictions	7	1
being 3 Butchers, 2 Ironmongers, 1 Baker and 1 Pawnbroker.		
Total number of Informations	12	1
„ „ Convictions	11	1
Total Amount of Fines and Costs ..		
	<u>£10 11s. 6d.</u>	<u>£0 14s. 6d.</u>

FACTORY AND WORKSHOPS ACT, 1878—95.

The Inspectors appointed under the above Acts have visited a large number of Workshops, the summary of which is appended. A certain number of Sanitary defects were found, the character of which is indicated in the following table :—

	<u>1896.</u>	<u>1895.</u>
Number of Workrooms, dirty walls	569	533
„ „ „ ceilings	570	531
„ „ „ floors	27	40
„ „ „ urinals	33	22
„ „ „ water-closets	82	67
„ „ „ lavatories	27	5
„ „ insufficiently ventilated, arising from structural defects or from want of attention	430	314
„ „ found overcrowded	11	16
„ Defective Drains and Water-closets; also insufficient water-closet accommodation, and other nuisances	755	629
„ Notices issued { upon Owners	142	248
„ „ { upon Occupiers	527	406
„ „ not complied with (These are known to be in progress.)	2	3
„ Informations	21	17
„ Fined	10	6
„ of References to Government Factory Inspector ..	126	146
„ Workshops inspected, protected	598	497
„ „ „ non-protected	26	42
„ Workshops measured	694	622
Visits to Workshops	5,443	4,283
Workshops found incorrect	2,318	1,826
Amount of Fines and Costs	£6 15 0	£6 15 6

SUMMARY OF VISITS PAID TO WORKSHOPS.

Basket Makers 11	Leather Workers 15
Blind Makers 7	Marine Stores... .. 99
Boat Builders 6	Mattress and Bed Makers 23
Boot Makers 70	Milliners 136
Bottlers 94	Mineral Water Manufacturers 8
Box Makers 12	Paint and Varnish Manufacturers... .. 17
Brush Makers... .. 8	Paper Cutters, &c 69
Cabinet Makers and Joiners ... 312	Photographers 5
Canned Meats... .. 38	Pickle and Sauce Manufacturers ... 77
Cap Makers 27	Plasterers and Modellers 12
Carvers and Gilders 23	Plumbers 21
Cattle Food Mixers 8	Relief Stampers 10
Coach Builders 51	Rope Makers 8
Confectioners 105	Sack and Bag Makers 33
Coopers... .. 24	Saddlers 29
Cork Cutters 12	Sailmakers 6
Cotton Sorters, &c. 138	Scale Makers 5
Cycle and Bassinette Makers ... 33	Sign Writers 6
Dress and Mantle Makers 925	Slipper Makers 5
Drysalters 38	Smiths 45
Engravers 26	Tailors 1,722
Enamellers 33	Tarpaulin Makers 40
Firewood Manufacturers, &c. ... 21	Toy Makers 7
French Polishers 23	Trunk and Portmanteau Makers ... 11
Furriers 11	Umbrella Makers 13
Galvanisers 7	Underclothing Makers 130
Glass Blowers 9	Upholsterers 23
Ink Manufacturers 11	Watchmakers and Jewellers 33
Knitters 15	Various... .. 183
Laundries 547	Total <u>5,443</u>

BAKEHOUSES.

Number of Bakehouses on Register, 31st December, 1896	960
Number of Bakehouses added to Register during 1896	207
Number of Bakehouses struck off Register during 1896	33

About three-fourths of the added bakehouses are within the old area, and one-fourth within the added areas, and consist of small cakeshops which require supervision.

Number of Visits paid to bakehouses... ..	4,539
Number of Bakehouses found dirty (walls and ceilings)	397
Number of Notices issued for limewashing	268
Number of Bakehouses limewashed without notice	129
Number of Notices issued for defective ventilation	53
" " " to cleanse store cisterns and provide water from main	6
" " " to repair defective drains and waste pipes	18
" " " to discontinue using bedrooms opening directly into bakehouse	17
" " " to take drains out of bakehouses	23
" " " to repair defective floors and walls	34
" " " to repair defective ceilings	38
" " " to remove closets from bakehouses	7
" " " to provide suitable water-closet accommodation	13
" " " to remove ashpits from vicinity of bakehouse	2
" " " to remove and cease to keep animals in bakehouse	3
" " " to cease to use bakehouse for the purpose of domestic washing	8
" " " to cleanse floors, windows, areas, tables and troughs... ..	131
" " " to cease to use as bakehouses places underground not in conformity with Act, 1895	9
Number of References to Government Factory Inspector	39

All the Notices were complied with except two, for which informations were laid, viz. :— One for a defective ceiling, the defendant being ordered to pay 2s. costs, and to do the work in seven days: the other for using a bedroom opening directly into the bakehouse, in which case a fine of 20s. with 4s. 6d. costs was imposed.

In the latter case the defendant afterwards made such structural alterations to the premises as complied with the requirements of the original notice.

SMOKE NUISANCES.

Proceedings for the abatement of Nuisances caused by the emission of excessive smoke from factory chimneys or from steamers are taken under the Liverpool Sanitary Amendment Act, 1854, sections 24 and 25, and the Liverpool Improvement Act, 1882, section 77.

							1896.	1895.
Number of reports of excessive smoke from	Manufactories	..					582	327
"	"	"	Steamers in river	..			252	186
"	"	"	" dock	..			56	27
	Total	..	..				890	540
Informations against	Manufactories	..	..	..	..		582	298
"	"	Steamers in river	..	..	..	..	252	183
"	"	" dock	..	..	..	..	56	23
	Total	..	..				890	504
Acquitted or withdrawn,	Manufactories	..	..	..	..		6	2
"	"	Steamer cases	..	..	..	..	8	8
	Total	..	..	..	..		14	10
Fined, Manufactories	..	..	..	..	..	..	576	296
"	Steamers	..	..	..	..	..	300	198
	Total	..	..	..	..		876	494
Amount of Fines, Manufactories	..	..	£689	18	9		£426	5 7
"	"	Steamers	..	..	379 3 5		263	13 2
	Total	..	..	£1,069	2 2		£689	18 9

There were two appeals by the defendants to Quarter Sessions against the decisions of the Magistrates who had inflicted penalties in each case ; but both appeals were dismissed by the Recorder, with costs, and the decisions of the Magistrates confirmed.

In addition 24 cases of excessive smoke from Steamers in the river were observed ; in 13 the vessels were bound to foreign ports, and in 9 the owners could not be traced, and in 2 the Steamers were towing vessels in cases of emergency and consequently no proceedings were taken.

	1896.	1895.
Complaints received of smoke from defective house flues, and from low chimneys	133	87
Visits relating thereto	642	272
Chimneys raised in consequence of complaints	34	25
Flues altered and repaired	27	31
Attention promised	48	13
Referred to other departments	4	3
Frivolous complaints	20	15
Total complaints dealt with ..	133	87

CAUTIONS FOR EMITTING EXCESSIVE SMOKE.

	1896	1895.
Chief Inspectors and Assistants gave Manufacturers ..	601 Cautions ..	362
„ „ „ Steamers ..	76 „ ..	39
Total	677	401
Number of enquiries respecting Owners	240	..

The large amount paid in fines for smoke nuisances indicates the necessity for care in preventing them.

In many instances the fault is owing to careless stoking, and due attention would obviate the grounds of complaint.

Proceedings under the Food and Drugs and Margarine Acts.

All samples of food or drugs are taken either by or under the superintendence of Inspectors of the Health Committee. It becomes necessary, however, from time to time to employ women or young lads to go into the shop to ask for the articles, and as soon as the agent receives them, the Inspector enters the shop and completes the formalities which the Act requires. This is rendered necessary as the Inspectors become known in the district. Special attention is paid to milk, a large number of samples of which are taken.

SAMPLES TAKEN FOR ANALYSIS.

No. of Samples purchased.	Description of Samples.	Adulterated.	Informations.
12	Cream .. .. .	..	..
681	New Milk	63	61
145	Skimmed Milk	17	17
2	Condensed Milk .. .. .	..	..
1	Buttermilk	1	..
53	Butter	6	6
19	Lard .. .. .	..	..
1	Lardine .. .. .	..	..
6	Margarine .. .. .	..	..
24	Cheese .. .. .	..	..
1	Tea .. .. .	..	..
13	Coffee	1	1
1	Sugar .. .. .	..	..
8	Mustard	1	1
29	Pepper .. .. .	..	..
7	Cayenne Pepper .. .. .	..	..
1	Ginger .. .. .	..	..
18	Ground Ginger .. .. .	..	..
2	Caraway Seeds .. .. .	..	..
7	Pickles .. .. .	..	..
3	Piccalilli .. .. .	..	..
1	Pickled Walnuts .. .. .	..	..
4	Vinegar	1	1
2	Roast Mutton .. .. .	..	..
1	Baking Powder .. .. .	..	..
5	Arrowroot .. .. .	..	..
5	Candied Peel .. .. .	..	..
1	Ground Cinnamon .. .. .	..	..
2	Macaroni .. .. .	..	..
1	Rice .. .. .	..	..
1	Bread .. .. .	..	..
1	Bread and Butter .. .. .	..	..
10	Flour .. .. .	..	..
2	Cornflour	2	..
1	Oats .. .. .	..	..
2	Oatmeal .. .. .	..	..
4	Yeast .. .. .	..	..
2	Honey .. .. .	..	..
5	Marmalade .. .. .	..	..
12	Jam .. .. .	..	..
4	Cakes .. .. .	..	..

SAMPLES TAKEN FOR ANALYSIS—CONTINUED

No. of Samples purchased.	Description of Samples.	Adulterated.	Informations.
10	Sweetmeats .. .. .	..	..
1	Seidlitz Powder .. .. .	..	..
4	Tartaric Acid.. .. .	..	..
1	Borax .. .. .	..	..
15	Cream of Tartar .. .. .	..	..
2	Carbonate of Soda .. .. .	..	..
4	Olive Oil	1	1
2	Oil of Mustard	2	..
1	Castor Oil .. .. .	..	..
1	Olives .. .. .	..	..
1	Cod Liver Oil .. .. .	..	..
1	Cassia .. .. .	..	..
8	Medicine Prescription	2	2
4	Spirits of Nitrous Ether	2	..
9	Preserved Peas	5	4
1	„ Beans .. .. .	..	..
1	„ Ginger .. .. .	..	..
2	Rum .. .. .	..	..
2	Irish Whiskey .. .. .	..	..
1	Scotch Whiskey .. .. .	..	..
2	Gin .. .. .	..	..
2	Beer .. .. .	..	..
1	Stout .. .. .	..	..
Total 1176		104 <i>Adulterated.</i>	94
1132 preceding year.		147 preceding year.	

	1896.	1895.
Number of Informations	100	108
„ Fined	89	97
Acquitted or Withdrawn	11	11
Amount of Fines and Costs ..	£241 2 6	£286 15 0

SAMPLES OF MILK OBTAINED DURING THE YEAR 1896.

Number of Samples purchased on Week-days	522
„ Informations	51
Number of Samples taken at Railway Stations on Week-days	93
„ Informations	0
Number of Samples purchased on Sundays	145
„ Informations	24
Number of Samples taken at Railway Stations on Sundays	66
„ Informations	0

SAMPLES OBTAINED FOR BACTERIOLOGICAL EXAMINATION.

Number of Samples taken of Milk	..	..	..	..	..	..	..	119
„ „ Oysters	..	..	..	..	..	..	..	2
„ „ Mussels	..	..	..	..	..	..	..	1

REFUSING TO SELL SAMPLES FOR ANALYSIS.

								<u>1896.</u>	<u>1895.</u>
No. of Informations	..	..	..	..	..	..	..	2	1
„ Fined	..	..	..	..	..	..	..	2	1
Acquitted or Withdrawn	..	..	..	..	..	..	..	—	—
Amount of Fines and Costs								£2 9 0	£2 4 6

GIVING FALSE WARRANTY.

								<u>1896.</u>	<u>1895.</u>
No. of Informations	..	..	..	..	..	..	..	1	1
„ Fined	..	..	..	..	..	..	..	1	1
Amount of Fine and Costs								£3 17 6	£2 4 6

MARGARINE ACT.

								<u>1896.</u>	<u>1895.</u>
Number of Visits to Shops	..	..	..	..	..	..	..	4,303	2,143
„ Samples obtained	..	..	..	..	..	..	..	28	26
„ „ Analysed	..	..	..	..	..	..	..	—	—
„ Informations	..	..	..	..	..	..	..	37	22
„ Fined	..	..	..	..	..	..	..	35	21
Amount of Fines and Costs								£44 18 6	£24 19 6

The amount of fines for offences under the Sale of Food and Drugs Act has decreased during the past twelve months as compared with the preceding twelve months. It was especially noticed that the common and simple fraud of adulterating milk with water was much less frequently practised in 1896 than 1895, and the samples of milk purchased on Sundays showed a marked improvement.

NUISANCES PREJUDICIAL TO HEALTH.

The extension of the City area has brought a large increase in the number of matters upon which the advice and assistance of the Health Department has been sought during the year. The applications made by residents in the City were 7,993. In many instances complaint was made to the Department only after repeated requests addressed to the persons causing or allowing the nuisance, or to agents or owners of property, had been ignored. A great deal of the time of the Inspectors was taken up by these special examinations. The following table shews the character of the proceedings:—

	<u>1896.</u>	<u>1895.</u>
Number of Complaints made by Inhabitants	7,993	7,796
„ Nuisances discovered on above complaints	15,988	15,720
„ „ „ house to house inspection	57,999	51,843
„ Notices issued	39,796	38,034
„ Notes to complainants	4,006	3,311
„ „ sent to comply with notices	5,367	4,771
„ Nuisances re-inspected	99,100	83,945
„ „ abated on re-inspection	55,320	46,830
„ Drains repaired	27,701	18,207
„ Ashpits „	1,990	2,501
„ Closets „	18,930	16,937
„ Water Closet Conversions	132	168
„ Spouts fixed and repaired	1,126	852
„ Places from which animals have been removed	280	315
„ Offensive Matter removed from premises	230	722
„ Stagnant Water „ „	509	1,161
„ Dilapidated Houses	325	543
„ Premises supplied with water	4,051	5,387
„ Chimneys repaired to abate smoke nuisances	39	30
„ Cellar Rails repaired	7	7
„ Informations laid	989	1,809
„ Fined	237	350
„ of Magistrates' Orders	404	729
„ Acquitted or Withdrawn	348	730
Amount of Fines and Costs	£220 1 6	£296 6 1

The applications to examine large and important public buildings and offices have not been so numerous as in the last few years, but applications to examine large and highly-rented dwelling-houses have been very numerous, and the application of the smoke test has in many cases brought to light gross defects in the drainage system. The bulk of complaints arise in respect to ill-constructed and jerry-built property.

OFFENSIVE TRADES.

	1896.	1895.
Number of visits	786	650

Applications for permission to carry on the following offensive trades were made during the year, and a report by the Medical Officer of Health on each application was submitted to the Health Committee.

Premises.	Business.	Granted.	Refused.	Date 1896.
Cherry Lane, Walton..	Knackers' Yard	—	1	2nd January.
Pumpfields	Fish Skin Curing	—	1	16th January.
No. 141, Vauxhall Rd	Tallow Melting and Oil Refining	—	1	16th January.
No. 245, ..	Fat Melting	1	—	20th February
No. 8, Huist Street, Old Swan	Cod Liver Oil Manufactory..	—	1	20th February
No. 141, Vauxhall Rd.	Do.	1	—	12th March.
" "	Oil Refinery	—	1	19th March.
No. 24, Douro Place	Bone Boiling	—	1	4th June.
Cherry Lane, Walton..	Artificial Manure Manufacture	—	1	1st October.
Nos. 79 and 81, Naylor Street	Fat Melting	—	1	12th Nov.
Cunliffe Street.. ..	Tripe Dressing	—	1	26th Nov.

In the cases in which permission was granted, conditions were imposed requiring that the premises be put in proper order to the satisfaction of the City Engineer and the Medical Officer of Health, that no public nor private nuisance be caused, and that the business be discontinued whenever the Council shall so require.

KNACKERS' YARD RETURNS.

	Horses Destroyed.	Horses taken in Dead.	Asses Destroyed.	Cows Destroyed.	Other Beasts.
Holme Street	1,267	1,408	49	65	3

MANURE YARDS AND WHARVES.

	<u>1896.</u>	<u>1895.</u>
Number of visits	557	705

REFERENCES TO OTHER DEPARTMENTS.

	<u>1896.</u>	<u>1895.</u>
Referred to City Engineer	1,957	1,958
„ Building Surveyor	1,223	1,375
„ Water Engineer	5,237	7,393
„ Veterinary Superintendent	1,664	1,850
„ School Board	12,484	11,457

The references to the Water Engineer comprise, mainly, defective fittings, resulting in waste of water; also cases in which the supply was insufficient, owing to various accidental causes.

The references to the School Board chiefly relate to school children from infected houses.

REFERENCES FROM OTHER DEPARTMENTS.

	<u>1896.</u>	<u>1895.</u>
Received from the City Engineer	12,632	12,133
„ Veterinary Superintendent	4,788	5,152
„ Water Engineer	2,322	4,525
„ Lodging-house Inspectors	7,386	9,579

The references from other Departments mainly comprise insanitary conditions discovered by officers belonging to those Departments, but with which it is not within their province to deal. The City Engineer's Department discovered a large number of defects in the incorporated areas when engaged in flushing private drains.

Damage done by the severe frost experienced in the early part of the year 1895 explains the greater number of references during that year, a circumstance which also retarded the house to house visitations during the same period.

HOUSE TO HOUSE VISITATION.

	<u>1896.</u>	<u>1895.</u>
Number of Inspections of Street Houses	12,316	6,341
„ Street Houses found Clean	10,844	5,204
„ „ „ Dirty	1,472	1,137
„ Apartments in Street Houses Examined	52,941	29,963
„ Inspections of Court Houses	2,818	2,349
„ Court Houses found Clean.. .. .	2,429	1,642
„ „ „ Dirty.. .. .	389	707
„ Apartments in Court Houses Examined.. .. .	8,108	7,207
Total Number of Houses Examined	20,525	14,610

COURT AND ALLEY EXAMINATIONS.

	<u>1896.</u>	<u>1895.</u>
Number of Visits to Courts and Alleys	69,128	76,534
„ Closets found Dirty, but Cleansed by Officer's Instruction	69,962	76,458
„ Informations.. .. .	35	76
„ Fined	23	64
Amount of Fines and Costs	£2 15 0	£6 14 6

Visits to courts and alleys are made with the special object of ensuring the cleanliness of the domestic offices and surface of the courts. The aim is to keep the courts and alleys uniformly clean throughout the week, and with this view the district inspectors are instructed that every tenant in each court is in turn to be held responsible for the cleanliness of the court for a period of one week; the inspector records in his visiting book whose turn it is, and duly informs that tenant. Failing compliance with his requirements, an information is laid under a bye-law of the Local Sanitary Act.

The magistrate has rendered great help to the department by imposing a small fine in those cases in which a prosecution became necessary. There is a marked improvement in the condition of the courts, and also in the apparent willingness of the people to cleanse them. The attention of the officer is, however, very necessary, since when the visits are lessened the filthy habits of the people soon lead to a recurrence of the dirty conditions.

The court and alley work is greatly decreasing in amount, owing to the demolition of low-class property for the extension of business, or to the removal of insanitary property by the Insanitary Property and Artizans' Dwellings Committee. The number of courts and alleys scheduled for inspection in 1890 was 2,165, in 1895 it had fallen to 1,660, and in 1896 it had further fallen to 1,593.

During the year all courts and alleys having covered entrances were specially washed and hosed down by the scavengers.

EXAMINATION OF CELLAR DWELLINGS.

	<u>1896.</u>	<u>1895.</u>
Number of Street Cellars inspected	3,028	4,100
" " " found empty	65	159
" " " used for Lumber, &c.	956	1,517
" " " found illegally occupied	80	84
" " " " legally	1,927	2,340
Notices issued to Owners	130	169
" " Occupiers	79	101
Informations against Street Cellar Owners	2	3
Fined	1	1
of Informations against Street Cellar Occupiers	2	—
Fined	2	—
of Court Cellars inspected	286	538
" " " found empty	19	31
" " " used for Lumber, &c.	204	367
" " " illegally occupied	7	6
" " " legally	56	134
" " and Street Cellars found dirty	232	445
Informations against Court Cellar Owners	5	6
Fined	5	4
of Informations against Court Cellar Occupiers	1	1
Fined	—	—
Amount of Fines and Costs	£4 1 0	£1 6 6

The total number of cellar dwellings at present upon the register approximates to 9,000. A great many of these are untenanted, and are not likely to be re-occupied as dwellings.

The number of cellars filled in by the Health Committee, free of charge to the owners, during the year was 72, and the total filled in during the last ten years was 859.

The City Engineer has kindly supplied the following tables :—

NUMBER OF HOUSES ERECTED AND TAKEN DOWN DURING YEAR 1896.

DISTRICTS AND WARDS.							Erected.	Taken down
Scotland ...	...	...	...	...	...	...		204
Exchange ...	...	...	...	...	...	...	8	284
Abercromby ...	...	...	...	...	...	...	3	39
Everton ...	...	...	...	...	...	...	33	11
Kirkdale ...	...	...	...	...	...	...	44	...
West Derby ...	...	...	...	...	...	...	199	2
Toxteth ...	...	...	...	...	...	...	71	204
Walton ...	...	...	...	...	...	...	313	...
West Derby (Rural) ...	...	...	...	...	...	...	41	...
Wavertree ...	...	...	...	...	...	...	185	2
Toxteth (Rural)...	...	...	...	...	...	...	302	1
							1,199	747

Number of cellars filled in during 1896	..	..	..	72
“ “ “ the last 10 years	..	..	..	859

SEWER VENTILATION TO END OF 1896.

Number of 9-inch by 6-inch, 9-inch, 6-inch, 6-inch by 4-inch, 4-inch by 4-inch, 4-inch, and 3-inch Iron Pipe Ventilating Shafts	..	..	1,104
Number of Street Ventilating Manhole Covers and Gratings	..	..	6,781

COMMON LODGING-HOUSES.

The Common Lodging-Houses Act provides that any person opening any premises as a Common Lodging-House, or receiving lodgers therein, without making application to the Medical Officer of Health to have such premises registered, is liable to a penalty of 40s. for every such offence.

When premises have been approved and registered in accordance with the requirements of the Common Lodging-Houses Act, the following Rules and Instructions, together with suitable and permanent cards indicating the various requirements, are handed to the Keeper, to place in a prominent position in each room.

In addition to the requirements mentioned in the instructions, the cleanliness and suitability of the beds and bedding, engage the attention of the Inspector.

RULES AND INSTRUCTIONS.

1.—No greater number than Lodgers are to be received or accommodated in this house at any one time.

2.—The windows of every sleeping-room in this house are to be opened, and kept open to their full width, from nine to ten o'clock every morning, and from two to three o'clock every afternoon (weather permitting), unless in case of sickness in any room requiring the windows to be closed.

3.—The floors of every room in this house shall be well swept every morning before the hour of ten, and shall be well washed during the morning of every Friday.

4.—This house shall be thoroughly cleansed, and the walls and ceiling of every room in this house shall be well and sufficiently limewashed, and the blankets, rugs, and bed-clothes, and covers used in this house, shall be thoroughly cleansed and scoured in the first week of each of the months of April, August, and December.

5.—Upon any person in this house, whether a Lodger or one of the family, being affected with fever or any contagious or infectious disorder, the Keeper shall forthwith give notice thereof to the Medical Officer of Health, at his Office, Municipal Offices, Dale Street, and the Medical Officer will visit the house, and take such proceedings as he shall think proper in compliance with the Act.

6.—If any person in this house shall be affected with fever or any infectious or contagious disorder, the blankets and bed-clothes used by such person shall be thoroughly cleansed and scoured, and the bedding fumigated, immediately after the removal of such person, and where the bedding used consists of shavings or straw, the same shall be burned immediately after such removal.

7.—The Keeper of this house shall provide sufficient accommodation for washing, together with a sufficient supply of water for the use of the Lodgers herein.

8.—The Keeper of this house shall reduce the number of Lodgers, or shall cease to receive and accommodate Lodgers altogether, immediately upon receiving notice to that effect from the Medical Officer of Health.

9.—This ticket shall be placed and kept in such situation in this house as the Medical Officer of Health shall from time to time direct, and shall be produced and delivered to such Officer on demand.

N.B.—The Keeper of any Lodging-house defacing or removing this ticket or disobeying the above Rules and Instructions, will be liable to the several penalties in that behalf provided by the Bye-laws for regulating Lodging-houses, a copy whereof may be obtained on application at the Office of the Town Clerk, at the Municipal Offices, Dale Street.

By order of the Health Committee.

At the end of 1895 there were on the register a total of 705 lodging-houses, and at the end of 1896 the total number was 635, which furnished accommodation for 13,585 lodgers, besides 2,038 members of the keepers' families.

The difference in the number of lodging-houses was occasioned by the removal of 218 old licenses and the addition of 148 new ones.

The diminution in the number of common lodging-houses is due partly to the falling-off in the emigration trade during the last few years, and partly to the fact that larger houses, commonly referred to as "model lodging-houses," with somewhat better accommodation, are being opened, and the business of the smaller ones extinguished.

In some of the better-class houses for men, separate cubicles are provided for each lodger, the price paid for them varying from 6d. to 1s. 6d. per night. These cubicles are much more appreciated than the ordinary accommodation provided.

The number of the so-called "model lodging-houses" for men only upon the register is 113, and these are registered to accommodate 5,015 lodgers, as well as 229 members of the keepers' families.

There are also 25 registered model lodging-houses for the accommodation of women only. These have room for 657 lodgers, in addition to 39 members of the keepers' families.

The visits to lodging-houses are both by day and by night. The night visits are almost restricted to the lower districts and commoner, class of house. The lodging and emigration houses of the better class

especially those provided only with single beds for each person, and with no more beds than are equivalent to the number of lodgers allowed, are only occasionally visited at night, unless special circumstances necessitate a closer supervision.

Houses which are not licensed either as lodging or sub-let houses are frequently visited by day when such a course is deemed expedient, in order to ascertain whether any grounds exist for putting these houses on the register.

There were 748 visits paid during the year to such houses, and in two of the cases, where suspicion was confirmed, night visits were also paid, and the tenants summoned and fined.

Persons harbouring lodgers in unlicensed premises receive a notice to apply to have the rooms measured and licensed. There were 97 such notices issued during the year, but in only two cases was it necessary to institute prosecutions.

The number of day visits paid during the year was 29,152, and the night visits, 1,034.

Ninety-two informations were laid against keepers of common lodging-houses during the year for the following offences :—

Not sweeping floors	...	...	...	...	28
Not washing floors	...	...	...	...	26
Overcrowding	...	...	...	...	19
Receiving lodgers in unlicensed rooms	...	...	...	...	6
Not applying to register	..	...	...	...	2
Mixing sexes	...	...	...	...	6
Not limewashing	...	..	...	...	5
Total					92

Convictions followed in 91 cases, the total amount of fines amounting to £27 9s. 6d., and ranging from 1s. and 1s. costs to 40s. and costs.

One case was withdrawn.

The number of lodging-houses found dirty was 164; notices were served to limewash and cleanse.

The Bye-law requires that every case of infectious sickness in a lodging-house should be at once reported to the Medical Officer of Health. Twenty-one cases of Fever occurred in lodging-houses; 18 of the patients were at once sent to hospital, the remaining 3, being

members of the keepers' families, were not removed ; 2 cases of Diphtheria also occurred in lodging-houses, and being children of the keepers' families, neither of them were removed ; both died. In all cases of Fever or Infectious Disease, the bedding was removed to the disinfecting apparatus and the rooms purified and cleansed. There were 51 deaths from non-contagious diseases in lodging-houses, of which 29 belonged to the keepers' families, and 22 were lodgers.

SEAMEN'S LICENSED LODGING-HOUSES.

The Corporation have made bye-laws, with the sanction of the President of the Board of Trade, for the licensing of Seamen's Lodging Houses, under the Merchant Shipping (Fishing Boats) Act, 1883, section 48, which enacts that "The Sanitary Authority within whose district any seaport town is situate may, with the sanction of the President of the Board of Trade, from time to time, make, revoke, alter, and amend bye-laws and regulations relating to Seamen's Lodging Houses in such town, which shall be binding upon all persons and bodies keeping houses in which seamen are lodged, and the owners thereof, and persons employed therein. Such bye-laws and regulations shall, amongst other things, provide for the licensing of Seamen's Lodging Houses, the inspection of the same, the sanitary condition of the same, the publication of the fact of a house being licensed, the due execution of the bye-laws and regulations, and the non-obstruction of persons engaged in securing such execution, the preventing of persons not duly licensed holding themselves out as keeping or purporting to keep licensed houses, and the exclusion from licensed houses of persons of improper character, and sufficient penalties for the breach of such bye-laws and regulations not exceeding in any case the sum of fifty pounds. All offences under such bye-laws and regulations shall be deemed to be offences within the Merchant Shipping Acts, 1854 to 1883, and be punishable accordingly."—And on the written application of the keeper of any registered common lodging-house or registered lodging-house, made in such form and stating such particulars as the Council require, the Council will, if they see fit, grant to such keeper a license authorizing him to designate his registered house a Seamen's Licensed Lodging House.

Applications from the keepers of Registered Common Lodging-houses for licenses authorizing the designation of such Registered Common Lodging-houses as Seamen's Licensed Lodging-houses, have been very few, only twelve such Licensed Lodging-houses now being on the register, with accommodation for 211 seamen.

The bye-laws must necessarily exercise a beneficial effect upon those houses which are licensed as Seamen's Licensed Lodging-houses, but the great bulk of common lodging-houses to which seamen commonly resort are not regulated under these bye-laws, but are dealt with by regulations under the Common Lodging-houses Act of 1851.

The number of licenses granted since the adoption of the Seamen's Licensed Lodging-house Bye-laws is 23. Eleven have been given up, none withdrawn, which leaves 12 at present on the register.

It has not been found necessary to institute proceedings under the bye-laws in question.

Some years ago the holders of licenses to keep Seamen's Lodging-houses were authorized by the Board of Trade to board vessels and seek for lodgers, and while this privilege was granted there was an advantage in holding such a license, but that privilege being now withdrawn, it does not appear that there is any advantage to the keeper of a common lodging-house to have his premises registered as a Seamen's Lodging-house, and hence probably the small number upon the register.

SUB-LET HOUSES.

These are houses, one or more rooms of which are let off to members of one or more other families. The Bye-laws provide for their registration and inspection to prevent overcrowding and ensure attention to cleanliness and sanitary requirements.

The number registered during 1896 was 580, making the total on the Register on the 31st December, 17,708. The reason there were fewer houses on the Register in 1896, compared with 1895, is that many of the houses had ceased to be sub-let and were removed from the Register; a number of others were demolished by the Insanitary Property Committee, being unfit for human habitation. The number of visits paid during the night was 13,925, and during the day 69,410, with the result of finding 1,449 rooms overcrowded. In addition to overcrowding, the cases of permitting males and females not married to occupy the same room comes under the notice of, and are entered in the books of the Inspectors. There were 716 rooms thus indecently occupied. The character of the indecent occupation may be judged of from the following facts:—In 324 instances one man and

two women were found in the same bedroom ; in 295 instances two men and one woman ; in 59 instances two men and two women ; in 24 instances one man and three women ; in 18 instances three men and one woman ; in 7 instances three men and two women ; in 6 instances two men and three women ; in 3 instances one man and four women ; in 1 instance three men and three women. These cases are most common amongst the poorest and most ignorant inhabitants of the most squalid districts. They appear to be the outcome of ignorance and indifference, and not of immoral intent.

Informations were laid against 1,950 chief tenants for breaches of the bye-laws, viz. :—

Overcrowding	1,127
Floors not washed	325
Floors not swept	494
Refusing admission.. .. .	4
Total	1,950

The fines levied in each case were as follows :—7 fined 1s. ; 1,684 fined 1s. and 1s. costs ; 140 fined 1s. 6d. and 1s. 6d. costs ; 1 fined 2s. and 1s. costs ; 67 fined 2s. and 2s. costs ; 24 fined 2s. 6d. and 2s. 6d. costs ; 1 fined 3s. and 3s. costs ; 9 fined 5s. and 4s. 6d. costs ; 2 fined 10s. and 4s. 6d. costs ; 3 fined 20s. and 4s. 6d. costs ; making a total of fines levied during the year of £219 0s. 0d. Of the remaining 12 cases, 10 informations were withdrawn and 2 acquitted, the tenants having complied with the bye-laws.

CANAL BOATS.

The Leeds and Liverpool Canal Company are proprietors of the only canal having direct communication with Liverpool, and the length of the waterway within the City, exclusive of the locks which lead to the docks, is about three miles.

The number of inspections of Canal Boats during the year was 5,705, and the condition of the boats and their occupants as regards matters dealt with in the Acts and Regulations is indicated by the following information :—

Forty-eight boats, not registered by their present owners, were found to be used as dwellings. In 4 of these cases written notices were sent to the owners, and in 44, verbal notices were given to masters.

In 46 cases the boats were registered in compliance with the notices, in 1 the registration was not completed on December 31st, and 1 has not been seen since.

Twenty-three boats were found without certificates on board. Notices were sent to the owners in each case, and 22 were found abated, and 1 has not been seen since.

Twenty-nine were found not having the registered number painted on both sides of the boat. Notices were sent to the owners in each case, and the omission rectified in 28 cases. One has not been seen since.

In 186 cases infringements of the Acts and Regulations were found, caused by :—leaky decks (110), general leaky condition of boats (39), no doors to lockers (8), broken scuttle covers (2), defective ventilation (9), broken floors (10), defective stoves (2), defective pump (1), and no water-casks on board (5).

In 181 cases notices were sent to the owners, and in five cases verbal notice was given to the master. One hundred and seventy-four of the notices were complied with, and twelve have not been re-inspected.

In 20 cases defective second bulkheads were reported. Notices were sent in each case, and the defects were found remedied in 18 cases ; 2 of the boats have not been seen since.

In 60 boats the cabins required painting. Notices were sent to owners in each case. 52 of them were attended to, and 6 of the boats have not yet been seen again by the Inspector. Two of the notices have not yet expired.

Dirty cabins were reported in 9 cases. Six verbal notices were given to masters, and 3 written notices sent to the owners. In all cases the notices were complied with.

Informations were laid in 10 cases, for infringements of the Acts and Regulations, viz. :—causing unregistered boat to be used, 3 ; non-separation of sexes, 5 ; carrying offensive cargo, and not having a second bulkhead, 2.

In all of these cases fines were inflicted, varying from 5s. and 4s. 6d. costs, to 20s. and 4s. 6d. costs, and amounting to a total of £6 15s. 0d.

Only one case of infectious sickness, viz., Typhoid Fever, occurred on boats during the year. On receipt of the notification, the Inspector visited the canal and found that the boat had left for Blackburn with the patient on board. The Medical Officer of Health of the District was duly apprised of this.

The entire number of infringements of the Acts and Regulations referred to in the Report occurred on 249 boats, in several instances the offence being repeated on the same boat.

Thirty-six notices were sent to the School Board, of children living on canal boats and not attending any school.

The number of boats on the register is 631, of which 299 have been re-registered, viz. :—5 in 1884, 60 in 1885, 21 in 1886, 25 in 1887, 20 in 1888, 24 in 1889, 23 in 1890, 23 in 1891, 16 in 1892, 19 in 1893, 26 in 1894, 19 in 1895, and 18 in 1896.

Twenty-six boats have been removed from the register, as it was ascertained that 23 of them had been broken up, and 3 re-registered in other districts. It is probable that a considerably larger number of boats have been broken up, but in the absence of definite evidence of this, the boats remain on the register.

During the year, 28 new boats were registered, and 18 re-registered, on account of changes of owners. All boats re-registered in consequence of a change of owners, or the name of the boat being changed, retain their original numbers.

New certificates were issued to 4 boats, owing to structural alterations.

Copies of registration certificate were issued to the owners of 37 boats owing to the original ones being worn out.

There were 55 changes of masters reported, and the fact duly recorded on the register.

THE AMBULANCE STAFF.

The following table shews the number of patients removed by Officers of the Ambulance Staff and the Hospitals to which they were taken :—

Netherfield Road.	Grafton Street.	Park Hill.	Brownlow Hill.	Mill Lane.	Priory Road.	Children's Infirmary.	Royal Infirmary.	Smithdown Road.
785	903	495	48	194	172	1 *	2 †	9

All cases of Smallpox and all cases of Typhus Fever, with very rare exceptions, are removed to Hospital, and a special Inspector is appointed to visit the house from which the patient has been removed, to ascertain whether any further sickness has developed. These inquiries are made at intervals of a day or two for one month, and any case of sickness, however trifling it may appear to be, is at once reported, and visited by a medical man. By these inquiries many cases of infectious sickness are discovered and removed to the hospital at the earliest possible stage of the disease, and often before any serious risk of infection has arisen. Without these inquiries, which have occasioned no inconvenience to anyone, the patients would have remained at home for a longer or shorter period, constituting centres of infection to the neighbourhood. The absence of friction indicates the care exercised by the Inspectors in carrying this system into execution.

On April 22nd, Margaret Flannery was fined £1 and costs for transmitting the infected clothing of a typhus patient from No. 107, Grafton Street, to a pawnshop, No. 95, Grafton Street.

NOTICES TO MASTERS OF SCHOOLS.

In accordance with the arrangements made with the School Board, 5,203 postcards were sent to the Head Masters of the various schools, informing them that children from infected houses attended their schools. Similar information was sent to the School Board.

* Removed by request, from H.M.S. "Eagle."

† Removed by request, one from S.S. "Etruria," and one from a private house.

THE DISINFECTING APPARATUS.

The number of articles disinfected at the various Apparatus during the year amounted to 63,587.

DATE. 1896.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	Number of Pieces of Wearing Apparel, &c.	Total Number of Articles.
January	303	267	2,338	1,286	4,194
February	392	375	2,825	2,168	5,760
March	321	294	2,422	3,240	6,277
April	304	343	2,963	1,027	4,637
May	464	390	3,373	2,296	6,523
June	383	299	2,926	2,271	5,879
July	309	252	1,956	354	2,871
August	516	402	3,353	933	5,204
September	459	388	2,851	731	4,429
October	579	455	3,860	790	5,684
November	569	461	3,876	1,445	6,351
December	540	389	3,407	1,442	5,778
Totals	5,139	4,315	36,150	17,983	63,587

The number of articles destroyed at the various Apparatus during the year amounted to 2,084, compensation being paid in conformity with the provisions of the Public Health Act.

DATE. 1896.	Number of Beds.	Number of Mattresses.	Number of Pieces of Bedding.	Number of Pieces of Wearing Apparel, &c.	Total Number of Articles.
January	12	31	24	26	93
February	16	41	31	160	248
March	13	24	33	72	142
April	34	64	59	46	203
May	54	66	179	352	651
June	28	52	74	28	182
July	18	30	43	3	94
August	18	42	34	5	99
September	12	42	23	31	108
October	21	39	31	8	99
November	13	30	27	30	100
December	14	30	16	5	65
Totals	253	491	574	766	2,084

The collection, removal, disinfection and return of infected bedding has been carried on as hitherto by the Sanitary officers.

A considerable number of articles have been disinfected at the apparatus at the City Hospitals in addition to those mentioned above.

It has been found that in many instances in which compensation for clothing had been given in money to the poorer classes of people, that the money was spent in drink, and the people left without clothing. As a consequence of this, an arrangement was made with a firm of repute, to supply articles equivalent in value to those which had been destroyed, thus preventing an improper use of the money.

PRINCE'S DOCK MORTUARY.

The Mortuary at the Prince's Dock is for the reception of the bodies of persons who have been drowned, killed, &c., and over which the Coroner has to hold inquests. Bodies are taken there by the police, and when it may be necessary to make post-mortem examinations, any medical gentleman may have the assistance of an Inspector on sending a communication to 54, Gascoyne Street.

BODIES REMOVED TO THE PRINCE'S DOCK MORTUARY.	
Number from River.	Number from City.
7	157

REMOVALS TO MORTUARIES ON MEDICAL CERTIFICATES OR ON MAGISTRATES' ORDERS.

Bodies Removed to Mortuaries.										
Green Lane.	Lark Lane.	Waver-tree.	Smithdown Road.	St. Martin's.	Mill Road.	Anfield.	Belmont Road.	Park Hill.	Netherfield Road.	Walton Village.
5	6	4	1	3	..	..	2	..	..	3

The Caretaker of St. Martin's Mortuary is temporarily provided with a residence in Eldon Place, and plans for the re-construction of the Mortuary are in course of preparation.

CREMATORIUM.

A Crematorium has been erected in Anfield Cemetery, and the ancient means of disposal of the dead by cremation, which is again finding favour in many important centres of population throughout Europe, may be resorted to here.

CITY BURIAL GROUNDS AND GRAVEYARDS.

Interments in some of the old City Graveyards are still permitted, and much ingenuity is displayed in storing away the dead in the limited space available. It is fortunate that restrictions are placed upon these interments, and that a certain space and depth are requisite before the grave can be used, for the injurious effects of the decay of human bodies in the vicinity of dwellings cannot be doubted.

The number of interments requiring supervision by the Sanitary officers is diminishing year by year. This year the attention of the Sanitary officer was required in 52 cases, against 70 in 1895.

In accordance with an instruction of the Health Committee the Medical Officer reported early in the year upon the subject of intramural burials in Liverpool.

There can be no doubt that the places, as well as the methods of interment, have been in the main dependent upon custom, sentiment and convenience. The subject is one to which little, if any, unbiassed consideration is given by the public, as it is forced upon the attention at a time when the judgment is clouded by sentiments of sorrow and affection, and as a consequence the sanitary features involved are thrust out of sight. It is owing to this that public opinion has done nothing to help sanitary authorities in their endeavours to ensure that the disposal of the dead shall be effected without the probability of injury to the living.

Interments under certain conditions are still permitted in eleven burial grounds in Liverpool viz. :—

St. James' Cemetery,	St. James' Road,
Ancient Chapel,	Park Road,
St. Mary's Cemetery,	Walton Road,
Necropolis,	West Derby Road,
St. George's Church,	Heyworth Street,
St. Mary's Church,	Edgehill,
St. Anne's,	Overbury Street,
Jewish Cemetery,	Deane Road,
Unitarian Chapel,	Renshaw Street,
St. Michael's,	Upper Pitt Street,
St. James' Church,	St. James' Place.

The Home Office places certain restrictions upon the use of some of these.

The numbers of applications to the Medical Officer for permission to inter in City Graveyards, where such application is necessary, have during the last five years been as follows :—

1891	...	...	...	64
1892	...	...	...	69
1893	...	...	...	42
1894	...	...	...	58
1895	...	...	...	56

The largest number of interments appear to take place at the Necropolis. No notice is required to be sent to the Sanitary Department when these interments take place, but occasional visits are made to this burial ground.

Here there is an arrangement of tiers, separated by a course of flagging, and with brickwork between each coffin. The walls between the vaults are $4\frac{1}{2}$ inches in thickness, and a stone flag covers over the top course of coffins, about 2 feet 6 inches below the surface of the ground.

The vaults contain about 36 coffins, and it is probable, that within an area 10 yards square, there will be over 300 bodies of adults and children.

Interments in this greatly over-crowded graveyard not only take place in family graves and vaults, but new graves are also being opened. The approximate number of interments (not including stillborns) which have taken place in the cemetery since it was opened is 82,341.

The number of interments during each of the last five years is as follows :—

1891	...	...	...	591
1892	...	...	...	487
1893	...	...	...	482
1894	...	...	...	343
1895	...	...	...	352

There is said to be accommodation for 2,160 more bodies, besides graves already sold, but which have not yet been fully utilised.

The inhabitants of the houses abutting on the Necropolis have, as a whole, occupied them but a short time. Many of them complain of offensive smells, which they believe come from the cemetery.

In many instances the occupiers also state that their houses are infested with mice of a peculiar light fawn colour, which they believe come from the Cemetery.

Some light may be thrown upon the probable condition of the subsoil in this city graveyard, from the following extract from a report by Inspector Beck, of the City Engineer's Department, who has been 35 years on that district. It will be noticed from this report that the offensive condition described was in that part to which material from the burial grounds would be most likely to gravitate. It was not found in the sewer nearer the surface. The Inspector says :—

“ The sewer in West Derby Road is what is known as a rock sewer, and is cut in the sandstone. It is about 14 or 15 feet below the surface, and is between two and three feet in width. This sewer was undergoing reconstruction in 1889. The bottom was very much worn, and ‘ liners ’ were to be put in. The top is arched over with brick, and the sides were to be cased.

“ When opposite to the Necropolis in West Derby Road, a large quantity of black jelly was found adhering to the side of the sewer nearest the Necropolis, the other side was the natural colour of the rock. When this material was touched or pricked, it emitted a frightful stench. The opinion of the other men and myself was that it came from the burial ground. One of the men at work was taken seriously ill, and died while the work was in progress. The other men objected to work there. The jelly was scraped off, and several coats of cement put on to try and keep the stuff from oozing through.

“ There is also another sewer in West Derby Road, which runs above the preceding one at a slight angle. This sewer is only about 9 feet below the surface, and is supposed to drain the burial ground. The vaults in the burial ground are about 14 or 15 feet deep. This sewer is of similar construction to the other one, and was reconstructed at the same time. None of the jelly material was found in this sewer. None of the material was found in the Everton Road sewer, which is about 9 feet below the surface.

“ The jelly was only found in that particular length of the sewer outside the Necropolis.”

St. Mary's Cemetery, Kirkdale, is a proprietary cemetery, in which interments are restricted by the proprietors to family graves. No new graves are opened. The area of the cemetery is a little over 2 acres, and a part of this area has been only used superficially, *i.e.*, for the interment of one body, whilst in other portions there are common graves in which large numbers of bodies have been placed. There is no memorial stone to indicate the number so interred, and the records have been lost.

It is considered by the proprietors that about 200 square yards of unused ground, nearest to the roadway, is still available for burials.

About 250 bodies have been interred during the last five years, all in sold graves, and in addition to these a large number of stillborn infants have also been buried. These amounted to 139 in 1893, and 136 in 1895.

It would appear that the proprietors are not unwilling that this burial ground should, under certain conditions, be turned to other uses.

New graves are still opened at St. James' Cemetery; the Ancient Chapel Grounds, Park Road; St. Mary's Edgehill; The Jewish Cemetery, Deane Road, without notice being sent to the Sanitary Department.

Interments also take place at St. George's, Heyworth Street, and St. Anne's Overbury Street, without notice being given.

At the Jewish Cemetery, Deane Road, the graves are opened to a depth of 5 feet 6 inches, and only one body placed in each grave.

St. James' Cemetery is 10 to 11 acres in area, the approximate number of bodies interred is 50,300, and the average of the last five years is 395. There is said to be room for 2,400 more bodies, distributed in graves throughout the cemetery, having depth for one to five interments.

Many of the city graveyards have been appropriately dealt with by the Sanitary Authority, laid out into gardens, and converted into attractive and suitable recreation grounds. There can be no more striking contrast than between the graveyards so dealt with, and the city graveyards still in use. These latter are in appearance sufficiently dismal, consisting in the main of long rows of flat stones, often cracked

and uneven by subsidence of the soil beneath, many with illegible inscriptions, others, recording the names of 16 persons upon one slab, testify to the great amount of putrescible matter lying beneath. Many of the graves are sunken, and headstones cracked and leaning at all angles. In instances coming under his notice in which municipal necessities have led to absorption of parts of a city churchyard, the Medical Officer has observed that commonly the remains of more human beings are found beneath a single tombstone than the record on the tombstone indicates.

Where many circumstances combine, as in cities, to affect injuriously the public health, it may be difficult, or even impossible, to prove by statistics the precise influence exercised by each, individually, but all conditions, which, as a matter of common knowledge are liable to be prejudicial, should be avoided.

From the report of the Royal Commission appointed some years ago to enquire into the practice of intramural interments, the following may be quoted:—

“As there appear to be no cases in which the emanations from
 “human remains in an advanced stage of decomposition are not of
 “a deleterious character, so there is no case in which the liability
 “to danger should be incurred either by interment (or by entomb-
 “ment in vaults, which is the most dangerous) amidst the dwellings
 “of the living, it being established as a general conclusion, from
 “which no adequate grounds of exception have been proved—That
 “all interments in towns, where bodies decompose, contribute to
 “the mass of atmospheric impurity, which is injurious to the
 “public health.”

It may be observed that one great object in paving courts and alleys and the poorer back streets with sets, or in some other impermeable way, is to prevent the pollution of the subsoil by materials which may be thrown upon the surface. The importance and utility of this no one questions, but in marked contrast to such an object, human remains, no less dangerous nor offensive, are placed underground, within a stone's throw of the habitations of the living.

CLEANSING AND SCAVENGING

CLEANSING AND SCAVENGING.

Throughout the whole of the year, but more frequently during the Summer months, courts and alleys with covered entrances were washed by means of hose pipes, with markedly beneficial results. The surface of certain streets in the lower districts of the City, as well as certain streets in which the traffic is heavy, were also washed from time to time during the hot and dry weather, with very great benefit.

This practice should be largely extended, and all cab ranks and tramway and omnibus stations should be thoroughly well hosed with water. In public and private conveniences the increased use of water is attended with great advantage, but even now there are certain places of this character where a stinted and niggardly water supply is eked out, and recourse is had to smelling substances such as camphor, carbolic acid, soap, &c., with a view to disguise the smells arising from the decomposition of urine. The free use of water would obviate this practice, which is not only offensive, but mischievous, inasmuch as the deodorants disguise the conditions which result from want of cleanliness, but in no way counteract the consequences of those conditions.

The domestic use of water for baths and for sanitary purposes should also be largely increased, and the public would do well, having regard to the inadequacy of the two-gallon water-closet cistern, to flush the closets as frequently as possible, and whenever an opportunity presents itself.

A parsimonious restriction in the use of water will inevitably result in disease.

Mr. Richard S. Reynolds, M.R.C.V.S., the Veterinary Superintendent, has kindly supplied the following tables, which indicate the magnitude of the important operations carried out by the staff under his control.

TABLE No. 1.

NIGHT SERVICE FOR EMPTYING MIDDENS, COURT ASHPITS, AND SOME OFFICE ASHPITS.

Consequent upon the gradual extinction of middens, either by entire demolition or by the conversion of them into dry ashpits, the operations of the night service are now confined to the removal of domestic and office ashes from the neighbourhood of the Exchange, where it would be impracticable to perform the necessary work during business hours.

Notices Received.	Middens, &c., Emptied.	Loads of Nightsoil and Ashes.						Nightly average Working Staff.				Analysis of Work.		Average contents of each Midden.
		Number Removed.			Where Deposited.			Midden Men.	Wharf Men.	Carts.	Horses.	Loads per Man per Night.	Loads per Cart per Night.	
		Manure.	Ashes.	Total.	Chison- hole Street.	Sandhills.	River Craft Dock.							
897	3,858	..	5,135	5,135	4,673	..	462	7.4	1.	3.5	3.5	2.2	4.6	1.3

TABLE No. 2.

SERVICE FOR THE COLLECTION AND REMOVAL OF DRY ASHPIT ASHES.

Notices Received.	Ashpits Emptied.	Loads of Dry Ashes.								Average Daily Working Staff.			Analysis of Work.		Average contents of each Ashpit.
		Number Removed.	Where Deposited.						Ashpit Men.	Carts and Wagons.	Horses.	Loads per Man per Day.	Loads per Cart per Day.		
Chisen hale Street.	Sandhills.		River Craft Dock.	Waverlyree.	Rathbone Road Destructor.	Smithdown Road Destructor.	Rubbish Tips, &c.								
2,116	648,541	89,876	18,050	19,288	21,950	21	6,416	6,027	18,124	117.2	86.3	88.2	2.4	3.3	.14

It will be observed that the number of notices received to empty ashpits is only .3 per cent. of the total number of ashpits actually emptied. The number of brick ashpits within the old City and Added Areas is approximately 65,000, and the figures show that the average number of times each ashpit was emptied was 10.4. From the 65,000 pits 89,876 loads were removed, therefore, the average contents at each time of emptying was only .14 of a load.

TABLE No. 3.

SERVICE FOR THE COLLECTION AND REMOVAL OF BELL CART ASHES.

The bell cart service is one of the greatest importance, as it provides the means for the daily removal of domestic refuse from shops, business premises, and dwellings, which have not any convenience for the storage of ordinary household waste except from day to day. The service is also one demanding, not only regular attention as regards daily observance, but it must be conducted at certain hours of the morning to suit the convenience of the tenants.

It is an exceedingly important service from a sanitary point of view, and householders should avail themselves of its advantages to the fullest.

Loads Removed.	Where Deposited.						Carts Employed.
	Chisenhale Street.	Sandhills.	River Craft Dock.	Wavertree Siding.	Rathbone Road Destructor.	Smithdown Road Destructor.	Rabbish Tips.
20,870	8,940	2,315	6,537	1	705	1,233	1,139
							19-1

TABLE No. 4.
SERVICE FOR FLUSHING AND CLEANSING TROUGH WATER CLOSETS.

Number of Urinals.	Number of Trough Water Closets.	Average Working Staff.	
		Trough W. C. Men.	Urinal Men.
250—718 Stalls.	2,419	40.4	12.6

The regular and frequent flushing of trough water closets has a material influence upon the maintenance of public health, more especially so as this form of closet has been found necessary for the tenants of confined and densely-populated portions of the City. During the Summer months a large number of the urinals and the major proportion of the trough water closets are cleansed and disinfected twice daily. During the remaining part of the year each receives daily attention.

TABLE No. 8.

REMOVAL OF GARBAGE FROM ABATTOIR.

Loads Removed.	Where Deposited.			Carts employed Daily.
	Chisenhale Street.	Sand- hills.	River Craft Dock.	
1,467	1,059	67	341	1-2

The removal of the Abattoir garbage and horse and cow manure, although small in amount, is of advantage to the department in enabling it to more economically dispose of a certain quantity of refuse which, without admixture with this material, would be unsaleable, and entail a considerable additional cost for final disposal.

TABLE No. 9.

REMOVAL OF HORSE, COW, AND FOWL MANURE.

GRAND TOTAL.				CHISENHALE STREET.				RIVER CRAFT DOCK.				SANDHILLS.				WAVERTREE.			
Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.	Horse.	Cow.	Fowl.	Total.
740	653	171	1,564	403	289	171	863	321	363	..	684	6	1	..	7	10	..	..	10

TABLE No. 10.

DESPATCHES OF MANURE AND REFUSE.

	Saleable Manure.			Unsaleable Refuse.						Grand Total in Tons.	Average Daily Staff.	
	Night Soil.	Sweepings.	Mixture.	Total.	Contractors.	Farmers.	Depôts.	Sea.	Destructor.		Total.	Inspectors and Foremen.	Labourers.
Chisenhale St., by Flats...	..	2,208	4,992	7,200	4,272	50,304	96	..	..	54,672	}	22.5
Sandhills, do.	1,152	5,376	4,560	..	..	11,088		
Do., by Rail	1,328	124	1,452	..	8,472	..	..	..	8,472		
Wavertree do.	2,912	..	2,912	..	128	..	..	..	128	..	2.
Chisenhale Street and Sandhills, <i>via</i> Stanley D'k	1,239	..	1,239	}	2.7
per "Alpha"	68,430	..	68,430		
per "Beta"		
River Craft Dock.....	..	1,717	3,798	5,515	..	995	..	71,393	..	71,393	}	6.
Do., per "Alpha"	9,470	..	9,470		
Do., per "Beta"		
Chisenhale Street Wharf	25,973	25,973	25,973	..	..
Rathbone Road	6,231	6,231	6,231	..	..
Smithdown Road	7,126	7,126	7,126	..	..
..	..	8,165	8,914	17,079	5,424	65,275	4,656	150,532	39,330	265,217	2.	88.

The foregoing Table shows that in all not less than 282,296 tons of town refuse have been disposed of by the various means available for the purpose. Large as the total is, it does not represent the quantity actually collected and carted to the Wharves, for during the Winter months a large proportion of the street sweepings consists of a quantity of water, which is drained out before it is dispatched from the Wharves and Railway Sidings.

TABLE No. 11.

Deals with the horses employed on the various works belonging to the Health Committee. Among the stud, the percentage of mortality was 3·3, the number purchased for renewal was 54, and the percentage of ineffectives 4·3.

HORSES.—DAILY AVERAGE NUMBER.

ed.	Corporation Horses.				Supplied for various Works.																							
	Number.	Effective for Work.	Percentage of Ineffectives.	At Work every Sunday.	Scavenging.										City Engineer.													
					Night Ash Removal.	Dry Ash Removal.	Sundry Ash Tips.	Bell Ash Removal.	Street Scavenging.	Sweeping Machines, Day.	Sweeping Machines, Night.	Yard, Stables, Stores, Wharves, &c.	Market.	Superintendent.	Watering.	Watering before Street Machines.	Carr Hall.	Messengers.	Abattoir.	Paving.	Sewers Cleansing.	Brownlow Street.	Watering before Steam Roller.	Canals.	Parks.	May Day and Not Ordered.	Carting Salt.	Disinfecting Vans.
4.	296·5	284·	4·3	38·7	3·4	86·3	1·9	19·1	80·5	7·6	17·	4·4	1·3	2·4	17·4	4·5	4·	4·	1·2	34·	7·8	1·	2·1	2·7	·1	2·2	—	13·1

New Horses.		Number Disposed of			
Purchased.	Bred.	Died.	Destroyed.	Percentage of Mortality.	Sold.
54	2	9	1	3·3	34

TABLE No. 12.

AVERAGE DAILY STAFF OF MEN EMPLOYED.

Dealing with the number of men actually employed upon the different services, it will be noted that there is a total of 1,139 men always employed.

The trough-closet men number 40·4, and these cleanse once daily in Winter, and in a large number of cases twice daily in Summer—2,419 trough water closets.

Upon the 250 urinals, comprising 718 stalls, 12·6 men were employed, giving an average per man of 57 stalls daily.

The employment of 117·2 ashmen proved sufficient to maintain in first-rate order the 62,200 ashpits contained within the old City and Added Areas, and were capable of emptying these receptacles upon an average of 10·4 times during the twelve months. The disposal of refuse entailed the employment of 88 wharf labourers, in addition to 31·5 hands employed upon the steam hopper and canal barges.

General.	Night Service.				Day Service.																	Stables, Yards, and Stores.				Workshops.				Wharves, Depôts, &c.												Grand Total.					
	Inspectors	Midden Men.	Wharf Men.	Total.	Inspectors	District Storekeepers.	Watermen.	Barrow Men.	Sweepers.	Cart Followers.	Passage Men.	Gully Men.	Washing Courts.	Trough Closet Men	Urinal Men.	Casual.	Ash Men.	Boat Men.	Crews Hopper Barges.	Cart Hall Farm.	Orderly Boys.	Total.	Horsekeepers.	Night Watchmen.	Carters, Yardmen, Stable men, and Storekeepers.	Total.	Cartwrights and Labourers.	Blacksmiths and Strikers.	Painters.	Total.	Inspector.	Labourers.	Chisenhale St. and Sandhills.	Inspector.	Labourers.	River Craft Dock.	Labourers.	Foreman.	Corseey Lane, Almshouse, and Ford.	Labourers.	Foreman.	Various Town Deposit Places.	Labourers.	Foreman.	Stanley Dock.	Labourers.	Foreman.
75 1	5 1	14 3	1	9 4	25 5	10 9	10 1	77	103 2	80 5	37	26	4	40 4	12 6	2 5	117 2 8	22 8	5 9	24 4	698 7	5	5	273 2	283 2	13 3	21 5	4 3	39 1	1	21 5	1	60 8	1	2 1	..	4 2	..	2 7	94 3	1139						

TABLE No. 13.

Daily Consumption of Provender and Weekly Cost per Horse per Week.
Food and Litter.

Days Keep.	Total Consumption of Food.		Daily Average Consumption per Horse.	Weekly Cost of each Horse's Keep.
108,479	Corn	12,262 centials.	Lbs. 11.30	
	Beans and Peas ..	3,959 "	3.65	
	Oats	402 "	.37	
	Bran	2,248 "	2.07	Gross weekly cost 9s. 8 $\frac{3}{4}$ d.
	Meal	530 "	.49	Credit value of
	Linseed.....			Manure 6d.
	Roots	652 "	} 1.54	Net. 9s. 2 $\frac{3}{4}$ d.
	Grass.....	1,022 "		
	Hay	13,083 "	12.06	
	Straw	8,468 "	7.80	
	Peat Moss.....	1,391 }	} 1.28	
	Sawdust			

INSANITARY PROPERTY.

INSANITARY PROPERTY.

Early in the year a number of houses unfit for human habitation were reported upon by the Medical Officer, and duly presented for demolition, by the Grand Jury.

The report shewed that the total number of houses dealt with, which were of the usual back-to-back court type, was 240 ; 160 of them were occupied, and 80, or one-third, were untenanted. The population of these houses was 764.

During the three years 1893 to 1895, zymotic disease of various kinds had appeared in these houses, and included scarlet fever, typhoid fever, typhus fever and diphtheria.

Taking the property as a whole, the death rate during the last five years averaged 48·4 per 1,000, the death rate for the whole City during that period being 26 per 1,000.

Taking the streets separately, the populations are almost too small in number to base an average upon, but the actual figures show that the rate varies from 31·7 in Knight Street to 72·8 in Birkett Street ; Gascoyne Street and Ford Street being respectively 41 and 51 on the average of five years.

As regards repair, the condition of the property generally is one of dilapidation and ruin ; the large proportion of empty houses is owing to their advanced stage of decay, which has driven out even the poorest, leaving the houses abandoned and derelict.

It would be impossible to restore property in such a condition to a habitable state, even if the original structure had been all that could be desired. The owners are aware of this, and neglect even the simplest sanitary requirements. During the last two years no less than 202 notices were issued from the Sanitary Department upon the owners to abate nuisances of a more or less serious character, in connection with their property, and in addition to these, during the same period, notices were sent 26 times, under the Public Health Act, to remedy nuisances arising from filth and dirt alone.

There need be no apprehension that the removal of these insanitary centres will lead to overcrowding elsewhere, for there is ample accommodation for those displaced within a short radius of the presented areas, in many cases better, in no cases worse, than the houses which they now occupy.

Thus, within a quarter of a mile radius from the Scarlett Street group there are upwards of 600 such empty houses, and within a stone's throw of the Knight Street group there are upwards of 40 such empty houses. Within a radius of 300 yards from Gascoyne Street there are 97 such empty houses, and within a similar radius of Maguire and Ford Streets there are 125 such houses.

The benefit to the City of the removal of these insanitary slums becomes more and more apparent as the work proceeds, and there are few sanitary operations attended with more beneficial results than this undoing of the errors of bygone years, of a period when no building laws were in operation to control the erection of buildings intended for human habitation.

THIRTEENTH PRESENTMENT.

The situation of the houses dealt with in the presentment is as follows:—

The court known as No. 4 court in KNIGHT STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 4 and 6 in the said No. 4 court.

The dwelling-houses numbered 14 and 16 in KNIGHT STREET aforesaid, contiguous to No. 4 court in the said street.

The court known as No. 6 court in KNIGHT STREET aforesaid.

The dwelling houses numbered 1 and 2 in the said No. 6 court.

The dwelling-houses numbered 18 and 20 in KNIGHT STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in KNIGHT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 5 in the said No. 8 court.

The dwelling-houses numbered 22 and 24 in KNIGHT STREET aforesaid, contiguous to No. 8 court in the said street.

The dwelling-house numbered 13 in BACK KNIGHT STREET in the City aforesaid, contiguous to No. 8 court in Knight Street.

The court known as No. 10 court in KNIGHT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 10 court.

The dwelling-houses numbered 26 and 28 in KNIGHT STREET aforesaid, contiguous to No. 10 court in the said street.

The dwelling-house numbered 15 in BACK KNIGHT STREET in the City aforesaid, contiguous to No. 10 court in Knight Street.

The court known as No. 12 court in KNIGHT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5 and 6 in the said No. 12 court.

The dwelling-houses numbered 32, 34 and 36 in KNIGHT STREET aforesaid, contiguous to No. 12 court in the said street.

The dwelling-house numbered 17 in BACK KNIGHT STREET in the City aforesaid, contiguous to No. 12 court in Knight Street.

The dwelling-house numbered 62 in ROSCOE STREET in the City aforesaid, contiguous to No. 12 court in Knight Street.

The court known as No. 11 court in GASCOYNE STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 in the said No. 11 court.

The dwelling-houses numbered 33, 35 and 37 in GASCOYNE STREET aforesaid, contiguous to No. 11 court in the said street.

The court known as No. 13 court in GASCOYNE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 in the said No. 13 court.

The dwelling-houses numbered 39, 41 and 43 in GASCOYNE STREET aforesaid, contiguous to No. 13 court in the said street.

The court known as No. 15 court in GASCOYNE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 in the said No. 15 court.

The dwelling-houses numbered 45, 47, 49 and 51 in GASCOYNE STREET aforesaid, contiguous to No. 15 court in the said street.

The court known as No. 17 court in GASCOYNE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 7 in the said No. 17 court.

The court known as No. 2 court in GASCOYNE STREET aforesaid.

The dwelling-houses numbered 3, 4, 5 and 6 in the said No. 2 court.

The court known as No. 2 court in FORD STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 2 court.

The dwelling-houses numbered 8 and 9 in FORD STREET aforesaid, contiguous to No. 2 court in the said street.

The court known as No. 3 court in FORD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 3 court.

The dwelling-houses numbered 10 and 11 in FORD STREET aforesaid, contiguous to No. 3 court in the said street.

The court known as No. 5 court in FORD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 5 court.

The dwelling-houses numbered 18 and 19 in FORD STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 6 court in FORD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 7 in the said No. 6 court.

The dwelling-houses numbered 20 and 21 in FORD STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 6 court in MAGUIRE STREET in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 6 court.

The dwelling-house numbered 16 in MAGUIRE STREET aforesaid, contiguous to No. 6 court in the said street.

The court known as No. 8 court in MAGUIRE STREET aforesaid.

The dwelling-house numbered 1 in the said No. 8 court.

The dwelling-house numbered 18 in MAGUIRE STREET aforesaid, contiguous to No. 8 court in the said street.

The court known as No. 10 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 1, 2 and 3 in the said No. 10 court.

The dwelling-house numbered 20 in MAGUIRE STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 16 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 16 court.

The dwelling-houses numbered 32 and 34 in MAGUIRE STREET aforesaid, contiguous to No. 16 court in the said street.

The court known as No. 18 court in MAGUIRE STREET aforesaid.

The dwelling-house numbered 2 in the said No. 18 court.

The court known as No. 20 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 1 and 2 in the said No. 20 court.

The dwelling-house numbered 40 in MAGUIRE STREET aforesaid, contiguous to No. 20 court in the said street.

The court known as No. 22 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 2, 3, 4, 5 and 6 in the said No. 22 court.

The dwelling-house numbered 42 in MAGUIRE STREET aforesaid, contiguous to No. 22 court in the said street.

The court known as No. 24 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 2 and 3 in the said No. 24 court.

The dwelling-house numbered 46 in MAGUIRE STREET aforesaid, contiguous to No. 24 court in the said street.

The court known as No. 30 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 1 and 4 in the said No. 30 court.

The dwelling-houses numbered 50 and 52 in MAGUIRE STREET aforesaid, contiguous to No. 30 court in the said street.

The court known as No. 34 court in MAGUIRE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 34 court.

The dwelling-houses numbered 60 and 62 in MAGUIRE STREET aforesaid, contiguous to No. 34 court in the said street.

The court known as No. 10 court in BIRKETT STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 10 court.

The dwelling-houses numbered 48 and 50 in BIRKETT STREET aforesaid, contiguous to No. 10 court in the said street.

The court known as No. 12 court in BIRKETT STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 12 court.

The dwelling-houses numbered 52, 54 and 56 in BIRKETT STREET aforesaid, contiguous to No. 12 court in the said street.

The dwelling-houses numbered 7, 9, 11 and 13 in SCARLETT STREET, in the City aforesaid, contiguous to No. 12 court in BIRKETT STREET.

The court known as No. 1 court in MANSFIELD STREET, in the City of Liverpool.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10 in the said No. 1 court.

The dwelling-houses numbered 25, 27, 29 and 31 in MANSFIELD STREET aforesaid, contiguous to No. 1 court in the said street.

The court known as No. 3 court in MANSFIELD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 3 court.

The dwelling-houses numbered 33 and 35 in MANSFIELD STREET aforesaid, contiguous to No. 3 court in the said street.

The court known as No. 5 court in MANSFIELD STREET aforesaid.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6, 7 and 8 in the said No. 5 court.

The dwelling-houses numbered 37, 39 and 41 in MANSFIELD STREET aforesaid, contiguous to No. 5 court in the said street.

The dwelling-houses numbered 1, 3 and 5 in SCARLETT STREET, in the City aforesaid, contiguous to No. 5 court in MANSFIELD STREET.

In addition to the foregoing dealt with by presentment, the Medical Officer of Health certified that the following premises were unfit for human habitation and ought to be demolished. These reports were laid before the Council and referred to the Insanitary Property Committee :—

The court known as No. 1 court in BOSTOCK STREET, in the City of Liverpool.

The dwelling-houses numbered 1 and 3 in the said No. 1 Court.

The dwelling-house numbered 19 in ARLEY STREET, in the said City.

The court known as No. 15 court in RACHEL STREET, in the said City.

The dwelling-houses numbered 1, 2, 3, 4, 5, 6 and 7 in the said No. 15 court.

The dwelling-houses numbered 77 and 79 in RACHEL STREET aforesaid, contiguous to No. 15 court in the said street.

The court known as No. 7 court in CIRCUS STREET, in the said City.

The dwelling-houses numbered 2, 4, 6 and 8 in the said No. 7 court.

The court known as No. 2 court in DEXTER STREET, in the said City.

The dwelling-houses numbered 1 and 2 in the said No. 2 court.

The court known as No. 5 court in WOLFE STREET, in the said City.

The dwelling-houses numbered 1 and 2 in the said No. 5 court.

The dwelling-house numbered 167 in WOLFE STREET aforesaid, contiguous to No. 5 court in the said street.

The court known as No. 7 court in WOLFE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 7 Court.

The dwelling-houses numbered 169 and 171 in WOLFE STREET aforesaid contiguous to No. 7 court in the said street.

The court known as No. 9 court in WOLFE STREET aforesaid.

The dwelling-houses numbered 1, 2, 3 and 4 in the said No. 9 court.

The dwelling-houses numbered 173 and 175 in WOLFE STREET aforesaid, contiguous to No. 9 court in the said street.

The dwelling-house numbered 31 in CARTL STREET, in the said City.

The dwelling-house numbered 2 in FISHER STREET, in the said City.

The dwelling-house numbered 29 in HUGHSON STREET, in the said City.

Two houses which had been converted into stables were dealt with under the Housing of the Working Classes Act, as this Act furnished a convenient means of removing the premises which obstructed the light and ventilation of other dwellings, and prevented proper measures from being carried into effect for making other houses sanitary.

The situation of the premises in question was Nos. 36 and 38, Maguire Street.

The City Engineer has kindly supplied the following table :—

INSANITARY PROPERTY.

Insanitary Property purchased 1896.			Insanitary Property demolished 1896.		
No. of houses included in thirteenth presentment	No. of houses purchased by Insanitary Property Committee included in presentments referred by Council to Committee.	Total.	No. of houses included in thirteenth presentment.	No. of houses demolished by Insanitary Property Committee included in presentments referred by Council to Committee.	Total.
91	52	143	92	45	37

The following items numbered 1 to 10 are taken from the list of items

The following items numbered 11 to 20 are taken from the list of items

The following items numbered 21 to 30 are taken from the list of items

Two boxes which had been presented to the Government of the Republic of the Philippines for the purpose of providing a permanent means of recording the names of the persons who had been granted citizenship and naturalization and who had been granted citizenship and naturalization and who had been granted citizenship and naturalization.

The following items numbered 31 to 40 are taken from the list of items

The following items numbered 41 to 50 are taken from the list of items

EXHIBIT

No. of items	Description of items
1	Box of 1000 blank cards
2	Box of 1000 blank cards
3	Box of 1000 blank cards
4	Box of 1000 blank cards
5	Box of 1000 blank cards
6	Box of 1000 blank cards
7	Box of 1000 blank cards
8	Box of 1000 blank cards
9	Box of 1000 blank cards
10	Box of 1000 blank cards
11	Box of 1000 blank cards
12	Box of 1000 blank cards
13	Box of 1000 blank cards
14	Box of 1000 blank cards
15	Box of 1000 blank cards
16	Box of 1000 blank cards
17	Box of 1000 blank cards
18	Box of 1000 blank cards
19	Box of 1000 blank cards
20	Box of 1000 blank cards

CITY HOSPITALS.

INFECTIOUS DISEASE.

Table shewing the cases of Infectious Disease coming under the notice of the Medical Officer of Health during 1896, including those reported under the Notification Act.

Year—1896.	Fever.				Small Pox.	Scarlatina.	Measles.	Diphtheria	Membranous Croup.	Puerperal Fever.	Erysipelas.	Total.
	Typhus.	Typhoid.	Simple.	Relapsing.								
January ..	15	50	7	..	..	260	396	41	10	3	109	891
February	11	44	1	..	..	232	362	29	8	6	116	809
March ..	15	50	3	..	..	224	509	38	8	5	101	953
April ..	77	68	5	..	..	170	269	23	6	5	107	730
May... ..	53	88	11	..	..	173	520	46	7	4	138	1,040
June ..	20	95	16	..	..	243	311	27	3	2	111	828
July... ..	24	111	5	1	..	205	117	43	3	3	95	610
August ..	23	141	8	1	1	316	26	27	6	3	95	647
September	12	108	3	..	1	475	53	39	8	6	119	824
October ..	19	128	7	..	1	545	113	48	10	6	122	999
November	20	116	5	..	3	402	130	44	7	7	138	872
December	16	64	2	2	2	339	124	39	10	9	128	735
TOTAL ..	305	1,063	73	4	8	3,584	2,930	444	89	59	1,379	9,938
Removed to Hospital	298	539	18	..	8	1,589	138	107	13	7	297	3,014

The number of patients removed to hospital includes those taken to General Hospitals as well as those taken to the City Hospitals.

THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

The number of notifications received by the Medical Officer under the above Act, during the year was 7,209, as follows :—

	<u>1896.</u>	<u>1895.</u>	<u>1894.</u>
January	466	589	663
February	493	475	585
March	454	445	753
April	484	401	395
May	517	522	651
June	523	460	645
July	517	396	582
August	644	493	634
September	770	497	723
October	933	535	864
November	774	611	730
December	634	484	577
	<u>7,209</u>	<u>5,908</u>	<u>8,002</u>

The diseases were specified as follows :—

	<u>1896.</u>	<u>1895.</u>	<u>1894.</u>
Smallpox	11	142	199
Scarlet Fever	3,610	2,636	4,034
Typhoid „	1,122	1,301	1,445
Typhus „	185	111	200
Continued „	120	102	168
Relapsing „	5	2	1
Fever	26	30	47
Puerperal Fever	67	61	68
Diphtheria	492	289	313
Membranous Croup	95	78	68
Erysipelas	1,476	1,156	1,457
Choleraic Diarrhoea	—	—	1
English Cholera	—	—	1
	<u>7,209</u>	<u>5,908</u>	<u>8,002</u>

NUMBER OF CASES REPORTED AND NUMBER REMOVED TO HOSPITALS, 1889-1896.

	SMALLPOX.		SCARLET FEVER.		TYPHOID.		TYPHUS.		MEASLES.	
	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.	Number Reported.	Number Removed.
1889.....	9	8	1,832	533	670	302	158	124	3,175	104
1890.....	2	2	3,520	938	506	296	103	87	4,013	152
1891.....	21	21	1,176	448	588	350	175	156	2,262	160
1892.....	177	177	1,554	603	699	345	73	70	3,376	150
1893.....	75	73	3,538	1,380	1,396	728	183	168	2,316	94
1894.....	229	226	3,963	1,415	1,350	745	325	312	2,494	122
1895.....	130	127	2,710	1,039	1,306	662	162	158	3,462	93
1896.....	8	8	3,584	1,589	1,063	539	305	298	2,930	138

CITY HOSPITALS.

The returns from the City Hospitals show that the public have very largely availed themselves of the advantages which they offer, and it will be seen in the case of scarlet fever a larger proportion of cases of this disease have been treated in hospital during last year than in any previous year.

Every case of smallpox was isolated in hospital, and, with seven exceptions, all cases of typhus fever.

The much-needed additions and improvements at the Netherfield Road Hospital are approaching completion, and it may be hoped that at no distant date further provision will be made for measles.

It is interesting to note that patients suffering from typhoid fever have a far better chance of recovery in hospital than when treated at home.

There appears to be a general feeling that the hospitals receive an undue proportion of specially severe cases, sent in because they have become too great a tax upon the strength and resources of the relatives, who had at first hoped to be able to nurse them : removal thus rendered necessary by development of serious symptoms, takes place at a time when it must necessarily be prejudicial to the patient's chances of recovery.

The rates of mortality have varied somewhat in the different Hospitals. This circumstance is owing to the fact that the greater number of patients in one Hospital were under 10 years of age, the majority of these being below 5 years. These are age periods of great mortality in Scarlet Fever.

Another Hospital, on the other hand, received a large number of Scarlet Fever patients between the ages of 10 and 20 years, a period when mortality is low.

The following tables, prepared by the Medical Staff of each Hospital show the number of patients, the nature of the illness, and the results, at each of the five City Hospitals during the year 1896 :—

CITY HOSPITAL NORTH, NETHERFIELD ROAD.

DISEASES.	Remaining Dec. 31st, 1895.	Admitted During 1896.	Total under Treatment 1896.	Discharged to Homes.	Transferred to Parkhill Convalescent.	Remaining Dec. 31st, 1896.	Died within 48 hours of Admission.	Total Deaths.	Total Mortality per cent. of Admissions.
Scarlet Fever.....	52	451	503	152	279	50	3	22	4·8
Typhus Fever	21	171	192	132	34	14	—	12	7·0
Enteric Fever	20	92	112	88	—	7	—	17	18·4
Other Diseases	2	71	73	54	—	5	2	14	19·7
Totals	95	785	880	426	313	76	5	65	8·3

SCARLET FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases	149	177	102	17	4	2	—	451
No. of deaths	14	6	1	1	—	—	—	22
Percentage of deaths	9·4	3·4	1·0	6·0	—	—	—	4·8

TYPHUS FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases	14	21	77	23	25	7	4	171
No. of deaths	—	—	1	1	7	3	—	12
Percentage of deaths	—	—	1·3	4·3	28·0	34·0	—	7·0

TYPHOID FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 upwards.	
No. of cases	6	21	38	14	9	4	—	92
No. of deaths	1	4	5	3	3	1	—	17
Percentage of deaths	16·6	19·0	13·2	21·4	33·3	25·0	—	18·4

OTHER DISEASES.

Disease.	Cases.	Deaths.
Measles	4	—
Dysentery	1	—
Febricula	16	—
Tubercular Diseases	5	5
Pneumonia	13	1
Meningitis	5	5
Laryngitis	1	1
Enteritis	6	—
Abscess (Parotid, &c.)	3	2
Unclassified	17	—
	<u>71</u>	<u>14</u>

Visiting Physician, Dr. ROBERTSON.

Resident Physician, Dr. ROBINSON.

CITY HOSPITAL SOUTH, GRAFTON STREET.

DISEASES.	Remaining in Hospital 31st Dec., 1895.	Admitted into Hospital during 1896.	Total under treatment during 1896.	Died during 1896.	Discharged to homes 1896.	Transferred to Parkhill Convalescent 1896.	Others Transferred to other Hos- pitals. 1896.	Remaining in Hospital 1896.	Mortality per cent. of Admissions.
Scarlet Fever	35	528	563	37	94	395	—	37	7.0
Typhoid Fever	20	201	221	22	159	19	1	20	10.9
Typhus Fever	—	31	31	3	20	8	—	—	9.6
Diphtheria	—	90	90	19	45	19	—	7	21.1
Measles	—	2	2	—	—	—	—	—	—
Other Diseases	—	57	57	18	33	6	—	—	31.5
Totals	55	909	964	99	351	447	1	64	10.8

SCARLET FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases	228	202	61	25	10	2	—	528
No. of deaths	27	7	1	1	1	—	—	37
Percentage of deaths	11.8	3.4	1.6	4.0	10.0	—	—	7.0

TYPHUS FEVER.

	AGE PERIODS.							Total.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases	—	9	15	4	—	1	1	30
No. of deaths	—	—	1	1	—	1	—	3
Percentage of deaths	—	—	6.6	25.0	—	100.0	—	10.0

TYPHOID FEVER.

	AGE PERIODS.							TOTAL.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases	17	24	72	57	23	4	4	201
No. of deaths ....	..	2	6	9	4	1	..	22
Percentage of deaths	..	8·3	8·3	15·7	17·4	25·0	..	10·9

DIPHTHERIA.

	AGE PERIODS.							TOTAL.
	Under 5	5—10	10—20	20—30	30—40	40—50	50 Upwards	
No. of cases	43	28	14	4	1	..	..	90
No. of deaths	18	1	..	..	..	..	..	19
Percentage of deaths.	41·8	3·5	..	..	..	..	..	21·1

OTHER DISEASES.

	Cases.	Deaths.
Pneumonia ..	12	10
Sore Throat ..	8	—
Syphilis ..	1	—
Tonsillitis ..	3	—
Erysipelas ..	1	—
Febricula ..	17	—
Anæmia ..	1	—
Meningitis ..	2	2
Phthisis ..	6	5
Pleurisy ..	2	—
Hydronephrosis ..	1	1
Rheumatism ..	1	—
Empyema ..	1	—
Alcoholism ..	1	—
Total ..	57	18 = 31·5 per cent.

Visiting Physician, Dr. ROBERTS.

Resident Physician, Dr. BLAKEMAN.

CITY HOSPITAL, PARKHILL.

DISEASES.	Remaining in Hospital on December 31st, 1896.	Patients admitted during 1896.					Remaining in Hospital on 31st December, 1896.	Total number under treatment during 1896	Fatal Acute Cases.		Died within 24 hours of admission	Fatal Transferred Cases.	
		Acute Cases	From City Hospital North.	From City Hospital South.	From City Hospital East.	From City Hospital Priory Road			Number.	Percentage		Number.	Percentage.
Scarlatina	91	365	279	395	23	23	174	1176	21	5.7	2	10	1.3
Smallpox	—	7	—	—	—	—	2	7	—	—	—	—	—
Enteric	—	16	—	19	—	—	—	35	—	—	—	—	—
Diphtheria and Croup.....	—	7	—	19	—	—	—	26	2	28.5	1	—	—
Typhus	4	81	34	8	—	—	—	127	10	12.3	—	—	—
Measles	—	6	—	—	—	—	—	6	—	—	—	—	—
Varicella	—	2	—	—	—	—	—	2	—	—	—	—	—
Other Diseases	9	40	—	6	—	—	3	55	4	10.0	—	1	16.6
Total	104	524	313	447	23	23	179	1434	37	7.0	3	11	1.3

ACUTE SCARLET FEVER.

	AGE PERIODS.						
	Under 5	5—10	10—20	20—30	30—40	40 Upwards	TOTAL.
No. of cases	133	138	75	13	6	—	365
No. of deaths	18	3	—	—	—	—	21
Percentage of deaths ..	13.5	2.1	—	—	—	—	5.7

ACUTE TYPHUS FEVER.

	AGE PERIODS.							TOTAL.
	Under 5	5—10	10—15	15—20	20—30	30—40	40 Upwards	
No. of cases	4	19	21	9	6	13	9	81
No. of deaths	—	—	—	1	2	3	4	10
Percentage of deaths	—	—	—	11·1	33·3	23·0	44·4	12·3

OTHER ACUTE DISEASES.

Diseases.	Cases.	Deaths.
Tonsillitis	11	—
Pneumonia	7	2
Malaise	6	—
Bronchitis	4	—
Febricula	5	—
Others	7	2
Total	<u>40</u>	<u>4</u>

Visiting Physician, Dr. ROBERTS.

Resident Physician, Dr. KENNAN.

CITY HOSPITAL EAST (MILL LANE).

DISEASES.	Remaining in Hospital 31st Dec., 1895.	Admitted into Hospital during 1896.	Total under treatment during 1896.	Died during 1896.	Discharged to homes 1896.	Transferred to Parkhill Con- valescent, 1896.	Remaining in Hospital, 31st Dec., 1896.	Mortality % of admissions.
Scarlet Fever	10	138	148	4	94	23	27	2.9
Typhoid Fever	5	58	63	9	43	..	11	15.5
Diphtheria .. .. .	..	1	1	..	1	..	..	..
Other Diseases .. .. .	..	13	13	1	12	..	..	7.6
TOTALS	15	210	225	14	150	23	38	6.6

Visiting Physician, Dr. RICHARDSON.

CITY HOSPITAL, PRIORY ROAD.

DISEASES.	Remaining in Hospital, Dec. 31st, 1895.	Admitted during 1896.	Total under treatment 1896.	Discharged to homes.	Transferred to Parkhill Convalescent.	Remaining in Hospital, Dec. 31st, 1896.	Deaths.	Mortality per cent of admissions.
Scarlatina	14	118	132	68	23	33	8	6.7
Enteric Fever	2	1	3	3	..	..	..	..
Measles .. .. .	..	64	64	62	..	..	2	3.1
Erysipelas .. .. .	..	4	4	3	..	..	* 1	25.0
Other Diseases .. .. .	..	† 14	14	13	..	..	1	7.1
TOTALS	16	201	217	149	23	33	12	5.9

* NOTE.—The death from erysipelas was in a case of advanced renal disease.

† All non-infectious diseases. The death was from sloughing throat.

Visiting Physician, Dr. ARCHER.

RATE OF MORTALITY AMONGST PATIENTS TREATED AT HOME AND
PATIENTS TREATED IN THE CITY OF LIVERPOOL FEVER HOSPITALS.

HOME MORTALITY.

Year.	Disease.	Cases.	Deaths.	Per cent.
1891	Typhoid Fever	303	63	20·7
1892		443	77	17·3
1893		956	171	17·8
1894		878	176	20·0
1895		771	129	16·7
1896		595	114	19·1
1891	Scarlet Fever	728	85	11·6
1892		953	89	9·3
1893		2,158	149	6·9
1894		2,548	152	6·0
1895		1,671	97	5·8
1896		1,984	120	6·0

HOSPITAL MORTALITY.

Year.	Disease.	Cases.	Deaths.	Per cent.
1891	Typhoid Fever	283	26	9·1
1892		236	34	14·4
1893		431	50	11·5
1894		441	72	16·3
1895		481	68	14·1
1896		468	52	11·1
1891	Scarlet Fever	546	33	6·0
1892		633	36	5·6
1893		1,391	74	5·3
1894		1,468	80	5·4
1895		1,039	72	6·9
1896		1,600	97	6·0

The foregoing pages indicate that the extensive operations carried out with a view to improve the sanitary condition of the City have been attended with results which are satisfactory in character. The diminishing rate of mortality which has been effected in past years has

been continued in almost every district of the City, and indicates also a great diminution in the amount of sickness of serious and prolonged character, and consequent suffering and loss. Evidence is not wanting that the public themselves are taking an increased interest in sanitary matters. The value of hospital isolation in infectious sickness is more appreciated than ever it was before, and the results of hospital treatment are calculated to enhance its popularity.

The inhabitants of the poorer quarters not only appreciate to a certain extent what is done for them, but evince some inclination to co-operate with the Sanitary Officers.

It unfortunately cannot be recorded that the occupiers of the rougher and more squalid neighbourhoods show very marked signs of improvement; in far too large a proportion, drunkenness furnishes the ready explanation of squalor and extreme degradation. There may be reason to hope that sanitation may ultimately prevail amongst a class who have hitherto resisted every other agency, whether educational, religious, or philanthropic.

Whilst many difficulties and much opposition remain to be overcome before the full advantages of sanitary administration will be felt, yet the retrospect of the year is satisfactory evidence that the work now in progress is attended with successful results.

E. W. HOPE, M.D., D.Sc.,
MEDICAL OFFICER OF HEALTH.

PUBLIC HEALTH DEPARTMENT,
MUNICIPAL OFFICES,
LIVERPOOL, 10th June, 1897.

A

TABLE OF DEATHS

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DURING THE YEAR 1896, IN THE URBAN SANITARY DISTRICT OF LIVERPOOL, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

(I.) NAMES OF LOCALITIES adopted for the purpose of these Statistics: public institutions being shown as separate localities. DISTRICTS AND WARDS. (a.)		MORTALITY FROM ALL CAUSES, AT SPECIFIED AGES.							MORTALITY FROM SPECIFIED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																							
		At all Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 50.	50 and upwards.	(L.)	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	
										Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Etiotic of Typhoid.	Continued.	Re-lapsing.	Puer-peral.	English Cholera and Infantum.	Erysipelas.	Measles.	Whooping Cough.	Heart and Lung Disease.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis.	Pneumonia.	Heart Disease.	Injuries.	All Other Diseases.	Total.
		(b.)	(c.)	(d.)	(e.)	(f.)	(g.)	(h.)	(i.)																							
Scotland	1180	417	279	63	34	253	134	Under 5	..	13	7	7	..	1	..	..	..	..	5	..	49	38	100	1	..	2	152	..	40	280	696
Exchange	871	291	163	25	26	255	111	5 upwards	..	6	..	1	..	9	..	..	..	..	..	3	3	1	7	1	..	59	151	50	37	156	484
Abercromby	791	203	90	19	37	266	176	Under 5	..	7	1	1	..	1	..	..	..	..	..	..	12	23	70	..	..	3	109	..	32	193	454
Everton	2164	778	414	98	61	513	300	5 upwards	1	..	3	3	1	..	1	3	2	1	50	97	46	34	175	417
Kirkdale	1125	400	199	45	35	283	163	Under 5	..	1	4	..	..	..	..	..	..	..	..	..	12	14	39	..	..	2	52	..	15	154	293
West Derby	1430	486	212	62	52	376	242	5 upwards	..	1	1	1	..	6	..	..	..	1	..	..	..	..	5	3	1	65	95	38	42	239	498
Toxteth	1798	550	294	80	65	447	362	Under 5	..	22	10	6	..	..	..	..	..	..	7	..	2	51	60	163	..	6	243	..	61	561	1192
Walton	616	200	81	30	17	175	113	5 upwards	..	7	7	2	2	14	1	4	2	3	13	5	..	136	230	104	41	401	972
West Derby (Rural)	582	162	92	35	23	136	134	Under 5	..	16	6	2	..	..	..	..	..	..	5	1	36	19	88	..	..	5	104	1	9	307	599
Wavertree	195	63	30	7	1	48	46	5 upwards	..	3	1	..	1	13	..	1	2	53	134	57	24	214	526
Toxteth (Rural)	267	60	35	13	8	74	77	Under 5	..	8	18	3	..	1	8	..	2	16	37	104	1	..	3	133	1	16	347	698
(II.) Public Institutions } Workhouses & Hospitals ..	3457	223	342	199	220	1568	905	5 upwards	..	2	1	8	1	2	2	1	1	4	8	1	125	157	73	26	320	732
Totals	14476	3833	2231	676	579	4394	2763	Under 5	..	14	17	4	..	1	..	..	..	..	3	..	1	31	30	124	..	3	154	..	42	420	844
								5 upwards	..	4	4	4	1	12	5	2	2	2	3	7	2	122	239	107	41	397	954
								Under 5	..	3	4	3	..	..	..	..	..	..	11	1	13	14	28	..	..	39	2	4	159	281	
								5 upwards	..	..	3	2	1	5	..	..	..	2	1	..	1	..	2	1	..	49	51	36	15	166	335
								Under 5	..	3	4	..	..	1	..	..	..	..	1	..	34	19	27	..	..	..	51	..	6	108	254
								5 upwards	..	1	4	5	4	1	2	2	2	..	32	41	37	16	183	328
								Under 5	..	1	2	..	..	..	..	..	..	..	1	..	2	12	15	..	..	1	18	..	1	40	93
								5 upwards	..	1	..	..	..	1	..	..	..	..	..	..	..	..	2	1	..	15	12	16	7	47	102
								Under 5	..	2	2	..	..	..	..	..	..	..	..	..	4	7	11	..	..	..	13	..	1	55	95
								5 upwards	..	1	2	1	..	3	1	1	1	1	2	1	..	20	36	19	6	77	172
								Under 5	..	65	18	..	..	2	..	..	..	..	..	..	33	15	16	..	..	4	122	..	32	258	565
								5 upwards	..	36	4	..	30	80	8	4	3	..	21	9	1	442	547	289	234	1184	2892
								Under 5	..	155	93	26	..	7	..	..	..	..	41	9	293	288	785	2	..	30	1190	4	259	2882	6064
								5 upwards	..	62	27	11	36	159	2	..	26	3	..	17	19	10	75	47	6	1168	1790	872	523	3559	8412	

Deaths occurring outside the division or district among persons belonging thereto .. ..	..	..	..	..	..	..	..	Under 5 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deaths occurring within the division or district among persons not belonging thereto	416	29	23	11	36	182	135	Under 5 5 upwards	..	1	..	..	..	..	..	..	..	..	..	12	2	1	..	..	..	9	..	1	26	52
									..	..	..	..	6	..	..	..	..	..	1	..	..	2	3	1	42	67	31	27	184	364

B

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS 142

coming to the knowledge of the Medical Officer of Health, during the year 1896, in the Urban Sanitary District of Liverpool; classified according to DISEASES and LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES			NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.											NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITALS.										
	Census, 1891.	Estimated to Middle of 1896.	Registered Births.	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11
				Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.							Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.		
DISTRICTS AND WARDS.	(b.)	(c.)	(d.)																						
(a.)																									
Scotland	53713	46330	2053	..	269	14	13	65	141	7	..	4	..	195	..	129	5	3	64	65	3	..	..	..	..
Exchange	47738	38964	1433	1	122	7	6	18	82	5	..	5	..	133	1	71	2	2	18	33	2	..	..	..	..
Abercromby	55530	50181	1740	..	177	19	3	21	75	1	..	5	..	96	..	105	3	..	21	4	..	..	..	..	..
Everton (H)	110556	110706	4335	..	656	77	18	68	176	11	2	11	..	218	..	279	16	..	66	62	1	..	..	..	..
Kirkdale	66131	68090	2359	3	310	24	12	2	127	5	1	9	..	130	3	101	6	1	1	45	..	..	..	..	..
West Derby	76971	79236	2950	..	561	111	12	2	112	12	1	8	..	104	..	260	29	1	2	39	2	..	..	..	..
Toxteth (H H)	107341	107015	3522	..	719	89	11	128	133	19	..	12	..	308	..	318	19	3	126	48	5	..	..	..	1
Walton (H)	40304	55332	1542	..	156	29	11	1	75	..	..	1	..	50	..	59	4	2	..	20	..	..	..	..	..
West Derby (Rural) (H)	36349	39059	951	..	217	29	2	..	59	9	..	..	..	33	..	83	4	..	..	28	..	..	..	..	..
Wavertree	13764	15430	460	..	146	16	..	..	16	4	..	1	..	8	..	64	2	..	..	6	..	..	..	..	..
Toxteth (Rural)	21046	30520	598	..	159	28	1	..	29	..	..	3	..	33	..	39	5	..	..	2	..	..	..	..	..
Public Institutions. Workhouses and Hospitals .. .. .	..	..	..	..	70	..	..	..	11	..	..	..	..	70	..	63	..	..	..	8	..	..	..	..	3
Emigrants, Seamen, &c., passing through the City .. .. .	..	..	..	4	22	1	..	..	27	..	..	..	..	1	4	21	1	..	..	22	..	..	..	..	..
TOTALS	629443	641063	21943	8	3584	444	89	305	1063	73	4	59	..	1379	8	1392	96	12	298	392	13	..	..	..	4

Notification of Infectious Disease compulsory in the District since 1st September, 1890.

(H) The localities in which the Isolation Hospitals are situated.

CITY OF LIVERPOOL.

C

TABLE I			
Summary of the results of the experiments on the effect of the concentration of the solution on the rate of the reaction			
Concentration of the solution (M)	Rate of the reaction (M/min)	Time (min)	Volume of the gas (ml)
0.1	0.001	10	1.0
0.2	0.002	10	2.0
0.3	0.003	10	3.0
0.4	0.004	10	4.0
0.5	0.005	10	5.0
0.6	0.006	10	6.0
0.7	0.007	10	7.0
0.8	0.008	10	8.0
0.9	0.009	10	9.0
1.0	0.010	10	10.0
1.1	0.011	10	11.0
1.2	0.012	10	12.0
1.3	0.013	10	13.0
1.4	0.014	10	14.0
1.5	0.015	10	15.0
1.6	0.016	10	16.0
1.7	0.017	10	17.0
1.8	0.018	10	18.0
1.9	0.019	10	19.0
2.0	0.020	10	20.0
2.1	0.021	10	21.0
2.2	0.022	10	22.0
2.3	0.023	10	23.0
2.4	0.024	10	24.0
2.5	0.025	10	25.0
2.6	0.026	10	26.0
2.7	0.027	10	27.0
2.8	0.028	10	28.0
2.9	0.029	10	29.0
3.0	0.030	10	30.0
3.1	0.031	10	31.0
3.2	0.032	10	32.0
3.3	0.033	10	33.0
3.4	0.034	10	34.0
3.5	0.035	10	35.0
3.6	0.036	10	36.0
3.7	0.037	10	37.0
3.8	0.038	10	38.0
3.9	0.039	10	39.0
4.0	0.040	10	40.0
4.1	0.041	10	41.0
4.2	0.042	10	42.0
4.3	0.043	10	43.0
4.4	0.044	10	44.0
4.5	0.045	10	45.0
4.6	0.046	10	46.0
4.7	0.047	10	47.0
4.8	0.048	10	48.0
4.9	0.049	10	49.0
5.0	0.050	10	50.0
5.1	0.051	10	51.0
5.2	0.052	10	52.0
5.3	0.053	10	53.0
5.4	0.054	10	54.0
5.5	0.055	10	55.0
5.6	0.056	10	56.0
5.7	0.057	10	57.0
5.8	0.058	10	58.0
5.9	0.059	10	59.0
6.0	0.060	10	60.0
6.1	0.061	10	61.0
6.2	0.062	10	62.0
6.3	0.063	10	63.0
6.4	0.064	10	64.0
6.5	0.065	10	65.0
6.6	0.066	10	66.0
6.7	0.067	10	67.0
6.8	0.068	10	68.0
6.9	0.069	10	69.0
7.0	0.070	10	70.0
7.1	0.071	10	71.0
7.2	0.072	10	72.0
7.3	0.073	10	73.0
7.4	0.074	10	74.0
7.5	0.075	10	75.0
7.6	0.076	10	76.0
7.7	0.077	10	77.0
7.8	0.078	10	78.0
7.9	0.079	10	79.0
8.0	0.080	10	80.0
8.1	0.081	10	81.0
8.2	0.082	10	82.0
8.3	0.083	10	83.0
8.4	0.084	10	84.0
8.5	0.085	10	85.0
8.6	0.086	10	86.0
8.7	0.087	10	87.0
8.8	0.088	10	88.0
8.9	0.089	10	89.0
9.0	0.090	10	90.0
9.1	0.091	10	91.0
9.2	0.092	10	92.0
9.3	0.093	10	93.0
9.4	0.094	10	94.0
9.5	0.095	10	95.0
9.6	0.096	10	96.0
9.7	0.097	10	97.0
9.8	0.098	10	98.0
9.9	0.099	10	99.0
10.0	0.100	10	100.0

PHILIPS' NEW PLAN OF
GREATER LIVERPOOL

SCALE OF ONE MILE

The Map is divided into half-mile squares.



TYPHUS CASES DURING 1896.

The DOTS show the places of cases.

R I V E R M E R S E Y

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PHILIP'S NEW

GREAT BRITAIN

SCALE OF ONE

The Map is printed on a

