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Contributors

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Report by the Medical Officer of Health of the Portland Urban Sanitary District, for the year ending 31st December, 1893.

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I have the honour to submit my report for the year ending 31st December, 1893. My appointment as Medical Officer of Health dates from the 1st April ,1893, but by permission of my predecessor, Dr. Allan McLean, who supplied me with the necessary details, I have included the first quarter of the year in my report, which is therefore a complete one for the whole year.

POPULATION.

There is some difficulty in estimating the population. There was a diminution during the last decade, but there is every reason to believe that the population has increased since the census was taken in 1891. There are a larger number of Convicts in the Prison than there were at that time, and a considerable addition has been made to the number of Warders, most of whom are married and have ~~large~~ families. I do not think there has been much change in the numbers of the civil population. Probably 9,700 is a fairly accurate estimate of the number of inhabitants at the present time.

Births.

The number of births registered during the year were distributed as follows:-

January,	11	= 45 in 1st Quarter.
February,	16	
March,	18	
April,	28	= 63 in 2nd Quarter
May,	22	
June,	13	
July.	18	= 45 in 3rd Quarter.
August,	12	
September,	15	
October,	13	= 42 in 4th Quarter.
November,	18	
December,	11	
Total for the year,	195	

Of these 101 were Males, and 94 were Females.

 Deaths

D e a t h s.

The number of deaths which occurred during the year amounted to 119, distributed as follows:-

January,	9	= 26 in 1st Quarter,
February	9	
March,	8	
April,	11	= 30 in 2nd Quarter,
May,	9	
June,	10	
July,	13	= 38 in 3rd Quarter,
August,	14	
September,	11	
October,	10	= 25 in 4th Quarter,
November,	8	
December,	7	
Total for the year	119	

This gives us a death-rate for the year of 12.268 per 1,000.

As recorded in Table A of the Local Govt. Board Returns, the mortality from all causes at the sub-joined ages was, as follows:-

Under 1 year...	26
1 year & under 5 years, ...	14
5 years " " 15 " ..5	5
15 " " " 25 " ...	17
25 " " " 65 " ...	29
65 " " upwards,... ...	28
total,----------	119

Four persons died over 85 years of age. Six deaths occurred from accidental causes. Of these two were cases of drowning; one of poisoning; one of death from a fall; one caused by a falling block on board ship; one from fracture of the skull in a quarry accident. The remaining 113 deaths occurred from the following causes.

Scarlatina,...	.. 5	Brought Forward,.....	27
Enteric Fever,	.. 8	Rheumatic Fever. ...	1
Diphtheria,...	.. 1	Phthisis, ...	5
Croup, ...	.. 2	Other lung diseases,	15
Erysipelas,...	.. 2	Heart Disease, ...	12
Influenza, ...	.. 4	Cancer, ...	4
Diarrhoea, ...	.. 5	Other diseases, ..	49
carried forward,	..27	Total, ----------	113

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The number of deaths from phthisis (five) indicates that the inhabitants are singularly free from this disease. It has also been observed that most phthisical cases run a long course in Portland.

ZYMOTIC DISEASES.

During the year we have suffered from epidemics of Enteric fever, Scarlatina and Influenza.

Enteric fever. On the 14th February, a case of Enteric Fever, which proved Fatal, occurred in Queen's Row. Enquiry failed to elicit any information pointing to the source of infection. No other case occurred until on or about the 20th June, when a boy residing at 47, High St., in quite a different part of the Town, was attacked. The case was a mild one. (During an exceptionally heavy fall of rain on the 16th and 17th July 1892, the house at 47, High St. was flooded by an over-flow of sewage, caused by the main drain in Artist Row, - immediately behind the house- having become blocked by debris carried down by the storm water. The floors were covered to a depth of several inchses with black offensive-smelling mud, evidently largely composed of sewage deposit. Disinfection of the house was carried out at the time as carefully as possible) The next case occurred in Mallams about the19th July, and about the same date another case appeared in Paradise Row (off High Street) A week later a case occurred in Queen's Row. During the first week of August, a considerable number of fresh cases were seen; and from the beginning of August until the end of November, new cases occurred every week. The epidemic reached its height about the end of October, two or three fresh cases being seen every day during the last week of that month. From that time there was a steady decrease, until at the close of the year, not more than 2 cases were under treatment. The total number of cases was 136, distributed as follows:-

Fortunes'Well

Porunes Well & Queen,s Row,----------	22
High St. (including Marine Villas &c.)--	59
Spring Gardens, ----------	4
Artist Row, ----------	1
King Sreet.----------	5
Mallams, ----------	12
Albert Terrace & Sea View, ----------	8
Chesil, ----------	16
Top-Hill District, ----------	6
Royal Naval Sick Quarters, ----------	3
Total,----	136.

It will be seen from these figures that nearly half the cases occurred in High St., only 8 cases proved fatal, so that the death rate of the epidemic was an unusually low one, viz:- 5·88%. This is only about half the usual rate of mortality under the most favourable circumstances.

In my opinion, the cause of the epidemic must be attributed to a polluted water supply. Most of the sources from which the inhabitants of the Island draw water are liable to contamination at any time, but this is especially liable to occur when a heavy down-pour of rain follows upon a period of prolonged drought. These conditions were present on one or two occasions at the end of Summer and beginning of Autumn. On the 15th July, a fall of this kind occurred(no less than 1·62" of rain in 24 hours) and the epidemic might really be said to begin in the first week of August, as there were only one or two scattered cases before that time. Again on 20th Sept. a fall of ·35" took place in a few hours, and during the first week of October the number of new cases was greater than it had been for weeks. It is well known that the incubation period of enteric fever usually lasts about 14 days.

As a number of surces of water supply were drawn upon by

 infected

infected houses, I deemed it advisable to have samples from all these sources analysed. The analysis amply confirmed the view taken by me as to the cause of the spread of the epidemic. As a copy of the results of this analysis was sent to you at the time, I need only say here that the opinions expressed by the analyst on each of the samples sent were briefly as follows:-

Fortunes Well. "The water is organically wholesome, and if the proportion of Chlorine it contains be attributed to the proximity of its source of supply to the sea, it may be used for drinking purposes."

Spring Gardens. "The water is unfit for drinking purposes."

Maidenwell. "The nitrates are unusually high. It would be undesirable to apply the water to potable uses."

Chesil. "From the large proportion of Chlorine, free ammonia, and nitrates present, it would be ill-advised to apply it to drinking purposes"

Castletown Road. "The chlorine and albuminoid ammonia are high, and the nitrates considerable. These results indicate that it cannot be safely recommended for use as a drinking water."

Easton Square. In view of the large proportion both of free and albuminoid ammonia yielded by this water, it ought not to be used for drinking purposes."

In view of these reports I at once wrote to the Local Authority, strongly recommending that notices should be posted directing that all water for drinking purposes should be boiled. Unfortunately this recommendation was not acted upon. The reliability of the analysis was very soon confirmed in the case of the Maidenwell Tank. On or about the 8th November, the Sewer in High St. was opened for the purpose of re-laying. The old pipes were so badly laid and jointed that the sewage was actually found to be percolating into the water supplying the Maidenwell Tank. This tank was therefore closed for a time. With a view to preventing the spread of the epidemic, disinfectants were issued free of cost by the Local Authority

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to those applying for them. Printed instructions were also issued and left at the infected houses, recommending the removal and disinfection of waste and decaying matters, and giving directions as to the disinfection and disposal of infected stools. At the request of the Local Govt. Board a full report on the outbreak was drawn up by me, and forwarded in the early part of October.

Scarlatina. During the month of January, so many cases of Scarlatina occurred in the ~~Hill~~ Hill district, that it was found necessary to close the schools in Easton and Reforne. Ninety six cases are known to me as having occurred during the year, but as the compulsory Notification Act has not been adopted in Portland, this is doubtless very much under the actual number of cases. I think 140 cases may be looked upon as representing the probable number. This disease was present in an epidemic form only during the first half of the year, but there have been a number of sporadic cases since. There have been five deaths from this disease.

Influenza. There was a severe epidemic of influenza during the earlier months of the year, but it is impossible to arrive at anything like reliable figures in regard to the proportion of the population affected. Four deaths have been registered from this cause.

Typhus Fever. A case of typhus fever was admitted to the Royal Naval Sick Quarters in the end of September, but there have been no cases of this disease among the civil population.

Erysipelas. Ten cases have occurred with two deaths.

Diphtheria Two cases (in the Grove district) with one death.

Small-pox. There has been no small-pox in Portland, but one or two cases were met with in Weymouth about the middle of May, and I called the attention of the Local Authority to the advisability of having a look-out kept on tramps and vagrants; and suggested that arrangements should be made for the prompt isolation and removal of any case which might occur,

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In this connection I regret to observe that vaccination is being much neglected by the inhabitants of the Top-Hill district, owing to the fact that the vaccination laws have not been properly enforced for some years. A large proportion of the children in this district are un-vaccinated, and should any cases of small pox unfortunately be imported, the mortality would, in all probability, be very great.

R a i n f a l l.

During the Summer, owing to the prolonged spell of drought, the want of a proper water supply was severely felt byall classes of the inhabitants. The rainfall was as follows:-

Jaunary,	1.95	inch
February,	3.29	"
March,	0.23	"
April,	0.24	"
May,	0.81	"
June,	0.43	"
July,	4.52	"
August,	0.85	"
September,	1.39	"
October,	3.79	"
November,	0.83	"
December,	2.00	"
Total ---------	20·33	inches

The greatest fall in 24 hours took place on the 15th July, when 1·62" rain fell. For these figures I am indebted to the Rev. W. R. Waugh, F. R. A. S., The Observatory, Portland.

W A T E R S U P P L Y.

The Engineer to the Local Board, Mr. J. Lawton Webster, has prepared a water scheme for the Island at an estimated cost of £23,000. On the 12th September, a Local Govt. Board enquiry was held by Col. Ducat, R.E., A sanction for £5,000 has been obtained to carry out the headings and bore holes in order to obtain a supply of 200,000 Galls. in 24 hours. Contracts have been entered into for the completion of this work, The water in the shaft at Southwell has been pronounced by Proffessor ~~Attfield~~ Attfield, and Sidney ~~[illegible]~~ Harry F.C.S., F.I.C. &c., to be of excellent quality as a potable water, and if the required quantity be obtained, a long felt necessity will be met, and an important factor in the sanitary condition of Portland will be supplied, which it is to be hoped will go a great way towards preventing the

the periodical return of Enteric fever, .

Drainage. The Local Board has been negotiating with the Admiralty in respect to an outfall for the whole of the Underhill district, and the whole system of sewerage in this district will be re-arranged upon an understanding being arrived at. In the meantime, in accordance with the instructions of the Local Govt. Board, a new sewer is being laid in High St. The pipes of the old sewer were found to be mostly broken, with open joints, and no proper junctions, the pipes having been laid most irregularly. No proper connections wre made with the sewers from the adjoining streets. As before mentioned the sewage was percolating into the water supplying Maidenwell Tank! The new sewer has proper man-holes and lamp-holes, and is provided with an automatic flush tank capable of discharging 2,500 galls. at one flush. The sewer is divided into sections, and valves are inserted to check the too rapid ascent of sewer gas, so commonly occurring in steep gradients. On the 9th May, 1893, the sewer at the upper end of High St. was blocked and was overflowing into the street. On opening the sewer, it was found at this point to consist only of rough rubble work, without cement of any kind.

Insanitary Houses. Houses in Wakeham, Weston and Albion Crescent have been examined, and reported upon, by the Sanitary Inspector and myself. In the case of the house in Albion Crescent (in the occupation of Dr. Ashton, at whose request we examined it), which we declared to be in an insanitary condition, the Board have declined to take any action.

Slaughter Houses. No slaughter houses are registered in this district. On the 12th October I inspected the slaughter house belonging to Mr. Brett in Grove Road. Everything in the Slaughter house was in good ~~condition~~ order, but we recommended that a water gutter should be carried along the roof to prevent the rain water from running into the blood-tank, and causing it to overflow.

 Nuisances,

the institutional refuse or domestic sewage.

Drainage. The Local Board has been negotiating with the Authority in respect to an outfall for the whole of the Tuddenham district, and the whole system of sewerage in this district will be re-arranged upon an adequate scale being arrived at. In the meantime, in accordance with the instructions of the Local Govt. Board, a new sewer is being laid in High St. The pipes of the old sewer were found to be mostly broken, with open joints, and no, or, in places, the pipes having been laid upon their barrels. The proper connections are made with the sewers from the adjoining streets. As before mentioned the sewer was precipitating into the water supply (Ordnance Tank). The new sewer has proper man-holes and lamp-holes, and is provided with an automatic flush tank capable of discharging 2,200 gallons, at one flush. The sewer is divided into sections, and valves are inserted to admit the lamp-holes, and to cut off any particular section for repairs or cleaning. On the 27th Jan. last, the sewer at the upper end of High St. was blocked and was overflowing into the street. On opening the sewer it was found at this point to consist only of rough cobble stone, without cement of any kind.

Inspection Pits. Pits in Tuddenham, Newton and Kilverstone have been cleaned, and reported upon, by the Sanitary and Inspector and myself. In the case of the house in Kilverstone (in the occupation of Mr. Adkins), at Newton (occupied by Mr. Gilder) the drainage is in an insanitary condition, but there has been delayed to take any action.

The Ash Cottages. The cesspools have been cleansed and disinfected. On the 22nd Jan. last, I inspected the cleansing operations. Nothing was found. Everything is in a satisfactory condition, but we recommended that a water filter should be provided along the roof to prevent the rain water from running into the cesspool-tank, and causing it to overflow.

(2) Nuisances.

Nuisances. A number of nuisances have been attended to, and abated during the year.

Recommendations. I should recommend the Local Authority to adopt the Notification of infectious diseases Act without delay. I should also suggest that the water and drainage schemes should be carried out with as little delay as possible, as the recurrence of Enteric Fever is becoming a reproach to the Island.

In conclusion I wish to state that the Sanitary Inspector, Mr. J. Lawton Webster, has given me active and efficient assistance in carrying out the duties in connection with my appointment.

Dav. J. Lawson M.D. &c.

Medical Officer of Health,
Portland.