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REPORT

OF THE

LIEUT.-GEN. A. PHELPS,
23, AUGUSTUS ROAD.

MEDICAL OFFICER OF HEALTH

TO THE

GLOUCESTER

Urban Sanitary Authority,


FOR 1875.

Presented to the Sanitary Committee of that body at the
Meeting held May 30th, 1876, and Ordered to
be Printed.

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REPORT.

In presenting my Report for the year 1875, on the Sanitary condition of the City of Gloucester, I must, for the purpose of the remarks which I have to make, divide the City into two portions,—that which was comprised in the boundary of the old City prior to November 1874, and those portions which were added to it at that date. Of the former part, the old City, I am able to speak in terms of much satisfaction: the elaborate system of drainage is of a very superior character, the water supply is good, and is only capable of improvement in two respects—it is occasionally for some weeks at a time only laid on for a certain number of hours in the day; the other is, that at times I have had complaints, and on examination have found that they were well founded, that the water was dirty. The first of these is a serious matter, as by an intermittent supply it is well known by engineers there is great risk of contamination, as when the water ceases to pass through the pipes a vacuum is created through which, if there is any, even the slightest, opening, foul air and other impurities pass into the pipes. I can only account for the presence of dirt in the water by supposing that the filter beds at the Reservoirs are not effective in detaining any impurities with which the water may become loaded after heavy and continuous rain. Of the fitness of the water supply for domestic purposes I am fully convinced, as through the kindness of Mr. Horsley, I have

been favoured with an analysis of the Witcomb water, and also of that obtained from the reservoir at Robin Hood's Hill. Both of these are of a very high character, and it may be confidently asserted that but few towns have a supply of better water than that which is distributed to our City. The analysis of samples of water taken from these two sources I give at the end of this Report.

The water is laid on to a very large proportion of the houses in the old City, and I would suggest that in all cases where it has not been already supplied steps should be taken to secure this being done, as one of the most serious and common sources of enteric disease is from the use of water taken from wells in a densely populated district. I have during the past year examined many samples of water taken from wells in the old City, in none of them has the water been pure, or anything approaching to it; but as the sewerage has been efficient for some years past, it is not so bad as in some portions of the Urban District, of which I shall have to speak presently.

I have inspected with Mr. Allen, (of whose attention to the duties of his office I can speak in the highest terms,) and by myself, every portion of the City, and in nearly all of it have made frequent house to house visitations. The occasional defects which have been discovered by us we have generally had but little difficulty in securing the assistance of owners and occupiers to remedy, and I think the inhabitants may be congratulated on the fact that only on one occasion has it been necessary to take legal proceedings against an offender. We have reported what we have found on our visits to the Sanitary Authority at its fortnightly meetings, and we have on almost every occasion been able to state that nuisances were either removed or abated. In an old city like Gloucester there are, of course, many buildings which are not constructed with due regard to sanitary laws, and some portions where improvements are yet wanting; but having been familiar

with the worst parts of the District for many years, I feel justified in mentioning that very great alteration for the better has been steadily going on for a long period. I think it is only just to a gentleman who took the initiative in endeavouring to improve the state of the town to mention that I believe a considerable part of this is due to the efforts made by Dr. Washbourn, when he had a seat in the Town Council. From that time to this, improvements have been made, especially in the courts in the lower part of the Westgate-street and the Island.

But whilst I am able to speak thus satisfactorily of the state of the old portion of the City, I must adopt a very different tone with reference to the part which is comprised in the added districts. I can hardly imagine a worse state of things with regard to drainage and water supply than that which in these parts at present prevails. Throughout the whole of the district lying on the East and South-east of the town I have made frequent examinations of the water, and in only one instance have I found that it was fit to drink. Nor is it possible that it can be free from sewage pollution. There is a bed of gravel which lies underneath the whole of the district of Falkner, Howard, and Regent streets, extending to near the Cemetery in one direction, and thinning out and disappearing in Brunswick-square and Bond's Garden in the other. From this bed of gravel the water supply of the large district which is built on it is drawn. The drainage of the houses either empties into cesspools constructed close to them and leaking into the bed of gravel, or is carried away in brick culverts, which, whenever they are uncovered, are found to be faulty, thus allowing their contents to ooze into this gravel. It is thus evident that it is absolutely impossible that there can be any pure water in the district.

Its drainage also is in a most unsatisfactory state. Some few of the houses in Moor-street, Morton-street, and others branching out of Barton-terrace, have imperfectly constructed drains carrying the sewage to the neighbouring brook, which is for some distance culverted, but which where it is open is frequently most offensive. The inhabitants are fully alive to the deficiencies of drainage and water supply and are constantly asking when their wants will be remedied. I trust that no unnecessary delay will be allowed to take place in the carrying out of the plan of sewerage which has been arranged, and that at the same time a system of water supply will be adopted which will enable us to considerably reduce, if not entirely to banish, the cases of Enteric Fever which are not of uncommon occurrence in some parts of the district, and which are undoubtedly due to the pollution of the water used for drinking purposes by the inhabitants.

And when the Drainage and pipes for the Water Service have been laid down, I hope that the City Authorities will at once take charge of the roads and keep them in a much better condition than they are at present. Cleanliness and general sanitary arrangements are incompatible with the filthy state in which a considerable part of the district is for many months in each year.

I am not aware whether power has been given by recent legislation to effect the removal of a number of houses which at present are being occupied in a portion of Newtown adjoining the railway crossing in the Stroud Road. They may be described as huts for squatters, and can scarcely be said to be fit for human habitations. There are no sanitary arrangements, and in many of them there is not sufficient space for common decency. It is certain that no plans for them were ever made, and therefore no sanction could ever have been obtained for their erection. When they were built they formed part of a rural district, but they are

worse than the ordinary village cottages. Sickness is constantly prevailing in them, and I have reported on the state of the district some months ago. I would suggest that the Surveyor be directed to visit them with the Inspector of Nuisances and myself, and that we conjointly make a Report to this Board on the condition of the houses.

As a general plan of drainage has been approved by the Corporation for the greater part of the new district, I shall make no comment on it, but I must call the attention of the Sanitary Authority to the condition of the river Twyver. It is a constant nuisance which has been complained of by many persons to me, and by me reported to the Sanitary Authority. There are many houses draining into it, and impurities besides sewage matter find their way into its channel. The portion which becomes a nuisance is that which is exposed below Dean's Walk. I believe that there are only two means by which this can be effectually remedied: the one is by allowing the stream to empty itself into the City Sewers, the other is by conveying it from a spot immediately below the Tan Yard in separate pipes to the spot where the City drains empty themselves. Any less complete plan would be merely palliative and would not remove the grounds for complaints, which are now so frequent. As this is a matter affecting a large part of the District, as the offensive smell arising from it frequently extends for a considerable distance, I trust that the attention of the Sanitary Authority will be devoted to the removal of the nuisance very shortly.

The Slaughter-houses within the old City were visited and reported on during the past year by the Inspector and myself. There was no list of those in the added parts of the City, but as we found them we reported on their condition. Although very few are decidedly faulty in their

construction and arrangements, the inconvenience and annoyance of slaughter-houses in a town, however perfect they may be, are universally admitted. Mr. Small, by direction of the Corporation, prepared plans for Public Slaughter-houses some years ago. I have examined them, and he explained their construction to me. They appear to be perfectly adapted to the purposes for which they are intended, and by his permission I have introduced them as the frontispiece to this Report. Anxious as I am to see such buildings carried out by the Corporation, I am aware that this is not an opportune time to urge their being built with the many important and expensive works which that governing body has undertaken. But I must venture to express a hope that when the new Sewerage and Water Supply have been completed, the Corn Exchange enlarged, and the Twyver either emptied into the existing sewerage or diverted into pipes, one of the next measures of improvement to be undertaken will be the erection of Public Slaughter-houses.

Although it may be considered to be hardly within the province of the Medical Officer to report about Swimming Baths, the indirect influence which they have in affecting the health of his District entitles it to consideration at his hands. The same reason which militates against the immediate erection of Public Slaughter-houses—namely, the great strain at present on the finances of the City—appears to me to interfere with any Corporate action in carrying out any plan for providing Public Swimming Baths; but I believe that if the Municipal Authorities would afford facilities for their erection (and there is more than one suitable site to be found,) this great boon to the public would be supplied by private enterprise in the form of a Limited Liability Company.

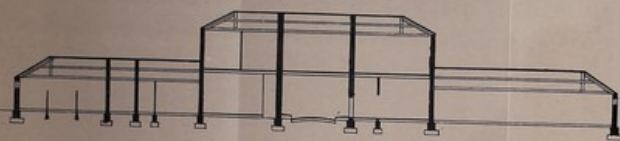
Smoke Nuisance.—Among other duties which are imposed on Urban Sanitary Authorities is that of enforcing the consumption, as far as is practicable, of the smoke from



CHAMBER PLAN



SECTION A.B.



SECTION C.D.

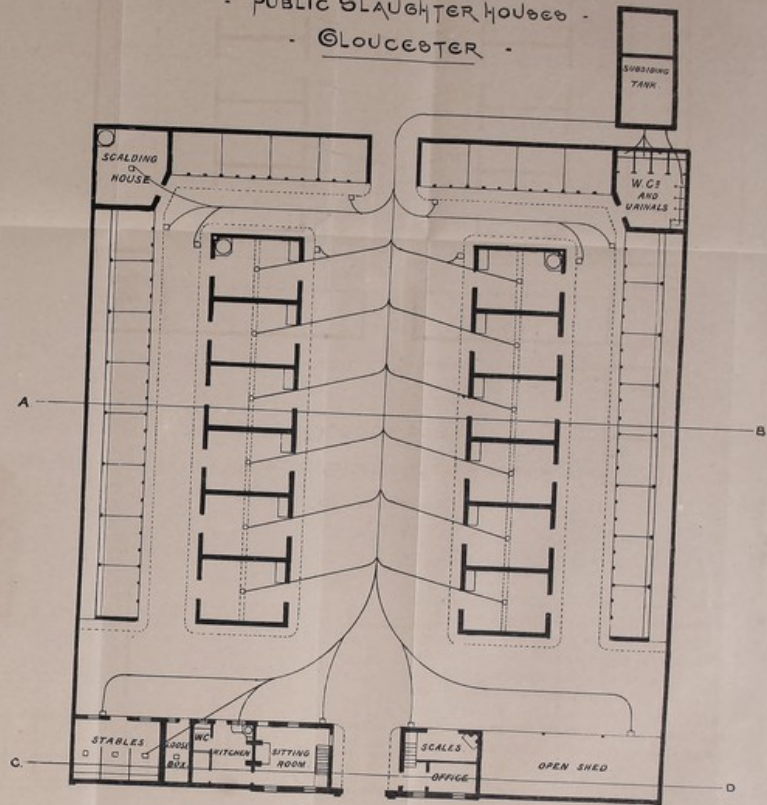


FRONT ELEVATION

10 20 30 40 50 60 70 80 90 100 FEET.

- THOMAS SMALL -
- CITY CHAMBERLAIN - 1871.

- PLAN -
- OF PROPOSED
- PUBLIC SLAUGHTER HOUSES -
- GLOUCESTER -



10 20 30 40 50 60 70 80 90 100 FEET.

- THOMAS SMALL -
- CITY CHAMBERLAIN - 1871.

“fire-places or furnaces in the working of engines by steam, or in any mill, factory, dye-house, brewery, bake-house, gas work, or in any manufactory whatsoever, although a steam engine be not used or employed therein.” Complaints have frequently been made that this section of the Towns Improvement Act, 1847, which was incorporated in the Towns Improvement Act of 1858, is not enforced in Gloucester. I would suggest that a printed notice be sent to the owners of such works as create a smoke nuisance, calling their attention to the Act and the power which it confers on the Sanitary Authority, and requesting that means be taken to abate such nuisance, at the same time warning them that unless this is done within a reasonable given time, steps will be taken by the Board to put the regulation in force, namely to inflict a “penalty of 40/- for every day during any part of which any fire-place or furnace not consuming the smoke shall be used.”

Bakehouses.—I have inspected all the Bakehouses within the District, and I am able to report that they are in a satisfactory condition.

Hospital for Infectious Diseases.—I am happy to report that for many months this Hospital has not been used. It was of considerable service during the severe epidemic of Small-pox which was prevalent in this City, at the same time that it was creating alarm by its ravages throughout the country. There were 11 cases treated by me in it, all but one successfully, and in that one death occurred, not from the disease for which the patient was admitted. Should it again be necessary to use it for any form of infectious disease, some means must be provided for disinfecting the clothes, &c., of the patients, as the appliances which were in use on the last occasion were not satisfactory. A disinfecting box or chamber to be heated with gas would probably be the least expensive and most effective.

Returns of Cases of Illness within the District.—These are divided in the returns which I have to make every quarter to the Local Government Board, into two classes: the first comprises new cases of sickness among Paupers (both in-door and out-door) belonging to the District, and among other persons belonging to the District who may be (in or out) Patients of any Hospital or Dispensary, or other Public Medical Institution, whether within or without the District. The other class comprises new cases of sickness brought into the District for treatment in Public Medical Institutions therein.

The returns are made up from the books of the Infirmary, Children's Hospital, and those of the Poor Law Medical Officers.*

I regret that arrangements have not been made for weekly returns of cases brought under treatment by the Poor Law Officers. The Local Government Board authorizes a payment to the Clerk of the Guardians for such returns. I trust that shortly I shall have made arrangements with that gentleman for them, because at present it is impossible for me to obtain that early intimation of the appearance of cases of disease which is essential to an efficient performance of the duties of my office. I have to thank the Medical Officers of these different institutions for their courtesy in allowing me to copy from their books such returns as are necessary for me to have to make up these returns.

I must also tender my best thanks to many of my professional friends in Gloucester for the readiness with which they have in many instances given me information of the occurrence of cases which required the inspection of the Sanitary Officers. It is frequently an unpleasant duty for a medical practitioner to give information of the appear-

* The Provident Dispensary and the Eye Institution are not included in these returns, because they both require payment for the patients treated at them.

ance of epidemic disease in the house of a private individual, and with the present existing reluctance of the public to have such cases talked about, it is not surprising that I have received but few intimations of their appearance. Until it is compulsory by law for the Sanitary Officer to be informed of the existence of infectious disease, it is not likely that such information will generally be afforded; but as the benefits of Sanitary inspection become more widely known and appreciated, I trust—and the hope is shared in by all who are interested in Sanitary proceedings—that some means will be devised by the Legislature for information being at once conveyed to the Medical Officer of the existence of such cases. The difficulty of obtaining such information has been much felt by me during the latter half of the past year. Scarlet Fever was epidemic here as in many other places, and it was only in a few instances that I received any intimation of its occurrence. But I have reason to know that many of my professional colleagues who have not told me of individual cases, have taken means to carry out such sanitary arrangements as would have been suggested by me had I been informed of the existence of the disease.

In conclusion, I have to express my regret at the non-appearance of this Report at an earlier date. I have been hoping that when I commented on the unsatisfactory state of the Drainage and Water Supply of the new portion of the City, I might have been able to state that the works for rectifying the present evils were commenced. I regret to say that even now this is not the case, although I may venture to express a confident hope that very shortly the legal difficulties in the way of their commencement will be removed, and that the owners of houses in those parts of the District will speedily have the power of placing their property in as good a sanitary condition as that of the older parts of the City.

TABLE OF REGISTERED BIRTHS
IN THE URBAN DISTRICT DURING THE YEAR 1875.

Males, Legitimate	593	
" Illegitimate	22	
	<hr/>	615
Females, Legitimate	623	
" Illegitimate	24	
	<hr/>	647
Total		<hr/> 1262

RETURN OF SICKNESS DURING THE YEAR 1875.

New cases of Sickness among Paupers (both in-door and out-door) belonging to the District, and other persons belonging to the District, who may be (in or out) Patients of any Hospital or Dispensary, or other Public Medical Institution, whether within or without the District.	Cases of Sickness brought into the District for treatment in Public Medical Institutions therein.				
	Under 5 years	Over 5 years	Under 5 years	Over 5 years	Total
All Diseases and Injuries.....	620	2147	54	1290	4101
Small-pox—					
With marks of Vaccination ...	...	...	...	...	...
Without marks of Vaccination ...	...	...	...	...	...
Vaccin. not known or doubtful ...	10	19	...	1	30
Measles	36	22	...	...	58
Scarlatina	6	29	...	...	35
Diphtheria .....	...	...	...	...	...
Hooping Cough.....	28	25	...	...	53
Continued Fevers—					
Typhus .....	...	...	...	...	...
Enteric	2	9	...	5	16
Other or doubtful sorts.....	3	15	...	3	21
Diarrhoea and Dysentery	47	54	...	2	103
Cholera.....	...	...	...	...	...
Rheumatic Fever .....	...	...	...	...	...
Erysipelas .....	...	15	...	...	15
Pyæmia .....	...	...	...	...	...
Puerperal Fever .....	...	1	...	...	1
Ague.....	...	...	...	...	...
Phthisis .....	...	52	...	17	69
Bronchitis, Pneumonia, Pleurisy ..	152	160	...	25	337
Heart Disease .....	...	32	...	15	47
Injuries	97	374	10	347	828

TABLE OF DEATHS

WITHIN THE URBAN SANITARY DISTRICT OF GLOUCESTER IN 1875.

	Under 5 years old	Over 5 years old	Total at all ages
All Diseases and Injuries	265	518	783
Small-pox—			
With marks of Vaccination .....	...	...	...
Without marks of Vaccination.....	...	...	...
Vaccination not known or doubtful	3	4	7
Measles	6	2	8
Scarlatina	17	9	26
Diphtheria .....	...	1	1
Hooping Cough.....	5	2	7
Continued Fever—			
Typhus.....	...	1	1
Enteric.....	2	7	9
Other or doubtful sorts .....	...	2	2
Diarrhoea and Dysentery	38	5	43
Cholera .....	...	...	...
Rheumatic Fever .....	...	...	...
Erysipelas	2	1	3
Pyæmia .....	...	...	...
Puerperal Fever.....	...	1	1
Ague .....	...	...	...
Phthisis .....	...	60	60
Bronchitis, Pneumonia, and Pleurisy	43	68	111
Heart Disease.....	...	56	56
Injuries .....	...	13	13

Of these cases, 202 died aged 1 year and under, 39 from 80 to 85 years, 13 from 86 to 90, 1 aged 91, 1 aged 92, 1 aged 96, and 1 aged 100 (Maria Knight, widow, certified decrepitude.)

The population of the City of Gloucester, according to the Census of 1871, was 31,804. As the deaths during the past year were 783 the death rate is 24·6 per 1000.

PORT SANITARY AUTHORITY.

I have to report to this Board, as a Port Sanitary Authority, that my duties have been confined to a few cases in which it was necessary for me to interfere. The most important was that of the "Grace Bradley," the ship which was loaded with fish manure.

A lengthy correspondence took place with reference to this case between the persons to whom the cargo was consigned and myself, in consequence of the steps which I took as Medical Officer of Health, to remove the nuisance which would have been created by the discharge of the manure in the Canal within the City. Even at Marshfield, near Sharpness, where the vessel was eventually emptied, a great nuisance was complained of by the inhabitants of the adjoining district.

I have visited a few vessels in various parts of the Port, both in and near the Docks and at Sharpness, but I am happy to be able to report that no case of epidemic disease has appeared during the past year.

I have furnished Capt. Calway, the Inspector at Sharpness, with a document printed in English, German, and Italian, a copy of which is given by the pilots bringing the vessels into the Port as soon as they take charge of them in the river, to the masters of such vessels. In it they are directed immediately to make known to the Inspector any cases of illness which may have appeared during the voyage amongst the crew, and in the event of the Inspector considering it necessary to do so, he telegraphs for me and I immediately inspect and give such instructions as may appear to be necessary.

JOHN P. WILTON,
*Medical Officer of Health to the
Gloucester Urban Sanitary Authority.*

APPENDIX.

The undersigned have minutely inspected the Water-works at Witcomb and Robin Hood's Hill, and are of opinion that no valid objections exist as to the wholesomeness of the Water Supply from either source, which for quality (chemical composition) we emphatically declare to be superior to any of the published analyses of the London Waters, which contain a notably larger amount of both mineral and organic matter. We have been unable to trace any sources by which sewage contamination can be introduced.

WITCOMB WATER.

Total solids per Gallon.	Oxydisable Organic Matter Vegetable Extractives.	Hardness before Boiling.	Hardness after Boiling.
Grains. 14·60	0·80	11 Degrees.	9 Degrees.

No Ammonia was present nor was there any appreciable amount of Nitric Acid in form of Nitrates, and even the Chlorine as Chloride of Sodium was not more than would be found in ordinary drinking water of good quality, from which it would appear that the very elements of Sewage are absent, and therefore the water is as good as may be desired, save that it would be considerably improved in brightness if it were passed through a filter bed of Sand and Animal Charcoal.

ROBIN HOOD'S HILL WATER.

[Sample of Water taken from larger Reservoir perfectly clear and colourless.]

Total Solids per Gallon.	Oxydisable Organic Matter Vegetable Extractives.	Hardness before Boiling.	Hardness after Boiling.
Grains. 32·0	0·48	16 Degrees.	10 Degrees.

Nitrates—One Grain per Gallon only.

Compared with the Witcomb Water it would appear that whilst the sample from Robin Hood's Hill contained twice the amount of Solid or Mineral matter, yet it was even freer from Organic matter by about 50 per cent. Thirty-two grains of Mineral matter per gallon is quite within the range of good Water samples, other things being equal.

JOHN HORSLEY, F.C.S.,
Analytical Chemist.

JOHN P. WILTON,
Medical Officer of Health.

