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## BOROUGH OF TORQUAY.



# ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1914.

BY

THOMAS DUNLOP, M.B., C.M., D.P.H

TOGETHER WITH THE

Annual Reports of the Sanitary Inspectors

Meteorological Observer.

## BOROUGH OF TORQUAY, 1914.

Area of the Borough, 3,906 acres.

Rateable value, £201,050.

Population—Census (1901), 33,625;

(1911), 38,772.

Estimated (1914), 39,400.

Number of separate occupiers—Census (1911), 8,459.

Density of Population, 10 persons per acre.

Corrected death rate, 1914, 12:4 per 1,000. Average for previous five years, 12:8 per 1,000.

Birth rate, 13.7 per 1,000. Average for previous five years, 14.2 per 1,000.

Infantile mortality, 1914, 83. Average for previous five years, 101.

Death rate from zymotic diseases, .55 per 1,000.

Mean annual temperature, 52.7.

Hours of bright sunshine recorded, 1796.2.

Total rainfall, 38.30 inches.



## BOROUGH OF TORQUAY.

## ANNUAL REPORT

OF THE

## Medical Officer of Health

For 1914.

To his Worship the Mayor, and to the Aldermen and Councillors of the Borough of Torquay.

GENTLEMEN.

I beg to present my Twelfth Annual Report on the health of the inhabitants, and the sanitary circumstances of the Borough of Torquay. The report also contains details of the administration of the Factory and Worshops Act as required by the Secretary of State for the Home Department.

The Medical Inspection of School Children has been carried out according to the instructions of the Board of Education. This is dealt with in a separate report.

The corrected death rate was equal to 12.4 per 1,000 of the population, being 0.8 per 1,000 lower than last year. The

infantile mortality was 83 per 1,000 births, which is considerably lower than the average.

The birth rate was 13.7 per 1,000, against 13.6 last year; while the zymotic death rate was .55 per 1,000; in 1913 it was .71.

I have to thank the members of the Sanitary Committee and of the Town Council for their kindness and support throughout the year, also the Chief Officers of the Borough and Inspectors for their ever-ready assistance.

I am, Gentlemen,

Your obedient Servant,

THOMAS DUNLOP.

## THE BOROUGH.

The Borough of Torquay is formed by the civil parishes of St. Mary-Church and Tormoham. The total area of the Borough is 3,906 acres. At the last census the population was ascertained to be 38,771. In my Annual Report following the publication of this figure, I stated that I considered there must be some exceptional factor to account for this large increase in the population during the inter-censal period. Only on the issue of the full census data in 1914 was it possible to find out the reason. It is there stated that, when the census was taken, there were eight of H.M. ships in Torbay, having on board 2,097 persons, who were included in the Torquay population.

The following table shows the population for 1911 compared with that for 1901, the proportion of males and females, and their numbers in the various Wards:—

	Area in Statute	The second second	lies or arate		POPUL	ATION.	
	Acres (Land &	Occu	piers	1901		1911	
	Inland Water)	1901	1911	Persons	Persons	Males	Fem'les
Torquay Borough	3,906	7,616	8,459	33,625	38,771	17,033	21,738
Torre	-	_	919	-	4,199	1,618	2,581
Waldon	-	_	753	-	3,495	1,314	2,181
Upton	-	-	1,207	-	4,898	2,125	2,773
Ellacombe -	-		1,695	_	6,557	3,038	3,519
Strand	_	-	699	_	3,326	1,467	1,859
Torwood	-	-	666	-	6,107	3,453	2,654
St. Mary-Church	-	-	909	-	3,628	1,494	2,134
Babbacombe -	-	-	942	-	3,754	1,511	2,243
Chelston		-	669	-	2,807	1,013	1,794

For the purpose of Sanitary administration, the Borough is divided into three districts, in each of which a Sanitary Inspector has full charge, under the Medical Officer of Health.

- No. 1 District.—The whole of the Chelston, Torre, and Waldon Wards, that portion of the Strand Ward on the west side of Fleet Street, and that portion of Upton Ward on the west side of Union Street; under the supervision of Mr. MacMahon.
- No. 2 District—The whole of the Torwood Ward, that portion of the Strand Ward on the east side of Fleet Street, the whole of Ellacombe Ward, and that portion of the Upton Ward on the east side of Union Street; under the supervision of Mr. Watson, who is also Port Sanitary Inspector.
- No. 3 District.—The whole of the St. Mary-Church and Babbacombe Wards; under the supervision of Mr. Body, who is also Meat Inspector for the Borough.

#### PUBLIC INSTITUTIONS AND THEIR POPULATION.

In the Upton Ward are the Torbay Hospital (population 77), St. Faith's Home for Girls (population 16), the Inebriates' Retreat (population 21).

In the Strand Ward, the Western Hospital for Consumptives (population 45), Rosehill Children's Hospital (population 37).

In Ellacombe Ward, Mildmay Consumptive Home (population 8).

In Torwood Ward, St. Raphael's (population 46), St. Luke's (population 27), St. Barnabas' Home for Incurables (population 42), Erith House Home for Ladies (population 27).

In Torre Ward, St. Vincent's Orphanage for Boys (population 147).

In Waldon Ward, Ockendon Convalescent Home (population 29).

In Babbacombe Ward, Erskine Home for Orphan Girls (population 30).

The Borough Isolation Hospital is situated on the Newton Abbot Road, just outside the Borough boundary, in the Newton Abbot Rural District. The Corporation possess another Isolation Hospital, also situated outside the boundary, about half-a-mile from the village of Cockington.

# PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

The Borough of Torquay is situated on a promontory, being practically surrounded by the sea on three sides. This promontory is formed by hilly ridges, running N.E. and S.W. The principal heights—the Warberry Hill, 448 feet, and the Lincombe Hill, 372 feet—are composed of the Lower Devonian grits and slates, The lesser heights, such as the Braddons, Waldon Hill, and Chapel Hill, are formed of Middle Devonian Limestone, which rests above the grits and slates mentioned.

On each side of this central area, viz., at St. Mary-Church and Chelston, rocks higher in the Geological scale for the most part prevail. These rocks belong to the Permian formation, and consist of beds of Breccia—a kind of conglomerate—and sand stone of a deep red colour, owing to the presence of peroxide of iron.

There is very little clay in any portion of the area, and what does occur, is of the nature of marl, and is confined to the lower levels of certain valleys or depressions, so that rain is not detained on the surface, as it rapidly disappears through these rather pervious rocks and soils.

It is on the sides of these hills or ridges that most of the houses are built, the main roads and streets following the lines of the valleys. Thus the largest portion of the district is afforded protection from the cold winds of the North and East, a fact that is strikingly proved by the luxuriant growth of semi-tropical shrubs and plants in both public and private gardens.

## METEOROLOGY.

Full details of the Meteorology of the Borough will be seen in the appended Annual Report of Mr. F. March, F.R. Met. Soc., M.P.S., Borough Meteorologist; but the following resumé of the climatic conditions may be of interest:—

The state of the s					
	1910.	1911.	1912.	1913.	1914.
Highest Maximum Temperature	75.1	83.4	82.3	79.0	76.1
Lowest Minimum ,,	23.7	28-4	21.6	30.3	29.1
Mean Maximum ,,	57.0	38.8	57.5	58.1	58.3
Mean Minimum .,	45.9	47.0	46.8	47-4	47.1
Mean of Maximum and Minimum	51.5	52.9	52.2	52.8	52.7
Difference from Average	+0.3	+1.7	+1.0	1.5	+1.4
No. of days on which rain fell	216	161	191	176	173
Total fall in inches	38.70	29.57	37.53	33.17	38:30
No. of hours of bright sunshine	1771.0	2095.0	1445.9	1526.1	1796.2

## THE CLIMATE OF TORQUAY.

The winter climate may be described as mild and equable, due in a large measure to the town being built on a promontory, with the sea practically on two sides and hilly ridges affording protection from the cold winds of the north and east. A most important feature is the large amount of sunshine experienced during the winter months. Other beneficial factors are freeness from land fogs and dryness of the air.

The benefit of living under such climatic conditions must be apparent to all, but it is inestimable to those who are asthmatical, or who are sufferers from chronic bronchitis. To the aged and infirm, who are extremely sensitive to every change of temperature, life under such conditions is prolonged and made worth living. The bright sunshine and the possibility of being constantly in the open air, is most advantageous to children, and those who are delicate have every chance of growing up strong and healthy.

The Summer Climate. Year by year the town becomes more popular as a holiday resort. It is unquestionable that, during the hottest days, the maximum temperature here is five to ten degrees lower than that recorded in London and the Midlands. This stands to reason, if one considers the position of Torquay, flanked by the sea, and with Dartmoor in the rear, it is constantly fanned by cool breezes, from one or other directions. It seems difficult to imagine a more delightful spot to spend a holiday in. Boating, bathing and fishing of the best, while in the neighbourhood are innumerable places of beauty and interest, which are easily accessible by sea, coach or rail. These facts are amply proved by the constantly increasing number of visitors who, year after year, spend their summer holidays here.

## WATER SUPPLY.

The water supply of Torquay is derived from an upland surface gathering ground about fifteen miles from Torquay, on the borders of Dartmoor. The area of the gathering ground is about 2,241 acres, and is composed of:—

			Acres.
Moorland		 	 572
Woods		 	 75
Woods (new)		 	 135
Land within	zone	 	 350
Land under c	ultivation	 	 212
Grazing		 	 897
		Total	 2,241

The water is stored in three large reservoirs—the Tottiford, 103,000,000 galls.; the Kennick, 194,000,000; and the Trenchford, 171,000,000

As stated in previous reports, the Corporation are owners of the whole watershed, and now there are no farms or inhabited buildings on the area, so that there can be no danger from what would otherwise be a constant menace to the purity of the water.

Practically the whole of the watershed, the springs, streams, and feeders, are protected by zone fences. The system of deep trenching boggy land adjacent to the streams, is still being proceeded with. This is having a beneficial effect on the physical character of the water. The aerator for the water of the Kennick reservoir has worked satisfactorily.

Although the water supply is protected from pollution in every possible way, the Town Council, in 1910, after very careful consideration, and on the advice of the Water Engineer and myself, decided to instal a system of pressure filters to clarify and remove all suspended matter from the water. The works were completed early in the autumn of 1912, and are now working very satisfactorily. The introduction of these filters has had the effect of clarifying the water, by removing all suspended matter, which may have detracted from its appearance in the past.

The Council have thus spared no trouble or expense to obtain pure water, to protect it in every possible way at its source; by filtering and storing in covered service reservoirs, to supply the consumers with water, the purity of which is beyond reproach.

The rainfall for the past six years at the watershed, has been as follows:—

		1909.	1910.	1911.	1912.	1913.	1914.
Kennick		41.24	54.44	43.01	47.45	48.52	51.04
Mardon .		41.91	56.93	45.62	49.81	44.49	53.97
Blackingston	ie	42.82	59.26	46.26	52.25	47.50	54.31
Laployd		41.58	59.02	49.14	53.10	48.66	58.34
Bullaton .		42.17	57.16	46.91	50.91	48.12	52:35

The average of these gauges for the year is 54:00 inches compared with 46:25 inches in 1913.

The evaporation has measured 19.30 inches against 17.72 inches last year.

The average daily consumption for all purposes has been 1,835,000 or 33.36 gallons per head for a population of 55,000 persons.

This population includes not only that of Torquay, but that of Newton Abbot and several small villages supplied by the Corporation.

The laying of the new (15 and 14 inch) water main from Tottiford to Sandford Orleigh, mentioned in my last report, as sanctioned by the Local Government Board, is now being proceeded with. The portion from Tottiford to Hennock is finished and that from there to Sandford Orleigh is in hand. The provision of this main will to some extent overcome the difficulty experienced during the height of the summer in bringing in a sufficient supply to meet the heavy demand usually made at this period of the year.

## QUALITY OF THE WATER.

Professor Percy Franklin, after visiting the gathering ground and examining samples of the water, both chemically and bacteriologically, reported as follows:—

"A source of water supply which, in respect of freedom from suspicion, ranks with the best upland surface supplies in the Kingdom. The water also contains such a small amount of lime and magnesia salts that it possesses all the well-known advantages of very soft water, whilst its slightly alkaline reaction prevents it from having any solvent power on lead."

Monthly Report on Samples of Town Water, taken in different parts of the Borough. CHEMICAL ANALYSIS-Results shown in parts per 100,000.

					,,						-	-
Chemical.	Jan.	Feb.	Mar.	Apl.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Total Solids	6.50	9.30	7.8	7.0	7.0	6-20	06-9	0.9	0.6	8.0	7-9	7.0
Chloride of Sodium	1.5	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5
Hardness	1.6	2.0	2.0	1.75	1.5	2.0	1.75	2.0	2.0	1.5	2.0	1.75
Nitrates	.082	-144	.123	144	.135	600	.0108	990-	-072	-024	-010	0.145
Nitrites	liu	lia	lin	liu	liu	lia	liu	nil	liu	nil	liu	liu
Free Ammonia	-001	.000	-05	100-	100-	000-	-001	000.	000-	-001	900.	.001
Organic Ammonia	.0145	.01/	-021	610.	.000	010-	010	600-	-011	-015	-015	-010
Oxygen	-082	.10	n. d.	n. d.	.10	160-	-043	090-	n. d.	n. d.	n. d.	-014
Poisonous Metals.	liu	liu	liu	liu	ā	liu	lia	liu	Ħ	lin	lin	iii
PHYSICAL CHARACTERS.												
Colour	faint	slight brown	faint	faint	faint	faint	faint	faint	v. faint brown	v. faint brown	v. faint brown	v. faint brown
Turbidity	clear	clear	clear	clear	clear	clear	clear	clear	clear	clear	fairly	clear
Odour	none	none.	none	none	none	earthy	none	none	none	none	none	none
Deposit	liu	v.m.t.	liu	liu	nil	minute trace	liu	liu	minute trace.	liu	minute	minute

Bacteriological Examinations were made of these samples, the average number of colonies found per cc. was 40, most of which were liquifying organisms. No organisms associated with animal pollution were found.

#### SEWERAGE.

The sewage of the whole district, and most of the stormwater, is conveyed to the main sewer in Fleet Street. That of the low-level system, which comprises the area covered by the Strand, Torbay Road, Vaughan Parade, Victoria Parade, Beacon Hill, George Street, and Swan Street, being pumped into the main sewer, by means of electric pumps. The main sewer is seven feet in diameter, and runs from Fleet Street to Hope's Nose, a distance of almost two miles. The outfall is at such a level that the sewerage is discharged at all states of the tide. No method of treatment is adopted, as the flow of current is out towards midchannel beyond Berry Head, and does not under any circumstances return towards the bay.

#### CLOSET ACCOMMODATION.

With a very few exceptions the whole of the houses in Torquay have water closets with water waste preventor cisterns. The closets are in almost all cases drained to the sewers, the exceptions being practically where the houses are at such levels as to necessitate the provision of cesspools. In one or two outlying situations where there are no sewers a few cottages have earth closets.

## COLLECTION AND DISPOSAL OF HOUSE REFUSE.

As stated in my last report the Council now possess Bye-laws dealing with the storage of house refuse in sanitary galvanised iron ash bins.

These Bye-laws are applicable to both old and new buildings. No attempt has been made to enforce a wholesale substitution of these receptacles, but as occasion arises the owners are called upon to provide them, such as after inspections made under the Housing and Town Planning Act, and where nuisances are detected.

House refuse is removed by the employees of the Corporation under the Surveyor's Department. In most parts of the town it is removed once a week, but in certain parts twice. It is carted to the destructor works in Upton Valley, and there consumed, 11,462 tons being dealt with annually, at a cost of £2,878. The destructor is a "Warner Perfectus" of six cells, two new cells having been added during the year. The increase in the amount of house refuse and the desirability of not having to close down every time a cell requires repair has necessitated this extension. The boilers are heated from the furnaces, and the steam generated can be used to drive donkey-engine, vertical engine for running blower, 25-horse-power engine for running mortar mill and electrical installation. The clinker produced is ground and used for mortar; for this there is a good demand.

#### SCHOOLS.

Matters pertaining to the Elementary Schools and their sanitary condition are dealt with in the Report to the Education Authority. Monthly inspections are made by each of the Sanitary Inspectors as to the condition of the lavatories of the schools in their respective districts. Mention will also be made concerning school influence when discussing the incidence of infectious diseases.

## POPULATION

## and Social Condition of Torquay.

Torquay is essentially a residential town and health resort, consequently a large proportion of its inhabitants are villa residents, while the remaining portion may be said to obtain a livelihood by catering for them. There are numerous large hotels, and many up-to-date boarding houses for the accommodation of visitors. There are no manufactories in the district.

During the summer and early autumn there is a very large influx of visitors, who are catered for by the inhabitants of the smaller houses. There must in many cases be overcrowding, but of this it is very difficult to obtain information. However, as these visitors spend almost all their time out of doors, there is not much danger to health from this temporary overcrowding.

It is somewhat difficult to give an approximately correct estimate of the population of the Borough for the year. As previously stated, at the enumeration of the census, over 2,000 men on eight of His Majesty's Ships were included in the population. Then owing to the war a large number of Territorials were

mobilized and sent to different parts of the country, while about 2,000 soldiers belonging to various units have been quartered in the town. Probably a fair estimate would be 39,400, which would be considerably less than if estimated on the Registrar General's figures. In calculating the various ratis for the Borough, I have used this figure.

It is necessary in preparing statistics and comparing the various death rates of Torquay with those of the whole country, to consider the age and sex distribution of the population. The population of a district, in which the proportion of males to females, or of young persons to old persons, are different from those of the country generally, will suffer more than the whole country from the diseases which particularly affect persons of the age and sex which predominate in the district. In order to ensure a just comparison between the death-rate of such a district and the country as a whole, it is necessary to raise or lower the gross death-rate of the district to what they would be if the proportions of the local population in respect of age and sex were the same as those in the country generally.

From the census returns we find that in Torquay there is a larger percentage of females than males, and of persons of advanced age, than in the country as a whole. In order to make our various rates comparable, it is necessary to multiply them by 8730. This factor is furnished from the office of the Registrar General.

## BIRTHS.

The total births registered during the year was 542—males, 274; females, 268; being 7 more than in 1913. Of the 542 births, 35 were illegitimate.

The numbers registered in each quarter of the year were :-

	Boys.	Girls.	Illegitimate.
First Quarter	 66	69	10
Second Quarter	 58	65	7
Third Quarter	 86	75	14
Fourth Quarter	 64	59	4
	-	-	-
Total	 274	268	35

The Ward distribution is as follows :-

	Boys.	Girls	Illegitimate.
Torre	 26	22	7
Waldon	 14	12	1
Upton	 53	52	7
Ellacombe	 71	63	8
Strand	 3	34	3
Torwood	 11	15	1
St. Mary-Church	 31	29	6
Babbacombe	 21	28	-
Chelston	 13	13	2
Totals	 274	268	35

The following table gives the total births and birth-rate for the past ten years compared with those for England and Wales.

Years.	Number of Births.	Torquay Birth Rate, per 1,000 living.	England & Wales Birth Rate, per 1,000 living.
1905	522	14.6	27.2
1906	566	15.6	27.0
1907	537	14.6	26-3
1908	524	14.0	26.5
1909	575	15.2	25.6
1910	539	14.1	24.8
1911	536	13-8	24-4
1912	569	14.5	23.8
1913	535	13.6	23.9
1914	542	13.7	23.6

The birth-rate is therefore practically stationary.

In comparing the birth-rate of Torquay with other towns, we must bear in mind the constitution of the population. Here we have a large excess of females over males, a large proportion of the females are spinsters, and some 40% are either above or below the child-bearing age. In the face of such facts, it is unreasonable to expect anything but a low birth-rate.

### VACCINATION.

Through the courtesy of Mr. Edwards, the Vaccination Officer, I am able to give the results of primary vaccination for the years from 1898 to 1913.

Year.	Total births registered	Successfully vaccinated	Insusceptible of Vaccination	Had Small-pox	Number of Certificates from Conscientious Objectors	Died Unvaccinated	Postponed by Medical Certificate	Removed to other districts the Vaccination Officer of which has been apprised	Removed Address unknown	Percentage successfully Vaccinated	Excluding those who died Unvaccinated. Percentage
1898	664	544	2	-	10	64	6	7	25	% 82	% 90
1899	612	505	6	-	14	67	6	3	11	83	93
1900	596	502	1	-	15	47	7	3	21	84	91
1901	597	491	2	-	16	57	13	1	17	82	91
1902	579	488	2	-	8	61	4	4	8	84	92
1903	565	508	2	-	14	34	1	3	3 .	90	95
1904	564	476	_	_	20	49	3	6	8	84	92
1905	561	504	-	-	16	30	5	2	4	90	94
1906	591	501	1	-	25	47	5	2	8	84	92
1907	582	447	2	_	41	39	5	4	13	76	82
1908	546	394	-	=	83	48	8	4	9	72	80
1909	596	370	3	-	158	37	12	1	11	62	66
1910	568	302	2	-	197	43	12	2	8	53	57
1911	560	269	1	-	231	37	9	4	9	48	54
1912	583	270	3	-	239	48	3	4	15	46	54
1913	569	215	-	-	281	47	6	3	14	37	41

Note.—These are the figures for the Torquay Registration Sub District.

This is the first time during the past 16 years in which we find the number of exemptions exceeding those successfully vaccinated. In a few years the system of vaccination will be a dead letter. This yearly increase in the number of persons unprotected from small-pox, undoubtedly means that if this dread disease should be introduced, a severe and costly epidemic will result.

### INFECTIOUS DISEASES.

Under the Torquay Harbour and District Act, 1886, provision was made for the compulsory notification of the dangerous infectious diseases. It also contained similar clauses to those in the Infectious Diseases Prevention Act, 1890, which rendered its adoption unnecessary.

#### NOTIFICATIONS.

During the year, 166 cases of infectious diseases were notified.

The following table shows the number of cases of the various diseases compared with those notified during the past five years:—

Notifiable Disease.	1914.	1913.	1912	1911.	1910.
Small-pox			_	-	_
Cholera		-	-	-	-
Diphtheria includ's Membranous croup		107	28	62	58
Erysipelas	. 7	5	4	3	6
Scarlet fever .	. 39	56	22	3/4	58
Typhus fever .	_		_	-	-
Enteric fever .	4	21	9	2	1
Relapsing fever .	_	-	_	-	-
Continued fever .	-	-	_	-	-
Puerperal fever .	_	-	-	-	-
Plague		-			-
Ac'te Poliomyelitis	-	7 -	1	1	-
Totals .	165	189	64	102	123

Besides the above there were 103 cases of Tuberculosis notified; further reference will be made to these when dealing with Tuberculosis.

The following table gives the number of notifications from each disease, together with the average meteorological conditions prevailing during each month of 1914:—

	М	ETEOR	LOGIC	L DAT	λ.	In	FECTIO	us Disi	eases N	отігі	D.
Month.	Mean Temperature.	Mean Daily Range.	Relative Humidity.	No. of Rainy Days.	Rainfall. Inches.	Small-pox.	Diphtheria and Croup.	Enteric Fevers.	Scarlet Fever.	Erysipelas.	Total.
January	41.3	7.6	86	11	0.80		11	_	2	1	14
February	47.0	8.9	87	18	4.47	-	7	-	4	-	11
March	46.9	11.5	82	23	5.21	-	8	-	7	1	16
April	51.9	12.9	76	10	1.20	-	8	-	4	1	13
May	54-4	12.5	69	12	1.38	-	4	_	2	-	6
June	60-4	15.1	71	9	0.78	-	2	_	6	-	8
July	62.2	11.3	75	14	2.97	-	6	_	5	-	11
August	62.7	12.0	77	12	2.39	-	10	-	3	-	14
September	59.2	12.3	79	11	2.53	-	14	2	-	1	17
October	54.2	10.4	82	13	2.65	-	16	1	2	1	20
November	47.9	10.1	86	15	4.41	-	9	1	2	-	12
December	44.8	9.3	87	25	9.51	-	20	-	2	2	24
Totals and Averages	52.74	11.16	79-9	173	38-30	-	115	4	39	7	165

In Table II. of the Local Government Board returns, on page 45, full details are given of the age of patients, the number occuring in each ward, and the number of such removed to Hospital.

## CASES ISOLATED IN HOSPITAL.

Of the 165 cases notified, 124 were removed for treatment in Hospitals; this is practically 74% and is very satisfactory. They were as follows:—

Diphtheria, 92 out of 115 cases removed, 79%

Scarlet Fever, 29 out of 39 cases removed, 74%

Enteric Fever, 3 out of 4 cases removed, 75% (to Torbay Hospital)

# STEPS TAKEN TO PREVENT THE SPREAD OF INFECTIOUS DISEASE.

On the receipt of a notification, the house is visited as soon as possible, particulars as to source of infection, milk supply, school attended, drainage, etc., obtained, and, if necessary, arrangements made for the removal of the patient to the Sanatorium. Frequently the Medical Attendant notifies that the case is one for treatment in the Sanatorium, a step which greatly facilitates their early removal.

After removal, or on recovery, should the patient be isolated at home, the infected rooms and bedding is fumigated with formalin. Next day the bedding and clothing is removed to the Disinfecting Station and there sterilised in a steam disinfector. In every case of notifiable disease this is done free.

The disinfector is one of the Thresh Disinfector Company's machines. It has now been in constant use for eleven years, without requiring any special attention. During the year, 9,734 articles were disinfected, consisting of 560 mattresses, 548 pillows, 6,179 blankets, 200 bolsters, 763 sheets, 400 quilts, and 4,084 other articles of clothing, etc.

Where it is found that children in an infected house are attending one of the public elementary schools, the Attendance Officer is notified of the case. All cases suspected to be infectious by the School Attendance Officer, and where no doctor is in attendance, are notified to me as Medical Officer to the Education Authority.

The systematic notification of all cases of infectious or suspected illness among the children attending the elementary schools, by the Head Teachers has, on the whole, proved of much assistance to me as Medical Officer of Health. On one occasion, through neglect to notify suspicious absentees, children were allowed to return to school after a short absence and we were able to prove that they had, on their return, infected a number of other children with Diphtheria. This would have been prevented if the cases had been notified and examined when first away from school.

#### MEANS OF ISOLATION.

The Borough Sanatorium, Newton Abbot Road, consists of the Administrative Building—Scarlet Fever ward block, consisting of two wards; with seven beds in each; and a Diphtheria ward block, two wards with seven beds in each. There is also a private ward for one patient, with Nurse's room attached.

#### ENTERIC FEVER.

When there is accommodation, the Authorities of the Torbay Hospital admit cases of this disease.

#### COCKINGTON SANATORIUM.

Taken over from the Cockington Urban District at the time of the amalgamation. This hospital is considerably more than half a-mile from any inhabitated building, so that it is kept in readiness for the reception of small-pox, should any arise. Twice during recent years has it proved its usefulness, as I have, by removing to it imported cases of small-pox without delay, prevented the spread of the disease. In a health resort such as Torquay, where the introduction of small-pox is not unlikely, and the consequence of an epidemic would be disastrous, such accommodation is absolutely indispensable.

#### SMALL-POX.

No cases of this disease were notified.

## ENTERIC FEVER.

Four cases were notified, of whom three were removed to the Torbay Hospital for treatment. One case terminated fatally.

The first two occured in September in St. Mary-Church; the third was a baker's delivery man, whose round was also in this district. As far as could be ascertained, there was no connection between the cases and no common factor. In the fourth case the infection was most probably contracted outside the Borough.

## PUERPERAL FEVER.

No cases of this disease were notified. The inspection of Midwives is carried out by the Officers of the County Council. Owing to most of those midwives who were registered, by reason of their having been in practice for some time prior to the passing of the Midwives' Act, having died, resigned, or been removed from the roll, there is at present some difficulty among the poor in obtaining the services of competent midwives. The Queen's Jubilee Nursing Association have one nurse fully employed on this work, but this only partially relieves the difficulty.

#### DIPHTHERIA.

During the year 115 cases were notified, against 107 in 1913.

The following table shows the number of cases notified each month in the various wards:—

		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals
Torre			-	-	2	-	_	2	6	6	4	1	5	26
Waldon		1	-	-	-	1	-	2	-	1	-	-	2	7
Upton		-	1	1	-	-	-	1	1	-	-	4	4	12
Ellacombe		1	2	3	2	-	1	-	1	-	4	1	5	20
Strand		-	1	-	-	1	1	-	2	-	1	-	1	7
Torwood		-	-	1	-	1	-	1	-	2	3	1	3	12
St. Mary-Church		9	1	3	4	1	-	-	-	-	1	-	-	19
Babbacombe		-	-	-	-	-	-	-	-	5	2	-	-	7
Chelston ,.		-	2	-	-	-	-	-	-	-	1	2	-	5
Totals	٠.	11	7	8	8	4	2	6	10	14	16	9	20	115

From the above it will be seen that cases occurred in every ward and during each month in the year. There was a gradual decline in the number of cases towards the middle of the year, and an increase from August to December, when the largest numbers were notified. The nine cases in St. Mary-Church in January were practically the continuance of the outbreak in that ward commented on in my last report. At the end of July and the beginning of August a series of cases occurred in the neighbourhood of Torre School, originating most probably from an unrecognised case. In spite of school closure for summer holidays, six cases occurred in this area during August, probably due to the children playing together, a fact which seems to have had a close bearing on the outbreak in this area.

At the end of September a case occurred among the children attending Ilsham School, followed by several others at the beginning of October. From the histories contact in school was the only common factor. I therefore advised the closure of

the schools for three weeks, which was apparently efficacious in preventing further spread. Similarly towards the middle of December cases arose in Torwood School and Upton Infants, rendering it advisable to close them a week or so before the Christmas holidays. My experience with regard to diphtheria throughout the year is, that a case occurs in one of the wards in which one cannot ascertain the source of infection, and although the patient has been removed to hospital and all precautions taken as to contacts, several other cases arise in this area, and in these there is a possible history of contact with the first patient. As these are removed the disease subsides, only to arise later under similar circumstances in another part of the town. This has the tendency to cause a feeling of despair, and make one question the utility of isolation, etc.; it seems to prolong the continuance of the disease, instead of allowing it to run its course as an epidemic, which may be heavy but of shorter duration. However, there is the consolation that the mortality is probably less. There can be absolutely no doubt that diphtheria arises solely from contact of the healthy with those who either have had the disease in an unrecognised form or after medical treatment are pronounced clear from infection, but who on taking slight cold become re-infectious.

Of the 115 cases notified, 91 were removed to the Isolation Hospital; this is equal to 79 per cent.

Six cases terminated fatally, giving a mortality rate of 5.1 per cent. of the cases notified, against 8.4 in 1913.

The age and sex distribution is as follows:-

Ages.				1-5	5—15	15—25	25—65	Totals.	
Males				8	32	3	2	45	
Females				9	49	7	5	70	
Total	s			17	81	10	7	115	

## PREVENTATIVE MEASURES.

As can be seen from the figures previously quoted, the percentage of cases removed are satisfactory. All family contacts are excluded from school and kept under observation

for 14 days, and every throat which shows any deviation from the normal is swabbed and bacteriologically examined. No child is allowed to return to school until such is done. During the year I have to a considerable extent carried out prophylactic injections as a preventative—each child receiving about 500 units. The protective effect is, however, of a very temporary character, as I have had several instances of the occurence of the disease in such persons within two months of the original After children are discharged from hospital I see them in 14 days, and if any doubt exists as to their continued freedom, their throats and noses are swabbed for bacteriological examination. In the latter months of the year, numerous cases of sore throat occurred among adults and children. The School Teachers were requested to notify all such cases to me, those in school being sent direct to my office, the others being visited in their own homes. In all instances where there were signs of inflamation, swabs were taken, and in this way several commencing cases were detected, and also one or two "carriers."

The Council have an arrangement with Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory, to examine swabs free for medical men in the Borough, and this has been taken full advantage of.

The County Council have also made arrangements whereby the Medical Officer of Health can have swabs examined free.

During the year 753 specimens were examined.

Diphtheria 602 76 were found positive.
251 were found negative.
275 were for freedom from infection.

Enteric 5 3 were positive. Widal Test 2 were negative.

Phthisis, sputum examinations, 146.

## SCARLET FEVER.

Thirty-nine cases were notified against fifty-six in 1913 The largest proportion of these, namely 24, occurred in the Chelston Ward. The Cockington C.E. Schools were closed for three weeks in March. Twenty-nine of the thirty-nine cases were removed to the Isolation Hospital, giving a percentage of 74% removed.

The age and sex distribution is as follows: -

	At all ages	1-5	5—15	15—25	25-65	Totals
Males	 16	2	13	-	1	16
Females	 23	8	14	1	-	23

## ISOLATION HOSPITAL REPORT

For the year ending March 31st, 1914.

#### GENTLEMEN.

At the close of the financial year, 1913, there were 13 patients in the Hospital; from that date till March 31st, 1914, 157 new cases were admitted, making a total of 170 patients treated during the year.

The numbers of the various diseases compared with those of the previous year are as follows:—

		1912-13.	1913-14.
Scarlet Fever		 38	51
Diphtheria	***	 20	114
,, Carriers		 2	4
Observation		 1	1
		61	170

The patients were under treatment a total of 6,059 days, or an average of 36 days each, against 2,193 days, or an average of 36 days in 1912-13. The average stay of Scarlet Fever cases was 47.6 days, while that of Diphtheria was 34.

The following table shows the cost of working for the twelve months:—

EXPENDITURE.

Diet of Patients		***	409	8	3
Wages and Diet of Nurses			490	8	0
" " Laundr			110	7	9
Porter and Matron			71	5	8
Tradesmen's Accounts			75	11	3
Rents, Rates, Insurances,	etc		16	7	10
Drugs			65	1	10
Disinfectants			10	8	0
Medical Fees			121	16	0
Conveyance of Patients			32	19	3

Oil, Coke, Coal, and Wood

Rent of Telephone

£1485 8 5

10 10 0

£ s. d.

The sum of £17 5s. 0d. was received from paying patients and the Admiralty, so that the total cost of upkeep of the Hospital was £1,468 3s. 5d. The cost per patient works out at £8 12s. 8d.

The following table gives the cost of this and previous years:—

				£	s.	d.	
1902	58	patients cost	 	903	6	6	
1903	26	,,	 	574	12	5	
1904	24	,,	 	48	11	1	
1905	72	,,	 	507	5	0	
1906	36	,,	 	541	13	7	
1907	46	,,	 	616	12	2	
1908	71	,,	 	646	3	6	
1909	149	,,	 	1150	2	10	
1910	121	,,	 	1139	5	2	
1911	145	,,	 	1088	14	3	
1912	58	,,	 	751	6	8	
1913	61	,,	 	912	8	10	
1914	170	11	 	1485	8	5	

#### COCKINGTON SANATORIUM.

During the year it was not necessary to utilise this building, but it was kept in readiness, so that patients could be received at the shortest notice.

The cost of maintenance is as follows:-

nenos, naces,	Taxes,	eec.	 	£37	0	-	
Caretaker Rents, Rates,	Taves	etc	 	32	0	0	
Canatalan				£	8.	d.	

I am, Gentlemen,

Your obedient Servant,

THOMAS DUNLOP,

Medical Superintendent.

#### VITAL STATISTICS.

The total deaths registered in the Borough during 1914 was 482, from which we exclude 44 deaths transferable to other districts, and 54 transferable to this district from outside areas. The net deaths belonging to Torquay were 492: males 260, females 232. This is a decrease of 29 from those registered in 1913. The death-rate is equal 12.5 per 1,000 per annum, which is more than 1 per 1,000 less than that for England and Wales, which was 13.6 per 1,000.

The following table gives the Torquay death rates for recent years, compared with those in England and Wales for the same years:—

Year.	Number of Deaths.	Death-rate corrected.	Death-rate of England and Wales.
1906	464	12.8	15.0
1907	501	13.6	15.0
1908	575	15.4	14.7
1909	437	11.5	14.5
1910	504	13.1	13.4
1911	548	14.1	14.6
1912	479	12.2	13.3
1913	521	13.2	13.4
1914	492	12.5	13.6

If this rate is corrected for age and sex distribution so as to make it comparable with that for the whole country it would be equal to 10.9 per 1,000.

#### Of the total 492 deaths :-

		Per	centage of tal Deaths
45 were under 1 year of age	•	equals	9.15
13 were 1 year and under 2 years		,,	2 64
13 were 2 years and under 5 years		,,	2.64
17 were 5 years and under 15 years		,,	3.46
16 were 15 years and under 25 years		,,	3.25
54 were 25 years and under 45 years		,,	10.98
121 were 45 years and under 60 years		,,	24.59
213 were 65 years and over		.,	43.29
492 at all ages			100.00

It will be seen that 213 or 43.29% of the total deaths, were of persons aged 65 and upwards.

## WARD DISTRIBUTION OF BIRTHS AND DEATHS.

Ward.	Census Population, 1911.	All Ages.	Under 1.	Births.
Torre	 4199	71	7	48
Waldon	 3495	50	3	26
Upton	 4898	64	8	105
Ellacombe	 6557	100	13	134
Strand	 3326	48	4	68
Torwood	 6107	47	3	26
St. Mary-Church	 3628	39	6	60
Babbacombe	 3754	40	_	49
Chelston	 2807	33	1	26
TOTAL	 38771	492	45	542

#### INFANTILE MORTALITY.

There were 45 deaths of children under one year of age, compared with 58 in 1913. As there were 542 births registered, the Infantile Mortality works out at 83 per 1,000 births. The rate for England and Wales in 1914 was 105, and that for the

145 smaller towns, 113; so that our Infantile Mortality rate may be considered very satisfactory.

The following table shows the principal causes of death among infants during the past five years.

		1914	1913	1912	1911	1910
Measles		0	0	1	10	0
Whooping Cough		3	- 4	1	2	1
Influenza		0	0	0	0	0
Diarrhæa		3	7	3	14	3
Tubercular Disease	s	2	1	1	0	2
Bronchitis		5	6	3	3	4
Pneumonia		6	11	9	4	5
Premature Birth Congenital defects	1	9	14	25	16	14
Accidents		1	3	0	0	1
All other causes		16	12	9	14	24
Totals		45	58	52	63	54

Fuller particulars giving exact details as to cause of death and the age stated in weeks and months under one year are given in Table IV., page 48.

## THE CAUSES OF DEATH.

The Local Government Board Table III. gives the causes and ages at death, vide page 46.

## DEATHS FROM ZYMOTIC DISEASES.

The zymotic death-rate is calculated from the number of deaths due to the seven principal zymotic diseases. The following table gives them and the deaths recorded from each:—

Small-pox			 0
Measles			 7
Whooping-o	eough		 4
Scarlet Fev			 0
Diphtheria			 6
Fevers	Typhus Enteric Continued	}	 1
Diarrhœa			 4
			22

The death rate from zymotic diseases for the year is equal to '55 per 1,000, against '71 in 1913.

#### SMALL-POX.

No cases were notified and consequently no deaths.

#### MEASLES.

Measles was prevalent in the first quarter of the year, when Victoria Park, Torre, Ellacombe, Pimlico, St. James', and St. Luke's Infants' Schools were closed. This was a continuance of the outbreak recorded in 1913. Seven deaths were registered, all being children under 5 years. The question of the compulsory notification or partial notification of this disease is now being discussed. I am of opinion that unless one has provision for isolation, such measures are of little use in preventing either the spread of the disease or in lowering the mortality. At present, the School Teachers are required to notify me of all cases coming to their knowledge: this keeps me informed as to the districts affected.

#### WHOOPING COUGH.

Many cases occurred during the first half of the year. Four deaths from this disease were registered.

#### INFLUENZA.

There was a considerable prevalence of Influenza in the latter months of the year. Eight deaths were attributed to it.

### DIARRHŒA AND ENTERITIS.

This disease accounted for 4 deaths, which is below the yearly average. Three were under one year and the other under five years of age.

As in the previous year, the Sanitary Inspectors made rapid surveys of the yards and back premises in their districts during August and early September, with a view to the early removal of manure and decomposing organic matter, the breeding places of flies.

In connection with this subject I am of opinion that the provision of the sanitary ash-bin should be more strongly pushed.

Tuberculosis.

In last year's report I dealt with the regulations governing the notification of Tuberculosis.

During the year 103 notifications were received, against 105 in 1913. The following table shows the monthly notifications and under what headings notified:—

SIS.		Totals.	00	6	9	17	15	4	6	1-	œ	4	1-	6	103
OTHER PORMS OF TUBERCULOSIS.	Form D.	srotisiV		1	1	1	1	1	1	1	1	1	1		11
GROU	Forr	Residents		1	1		1	1	1	1	1	1	1	1	11
UBI	n C.	stotisiV		1	1	1	1	1	, 1	1	1	-1	1	1	1
OF 1	Form	Residents	1	1	1	1	1	1	1	1	1	1	1	1	
SW	n B.	arotisiV	1	1	1	1	1	1	1	-	1	1	1	1	
POR	Form B.	Residents		1	1	1	1	-	1			1	1	1	-
TER	a.A.	srotisiV	T	1	1	-	1	1	1.	1	1	-	1	1	-
OTH	Form A.	Residents	1	-	1	9	07	1	1	-	1	1	1	-	=
		Totals.	90	60	9	10	13	00	6	1-	1	4	1	00	06
	Form D	Total	23	07	1	-1	-	-	4	-	-	-	61	60	18
		stotisiV	-	1	1	1.	-	1	33	-	1	1	1	1	9
		Residents	-	67	1	1	1	-	-	-	-	1	61	00	12
SIS.	C.	Total	0.1	1	-	00	01	1	31	60	1	-	1	-	15
ULO	Form (	visitors	-	1	1	1	-	1	1	01	1	1	1	1	4
TUBERCULOSIS.	F	Residents	-	1	-	60	-	-	C1	-	1	-	1	-	=
LUB	B.	Total	1	1	-	1	1	1	1	F	1	1	1	1	1
1	Form ]	stotisiV	1		1	1	1	1	-	1	1	1	1	1	1
NA	F	Residents	-	1	-	1.	-	1		1	1	-	1	1.	1
PULMONARY	;	Total	4	9	4	1-	10	01	00	ಣ	9	03	5	4	99
PU	Form A.	visitors	0.1	-	-	-	01	1	1	1	0.1	1	-	21	13
	Fo	Residents	61	10	00	9	00	01	ಣ	63	4	63	4	01	43.
	Month		January	February	March	April	May	June	July	August	September	October	November	December	Totals

Nore.—Form A. Form of Notification of all cases not previously notified. Form B. Form of Notification by School Medical Officer of Poor Law Institutions and Sanatoria of patients previously notified before admission. Form D. Form of Notification ditto, of discharge.

Every Monday morning a detailed list of the notifications received for the previous week is forwarded to the County Medical Officer of Health. On the receipt of a notification, unless the Medical Attendant informs me that a visit is unnecessary by reason of the patient's circumstances being such that all precautions can be taken, and that he has given proper instructions, I personally visit and obtain particulars as regards possible source of infection, family history, and general circumstances, give instructions as to precautions to be taken, etc., and, if an insured person, advise application to be made for Sanatorium benefits, etc. Note is made of children in the family, and if attending elementary schools the School Medical Inspector is informed, the children are examined, and afterwards kept under observation. Sputum flasks and disinfectants are supplied free and after death or removal, the rooms, etc., are disinfected free. Medical practitioners can have sputum examined free of cost. In all insured cases the patient is at an early date visited by the County Tuberculosis Officer who advises as to the line of treatment to be adopted. Early cases are sent to the County Sanatorium at Hawkmoor, in others domiciliary treatment is given and most cases persuaded to attend at the Tuberculosis Dispensary, now taken over by the County Authority, not necessarily for treatment with tuberculin, but where they are kept under observation, weights taken and temperature charts examined, etc.

Some difficulty is at present experienced in keeping cases under observation. This would probably be overcome by the employment of a Health Visitor. It would also be of service, it on Notification Form D. some indication was given as to condition of patient and prognosis.

The great weakness in all precautions is the want of institutional care of the advanced and dying cases. The only provision for such is the Workhouse Infirmary, where, although they receive every comfort, the patients are unwilling to go, the result being that during the most infectious period of their illness, they remain at home and are a source of danger to others.

It is necessary to remember, when considering the incidence of such a disease as Phthisis in a district as Torquay, that the climate has attractions for such persons. Consumption is a disease which may last many months, or even years, and it is common to find persons suffering from it coming here and taking up their residence, and when death occurs, it is included in the

statistics of the Borough. During the year at least three persons who have come from abroad have died here, and having no other residence in this country, have also been included.

Visitors dying here are now transferable to their own districts, and these include those who die in the consumptive homes, of which there are four, which admit patients from different parts of the country.

During the year 38 deaths were registered, of whom 11 were transferable to other districts.

The following table gives the age and sex at death :-

Age period		under 5 years.	5—15	15—25	25—45	45—65	over 65	Totals.
Males	Residents	-	- /	3	12	4	1	20
	Visitors	-	_	1	4	1	_	6
Females	Residents	_	-	1	2	4	-	7
	Visitors	_	-	1	2	2	-	5
	Totals	-	-	6	20	11	1	27 resid't 11 visitor

Excluding the eleven transferable deaths the total belonging to this district is 27, against 34 last year. The death rate is equal to 68 per 1,000 of the population.

#### CANCER.

Forty-five deaths were due to malignant disease, seven less than in 1913. The age and sex distribution is as follows:—

Age period	under 30	30-35	35—45	45—55	55—65	65-75	over 75	Totals
Males	1	1	2	3	6	1	-	14
Females	1	2	2	6	6	10	4	31
Totals	2	3	4	9	12	11	4	45

The death-rate from Cancer was equal to 1.14 per 1,000 of the population. In considering the death-rate from such a cause as cancer, which essentially affects people in the prime and later years of life, and especially females, such communities as Torquay which have a larger proportion of such persons than the country generally, will suffer more severely. If the death rate is corrected for age and sex distribution it would be equal to .99 per 1,000.

## SANITARY WORK, 1914,

No changes have been made in the Staff of the Sanitary Department. There are three Inspectors, to each of whom is allotted a district over which they have full charge, vide p. 6.

INSPECTION OF MEAT, SLAUGHTER-HOUSES, ETC.

The whole of this work is under the supervision of Mr. Body, and a perusual of that portion of his report dealing with this subject, will convince all that it is carried out in a most satisfactory manner. Indeed I consider that in few towns is it conducted in a more conscientious manner, and at the same time with so little friction with the local butchers. The main principle being to prevent the public being supplied with diseased meat.

The question of the inspection of meat at Newton Market, discussed in my last report, is still being considered, but as yet no satisfactory solution has been arrived at. I should like to draw attention to a point of great hardship to the individual butcher. A local tradesman may attend an auction sale of cattle and purchase a animal which, from external appearance, is termed a first-class beast. It is brought to this Borough and slaughtered; on inspection it is found to be riddled with tuberculosis. The carcase is seized and the local butcher has to be at the total loss. This I feel is very unfair, and trust that the time is not far distant when some scheme of general insurance or compensation will be framed to deal with such cases.

During the year Mr. Body has carried out a large number of bacteriological investigations, with a view to the confirming the diagnosis of tuberculosis in glands, etc., removed from affected animals, both by the examination of smears and cultivation of the bacilli.

We also investigated the causation of the disease in rabbits from a certain district. Microscopic and bacteriological examinations were made of various lesions, which led us to the conclusion that the affection arose from the presence of the Cysticercus Tenuicollis and the Cocciddiosis. Some very interesting micro-photographs were obtained of the parasitis in various stages of development. Advice was given concerning the treatment of the land with a view to check the further spread of the disease in the affected warren.

An examination of Table F in Mr. Body's report shows that a large number of sheeps' livers were destroyed, owing to the presence of abscesses. In view of the prevalance of this trouble in the district, investigations were carried out to ascertain the cause, and many sections and smears being examined, and cultivations made on various media. In this way we find in many the presence of a parasite similar to the young coccidia, and bacteriologically the strepococcus and staphilococcus pyogenes anreus—the latter being probably the result of the irritation caused by the parasite, the disease being known as Parasitic Abscess.

## TUBERCULOSIS IN PIGS.

Mr. Body finds that in pigs bred in the district, the incidence of this disease is 1.33%, while in pigs from N. Devon and Cornwall, it was 3.72%. There is no doubt local pig keepers are taking more care in the rearing and feeding of animals.

There are eight slaughter-houses in the Borough. Two are registered, the other six licensed. They are regularly visited and are kept in a satisfactory condition. Besides visits to the above frequent inspections are made of butchers' shops, butchers' vans from which meat is hawked, and also of the places where sausages are prepared.

The Fish Quay is inspected regularly, and on the whole the quality is satisfactory.

Under the American Gooseberry Mildew Order and Wart Disease of Potatoes Order, visits of inspection are made to the greengrocers' shops; no cases were detected.

For further details as to the work done, I would draw your attention to Mr. Body's report dealing with the subject on page 80.

## SALE OF FOOD AND DRUGS ACT.

Samples are taken by the County Police. Through the courtesy of Superintendent Crooke, I am enabled to give the following table, showing the number of samples taken and the result:—

	1		
No.	Articles.	Result of Analysis.	Action Taken.
2	Bread	Genuine	Nil
2	Beer	Genuine	Nil
2	Butter	Genuine	Nil
2	Cider	Genuine	Nil
2	Cream	Genuine	Nil
5	Ice Cream	Genuine	Nil
46	Milk, New	1 deficient in milk fat 36%	Vendor summoned— Fined 10s. inclusive
		1 deficient in milk fat 16.67%	Vendorsummoned—Case dismissed
		2 deficient in milk fat 3.3%	Vendors cautioned by Police
		1 deficient in milk fat 6.67%	Vendor summoned and fined £1 inclusive
		1 contained 8.97% added water	Vendor summoned and fined 15s. inclusive
		1 deficient in milk fat 20%	Wholesale dealer pro- ceeded against
	Par Service	1 deficient in milk fat 6.7%	No proceedings
		1 contained 5% added water	Wholesale dealer proceeded against
		1 contained 4% added water	Wholesale deal r pro- ceeded against—case proved and dismissed on payment of costs
		1 contained 4.7% added water	Wholesale dealer pro- ceeded against—case proved and dismissed on payment of costs
		The remaining 35 were genuine	Nil
61	Articles.		

During the year Mr. Body and I have made a number of analyses of milk samples from various dealers in the Borough. In practically all, the milk fat present was above the legal standard. In one or two the proportion of extraneous dirt was higher than desirable.

## MILK SUPPLY.

There are 98 registered dairymen and cowkeepers in the Borough, most of whom receive milk from farms situated outside.

The system in vogue of inspecting these outside farms has been carried out twice during the year.

Particulars are obtained of the condition of the cowsheds as to cleanliness, lighting, ventilation, and paving; the washing of milk vessels; cleanliness of dairies, etc., the water supply as regards its freedom from pollution; and the number and condition of the cows being milked.

After these inspections, a complete register is compiled of all dairies and cowsheds in the Borough, together with the farms outside which supply them with milk, etc. The register is printed in the form of a bill, and is posted up throughout the town, copies being forwarded to all dairymen and farmers concerned. Such bills are a guarantee that we are satisfied with the Sanitary state of the places inspected, and is in force for six months. Thus two thorough inspections are made each year.

Although this periodic inspection cannot guarantee that the cowsheds, etc. are constantly kept as they ought to be, yet it ensures that at least twice a year they get a thorough cleaning and lime-washing, which in many instances would not be done if the visits were not made. It is also frequently possible for us to get owners to substitute brick or concrete for defective cobble paving, which reduces the difficulty of cleaning to a minimum. Again, by this system we know precisely what farms supply the various town purveyors, and have a full knowledge of the farm, water supply, and other details which are of immense value when investigating the source of infectious disease.

A point that apparently receives too little attention from the farmer is the proper grooming of their cows, the cleansing of their udders, and the hands of the milkers. Too much faith is put in the efficiency of the strainer.

In South Devon, where it is possible to keep cows in the open air night and day for the greater pertion of the year, tuber-cular disease in cattle should be less prevalent than in other places where the climatic conditions are less favourable.

## ICE CREAM.

There are two manufacturers of ice cream, which is hawked in the streets from barrows or vans. Their premises were inspected and found to be clean, and apparently well looked after. The premises of confectioners, etc., were inspected when the bakehouses were visited.

## Housing and Town Planning Act.

All the Inspectors are appointed inspectors to carry out this Act in their respective areas, and I have with them visited the houses prior to any report being presented to the Sanitary Committee. Complete records are kept of the conditions found and the alterations carried out to remedy.

The estimated number of dwelling houses in the district is 8,137 and of this number about 4,170 are under the limit of £16 rental laid down in Section 14 of the Act.

The method adopted to carry out the provisions of this Act have, up till now, been for me to recommend to the Sanitary Committee that the inspection of the houses in a certain area is desirable. Instructions are then given for this to be done. Notices under Section 15 are served of intention to inspect, when full details as to the sanitary condition of the premises is elicited. On the completion of the work, these are laid before a Sub-Committee who, after consideration and frequently after inspection, recommend to the full Committee, either, the service of notices to put the house into a habitable condition, or for the issue of closing notices where required. When this has been done, they are followed up until all that is necessary is done. The following of this routine occupies considerable time and entails much clerical work on the part of the Inspectors.

No attempt has yet been made to inspect what may be termed the better class workmen's habitations of fairly modern construction, which form a large proportion of the houses under the rent limit laid down. Many of these, however, come in for inspection yearly when investigating the causes of infectious sickness and for the abatement of nuisances.

Information and particulars as to inspections made under the Housing, Town Planning Act, 1909:--

Number of houses inspected				171
Number considered to be dangerous or injurious to		s to be	unfit	
for human habitation				16
Number of representations ma	ade with	a view o	f the	
making of Closing Orders				16
Number of Closing Orders ma	ade			16
Number of dwelling houses in remedied without making				108
Number of dwelling houses w of Closing Orders were human habitation				3
General character of defects found to exist De	not oper age, dan roof, ear paving, i modation dirty and tions.	ned at to ap walk wes gutt mproper a, interio	ops, s, def ering, ash a or of l	drain- ective , yard .ccom- louses apida-

Tables showing character and number of defects found when inspecting premises under the Housing, Town Planning Act, 1909:—

	No. of Defects
Walls and ceilings of rooms cleansed and limewashed	1)
Ditto of staircases and passages cleansed and lime- washed	
External walls of houses repaired	48
Roofs of houses repaired	40
Floors, doors, and windows in houses repaired	112
Eaves guttering and down spouting cleaned and repaired	11
Gullies fixed in lieu of iron "Bell" or "D" traps	57
Drains relaid or repaired	39
Yards of houses repaired or repaved	71
Galvanised iron ash receptacles provided	47
Storage cisterns abolished and water laid on from	
the town main	16
Water closets and flushing cisterns repaired	37

			No	o. of Defee	cts.
Glazed stoneware sinks fixed				4	
Bed and living rooms ventilate	ed			105	
Other defects				74	
Total defects found				934	
Total defects remedied				738	
On books at end of year		'		196	

## SANITARY INSPECTION OF THE DISTRICT.

#### TABULAR STATEMENT.

District Inspections				 992
Under Housing and	Town 1	Planning Ac	t	 168
For Sanitary Certific	cates			 40
Preliminary Notices	(letters	)		 644
Statutory Notices				 222
Legal Proceedings				 1

This table does not include re-visits to work in hand or routine inspections of slaughter-houses, dairies, common lodging houses, etc.

#### FACTORY AND WORKSHOPS.

Each Inspector has charge of the Workshops in his area and is responsible for their inspection. In the Home Office table on page 42, the totals for the whole Borough are given.

The large dressmaking and millinery establishments provide ample accommodation for the employees, and on the whole they are quite satisfactory. Most of these I visit in company with the Inspectors. There are many small dressmakers who utilise a room in their houses and employ one or two assistants.

In Torquay, a very large proportion of the workshops are laundries, where in most instances only a few women are employed. They are generally kept clean and limewashed.

#### BAKEHOUSES.

I make a point of visiting these with the Inspectors. There are 46 on the register. Three have certificates as satisfactory underground bakehouses. For the most part the bakehouses are well looked after and regularly limewashed. Some occupiers, however, require constant supervision to effect even moderate cleanliness.

## OFFENSIVE TRADES.

There is only one tripe-boiling establishment in the Borough. It is situated at the upper end of Upton. The building is specially adapted for the purpose, and is always found clean and well looked after.

## MARINE STORES.

The powers conferred by the Public Health Acts Amendment Act, 1907, in dealing with marine storekeepers have been enforced. All such persons in the Borough have been registered and their premises regularly inspected. From a sanitary point of view this is desirable, as many store bones, often in large quantities, which are a nuisance and a menace to the health of the surrounding inhabitants.

## COMMON LODGING HOUSES.

There are eight common lodging houses in the Borough, whose keepers and deputy keepers are registered. They are regularly inspected and kept clean.

INSPECTIONS OF SCHOOLS, ETC. SANITARY CONDITION, ETC.

Besides the inspection of the Schools made by Dr. Ellis and myself, the Inspectors make regular monthly visits, to examine the condition of the latrines, etc., the results being reported to the Committee. The offices are on the whole satisfactory and well looked after.

## PORT SANITARY WORK.

This special duty is carried out by Mr. Watson and from the number of inspections made it will be seen that it is efficiently performed. This report also shows the number and character of defects found. No cases of illness were reported from any of the ships.

The administration of the Factory and Workshop Act, 1901, in connection with

# FACTORIES, WORKSHOPS, WORKPLACES, & HOMEWORK.

1.—INSPECTION OF FACTORIES, WORKSHOPS, & WORKPLACES.
INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OF INSPECTORS OF NUISANCES.

	Number of								
Premises. (1)	Inspections.	Written Notices. (3)	Prosecutions.						
Factories	11	-	-						
Workshops	390	27	-						
WORKPLACES (Other than Outworkers' premises included in Part 3 of this Report.	5	4	1						
Total	406	31	1						

#### 2.—DEFECTS FOUND IN FACTORIES, WORKSHOPS, & WORKPLACES.

	Nu	mber of Defe	ects.	Number
Particulars. (1)	Found.	Remedied.	Referred to H.M. Inspector. (4)	of Prosecu- tions. (5)
Nuisances under the Public Health Acts:				
Want of cleanliness	25	25	1	1
Want of ventilation	3	3	-	-
Overcrowding	3	3	-	- /
Want of drainage of floors	1	1	-	-
Other nuisances	6	6	-	-
Sanitary (insufficient	6	6	-	-
accommodation unsuitable or defective	7	7	-	_
Offences under the Factory & Workshop Act:-				
Illegal occupation of underground bake- house (s. 101)	1	1	-	_
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	-	-	-	-
Other offences	_	_	-	_
Total	52	52	1	1

42A							3.—	HOME V	VORK					-				
				UNY	TWORK WHOLES REMISS CTION	SOME ES.	OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.											
NATURE OF WORK.		Lists r	eceived f	from Em	ployers.		Addresses of Outworkers		Notices	Prosecutions.		Inspections			ons.		1	ions ns D).
	Sending twice in the year.			Sending once in the year.					served on Occupiers as to	Failing to keep	Failing	Outworkers' premises.	In-	Notices served.	ecutions.	In- stances.	Orders made (s. 110).	ot to
		Con-	kers.	Lists.	Outwor Con-	kers.	from other	Forwarded to other Councils.	keeping or sending	or permit inspection	send lists.				Pros		(8.110).	Pro
(1)	(2)	tractors.	men. (4)	(5)	tractors.	men. (7)	(8)	(9)	Lists. (10)	of lists.	(12)	(13)	(14)	15	(16)	(17)	(18)	(19)
Wearing Apparel— (1) making, &c. (2) cleaning and washing Lace, lace curtains, and nets Artificial flowers Nets, other than wire nets Tents Sacks Furniture and upholstery Fur pulling Feather sorting Umbrellas, &c. Carding, &c., of buttons, &c. Paper bags & boxes Basket making Brush making Brush making Racquet and tennis halls Stuffed toys File making Electro plate Cables and chains Anchors & grapnels Cart gear Locks, latches, and keys Pea picking	1		1	1		1	2	9	76			28				-	-	
Total	13	_	35	7	_	7	2	9	76	_	7	28	_	-	-		_	-



## 4.—REGISTERED WORKSHOPS,

	ops on the Register (s. 131 (1)				Number (2)
work- kshop e enu-	Laundries				113
S H S	Dressmakers and Mil	liners			85
classes cach, as wasses, may here.	Tailors				39
Important classes of shops, such as wo bakehouses, may b merated here.	Bakers, &c				46
Impo sh ba	Total number of	of workshops	on Registe	r	283

## 5.—OTHER MATTERS.

Class. (1)	Number.
Matters notified to H.M. Inspector of Factories:—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133)	3
Action taken in matters referred by H.M. Inspector able under the Public Health	4
Acts, but not under the Factory and Workshop Act (s. 5) Report (of action taken) sent to H.M. Inspector	3
Other	-
Underground Bakehouses (s. 101) :—	
Certificates granted during the year	-
In use at the end of the year	2

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1914 AND PREVIOUS YEARS.

	T		_	Residents dents not registered registered Number.	in the in the Births District.	7 8 9 10 11 12 13	15-5 46 41 73 139 575 15-4	11.9 54 39 53 92 437 11.5	13.5 54 41 53 98 504 13.1	14.4 56 42 63 117 548 14.1	12.4 58 52 52 91 479 12.2	12·6 45 71 58 108 521 13·2	12.2 44 54 45 83 492 12.4
	DEATHS RED IN THE TRICT. RATE.			2 9	580 15-5	452 11-9	517 13-5	562 14-4	485 12-4	495 12.6	482 12.2		
	S. TOTAL REGISTE DIS Nett. Number.		Rate.	5	14.0	15.2	14.0	13.8	14.6	13.6	13.7		
	BIRTHS.		~		Nm	3 4	517 524	567 575	535 539	529 536	560 571	530 535	533 542
	Population estimated to Middle of each Vear. Corrected Number.				2	37230 5	37745 5	38260 5	38772 5	39000	39250 5	39440 5	
The second second						1	1908.	1909	1910.	1911	1912.	1913.	1914.

Area of district in acres (land and inland water) 3,906. Total population at all ages, 38,771. Number of separate occupiers, 8,459. At Census 1911 (cf. Census, Vol. V.)

Cases of Infectious Disease Notified During the

TABLE II.

YEAR 1914.

		Nı	2000	r of C					Т		d c					l ir	1	s re-
	oi.		A	t Ag	es-Y	ears.						e c			d.	0		ase
NOTIFIABLE DISEASE.	At all ages.	Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards	Torre	Waldon	Upton	Ellacombe	Strand	Torwood	S. Marych	Babe'mbe	Chelston	Total cases re- mov'dto hospital
Small-pox Cholera	1	-	-		_	_	_	_				50.4						-
Diphtheria.incl'd'g Membranous croup Erysipelas Scarlet fever	115 7 39		17 1 10	81 27	10	6 3 1	3		26	7	12 1 2	20 1 6	7 1 1	12	19	7 2 1	5 1 24	92
Typhus fever Enteric fever Relapsing fever	4			1	1	2	=				1		1		2			3
Continued fever Puerperal fever Cerebro-spinal	=	=	_	=	=	=	-	-										_
Meningitis Poliomyelitis Pulmonary Tuber-	_	=	_	_	=	_	_	=									* *	_
other form of	89	-	-	6	28	45	9	1	12	5	3	18		14		8	13	-
Tuberculosis	14	-	5	3	3	3	_	-	4		-	5	1	1	1	1	1	
Totals	269	-	33	118	43	60	13	1	43	13	19	50	19	28	33	19	44	124

Isolation Hospital:—Borough Sanatorium, Newton Abbot Road, outside the Borough.

Total available beds, 14. Number of Diseases that can be concurrently treated, 2.

Table III. CAUSES OF, AND AGES AT, DEATH DURING YEAR 1914. (see Notes opposite).

	Net	leaths	at the	subjo	ined a	ges of	Reside	ents w	hether	Total Deaths
		occur	ring wi	thin o	r with	out th	e Distr	rict (a)		whether of Residents or
Causes of Death.			1 and	2 and	5 and	15.4	25 &	45 &	65 &	non Residents
	All		under	under	under	under	under	under	up-	in Public Institutions
	ages.	1	2	5	15.	25.	45.	65.	wards	in the District
All (Certified (c)	483	43	13	13	17	16	53	119	209	43
causes Uncertified	9	2	_		-	-	1	2	4	_
	-	-	-		-	-	-			
Enteric Fever	1		-	-	_	1	_	-	_	1
Small-pox	7		3	4				_		-
Scarlet Fever	-	French	_	-	-	-	-	_		-
Whooping-cough	4	3	-	1	4	-		-	-	_
Diphtheria & croup Influenza	8		_	2	-		1	4	3	
Erysipelas	-	-			-	_	_		_	-
Phthisis (Pulmonary	077						14			0
Tuberculosis) Tuberculous Menin-	27	-	-	-		4	14	8	1	9
gitis	2	_		1	1	_			_	-
Other tuberculous										
diseases	8	2	-		3	1	1	1	-	4
Cancer, malignant	45		_		1	1	7	20	16	3
Rheumatic Fever	-	-		****		-	_	_	-	-
Meningitis (See										
note d) Organic Heart Dis-	-	-			-	-		-	-	
ease	37	_	-			1	3	14	19	3
Bronchitis	43	5	1				1	6	30	2
Pneumonia (all	24	6	3		2		4	2	7	1
forms) Other diseases of	100000000000000000000000000000000000000	0	3		-		7	4		
respiratory organs	24 100	-		-		1	1	6	5	
Diarrhœa and En-	4	3		1						
teritis (See note e) Appendicitis a n d		3	-	1	-	-				
Typhlitis	-			-		-	-	-	-	-
Cirrhosis of liver		-	-		-		-	3	-	-
Alcoholism Nephritis & Bright's	-	-	1-	-	-	-	-	_		
disease	20	_	-	-	1	1	2	13	3	2
Puerperal fever	-	-	-	-					-	-
Other accidents and diseases of Preg-				-						
nancy and Partu-										
rition	-		-		-	-	-	-	-	
Congenital Debility										
and Malformation, including Prema-										
ture Birth	9	9	200	-	-	-	-		-	-
Violent Deaths, ex-	10	4	0	,		1	-	2	1	0
cluding Suicide Suicides	16	1	2	1		1	5		4	2
Other Defined Dis-									0.3	
eases	122	6	2	2	5	4	12	27	58	12
Diseases ill - defined or unknown	91	10	2	1	123	1	2	15	66	4
or unknown	31	10	2				-	13	00	
	125			-		-				
	400	AF	13	13	17	16	54	101	213	43
	492	45	1.0	13	11	10	1.24	121	410	40

#### NOTES TO TABLE III.

- The classification and numbering of Causes of Death are those of the "Short List" on page XXV. of the Manual of the International List of Causes of Death.
- (a) All "transferable deaths" of residents, i.e., of persons resident in the district who have died outside it, are included with the other deaths in columns 2-10. Transferable deaths of non-residents, i.e., of persons resident elsewhere in England and Wales who have died in the district, are in like manner excluded from these columns.
  - The total deaths in column 2 of Table III. should equal the figures for the year in column 12 of Table I.
- (b) All deaths occurring in institutions for the sick and infirm situated within the district, whether of residents or non-residents, are to be entered in the last column of Table III.
- (c) All deaths certified by registered medical practitioners, and all inquest cases, are to be classed as "Certified;" all other deaths are to be regarded as "Uncertified."
- (d) Exclusive of "Tuberculosis Meningitis" (10), but inclusive of Cerebro Spinal Meningitis.
- (e) Title 19 should be used for deaths from Diarrhoea and Enteritis at all ages. (In the "Short List" deaths from Diarrhoea and Enteritis under 2 years are included under Title 19; those at 2 years and over being placed under Title 28.)

TABLE IV.

## INFANT MORTALITY DURING THE YEAR 1914.

NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER ONE YEAR OF AGE

CAUSE OF DEATH.	Under 1 Week.	-	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under One Year.
ALL Certified Uncertified	15		2		17	7 2	6	5	8	43 2
Small-pox	1 2		2	· · · · · · · · · · · · · · · · · · ·		2 3	1	1	1	2 
	15	-	2	-	17	9	6	5	8	45

Nett Deaths in the year of legitimate infants 42. illegitimate infants 3.

Births in the year legitimate - 542. illegitimate - 35.

# BOROUGH OF TORQUAY.

# SANITARY INSPECTORS' REPORTS.

CHIEF SANITARY INSPECTOR'S REPORT.

Town Hall, Torquay,

19th April, 1915.

To the Worshipful the Mayor, Aldermen, and Councillors of the Borough of Torquay.

GENTLEMEN,

I beg to present my thirty-seventh Annual Report to the Council, as the Urban Sanitary Authority for the District.

There has been little variation in the sanitary operations performed during the year 1914 from those carried out for some years previously; in fact, since the Town Planning Act, 1909, came into force, which binds Sanitary Officers to thoroughly inspect and survey some portion of their district occupied by the poorer working classes. This duty necessarily absorbs much time and attention, as the legal steps and formalities must be complied with strictly as to due notice of entry; and after survey, of detailed notice of the requirements necessary to put the premises in a good sanitary state. The Wards specially under my supervision are Torre, Chelston, Waldon, and parts of the Strand and Upton Wards on the left-hand side from the Harbour to Torre Square, and then embracing Teignmouth and Upton Roads, Clarendon Park, and Cricket Field and Barton Roads,

The most important work was the inspection from house to house of Laburnum and Church Streets, Torre, and the courts contiguous thereto, numbering in all seventy houses and tenements.

Many of those those in Church Street were found in excellent condition, properly kept up in all respects by the owners; others, of course, were in a dilapidated and dirty state, and required a complete overhauling. One notable case was that of the Old Tor Poor House, at the north entrance to the Parish Church, which, both externally and internally, presented an uninviting aspect. After the notices had been duly sanctioned by the Sanitary Committee, the work of thorough repair and re-coating outside with Portland cement plaster was commenced, and after some weeks the job was completed in a very satisfactory manner, and the appearance of the ancient building is more clean and creditable.

Information and Particulars as to Inspections made under the Housing and Town Planning Act, 1909.

Number of houses and tenements inspected - 70, , in which defects were remedied - 65

It was not found necessary to issue Closing Orders.

# DETAILS OF WORK CARRIED OUT UNDER TOWN PLANNING ACT.

Walls, ceilings, staircases, and passages clea	ansed	and	
limewashed			17
External walls repaired			16
Roofs repaired		26-11	8
Eaves, guttering, and spouting repaired -	-		9
Drains repaired			15
Yards paved or cemented	-		11
Water closets—new pans			5
" flushing cisterns	-		5
Rooms provided with better light and ventil	ation		50
Wash-houses re-cemented	-	-	8
Gullies fixed in lieu of "D" or bell traps -	*2		28
Dampness remedied - · · · ·			12
Water from main pipe laid on			5
Wash-house boilers renewed • •			3

This gives a total of 192 sound sanitary improvements, executed in the seventy houses which were under inspection.

Sanitary certificates were given in twenty instances, or seven fewer than in the previous year, several being granted on owners complying with sanitary requirements after nuisance or sickness occurred.

## DETAILS OF SANITARY OPERATIONS.

The following table gives the various details of the usual sanitary work done during the year:—

- 15 New sanitary conveniences supplied.
- 1 ,, latrine fixed in hotel.
- 27 ,, flushing cisterns.
- 22 ,, sets of house drains laid.
- 22 ,, intercepting traps fixed.
- 25 ,, inspection chambers built.
- 20 ,, fresh-air inlets made.
- 17 ,, soil pipes fixed and ventilated.
- 5 Old masons' drains and traps abolished.
- 16 Blocked drains were cleared.
- 23 Yards were cemented and drained.
- 58 Windows made to open top and bottom.
- 41 Premises were limewashed.
- 69 Bedrooms were fumigated.
- · 21 Cases of dampness remedied
  - 28 Waste pipes provided with traps.
  - 23 Accumulations of refuse removed.
  - 14 Ashbins provided.
  - 5 Cisterns cleaned and covered.
  - 6 Pig or fowl nuisances abated.
  - 11 Overcrowding cases abated.
  - 10 New rain pipes supplied.
  - 2 Water-wasting cases reported.
  - 31 Back premises repaired.
  - 3 New taps from main fixed.

Disinfectants were supplied to 1,534 persons at the Old Town Hall on Saturdays for washing floors, clothing, etc., and for deodorizing the drains. Atogether these items give a total of 2,159; and letters and notices under Town Planning Act, 382 in number, were written and issued; also, in all cases of certificate or new drains being laid, accurate sketch plans were drawn after survey; so that a record of the work done is kept in the office.

123 Tests have been applied to drains, viz.:-

70 Smoke.

39 Water, and

14 Chemical.

## ELEMENTARY SCHOOLS.

The Elementary Schools at Torre, St. Luke's, Rock Road, Church of the Assumption, and Cockington, were visited to ascertain the condition of their sanitary arrangements, which were usually found in good and clean order.

## MARINE STORE AND COMMON LODGING-HOUSE.

These places received a monthly visit, and the lodging-house is well looked after in all respects, and the marine store is seldom unsavoury.

## WORKSHOPS AND WORKPLACES.

- 6 Dressmakers and milliners.
- 4 Tailors.
- 6 Boot and shoe makers.
- 2 Carpenters and builders.
- 3 Blacksmiths.
- 3 Printing works.
- 2 Marble masons
- 2 Cabinet makers.
- 4 W.C. pans were provided.
- 4 Flushing cisterns provided.
- 8 Premises cleaned and limewashed.
- 2 Overcrowding cases were abated.
- 1 Bath room was provided.

# Dairies and Milkshops.

Twenty-one dairies and milkshops in Torre, Waldon, Chelston and parts of Strand and Upton Wards, were visited twice during the year; also three cowsheds in the Borough, and nine at Cockington. Nearly all were found in good condition, but some had to be re-visited until the requisite lime-washing was carried out.

## SUMMER DIARRHEA.

In connection with this complaint, an inspection of the yards and back roads in Laburnum Street and Church Street (Torre), Lower Union Lane and Temperance Street (Waldon), and of Rosery Cottages, Goschen Terrace, and Mallock Road (Chelston), was made with a view to dealing with obvious nuisances, such as the keeping of fowls or animals in a bad state or too close to the houses, offensive accumulations, or dirty yards and back premises. Generally the condition of things was good, and in the few faulty ones verbal notices were given to the occupiers, and subsequent visits showed that they had been attended to.

#### BAKEHOUSES.

Fourteen bakehouses come under my supervision. One of these, the most defective and unsatisfactory, has been converted to a florist's establishment, and I took the opportunity to get the premises put in thorough state of repair, drains, yard, and new w.c.

I cannot conclude my report without alluding to the valuable aid given me by my two voluntary qualified assistants, who have left the department, one to take up an Inspectorship at Merton, in Surrey, and the other, my youngest son, who joined the King's Army in August, on the declaration of War. I miss their services.

I am, Gentleman, Yours obediently,

CHARLES MACMAHON, C.E.,

C.R. San. Inst., A.M.R. Inst. Pub. Health, Chief Sanitary Inspector.

# SANITARY INSPECTOR'S REPORT.

TOWN HALL.

TORQUAY,

February 1st, 1915.

To His Worship the Mayor, Aldermen, and Councillors of the Borough of Torquay.

GENTLEMEN,

I beg to present to the Council, as the Urban Sanitary Authority, this, my Seventeenth Annual Report, dealing with the Sanitary Work carried out during the year, ending December 31st, 1914, in that portion of the Borough under my direct supervision, viz.:—the Wards of Torwood, Strand, Upton, and Ellacombe.

HOUSING AND TOWN PLANNING ACT, 1909.

It will be remembered that in consequence of the condition in which I found many of the houses in Pimlico after inspection made at the end of 1913, the matter was reported to the Sanitary Committee, who appointed a Sub-Committee to visit the houses with me, and they subsequently reported to the full Committee that, owing to the condition, and the difficulty in putting many of the houses into a habitable condition, they were of opinion that the Committee should seriously consider the advisability of dealing with the locality as an unhealthy area; to this end the matter was referred to a Joint Committee, and instructions given for plans of the area to be prepared for further consideration.

Subsequently, in February last, after several meetings of the Committee, and examination of the plans prepared, it was

decided that the cost of any effectual improvement scheme was prohibitive, and I was therefore instructed to proceed in the ordinary course by service of notice on the owners to put the houses in a habitable condition.

During the year 41 houses were examined, 30 of these being tenement houses situate in Queen Street, and 11 houses in Pimlico, this completing the inspection of the latter.

In connection with this work, 8 closing orders were made for houses found to be unfit for human habitation, 36 statutory and 41 preliminary notices served, 54 visits of inspection were made to premises while work was in progress, and shewn in the following table:—

Rooms cleansed and limewashed	1	123
Staircases, passages and landings cleansed and	limewashed	60
Staircases and floors of rooms and landings rep	paired	31
Defective internal walls and ceilings repaired		22
Additional ventilation to rooms provided		30
Basement rooms provided with better light		5
Windows in bed and living rooms made to o	pen at top	
and bottom		26
Doors and windows repaired		19
Defective external walls of houses repaired		26
Roofs, chimneys, and spouting of houses repai	red	28
Rainwater pipes disconnected from drains .		3
New system of drains laid		8
Defective drainage repaired		2
Gullies fixed in lieu of 'Bell' and 'D' traps		17
Inspection chambers to drains provided		4
Old masonry traps abolished		1
Intercepting traps fixed and fresh air inlet .		1
New sanitary conveniences provided .		4
New w.c. basins fixed in lieu of defective ones		3
Water supply laid on from main in lieu of stor	rage tank	5
Houses provided with sanitary bins for refuse		32
Yards re-paved		16
Yard paving repaired		14
Areas paved		3
Wash-house floors re-paved or repaired		13
Nuisances from fowls and animals abated		1
Nuisances from offensive accumulations abate	d	3
Overcrowding cases abated		3
Dilapidated cottages demolished		2
Houses closed as unfit for habitation .		8

#### COMPLAINTS.

Eighty houses and premises have been visited on receipt of complaint, and the matters dealt with were of the usual nature. In one instance, a complaint involved a block of 8 houses, and resulted in each house being re-drained and other work carried out.

Seventy-three notices were served to abate nuisances found, and of these, 64 were of a preliminary nature and 9 statutory.

In connection with the notices served, 40 re-visits of inspection were made to the premises where work was in progress, and 53 tests were applied to drainage.

The following table will shew the nature of the work carried out:-

New drains laid				18
Defective drains repaired				1
Old masonry traps abolished				5
Intercepting traps fixed				11
Inspection chambers to drains by	ailt			17
Gullies fixed in lieu of iron 'Bell	and D'	traps		9
New w.c., with water supply				3
New w.c. basins fixed				7
W.C. provided with flush cistern	and water	supply		1
Sanitary bins provided for house	refuse			13
Soil-pipes fixed outside building	and venti	lated		1
Drains ventilated at head of syst	em			2
Waste-pipes disconnected from d	lrain			9
Water supply from main direct,	in lieu of	storage tan	ks	9
Yards paved				2
Yard paving repaired				9
Choked drains cleared and clean	sed			7
Rainwater pipes disconnected fro	om drain			8
Rooms cleansed and limewashed				9
Defective internal walls repaired				1
Nuisances from fowls and anima	ls abated			3
Nuisances from stables and man	ure pits a	bated		5
Nuisances from offensive accumu	lations al	pated		6
Overcrowding cases abated				3
Other matters				6

#### SANITARY CERTIFICATES.

Sixteen houses and premises were examined and reported upon in consequence of application being made, either by the owners or occupiers, to obtain the Council's Sanitary Certificate for the premises, and on completion of such work as was found necessary to remedy defects, and to comply with the special requirements laid down by the Council, Certificates were granted in each instance. A Certificate was also granted on completion of work at a house examined at the close of the year, 1913.

The sum of £8 was received in payment of testing fees.

Also, in September, I was requested to examine and report on two houses—prior to their use—one as a home for wounded soldiers, and the other as a home for Belgian refugees. In each instance it was found necessary to carry out certain drainage and other work.

In connection with the work carried out under this head, 43 hydraulic and 39 smoke tests were applied to drainage, and 25 visits of inspection made during progress of work.

			_
New system of drains laid			13
Defective drains repaired			5
Old masonry traps abolished			6
Intercepting traps, with fresh air inlet	s, fixed		6
Inspection chambers to drains built			32
Gullies fixed in lieu of iron 'Bell' and	'D' traps		15
New sanitary conveniences provided	10		11
New w.c. basins fixed			4
New soil-pipes fixed outside and ventil	lated		3
Drains ventilated at head of system			9
Waste-pipes from baths, lavatories, an	d troughs trapp	ped	29
Stoneware troughs fixed	· · ·		3
Lavatory wash-basins fixed			3
Slop sinks re-constructed			1
Water supply laid on from main in lie	u of storage tan	k	3
Sanitary bins for house refuse provide	d		4
Yards paved			4
Yard paving repaired			1

## INFECTIOUS DISEASES, ETC.

During the year, work of a various nature has been carried out in connection with the following 67 cases of infectious and other diseases:—

Diphtheria 32	Phthisis 17	Mumps 1
Scarlet Fever 4	Cancer 3	Throat Illness 4
Enteric 1	Measles 4	Other causes 1

Sixty-eight rooms were disinfected by fumigation or by spraying with Formalin; 8 notices were served in reference to various matters—the result of investigations made in connection with these cases; 11 tests were applied to drainage; and 17 visits of inspection made during progress of work.

Rooms disinfected			 68
Premises cleansed and	limev	washed	 1
New drains laid			 3
Defective drains repair	ed		 2
Inspection chambers to	drai	ins built	 5
Drains ventilated			 1
Water supply from mai	n dir	ect in lieu of	
storage tanks			 2
Sanitary bins provided	for h	nouse refuse	 5
General internal repair	8		 2
Slop sink re-constructe	d		 1
Yard paving repaired			 2

# Dairies, Cowsheds, and Milkshops.

The half-yearly inspection of the 38 registered dairies and milkshops within my district has been carried out during the months of May and November. These premises have, generally speaking, been kept in a clean and satisfactory condition; limewashing and cleansing, where necessary, has been carried out after verbal notice to the persons concerned. During the year three premises have changed hands, and one new one has been placed on the register.

There is also a very large quantity of milk supplied to Torquay from farms outside the Borough, and, as in former years, I have, during the months of June and December, visited and made the half-yearly inspection of some 37 farms situate in the following districts:-

Ivybridge	Totnes	Marldon
Wrangaton	Dartington	Dainton
Brent	Paignton	Kingskerswell
Harberton	Aller	Abbotskerswell

In every instance the dairies were found to be kept beyond reproach, and the general condition and cleanliness of the cowsheds were, with one or two exceptions, found to be well maintained.

#### Bakehouses.

Inspections have been made during the year of the 15 registered bakehouses in my district. In 9 instances it was found necessary to serve notices with respect to the undermentioned matters, and in connection with the same, 20 re-visits of inspection were made.

In the early part of the year, I discovered that some old bakehouse premises in Ellacombe, which had been condemned some years ago (and had since been used as stables), was again being used as a bakehouse, and at the time of my visit there was a quantity of bread and confectionery ready for distribution. The place was in a most insanitary condition, and totally unfit in every respect for such a purpose, and Notices were at once served on the Owner and Occupier to close the premises, and this was at once complied with.

Limewashing and cleansing	 	5
Accumulations removed	 	1
Yards cleansed	 	1
Unregistered bakehouse closed	 	1

#### ELEMENTARY SCHOOLS.

The six undermentioned schools:-

Upton C.E.	St. John's C.E.	Torwood C.E.
St. James' C.E.	Ellacombe C.E.	Pimlico National

were visited on 22 occasions during the year, and the sanitary arrangements examined and found clean and in working order; limewashing and cleansing has been periodically carried out, and in no instance was any cause for complaint found.

## FACTORY AND WORKSHOPS, ETC.

Inspections have been made during the year of 103 premises where the following trades are carried on:—

Number.	Description of Trade.	Number of room or workplaces.
15	Bakehouses	17
10	Laundries	24
29	Dressmaking and Millinery	35
2	Corset making	3
1	Lace making	2
2	Tailoring	2
6	Upholstering and Cabinet-making	13
5	Bootmaking and Repairing	6
8	Watchmaking and Repairing	12
1	Umbrella and Trunk repairing	1
2	Picture framing	3
1	Window-blind making	1
4	Coachbuilding	6
3	Shoeing Smith	3
5	Harness-making, etc	6
3	Cycle repairing works	7
2	Marble Masons	4
4	Marine Stores and Rag Sorting	7

Nineteen Notices were given, and re-inspections made in connection with the following matters:—

cleansing			12
commodation			1
w.c			2
tion to workro	om		1
			1
			1
tion			1
		commodation w.c tion to workroom	commodation w.c tion to workroom

#### MARINE STORES.

Four such premises are on the register, and these have been visited and inspected from time to time. The principal store is situate in Upton Church Road.

In the early part of the Summer, considerable trouble was experienced with the occupier of one of these premises, in consequence of the non-compliance with notices served for the removal of a very large accumulation of rags, etc. (amounting to some tons), and for the general cleansing of the premises; eventually it was found necessary to take summary proceedings to enforce the carrying out of the work.

In the course of inspection the undermentioned matters were dealt with; one statutory and four preliminary notices were served; and in one instance legal proceedings taken.

Limewashing and cleansing. Removal of offensive accumulations. Foul and offensive w.c. and urinals.

#### COMMON LODGING HOUSES.

These houses are registered annually, and five such premises have come under my supervision during the year; four are situate in Pimlico, and the other in Braddon Street.

The total accommodation for which they are registered is for 79 persons; three of the houses being for males only.

Thirty-five visits of inspection were made to these houses, and in connection with same, 14 notices were served on the Owners or Occupiers with regard to the following matters:—

Limewashing and cleansing		 4
Defective floors and windows		 3
Defective internal walls		 2
Provision of sanitary refuse bin	8	 4
Other matters		 1

## Public Conveniences.

Visits of inspection have, from time to time, been made of such places situate in the Torwood, Strand, Upton and Ellacombe Wards, and, generally speaking, they have been found to be kept in a satisfactory condition. On one occasion it was found necessary to have repairs carried out at the Strand convenience,

## TRIPE BOILING.

The only premises in the Borough where this trade is carried on is situate in Upton, and it has, on inspection, always been found to be kept in a satisfactory condition.

# SUMMARY OF WORK FOR THE YEAR 1914.

New system of drains laid to houses and other premises		42
Defective drains to houses and other premises repaired		10
Choked drains cleared and cleansed		7
Old masonry traps abolished		12
Intercepting traps and fresh air inlets fixed		18
Inspection chambers to drains built		58
Gullies fixed in lieu of iron "Bell" and "D" traps		41
Drains ventilated at head of system		12
Soil-pipes removed and fixed outside building, and ventile	ated	4
New sanitary conveniences provided		20
New w.c. basins fixed in lieu of defective		14
W.C. provided with water supply and flush cistern		1
Slop sinks re-constructed		2
New stoneware troughs fixed		3
New lavatory wash-basins fixed		3
Waste-pipes disconnected from drain, and trapped		38
Water supply laid on from main direct in lieu of storage to	nks	19
Sanitary bins for house refuse provided		58
Additional light and ventilation provided for bedrooms		35
Rooms disinfected after infectious disease		68
Rooms cleansed and limewashed		152
Workshops and workplaces cleansed and limewashed		20
Staircases, passages, and landings cleansed and limewash	ed	60
Defective internal walls and ceilings repaired		27
Defective floors of rooms, landings, and staircases repaire	d	34
Defective windows repaired, and made to open at top and b		47
Defective external walls of houses repaired		26
Roofs, chimneys, and spouting repaired		29
Rainwater pipes disconnected from drain		11
Paving of yards repaired		26
Paving of yards and areas re-paved		25
Wash-house floors re-paved or repaired		13
Nuisances from keeping of fowls and animals abated		4
Nuisances from stables and manure pits abated		5
Nuisances from offensive accumulations abated		12
Overcrowding cases abated		7
Dilapidated cottages demolished .,		2

Houses	closed as unfit for human habitation		 8
Other n	atters		 2
Number	of visits of inspection made		 625
**	" notices served (preliminary)		 180
,,	,, ,, (statutory)		 54
,,	" tests applied to drainage by smol	ке	 109
,,	., ,, ,, ,, by wate	r	 47
	vessels inspected in harbour		 50

## PORT SANITARY INSPECTION.

The details of work carried out by me under this head will be found in the accompanying Special Report to the Council, as the Riparian Sanitary Authority.

Office work has, during the year, demanded a considerable amount of time, for the purpose of keeping the necessary books and records of work, and in correspondence.

I am, Mr. Mayor and Gentlemen, Yours obediently,

# WILLIAM B. WATSON,

Cert. Royal San. Inst.,

Sanitary Inspector.

## SANITARY INSPECTOR'S REPORT.

TOWN HALL,

TORQUAY,

February, 1915.

## PORT SANITARY INSPECTION.

To His Worship the Mayor, Aldermen, and Councillors of the Borough of Torquay.

GENTLEMEN,

I beg to present this my Sixth Annual Report to the Council, giving details of work carried out during the year, ending December 31st, 1914, in connection with my duties as Port Sanitary Inspector for the Borough.

As far as possible the inspection of vessels entering this Port is carried out as a matter of routine.

During the year some 50 vessels of various classes have been boarded and inspected; four of these were foreign, viz.:—three French, and one Norwegian.

In considering these figures it is necessary to bear in mind that many of the vessels trade here at regular intervals, and it is only considered necessary to examine them periodically; there are also a considerable number of high-class steam yachts using the port during the summer, and these are not likely to be kept in any but a sanitary condition.

#### SUMMARY FOR THE YEAR 1914.

Number	of vessels	ins	pected				{ Britis Forei	h 46 gn 4 }	50
Number	of crew ca	rrie	1	7			/		475
,,	passeng	gers	carried						33
,,	"		landed						32
,,	vessels	with	passen	ge	ers and gen	eral carg	0		7
,,	. ,,	,,	cargoe	s (	of coals				24
,,	,,	39	11	,,	vegetables	(foreign	)		3
,,	,,	11	,,	,,	timber (fo	reign)			2
,,	**	**	**	**	cement				4
,,	,,	99	17	,,	sand				6
,,	, ,,	,,	,,	,,	slates				2
,,	**	,,	,,	"	oil cake				1
,,	,,	**	***	,,	boilers an	d pipes			1

In regard to sanitary defects found, these were all of a minor nature, and were promptly rectified on verbal notice to the Master or Mate.

I am glad to be able to report that, during the year, no case of an infectious nature or other sickness occurred.

I am, Mr. Mayor and Gentlemen, Yours obediently,

W. B. WATSON,

Cert. R. San. Inst., Inpector to Riparian Sanitary Authority

# SANITARY INSPECTOR'S REPORT.

TOWN HALL, ST. MARY-CHURCH,

February , 1915.

To His Worship the Mayor, Aldermen, and Councillors of the Borough of Torquay.

## GENTLEMEN,

I have pleasure in presenting to you my sixth Annual Report for the year ending December 31st, 1914, in connection with the Sanitary Work carried out in the Wards of St. Mary-Church and Babbacombe, and the Meat and Food inspection for the whole of the Borough.

The routine work of the department has received the usual amount of attention, the inspection of Workshops, Bake-houses, Slaughter-houses, and the examination of Meat and other Foods being well up to the average. The latter work, as the tables show, takes up a considerable amount of time, and necessitates a large number of inspections being made before and after the usual office hours.

During the year extra duties, such as Board of Agriculture Orders, Local Government Board Regulations, etc., have been added to our work, but against this may be set the withdrawal of the Tuberculosis Animals Orders and modifications in the Swine Fever Orders, owing apparently to the outbreak of War.

## INFECTIOUS DISEASES.

(TABLES A AND B).

There have been a slight decrease in the number of premises inspected and rooms disinfected where cases of infectious diseases have occurred, but the number of improvements carried out are up to the average.

## TABLE A.

1913 Rooms.	Disease.	1914 Rooms.	1913 Rooms.	Disease.	1914 Rooms.
7	Scarlet Fever	 4	_	Measles	 1
56	Diphtheria	 31	1	Cancer	 3
23	Phthisis	 24	1	Typhoid Fever	 1

## TABLE B.

## PREMISES VISITED AND IMPROVEMENTS MADE.

Houses inspected		 26
Houses visited		 38
Dirty rooms limewashed or cleanse	d	 5
Rooms disinfected		 64
Defective floors repaired		 2
Water supply laid to tap over sink		 4
Defective yards paved		 4
Rooms lighted or ventilated		 5
R.W.P.'s and gutters repaired		 4
Nuisances from keeping fowls and a	nimals	 -
Ashbins provided for house refuse		 7
Roofs repaired		 -
DRAINS TES	TED.	

Smoke				 7
Water				 _
New sets of house dra	ins laid			 4
Defective house drains	repaired	1		 _
Old "Masons" traps a				 2
Intercepting traps with				 2
Inspection chambers to				 3
Drains ventilated at he				 2
New water-closets with				 _
New gullies fixed				 _
Choked drains cleared				 2
Defective W.C. cistern				3
W.C.'s repaired and cl		-		 1
				 5
Glazed stoneware sink	s nxea		****	
Miscellaneous				 8
Re-visits in connection	with this	s work		 33
Preliminary notices				 13
Letters written				 7
Verbal notices				 _
Legal notices		***		 -

# Inspections made under the Housing, Town Planning Act, 1909.

Sixty houses have been inspected under the above Act, the premises in question being situated in Victoria Park, Hele, and St. Mary-Church.

The amount of improvements carried out show a slight increase over last year, but this is accounted for to a great extent by a number of repairs in premises inspected during 1913 not being completed till early in the year under review, but during the latter part of the year it has been found extremely difficult to induce owners to carry out the necessary repairs, but no doubt the unsettled condition of national affairs and the high price of material, etc., has a lot to do with the question. On the other hand a number of property owners are in such financial straits that it is quite impossible for them to find the money to put the property in a thorough sanitary condition or at least to comply with modern ideas of sanitation.

Eight Closing Orders have been made by your Council in respect to insanitary properties, but only one Determining Order has been issued, in this instance the house was closed on representations being made by the owner.

At the close of the year there were thirty-one outstanding notices in connection with premises inspected under the Act, but it is hoped that at least twenty will be put in repair early in January, as a number of the notices were not served till the middle of December.

#### (TABLE C).

#### PREMISES VISITED AND IMPROVEMENTS MADE.

Houses visited or inspected	 	60
Dirty rooms limewashed and cleansed	 	40
Cases of overcrowding abated	 	-
Defective floors repaired	 	18
Water supply laid to tap over sink	 	6
Defective yards re-paved or repaired	 	14
Bed and living rooms ventilated	 	-
R.W.P.'s and gutters repaired	 	21
Nuisances from keeping fowls and animals	 	-
Ashbins provided for house refuse	 	15
Roofs repaired	 	18

#### DRAINS TESTED.

Smoke				47
				7.7
Water		***		2
New sets of house drains laid		* ***	•••	11
Defective house drains repair				3
Intercepting traps with fresh		s fixed	***	8
Old "Mason's" traps abolish				8
Inspection chambers to drains				6
Drains ventilated at head of s	ystem			7
New sanitary conveniences, w	ith wate	r supply fixed		11
Soil pipes fixed outside building	ng and v	entilated	***	
Iron and brick traps remove			gullies	
fixed				12
Choked drains cleared				1
Defective W.C. cisterns repair				7
W.C.'s repaired and cleaned				2
Glazed sinks fixed				4
Cesspools abolished				-
vesspools abolished				
Mysson	ELLANEOU			
MISCI	SLLANEOU	ъ.		
Offensive accumulations remo	ved			14
Nuisances from stables and m		its shated		
Waste of water reported				1
Miscellaneous				38
Re-visits in connection with a	hove we			170
				20
Legal notices served				33
Preliminary notices		,		33
Letters and communication		ne business o	f the	770
Department				332
Visits made to slaughter-hous	es			623

#### COMPLAINTS.

#### (TABLE D.

The nature of the complaints received were similar in character to those investigated in past years, but the number of complaints lodged in respect to the burning of garden and other refuse during prohibited hours show an increase.

The number of improvements carried out under this heading appear to be above the average, especially those relating to drains and other sanitary fittings.

In the majority of the cases the works required to be carried out were put in hand when the owner or person responsible were informed by letter and without serving the usual Sanitary Notice.

#### TABLE D.

PREMISES VISITED AND IMPROVEMENTS MADE. 24 Houses inspected Houses visited 48 Dirty premises limewashed and cleansed ... 26 Rooms disinfected on request .. .. Cases of overcrowding abated 5 Defective floors repaired 11 .. Water supply laid direct from main to tap over sink 10 Defective yards re-paved 8 Lighted and ventilated rooms 16 R.W.P.'s and gutters repaired 11 Nuisances from keeping fowls and animals .. 3 Ashbins provided for house refuse . . 25 Roofs repaired 4 .. DRAINS TESTED. Smoke 35 Water 6 New sets of house drains laid 12 Defective house drains repaired ... 7 Old masonry drains found and abolished ... Intercepting traps with fresh air inlets fixed . . Old "Mason's" traps abolished .. . . . 4 Inspection chamber to drains built 23 Drains ventilated at head of system 7 New sanitary conveniences with water supply fixed 22 Soil pipes fixed outside buildings and ventilated Iron and brick traps removed and earthenware gullies fixed .. .. .. .. 39 Waste pipes from baths, lavatories, and sinks trapped ... 10 Choked drains cleared .. .. .. 5 Defective W.C. cisterns repaired or new provided 12 W.C.'s repaired and cleaned .. .. 2 Cesspools cleaned .. Glazed sinks fixed 8 .. ... MISCELLANEOUS. Offensive accumulations removed .. 19 Nuisances from stables and manure pits abated 1 Miscellaneous .. .. .. 31 Re-visits in connection with above work 87 .. Legal Notices .. .. .. Preliminary notices served .. .. 18 Letters and communications in connection with this work 31 Verbal notices 5 .. .. .. .. Written complaints 16 .. Verbal complaints .. .. .. 43

#### SANITARY CERTIFICATES.

(TABLE E.)

Four houses were examined and reports furnished, but only two certificates were granted. In one instance the work was not carried out, the property remaining vacant, and in the other case application was not made for the certificate, owing apparently to a change in ownership or agency.

In only one instance was it found necessary to reconstruct the the drains throughout and in one case only slight leakage in the system was discovered, which could be repaired without relaying the drain. In two instances all drains and fittings were found sound and of modern construction.

#### TABLE E.

# PREMISES VISITED AND IMPROVEMENTS MADE.

Houses inspected			4
Dirty rooms limewashed and cleansed			-
Defective floors repaired			
Water supply laid direct from main to tap of	ver sink		-
Defective yards re-paved			1
R.W.P.'s and gutters repaired			1
Ashbins provided for house refuse			-
Rooms ventilated			-
DRAINS TESTED.			
Smoke			23
Water			4
New sets of house drains laid			1
Defective house drains repaired	.:		-
Intercepting traps with fresh air inlets			1
Old "Masons" traps abolished	**		-
Inspection chamber to drains built			3
			1
Drains ventilated at head of system	la Gard		2
New sanitary conveniences with water supp			1
Soil pipes fixed outside buildings and ventil			1
Iron and brick traps removed and earthe	nware gui	lies	
fixed		**	4
Waste pipes from baths, lavatories, and sinl			1
Defective W.C. cisterns repaired, or new pr	ovided		-
W.C.'s repaired and cleaned			-
Glazed sinks fixed	/		-
Lavatory basins fixed			-
Slop sinks constructed as water closets			-
Choked drains cleared			-

#### MISCELLANEOUS.

Miscellaneous					1
Re-visits in connectio	n with a	bove work			8
Letters and communic	ations in	nconnection	with th	is work	14

#### DAIRIES AND COWSHEDS.

I have in my district 35 dairies and 17 cowsheds. These have been inspected at least twice during the year.

Two milksellers have given up business and and one cowkeeper has removed his cows just beyond the Borough boundary. One new cowkeeper has been registered.

The condition under which the cows and cowsheds are kept are much the same as in former years, a few cowkeepers making a point of washing the udders and teats of the cows and taking precautions to prevent contamination of the milk, but the majority still pin their faith to the strainer, apparently losing sight of the fact that the majority of strainers, unless kept scrupulously clean, lead to greater bacterial contamination, as they collect the dirt from the first few quarts of milk, but the succeeding quantities carry the finer particles, which contain the bacteria, through the minute crevices of the strainer. Given clean milking and utensils bacterial pollution would be reduced to a minimum.

A number of quantitive analysis and bacteriological investigations have been made of milk samples obtained from various sources. The percentage of fat in most instances were above the Government minimum; the amount of solid filth was not great, but the bacterial count proved rather high.

The usual bi-annual inspections were made of the 27 dairy farms situated outside the Borough from whom the local dairymen obtain a good proportion of their milk. These were generally found clean and satisfactory.

### MEAT AND FOOD INSPECTION

(TABLES F TO N).

As in past years, the supervision of the food supply of the Borough, especially meat, takes up a good proportion of my time, owing partly to the number and distance apart of the different slaughter-houses and the amount of meat sent in prepared for sale. During the last quarter of the year the number of dressed carcases brought in has greatly increased. Undoubtedly

the war is responsible for this as the scarcity of frozen and chilled meat causes butchers to fall back on home supplies notwithstanding the increase in the price of same.

The billeting of troops in the Borough and the high price of fish has also led to a greater demand for meat as well as for other foods, yet with all these conditions against the tradesmen the quality of the food has not in any way been lowered but if anything it has been raised. This may appear paradoxical when read with the statement that there has been an increase in the amount of food destroyed owing to disease, but it is frequently found that the fat animal may be found when opened to be extensively diseased while the thin or moderately conditioned animal be perfectly healthy.

This is one of the risks the butcher runs in the course of his business and which gives rise to a considerable amount of dissatisfaction for it is felt that if a man buys what appears to all outward appearances a healthy animal and then finds on slaughter it is diseased and has to be destroyed, the public should bear at least part of the cost especially in view of the fact that it is destroyed in the interest of the public.

There are approximately seventy-two butchers' shops, sixty fruiterers' shops, about ten shops where coaked or cured meat is sold, eight slaughter-houses, one market, one railway siding, and the Fish Quay, in the Borough. Eight butchers from beyond the Borough boundary, and about nine local butchers hawk meat round the town from carts.

Visits are paid to the majority of the butchers' shops two or three times a week, generally on Tuesdays, Thursdays, and Fridays, and the contents of butchers' carts coming from the outlying districts kept under observation.

TABLE F.

DISEASED OR UNSOUND FOOD DESTROYED.

								Dise	ASES					
Organs.			Tuberculosis.	Flukes.	Cirrhosis.	Abscess.	Cysts and Water Bladders	Strongyli.	Inflammation.	Pleurisy.	Injury.	Other Diseases.	Unsound, &c.	Totals.
Bullocks:	Lungs .		_	_	_	2	-	1	1	_	_	_	-	4
	Livers .		-	20	8	3	_	-	_	-	-	-	1	32
	Tongues .		-	-	-	-	-	-	_	-	-	-	-	-
	Heads		-	-	-	-	-	-	-	-	-	-	-	-
Cows:	Lungs .		5	_	_	7		_	2	_	_	_	_	14
	T.		3	38	14	5		_	3	_	-	-	8	71
	Heads		1	-	-	_	-	-	_	_	-		-	1
	Tongues .		1	_	_	-	-	-		_	_	-	-	1
	Carcase .		1	-	_	-		-	_	-	_	-	-	1
Heifers :	Lungs		_	_	_	_		_	1	_	_	_	2	3
	Timen		_	9	6	_	1	-	1	_	_	-	-	17
	Tongues .		-	_	-	_	-	_	-	-	-	_	_	-
	Heads		-	_	_	-	-	-	-	_	_	-	-	-
Sheep	Lungs		_	_	_	2	10	104	2	2	_	_	_	120
	T incom		_	68	_	209	23	_	_	_	_	_	2	302
	Commence		_		_	_	_		-	_	_	2		2
Pigs:	Livers		5	_	_	_	3	3	_	4	_	_	_	15
	*		5		1	_		15	26	_	_	_	_	46
	TT 1		52	_	_		_	-	_	_	_	_	1	63
	0		1	_	_	-	-	-	-	_	_	34		341
Other Or	gans:	1							1		1			
	Mesenteries .		27	-	-	-	-	-	4	-	-		-	31
			4	-	-	-	_	-	5	-	-	-	-	9
			1			1		-	4	3	11	-	19	6
	Miscellaneou Fowls .		7 3			2	1	-	13		-	_	12	56 15
Other Foo			0	1			_	_	_	_	_	_	18	18
Other For		-			-								1000	_
	Totals .	. 12	26	135	28	231	38	123	62	9	11	36	63	833

#### TABLE G.

					TABL	E G.						
				DISEASED	CARCA	ses E	XAMI	NED.				
	1913	3.								1	914.	
	340	0	Bullock	8							337	
	304	4	Cows .								380	
	229		Heifers								228	
	686		Sheep .								710	
	21		Lambs								177	
	149		Pigs .								451	
	425		Calves								340	
										_		
	986	3						Tota	al .	. 10	623	
					TABL	Е Н.						
			Dis	EASED OR	Unsoun	D Fo	ор Г	ESTR	OYED.			
	1913	3.								1	914.	
ns.	. cwts.	qrs	. lbs.						tons	cwts.	qrs.	lbs.
1	1	1	7	Voluntar	y surren	ndered	d (app	prox-	1	19	2	6
	19	2	16	Surrende		er I	nspec	tion		13	0	51
					ximate	weigh	t)					
	5	3	18	Seized				**		15	2	25
2	6	3	13						3	8	1	81
					TABL	E I.						
				CARO	ASES L	ESTR	OYED.					
1	Cow			Tuberculo			Pigs			Gast	uitia.	
	Pig				1919						e Erys	inala
	Lamb			Endocard	itie	1	"					siberas
1				Unsound	ius .	29	"				sy e Feve	
	"			Chaound		23	"			SWIII	e I eve	1
					TABL	ET						
					LADL	E J.					191	4.
		Slan	ghter-h	ouses								23
			chers' S								11	
			chers' C									75
			Quay									16
			lway Sid									28
		Mar										52
			er shops	••	• •				**			17
		Oth	ет впорв		••						0.	11
					N.							

tons. 

TABLE K.

NUMBER OF TUBERCULOUS ANIMALS OR PARTS AND WHERE FOUND.

	Slaug	hter-houses.	Shops.	Carts.	Total.
Bullocks	 	-	-	-	-
Cows	 	4	1	_	5
Heifers	 	_	_	_	_
Pigs	 	41	35	2	78
Calves	 	_	-	_	_
				Totals	83

#### TABLE L.

PERCENTAGE OF DISEASED ANIMALS. (TUBERCULOSIS).

	Totals	88 in 2779	3·16 pe	er cent.
Cattle		5 in 945	 0.52	,,
Cattle		E : 04E	0.50	
Pigs		78 in 1451	 5:38	,,
Cows		5 in 383	 1.31 pe	er cent.

#### TABLE M.

Number of Carcases Examined in the Different Slaughter-Houses in the Borough.

No.	Bullocks.	Cows.	Heifers.	Sheep.	Pigs.	Calves.	Lambs.	Total.
1.	1	2	- 1	8	35	_	1	48
2.	5	27	2	321	26	10	17	408
3.	1	_	_	18	. 3	1	_	23
4.	4	27	1	119	63	_	-	214
5.	_	_	3	91	_	_	_	94
6.	1	-	27	140	-	_	8	176
Abatto	ir 68	76	34	2079	269	180	117	2823
8.	_	-	_	303	_	-	15	318

Total .. 4,104

#### TABLE N.

Total Number of Carcases Examined in Different Slaughter-Houses and Shops during the Year 1914.

Slaughte	r-Houses		 	 4104
Shops		)	 	 6519
				-
				10,623

No prosecutions have been taken during the year, but a rather interesting case arose in connection with the destruction of certain diseased pigs' heads. A number of pigs were dressed by a butcher at the Public Abattoir; these on inspection were found to be affected with localized tuberculosis, and in accordance with custom these were surrendered and duly destroyed. The man who sold the pigs to the butcher said he sold the pigs less the heads, and demanded the return of his property, but at the time he laid claim to them they had been destroyed. However, after some months delay a County Court summons was issued against me claiming the sum of £5 as damage for the "alleged illegal seizure of certain pigs' heads." Unfortunately the case did not go before the Court, the matter being settled between the seller and purchaser of the animals. It is interesting to record that the man who made the claim is not a butcher.

In view of this case the majority of the articles found diseased are duly condemned by a Justice; this accounts for the great increase in the number of Magistrates Orders. Naturally such a procedure creates a lot of extra work, but as it impossible for me to ascertain at the time of inspection the actual owner of the carcase or organ, it is the only safe course to pursue. During the year 83 carcases or parts of carcases affected with tuberculosis were found calling for the destruction of 126 organs, or parts of carcases, being an increase of 12 compared with last year, cows showing a slight increase, but pigs a decrease; there is also a decrease shown among the locally reared pigs. In other words 1.35% of pigs dressed in the local slaughter-houses showed evidence of disease, while 3.72% were found in shops, the majority coming in from N. Devon and Cornwall. This is assuming that the pigs killed in the Borough Slaughter-houses are locally reared, and no doubt this is a safe assumption. Certainly greater care appears to be taken by local pig keepers in the rearing and feeding of the animals.

One cow was found to be affected with generalized tuberculosis, necessitating the destruction of the whole of the carcase and organs.

One hundred and fifty-five Magistrates Orders for condemnation of food were obtained, involving 400 separate articles. This is an increase of nearly 100% over last year, but as stated above, owing to the actions of a few individuals, and the difficulty of proving ownership at the time of inspection, legal condemnation seems to be the only safeguard.

One hundred and sixty-nine articles were voluntarily surrendered, 294 being surrendered on request after inspection, and 400 duly seized and condemned.

On reference to the Tables, it will be noted that 863 organs or parts of carcases were destroyed on account of disease or unsoundness, including 37½ carcases.

Table F gives the nature of the diseases, necessitating the destruction of the various organs, or parts of carcases, etc.

Two specimens have been forwarded to either the Clinical Research Association, or the Runcorn Laboratories, for the purpose of confirming the diagnosis of the disease. These were sections of pig glands.

Weekly visits are paid to the Market Hall, and the contents of hawker's stalls inspected, especially during Saturday evening. Only in a few instances has it been found necessary to point out to tradesmen that fruit or vegetables exposed for sale were unfit for food, or to have removed rabbits livers affected with Coccidiosis.

There are eight slaughter-houses in the Borough, two "Registered" and six "Licensed."

The only diseases discovered during the year which might be termed uncommon for Torquay were the cases of Swine Fever and Swine Erysipelas.

Frequent visits are made to the rooms and to the utensils used in the process of sausage making, and in the preparation of cooked meats inspected. During the past year the more up-to-date tradesmen have had installed electric sausage-making machines, which are almost, without exception, fixed in the shops, the sausages being made in view of the public; this naturally tends towards greater cleanliness in the apparatus used.

The railway siding is frequently visited, especially during the summer, for the purpose of examining frozen and chilled meat consigned to the various frozen meat firms. I have again to record that every assistance and courtesy is rendered by the representatives of the various firms when making the inspections, and in the event of carcases or organs, etc., being found affected with bone taint, bruised, or unsoundness, I am immediately informed of the fact, and if on inspection the article is in my opinion unfit for food, it is at once surrendered, when a certificate

is given to that effect. During the year under review 37 parcels or articles were surrendered, making a total weight, 1,065½ lbs., which is nearly double the amount surrendered last year.

During the Spring, Summer, and Autumn, frequent visits were paid to the Fish Quay during the early morning, but nothing was found calling for special notice. No complaint has been received during the year in respect to the quality of fish sold. There has again been a scarcity of fish, especially since the outbreak of the war, so what has been landed at the Quay, or brought by train, has found a ready sale.

# Contagious Diseases Animals Act and Tuberculosis Order, 1912.

One case of suspected tuberculosis was investigated by your Veterinary Surgeon early in the year. In this case I found on examining the carcase of a cow, which had been slaughtered at a private slaughter-house, that the same was suffering from localized tuberculosis, the disease being present in the mediastinal and bronchial glands. As this animal had been in contact with other milch cows, it was thought that they might likewise be affected, so the consent of the owner was obtained to apply the tuberculin test to the six animals on the farm, but they failed to re-act, thus pointing to their freedom from the disease.

After the outbreak of war, the Tuberculosis Order was withdrawn.

Two cases of Epizootic Abortion have been notified, and I understand three suspected cases have been investigated by your Veterinary Surgeon.

We had one outbreak of Swine Fever reported during the year. This occurred at certain premises situated at Barton, where twenty-nine pigs were kept. The first appearance of the disease was the finding of a dead animal in one of the stys, this was quickly followed by the sudden death of eight or nine more. The owner then decided to slaughter the remainder in the hope of saving some of the carcases. All the animals were slaughtered in my presence, but owing to their condition they had to be destroyed.

The outbreak was investigated by the Government Inspector, but the source of the disease could not be traced, in fact no fresh pigs had been brought to the premises for nearly three months, and no cases of Swine Fever had occurred in Torquay or the surrounding districts for many years.

All the carcases were buried in lime in the farm, and the usual precautions taken.

THE WART DISEASE OF POTATOES ORDER OF 1914.

This Order came into force early in the year.

The usual enquiries were made, and circulars handed to greengrocers and dealers and others concerned. No cases were found in the Borough, but I was informed a case occurred in the adjoining rural district.

### GOOSEBERRY MILDEW ORDER, 1912.

No case of Mildew has been discovered, but the usual inspections have been made and the fruit inspected, especially in the case of carts coming in from the adjoining districts.

The usual enquiries were made by the Government Inspector as to the steps we were taking in the matter of supervision and mode of dealing with any diseased fruit that might be discovered.

#### WORKSHOPS.

The whole of the workshops which come under my supervision were visited at least once during the year, except in the case of bakehouses and these were inspected twice and in some instances three times.

As will be seen from the tables only a few minor defects have been found; these have usually been remedied by request without serving the usual sanitary notices.

Under Section 107 of the Factory and Workshop Act, 1901, persons employing out-workers in certain trades must furnish the Sanitary Authority with the names and addresses of all out-workers employed by them.

These lists should be furnished twice a year, viz: February and August.

The usual difficulty is experienced in obtaining these lists, practically the whole of the firms employing out-workers had to be written to, some several times before these lists were furnished.

Thirty-five out workers names were received between February and March, and thirty between August and November, who carry on work at six different premises; the majority have been visited and the premises and surroundings found clean and satisfactory.

The names and addresses of ten out-workers have been forwarded to other Sanitary Authorities.

There are two underground bakehouses in my district.

The Factory Inspector has been notified of three unregistered workshops, and four notices of occupation were received from him.

Four notices were received from the Factory Inspector; one related to want of closet accommodation, two to the requirements in respect to lime washing, and one to the want of sufficient ventilation.

#### TABLE P.

IMPROVEM	MENTS MA	DE.		
			Number Found.	of Defects. Remedied.
Dirty workshops limewashed and cle	eansed		5	5
Cases of overcrowding abated			_	_
Defective floors repaired			2	2
Defective yards re-paved			1	1
R.W.P.'s and gutters and roofs repa	ired		_	_
Nuisances from keeping fowls and a	nimals			-
Ashbins provided for house refuse			_	_
Lighted and ventilated workrooms			-	2
Drain	s Tested			
Smoke			-	2
New sets of house drains laid			_	1
Intercepting traps with fresh air inl	ets fixed		_	1
Insufficient sanitary conveniences			_	_
Inspection chambers to drains built			_	1
Defective W.C. cisterns repaired or	new provi	ded		_
Drains ventilated			_	1
W.C.'s repaired and cleaned			1	1
New sanitary conveniences with wa	ter supply	fixed	_	1
Glazed sinks fixed			-	1
Earthenware gullies fixed			-	

#### MISCELLANBOUS.

W.C.'s not separate for s	exes			-	-
Nuisances from stables a	nd manure p	its abated		_	-
Miscellaneous or other d	efects			-	2
Re-visits in connection v	vith above wo	ork		-	4
Legal Notices served				_	
Preliminary notices				_	-
Letters and communica	tions in cor	nection w	ith		
workshops				-	12
Letters or Notices and V	erbal Notice	s—			
Factories (including F	actory Laun	dries)		_	-
Workshops (including	Workshop L	aundries)		_	7
Workplaces (other tha	n Outworker	s' premises	)	-	1
Outworkers				_	63
Nuisances under the P	ublic Health	Acts-			
Want of cleanliness				2	2
Overcrowding					-
Other nuisances				-	3
1	insufficient	f		_	. 1
* Sanitary accommodation	unsuitable o	r defective	P	1	1
accommodation	not separate	for sexes		-	_
	and the Comment	and the same of the same of			

<sup>\*</sup> The Public Health Act Amendment Act, 1890, is in force in the Borough.

TABLE Q.

Number Re-visited.	Description of Trade.		Number inspected.	No. of workroom or workplace	
3	Laundries		42	93	
	Dressmaker and Milliner		19	11	
	" ,, Outworke	ers		60 -	
	Corset Maker				
	Tailor		10	9	
3	" Outworkers		3	3	
	Bootmaker		11	12 2 1	
2	Outworkers		2	2	
	Saddle and Harness Maker		1	1	
	Sailmaker				
	Coachbuilder		1	3	
	Wheelwright		13112503		
	Shoeing Smith		3	3	
	Upholsterer and Cabinet Maker		2	4	
	Blind Maker			Mari S	
	Umbrella and Trunk Maker				
	Picture Framer				
	Photographer		1	1	
	Watchmaker and Jeweller		2	2	
	Electro-plate Works				
	Printing Works		1	2	
	Dye Works			- Account	
	Cycle Works or Repairers		1	1	
	Plumber and Painter		6	7	
	Builders, Decorators, and Carpente		8	13	
	Marble Mason		6 8 3 2 2	4	
	Quarries		2	2	
	Ironmonger and General Smith		2	4	
32	Baker and Confectioner		17	20	
	Marine Store and Rag Sorter		1		
	Forage		3		
	Ærated Waters		2	2	
	Pickles and Jams		1	2 2 2	
	Dottle Weshing	3311	î	2	
	Engineers				
	Duct Destructor				
	Tantus Irona				
	Bath-chair Makers	**		1/2/1/1	
	Knitting				
2	Dattann		2	16	
-	Brewers		4	10	
	THE .				
	Packet Makeye		1	1	
11-11-11	Othora		1	4	
	Others		1		
42	Totals	8	144	223	

#### TABLE R.

TOTAL NUMBER OF WORKSHOPS AND FACTORIES ON REGISTER.

TOTAL NUMB			ND FACTO	ORIES ON		The same of
	scription of	of Trade.				Number.
Laundries						55
Dressmaker and						19
. "	,, C	utworkers				-
Corset Maker	••					-
Tailor						3
,, Outworke						4
Bootmaker, inclu			rkshops			18
Saddle and Harn	ess Maker					2
Sailmakez						-
Coachbuilder						2
Wheelwright						-
Shoeing Smith						5
Upholsterer and	Cabinet M	aker				3
Blind Maker						_
Umbrella and Tı	unk Make	r				1
Picture Framer						_
Photographer						2
Watchmaker and	Jeweller					3
Electro-plate Wo	rks					_
Printing Works						3
Dye Works						_
Cycle Works or I						1
Plumber and Pai						8
Builders, Decora						11
Marble Mason		an pointer.				5
Quarries						2
Ironmonger and		mith			• •	1
Baker and Confe						17
Marine Store and						1
						1
B-			**			2
						1
Pickles and Jam						1
Bottlewashing						1
Engineers						
Pottery					**	3
Brewers						2
Bath Chairs		**		100		-
Dust Destructor						-
Knitting						-
Basket Makers						1
Others						1
			Total	1	.,	178

#### MISCELLANEOUS.

The temporary closet accommodation on the Race-course (the same provisions being made as last year) was visited each day during the races, and were generally found satisfactory.

The Public Elementary Schools were regularly visited and inspections made of the closets and urinals. In a few instances I have had to request the Caretaker to give greater attention to the flushing and cleaning of the sanitary conveniences.

The Victoria Park School has been re-drained and new sanitary accommodation provided, and the lighting and ventilation of the schoolrooms remodelled.

The public conveniences on Oddicombe Beach, Babbacombe Beach, Babbacombe Downs, Wellswood, and Manor Road, have been frequently visited, and have generally been found clean and satisfactory.

A total of 455 letters or postcards, and about 91 notices were sent out and 934 letters, postcards, telephone calls or other communications were received in connection with the work of the department during the year.

507 poor persons were supplied with disinfectant for use in flushing drains and washing floors, etc.

A distance of 2,482 miles has been cycled during the year.

I am, Mr. Mayor and Gentlemen,

Your obedient servant,

GEORGE EDWARD BODY,

CERT. ROYAL SAN. INST, &C.,
Sanitary Inspector.

# BOROUGH OF TORQUAY.



# Meteorological Report

WITH EXTREMES FOR THE YEAR 1914, AND
COMPARISON WITH AVERAGES OF
PRECEDING YEARS.

23rd YEAR OF ISSUE.

BY

FREDERICK MARCH, M.P.S.

Borough Meteorologist.

#### OBSERVATORY AND INSTRUMENTS.

The Observatory is organised and maintained by the Town Council, and is under the supervision of the Meteorological Office, London.

The several Barometers, Thermometers, and Rain Gauges have been verified at Kew Observatory, and are regularly examined by an Inspector on the staff of the Meteorological Office. Readings are all corrected for instrumental errors.

The Hygrometrical Results are deduced from the daily morning readings of the Dry and Wet Bulb Thermometers by means of Glaisher's Tables.

The averages for sunshine are the result of the 15 years', for Temperature and Rainfall of 38 years', and for Pressure of 30 years' observations.

The following are the instruments and appliances in regular use, those marked with an asterisk being the property of the Torquay Natural History Society, and lent by them to the town:—

- \* The Barometer is a Fortin Standard, and is read twice daily, at 9 a.m. (local time) and at about 5 p.m. All readings are reduced to 32° F. and mean sea level, and are thus comparable with readings similarly reduced
- \*An Aneroidograph, by Richard Freres, gives in graphic manner the alternations of pressure.

Two double-louvred Stevenson's Screens, each containing Dry and Wet Bulb, and Maximum and Minimum Thermometers. The instruments are of

standard make, and are so placed that the bulbs of the hygrometer are four feet above the level of the ground. One of these sets has been working throughout the year at Cary Green, where the published temperatures have been taken; the other in the Princess Gardens.

The Rain Gauges are of copper, by Casella, and of the Snowdon pattern. They are placed: one on Cary Green, one in the Princess Gardens, with the upper edges 12 inches above the level of the ground.

A third \*Stevenson's Screen, also double-louvred, has been in position in the Princess Gardens, and has held a \*Thermograph, or Self-recording Thermometer, and an Ozonometer.

The Grass Minimum is by Hicks, and is placed in the Princess Gardens an inch above the ground.

The Sunshine Recorder is situated on the covered shelter at the southern end of the Pier deck, and is a Curtis' Improved Campbell-Stokes instrument, fitted with a 3½-inch spherical lens of crown glass, working on the principle of the burning-glass.

# SHADE TEMPERATURES

Taken at 9 a.m. (Local Time).

	я		ii	0					
1914.	Maximum mean.	Minimum mean.	Max. & Min.	Difference from Average.	Range mean.	Highest.	Date.	Lowest.	Date.
	•					0			
Jan	45.1	37.5	41.3	-1.2	7.6	54.3	9th	29.1	1st
Feb	51.4	42.5	47.0	+3.8	8.9	55.8	3rd	35.1	17th
March.	52.6	41.1	46.9	+2.7	11.2	63.0	31st	32.1	11th
April	58.3	45.4	51.9	+3.7	12.9	67.2	22nd	38.3	8th
May	60.6	48.1	54.4	+1.1	12.5	71.6	19th	41.0	10th
June	67.9	52.8	60.4	+1.9	15.1	75.9	13th	44.2	8th
July	67.8	56.5	62.2	+0.4	11.3	76.1	12th	49.1	4th
Aug	68.6	56.7	62.7	+1.1	12.0	74.0	31st	51.6	11th
Sept	65.3	53.0	59.2	+0.8	12.3	74.1	3rd	42.1	23rd
Oct	59.4	49.0	54.2	+1.8	10.4	65.8	9th	37.3	29th
Nov	52.9	42.8	47.9	+0.5	10.1	60.7	6th	31.6	24th
Dec	49.4	40.1	44.8	+0.7	9.3	55.2	2nd	31.4	22nd
Year	58.3	47.1	52.7	+1.4	11.2	76.1	July 12th	29.1	Jan. 1st

## DURATION OF BRIGHT SUNSHINE

In hours and tenths of an hour,

As recorded by the Campbell-Stokes' Standard Instrument.

1000								1
19	14.	Total Bright Sunshine.	Percentage Actual of Possible.	Difference from Average.	Greatest Amount in one day.	Date.	Percentage Actual of Possible.	Sunless Days.
		Hours.	%	Hours.	Hours.		%	
anua	ry	28.5	11	- 37.4	6.2	6th	79	18
ebru	ary	65.0	24	- 26.5	8.3	25th	79	4
Iarch		128.3	35	- 9.4	10.0	31st	80	5
pril		236.5	58	+ 56.8	12.8	28th	89	0
Iay		225:3	47	- 3.9	13.8	19th	88	2
une.		261.0	54	+ 43.7	14.8	29th	91	0
July.		178.6	37	- 66.4	14.1	10th	88	2
Lugus	st	230.9	52	+ 14.0	13.4	17th	94	2
Septe	mber	198.5	53	+ 33.1	11.9	3rd	79	1
Octob	er	103.9	32	- 9.8	9.1	8th	77	4
Nove	mber	70.1	27	- 13.3	6.8	6th	73	6
Decen	nber	69.6	29	+ 15.5	5.8	1st	72	7
				7				
7	Year	1796.2	41	- 3.2	14.8	June 29th		51

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## RAINFALL

In inches and hundredths.

		nt.	nce ge.	Rain	Days.	Greatest fall in 24 hours.	
1914.		Total Amount.	Difference from Average.	0.01 and	Days of 0.01 and 0.04 and upwards upwards		Date
January	*C. G.	0.80	-2.48	11	6	0.25	29th
,,	†P. P.	0.80				0.25	29th
February	C. G.	4.47	+1.79	18	14	1.08	7th
	P. P.	4.39				1.02	7th
March	C. G.	5.21	+2.53	23	20	1.11	19th
,,	P. P.	5.13				1.06	19th
April	C. G.	1.20	-1.09	10	9	0.44	4th
	P. P.	1.20				0.44	4th
May	C. G.	1.38	-0.55	12	9	0.56	3rd
	P. P.	1.35			S. B.	0.57	3rd
June	C. G.	0.78	-1:36	9	8	0.35	9th
,,	P. P.	0.77				0.35	9th
July	C. G.	2.97	+0.77	14	7	1.59	19th
,,	P. P.	2.89				1.57	19th
August	C. G.	2.39	-0.27	12	7	1.08	14th
	P. P.	2.34	7			1.03	14th
September	C. G.	2.53	+0.35	11	10	1.26	9th
-	P. P.	2.47				1.26	9th
October	C. G.	2.65	-1.45	13	10	0.70	31st
	P. P.	2.56				0.65	31st
November	C. G.	4.41	+0.86	15	12	0.71	29th
* CONTRACTOR OF CO.	P. P.	4.39				0.76	29th
December	C. G.	9.51	+5.49	25	22	0.99	11th
	P. P.	8.92				0.86	11th
"					1	to s	AND RA
Year	C. G.	38.30	+3.50	173	134	1.59	July 19th
,,	P. P.	37.21				1.57	July 19th

<sup>\*</sup> Cary Green. + Princess Pier.

HUMIDITY, CLOUD, OZONE, AND WIND.

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	Нимі эіту.			CLOUD	Pe	Ozone. rcentage possible.		WIND.
1914.	Dry Bulb mean.	Wet Bulb mean.	Relative Humidity.	Cloud mean 1 to 10.	Mean Daily Amount.	Greatest Daily Amount	Least Daily Amount.	Prevailing Quarters.
	0	0	%		%	%	%	
January	41.0	39.2	86	8.0	43	90	10	N.E., W. & N.W.
February	46.0	44.4	87	7.0	65	90	30	S.W. & W.
March	47.1	44.7	82	6.5	72	90	55	w.
April	52.6	48.7	76	4.5	61	90	40	W. & N.E.
Мау	55.5	50.3	<b>6</b> 9	5.0	60	95	35	Variable
June	61.3	56.0	71	5.0	50	80	10	N.E. & N.W.
July	63.1	58.8	75	6.0	50	85	20	w.
August	<b>63</b> ·3	59.3	77	4.5	44	85	10	W. & S.W.
Sept	5 <b>9</b> ·9	56.0	79	4.5	56	75	30	N.W. & N.E.
October	53.5	50.9	82	6.5	43	70	10	N.W. & N.E.
Nov	47.6	45.7	86	7.0	53	90	10	S.W. & N.E.
Dec	44.4	42.8	87	6.0	60	90	10	S.W.
Year	52.9	49.7	79	5.9	55	90	10	Westerly.

