[Report 1906] / Medical Officer of Health, Torquay Borough.

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BOROUGH OF TORQUAY.

Annual Report

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1906,

BY

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

TOGETHER WITH THE

Annual Reports of the Sanitary Inspectors

AND THE

Report of the Borough Meteorologist.

BOROUGH OF TORQUAY, 1906.

Area of the Borough, 3,858 acres.

Rateable value, £187,000.

Population—Census (1901), 33,625 ; estimated at the middle of 1906, 33,950.

Number of inhabited houses—Census (1901), 6,614.

Average number of persons per house, 5.

Density of population, 8·7 persons per acre.

Crude death rate, 1906, 13·9 per 1,000. Average for previous 10 years, 15·1 per 1,000.

Corrected death rate, 1906, 14·6 per 1,000. Average for previous 10 years, 14·1 per 1,000.

Death rate if all visitors excluded, 13·5 per 1,000.

Birth rate, 16·6 per 1,000. Average for previous 10 years, 17·0 per 1,000.

Infantile mortality, 1906, 107. Average for previous 10 years, 130.

Death rate from zymotic diseases, ·53 per 1,000.

Mean annual temperature, 51·6.

Hours of Bright Sunshine Recorded, 2026·3.

Total Rainfall, 28·53 inches.

BOROUGH OF TORQUAY.

ANNUAL REPORT

OF THE

Medical Officer of Health

For 1906.

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

GENTLEMEN,

I beg to present my fourth 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 Workshops Act as required by the Secretary of State for the Home Department.

The gross death-rate—13·9—is exactly the same as it has been for the past two years. I have much pleasure in reporting an increase in the birth-rate which is 16·6 per 1,000, against 15·4 last year, and 15·7 in 1904. It is the highest rate recorded since 1900. The Infantile Mortality is 107 per 1,000 births, in 1905 it equalled 101. The zymotic death-rate is ·53 per 1,000, against ·94 in 1905.

During the year the Model Bye-laws of the Local Government Board for dealing with tents, vans, sheds, and similar structures, used for human habitation have been adopted by your Council. Similarly, "Regulations for dealing with cases of infectious disease on board vessels" arriving at this port have been agreed to, and sanctioned by the Local Government Board.

The voluntary notification of Phthisis is now in force in the Borough. I hope that before long the Local Government Board will see their way to include this among those infectious diseases which are compulsory notifiable.

I would draw your attention to the resume in the report dealing with the second interim report of the Royal Commission on Tuberculosis, which will be found under the heading dealing with the milk supply, page 34.

As Medical Officer of the Education Authority, a large amount of useful work has been accomplished. A preliminary examination of the eyesight of all the children attending the elementary schools was made by the head teachers, and now it has been decided that those found to be defective shall be further examined by Dr. McKenzie, who has been appointed occulist to the Authority.

With the assistance of the teachers, I made a physical examination of all those children over five whose parents were willing for it to be done. I have not had time to tabulate the results obtained.

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 the Members of the Sanitary staff 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 3,858 acres. It is divided into nine wards, which, with their populations, according to the 1901 census, are as follows :—

Torre	3851
Waldon	3576
Upton	4339
Ellacombe	5911
Strand	3129
Torwood	3644
St. Mary-Church	3312
Babbacombe	3264
Chelston	2599
The Borough	33,625

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.

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.

No. 3 District.—The whole of the St. Mary-Church and Babbacombe Wards.

The principal public Institutions from a Sanitary point of view are—

The Torbay Hospital in the Upton Ward.

The Western Hospital for Consumptives, and the Rosehill Children's Hospital in the Strand Ward.

Smyrna, or the Mildmay Consumptive Home, in the Ellacombe Ward.

St. Barnabas', St. Luke's, St. Raphael's, and Erith House, all Consumptive Homes, situated in the Torwood Ward.

The Borough Sanatorium for infectious diseases 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.

These are of a highly diversified character, especially the central portions forming the Torquay promontory. In this district the two principal heights are the Warberry, 448 feet, and the Lincombe Hills, 372 feet, forming long ridges running N.E. and S.W., which are composed of the Lower Devonian grits and slates. The lesser heights, such as the Braddons, Waldon Park, 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 sandstones 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.

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 :—

		1905.	1906.
Highest Maximum Temperature	...	78°·7	76°·1
Lowest Minimum ,,	...	25°·8	28°·8
Mean Maximum ,,	...	56°·8	57°·3
Mean Minimum ,,	...	45°·6	45°·9
Mean of Maximum and Minimum	...	51°·2	51°·6
Difference from average	...	——	·4
No. of days on which rain fell	...	148	170
Total fall in inches ...	...	27·88	28·53
No. of hours of bright sunshine	...	1774·8	2026·3

THE CLIMATE OF TORQUAY.

The winter climate of Torquay may be described as mild and equable. By comparative tables of recorded temperatures, "The Lancet" has again and again demonstrated that although the mean temperature of Foreign Health Resorts, such as Nice and Florence, is somewhat higher than that of Torquay, yet the nights here are just as warm as those in the resorts mentioned. The main feature, however, is the large amount of sunshine experienced during the winter months. Other beneficial factors are freeness from fogs and the 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 are most advantageous to children, and those who are delicate have every chance of growing up strong and healthy.

It hardly appears necessary to again refute the fiction that Torquay is unbearably hot in summer. During the hottest days it has been found invariably that the maximum temperature here is some 5 to 10 degrees lower than those recorded in London and the Midlands. To a great extent this is due to the fact that Torquay is situated on a promontory, thus being flanked on two sides by the sea, while to the north-west is Dartmoor, so that it is constantly fanned by cool breezes from one or other direction. 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 15 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	584
Woods...	75
Woods (new)	30
Land within zone	350
Land under cultivation	212
Grazing	990
Total ...	2241

At the present time the water is stored in two large reservoirs—the Tottiford Reservoir containing 103,000,000 gallons, and the Kennick Reservoir 194,000,000 gallons.

The supply is augmented by taking water from the Trenchford stream, the yearly average amount being 170,000,000 gallons. In order to reduce to a minimum the possibility of there being any shortage of water in very dry seasons, the Corporation applied for and obtained an Act of Parliament, enabling them to build another reservoir in the Trenchford Valley, impounding the waters of the Trenchford stream. This reservoir will be capable of containing 200,000,000 gallons.

The work of constructing the dam was commenced in February, 1904, and has continued satisfactorily since then. At the present time almost the whole of the clay core has been put in position, and the pitching of the water face is rapidly approaching completion. The valve tower has been placed in position, and practically all that now remains to be done is to clear up the bed of the reservoir.

In the Parliamentary Session of 1896-7 the Corporation obtained power to purchase the whole watershed. This they did, and were enabled to remove all farms and inhabited buildings from the area, thus doing away with a constant menace to the purity of the water. The reservoirs and all streams and feeders have also been surrounded by zone fences with trenches inside; the latter being intended to catch the surface water, and cause it to percolate through the ground before reaching the streams. The improved quality of the water fully justifies the Corporation in the large expenditure incurred, and has reduced the possibility of pollution to a minimum.

Much labour has during the year been expended in cleaning up and clearing the streams, and in endeavouring to prevent the passage of peaty matters into the reservoirs.

The rainfall on the watershed is taken at five stations, and the results were as follows :—

	1905.	1906.
Kennick	33·79 inches.	34·84 inches.
Mardon	33·70 ,,	35·28 ,,
Blackingstone ...	21·32 ,,	28·01 ,,
Laployd	25·12 ,,	29·51 ,,
Bullaton	——	39·03 ,,

Average over whole watershed 32·94 inches, or four and a half inches more than in 1905, when it was 28·46 inches. The average amount of evaporation was 21·64 inches over a water area of about 83 acres.

The water supply is continuous, and the average amount used for all purposes was 32·9 gallons per head per day, against 32·75 gallons in 1905.

Professor Percy Franklin, after visiting the gathering 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."

During the year I have made regular chemical analyses of the water taken from different parts of the borough, and also of samples taken from the springs and streams feeding the reservoirs. The following results of a recent analysis are typical :—

PHYSICAL CHARACTERS.

Colour ...	...	Slight brownish yellow.
Turbidity	...	Cloudy.
Odour ...	...	None.
Deposit ...	...	A very minute amount of vegetable debris.

CHEMICAL RESULTS.

Expressed in parts per 100,000.

Total solids	7·6
Chloride	1·5
Hardness	2·4
Nitrites	Nil
Nitrates	·19
Free Ammonia	·0026
Organic Ammonia	·0048
Oxygen absorbed in 4 hours at 80° F. ...	·056
Poisonous metals	Nil

From an examination of the above results and a knowledge of the gathering ground, I have no hesitation in classifying this water as an excellent one for all domestic purposes.

SEWERAGE.

The sewage of the whole district, and most of the storm-water, 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 automatic hydraulic pumps. The main sewer

is 7 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 sewage is discharged at all states of the tide. No method of treatment is adopted, as the flow of current is out towards mid-channel beyond Berry Head, and does not under any circumstances return towards the bay.

On one or two occasions the flooding of premises at Plainmoor, on the St. Mary-Church Road, mentioned in my last report, recurred during exceptionally heavy rain. The Borough Engineer has at two points, viz., at Forrest Road and at Mudges Hill, put in relief sewers, which ought to prevent any baying back of storm water in the main. Since this was completed no further complaints have been received.

The difficulty of draining the new houses in Rowley Road, off Fore Street, St. Mary-Church, has been overcome, by carrying a main sewer from there to the existing sewer in Petitor Road. The Cary Estate and the Town Council dividing the cost.

The work of erecting the new pumping station at Livermead is now nearing completion. The sewage from all existing houses and all future buildings will be taken there and pumped into a rising main, which discharges into the existing sewer at Seaway Lane. A separate system of sewers will be laid to carry all surface water into the stream which discharges into the sea at Livermead Beach.

Collection and Disposal of Refuse.

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, about 12,000 tons being dealt with annually. The destructor is a "Warner Perfectus" of four cells. 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.

POPULATION.

The population of the Borough at the 1901 census was found to be 33,625, of whom 13,339 were males, and 20,286 females. The number of inhabited houses being, 6,614, and the average number of persons per house was 5.

It is somewhat difficult to arrive at a correct estimate of the population of the Borough. At the census in 1901 it was found that the population had been slightly overestimated. I have, therefore, been content to make my estimate by adding the natural increase, *i.e.*, the excess of births over deaths, to the population estimated for the previous year. This gives us a total of about 33,950, which has been used to calculate the various rates in this report.

The average number of persons per acre is 8·7.

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 proportions of males to females, or of young persons to old persons, are different to 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.

As Torquay has a much larger proportion of females to males in its population, and of people at advanced ages, than that of England and Wales, I have calculated a factor by which all Torquay rates have to be multiplied to compare them with those of the whole country. This factor is ·8044.

Births.

The total number of births registered during the year was 566—males 298, females 268—being 44 more than in 1905. Of the 566 births 25 were illegitimate, equal to 4·4 per cent.

The numbers registered in each quarter of the year were as follows:—

1st quarter	133
2nd ,, ...	160
3rd ,, ...	143
4th ,, ...	130
Total	566

The birth-rate is equal to 16·6 per 1000 per annum, or 1·2 per 1000 higher than in 1905. It is the highest rate since 1900. It is a great satisfaction to be able to record even this slight increase in the birth-rate, as it is usually considered to be the natural and direct result of prosperity.

The following table gives the total births and the birth-rates for the past seven 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.
1900	559	16·6	28·9
1901	556	16·5	28·5
1902	540	16·0	28·6
1903	536	15·9	28·4
1904	530	15·7	27·9
1905	522	15.4	27·2
1906	566	16·6	27·0

Last autumn, at a meeting of the Sanitary Inspectors' Association held at Blackpool, Sir James Crichton-Browne gave the Presidential address, and incidentally drew attention to the rapid fall in the birth-rate of that Borough. He then enumerated a list of some 15 towns whose birth-rates were the same or below that of Blackpool, and lowest on this list was Torquay. He attributes the low birth-rate to the character of the population, saying that the towns mentioned "are the resort of affluent, intelligent, educated, well-to-do people, and have in their population a comparatively large proportion of that class."

At the last census it was found that the population of Torquay shewed an excess of 6947 females over males; that a very large proportion of the female population were spinsters, and that some 40 % were either above or below the child-bearing age. In the face of such facts as these, it is not reasonable to expect anything but a low birth-rate. It is manifestly unfair to compare the birth-rate of Torquay with such a town as Rhondda, unless the population is reduced to a normal standard of constitution as regards sex, age, and marriage. Indeed, for comparative purposes the birth-rate should be calculated, not on the population, but on the number of married women between the ages of 20 and 40, who constitute the great majority of active mothers.

VACCINATION.

Through the courtesy of Mr. Edwards, the Vaccination Officer, I am able to give the results of primary vaccination for the years from 1897 to 1905. It is very satisfactory to note the large percentage of children protected from this loathsome disease.

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
1897	683	581	2	—	—	59	—	4	20	85 %	93 %
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

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 49 cases of infectious disease were notified, 10 less than in 1905.

Table giving comparison with previous five years :—

Notifiable Disease.	1906	1905.	1904.	1903.	1902.
Small-pox	—	1	—	2	—
Cholera	—	—	—	—	—
Diphtheria	2	6	4	13	9
Membranous croup	—	—	—	—	—
Erysipelas	2	5	3	3	3
Scarlet fever ..	34	36	28	21	17
Typhus fever ..	—	—	—	—	—
Enteric fever ..	11	10	9	9	8
Relapsing fever ..	—	—	—	—	—
Continued fever ..	—	—	—	—	—
Puerperal fever ..	—	1	1	1	—
Plague	—	—	—	—	—
*Chicken Pox ..	—	—	—	5	33
Totals ..	49	59	45	54	70

*In 1903 Chicken Pox was notifiable for the first three months of the year, and in 1902 for the last nine months.

The following table gives the notifications during each month of 1905 :—

	Small-pox.	Diphtheria and Membranous Croup.	Enteric Fever.	Puerperal Fever.	Scarlet Fever.	Erysipelas.	Chicken-pox	Total.
January ..	—	1	—	—	3	1	—	5
February ..	—	—	—	—	1	—	—	1
March ..	—	—	1	—	3	—	—	4
April ..	—	1	2	—	6	—	—	9
May ..	—	—	7	—	2	—	—	9
June ..	—	—	—	—	3	—	—	3
July ..	—	—	—	—	3	—	—	3
August ..	—	—	—	—	—	—	—	0
September ..	—	—	—	—	—	—	—	0
October ..	—	—	—	—	8	—	—	8
November ..	—	—	—	—	4	—	—	4
December ..	—	—	1	—	1	1	—	3
Totals ..	—	2	11	—	34	2	—	49

In table III. of the Local Government Board returns on page 43 full details are given of the age of patients, the number occurring in each ward, and the number of such removed to Hospital.

Cases Isolated in Hospital.

Of the 49 cases, 32 were removed; this is equal to 65 per cent. They were as follows :—

Scarlet Fever ... 29 cases to the Sanatorium, Newton Road.
Enteric Fever ... 3 ,, to the 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 suitable 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 are fumigated with formaline. 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 two years, without requiring any special attention. During the year 1435 articles have been disinfected. These include 170 mattresses, 70 bolsters, 239 pillows, 132 blankets, 55 sheets, the remainder being curtains, carpets, rugs, and various articles of clothing.

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.

Means of Isolation.

The Borough Sanatorium, Newton Abbot Road, consists of the administrative Building—a Scarlet Fever ward block, consisting of two wards, with 7 beds in each; and a Diphtheria ward block, two wards, with 7 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 inhabited building, so that it is kept in readiness for the reception of small-pox, should any arise. Twice during the last four 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 consequences of an epidemic would be disastrous, such accommodation is absolutely indispensable.

Small-Pox.

I am glad to say that, although many cases occurred in surrounding towns, no introduction of this disease took place.

Diphtheria.

Only two cases were notified, compared with six in 1905. Both children were well isolated at home, and both recovered. In the house where one of these cases occurred, the drains were found to be in a very defective condition.

Scarlet Fever.

Thirty-four cases were notified against 36 in 1905. There were no deaths. From the table giving the monthly notifications it will be seen that cases occurred every month of the year except June, July, and August, the greatest number being in October, when eight cases arose, while six were notified in April.

Cases occurred in every ward except Babbacombe. Of the 34 cases notified, 29 were removed to the Sanatorium for treatment.

The sex and age distribution is as follows :—

	At all ages.	Under 1.	1—5	5—15	15—25	25—65	Over 65
Males	16	—	3	8	5	0	0
Females	18	—	3	9	1	5	0

Enteric Fever.

Eleven cases were notified against ten in 1906. There were no deaths. Three were removed to the Torbay Hospital for treatment.

In April and May a localised outbreak occurred, nine cases being notified, these together with three others which, although notified in other districts, most probably were infected here, makes 12 in all. The annexed table of particulars makes it easier to understand the following deductions. All the cases except one occurred in one ward, and all, except this one, received their milk from a particular dairy in this ward, or had used the milk from there. In the case of the exception, there was a common source of supply from a farm outside the Borough. In the absence of any other factor common to all the cases, the above facts point almost exclusively to the milk from this dairy being the cause of the disease, and to the probability that one farm outside supplying the two implicated dairies was the source of infection. Although numerous visits of investigation were made both to the dairies and farms, no history of any suspicious illness either among the inmates or employés, or any other fact of importance, was obtained. One fact alone seems worth mentioning: Farm E occasionally received a small quantity of milk from Farm G, and at Farm G, although there is an excellent supply of water, an old pump was found in the yard the water of which was grossly polluted, drawing water from a well near a ditch which received sewage from the house; this well had been condemned. The farmer denied that it was ever used for anything except for washing down horses and carts. There is just a possibility that a can may have been fouled with this water, and although milk was sent from Farm A to other dairies in Torquay, no cases occurred among their customers.

Although there is strong presumptive evidence that milk was the cause of the outbreak, there are certain points against it which ought to be considered. I found that the dairyman whose milk was suspected supplied over 100 houses; estimating 5 persons per house, less that 2½ per cent. were infected, which is low for an outbreak due to milk. If milk was the cause, the infective material must have been introduced in small amounts and on several occasions.

Enteric Fever Cases.

Case.	Ward.	Age.	Date of Notification.	Probable date of onset.	Probable date of being infected.	Town Dairy.	Farm from which supply comes.	Bye sources of supply.
1	6	22	April 19th	April 5th	Mar. 15th—Mar. 22nd	A B	E D B	G
2	6	20	April 21st	April 14th	Mar. 25th—April 1st	A B	E D B	G
3	2	17	May 1st	April 24th	April 3rd—April 10th	C	E F	G
4	6	10	May 5th	April 21st	Mar. 31st—April 7th	A	E D	G
5	6	10	May 5th	April 24th	April 3rd—April 10th	A	E D	G
6	6	—	——	——	———	A	E D	G
7	6	33	May 5th	April 29th	April 7th—April 14th	A	E D	G
8	6	18	May 7th	April 30th	April 9th—April 16th	A	E D	G
9	6	8	May 18th	May 11th	April 20th—April 27th	A	E D	G
10	6	17	May 18th	May 1st	April 10th—April 17th	A	E D	G
11	6	56	May 21st	May 8th	April 17th—April 24th	A	E D	G
12	6	45	May 23rd	May 4th	April 13th—April 20th	H	I J K	

Note 1.—Cases 4, 5, and 6 were not notified here, but particulars were furnished me by the Medical Attendants or relatives.

Note 2.—Case 12 was a charwoman, who, although she did not get milk from dairy A, worked in houses where this milk was used.

Note 3.—Dairies A and C both obtained milk from Farm E.

Puerperal Fever.

No cases of this disease were notified.

The Non-Notifiable Infectious diseases, such as Measles, Mumps, Whooping-Cough, etc., will be dealt with under deaths from these causes.

Bacteriological Diagnosis.

Owing to much valuable time being lost in obtaining the results of bacteriological examinations when specimens were sent to London, arrangements were made with Mr. Quant, of the South Devon Chemical and Bacteriological Laboratory, to undertake this work.

During the year 34 specimens were examined. Eighteen of swabs from throats suspected to be diphtheritic. In only one was the specific organism found.

Fifteen blood serum tests were made for diagnosis of enteric fever. Seven were positive, seven negative, while one was indefinite.

One specimen of meat was examined for the tubercle bacillus.

SANATORIUM REPORT

For the year ending March 31st, 1906.

To the Chairman and Members of the Sanitary Committee.

Gentlemen,

At the close of the financial year 1904-1905 there were two patients under treatment in the Sanatorium, and from that date till March 31st, 1906, thirty-four fresh cases were admitted, making a total of thirty-six cases during the year.

The diseases treated were as follows :—

Scarlet Fever	...	27 cases.
Diphtheria	...	4 „
Suspected Diphtheria,		2 cases kept under observation.
German Measles	...	2 cases.
Mumps ...	...	1 case.

All were discharged cured except those who were under treatment at the end of the year.

The patients were in hospital a total of 1,505 days, giving an average stay in hospital of 41 days for each patient.

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

1906.	Expenditure	£	s.	d.
Diet of Patients	... ...	108	7	2
Wages and Diet of Nurses	... ...	107	3	6
Laundress	... ...	55	12	0
Curator	... ...	65	0	0
Surveyor's Account	... ...	31	18	3
Tradesmen's Accounts	... ...	52	2	1
Rents, Rates, and Insurance	... ...	10	13	6
Drugs	... ...	5	1	1
Medical Fees ...	... ...	21	0	0
Conveyance of Patients	... ...	6	5	0
Coal, Coke, and Wood	... ...	33	15	10
Rent of Telephone	... ...	10	10	0
Painting ...	... ...	28	8	6
Disinfecting ...	... .	5	16	8
		£541	13	7

For the treatment of three sailors from His Majesty's Fleet, the sum of £55 11s. was paid by the Admiralty, and £4 18s. by the Newton Board of Guardians for a parish patient.

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

			£	s.	d.
1898.	30 Patients cost	... ...	493	13	2
1899.	35 ,, ,,	.. ...	513	14	11
1900.	42 ,, ,,	... ...	564	2	10
1901.	26 ,, ,,	... ...	515	15	11
1902.	58 ,, ,,	... ...	903	6	6
1903.	26 ,, ,,	... ...	570	12	5
1904.	24 ,, ,,	... ...	484	11	1
1905.	27 ,, ,,	... ...	507	5	0
1906.	36 ,, ,,	... ...	541	13	7

The Cockington Sanatorium.

During the year this hospital was opened for the reception of one case of Small-pox. The patient was admitted on August 9th and discharged cured on September 26th, so that he was under treatment a period of 48 days. To treat this one patient it was necessary to engage a special nurse, and a man and his wife, the latter to act as cook and the former as porter and messenger.

The cost of treating this case amounted to £45 12s. 3d. The total cost of maintenance of this hospital for the year is as follows :—

	£	s.	d.
Caretaker	2	15	0
Rent, Rates, and Taxes	48	18	3
Treatment of Small-pox Patient ...	45	12	3
	£97	5	6

Mr. and Mrs. Arnall and Nurse Hunt have carried out their duties to my entire satisfaction. I have heard nothing but praise from the patients for the treatment they have received.

I am, Gentlemen,

Your obedient servant,

THOMAS DUNLOP,

Medical Superintendent

Working of the Midwives Act, 1902.

The local administration of this Act is being carried out by a Sub-Committee of the Sanitary Committee.

There are seven midwives on the register who have notified their intention to practice in the Borough, the same number as in 1905. No cases of puerperal fever have occurred. Although no midwife has been reported for any breach of the rules, yet I have had to complain of several matters. In one instance, a midwife attending a case saw that the infant was not likely to survive, and neglected to send for a medical man. In one or two other cases where a doctor has been called in, no notice of this was sent to me. The excuse put forward in these cases was ignorance of the rules. I have also had to complain in two instances of the condition of the midwives' kit, bags allowed to get into a dirty and dilapidated condition, while various articles belonging to it were missing. Some of the midwives, unless constantly inspected and worried, quickly relapse into their old ways.

There appears to be some diversity of opinion as to what constitutes the duty of an Inspector under the Midwives Act. To

me, the mere inspection of the midwives' register and kit is of little value. It seems essential that the Inspector should question the midwife as to her methods and find out her difficulties, in fact, I consider that either a simple book of instruction should be provided, or that a course of lectures or talks should be given, and in this way endeavour to bring those midwives who have had no hospital training into line with those who have.

The question of remuneration of medical men called in by midwives, in cases of difficulty, is certainly one that should receive the immediate attention of Parliament, as there is little likelihood of those Authorities who administer the Act dealing with it in a satisfactory manner.

DEATHS.

During 1906 the number of deaths registered in the Borough was 475—males 218, females 257.

The gross death-rate is therefore equal to 13·9 per 1,000. If it was permissible to eliminate the deaths of 58 visitors, the rate would be equal to 13·5 per 1,000. To obtain the corrected death-rate, it is necessary to add the deaths of 43 persons occurring in Newton Abbot Workhouse who belong to Torquay, and subtract the deaths of 19 non-residents who died in the public institutions of this town. The total deaths would therefore be 499, and the corrected rate equal to 14·6 per 1,000 per annum.

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

Year.	Number of Deaths.	Death-rate.	Death-rate excluding deaths of Visitors.	Death-rate of England and Wales.
1901	476*	14·1	12·9	16·9
1902	491*	14·6	13·3	16·3
1903	448	13·3	11·5	15·4
1904	482	14·2	12·4	16·2
1905	491	14·5	12·6	15·2
1906	499	14·6	13·5	15·0

* No record kept of deaths in Newton Workhouse of Torquay residents.

If the death-rate of 14·6 be multiplied by the factor ·8044 to correct it for sex and age distribution, and so make it strictly comparable with that for England and Wales, it would be equal to 11·7 per 1,000 per annum.

During the year there were 21 inquests held, while two deaths were uncertified.

Deaths at Various Age Periods.

Of the total of 499 deaths—		Percentage of total deaths.
61 were under 1 year of age	... equals	12·2
11 ,, 1 year and under 5 years	... ,,	2·2
5 ,, 5 years ,, 15 ,,	... ,,	1·0
22 ,, 15 ,, ,, 25 ,,	... ,,	4·4
166 ,, 25 ,, ,, 65 ,,	... ,,	33·2
234 over 65 years	... ,,	47·0
Total 499 at all ages.		100·0

The deaths in the various wards are given on Table II., on page 42.

It will be seen from the above table that close on 50 per cent. of the total deaths were those of persons aged 65 years and upwards. One death was recorded at the great age of 99 years.

Infantile Mortality.

There were 61 deaths of infants under one year, 8 more than in 1905. As there were 566 births registered, the infantile mortality is equal to 107 per 1,000 births. To some extent this favourable figure is due to the large number of births registered. The rate for England and Wales during 1906 was 133 per 1000 births.

The following table gives the causes of death among infants for the past five years :—

	1906.	1905.	1904.	1903.	1902.
Measles	0	5	1	0	1
Whooping Cough ...	1	3	1	3	7
Influenza	0	0	0	0	0
*Diarrhœa	16	7	11	6	6
Septic Diseases ...	0	0	0	1	0
Phthisis	0	0	0	0	1
Other Tubercular Diseases	0	1	0	1	4
Bronchitis	3	4	10	6	12
Pneumonia	4	5	2	1	4
Premature Birth ...	16	11	18	8	15
Heart Disease ...	0	0	0	2	0
Accidents	0	0	0	2	3
All other causes ...	21	17	21	25	37
Totals ...	61	53	64	55	91

* Includes the deaths of all children under one year whose deaths were registered as due to Enteritis.

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 V., page 45.

The Causes of Death.

The Local Government Board, Table IV., gives the causes and ages at death. *Vide* page 44.

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 ...		... ...	0
Whooping-cough		... ...	1
Scarlet Fever		... ...	0
Diphtheria		... ...	0
Fevers	Typhus Enteric Continued	...	0
Diarrhœa		... ...	17
	Total	...	18

As stated, when dealing with the infantile mortality,the Local Government Board have this year given instructions that all deaths of children under 1 year registered as due to Enteritis are now to be included under Diarrhœa. This will raise the zymotic death-rate, but is a useful improvement, as it is bound to produce a certain amount of uniformity in the preparation of statistics which was absent before.

The Zymotic death-rate for the year is equal to ·53 per 1,000, compared with ·94 per 1,000 in 1903. The rate for England and Wales for 1906 was 1·73 per 1,000, so that the rate for Torquay may be considered as highly satisfactory.

Small-pox.

There were no cases, and consequently no deaths.

Measles.

After the heavy epidemic of this disease in 1905, I only heard of one or two cases, and it is probable the town will remain free for another two years. No deaths were registered.

Whooping Cough.

A few cases of whooping cough were brought to my notice, but nothing resembling an epidemic occurred. One death from this disease was registered.

Chicken-Pox.

Early in the year there were a number of cases of this disease affecting the attendance of children at St. John's School and Hele Infants' School.

Mumps.

Mumps was continuously present in the Borough for the last six months of the year. It first broke out sometime in June in a private school, and then made its appearance in the Abbey Road Roman Catholic School which is in close proximity to the former school. A considerable number of the children were attacked, but it was not necessary to close the school. There then seems to have been a period of quiescence until October, when many of the Infants attending Upton Schools took it, that department being closed for a fortnight. In November Tor Infants' was closed, soon followed by Upton Girls' and Infants' Schools and St. James', and in December Tor Girls' and all departments of Ellacombe were closed. As so many schools were closed, and as there were cases at other schools the Education Authority gave instructions for the remaining schools to be closed a week previous to the day fixed for closing for the Xmas holidays.

The epidemic was widely spread, and not only children but many adults affected, in some instances the parents and children being all ill at the same time. It seems impossible to prevent the spread of mumps, as children, excluded from school on account of it, are seen running about the streets with their throats bound up.

Influenza.

Influenza accounted for eleven deaths.

Diarrhœa and Enteritis.

Nine deaths were attributed to diarrhœa, seven being infants under one year. There were also nine deaths registered as being due to enteritis. As these were all infants under one year, according to the instructions of the Local Government Board, eight were added to the nine diarrhœa deaths. One was not, as in this case the death certificate specifically stated it was non-zymotic in character.

Phthisis and Tubercular Diseases.

The number of deaths from Phthisis was 56, of whom 21 were visitors. As fourteen of the visitors died in public institutions they must be deducted as non-residents; but we also have to add the deaths of five inmates of the Newton Abbot workhouse, who belonged to Torquay, so that the total is 47 for the year, against 45 in 1905. The rate per 1,000 is 1·38.

The rates per 1,000 for the past five years are as follows:—

1906	1905	1904	1903	1902
1·38	1·32	1·21	1·10	1·42

Other forms of Tubercular disease accounted for 8 deaths, the same as in 1905.

During the year a circular letter was received from the National Association for the Prevention of Consumption. I was instructed to report to the Sanitary Committee on its contents.

The circular of the Association is issued with the object of obtaining the organised and co-ordinated efforts on the part of public authorities of various kinds, who are, directly or indirectly, charged with the care of the poor, or the maintenance of public health, in dealing with consumption.

The circular points out that—

The prevention of consumption is a National question, and more especially one for Sanitary Authorities, as it is one that has to do with the health of the community under their charge.

That the total deaths in England and Wales average about 60,000 per annum from this disease, exceeding that from all other forms of infectious disease. As the disease is most prevalent at the age when the working and wage earning capacity of the individual is at its best, the result of prolonged illness soon exhausts the resources of the family, and leads to poverty and privation, which predisposes the children to all forms of disease. The direct cost, and indirect loss to the country must be reckoned in tens of millions of pounds. Phthisis is thus a cause as well as a consequence of poverty.

That prevention is possible.

That the spread of consumption is by the tubercle bacillus, which are present in large numbers in the sputum or spit of the patients.

The chief problem, therefore, for public authorities, is the destruction of the expectoration, and for this purpose all phthisical patients ought to be under supervision.

Three classes of cases have to be dealt with—

1. The advanced cases, unfit for work and mostly confined to the house.
2. Patients not yet seriously ill, still following their usual occupations, and frequenting public places.
3. Those in quite the early stages of the disease.

The first step in the programme of prevention will be to ascertain how many of each group there are in a given area, and where they are. This can be accomplished by voluntary notification. This system is in operation in 18 of the 29 London Boroughs; and in Manchester, Liverpool, and Brighton, and many other large towns, where it has been most successful. As this system brings to light all those cases about which it is desirable to know, compulsory notification may be regarded as undesirable, except that it might be made obligatory on Poor Law Medical Officers.

When the cases are known, it is possible in a certain proportion of the advanced cases to surround them with precautions, which would be likely to prevent infection, and here it is desirable that these persons should be removed to some institution, or an infirmary, specially provided, as it is desirable that the stigma of pauperism should not be added to the sting of poverty. This, however, can only be effected by combined action on the part of several sanitary authorities.

Active steps should be taken to prevent spitting by consumptives. Bye-laws should be framed to make spitting in public places a punishable offence, and where such a bye-law has been framed, it should be rigorously enforced. Notices, pointing out the danger arising from spitting, should be more widely disseminated. The health authorities might arrange for the provision of cheap pocket spittoons to patients.

Sanatorium treatment of early cases ought to be provided, but as this would cost a large amount of money, the National Society advise the employment of unoccupied accommodation, such as vacant wards or beds in isolation hospitals or workhouse infirmaries, the former method being carried out in Brighton. The patients are by this means not only benefited by their stay in such institutions, but are educated in the methods of treatment, and on their return home, generally follow out their instructions as to the destruction of all expectoration, observe the rules of domestic and

personal cleanliness, of wholesome feeding, keep up free ventilation in their rooms night and day by open windows and unstopped chimneys.

There ought to be close relations between the Medical Officer of Health and the various charitable and philanthropic organisations in the district, so as to be able to command, after due enquiry, assistance for phthisical patients and their families.

The necessity for strict disinfection of houses in which consumptive persons have lived or died.

Educational measures, such as the distribution of leaflets, and simple instruction in elementary schools.

Conclusions.

The importance of many of the points brought out by this circular have been recognised by this Council, and they have already taken certain of the steps recommended. They may be summarised as follows :—

1. Free disinfection of rooms after death of consumptives and, where aware of it, of rooms recently occupied by them.
2. The framing of a bye-law prohibiting spitting in places of public resort.
3. Distribution of educational leaflets by such agencies as are likely to reach those for whom they are intended.

After fully considering the subject, it was decided to adopt the voluntary notification of phthisis, and in June a circular letter to this effect was sent to all the medical men practising in the Borough. Since then only 14 cases have been notified ; this fact, together with what I have gleaned in conversations with various medical practitioners, leads me to believe that voluntary notification is not likely to be a success. I am, therefore, inclined to think that the time has arrived when the Government should include this disease among those which are compulsory notifiable, with this proviso, that cases should be dealt with on similar lines to that in force in Sheffield.

This is the opinion of the Metropolitan Branch of the Incorporated Society of Medical Officers of Health, who have unanimously passed a resolution to the effect that they consider it

desirable that in London tuberculosis of the lungs should be compulsory notifiable. The above resolution was the outcome of a paper read by Dr. Louis Parkes, in which he pointed out that the system of voluntary notification had been a comparative failure due to the professional relations subsisting between a medical man and his patient. No medical man was justified in imparting professional knowledge acquired from a patient to any one else without the consent of the patient. There was naturally a prejudice in the minds of most patients, no matter what their social standing, against consenting to a divulgence of a knowledge of their condition to any one outside their own immediate circle. If medical men were bound by law to notify such cases, it would be unnecessary to obtain the patient's consent. In support of his contention for compulsory notification, Dr. Parkes showed how well the system had worked in Sheffield, where it had been in force since November, 1903, which powers were obtained under an Act of Parliament. Here, every medical man was bound to notify each case of phthisis occurring in his practice in the same way that he notified cases of any other infectious disease. If he did not wish his patient visited by the Medical Officer of Health, or one of his staff, he filled up a form to that effect, which he transmitted with the certificate, and no such visit was made. In these cases it is expected that the medical attendant will himself instruct the patient to observe the necessary precautions to prevent the spread of the disease to other persons. The mere fact of notification confers no powers upon the Medical Officer of Health, or his staff, which they do not possess under existing statutory enactments. Consequently there is no compulsion on consumptive patients to submit to isolation at home, or to removal to hospital, or to give up their occupations, or to undergo any supervision or control. The only extra power given under the notification section of the Sheffield Corporation Act, 1903, was that of enabling the Medical Officer of Health to enforce the disinfection and cleansing of the premises that had been in the occupation of a consumptive, and to require the removal for disinfection of any bedding, clothing, or other article which had been exposed to the infection of tubercle. No provisions contained in any local Act of Parliament relating to infectious disease applied to tuberculosis of the lungs, or to any proceedings relating thereto. In this way the measures adopted by the sanitary authority after receipt of the notification were deprived of any possibility of being harsh or creating any hardship for poor consumptives, which they were not at present called upon to bear. The whole object of compulsory notification in Sheffield,as it would be elsewhere when adopted on

similar lines, was to educate in methods of hygiene, by persuasion and advice, persons who were subjects to a communicable disease, but who, through ignorance or carelessness, were liable to be the means of spreading the disease to others, and not to hedge them about by disabilities, which would have the effect of cutting them off from social intercourse. On such lines as these there was no reason to expect any opposition from the medical profession or the public.

Cancer.

Cancer was responsible for 49 deaths, of whom three were visitors, and three occurred in the Newton Abbot Workhouse. In 1904 there were 42, and in 1905, 47.

It must be borne in mind that in a health resort such as Torquay, Cancer patients are frequently sent in the hope that the mild climate and bright sunshine may possibly prolong their lives. This materially increases the death rate from this disease. Again, as I previously stated, no conclusion of any value can be deduced from a bare comparison between the death rates of two populations very differently constituted as to age and sex. In a community such as Torquay, where the number of persons at advanced ages and of females is greater than that pertaining to the country as a whole, we expect to find a greater number of persons dying from Cancer.

The death rate from Cancer in Torquay during 1906 was equal to 1·44 per 1,000 per annum. If this rate is corrected for age and sex, it would be equal to 1·19 per 1,000. The last published rate for England and Wales is for 1904, when it equalled ·89 per 1,000.

Age and Sex Distribution of Cancer Deaths.

	under 30	30—35	35—45	45—55	55—65	65—75	over 75	Totals
Males	1	1	0	2	4	5	1	14
Females	1	0	5	8	7	9	5	35
Total	2	1	5	10	11	14	6	49

The following table gives the chief headings under which deaths from Cancer occurred :—

Registered Deaths from Cancer (Malignant Disease).

Seat of Disease.	Sarcoma.		Carcinoma.		Malignant Disease or Cancer.		Total.
	M.	F.	M.	F.	M.	F.	
Face, Jaw, Tongue	0	0	0	1	2	0	3
Throat and Thorax	0	0	0	0	0	0	0
Oesophagus	0	0	1	0	0	0	1
Stomach and Pyloris	0	0	2	3	2	5	12
Liver and Pancreas	0	0	2	2	0	1	5
Intestines (excluding Rectum) ..	0	0	1	1	0	2	4
Rectum	0	0	0	0	1	1	2
Breast	0	0	0	3	0	5	8
Uterus and Appendages ..	0	0	0	3	0	4	7
Parts not specified	1	2	1	1	1	1	7
Totals	1	2	7	14	6	19	49

SANITARY WORK, 1906.

There have been no changes in the staff of the Sanitary Department during the year. Full details of the work carried out by the Sanitary Inspectors are contained in their reports, which are appended.

Slaughter Houses.

There are eight slaughter-houses in the Borough. Four are registered, one has a perpetual license, while three require to be licensed each year.

I have inspected them several times during the year, and on the whole found them kept clean and in a satisfactory condition. The Local Government Board's model bye-laws have been adopted by the Council. They enable us to have the buildings regularly limewashed, and enforce other matters of cleanliness.

The fact of having so many private slaughter-houses, and also that a considerable amount of meat is brought in from a distance by train, renders the proper inspection of meat impossible.

No complaints reached me during the year of the nuisance that used to arise from the spreading of slaughter-house manure outside the district.

Sale of Food and Drugs Act.

Samples are taken by the County Police. The following is a summary of their action under the Act :—

Article.	No.	Result of Analysis.	Remarks.
Milk	38	36 genuine	
		1 deficient in milk fat to the extent of at least 9%.	The Vendor was summoned and case dismissed.
		1 deficient in fat to the extent of 8·6%.	The Vendor was summoned and case dismissed, on payment of costs.
Corned beef	2	Bacteriological examination. Sterile. Contents good and clean.	
		Bacteriological examination. Sterile. Contents free from dirt.	
Ham & chicken	1	Boric Acid present. Bacteriological examination. Sterile. Contents appear good and free from dirt.	
Boiled beef	1	Boric Acid present. ·45 grains per lb; some saltpetre also present. Bacteriological examination. Sterile. Contents of tin clean.	
Salmon	1	Bacteriological examination. Sterile. Contents of tin clean and appear good.	
Kidney soup	1	Small quantity of Boric Acid. Bacteriological examination. Sterile. Contents appear good.	
Sugar	6	Genuine	
Tea	6	Genuine	
Bread	6	Genuine	
Vinegar	1	Genuine	
Cheese	6	Genuine	
Sweets	6	Genuine	
Total ..	75		

During the year a notice was sent to the various milk dealers, warning them against the use of preservatives in milk ; it is satisfactory to note that no samples were found to contain it.

As a result of the exposure of the methods adopted in the American meat packing factories, the Local Government Board issued instructions that samples of tinned foods were to be taken and submitted for examination. Six samples were examined by the

County Analyst, and with the exception of a small amount of boracic acid, found in two, the contents were found to be sterile and clean.

Milk.

The system of inspecting both the cowsheds and dairies in the Borough, and also the outside dairy farms from which many dealers receive their supply, is carried out twice a year. Particulars are obtained of the condition of the cowsheds 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. This 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 limewashing, 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 cement 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.

Although such inspections as these are a step in the right direction, yet it seems probable that after the second interim report of the Royal Commission on Tuberculosis, just published, more thorough inspections, especially of the cows, will be enforced by the Government.

This report is of extreme interest to all engaged in safeguarding the public health. It will be remembered that at the International Congress on Tuberculosis, held in London in 1901, Prof. Koch stated that as the result of certain investigations made by him, he believed that human and bovine bacilli are different in kind, and the statement was made that the likelihood of human beings becoming infected to any serious degree with bacilli of

bovine origin, was so slight that it might be regarded as of little practical moment. Naturally the opinion of so eminent a bacteriologist was widely used by those interested in the matter financially for their own ends. The report of the Royal Commission has disproved the above opinion of Prof. Koch, and, it is hoped, will put an end to this erroneous theory, which has had such a baneful influence upon the interests of public health. The Commissioners state :—"There can be no doubt that, in a certain number of cases, the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacilli of bovine tuberculosis ; and there also can be no doubt that, in the majority at least of these cases, the bacillus is introduced through cow's milk. Cow's milk is clearly a cause of tuberculosis, and of fatal tuberculosis in man." This opinion is amply proved by numerous experiments carried out by the Commission. They further state "A very considerable amount of disease and loss of life, especially among the young, must be attributed to the consumption of cow's milk containing tubercle bacilli." Again "The presence of tubercle bacilli in cow's milk can be detected, though with difficulty, if the proper means be adopted, and such milk ought never to be used for food. There is far less difficulty in recognising clinically that a cow is suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food, and indeed ought not to be used as food at all. Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or consumption of such milk." Such plain speaking on the part of a Commission, composed of such eminent scientific men as this one is, must surely result in the Government taking the necessary steps to enable Sanitary Authorities to see that milk infected with tubercle will not be consumed in their districts.

There are 93 registered dairymen and cowkeepers in the Borough who receive milk from farms situated outside.

Ice Cream.

There are three manufacturers of ice cream which is sold from barrows. They were all inspected, and were found to be clean and apparently well looked after.

Factory and Workshops' Act.

Details of the working of this Act will be found in the reports of the Sanitary Inspectors. Endeavours are made to inspect each workshop once a year, but it is not always possible to accomplish.

I have visited a considerable number of those on the list in company with the Inspectors. During the year a circular was received from the Home Office, drawing attention to neglect on the part of many Sanitary Authorities in dealing with the question of home work, and asking that more care should be exercised in recording the steps taken with reference to visits paid to home-worker's premises. The number of outworkers in Torquay is very small, and all are engaged in the making of wearing apparel; much difficulty is experienced in obtaining lists of outworkers which employers are bound under penalty to send in to the Authority twice a year, once in February and one in August. I have a printed circular which is sent a day or so after the notices should have been received drawing employers' attention to this provision of the Act, and yet in many cases it requires a special visit in order to obtain the necessary information. During the year all the out-workers' premises were visited and found to be satisfactory, many outworkers being engaged in business on their own account as well. No case of infectious disease has been reported on out-worker's premises. Where outworkers resided in other districts, notices with the names and addresses were sent to the Authorities of those districts.

Bakehouses.

I make a point of inspecting these premises with the Inspectors. There are 57 on the register. Two have certificates as satisfactory underground bakehouses. I have had no complaint to make about their condition. Occasionally limewashing is required, but this is at once done when requested. During the past summer I was informed by the police that a baker, who makes ginger biscuits for sale at the various regattas, was employing a number of young girls, at all hours, to pack them in boxes. The information was forwarded to H.M. Inspector of Factories, but he was unable to obtain sufficient evidence of illegality to justify him in taking up a prosecution.

Offensive Trades.

There are two tripe-boiling establishments in the Borough. One building is situated in Upton, is specially constructed for the purpose, and is always found clean and well looked after. The other is at Hele and requires considerably more supervision.

On several occasions we have had to complain of the large accumulation of bones and rabbit skins at the chief marine store, but they are quickly removed when a notice is sent. More frequent

visits are now being paid to prevent a recurrence. A new marine store has been started in Upton without the consent of the Council. The matter is still under the consideration of the Sanitary Committee.

Common Lodging Houses.

There are five registered common lodging-houses. They are regularly inspected and found in a fairly satisfactory condition. One has changed hands during the year, and is now much better attended to.

Housing of the Working Classes.

The members of the working classes are on the whole well housed. Nothing calls for special comment on this subject.

House Drainage.

The inspection and testing of the drains of all new buildings is done by the Sanitary Inspectors; some 128 systems were tested during the year.

The Granting of Sanitary Certificates by the Corporation.

The number of certificates granted in this and previous years is as follows:—1906, 60; 1905, 66; 1904, 89; 1903, 66. It is then seen that year by year a large number of large houses (certificates seldom demanded in small houses) are brought up to date as regards their sanitary requirements. In my opinion no intending tenants should be satisfied unless they receive a certificate of recent origin.

The administration of the Factory and Workshop Act, in connection with FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF NUISANCES.

Premises.	Number of		
	Inspections.	Notices.	Prosecutions.
FACTORIES .. .. (Including Factory Laundries)	6	2	Nil
WORKSHOPS .. .. (Including Workshop Laundries)	229	50	
WORKPLACES .. .. (Other than Outworkers' premises included in Part 3 of this Report.)	19	—	
Total	254	52	Nil

2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
*Nuisances under the Public Health Acts :—**				
Want of cleanliness	29	29	0	0
Want of ventilation				
Overcrowding	6	6	0	0
Want of drainage of floors				
Other nuisances	5	5	0	0
† Sanitary accommodations (insufficient .. .. / unsuitable or defective .. / not separate for sexes ..)	6	6	0	0
Offences under the Factory & Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)				
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)				
Other offences .. .. (Excluding offences relating to outwork which are included in Part 3 of this Report.)	1	1	1	0
Total	47	47	1	0

* Including those specified in Sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

† For districts not in London state here whether section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the District Council; and if so what standard of sufficiency and suitability of sanitary accommodation for persons employed in factories and workshops has been enforced.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.								Number of Inspections of Outworkers' premises.	OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.		
	Lists received from Employers.				Numbers of Addresses of Outworkers received from other Councils.	Numbers of Addresses of Outworkers forwarded to other Councils.	Prosecutions.								
	Twice in the year.		Once in the year.							In-stances.	Notices served.	Prosecutions.	In-stances.	Orders made (S. 110).	Prosecutions (Sections 109, 110).
	Lists*	Out-workers.*	Lists.	Out-workers.			Failing to keep or permit inspection of lists.	Failing to send lists.							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Wearing Apparel—															
(1) making, &c. ..	8	40	8	14	1	9	—	—	23	—	—	—	—	—	—
(2) cleaning and washing ..															
Lace, lace curtains, and nets															
Furniture and Upholstery															
Fur Pulling															
Umbrellas															
Paper Bags & Boxes															
Brush making ..															
Stuffed Toys ..															
File making															
Electro Plate ..															
Cables and Chains ..															
Anchors & Grapnels															
Cart Gear															
Locks, Latches, and Keys															
Total	8	40	8	14	1	9	—	—	23	—	—	—	—	—	—

* The figures required in columns 2 and 3 are the total number of lists received from employers who sent them both in February and August as required by the Act and of the entries of names of outworkers in those lists. They will, therefore, usually be double of the number of such employers and (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.		Number.
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Workshop Bakehouses	56
	Workshop Laundries	52
	Other Workshops	257
	Total number of workshops on Register	365

5.—OTHER MATTERS.

Class.		Number.
Matters notified to H.M. Inspectors of Factories :—		
Failure to affix Abstract of the Factory and Workshop Act (S. 133)		3
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory and Workshops Act (S. 5)	Notified by H.M. Inspector	2
	Reports (of action taken) sent to H.M. Inspector	2
Other		10
Underground Bakehouses (S. 101) :—		
Certificates granted during the year		0
In use at the end of the year		2

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1906 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-Residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
				Under 1 year of age		At all ages.						
		Number.	Rate.*	Number.	Rate per 1,000 Births registered.	Number.	Rate.*				Number.	Rate.*
1	2	3	4	5	6	7	8	9	10	11	12	13
1896.	33200	650	19·5	107	163	569	17·1	43	41†		528	15·9
1897.	33300	630	18·9	81	128	502	15·0	43	83†		419	12·5
1898.	33400	626	18·7	83	132	529	15·5	50	70†		459	13·7
1899.	33500	573	17·0	84	143	570	17·0	31	49†		529	15·5
1900.	33600	559	16·6	70	124	488	14·5	41	58†		430	12·8
1901.	33625	556	16·5	70	125	504	15·0	51	28		476	14·1
1902.	33625	540	16·0	84	155	529	15·7	63	38		491	14·6
1903.	33800	536	15·9	51	95	455	13·4	57	28	21	448	13·3
1904.	33850	530	15·7	64	120	473	13·9	42	20	29	482	14·2
1905.	33900	522	15·4	50	101	473	13·9	46	12	31	491	14·5
Averages for years 1896—1905.	33580	572	17·0	75	130	509	15·1	47	43	—	475	14·1
1906.	33950	566	16·6	61	107	475	13·9	50	19	43	499	14.6

* Rates in columns 4, 8, and 13 calculated per 1,000 of estimated population.

† Include deaths of all visitors.

TABLE II.

VITAL STATISTICS OF SEPARATE LOCALITIES IN 1904-5-6.

LOCALITIES.	Population Census 1901.	1904.			1905.			1906.		
		Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.	Births registered.	Deaths at all Ages.	Deaths under 1 year.
Torre ...	3851	50	51	5	50	76	4	49	58	4
Waldon ...	3576	42	45	4	39	42	4	41	37	3
Upton ...	4339	92	84	13	87	63	8	100	84	14
Ellacombe...	5911	124	82	16	118	82	13	132	80	18
Strand ...	3129	51	50	11	52	43	5	52	41	9
Torwood ...	3644	21	51	2	27	37	0	37	51	4
St. Mary-Church	3312	47	49	6	62	52	7	48	53	6
Babbacombe	3264	63	36	4	52	46	7	58	39	1
Chelston ...	2599	34	25	3	30	31	2	37	32	1
The Borough	33625	524	473	64	517	472	50	554	475	60

NOTE.—This table only includes deaths and births registered in the district.

TABLE III.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1906.

NOTIFIABLE DISEASE.	Cases notified in whole district.								Total cases notified in each locality.									No. of cases removed to hospital fr'm each locality								
	At all ages.	At Ages—Years.							Torre	Waldon	Upton	Ellacombe	Strand	Torwood	S. Marych.	Babc'mbe	Chelston	Torre	Waldon	Upton	Ellacombe	Strand	Torwood	S. Marych.	Babc'mbe	Chelston
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards																				
Small-pox ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cholera ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphtheria ..	2	—	—	2	—	—	—		-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Membranous croup	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Erysipelas ..	2	—	—	—	—	2	—		-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Scarlet fever ..	34	—	6	16	6	6	—		2	3	4	7	5	6	5	-	2	2	2	3	7	3	6	4	-	2
Typhus fever ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Enteric fever ..	11	—	—	1	5	5	—		-	1	-	1	-	8	1	-	-	-	-	-	-	-	3	-	-	-
Relapsing fever ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Continued fever ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Puerperal fever ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plague ..	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals ..	49	—	6	19	11	13	—		2	4	5	9	5	14	8	-	2	2	2	3	7	3	9	4	-	2

NOTES.—The localities adopted for this table are the same as those in Tables II. and IV.

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

TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1906.

CAUSES OF DEATH.	Deaths at the subjoined ages of Residents whether occurring in or beyond the District.							Deaths at all ages of Residents belonging to Localities, whether occurring in or beyond the District.									Total Deaths whether of Residents or non Residents in Public Institutions in the District
	All ages.	under 1	1 and under 5	5 and under 15.	15 & under 25.	25 & under 65.	65 & upwards	Torre.	Waldon	Upton.	Ellacombe.	Strand.	Torwood	S. Mary-Church.	Babbacombe.	Chelston	
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping-cough ..	1	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Diphtheria and Membranous croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Croup	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever { Typhus ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever { Enteric ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fever { Other continued	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Epidemic influenza ..	11	—	—	—	—	3	8	1	1	2	1	—	—	3	3	—	—
Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diarrhœa	17	15	1	—	—	—	1	1	1	5	5	3	—	2	—	—	—
Enteritis	1	1*	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Puerperal fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other septic diseases ..	2	—	—	—	—	1	1	—	—	1	—	—	—	—	1	—	2
Phthisis (Pulmouary Tuberculosis)..	47	—	—	—	12	30	5	4	2	9	7	6	4	4	8	3	16
Other tubercular diseases	8	—	1	1	1	4	1	1	1	4	—	—	1	—	1	—	3
Cancer, malignant disease	49	—	—	—	2	27	20	7	3	9	12	2	4	7	5	—	5
Bronchitis	43	3	3	—	—	8	29	6	5	6	10	2	7	4	3	—	1
Pneumonia	20	4	3	1	—	5	7	6	1	3	4	—	1	2	1	2	2
Pleurisy	5	—	—	—	—	5	—	—	1	1	—	1	1	—	—	1	1
Other diseases of respiratory organs ..	2	—	—	—	—	2	—	—	—	1	—	—	—	—	—	1	—
Alcoholism } Cirrhosis of liver } ..	5	—	—	—	—	3	2	1	1	—	—	1	1	—	1	—	—
Venereal diseases ..	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Premature birth	16	16	—	—	—	—	—	2	1	—	7	3	2	1	—	—	—
Diseases and accidents of parturition	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Heart diseases	31	—	—	—	—	8	23	—	2	5	7	3	3	5	3	3	1
Accidents	6	—	—	1	1	3	1	1	—	1	1	—	2	—	—	1	2
Suicides	1	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—
All other causes.. ..	232	19	3	2	6	66	136	31	23	40	31	21	13	33	18	22	17
All causes	499	61	11	5	22	166	234	62	42	88	85	43	41	61	44	33	50

* Registered as non-epidemic.

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TABLE V.

INFANTILE MORTALITY DURING THE YEAR 1906.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.		Under 1 Week.	1—2 Weeks.	2—3 Weeks.	3—4 Weeks.	Total under 1 Month.	1—2 Months.	2—3 Months.	3—4 Months.	4—5 Months.	5—6 Months.	6—7 Months.	7—8 Months.	8—9 Months.	9—10 Months.	10—11 Months.	11—12 Months.	Total Deaths under One Year.
ALL CAUSES.	Certified	16	1	4	2	23	10	2	6	1	4	1	5	3	3	-	1	59
	Uncertified	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2
Common Infectious Diseases.	Small-pox	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Chicken-pox	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Measles	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Scarlet Fever	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Diphtheria: Croup	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Whooping Cough	-	-	-	-	—	-	-	1	-	-	-	-	-	-	-	-	1
Diarrhœal Diseases.	Diarrhœa, all forms	-	-	-	-	—	2	-	2	-	-	-	1	1	1	-	-	7
	Enteritis, Muco-enteritis, Gastro-enteritis	-	-	1	-	1	2	1	-	-	2	-	-	-	-	-	1	7
	Gastritis, Gastro-intestinal Catarrh	-	-	-	-	—	-	-	-	-	-	1	1	-	-	-	-	2
Wasting Diseases.	Premature Birth	11	1	-	1	13	-	1	2	-	-	-	-	-	-	-	-	16
	Congenital Defects	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	2
	Injury at Birth	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
	Want of Breast-milk, Starvation	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Atrophy, Debility, Marasmus	1	-	2	-	3	2	-	-	-	-	-	-	-	-	-	-	5
Tuberculous Diseases.	Tuberculous Meningitis	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Tuberculous Peritonitis: Tabes Mesenterica	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Other Tuberculous Diseases	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
Other Causes.	Erysipelas	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Syphilis	-	-	-	-	—	1	-	-	-	-	-	-	-	-	-	-	1
	Rickets	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Meningitis (*not Tuberculous*)	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Convulsions	4	-	1	1	6	2	-	-	-	-	-	-	1	1	-	-	10
	Bronchitis	-	-	-	-	—	1	-	-	-	1	-	1	-	-	-	-	3
	Laryngitis	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Pneumonia	-	-	-	-	—	-	-	-	1	-	-	1	1	1	-	-	4
	Suffocation, overlaying	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	—
	Other Causes	2	-	-	-	—	-	-	1	-	1	-	-	-	-	-	-	2
		18	1	4	2	25	10	2	6	1	4	1	5	3	3	-	1	61

District (or Sub-Division) of NEWTON ABBOT.

Births in the year { legitimate - 541. / illegitimate - 25.

Deaths from ALL CAUSES AT ALL AGES, 499.

POPULATION.

Estimated to middle of 1906.

33950.

Borough of Torquay.

Sanitary Inspectors' Reports.

Chief Sanitary Inspector's Report.

Town Hall Chambers,

18th February, 1907.

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

Gentlemen,

I have the honour to make this my Twenty-ninth Annual Report to the Urban Sanitary Authority.

The work has been of the usual kind, namely, the inspection of premises upon receipt of complaint of unsanitary conditions; or after cases of infectious diseases have been notified to exist; also the thorough examination of the sanitary arrangements of superior houses; or of business premises at the request of owners, agents, or intending occupiers; likewise where additions or re-constructions were in progress.

Fewer cases of this latter class have claimed my attention than in previous years, viz., twenty-five, as compared with thirty-four in 1905, by reason of the fact that there are not so many villas vacant in those Wards under my special charge—Torre, Chelston, Waldon, and parts of Strand and Upton.

Certificates were requested and, after due testing, given in seventeen of these cases, where the owners, of their own accord, did the necessary work to enable me to grant them; in which cases no fees were paid.

Of this type were the new drainage systems at The New Capital and Counties Bank, and at the Wilts and Dorset Bank, and other business premises.

Very considerable time and attention have been demanded and given to the laying of new drains, and general sanitary arrangements of the Torbay Hotel, which has now about treble its former accommodation ; the drains have been smoke and water-tested in sections—about twenty separate operations being necessary ; likewise the work of a similar type at Tor Abbey, still in progress, and its three lodges—these latter have been thoroughly re-drained and put in sound sanitary condition.

In addition, seventy-eight smaller houses have been more or less dealt with, as occasion required, and obvious defects remedied.

District Inspection.

In my last Report, it was stated that a house to house inspection had been made of Rosery Cottages, Chelston, for sufficient reasons, and that serious defects had been found in the majority of them ; also, that about one-half of them, at the end of 1905, had been put in order. I have now to state that the remaining sixteen houses have undergone the necessary alterations, and all were left in a proper condition before last Mid-summer.

Torre Station.

The matter of proper accommodation for sanitary purposes of the men employed at Torre Station, mentioned in my last Report, has not been lost sight of ; but the Railway Authorities appear to be an unconscionably long time in arriving at the necessary decision to do the work. I have been officially informed that several sets of plans for reconstruction have been prepared and sent to Paddington for sanction, but nothing as yet has been done.

Details of Operations.

The following is a tabulated statement of the several operations carried out in the various premises which came under my observation :—

48 New sanitary conveniences, with water supply.
45 Ventilators for soil pipes and drains.
102 Intercepting traps and inspection chambers.
110 Gully traps set instead of " D " traps.
42 New sets of drains laid.
32 Mason's traps abolished.
21 Yards paved and drained.
23 Taps from main service for drinking water.
118 Premises limewashed and disinfectants supplied.

11 Ashbins provided.
4 New roofs put on.
43 Accumulations of offensive matter removed.
19 Rooms were fumigated after infectious diseases, seven of which were after phthisis cases.
17 Nuisances from keeping of fowls, or animals, abated.
227 Letters and reports on departmental business were written.
No legal or other notices were found necessary.

New Buildings.

The number of new houses erected in 1906 was twenty-seven, as compared with only fifteen examined in 1905. Amongst these are two villas at Livermead, which will be connected with the new sewerage scheme for that locality, which has some choice building sites.

Factories and Workshops: Bakehouses.

The customary inspections of workshops and work places have been made, and much improvement was observed in most of them on the score of cleanliness and ventilation.

In all cases where any alteration was desired, verbal notice was given to the persons concerned, and this sufficed to ensure the recommendations being carried out. The list is classified as follows:—

22 Dressmakers and milliners.
10 Plumbers and painters.
9 Builders and carpenters.
9 Tailors.
7 Blacksmiths.
6 Laundries.
5 Cabinet makers.
4 Watchmakers.
5 Coachbuilders.
1 Bootmaker.
1 Knitter.
2 Trunk makers.
3 Printers.
3 Saddlers.

Also, 17 bakehouses were visited, and found, generally speaking, in a satisfactory condition. This gives a total of one hundred and four premises inspected and dealt with under the provisions of the Factories and Workshops Act; the places where some "outworkers," who got employment from shops, were also examined, and were found adapted for the purpose.

Milkshops and Dairies.

The regular half-yearly visits have been paid to the twenty-one milkshops and dairies situate in the Wards under my care, and I have pleasure in making a favourable report regarding all of

them. Eight cowsheds outside the Borough, in the Parish of Cockington, were likewise inspected, in company of the Medical Officer : regular whitewashing was apparent in all save one case. Verbal notice was given to the farmer, who promised to comply.

As one of the Council's Delegates, I attended the Congress of the Royal Sanitary Institute, which was held in the City of Bristol last July ; and I beg to say that I derived much valuable information from the Conferences and the Health Exhibition open at the same time.

A detailed report of the proceedings was prepared in due course by your Delegates, and was ordered to be printed and circulated amongst the Council.

I must thank you for the honour done me by appointing me as a representative.

I am, Mr. Mayor and Gentlemen,

Yours obediently,

CHAS. MacMAHON,

C. Royal San. Inst , Assoc. Mem. B Inst. P. Health ;
Chief Sanitary Inspector.

SANITARY INSPECTOR'S REPORT.

TOWN HALL CHAMBERS,

ARCADE, TORQUAY,

January 28th, 1907.

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

GENTLEMEN,

I have pleasure in making this my Ninth Annual Report to the Council for the year ending 31st December, 1906, dealing with that portion of the Borough under my supervision, viz., the wards of Torwood, Strand, Upton, and Ellacombe.

One hundred and eighteen houses and premises have been visited and inspected on receipt of complaint, or by request; and sixty-seven smoke and twenty-three hydraulic tests applied to the drains in various instances.

Eighty-three notices were served to abate nuisances, and of these eighty were preliminary and three legal.

One hundred and eighty visits of inspection were made to premises where work was in progress; and also one hundred and sixty-seven smoke and one hundred and forty-four hydraulic tests applied to the drains in various instances.

Upon application being made for sanitary certificates, thirty houses were examined and reported upon, and on completion of the work found necessary to comply with the requirements laid down by the Council, certificates were granted in twenty-eight instances. In the other two cases the work was not carried out.

The 10s. testing fee was paid in each case—a total of £15 received, or £3 in excess of last year.

In connection with this work, one hundred smoke and one hundred and twenty-one hydraulic tests were made, and fifty-three visits of inspection made while work was in progress.

In connection with the new buildings in my district, one hundred and thirty smoke tests were applied to the drains of sixty-six houses and premises, including the new Free Library. Forty-four of these houses were examined on completion, and forty certified as fit for habitation.

A house to house inspection was made of a block of eight houses, and as a result it was found necessary to serve notices to abate nuisances from eight defective drains, two dirty premises, one case of overcrowding. Each house was re-drained, scullery sinks provided, and a supply of water direct from the main laid on to same.

DETAILS OF OPERATIONS.

50	New sets of house drains laid.
12	Defective house drains repaired.
1	Old masonry drain found and abolished.
40	Intercepting traps with fresh air inlets fixed.
22	Old mason's traps abolished.
79	Inspection chambers to drains built.
35	Drains ventilated at head of system.
31	New sanitary conveniences with water supply fixed.
17	Soil pipes fixed outside buildings and ventilated.
71	Old iron and brick traps removed and earthenware gullies fixed.
9	Old pan closets removed.
2	Water supplies laid on to w.c's found to be without.
22	,, direct from main to taps over sinks.
57	Waste pipes from baths, lavatories, and sinks trapped.
15	Choked drains cleared.
10	Defective w.c. cisterns repaired.
37	Ashbins for house refuse provided.
8	Offensive accumulations removed.
6	Nuisances from keeping fowls and animals abated.
5	Dirty premises limewashed and cleansed.
8	Nuisances from stables and manure pits abated.
31	Rooms disinfected.
19	Defective yards and areas re-paved.
7	Cases of overcrowding abated.
10	New pantry and scullery sinks provided.
2	Defective rain water tanks abolished.
3	Defective floors repaired and ventilated under.
609	Total

As in the previous year, a considerable amount of time has again been taken up in connection with the inspection and examination of premises under the Factory and Workshops Act.

Seventeen written and verbal notices were given to remedy the following defects:—

1	Defective w.c.
10	Dirty premises.
5	Overcrowding.
1	Accumulation of offensive matter.
17	Total

Number.	Description of Trade.	No. of workrooms or workplaces
30	Laundries	58
36	Dressmaker and Milliner	54
5	,, ,, Outworkers ...	5
1	Corset Maker	1
16	Tailor	23
7	,, Outworkers...	7
3	Bootmaker	3
6	Saddler and Harness Maker	6
2	Sailmaker	2
1	Coachbuilder	3
1	Wheelwright	2
2	Shoeing Smith	2
1	Wood Turner	1
5	Upholsterer and Cabinet Maker ...	17
1	Blind Maker	3
2	Umbrella and Trunk Maker	2
1	Picture Framer	1
2	Photographer	4
4	Watchmaker and Jeweller	4
1	Electro-plate Works	2
4	Printing Works	10
1	Dye Works	1
3	Cycle Works	7
21	Plumber and Painter	21
8	Builder	22
2	Marble Mason	2
5	Quarries	5
2	Ironmonger and Smith	6
20	Baker and Confectioner	20
193		294

During the month of May, and again in October, I have made the half-yearly inspection of forty-two dairies, milkshops, and cowsheds situate in my district. In several instances it was necessary to enforce lime washing, and also to caution small purveyors where milk was kept in shops with other goods.

Also during May, and again in November, the dairies and cowsheds on thirty-five farms outside the Borough, and situate in the following districts, have been visited and examined in regard to the supply of milk, &c., sent into the town:—

Garabridge	Dainton	Paignton
Wrangaton	Abbotskerswell	Churston
Brent	Kingskerswell	Bovey
Totnes	Marldon	

It is pleasing to be able to report on the marked improvement which has and is still taking place in cleanliness and general condition of the cowsheds since the half-yearly inspection has been made.

In connection with Common Lodging Houses, during the year five of these premises have come under my supervision and have been periodically inspected.

One new house has been placed on the register; one house has changed hands; one case of overcrowding was detected and the keeper of the house cautioned.

During the year the premises where the following trades are carried on have been visited and examined with the Medical Officer:—Tripe Boiling, Ice Cream making, Public Slaughter House.

With regard to work in connection with infectious and other diseases, thirty-one rooms in various houses were disinfected after the following cases:—

17	Scarlet Fever	9	Phthisis
1	Enteric „	1	Influenza
1	Chicken Pox	1	Cancer
2	Measles		

The drains of two houses were examined and tested, and in each case serious defects were found, with the result that the drains were relaid and other necessary work carried out.

The disinfection of rooms after cases of Phthisis is still optional with the occupiers of the houses where the cases occur, and though in every instance offers are made to disinfect, too often this is either refused or ignored. The following comparative table for the last six years will shew the result of this work in my district:—

Year.	No. of Cases.	No. of Disinfections.	Refusals.
1900	42	20	22
1901	45	14	31
1902	25	9	16
1903	12	0	12
1904	20	8	12
1905	17	9	8
1906	15	9	6
Total	176	69	107

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

I am, Mr. Mayor and Gentlemen,

Yours obediently,

WILLIAM B. WATSON,

Cert. R. San. Inst., Sanitary Inspector, and

Inspector of New Buildings, Workshops, and Dairies, &c.

TOWN HALL, ST. MARY-CHURCH,
TORQUAY,
9th February, 1907.

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

GENTLEMEN,

I have the honour to place before you my sixth Annual Report, being that relating to the St. Mary-Church District for the year ending 31st December, 1906.

NOTIFIABLE AND OTHER DISEASES.

Nineteen premises were visited. The drains of two houses were examined—one was found choked, but withstood the test after it was cleared; the other was the drain of a dairy premises which was visited in consequence of cases of typhoid occurring among the customers, and was found defective. On acquainting the owner with this matter, the drain was subsequently repaired. Disinfectants were supplied on eleven occasions.

The following table shows the number of rooms disinfected and the different diseases concerned :—

1 Diphtheria	1 room	4 Scarlet Fever	4 rooms
2 Erysipelas	1 room	2 Measles	3 rooms
2 Cancer	2 rooms	7 Consumption or Phthisis (5 deaths)	10 rooms

PREMISES VISITED ON REQUEST.

Twenty premises were visited at the request of owners, occupiers, or builders employed. Except in two cases these were all villas or large dwelling houses. The drains were tested and a report sent to the responsible persons. In sixteen instances defects were found. In nine houses the whole system of drainage was relaid, whilst in seven the drainage was partly renewed. Fifteen sanitary certificates were issued, and the sum of six pounds was received in drain testing fees during the year. In connection with this work one hundred and four visits, one hundred and four smoke tests, and thirty-seven water tests were employed.

Complaints.

Sixty-one different premises were visited on receiving various complaints. The following table shews the nature of the complaints :—

Defective drains	...	...	4
Choked ,,	...	...	15
Defective flush cisterns	...	...	3
Dirty water tanks	...	...	3
Dirty premises	...	...	4
Animal keeping	...	...	13
Overcrowding	...	...	2
Offensive deposits	...	...	11
Other nuisances	...	...	6

The following statement gives the improvements effected to abate the nuisances found :—

Drains relaid or repaired	...	...	4
Drains cleared	...	...	15
Flush cisterns renewed or repaired	...		3
Water tanks cleaned	...	...	3
Premises cleaned and lime washed	...		4
Animal nuisances abated	...	...	13
Overcrowding abated	...	...	2
Offensive deposits removed	...	...	11
Other nuisances abated	...	...	4

A total of one hundred and twenty-four visits, six smoke and four water tests were employed in the investigation of the above complaints and the abatement of nuisances found.

The Public Conveniences on Babbacombe Downs and Oddicombe Beach, and also the temporary structures for the annual Races (about which complaints have been received on former occasions) were kept under observation during the year, and remedial measures were taken when and where necessary.

New Buildings.

Thirty-five new buildings and houses undergoing alterations and additions were visited during the year. Seven of these were large buildings or villas (including two hotels and an electric car depot). The remainder were dwelling houses of the middle class and smaller types. All drains were carefully smoke tested in every portion and the houses were finally examined as to fitness for occupation. Fourteen drainage and sixteen habitation certificates were granted.

About eight hundred feet of new sewers were laid to accommodate new buildings in various parts of the district.

A total of one hundred and twenty-six visits, one hundred and twenty-five smoke tests, and two water tests were employed with reference to new buildings and sewers.

House to House Inspections.

Cottages at Westhill.—The drain of six small cottages, being found in a very defective condition and frequently choking, was entirely relaid, inspection chambers were constructed, and disconnecting traps and ventilation were provided. The flushing cisterns of these houses were cleaned and left in good working order.

Orchard Cottages, Hele.—These are twenty in number, and during the year the main sewer at the back of Nos. 1—10 has been relaid by the Council, and the branch drains connecting the houses therewith have been relaid and ventilated by the owner. The main drain and branch drains at the rear of Nos. 11—20 have been repaired and renewed where necessary by the several owners concerned.

Albert Street, Babbacombe.—Five houses were visited, and on examination the drains thereof were found to be partly constructed of "land pipes" and chokeages were very frequent. All five houses have now been completely redrained.

Houses in Plainmoor District.—Fourteen were visited at the end of the year with reference to w.c. accommodation. Seven were found without flushing apparatus, whilst in others this "fitting" was out of order. Up to the present two flush cisterns have been repaired and two have been fixed where none previously existed.

A total of one hundred and sixty visits, fifty-nine smoke and twenty-two water tests were employed in house to house inspections.

Dairies and Cowsheds.

The dairies in the St.Mary-Church Distric number 31, whilstt there are 25 cowsheds. These were inspected in the month of May and again in October, with the result that they were found generally in a satisfactory condition. Many re-visits were made to ensure that the provision as to lime washing was not neglected. A total of ninety-six visits of inspection were made to cowsheds and sixty-four to dairies within the district.

As in former years, I accompanied the Medical Officer of Health on the half-yearly inspections of twenty-three dairy farms situated outside the Borough. Almost without exception these were found in a clean condition. That our visits do good is proved by the fact that the recently used lime bucket and brush are frequently found in a conspicuous position.

Slaughter Houses.

The number of these in the district remains at seven. They were inspected periodically during the year and were found at all times free from effluvia and in a satisfactory state.

The tripe boiling establishment was also similarly inspected and nothing was found of which to complain.

Bakehouses.

The number on the register is still seventeen. They were visited in due season by the Medical Officer and myself and, with one exception, were always in a cleanly state. At one the drain of the premises became choked, but, on bringing the owner acquainted with the matter, the disconnecting trap was opened and the drain cleared forthwith.

Factory Act.

When the duty of inspecting workshops and workplaces was relegated to this department in 1902, the number on the list supplied to us by H.M. Factory Inspector was thirty-seven. The appended table shews the various trades involved and also the number of workshops engaged in each particular trade at the present time :—

Description of Trade.	1902.	1906.	Remarks.
Dressmakers ...	14	11	5 discontinued and 2 new ones
Laundresses ...	8	16	3 discontinued and 11 added
Plumbers ...	4	4	
Tailors (and Outworkers)	3	6	
Cycle Works ...	2	2	
Coachbuilders ...	2	3	
Cabinet Maker ...	1	1	
Painters and Decorators	1	1	
Builders and Carpenters	1	1	
Bootmakers ...	1	0	discontinued

During the year the following notices were served and complied with :—

To abate overcrowding	... ...	1
Limewash premises	... ...	3
Provide sufficient w.c.	...	1
Clear choked drains	... ...	2
Cleanse foul w.c's	... ...	3
Relay defective drain	... ...	1
Repair defective cistern	...	1

The greatest number of changes takes place among the dressmakers and laundresses. Very often a move is made from one room to another in the same house. It becomes necessary, therefore, to note which particular room is measured, since it is obvious that the size of one room rarely coincides with that of another, even in the same house.

I am, Mr. Mayor and Gentlemen,

Yours obediently,

H. RUSSELL SMITH,

Cert. Royal San. Inst. ; Sanitary Inspector.

BOROUGH OF TORQUAY.

METEOROLOGICAL REPORT

FOR THE YEAR, 1906.

BY

FREDERICK MARCH, F. R. Met. Soc.

Borough Meteorologist.

The Borough Observatory,
February 1st, 1907.

METEOROLOGICAL REPORT.

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

GENTLEMEN,

I have the honour to submit the following Report upon the Meteorological results of the year 1906. These are dealt with in detail, and I need not further refer to them here, except to say that each year's experience enables me with greater facility to make these facts known in the most desirable quarters.

The daily telegram in cipher to the Meteorological Office, started in June, 1905, has been continued during the year. This is communicated by the Meteorological Office to the Press Agencies, and is the means of introducing the name and claims of Torquay to a wide circle of readers, whom otherwise we could not hope to touch. References to exceptional weather in a favourable sense, such as length of sunshine or high temperatures on winter nights, constantly appear in the official daily report.

The usual telegraphic service has been maintained, and telegrams have been regularly sent to the following papers (those marked with an asterisk in the summer only):—"London Morning Leader,*" "Daily Chronicle," "Standard," "Daily News,*" "Liverpool Post," "Newcastle Chronicle," "Bristol Mercury," "Sheffield Independent," "Birmingham Post," "Manchester Guardian,*" "Bradford and Yorkshire Observer,*" "Western Morning News," and "Western Daily Mercury." Occasional reports have been furnished to the London "Tribune," "Daily Mail," and "Daily Express."

Twenty-four copies of the evening chart have again been sent by post each night to stations and receiving offices of the Great Western Railway, and have been exhibited by the officials in charge upon receipt.

The report of the 9 a.m. observations has been posted regularly in stations about the town, and a copy has been sent to the Museum. These results are also graphically shewn by means of a clock face at the Pier office, and are there studied by a great number of visitors.

Weekly reports have been furnished to the "Torquay Directory" and the "Exeter Express," and a weekly report of bright sunshine has been sent to the Meteorological Office.

The Monthly Weather Report, as presented to the Council, has been published also in the "Torquay Directory," and in the "Western Daily Mercury" and "Western Morning News." It has also been posted at the Pier office and at the Museum.

Reports have also been made monthly to the Royal Meteorological Society, and to the British Rainfall Organization.

The Daily Weather report of the Meteorological Office has been posted in the doorway of 34 Fleet Street, and is much consulted; remarks upon exceptional weather have also been posted here, and have been the means of creating interest in the minds of thousands of residents and visitors, and is spreading information as to the relative advantages of the climate of Torquay.

The usual letters of enquiry have been received and duly answered.

I am, Gentlemen,

Your obedient servant,

FREDERICK MARCH.

OBSERVATORY AND INSTRUMENTS.

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

The several Barometers, Thermometers, and Rain Gauges have been verified at Kew Observatory, and regularly examined by a representative from the Royal Meteorological Society. 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 18 years', for Temperature and Rainfall of 30 years', and for Pressure of 22 years' observations.

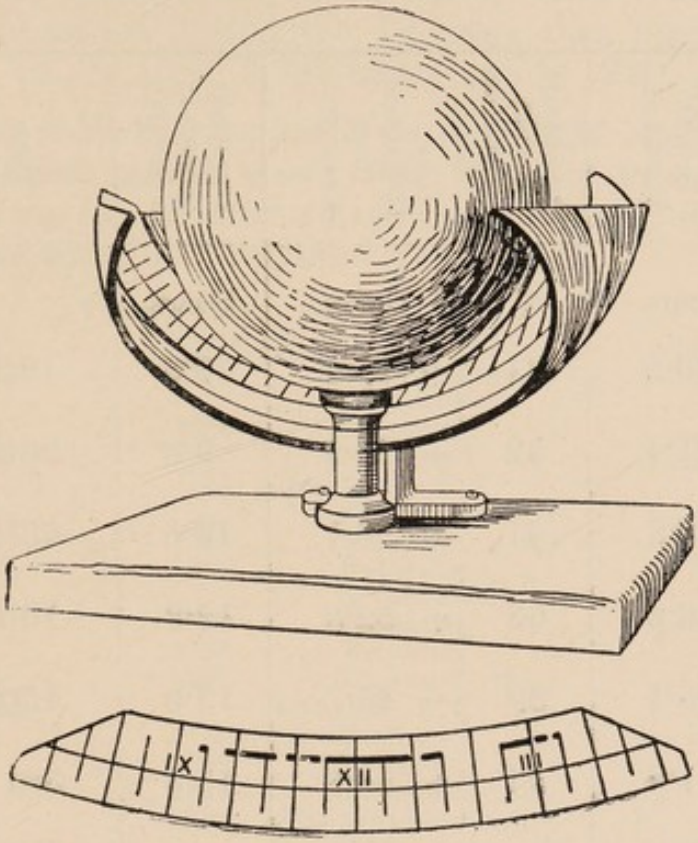
The following are the instruments and appliances in regular use, those marked with an asterisk being the property of the Torquay Natural History Society, and lent by them to the town:—

* 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 all readings similarly reduced.

* An **Aneroidograph**, by Richard Freres, gives in graphic manner the alternations of pressure.

There are 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 grass. 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 Snowdon pattern. They are placed, one on Cary Green, one in the Princess Gardens, with the upper edge 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 on grass in the Princess Gardens about an inch above the ground.

The **Sunshine Recorders** are placed upon the covered shelter at the southern end of the Pier deck.

They are—

(1). A Curtis' Improved Campbell-Stokes instrument (see illustration) fitted with a $3\frac{1}{2}$-inch spherical lens of crown glass, and working on the principle of the burning-glass.

(2). A Twin Jordan Photographic Recorder, which works by the differentiation in colour effected by bright sunlight on specially prepared chemical paper.

DURATION OF BRIGHT SUNSHINE

In hours and tenths of an hour,

As recorded by the Campbell-Stokes' Standard Instrument.

1906.	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.		%	
January ...	80·5	31	+ 17·6	7·6	19th	89	6
February ...	121·4	42	+ 39·9	9·8	20th	96	5
March	148·3	41	+ 9·1	10·5	28th	83	5
April	258·8	63	+ 82·8	12·8	16th	93	0
May	185·1	39	− 45·7	13·0	15th	80	2
June.....	261·9	54	+ 34·5	15·3	3rd	96	0
July.....	272·8	56	+ 49·8	14·3	25th	93	0
August.....	224·5	51	+ 18·0	12·4	31st	93	0
September..	229·0	61	+ 65·1	11·8	2nd	89	0
October ...	108·1	33	− 5·6	8·8	25th	88	8
November..	72·9	28	+ 3·6	7·7	2nd & 5th	95	12
December..	63·0	26	+ 9·9	6·3	7th & 27th	82	8
Year...	2026·3	46	+ 15·2	15·3	June 3rd	96	46

Remarks.

The total Sunshine measured at Torquay during the year 1906, was 2026·3 hours, or, according to the more liberal calculation of the Meteorological Office, 2,028 hours. This amount has been only twice exceeded during the 18 years that observations have been taken, viz., in 1893, 2,035 hours, and in 1899, 2039.

The following table is compiled from the official record of the Meteorological Office, *which shews that Torquay was in 1906 the sunniest spot in the British Islands*, maintaining again her proud boast to the name of "Sunshineland."

	Hours.		Hours.
TORQUAY	2028 hours.		
Scotland, N.		England, N.W.	
Strathpeffer ..	1247	Newton Rigg	1479
Scotland, E.		Manchester	1143
Aberdeen	1525	Blackpool	1679
Scotland, W.		Southport	1625
Glasgow	1174	England, S.	
England, N.E.		Tunbridge Wells ..	1953
York	1384	Margate	1874
Scarborough ..	1581	Folkestone	1979
England, E.		St. Leonard's	1991
Clacton	1996	Hastings	1991
Cambridge	1759	Brighton	1868
Lowestoft	1988	Bournemouth	1969
Midland Counties.		England, S.W.	
Sheffield	1438	Bath	1808
Nottingham ..	1453	Newquay	1875
Birmingham ..	1251	Falmouth	1933
Oxford	1710	English Channel.	
London		Scilly	1852
(Westminster) ..	1513	Jersey	2003

It will be seen that Torquay enjoyed nearly double the amount of sunshine recorded at the dullest places, such as Glasgow, Manchester, and Birmingham, while the total was well in excess of that recorded at such well-known health resorts as Scarborough, Blackpool, Southport, Folkestone, Margate, St.Leonard's, Hastings, Brighton, Bath, Bournemouth, Newquay, and Falmouth. Jersey, which climatologically belongs to France rather than to England, takes second place with a total of 2,003 hours, and the Scilly Isles are nearly 200 hours behind the Torquay total.

In the matter of winter sunshine, so acceptable to the healthy, and so necessary to the invalid, Torquay is rivalled by her western sisters, Falmouth and Newquay, but easily holds her pre-eminence, thus :—

Winter Sunshine, January-March and October-December.

TORQUAY	595	Brighton	555
Falmouth	574	Bath	531
Newquay	573	St. Leonard's	541
Bournemouth	565	Margate	489
Jersey	555	Scarborough	423

During the hot months of the summer, bright sunshine is not so desirable; it is with no compunction that we then cede pride of place to, among others, Jersey, Bournemouth, St. Leonard's, and Clacton.

Ten months of the year shew an amount in excess of the average, the exceptions being May and October. April and September were delightful for their brightness. The April amount, 252 hours, has only once been exceeded in this month. There was no sunless day; the sunshine for the week preceding Easter Monday was nearly 80 hours; on fourteen days the daily amount exceeded 10 hours, and the mean daily amount for the month was actually 8·6 hours.

September was consistently bright; as in four other months of the year, there was no sunless day; on ten days the sunshine exceeded 10 hours, and the mean amount was over two hours per diem in excess of the average.

Whit-Sunday, June 3rd, was, appropriately enough, the sunniest day on record, with 15 hours 15 minutes recorded sunshine, or 96 per cent. of the possible. The previous highest was 15·1 on June 27th, 1902.

DURATION OF BRIGHT SUNSHINE

In hours and tenths of an hour,

As recorded by the Jordan Photographic Twin Instrument.

1906.	Total Bright Sunshine.	Difference from Campbell-Stokes' Record.	Greatest Amount in one day.	Date.	Sunless Days.
January	75·7	− 4·8	7·2	19th	6
February	125·4	+ 4·0	9·2	20th	4
March	143·8	− 4·4	10·4	28th	5
April	250·5	− 8·3	12·3	16th	0
May	179·6	− 5·5	13·0	18th	2
June.....	250·5	− 11·4	14·8	3rd	0
July	258·0	− 14·8	14·0	25th	0
August.....	216·7	− 7·8	11·9	30th&31st	0
September.....	221·9	− 7·1	11·7	10th	0
October	98·2	− 9·9	8·3	14th	7
November	62·7	− 10·3	7·5	22nd	12
December	54·6	− 8·4	6·2	27th	10
Year.....	1937·6	− 88·7	14·8	June 3rd	46

RAINFALL

In inches and hundredths.

1906.		Total Amount.	Difference from Average.	Wet Days.	*Mean* Wet Day Rainfall.	Greatest fall in 24 hours.	Date
January ...	*C. G.	6·21	+2·94	20	0·31	0·77	16th
„	†P. P.	6·21		20	0·31	0.75	16th
February ...	C. G.	3·81	+1·07	19	0·20	0.90	22nd
„	P. P.	3·82		19	0·20	0·88	22nd
March	C. G.	1·00	−1·66	11	0·09	0.27	13th
„	P. P.	1·02		11	0·09	0·27	13th
April	C. G.	0·85	−1·49	10	0·08	0.44	24th
„	P. P.	0·82		10	0·08	0·42	24th
May.....	C. G.	1·53	−0·44	15	0·10	0.41	22nd
„	P. P.	1·55		16	0·10	0·40	22nd
June.....	C. G.	1·96	−0·23	7	0·28	1.28	28th
„	P. P.	2·01		7	0·29	1·34	28th
July	C. G.	0·78	−1·63	8	0·10	0.29	28th
„	P. P.	0·80		8	0·10	0·30	28th
August.....	C. G.	1·91	−0·78	13	0·15	0.42	1st
„	P. P.	1·93		13	0·15	0·42	1st
September	C. G.	0·95	−1·43	6	0·16	0.60	14th
„	P. P.	0·93		6	0·16	0·59	14th
October ...	C. G.	4·52	+0·60	23	0·20	0.72	9th
„	P. P.	4·49		23	0·20	0·71	9th
November	C. G.	3·48	−0·23	20	0·17	0.78	8th
„	P. P.	3·52		20	0·18	0·80	8th
December	C. G.	1·53	−2·24	18	0·08	0·30	12th
„	P. P.	1·50		18	0·08	0·30	12th
Year.....	C. G.	28·53	−5·52	170	0·17	1·28	June 28th
„	P. P.	28·60		171		1.34	June 28th

* Cary Green. † PrincessPier.

Remarks.

Dr. Hugh R. Mill, the head of the British Rainfall Organization, in an article on the "Rainfall of 1906," states that the year will probably come out as an average year, so far as England and Wales are concerned, but that "a dry belt stretched across the centre of England, from the East Riding of Yorkshire to South Devon" . . . The only district in England in which there was anything like a serious deficiency, was a narrow strip running from South Devon to Derby. Here the rainfall was less than 90 per cent. of the average."

Accordingly we had reason to rejoice, not only in a very sunny, but also in a very dry year. It opened badly, the excess of rain being in January 2·94, and in February 1·07 inches; but in the remaining months, only one, October, had a fall above the average, and the year closed with a deficiency on a 30 years' average of 5·52 inches. Drier years on record are 1887 (24″·56), 1889 (26″·40), 1892 (24″·13), 1893 (25″·83), 1896 (26″·82), 1898 (27″·62), and 1905 (27″·88). The heaviest fall (1″·28) occurred during the cyclonic rainfall at the end of June.

During the period, March to September, rain was gauged on 70 days only; and on 35 of these the fall was only one-twentieth of an inch or less. As this quantity of rain can easily fall in an hour or two, and usually falls here in the night, it is fair to say that only one day in seven was in this period "wet," in the popular acceptation of the term, and still fewer days were what would be called "very wet." A writer in the "Lancet" (Sept. 15th, 1906) singles out Torquay as "especially noted in the south-west for its very few rainy days." It will probably surprise many that the rainfall in Torquay during the summer months, June-August, was exceeded among other places at Blackpool, Llandudno, Yarmouth, Aberdeen, Harrogate, Bath, Glasgow, Manchester, and Birmingham.

Other west-country stations report totals as under:—

			″
Bere Ferrers	..	..	47·05
Launceston	..	..	59·62
Trethill, Sheviock	..	..	34·85
Penmoor, Yelverton	..	..	56·64
Polperio	..	..	38·88
Strade, Ermington	..	..	39·32
Callington	..	..	47·14
Coryton	..	..	36·28

BAROMETRIC PRESSURE

In inches and thousandths.

Reduced to 32° F. and Sea Level.

1906.	*Mean* of Month.	Difference from *Mean* of Month.	Highest Reading.	Lowest Reading.	Extreme Range of Pressure.
January	30·004	−0·051	30·662	29·408	1·254
February	29·819	−0·180	30·398	29·074	1·324
March	30·048	+0·101	30·452	29·532	0·920
April	30·097	+0·213	30·579	29·407	1·172
May	29·866	−0·112	30·214	29·549	0·665
June..	30·147	+0·137	30·400	29·650	0 750
July	30·064	+0·066	30·303	29·898	0·405
August.....	30·018	+0·050	30·408	29·585	0·823
September	30·210	+0·192	30·582	29·680	0·902
October	29·861	−0·103	30·451	29·245	1·206
November	29·836	−0·101	30·568	29·142	1·426
December	30·031	+0·048	30·585	29·158	1·427
Year	30·000	+0·020	30·662	29·074	1·588

Remarks.

The barometric readings for the year, as taken at 9 a.m., work out at an average of 30 inches exactly; this is 0·020 above the average of 27 years.

There was no such abnormal reading as in 1905 (31″·075), the highest being 30″.662 on January 23rd; the lowest reading was 29″·074 on February 11th. Extreme range of pressure was 1″·588.

The general connection between barometric pressure and rainfall is demonstrated by the following table. It will be seen that when the readings were below, the rainfall was usually above the average, and *vice versa*.

	Variation from Mean Barometer.	Variation from Mean Rainfall.
January	−0·051	+2·94
February	−0·180	+1·07
March	+0·101	−1·66
April	+0·213	−1·49
May	−0·112	−0·44
June	+0·137	−0·23
July	+0·066	−1·63
August	+0·050	−0.78
September	+0·192	−1·43
October	−0·103	+0·60
November	−0·101	−0·23
December	+0·048	−2·24

HUMIDITY, CLOUD, OZONE, AND WIND.

1906.	Humidity.			Cloud	Ozone. Per centage of possible.			Wind.
	Dry Bulb *mean.*	Wet Bulb *mean.*	Relative Humidity.	Cloud *mean* 1 to 10.	*Mean* Daily Amount.	Greatest Daily Amount	Least Daily Amount.	Prevailing Quarters.
	°	°	%		%	%	%	
January	44·4	42·7	87	6·5	55	70	20	N.W.,W.,&S.W.
February	41·2	39·1	83	6·0	54	70	20	W.,N.W.,&S.W.
March ...	44·3	41·7	81	6·0	57	90	10	N.W. & S.W.
April ...	47·8	43·3	70	4·0	52	70	30	E., S.E., & N.W.
May	53·8	50·3	78	6·5	53	80	20	S.W. & S.
June.....	59·9	56·0	76	6·0	46	65	10	S.E. & E.
July	63·1	58·7	75	6·0	48	80	10	W. & S.W.
August...	64·2	60·3	77	6·0	39	65	10	S.W. & N.W.
Sept. ...	60·9	56·7	75	5·5	44	70	10	E.
October	55·2	52·7	83	6·0	42	75	10	W.,S.W.,& N.W.
Nov.....	47·3	45·8	88	7·0	42	80	10	N.W. & W.
Dec.	42·3	40·3	84	7·0	49	75	20	N.W. & W.
Year...	52·0	49·0	80	6·0	48·5	90	10	N.W.,S.W.,& W.

Remarks.

The mean humidity of the air, varying according to the season of the year, has for many years worked out at an average of 78 per cent. of the possible. (It must not be forgotten this is a percentage of a percentage ; thus Huxley writes, "The air of England contains on an average something like 1½ per cent. of aqueous vapour.") Some fresh factor, perhaps an unusual prevalence of westerly winds, increased this percentage in 1906 to 80. That this higher figure does not indicate a damp climate is shown by comparison with other resorts. In 1903 (the latest comparative values available at the moment) the mean humidity was at Douglas 89, at Newquay 86, at Guernsey and Bude 85, at Falmouth 84, at Brighton and Scilly 83, at Buxton, Southport, and Margate 82, at Tunbridge Wells 81, at Ilfracombe and Greenwich 80. At no station in the table quoted from was the humidity lower than 78.

The mean amount of cloud from eye-observation on a scale 0·10, indicating all conditions from cloudless to entirely overcast, was 6. It varied from 4 in April, a remarkably sunny month, with 63 % of possible sunshine, to 7 in November and December, when the sunshine was only 27 % of the possible.

The prevailing winds were westerley. Only in May, June, and September did easterly airs prevail, giving us in two of these months a low humidity, and in all a rainfall much below the average.

The mean amount of ozone, as estimated by Moffatt's Ozonometer, was 48·5 per cent. of the possible, varying from 10 per cent. to 90.

SHADE TEMPERATURES.

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

1906.	Maximum *mean.*	Minimum *mean.*	Max. & Min. *mean.*	Difference from Average.	Range *mean.*	Highest.	Date.	Lowest.	Date.
	°	°	°	°	°	°		°	
Jan. ...	50·3	40·4	45·4	+3·1	9·9	54·4	5th	29·8	24th
Feb. ...	47·0	36·5	41·8	−1·4	10·5	51·5	20th	29·6	6th
March .	49·6	38·8	44·2	+0·1	10·8	58·5	6th	31·6	23rd
April . .	54·2	39·7	47·0	−1·2	14·5	64·8	13th	33·9	3rd
May ...	58·3	46·7	52·5	−0·6	11·6	69·1	14th	36·0	1st
June...	64·2	51·8	58·0	−0·7	12·4	71·2	9th	44·5	30th
July ...	69·1	55·0	62·1	+0·3	14·1	75·6	22nd	44·5	1st
Aug....	68·8	56·9	62·9	+1·4	11·9	76·0	31st	50·7	18th
Sept. . .	66·6	54·1	60·4	+2·2	12·5	76·1	7th	44·0	26th
Oct. ...	59·7	49·3	54·5	+2·6	10·4	65·9	3rd	35·1	31st
Nov....	52·2	43·0	47·6	+0·2	9·2	59·2	22nd	32·7	13th
Dec. ...	47·1	38·6	42.9	−0·7	8·5	57·1	4th	28·8	28th
Year	57·3	45·9	51·6	+0·4	11·4	76·1	Sept. 7th	28·8	Dec. 28th

Remarks.

The mean temperature for the year 1906 was 51·6° ; this is 0·4° above the mean of 1905, and also 0·4° above the average. The mean maximum temperature was 57·3°, and the mean minimum 45·9°. The mean range was 11·4°, 0·3° above that of 1905.

The temperatures for the four quarters of the year are as under :—

	Mean maximum.	Highest.	Mean minimum.	Lowest.	Mean Temp.
January-March	49·0	58·5	38·6	29·6	43·8
April-June	58·9	71·2	46·1	33·9	52·5
July-September	68·2	76·1	55·3	44·0	61·8
October-December	53·0	65·9	43·6	28·8	48·3

As will be seen from this table the highest reading was 76·1° ; this was taken on September 7th. The mean maximum for the holiday months of July, August and September was 68·2°. The mean maximum for the summer months of June, July and August was 67° ; this was the same as that at Brighton, Folkestone, and Harrogate, and below that of Jersey 69°, Bournemouth 70°, Margate 69°, Clacton 68°, Bath 70°, Nottingham 71°, London 72°. It is now six years since the present writer first put pen to paper in the endeavour to rid the public mind of the fallacy that Torquay is "frightfully hot in the summer." Those who live here all the year round know perfectly well how relatively cool during the summer months Torquay is. Reasonable people would expect an equable temperature owing to the favourable geographical position of Torquay. The town is built on a peninsula and is surrounded on three sides by the sea; on the other side are the hills of Dartmoor. This peninsular position offers these advantages in summer :—(1) equalisation of temperature by reason of the conservative properties of water as regards heat ; (2) constant movement of the air either as land or sea breeze ; (3) cool moor air from the N.W. Unfortunately, prejudice and ignorance still largely prevail, and many opportunities of conversation with visitors from all parts of the country convince the writer that the number of such persons would be largely increased if the facts about the summer climate were still more widely circulated. The fact that during the 30 years in which temperatures have been recorded in Torquay we have never registered a maximum of 80° speaks for itself, and the following table is one more testimony that, as a seaside resort in the summer, Torquay is as cool as any, and cooler than most.

Remarks.

During the first few days of September, the London papers were filled with accounts of a great heat wave that affected the metropolis and the greater part of the country. For three consecutive days (August 31st to September 2nd) the shade temperature rose to 91° on the banks of the lake in St. James' Park; unofficial readings in other parts of London were as high as 97°. In the country the following readings were taken :—Ponders End 95°, Cambridge 93°, Spalding 92°, Leicester 92°, Oxford 92°, Greenwich 94°, Slough 93°, Margate ("bracing and breezy") 90°, Bristol 90°, Scarborough 90°, Birmingham 86°, Folkestone 86°, Blackpool, Southport, and Harrogate 87°, Marlow 93°, Sheffield 92°, Nottingham 90°, Bath 88°. The continent of Europe suffered equally or more, at Biarritz for three days the mean rose above 95°, on two days it reached 99° ; Lyons reported 91°, Paris 89°, and Brussels 87°. *On these three days the maximum shade readings taken at Cary Green, Torquay,* within a stone's throw of the Strand, reputedly the hottest part of Torquay, *were respectively* 76°, 73°, *and* 74°. Comment is needless.

As to the winter temperatures, the writer cannot do better than transcribe a note that appeared in the "Lancet," Jan. 12th, 1907, under the heading, "December at Home and Abroad." The writer says, *inter alia*, "Compared with the corresponding figures for November the temperature shows a very general and substantial decrease of warmth. London in November had a mean temperature of 47·0° F, against 37·7° during December, and nearly every other place except Scilly, Torquay, and Lisbon experienced a similar reduction. Scilly which, with some of the most southern resorts abroad, successfully resisted the frost, had a greater mean daily warmth than Biarritz, Nice, and Florence, while the nights were milder than those of Rome, and only slightly cooler than those at Naples and Palermo. Jersey and Torquay were also milder than Florence and the former milder than Nice, while the Devonshire resort had a mean temperature only about half a degree below that at Nice. Among the home resorts it is somewhat surprising to note the great difference in warmth between Torquay and Bournemouth." Perhaps in time the wealthy classes in England, and others who, under compulsion, seek a warm climate, with a liberal allowance of sunshine, will realise that this can be obtained within their own coasts, without the inconvenience and exposure that necessarily attend travel abroad.

The minimum reading for the year was 29° on December 28th ; other minima this month were Jersey 28°, Bournemouth 24°, Bath, Manchester, and Birmingham 21°, Nottingham 16°, Nice 28°, Florence 24°, Rome and Biarritz 30°.

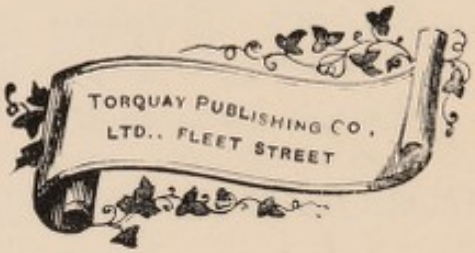
Extreme Temperatures :

	Max.	Min.		Max.	Min.
	°	°		°	°
TORQUAY	76·1	28·8	Harrogate	87·5	19·3
Strathpeffer	88·6	11·2	Blackpool	87·2	23·2
Whitby	93·8	25·0	Tunbridge Wells ..	90·8	17·5
Bath	88·0	21·0	Margate	90·0	19·8
Scarborough	89·8	24·5	Llandudno	87·0	28·2
Worthing	77·1	25·0	Bournemouth	81·6	23·0
Cromer	93·4	20·7	St. Leonard's	82·9	23·0
Ventnor	77·8	27·2	Southampton	82·9	24·2
Clacton-on-Sea	79·0	17·5	Southend	88·0	20·0
Jersey	89·4	26·6			
Aberdeen	81·6	13·2	Nottingham	93·5	15·6
York	92·0	20·0	Birmingham	90·6	21·0
Rugby	92·0	18·0	Clifton	87·5	25·4
Cambridge	92·8	15·0	Oxford	92·0	22·0
Sheffield	91·2	22·9	Westminster	91·3	23·1
Manchester	90·9	21·0	Lincoln	92·5	18·0

METEOROLOGICAL ABSTRACT.

1906.

Highest Shade Temperature - - -	76°·1
Lowest Shade Temperature - - -	28°·8
Mean Maximum Temperature - -	57°·3
Mean Minimum Temperature - -	45°·9
Mean Temperature - - - - -	51°·6
Mean Range of Temperature - -	11°·4
Total Rainfall - - - -	28″·53
Hours of Bright Sunshine - - -	2026·3
Sunny Days - - - - -	319
Mean Humidity - - - -	80
Mean Ozone - - - - -	48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