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Borough of Cheltenham.

ANNUAL REPORT

OF THE

SANITARY CONDITION

ETC., ETC., OF THE

BOROUGH OF CHELTENHAM,

FOR THE YEAR 1908,

BY

J. H. GARRETT, M.D., D.P.H.,

MEDICAL OFFICER OF HEALTH.

Together with the Report of the Chief Sanitary Inspector,

ALSO THE

Annual Meteorological Report by Mr. A. C. Saxby.

"Salus Populi Suprema Lex."

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BOROUGH OF CHELTENHAM.

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Clerk—F. R. JEFFORD.

Medical Officer of Health—J. H. GARRETT, M.D.

INDEX.

PAGE

Address to the Mayor and Members of the Corporation 5

Vital Statistics :—

Summaries for 1908 7
The Borough of Cheltenham 7
Geology and Topography 8
Altitude 8
Climate 8
The Population 9
Births and Birth-Rate 9
Deaths and the General Death Rate 10
Most Common Causes of Death 10
Deaths of Infants and Infant Death Rate 13
Birth and Death Rates in Cheltenham compared with those of other towns and parts of England 14
Table of Statistics for last ten years 15

Zymotic Diseases :—

Zymotic Diseases notified in each month in 1908, and numbers treated in Hospitals 16
Scarlet Fever—Outbreaks due to Milk 16
Diphtheria 17
Enteric Fever 18
Diarrhœa 18
The Delancey Fever Hospital 19
Number of Cases of Zymotic Diseases Notified since Notification began .. 19
Vaccination 20
Phthisis 20

Deaths Certified by Coroner after Inquests, 1908 22

Deaths not Certified in 1908 22

Ward Statistics :—

List of Deaths in Streets of North Ward 23
,, ,, South Ward 24
,, ,, East Ward 26
,, ,, West Ward 27
,, ,, Central Ward 28
,, ,, Middle Ward 29

Deaths in Institutions 31
Table giving Death Rates from all and special causes in Cheltenham and its several Wards in 1908 33
Local Government Board Tables I., II., III., IV., V. 34 38

Work Done :—

Summary of Routine and other Sanitary Work done in Health Department in 1908 40
Inspections 41
Improvements in Dwelling Houses 42
Yard Paving 42
Improvements in House Drains 43
The Corporation Sanitary Certificate 44
List of Sanitary Certificate granted in the year 44
Slaughter-Houses 46

PUBLIC ABATTOIR :—

List of Butchers who used Abattoir in the year 46
Number of Animals Slaughtered in the Abattoir in last two years .. 47
Unsound and Diseased Meat, &c. Destroyed as unfit for the food of man in the year 47
Inspection of Food Shops 48
Inspections under the Factory and Workshops Act 49
Report on the Administration of the Factory and Workshops Act .. 50
Cowsheds, Dairies, and Milkshops—Details of work done in this connection 52
Stable Refuse 54
Houses let in Lodgings 55
Common Lodging Houses 55
School Sanitation 56

Reports upon Matters of Current Interest:—

The Medical Inspection of Children and School Hygenie 57
Action in connection with the Milk Supply 61
Defective Sewers 62
The Early Notification of Births 63
Adoption of Sections from the Public Health Acts 64
Amendment Act, 1907 64

SALE OF FOOD AND DRUGS ACT :—

Return of Articles submitted for Analysis, 1908 65

METEROLOGICAL REPORT for 1908 by Mr. Saxby 67

To the Mayor and Members of the Sanitary Authority of the Borough of Cheltenham.

GENTLEMEN,

In presenting my seventeenth Annual Report I am pleased to be able to make a satisfactory statement in regard to the health of Cheltenham for the year 1908. The general death-rate, which had shown a gradual recession through the previous decade, was last year slightly lower than the year before, which would appear to prove that the conditions which lead to the saving of life are still operative. These conditions are probably general rather than particular, pertaining to most places and parts of the country, but have followed the adoption of preventive means as instituted by the Public Health laws and the Public Health teaching of this age, and are in fact connected with the better understanding of what is assisting and what injurious to health, and the putting into practice of dependent principles. The constant widening of our knowledge and the corresponding extension of the principles under which we work for the betterment or health and the saving of life, lead continually to the necessity of making fresh endeavours upon new lines, and last year must be a memorable one for the intro-

duction of a definite legalised system of inspection of school children, the working of which is likely to be effective for great good, constituting as it does a means of ascertaining the exact physical condition of the nation through the bodies of its individual members, the defects to which each body is subject and their causes, and giving an opportunity for the application of all possible remedies, and the consideration of all preventive means. The monetary cost of this work can hardly fail to be a remunerative investment considered from the national standpoint.

I am pleased to acknowledge the assistance I have received from all the members of my own and the other Departments who have been engaged during the last year in forwarding the Public Health work of the borough, and my relations with all my fellow officers, as always, have been pleasant and harmonious.

I have the honour to be, Gentlemen,

Yours faithfully,

J. H. GARRETT.

February 15th, 1909.

VITAL STATISTICS.

SUMMARY.

		Acres.
Acres of Municipal Borough		4,726
Rateable Value		£320,663
Population at middle of last year		51,000
Population in 1901 Census		49,439
Persons per Acre in the Borough...		10·6
Average number of persons per house 1901 Census		4·77
Death Rate, 1908	Per Thousand Living Inhabitants.	12·5
Average Death-Rate for previous ten years	,, ,,	14·5
Zymotic Death-Rate for 1908 ..	,, ,,	·43
Average Zymotic Death-Rate for previous ten years	,, ,,	·93
Birth-Rate, 1908	,, ,,	18·7
Average Birth-Rate for previous ten years	,, ,,	19·8
Infant Death-Rate (under one year old) per thousand Births, 1908		90
Infant Death-Rate Average for previous ten years per Thousand Births		118

The Borough of Cheltenham.

The general character of Cheltenham is that of a fine residential town, with avenued streets, broad and well-paved promenades, fine terraces and numerous villas, with public and private gardens of large size and number, and great beauty. There is no factory or industry of any considerable extent, but its numerous fine shops afford the best market for purchases within a wide radius ; and for some articles, as, for instance, those of attire both for ladies and men, it is well known as the best emporium in the West of England. Dressmaking and tailoring would indeed probably be correctly described as the chief trades of Cheltenham, most of our workshops pertaining to them. There are firms here devoted to decorative carving in stone and wood and to

decorative ironwork, who obtain orders from far afield for the embellishment of church or dwelling, and there are other local industries of a minor sort, but generally the town is distinguished in a pronounced way from the numerous busy places of the Midlands and the North, whose inhabitants are very appreciative of the change when they come here, and have cause to note the clean streets, the bright houses, and the wealth of flowers and foliage. But apart from trade and manufactures, Cheltenham has interests of other kinds which bring inhabitants to its houses and customers to its shops. Its present fame rests chiefly with its well-known Colleges, whilst its past fame was due to its medicinal waters, the use of which is reviving, and for the redevelopment of this interest there appears considerable scope.

GEOLOGY AND TOPOGRAPHY: That part of the Valley of the Severn which stretches away immediately in front of Cheltenham, and upon the edge of which the town stands, is of the lias formation, consisting chiefly of a clay subsoil, overlaid in places with sand of variable depth. Part of the houses in Cheltenham are on the sand and part on the bare clay. Behind the town rises the bold escarpment of the Cotswold Hills. These hills consist in the main of oolitic limestone, which often lies very near the surface, forming a stony soil, comparatively dry at all seasons on account of the porous nature of the underlying rocks.

ALTITUDE: The altitude of the actual ground upon which the houses of the town stand varies from 160 to 300 feet above mean sea level. There are few residences of importance below 200 feet. On the side towards the hills, that is from North-East to South, the elevation increases gradually until the steeps of the hills are reached at a distance of two or three miles from the town's centre. At about three miles from the centre of the town in several directions the Cotswolds rise to a height of about 1,000 feet, and this altitude is made easily accessible at Cleeve Common by means of an electric tram-line.

CLIMATE: The climate of the town has nothing to differentiate it from that prevailing under the Cotswold escarpment through its forty miles of length. It is milder than some other parts of England. The snow of winter falls more rarely and lies less long. It is not what is accounted a bracing climate, but the climate of the neighbouring hill tops

is very decidedly of that character. The rainfall is very moderate and the sunshine quite up to the average for the West of England. The meteorological particulars are set out in detail in the appended Report by Mr. Saxby. Generally speaking, however, the climate is healthy, and there is nothing derivable from statistics to prove it unsuited to any class of person, or to be productive of any sort of illness. Out-of-door exercise and plenty of fresh air add to bodily vigour here as elsewhere.

THE POPULATION : The character of the population, although in great measure consonant with the description of the town given above, is not wholly of a superior class. There are some extensive districts of poor streets, particularly in the North Ward, and the existence of these has a prejudicial effect upon our health statistics.

Numerically, the population is not a rapidly increasing one, and I have left it at the same number for last year as for the previous year, namely 51,000. There has been a suggestion of making application to extend the boundary so as to include the urban parts of the suburban district of Charlton Kings, or possibly to make the boundary of the Municipal Borough co-terminous with that of the Parliamentary Borough, and a good argument could be made out for this inclusion. This would bring an addition to our population of some 4,000, and might elevate us into the dignity of a County Borough ; but apart from that, there would be an advantage in reducing the dual management to a single one, which is desirable upon the ground of a unified Public Health Administration.

BIRTHS AND THE BIRTH-RATE : There were 955 births in the year 1908. The male births preponderated, as is usual, the proportion being 493 boys to 462 girls. Of the 955 births, 63 were illegitimate, or one in fifteen.

The birth-rate was 18·7 per 1,000 living inhabitants, which is 1 per 1,000 below the annual average for the last 10 years, but as much above the record low rate of the year before last. The birth-rate of the whole country has been falling for some years, and although ours has always been a low rate, it is not so low as in some other towns, and the difference in number between our births and deaths last year gives a moderate natural increase of population of nearly 300 in the year.

Deaths and the General Death-Rate: There were 672 deaths registered in all as having occurred within the Borough last year. Thirty-one of these deaths were of persons who had come into our institutions from outside districts—nearly all of them from districts immediately adjoining and had died within our borders, and these were deducted from the total number in estimating the death-rate for Cheltenham. Our hospitals receive patients from outside Cheltenham, and the Cheltenham Rural District supplies patients to our Workhouse Infirmary. When such patients die, the deaths are properly referred to the districts whence they came. The proper reference of such deaths makes a far greater difference to the death-rates of the districts to which they are thus properly referred, than they make to our gross death-rate when retained. Thus last year the 17 deaths referable to Charlton Kings, though registered in Cheltenham, make a very great difference to the death-rate of Charlton Kings, and formerly when no note was taken of these deaths, the statistics of this minor urban district were so much in error. As apart from deaths in institutions, I do not think it feasible to make deductions and additions to the nnmber of deaths attributable to a district, by instituting inquiries as to the proper abode of every death taking place in a lodging house, or other dwelling, here and elsewhere. I believe it has been the practice in some towns of seasonal resort to make considerable substractions from the gross numbers, by taking cognisance of the deaths of such "strangers," without making the corresponding corrections for "residents" who have died elsewhere, and which it is not equally possible to trace. This appears to me to be worth repeating in view of the very low net death-rates advertised in connection with certain towns.

Of the 641 deaths that occurred in our population last year the most frequent cause of death was senile decay or old age. But a more specific cause was given for the deaths of many aged persons, and no doubt a specific cause, such as heart disease or senile bronchitis, might have been given for every one of them. 295 persons died at an age exceeding 65 years, 171 at an age exceeding 75 years. Of specific causes of death, Heart Disease, Cancer, Phthisis, Apoplexy, Bronchitis, Pneumonia, Kidney Disease, occur with a comparative frequency represented by this sequence of relation. The

heart disease was largely of senile development, the heart being an active organ that has much continuous work to perform and quickly suffers as the result of any other kind of derangement, so that after the age of 55, deaths from this cause increase in frequency as a natural consequence.

Cancer is a potent and disagreeable source of death, the cause and prevention of which we have not yet arrived at. It is chiefly a disease of the latter half of the usual span of life, which suggests that its occurrence cannot be entirely unconnected with the wearing down of the vital powers, whether this result in a loss of resistance to an active germ, or whether the disease be a result of loss of nervous control over the parts that take on a new and apparently independent growth. The net cancer death-rate for this town, the age and sex difference of the population being allowed for, is just about the average for the whole country. The number of deaths from this cause was 66.

From Phthisis we had 49 deaths last year, which is a little in excess of our average number, the spring months of last year being particularly fatal to existing cases of Phthisis. Our death-rate from this cause, however, has always been comparatively light. It was less than 1 per 1,000 living last year. Deaths from other forms of tuberculous disease were comparatively few. I used to include deaths from the somewhat vaguely termed cause "Marasmus" amongst those of tuberculous origin. under the assumption that the term was practically synonymous with Tabes Mesenterica, or "consumption of the bowels," but the Local Government Board has made the cause "Marasmus" a non-tuberculous indefinite cause in the nomenclature of its tabulated forms, and I now follow this lead in common with others, as I suppose.

Apoplexy, or cerebral hæmorrhage, as a cause of death, including also hemiplegia, is tabulated amongst diseases of the nervous system, although usually more immediately related to diseases of the blood vessels and of the heart than to the proper cerebral tissues, which latter are only affected secondarily by the pressure of blood which has escaped from the ruptured diseased blood vessel in the brain. or by reason of the nutrient blood supply being cut off from a portion of the brain by the incompetence of the vessel to convey the blood to it. These diseases of the circulatory system are a common cause of death at advanced ages, being the result of the wear

and tear of the body by use and misuse, including faults in its proper nutrition by the too free ingestion of stimulants and inappropriate foods. There were 47 deaths registered from apoplexy and hemiplegia, but taking all the causes together in which diseases of the circulatory apparatus is mainly implicated, probably the sum would amount to about one-third of all deaths.

To Bronchitis and Pneumonia 66 deaths have to be attributed, with an additional 10 to Pleurisy and other respiratory affections. These diseases are very common in our country and carry off annually a large number of infants and old persons, bronchitis being a source of much chronic trouble to the aged. Our death-rate from respiratory diseases is always comparatively light: last year it was 1·50 per 1,000 living, and the average rate is a good deal below the rate for the whole country. This denotes that our aged inhabitants, of which there is an excessive number in our population, enjoy a comparative immunity from bronchitis, and suggests that bronchial persons might settle here with advantage.

The various forms of kidney disease, Bright's disease, granular kidney, or nephritis of one form or another, brought 25 deaths to our returns during the year. This number is a little above our average, as our death-rate from this cause is also usually quite light.

Deaths of Infants and the Infant Death-Rate: There were in 1908, 86 deaths of infants under 1 year of age, and during the same period there were 955 births registered. This gives a death-rate of infants per 1,000 births of 90. Only upon one occasion, namely, in 1903, has the infant death-rate been so low: in that year it was 85. In the figures below it will be seen that the Infant Death-Rate in Cheltenham has gone down considerably in the course of the last twenty years, and here it cannot be claimed that the result has been due to any special effort to save infant life, since none has been made. The descent of the Infant Death-Rate has been synchronous with the descent of the birth-rate, but I do not know whether there can be any connection between the birth-rate and the relative number of deaths in the first year of life. It might be that the baby would have a less good chance of surviving when the mother had two or three small children not yet beyond the age when they require much nursing and attention. A more even distribution of the responsibility of

motherhood would amend such a fault, besides bringing in a far larger proportion of the better class women to be mothers, and improving the general stock both mentally and physically by that means. The fact that it falls upon women to bear and rear the children of this and every nation, and that this duty has to be done within quite a limited period when the physical powers of the body are at their maximum, must form a stumbling block and a prevention to the modern determination of women to compete with men in the more active conduct of human affairs.

BIRTH-RATE AND INFANT DEATH-RATE IN CHELTENHAM IN THE SIX TRIENNIAL PERIODS BETWEEN 1891 AND 1908.

Years.	Birth-Rate.	Infant Death-Rate.
1891-1893	22·1	144
1894-1896	21·2	139
1897-1899	21·6	148
1900-1902	19·6	115
1903-1905	19·9	116
1906-1908	18·3	95

The last drop commenced rather suddenly in the year 1900, and although former statistics show up and down waves in the birth-rate, succeeding waves have had lower crests and the trend has been downward for a longer time than that occupied by a single wave.

In reviewing the possibilities of life for the 86 infants that died before arriving at one year of age, perhaps for one half of them there was no chance of living: nearly a third died in the first week of life. Amongst the others greater care would undoubtedly have resulted in the saving of life. Notwithstanding that infants born in the best houses are now more generally reared by artificial than by natural feeding, they die with much less frequency than those born in the poor houses whether reared by hand or breast fed, and in fact a healthy child can be quite satisfactorily reared on other diet than its mother's milk. In the better houses, however, the artificial feeding is carried out with the greatest care and cleanliness, the meals are in proper quantity, and at exact intervals, and it is at least one person's whole work to look after the baby. Under such careful treatment the child

flourishes as well, and often better, than when breast fed. In the poor houses what kills the children is the carelessness, the non-avoidance of dirt and disease germs, the irregularity, impropriety, and insufficiency of the diet. Some of these are avoided by feeding the children at the breast, and hence one recommends breast feeding amongst the poorest. This, however, is not always practicable, or where practicable and practised is not of necessity satisfactory owing to the irregular and careless habits and lack of maternal instinct in the mother. Infants born of such mothers have a bad time under any circumstances. I believe the small crêche that has for some years existed in Cheltenham has done good work in tending infants that otherwise might have suffered from want of proper attention. Such institutions are better of small than of very large size, as the risk attaching to the congregation of infants of spreading infectious diseases is considerable. In case of the work of the crêche being extended, it would consequently be better to have a second establishment than to endeavour to bring more children to the present centre.

Comparative Summary showing Birth- and Death-Rates, Infant Death-Rates and Zymotic Death-Rates in other parts of England as compared with Cheltenham in the year 1908.

	Annual Rates per 1,000 living.			Per 1,000 Births.
	Birth-rate.	Death-rate.	Zymotic Death-rate	Death-rate of Infants under one year old.
England and Wales ..	26·5	14·7	1·29	121
76 Greatest Towns ...	27·0	14·9	1·59	128
142 Smaller Towns ...	26·0	14·0	1·26	124
England and Wales (less the above towns). ...	26·2	14·7	·99	110
Cheltenham	18·7	12·5	·43	90

Table of Statistics for the last 10 years, showing Deaths from Chief *Zymotic* Diseases, and *Zymotic* Death-rate, and Total Deaths and General Death-rate; also Total Births and Birth-rate per 1,000 of population, and (under 1 year old) Infant Death-rate per 1,000 children born.

	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
Population... ...	49,000	49,000	49,500	49,700	50,500	50,500	50,500	51,000	51,000	51,000
Small Pox	...	...	...	1	...	...	...	...	...	...
Measles	8	2	1	15	...	...	30	7	...	...
Scarlet Fever	7	...	1	2	2	3	1	1	...	...
Diphtheria	11	4	7	10	3	3	6	9	7	1
Whooping Cough	14	...	14	8	5	3	11	1	7	3
Enteric and Continued Fevers	5	6	1	2	3	2	2	1	2	2
Diarrhœa, Enteritis, &c., in Young Children ...	24	23	16	13	16	39	24	16	15	16
Total Deaths from seven chief *Zymotics*... ...	69	35	40	51	29	50	74	35	31	22
Death-rate from Chief *Zymotics*	1·40	·71	·80	1·02	·57	·99	1·46	·68	·60	·43
Total Deaths belonging to District	775	688	757	715	643	714	747	711	708	641
General Death-rate	15·8	14·0	15·2	14·3	12·7	14·1	14·8	13·9	13·8	12·5
Total Births	1044	968	1005	945	1062	961	995	975	881	955
Birth rate	21·3	19·7	20·3	19·0	21·0	19·0	19·7	19·1	17·2	18·7
Infant Death-rate per 1,000 Children born ...	147	115	111	120	85	133	131	100	95	90

Zymotic Diseases.

The year 1908 was again a favourable one in Cheltenham in regard to zymotic diseases. The numerical incidence of all the diseases of this class was comparatively very moderate, whilst our zymotic death-rate fell to ·43 per thousand living, which was once before the same, but has never been less. We had no death at all from Measles, and have been fortunate in regard to this disease since the epidemic year 1905, but Measles is a complaint that is always in preparation, and whose epidemic return is too sure.

The following table gives the cases of notifiable disease notified during each month of the year, with the numbers treated in hospitals.

ZYMOTIC DISEASES NOTIFIED in each month during 1908.

Month.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Small-pox.	Totals.
January	3	4	1	...	2	...	10
February	7	4	...	...	2	...	13
March	9	9	1	...	1	...	20
April	2	5	...	1	2	...	10
May	6	3	1	...	2	...	12
June	4	1	1	...	2	...	8
July	4	2	1	...	1	...	8
August	2	...	...	...	1	...	3
September	18	4	1	...	1	...	24
October	2	5	2	...	3	...	12
November	15	9	3	...	1	...	28
December	7	7	1	...	2	...	17
The 12 months Totals	79	53	12	1	20	...	165
Total No. treated in Hospitals	69	37	6	...	...	...	112

Scarlet Fever: There were 79 cases notified in 1908, mostly of a mild type, this being only about half the average number for the previous 18 years, and there was no death. At the beginning of September we had a small outbreak of

which the infection was borne by milk. This is a repeated experience and illustrates again the fact of milk being a very ready vehicle for the introduction of the Scarlet Fever infection into the body. There must always be a risk of this happening which can by no means be avoided other than by heating the milk. In this case sudden receipt of a batch of thirteen notifications of Scarlet Fever, all supplied with milk from the same purveyor, when Scarlet Fever was not otherwise prevalent, led to inquiries which discovered the cause of the infection in the family of a man employed at the farm, six miles out, whence the milk came. This man milked the cows, washed the utensils, and brought the milk into Cheltenham. At the time of my visit to the farm the man himself had a history of sore throat, from which his wife had also suffered, and their baby was found in the acute stage of Scarlet Fever. There had also been recent cases in the adjoining village, where one of the inmates of the house had lived up to a fortnight previously, and he also acknowledged to having had a sore throat and some indisposition some weeks before. The action which was promptly taken in connection with the milk supply put an immediate end to the danger.

Diphtheria : This disease has had some prevalence for more than a year in the adjoining district of Charlton Kings, and a good many of the cases notified in Cheltenham last year were on that side of the town ; three of the four deaths that occurred in the hospital also belonged to Charlton Kings. In our own district the number of cases of diphtheria notified was 53, being very near the average number recorded year by year since notification began in 1890, and comparing with 79 notified in the previous year. The high proportion of 35 of the 53 cases were hospital treated.

A small outbreak of a very mild type of this disease occurred in a private school, one grade superior to the public elementary schools, causing seven cases. This outbreak was brought very definitely to an end when the causing case had been removed to hospital, and the cases which had been infected had developed and been isolated. If the germ had gained access to any healthy throat and was being harboured there without setting up the disease in its host, it failed to infect. No bacteriological examination of swabs from the throats of the apparently healthy children were in this instance made, and none were needed as experience proved. In another

small school of better class, four cases having occurred at intervals covering an entire period of five weeks, the throats of the remainder of the scholars were submitted to bacteriological test for fear of further development, but with complete negative results. The outbreak had been exhausted by the prompt removal of the cases as soon as clinical signs developed, the infecting source being again thus removed.

Enteric Fever : There were only 12 notified cases of Enteric Fever with two deaths. Two cases were undoubtedly contracted outside the district, and a third was so doubtful a case as to be able to go away convalescent within a few days of notification. Only two of the cases were of adult age, the remainder being children or adolescents. The cause of the disease in most of the cases was obscure. We have always had to record a few cases of Typhoid Fever in every year since notification commenced, but the incidence has been very light since we closed the shallow wells. For the last ten years the average has been 17 cases per annum ; when we had the wells we were subject to more serious outbreaks from time to time.

Diarrhœa.—That diarrhœa is intended which occurs among the very young, often more or less as an epidemic, and generally most in evidence in the late summer months. Last year it was the most productive cause of deaths from zymotic disease in Cheltenham, the actual number of deaths attributable to it being 16.

The term Diarrhœa here includes all terms indicating an acute catarrhal condition of the intestines, which is presumably due to a microbe. The terms "enteritis" and "gastro-enteritis" cannot be differentiated from "diarrhœa" when that microbic diarrhœal disease is intended, which affects and kills so many infants. I am confident that the term employed depends upon the practitioner, or upon which term is uppermost in his mind at the moment, whether "enteritis" or "diarrhœa," and that the prefix "gastro-" makes no difference, the same disease being indicated in each case.

Fifteen of the sixteen deaths were in infants under one year of age. In answer to the question of what part defective feeding may have played in producing these deaths, the fact of their being so definitely seasonal shows that the chief cause is distinct from the quality of the food, but the character of the feeding, and of the general care of the child and its

surroundings, may well be contributory. The major part of the deaths occurred in houses of the poorest and dirtiest description, but that is the class of house to which most of the infant deaths, from whatever cause, are referrable.

THE DELANCEY FEVER HOSPITAL: During last year I had occasion to make a report connected with the management of this hospital, which serves Cheltenham and district as hospital for isolation of infectious diseases. The time is over ripe for some alteration to be made in the administration of this hospital, whereby the Medical Officer of Health of the town shall be brought into more intimate relation with its internal management. His proper position would be Superintendent Medical Officer. There are points of criticism in connection with the status and management of the Delancey Hospital which might be raised, but possibly before the lapse of another year some alteration may be made.

Number of cases of Zymotic Disease notified in Cheltenham since notification began.

Year	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Small-pox	Erysipelas
1890	93	16	24	2	...	...
1891	75	15	19	...	...	...
1892	264	10	10	...	...	...
1893	419	33	63	4	2	...
1894	147	26	27	1	3	...
1895	89	25	34	3	1	...
1896	126	60	26	4	22	...
1897	224	43	20	1	...	...
1898	296	52	23	5	...	...
1899	273	80	16	...	...	...
1900	103	74	32	1	...	21
1901	67	58	18	1	...	16
1902	147	63	18	3	1	19
1903	142	65	17	...	1	25
1904	143	59	7	...	...	25
1905	116	65	16	...	4	42
1906	104	61	24	6	1	37
1907	30	71	14	...	...	16
1908	79	53	12	1	...	20
Average for all years	154	48	22	1·7	1·8	24

Vaccination : The number of primary vaccinations effected in the borough last year was 455, the births in the same period numbering 955. This is far from being a good record, as it apparently shows that not half of our infants are being vaccinated.

PHTHISIS.

This disease has been subject to voluntary notification here for some years, but we have only heard of a small number of cases in each year by notification hitherto ; we have become aware of more by the death returns. We have for some time practised disinfection after death in each case, and when made aware of living cases these have been visited at discretion, and spitting bottles gratuitously supplied in suitable instances, with cards of directions as to the required behaviour of the patient and the nature of the complaint.

The Act compelling the notification of all phthisis cases occurring in the practice of Medical Officers appointed by the Guardians of the Poor, which came into operation on January 1st, 1909, is bringing to knowledge more cases, and allowing of more to be done in the way of advice and disinfection, although a good many of these cases being in the Workhouse or its infirmary, are already under the control of the Medical Officer of that Institution.

It is, however, already evident that a major portion of the cases that have existence still remain unnotified. In regard to many of these the position is difficult on account of natural desire to keep the matter secret, or make light of it, by reason of the patient being obliged to continue to earn his or her living, the ability to do this being prejudiced by the publication of the nature of the illness. For the idea of consumption being infectious has taken some hold upon the better informed part of the community, with a corresponding dread of and desire to avoid the sufferer, which is likely sooner or later to throw him out of employment.

The segregation of cases of phthisis constitutes a great and difficult problem mainly on account of the chronic nature of the disease. The treatment of cases in an early stage for their betterment is not so excessively difficult apart from the financial side of the question, although to avoid waste of money the most careful selection of patients requires to be practised.

Some time since the Cheltenham Corporation was approached by the governing authorities of the Winsley

Sanatorium at Limpley Stoke, near Bath, which was established primarily for the reception of patients from the three counties of Gloucester, Somerset and Wilts, and the Corporation was asked to subscribe an annual sum per bed for as much accommodation as was desired in the Sanatorium. The Corporation, however, did not subscribe to this institution, and to the present time remains without accommodation for the treatment at the public expense of poor cases of phthisis, for whom a residence in an institution of the sort above described would perhaps afford a permanent cure.

Just beyond our boundary, in a fine position upon the Cotswold Hills, the Birmingham Corporation, having bought a whole estate, has built a Sanatorium for Consumption for the use of that city, which was opened for use last Summer. The action of so important and progressive a municipality should have the effect of a stimulus upon the Cheltenham Town Council, and result in some effective, if minor, provision for local consumptives. Something less remotely situated than the Winsley Sanatorium, and more locally managed, appeals most strongly, but there are difficulties in establishing and managing a small place economically. Combined action and diversion of expense might, however, become possible at a later date, through the County Council. To have a Sanatorium used to its fullest extent at all times, and run without waste of capital or current expenditure, seems to require an extended area of operation, such as that of a county rather than such as that of a town like Cheltenham. I am afraid there is no existing institution normally belonging to Cheltenham to which cases of phthisis can appropriately be sent.

In connection with the subject of tuberculous disease generally, the fact of the transference of the germ from animals to man has to be borne in mind, and any effort to limit this liability is germane to the consideration. The destruction in this borough annually of considerable quantities of meat affected with tuberculous disease, and the organs of slaughtered animals found to be locally affected, that would probably otherwise be consumed, should assist in the prevention of the disease, and the efforts made in connection with the milk supply should operate in the same direction. What was done in this respect last year in Cheltenham will be found recorded under other headings of this report.

Death Certified by Coroner after Inquests in 1908.

Accident by fall from a wagon	1
„ by being knocked down and instantly killed by a train	1
„ by poisoning	1
„ by suffocation	1
„ by burns	1
Suicide by being run over by passing train	1
„ by poisoning by prussic acid	1
„ by cut throat (2)	2
„ by shooting	1
„ by hanging	1
Eczema Intertrigo (death being accelerated by exposure to cold)	1
Heart Disease, weak heart, syncope (9)	9
Convulsions following bronchitis	1
Died under anesthetic	1
Purulent Meningitis	1
Pulmonary Thrombosis following cirrhosis of the liver and atheroma of aorta	1
Cerebral Apoplexy or hæmorrhage into brain (2)	2
Sudden acute oedema of the lungs following granular disease of the kidneys	1
Pleurisy	1
Intussusception	1
Hæmorrhage into the lungs due to the rupture of a blood vessel	1
Congestion of the lungs (2)	2
Want of attention at birth	1
	34

Deaths not Certified in 1908.

Chronic Bronchitis at age 66	1
Heart Failure at ages 72, 71, 74	3
Hæmorrhage due to a rupture caused by aneurism of the aorta, at age 77	1
Marasmus at age 4	1
Weak heart and nephritis at age 62	1
	7

Ward Statistics.

The following Lists give the deaths in the streets in which they occurred. The figures after the name of the chief cause of death represent the age at death in years, unless weeks, days, or months are indicated, a comma separating one death from another.

NORTH WARD.

Albert street, St. Paul's	...	...	phthisis 54
Albert street, St. Peter's	...	...	bronchitis 78, senile decay 72, 82
Arle Mill cottages	...	...	phthisis 18
Baker street...	...	...	heart disease 62
Bloomsbury street	...	...	apoplexy 56
Burton street	...	...	tubercular meningitis 23 months, bronchitis 62, 10 months, otitis media 4, rickets 7 months, phthisis 48
Cleeveland street	...	...	melanchola 67, heart disease 48, 74, phthisis 32, broncho-pneumonia 67
Devonshire street	...	...	bronchitis 63, paralysis 63, phthisis 23
Elm street	...	...	phthisis 46, 58, dispepsia 68, senile decay 73
Folly lane	...	...	uræmic convulsions 21
Gloucester road	...	...	marasmus 1 month, delirium tremens 45, phthisis 46, intussusception 4, enteritis 4 months, congestion of lungs 5 weeks
Granville street	...	...	senile decay 87, bronch-pneumonia 13 months
Grove street	...	...	phthisis 66, heart disease 82, 50, senile decay 81, 68, 77, 46, apoplexy 63, bronchitis 61, 82, pneumonia 39, 65
Hanover street	...	...	cancer of rectum 50
Hereford place	...	...	cancer of breast 51
High street	...	...	apoplexy 54, 41, cancer of rectum 46, 40, phthisis 32
Hungerford street	...	...	heart disease 54, diarrhœa 7 months
King street	...	...	diarrhœa 2 months
Larput place	...	...	cerebral convulsions 62
Malthouse lane	...	...	heart disease 60
Malvern street	...	...	congestion of lungs, 85, apoplexy 71, cancer of lip 65
Market street	...	...	premature birth 1 day, tubercular meningitis 5
Millbrook street	...	...	phthisis 50
Milsom street	...	...	heart disease 69, rheumatism 30, pancreatitis 67. marasmus 3 months
Nailsworth terrace		...	paraphlegia result of fall 17, appendicitis 20
New street	...	...	heart disease 82, cerebral tumour 42
Normal terrace	...	...	premature birth 1 hour, purulent meningitis 15, endocarditis 7 days

Park street (lower) ...	phthisis 29, 38, meningitis 3 months, nephritis 17
Queen street	bronchitis 72, broncho-pneumonia 15 months, spina bifida 6 months, gastro-enteritis 1 month
Russell street	pneumonia 4, heart disease 40
St. Paul's road	asthma 45, cancer of breast 66, pernicious anæmia 62, asphyxia newly born
St. Paul's street North ...	bronchitis 90, cancer of rectum 59
St. Paul's street South ...	debility 6 days, accidentally choked 16 months, cancer of liver and rectum 59, 39, hæmorrhage into lung 52
Spread Eagle terrace ...	pneumonia 59
Station street	senile decay 79, atheroma 62
Stanhope street	heart disease 63, 70, 67, septicæmia 1 month, granular kidney 58, diarrhœa 1 month, senile decay 83, congestion of lungs 9 months, convulsions 11 months, otitis 2
Stoneville street	phthisis 37, senile decay 83, otitis media 3
Sun street	puerperal septicæmia 26, pneumonia 26, nephritis 68
Swindon place	cancer 58, eczema 13 months, bronchitis 1 month, apoplexy 78, senile decay 71, 69, phthisis 25, broncho-pneumonia 8 months
Swindon road	heart disease 83, whooping cough 7 months
Swindon street	pneumonia 8 months, whooping cough 9 months, senile decay 87, appendicitis 25
Tewkesbury road	marasmus 1 month, arterio-sclerosis 74, apoplexy 82, heart disease 69
Townsend street	debility 52, tabes mesenterica 3 months, cancer 64, tubercular meningitis 7, apoplexy 49
Victoria street, St. Paul's ...	cancer of colon 51
Waterloo street	bronchitis 84, obstructive hernia 67, marasmus 3 months, acute general tuberculosis 16, phthisis 7
White Hart street	diarrhœa 8 months
Worcester street	whooping cough 10 months, apoplexy 70, ovarian tumour 56, suicide by cut-throat 27

Deaths in Institutions not capable of certain reference but appropriated to this ward, 4 : old age 70, 81, nephritis 86, meningitis 13 months.

SOUTH WARD.

Albert cottages	phthisis 30
Avenall's parade	diptheria 6
Bath parade	apoplexy 68, cancer of uterus 73

Bath road	phthisis 46, 34, 44, senile decay 84, 79, 78, apoplexy 55, gastric catarrh 80, premature birth 4 hours, bronchitis 74, tubercular meningitis 6, tumour of mediastinum 45
Bath road (old)	deseminated sclerosis 52, tubercular kidney 22, broncho-pneumonia 6 months
Bath street (upper) ...	phthisis 77, 42, nephritis 58, 72, heart disease 70
Bath terrace	prematurity 14 days, marasmus 2 months, paraphlegia 62, senile decay 76, cancer 72, 54, phthisis 24
Cambray	arterio-sclerosis 70, diabetes 86, hœmophilia 20, cancer of breast 44
Charlton lane	cancer 79, difficult birth 2 days, angina pectoris 73
Clare street	phthisis 23
College road	nephritis 66, cancer of rectum 64, apoplexy 50
Commercial street	heart disease 60, 97, 55, 60, marasmus 13 months, chronic rheumatism 79
Corpus street	bronchitis 77, phthisis 36, gastro-enteritis 9, heart disease 71
Ewlyn road	stone in bladder and operation 81
Ewlyn terrace	bronchitis 77
Exmouth street	apoplexy 68, senile decay 82
Fairfield place	cancer of liver 75
Fairhaven road	cancer of uterus 46, syncope 63, accidental burns 23 months
Fairhaven street	nephritis 38, cancer 54
Francis street	phthisis 59
Gratton road	cancer of uterus 73
Gratton street	heart failure 70, senile decay 85, enteric fever 53
Hayes' cottage homes ...	cancer of breast 79
High street	heart disease 63, atheroma 77
Kew place	cancer of liver 57
Langdon road	senile decay 87
Leckhampton road ...	bronchitis 80, heart disease 68, senile decay 79, sarcoma 7
London road	heart disease 23
Magenta place	heart disease 49, 70
Mitre street	bronchitis 63
Montpellier drive	influenza 72
Montpellier grove	perforated gastric ulcer and operation 44
Montpellier retreat	heart disease 61
Montpellïer terrace	arterio-sclerosis 87, cerebro-spinal meningitis 78, apoplexy 90
Naunton crescent	senile decay 86, bronchitis 66, 74, heart disease 57. 64
Naunton Park road ..	renal disease 75, broncho-pneumonia 3 months, heart disease 72

Naunton terrace	...	...	nephritis 62
Norwood road	...	...	cancer of prostate 76
Oriel road ...	...	...	paralysis agitans 56
Pilley ...	...	...	apoplexy 76
St. Luke's place	...	...	senile decay 81
St. Luke's square	...	...	heart disease 60
St Philip's street	...	...	senile decay 82, diabetes 74. appendicitis 54
Sandford street	...	...	cancer of cæcum 56, bronchitis 68
Suffolk road	...	...	bronchitis 7 months
Victoria cottages	...	...	heart disease 71
Wellington street	...	...	chronic hepatitis 68

Deaths in Institutions not capable of direct reference but appropriated to this ward, 1 : old age 87.

EAST WARD.

Albion street	...	...	cancer of abdomen 75, heart disease 72
All Saint's road	...	...	cirrhosis of liver 70, senile decay 76, 82, influenza 87, phthisis 37, apoplexy 80
Berkeley street	...	...	senile decay 79
Brighton road	...	...	heart disease 81, pulmonary embolism 42, mammary abcess 36, ulcerative colitis 48, apoplexy 75
Carlton street	...	...	senile decay 82
Coltham fields	...	...	rheumatoid arthritis 61, gastro-enteritis 4 months
Columbia street	...	...	heart disease 66
Duke street ...	...	...	marasmus 18 days, senile decay 81, 73, acute gastritis 13 days, hemiplegia 75, phthisis 39, bronchitis 72
Fairview road	...	...	convulsions 17 days, heart disease 31, gastric catarrh 56, senile decay 74, 80, 78, 75, septicæmia 55, exopthalmic goitre 58
Glenfall street	...	...	marasmus 4, phthisis 37, broncho-pneumonia 45
Glenfall terrace	...	...	nephritis 66
Grosvenor street	...	...	cancer of rectum 50, apoplexy 60, heart disease 78
Hayward's road	...	...	influenza 63, cancer 72
Hewlett's road	...	...	congestion of lungs 66, apoplexy 61, phthisis 54
Hewlett's street	...	...	senility 74, hematuria 74
High street ...	...	...	influenza 56, cancer of uterus 74, arterio-sclerosis 74, senile decay 78
Jersey street	...	...	congenital heart disease 3 days, pleurisy 2 months, aneurysm 30, cancer of breast 50, heart disease 38
Keynsham street	...	...	senile decay 96
Leighton road	...	...	nephritis 68, senile decay 80, 78
London road	...	...	bronchitis 75

Park street (upper)	...	apoplexy 79
Pittville circus	...	senile decay 88, phlebitis 71
Pittville circus road	...	pneumonia 79
Prestbury road	...	bronchitis 93, arterio-sclerosis 78
Priory terrace	...	gastric catarrh 80
Providence square	...	heart disease 55
Rosehill street	...	bronchitis 71, heart disease 71, cancer 49, senile decay 77
St. James' street	...	senile decay 72, 68, 70, 87, cancer of breast 49, kidney disease 54, phthisis 31, 66, heart disease 50
Selkirk Street	...	senile decay 82, 78, gastritis and pancreatitis 51, asthma 77
Sherborne place	...	senile decay 89, cancer of uterus 58
Sherborne street	...	apoplexy 63, general paralysis 37, osteo-myelitis 28 days, senile decay 83
Sidney street	...	diarrhœa 6 months, aconite poisoning 74, phthisis 32, general tuberculosis 2
Sydenham road	...	senile decay 75
Union street	...	kidney disease 45, phthisis 27, senile decay 74, gastro-enteritis 5 months, malassimilation of food 9 months
Victoria place	...	inanition 9 days, heart disease 67, 66
Whaddon lane	...	pachymeningitis 2, chronic paralysis 70
Winstonian road	...	ædema of glottis 7 months, septic intoxication 59, senile decay 80, sarcoma of pelvis 72
York Street	...	senile decay 76, heart disease 21
Witcombe place	...	gout 50, tubercular meningitis 8 months, gall stones 44, general tuberculosis 12 months

Deaths in Institutions not capable of certain reference but appropriated to this ward, 1 : debility 61.

WEST WARD.

Arle	...	rodent ulcer 76
Alstone	...	aneurysm 55, senile decay 92
Alstone avenue	...	diabetes 77, suicide by gunshot 29
Barnard's row	...	gastric catarrh 3 months
Bayshill terrace (little)	...	inanition 14 hours
Chapel street	...	marasmus 1 month
Christchurch road	...	hemiplegia 56, bronchitis 75, cancer of pancreas 74
Church road	...	cystitis 78
Eldorado road	...	apoplexy 48
Glencairn park road	...	cancer of stomach 70
Gloucester road	...	influenza 76, apoplexy 70, heart disease 80, 71, 62
Grange crescent	...	heart disease 56, senile decay 81, 77, pleuro-pneumonia 80

Great Western terrace	...	strangulated hernia and operation 70, cancer 62
High Street	...	Bright's disease 52
Kensington avenue	...	enteric fever 16, atalectasis 8 hours
Lansdown crescent	...	diabetes 26, pneumonia 66, senility 94, pancreatitis 72
Lansdown place ...	...	phthisis 77
Lansdown road ...	...	heart disease 81, 74, gastric ulcer 64
Libertus road ...	...	arterio-sclerosis 85
Malvern road ...	...	senile decay 88, heart disease 63, pneumonia 24
Millbrook street ...	...	nephritis 65
Mossleigh terrace	...	paraplegia 64
New street	...	heart disease 54
Overton park ...	. .	apoplexy 84
Parabola road ...	...	diabetes 67, senile decay 81
Queen's road ...	...	cancer of uterus 48, senile decay 75, convulsions 5 months
Roman road ...	...	prostatitis 64. peritonitis 79, senile decay 90
Rowanfield road ...	...	apoplexy 70, bronchitis 67
Royal crescent ...	...	heart failure 80
St. George's avenue	...	premature birth 4 days, bronchitis 4 months
St. George's place ...	...	died under chloroform 49, suicide by hanging 56
St. George's road ...	...	cancer 59, prematurity 1 day
St. James' parade ...	...	cancer of stomach 69, renal disease 75
St. James' square ...	...	cancer of breast 68, heart disease 70, apoplexy 71
Western terrace ...	...	senile decay 79
York terrace ...	...	atheroma 51

Deaths in Institutions not capable of certain reference but appropriated to this ward, 1 : phthisis 60.

CENTRAL WARD.

Baker street ...	...	premature birth 1 day, 1 day
Beaufort buildings ...	...	apoplexy 67, nephritis 64. cancer of breast 70
Bennington street ...	...	tuberculous peritonitis 15
Brunswick terrace ...	...	marasmus 24 days
Brunswick street ...	. .	heart disease 55, specific disease 1 month, kidney disease 69, pneumonia 62
Clarence square ...	...	heart disease 8, 67, senile decay 90, phthisis 68, debility 2 days, premature birth 8 hours
Courtenay street ...	...	phthisis, 50, 68, heart disease 51, senile decay 80, cancer 75, uterine fibroid 35, pyæmia 35
Dunalley parade ...	...	heart disease 65
Dunalley street ...	...	gastro-enteritis 5 months
Fairview road ...	...	pneumonia 52, 22
Gloucester place ...	...	senile decay 87, apoplexy 63

Grosvenor place (south)	...	aneurysm 54
Grosvenor terrace ...	...	senile decay 75, suicide by poisoning 52
Hanover parade ...	...	senile decay 81
Hawarden parade ...	...	influenza 51
High Street ...	...	influenza 48
Malthouse lane ...	...	debility 1 day
Marle hill parade ...	...	apoplexy 70, suicide by cut throat 34, arterio-sclerosis 72
Marle hill road ...	...	prematurity 6 hours
Milsom street ...	...	cancer of uterus 60
Northfield terrace ...	...	kidney disease 43
North place	...	cancer of breast 61, senile decay 78, 90, bronchitis 76, cellulitis 76
North street ...	...	premature birth 1 day
Orchard place ...	...	diarrhœa 4 months
Pittville crescent ...	...	pernicious anæmia 55
Pittville lawn ...	...	pleurisy 97
Pittville parade ...	...	heart disease 51, 63
Portland place ...	...	cancer of rectum 68
Portland square ...	...	senile decay 92, bronchitis 65, influenza 52
Portland street ...	...	apoplexy 86
Prestbury road ...	...	senile decay 83
Rutland street ..	...	premature birth 2 months, suppurative pancreatitis 34, senile decay 77, cancer of bowels 78, diarrhœa 9 months
St. George's street ...	...	broncho-pneumonia 47, cancer of stomach 74
St. Margaret's parade	...	heart disease 43, 76
St. Paul's road ...	...	phthisis 50
St. Paul's street North	...	phthisis 34
Sherborne place ...	...	granular kidney 64
Sherborne street ...	...	senile decay 76, heart disease 63
Swindon road ...	...	eyphitis 4 months
Warwick Place ...	...	influenza 59
Wellington square ...	...	old age 87, pulmonary congestion 91
Winchcombe street	...	senile decay 78, kidney disease 45, Addison's disease 36
Windsor street ...	...	heart disease 68

Deaths in Institutions not capable of certain reference but appropriated to this ward, 1 : spinal paralysis 74.

MIDDLE WARD.

Alexandra street ...	...	apoplexy 73, 75, goitre 70, nephritis 71
Andover retreat ...	...	cancer 41
Andover road ...	...	phthisis 55
Brandon place ...	...	senile decay 83
Brandon terrace ...	...	cancer 80, 56, cirrhosis of liver 67 apoplexy 71
Casino place ...	...	broncho-pneumonia 7 months
Church road ...	...	heart disease 76, 85, intussusception 18 months, apoplexy 58

Clarence parade	phthisis 70
Clarence street	otititis media 29
Crescent place	specific gummata 25
Crescent terrace	splenic anæmia 54, apoplexy 58
Croft street	epiplepsy 75
Dagmar road	influenza 72, prematurity 2 days
Edward street	gastric cancer 57
Granley road	senile decay 89
Great Norwood street ...	bronchitis 81, senile decay 70, nephritis 46
Hall road	cancer of mediastinum 66
Hatherley place	aneurysm
Hatherley road	cerebral softening 67, prostatitis and operation 65
Hatherley street	senile decay, 85, 86, chorea 9, diarrhæa 2 months, gastic catarrh 80, anæmia 17, Bright's disease 52, cancer of uterus 63
Imperial square	heart disease 78
Lypiatt Street	difficult labour and convulsions 1 day, old age 82
Lypiatt terrace	apoplexy 92
Montpellier parade ...	cancer of intestine 57
Montpellier street	softening of brain 92
Montpellier terrace ...	cancer of breast 54, phthisis 26
Moorend crescent	alcoholism 85
Moorend road	influenza 68, pneumonia 53, marasmus 9 days, apoplexy 75, cancer of lung 63
Moorend street	bronchitis 77, cancer of omentum 72, apoplexy 74, softening of brain 88
Norwood street (upper) ...	gastric ulcer 58, prematurity 3 days, 3 days
Oakfield street	osteoarthritis 53, apoplexy 78
Ormond terrace	apoplexy 81 (case belonging to Bristol)
Park, The	phthisis 34, sarcoma 70, heart disease 78
Princes road	acute pleurisy 68
Promenade, The	cancer of breast 88, 89
Railway line at Hatherley ...	knocked down by train 49, suicide 38
Regent street	phthisis 27, senile decay 89
Rodney terrace	syncope due to coughing 74, senile decay 89
Royal parade	apoplexy 60, heart disease 69, meningitis 72
Royal Well terrace ...	pneumonia 27, apoplexy 85
St. George's place	bronchitis 9 months, pleurisy 10 months, convulsions 2 hours
St. James' place	phthisis 10
St. Philip's terrace	heart disease 70, bronchitis 83
St. Stephen's road	fibroid tumour and operation 57
Short street	hydrocephalus 5 months, bronchitis 88
Shurdington road	bronchitis 64, chronic alcoholism 66, senile decay 85, heart disease 88
Spa buildings	bronchitis 77
Suffolk square	phthisis 23
Tivoli lane	heart disease 72
Tivoli place	locomotor ataxy 59, apoplexy and paralysis 77
Tivoli road	asthma 83

Tivoli street ... ... bronchitis 65, apoplexy 54, cancer 62, 76, arterial degeneration 71

Deaths in institutions not capable of certain reference but appropriated to this ward, 2, : old age 82, arterio-sclerosis 61.

The following deaths occurring in Institutions have all been referred to the outside districts or streets to which they belong in the Borough, wit the exception of 10, whose former addresses could not be obtained.

The General Hospital.—Pneumonia 53, 27, 59, phthisis 42, 58, 36, 37, heart disease 19 months, 23, enteric fever 57, 16, 53, pericarditis 8, bronchitis 22, 74, kidney disease 45, 43, 17, delirium tremens 45, aconite poisoning 74, ædema of glottis 7 months, gastric catarrh 3 months, cancer 62, 41, 49, 74, 51, 58, 48, obstucted hernia 67, died under chloroform 49, gastric ulcer 70, 45, 83, senile decay 83, septicæmia 55, fracture of spine by fall, osteo-myelitis 28 days, 5, tubercular meningitis 7, 22, 8, 6, pancreatitis 34, 67, caries of spine 26, chorea 6, marasmus 24 days, rheumatism 30, mammary abcess 36, suicide by wound in throat 34, tubercular peritonitis 15, uterine fibroid 35, pyæmia 35, aneurysm 30, appendicitis and peritonitis 54, 55, 20, nyocarditis 75, intussusception 18 months, general tuberculosis, 16, diarrhœa 2 months, 2 months, gall stones 44, tuberculosis of kidney 9 months, ulcerative colitis 48, sprue 33, diabetes 25, prostatitis and operation 65.

The Workhouse Infirmary.—Senile decay 77, 71, 79, 76, 70, 82, 92, 76, 72, 81, 81, 72, 69, 73, 92, 84, 82, 79, 75, 75, 73, 68, 82, 82, 70, 83, 85, 79, 75, 78, 83, 85, 70, 74, 78, 90, 77, heart disease 63, 60, 72, 67, 50, 57, 31, 80, 40, 54, 70, apoplexy 54, 70, 46, arterial degeneration 61, general paralysis 37, meningitis 13 months, bronchitis 61, debility 51, 61, 2 days, pneumonia 68, 39, 52, 65, sarcoma of orbit 50, cancer 78, 66, 74, 59, 50, 39, 62, paraplegia caused by fall 17, paralysis agitans 72, phthisis 35, 25, 7, 32, chronic paralysis 70, gastric catarrh 56, paraplegia 74.

The Delancey Hospital for Infectious Diseases.—diptheria 9, 10, 5, 6.

The Eye, Ear, and Throat Hospital.—stitis media 29.

The Home for Sick Children.—General tuberculosis 2, malassimilation of food 9 months, acute pericarditis 10.

Nazareth House.—Chronic renal disease 86, phthisis 60, senile decay 87, 82.

In Nursing Homes.—Strangulated hernia and operation 70, premature birth 1 day, stone in bladder 81, cancer of uterus 73, pernicious anæmia 55, gastric ulcer and operation 44, phalebitis 71.

The following which are included in the above as having died in our Institutions, came directly into them from outside districts, as here indicated :—

Charlton Kings: senile decay 77, 76, 82, 78, diptheria 9, 10, 5, pericarditis 8, gastric ulcer 70, pneumonia 68, cancer of larynx 66, sarcoma of orbit 50, phthisis 35, paralysis agitans 72, enteric fever 57, tuberculosis of kidney 9 months, osteo myelites 5.

Cheltenham, Rural District: senile decay 90 (Prestbury) phthisis 25 (Staverton)

Tewkesbury, Rural: heart disease 19 months (Stoke Orchard), tubercular meningitis 22 (Elmstone Hardwick)

Northleach, Rural: gastric ulcer 45 (Brockhampton), fracture of spine by fall 48 (Andoversford)

Winchcombe, Rural: diabetes 25 (Woodmancote)

Cirencester, Rural: myocarditis 75 (Tarleton), sprue 33 (Rendcombe)

Chepstow, Rural: caries of spine 26 (Tutshill)

Gloucester, Rural: acute pericarditis 10 (Tredworth)

Shrewsbury: epithelioma of tongue 48

Bristol: apoplexy 81

Birmingham: old age 79

The following ten died in our Institutions their former addresses being uncertain, they consequently could not be referred to any street or place:—

The Workhouse Infirirmary; senile decay 70, 81, meningitis 13 months, arterial degeneration 61, debility 61, paraplegia 74.

Nazareth House: renal disease 86, phthisis 60, senile decay 87, 82.

They have been appropriated to the six wards according to general likelihood.

Ward Statistics, including Birth-rates and Death-rates from all and several causes, and Infant Death-rates (all at per 1,000 living inhabitants, excepting the Infant Death-rate, which is at per 1,000 children born) for the year 1908.

	Whole Town	North Ward	South Ward	East Ward	West Ward	Central Ward	Middle Ward
Population	51,000	9,700	8,650	8,506	7,050	7,436	9,658
Birth-rate	18·7	27·2	19·1	23·1	13·7	15·2	11·6
General Death-rate	12·5	15·7	12·6	13·9	9·7	11·1	11·1
Infant Death-rate	90	117	46	66	82	124	98
Zymotic Death-rate	·43	·92	·34	·47	·28	·40	·10
Phthisis Death-rate	·96	1·65	1·27	·94	·28	·67	·74
Tubercular Death-rate (other than Phthisis)	·27	·72	·23	·35	·00	·13	·10
Cancer Death-rate (all malignant disease)	1·29	1·23	1·74	1·05	1·12	·94	1·59
Pneumonia, Bronchitis, &c., Death-rate ... (Diseases of Respiratory Organs)	1·50	2·57	1·50	1·29	·85	1·07	1·44

Local Government Board Table No. I.—Vital Statistics of whole District of the Borough of Cheltenham during 1908 and previous 10 years.

YEAR.	Population estimated to Middle of each Year.	Births Registered.		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 per 1,000 of Population.	Number.	Rate per 1,000 Births.	Number.	Rate per 1,000 of Population				Number.	Rate per 1,000 of Population
1898	49,000	1090	22.2	159	146	828	16.8	162	24	The Medical Institutions for Cheltenham and neighbourhood are now all within the borough of Cheltenham.	804	16.4
1899	49,000	1044	21.3	154	147	793	16.1	121	18		775	15.8
1900	49,000	968	19.7	112	115	708	14.4	137	20		688	14.0
1901	49,500	1005	20.3	112	111	775	15.6	132	18		757	15·2
1902	49,700	945	19.0	114	120	737	14.8	177	22		715	14·3
1903	50,500	1062	21.3	91	85	666	13.1	138	23		643	12.7
1904	50,500	961	19.0	128	133	733	14.5	162	19		714	14.1
1905	50,500	995	19.7	131	131	773	15·3	177	26		747	14.8
1906	51,000	975	19.1	98	100	743	14.5	172	32		711	13·9
1907	51,000	881	17.2	84	95	738	14.5	178	30		708	13.8
Averages for years 1898-1907	49,970	992	19.8	118	118	749	14.9	155	23.2	...	726	14.5
1908	51,000	955	18·7	86	90	672	13·2	169	31	...	641	12.5

Area of District in acres (exclusive of area covered by water) 4,726

For names of Public Institutions receiving sick persons see pages 31 & 32.

At Census 1901:
Total population at all ages..... 49,439
Number of inhabited houses ... 10,352
Average No. of persons per house 4.77

Local Government Board Table II.—Vital Statistics of separate Localities in 1908 and previous 10 years.

Names of Localities	BOROUGH OF CHELTENHAM.				NORTH WARD.				SOUTH WARD.				EAST WARD.				WEST WARD.				CENTRAL WARD.				MIDDLE WARD.			
Year	Population estimated to middle of each year	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year	Population	Births registered	Deaths at all Ages	Deaths under 1 year
1898	49,000	1090	804	159	9790	No Return	176	60	8020	No Return	98	10	8242	No Return	114	24	6039	No Return	60	13	6553	No Return	102	21	8870	No Return	99	10
1899	49,000	1044	775	154	9790		161	57	8020		94	18	8242		108	14	6039		93	19	6553		104	15	8870		110	19
1900	49,000	968	688	112	9790		132	30	8020		73	11	8242		106	13	6039		68	12	6553		83	19	8870		109	12
1901	49,500	1005	757	112	9923	332	180	40	7864	142	109	13	8296	170	138	14	6542	128	88	17	7336	136	91	17	9478	97	151	11
1902	49,700	945	737	116	9923	256	173	46	7924	121	108	11	8356	177	132	19	6653	90	59	5	7336	166	117	22	9508	135	110	13
1903	50,500	1062	666	90	10023	303	143	30	8074	146	102	13	8506	194	125	13	6893	107	64	7	7436	167	106	19	9658	145	103	8
1904	50,500	961	733	126	10023	305	194	60	8074	151	106	15	8506	179	124	15	6893	94	80	9	7436	124	103	17	9658	108	107	10
1905	50,500	995	773	131	9700	307	197	52	8350	172	120	25	8506	177	137	17	6850	85	78	8	7436	132	115	16	9658	122	100	12
1906	51,000	975	743	98	9700	305	160	35	8650	153	125	14	8506	160	153	15	7050	93	55	7	7436	136	118	24	9658	128	100	3
1907	51,000	881	738	84	9700	276	169	32	8650	154	131	16	8506	161	117	13	7050	74	87	11	7436	105	106	8	9658	111	106	4
Average of years 1898 to 1907	49,970	999	741	118	9836	298	168	44	8164	148	106	14	8390	174	125	16	6604	96	73	11	7151	138	104	18	9389	121	109	10
1908	51,000	955	672	86	9700	264	153	31	8650	172	109	8	8506	197	118	13	7050	97	68	8	7436	113	82	14	9658	112	106	11

N.B.—In the first three years of these statistics the deaths in hospitals, &c., are not referred to the respective Wards, but are altogether excluded from the Ward statistics. Since 1900 the deaths in hospitals are included and. as far as possible, properly referred to the Wards to which they belong. The deaths in the whole Borough include all that died within the Borough, whether belonging to the district or not.

Local Government Board Table III.—Cases of Intectious Disease notified during the year 1908 for the Borough of Cheltenham.

Notifiable Diseases.	Cases Notified in whole District.							Total Cases notified in each Locality.						No. of Cases removed to Hospital from each Locality.						Total cases removed to Hospital.
	At all Ages	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 & upwards.	North Ward.	South Ward.	East Ward.	West Ward.	Central Ward.	Middle Ward.	North Ward.	South Ward.	East Ward.	West Ward.	Central Ward.	Middle Ward.	
Small-Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	53	...	17	25	6	5	...	8	10	13	5	9	8	8	8	10	4	3	4	37
Erysipelas	20	...	1	1	2	14	2	1	2	5	5	4	3	...	...	...	..	...	...	...
Scarlet Fever.....	79	2	12	39	17	9	...	11	22	5	18	6	17	12	18	4	14	5	16	69
Enteric Fever	12	...	1	4	5	2	...	3	3	...	2	3	1	2	1	...	1	1	1	6
Puerperal Fever.....	1	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Totals ...	165	2	31	69	30	31	2	24	37	23	30	22	29	22	27	14	19	9	21	112

BOROUGH OF CHELTENHAM SANITARY DISTRICT.

Deaths Registered from all Causes during the Year 1909.

(GROSS NUMBERS).

	AGES.											
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards	Totals.
I. Specific Febrile, or Zymotic Diseases	23		5	1	3	1	4	6	2	1	1	46
II. Parasitic Diseases	2						1		1		1	6
III. Dietic Diseases	6	4	6	11	19	14	26	35	24	14	4	153
IV. Constitutional Diseases	18								14	23	26	111
V. Developmental Diseases	25	10	5	10	7	15	31	58	86	58	18	324
VI. Local Diseases	1	2			3	1	4	1	1			13
VII. Deaths from Violence	15	2					2	1	1	1		19
VIII. Deaths from Ill-Defined and Not Specified Causes												
Totals	86	18	16	22	33	31	69	91	130	127	50	672

I.—Specific Febrile, or Zymotic Diseases.

1.—Miasmatic Diseases.

Smallpox	Vaccinated											
	Unvaccinated											
	No Statement											
Measles												
Scarlet Fever												
Typhus												
Whooping Cough		3										3
Diphtheria			4									4
Simple Continued and Ill-defined Fever					1							
Enteric or Typhoid Fever							1	3				4
Influenza						1	2	3	1	1	1	11
Other Miasmatic Diseases												1

2.—Diarrhœal Diseases.

Epidemic Diarrhœa (Enteritis and Gastro-enteritis, and Acute Diarrhœa in the young)	15		1									16
Dysentery												

3.—Malarial Diseases.

Remittent Fever												
Ague												

4.—Zoogenous Diseases.

Cowpox and effects of Vaccination												
Other Diseases (*e.g.* Hydrophobia, Glanders, Splenic Fever)												

5.—Venereal Diseases.

Syphilis	2				1							3
Gonorrhœa, Stricture of Urethra												

6.—Septic Diseases.

Erysipelas						1		3				4
Pyæmia, Septicæmia	1				1							1
Puerperal Fever												

II.—Parasitic Diseases.

Thrush, and other Vegetable Parasitic Diseases												
Worms, Hydatids, and other Animal Parasitic Diseases												

III.—Dietic Diseases.

Want of Breast Milk, Starvation	3											3
Scurvy												
Chronic Alcoholism, Delirium Tremens							1		1		1	3

IV.—Constitutional Diseases.

Rheumatic Fever, Rheumatism of the Heart					1		1		1			3
Rheumatism						1						1
Gout												
Rickets	1											1
Cancer, Malignant Disease			1		1	4	15	17	18	10	3	69
Tabes Mesenterica	1											1
Tubercular Meningitis, Hydrocephalus	3	2	3	1								9
Phthisis		2	2	5	14	10	9	5	4	2		52
Other forms of Tuberculosis, Scrofula	1	2		3	1							7
Purpura, Hæmorrhagic Diathesis												
Anæmia, Chlorosis, Leucocythæmia				1			1	2				4
Glycosuria, Diabetes Mellitus					2				2	1	1	6
Other Constitutional Diseases				1								1

V.—Developmental Diseases.

Premature Birth	15											15
Atelectasis	1											1
Congenital Malformations	2											2
Old Age									14	53	26	93

VI.—Local Diseases.

1.—Diseases of Nervous System.

Inflammation of Brain or Membranes		1		1					1	1		4
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis						1	6	11	12	13	4	47
Insanity, General Paralysis of the Insane						1			1		2	4
Epilepsy										1		1
Convulsions	4			1				1				6
Laryngismus Stridulus (Spasm of Glottis)												
Disease of Spinal Cord, Paraplegia, Paralysis Agitans				1			1	5	3			10
Other Diseases of Nervous System			1			1			1			3

2.—Diseases of Organs of Special Sense.

(*e.g.*, of Ear, Eye, Nose).

	1	2			1							4

3.—Diseases of Circulatory System.

Pericarditis			2									2
Acute Endocarditis	1											1
Valvular and other Diseases of Heart		1	1	2	1	3	7	20	26	13	3	78
Aneurism					1			2		1		4
Embolism, Thrombosis												
Gangrene												
Other Diseases of Blood Vessels							1	2	6	2	1	14

4.—Diseases of Respiratory System.

Laryngitis	1											1
Croup												
Emphysema, Asthma							1		2			3
Bronchitis	6							4	11	13	3	37
Pneumonia	7	3		2	2	1	4	2	6	3	1	30
Pleurisy	2								1		1	4
Other Diseases of Respiratory System						1	1					3

5.—Diseases of Digestive System.

Dentition												
Sore Throat, Quinsy												
Diseases of Stomach, Gastritis and Gastric Ulcer						1	2	3	1	3		10
Diarrhœa (Symptomatic)												
Obstructive Diseases of Intestine, Hernia			2						2			4
Peritonitis and Appendicitis				1	1		1			1		4
Pancreatitis and Hepatitis					1				3			4
Cirrhosis of Liver									1	1		2
Other Diseases of Digestive System						1	1		1			3

6.—Diseases of Lymphatic System.

(*e.g.*, of Lymphatics and of Spleen)

7.—Diseases of Gland-like Organs of Uncertain Use.

(*e.g.* Bronchocele, Addison's Disease)

						1			1	1		3

8.—Diseases of Urinary System.

Nephritis				1		2	6	5	8	2	1	25
Bright's Disease, Albuminuria												
Disease of Bladder or of Prostate								1	1	2		4
Other Diseases of the Urinary System												

9.—Diseases of Reproductive System.

a. *Of Organs of Generation.*

Male Organs												
Female Organs						2		2				4

b. *Of Parturition.*

Abortion, Miscarriage												
Puerperal Convulsions												
Placenta prævia, Flooding												
Other Accidents of Child Birth (to Child)	2											2

10.—Diseases of Bones and Joints.

Caries, Necrosis												
Arthritis, Ostitis, Periostitis	1		1				1					3
Other Diseases of Bones and Joints												

11.—Diseases of Integumentary System.

Cellulitis, Phlegmon												
Other Diseases of Integumentary System		1										1

VII.—Deaths from Violence.

1.—Accident or Negligence.

Falls							1					1
Fractures and Contusions												
Gunshot Wounds												
Cut, Stab												
Burn, Scald		1										1
Poison									1			1
Drowning												
Suffocation			1									1
Otherwise	1											1

2.—Homicide.

Manslaughter							2					
Murder												

3.—Suicide.

Gunshot Wounds					1							1
Cut, Stab					2							2
Poison							3					1
Drowning												
Hanging												
Otherwise						1		1				1

VIII.—Deaths from Ill-defined and Not Specified Causes.

Marasmus												
Debility, Atrophy, Inanition	9	2					1	1				11
Mortification	3											3
Tumour												
Abscess, cellulitis							1					1
Hæmorrhage										1		1
Sudden Death (cause not ascertained)									1			1
Causes not Specified or Ill-defined												

Local Government Board Table IV.—Causes of, and Ages at, Death during Year 1908 in the Borough of Cheltenham.

Causes of Death.	*Deaths in or belonging to whole District at subjoined Ages*							*Deaths in or belonging to Localities (at all Ages).*						There were also 31 deaths of persons almost wholly from districts immediately surrounding, who had come in to our hospitals and had died there. These are detailed on another page as per index.	Deaths in Public Institutions in District
	All Ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65	65 and upwards.	North Ward	South Ward	East Ward	West Ward	Central Ward	Middle Ward		
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...		...
Whooping Cough	3	3	...	..	...	...	...	3	...	...	...	...	...		...
Diphtheria (including Membranous Croup)	1	...	...	1	...	...	...	...	1	...	...	...	...		4
Enteric Fever	2	...	...	...	1	1	...	...	1	...	1	...	...		3
Epidemic Influenza	11	...	...	...	...	6	5	...	1	3	1	4	2		...
Diarrhœa (all forms likely to be Zymotic)	16	15	...	1	...	...	...	6	1	4	1	3	1		2
Puerperal Fever	1	...	...	...	...	1	...	1	...	...	...	...	...		...
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...		1
Phthisis (Pulmonary Tuberculosis)	49	...	...	2	5	36	6	16	11	8	2	5	7		9
Other Tubercular Diseases	14	4	4	3	3	...	...	7	2	3	...	1	1		9
Cancer, Malignant Disease	66	...	...	1	...	35	30	12	15	9	8	7	15		17
Bronchitis	37	6	...	...	...	4	27	10	10	4	3	2	8		3
Pneumonia	29	7	3	...	2	9	8	13	2	3	3	5	3		7
Pleurisy	4	2	...	...	...	...	2	...	...	1	...	1	2		...
Other Diseases of the Respiratory Organs	6	1	...	...	...	3	2	2	...	3	...	...	1		1
Alcoholism, Cirrhosis of Liver	5	...	...	...	...	1	4	1	...	1	...	...	3		1
Venereal Diseases	3	2	...	...	...	1	...	...	...	...	...	2	1		...
Premature Birth	15	15	...	...	...	...	...	2	2	...	2	6	3		1
Diseases and Accidents of Parturition	2	2	...	...	...	...	...	...	2	...	...	...	...		...
Heart Diseases	77	1	...	1	3	31	41	16	19	12	10	11	9		16
Accidents	6	1	2	...	...	2	1	2	1	1	1	1	...		3
Suicides	6	...	...	...	...	6	...	1	...	...	2	1	2		1
All other causes	288	26	7	2	7	77	169	61	41	67	35	34	50		92
All causes	641	85	16	11	21	213	295	153	109	119	69	83	108		169

Local Government Board Table V.—Infantile Mortality during the Year 1908 in the Borough of Cheltenham.

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 1 year
All Causes { Certified	24	3	3	1	31	10	5	7	5	5	3	6	4	6	3	1	86
All Causes { Uncertified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	1	...	1	1	...	3
Diarrhœa (all forms) and Enteritis (all forms)	...	1	...	...	1	2	2	1	3	2	1	1	1	1	...	...	15
Premature Birth	14	...	1	...	15	...	...	...	...	...	..	...	...	...	...	...	15
Congenital Defects	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Injury at Birth	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
Want of Breast-milk, Starvation	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	2
Atrophy, Debility, Marasmus	3	1	1	1	6	3	1	2	...	...	...	...	...	...	...	...	12
Tuberculous Meningitis	...	...	...	...	...	...	..	1	...	1	...	...	1	...	...	...	3
Tuberculous Peritonitis: Tabes Mesenterica	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Other Tuberculous Diseases	...	...	...	...	...	...	...	...	...		...	...	...	1	...	...	1
Syphilis	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	2
Rickets	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Convulsions	1	...	1	...	2	...	...	...	...	1	...	...	...	...	...	1	4
Bronchitis	...	...	...	...	...	1	...	1	1	...	...	1	...	1	1	...	6
Laryngitis	...	...	...	...	. .	...	...	...	...	...	...	1	...	...	...	...	1
Pneumonia	...	...	...	...	...	1	...	1	...	...	1	1	2	1	...	...	7
Suffocation, overlying	1	...	..	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Other Causes	...	1	...	...	1	2	2	...	...	1	...	...	...	1	1	...	8
Totals	24	3	3	1	31	10	5	7	5	5	3	6	4	6	3	1	86

Births in the year:—Legitimate, 892; Illegitimate, 63. Deaths in the year:—Legitimate infants, 78; Illegitimate, 8.
Deaths from all Causes at all Ages, 641. Population, estimated to middle of 1908, 51,000.

WORK DONE.

SUMMARY OF ROUTINE AND OTHER SANITARY WORK DONE IN THE HEALTH DEPARTMENT DURING 1908, WITH NOTES THEREON.

REPORT BY THE CHIEF SANITARY INSPECTOR.

I herewith submit my report, as Sanitary Inspector for the borough of Cheltenham, of the sanitary work done by the Department during 1908. During the year the places and trades over which the Town Council have sanitary control, and which are supervised by the Health Department, have been systematically inspected. The work carried out includes house-to-house inspections, the inspection of houses let in lodgings, common lodging-houses, slaughter-houses, bake-houses, dairies, cowsheds and milkshops, factories, workshops, workplaces, and outworkers' premises; each and all have occupied the time and required the attention of your Sanitary Inspectors, and whenever insanitary conditions were found to exist such action as was necessary was promptly taken. The execution of all works undertaken for the suppression or removal of nuisances, whether it be a small matter of repair or constructural work, is carried out under the supervision of your Inspectors. I am pleased to be able to report that a great many owners and other responsible parties have readily complied with suggestions made by the Department for improving the sanitary condition of their property, and that in no case has it been necessary to take legal proceedings to enforce compliance with the notices served. Following the practice adopted in previous years, a statement of sanitary operations is furnished below. On reference to the table it will be seen that 2,144 nuisances were discovered in connection with 1,829 houses and premises. To abate these nuisances 648 notices were served. In addition to the notices served, 432 letters were written requiring the owners of property to carry out structural amendments.

Summary.

Total Number of Houses and Premises Inspected	...14799
Ordinary Inspections	... 3422
House-to-house Inspections	... 1339
Inspections of Work in progress	... 1790
Re-inspections	... 1726
Visits to Slaughter-houses	... 978
„ Food Shops	... 679
„ Houses Let in Lodgings	... 294
„ Common Lodging Houses	... 274
„ Cowsheds, Dairies and Milkshops ...	... 315
„ Bakehouses	... 86
„ Workshops	... 832
„ Schools	... 39
„ *re* Infectious Diseases	... 538
„ *re* Public-house Conveniences... ...	... 67
„ Places where Animals are kept ...	... 2420
Complaints received	... 398
Number of Nuisances reported	... 2144
„ „ Houses and Premises dealt with ...	... 1829
„ „ Notices served	... 648
„ „ Letters Written referring to Notices ...	432
Drains :—	
Drains opened and examined under Sec. 41 P.H. Act, 1875	70
Smoke Tests applied to Drains and Soil Pipes...	... 436
Chemical „ „ „	... 35
Water „ „ „	... 992
Defective Brick Drains removed	... 35
New Drains laid	... 196
Length in yards of Stoneware Pipe Drains laid	... 5812
„ „ „ Heavy Cast Iron Pipes laid	... 2517
Manhole and Inspection Chambers provided ...	... 192
Intercepting Traps fixed	... 171
Stoneware Gully Traps fixed	... 608
Dip and Bell Traps removed	... 113
W.C.'s :—	
New Water Closets built	... 30
New W.C. Pans of the wash-down type fixed ...	 371
Old Pan Containers and Long Hopper Closets removed	102
Flushing Boxes fixed to W.C.'s	... 146
Flushing Boxes repaired	... 166
Water Closet Drains unstopped	... 138

Soil Pipes :—	
Soil Pipes and Ventilating Shafts fixed	185
New Waste Pipes fixed, trapped and disconnected ...	240
Miscellaneous :—	
Rooms cleansed and limewashed	457
House Roofs, Rainwater Pipes, &c., repaired	127
Yards and Areas asphalted or concreted	67
Ash Receptacles (movable galvanized iron with cover)	240
Bakehouses cleansed and limewashed	18
Slaughter-houses cleansed and limewashed	12
Common Lodging Houses cleansed and limewashed ...	4
Overcrowding in Dwellings abated	23
Samples of Water taken for Analysis	42
New Urinals provided	37
Urinals provided with a proper supply of water ...	37
Accumulations of Manure removed	85
Manure Receptacles built or reconstructed	4
Infectious Diseases :—	
Inquiries into Cases of Infectious Disease	538
Notices to Schoolmasters with regard to Infectious Disease	48
Notices to Parents with regard to Infectious Disease ...	25
Notices to Free Library with regard to Infectious Disease	2
Rooms Disinfected after cases of Infectious Disease ...	144
Articles of Clothing, &c., disinfected after Infectious Disease	3318
Articles of Clothing disinfected for outside Sanitary Authorities and private persons	184

Inspections.

The total number of inspections made by the Inspectors during the past twelve months was 14,799. Of these, 1,339 were house-to-house inspections, 1,726 revisits to premises to ascertain if notices served had been complied with, 1,657 to slaughter-houses and food shops, 832 to workshops, and 1,790 inspections of work in progress. Systematic house-to-house visitation, as required by the orders of the Local Government Board, provides us with information upon which many of our notices, requiring sanitary improvements in house property, are served. The examination is made for the purpose of ascertaining whether a statutory nuisance exists. Such visible and palpable nuisances as the leakage of sewage from drains

into cellars and basements, choked drains, ill-set traps, broken traps and dry traps, open joints of soil-pipes, rainwater pipes connected to drain and acting as drain ventilators, leaky house roofs, damp house walls, and defective yard paving, etc., are examples of the nuisances discovered when making these house inspections. In the majority of cases the nuisances are allowed to continue, although prejudicial to health, until found by the Inspector when paying one of his periodical visits. The number of complaints received at the Office numbered 398, all of which were duly investigated and dealt with as found to be necessary. Many of these were of the usual trivial character, and in some cases no nuisance could be found at the places where it was alleged to exist. Many of the complaints received were due to the keeping of fowls, rabbits, &c., in small back yards of houses. This practice is most objectionable, and sometimes causes serious nuisances. The large number of visits paid to works in progress and for the purpose of testing drains is some measure of the importance which is attached to the official supervision of work which is undertaken in the removal of sanitary defects. Many visits were also made to premises with builders and owners to arrange the details for carrying out work ordered.

Improvements in Dwelling Houses.

These improvements vary from trifling repairs to eaves spouting, rainwater pipes, etc., to the stripping of house roofs and re-covering same with new slates ; the laying of subsoil drains to take away subsoil water and the covering with some impervious material, usually concrete, the floor area of houses ; and the insertion of damp proof courses in the house walls. During the year 457 rooms were cleansed, limewashed or repaired, 127 house roofs, eaves spouting, rainwater pipes, etc., repaired, 30 new w.c.'s provided, and 23 cases of overcrowding abated. Altogether, 2,144 improvements have been made in connection with 1,829 premises.

Yard Paving.

We have again endeavoured to improve the surroundings of houses where necessary by securing the laying of suitable impervious paving material in unpaved back yards and of

unpaved spaces extending along the front or back of the house walls. It is often difficult to get owners to see that the laying of an impervious pavement not only prevents nuisances arising from the collection of stagnant water and dampness of house walls, but that it is a decided improvement, in so much as it conduces to greater cleanliness both in and outside the house. The paving of the surface of back yards, and of all spaces extending for some distance from the thresholds of house doors, is an essential part of house drainage : without it a house cannot be kept clean. Without paving, the surface of the ground is worn into holes, which are puddle-holes in wet weather, and at all times an unpaved surface near the common door of a house is necessarily in a dirty condition. After the house drain has been properly laid there is generally no need to again disturb the surface, and in that case it may be covered with asphalt, concrete, blue bricks, or other impervious material, at a reasonable cost. A fair amount of work was done in this connection during 1908, some 67 yards and areas being paved with asphalt, concrete, or blue bricks.

Improvements in House Drains.

As in previous years, a good deal of drainage work has been done. The number of drains re-laid or repaired under the supervision of this Department was 196. Of this number 143 were done as the result of notices served upon owners to lay new drains of salt-glazed stoneware or heavy cast iron pipes. Forty-eight drains were re-laid in order to obtain a Corporation Sanitary Certificate. We have supervised the laying of 5,812 yards of stoneware pipes, and 2,517 yards of heavy cast iron pipe drains. The total number of tests applied to drains and soil pipes was 1,428. These figures include the testing of drains in sections and final tests, the latter being applied on completion of the work of filling in the trench, so as to make sure that the pipes have not been damaged by this process. In connection with this work 35 old brick drains were discovered and removed, and replaced by new pipe drains, 113 defective iron dip and bell traps were removed, and 608 stoneware gully traps fixed, 192 manholes and inspection chambers have been provided, and 171 inter-

cepting traps fixed. On completion of each job a plan is drawn showing the line of drains, and a record is also made of the work done, by whom and when done.

The Corporation Sanitary Certificate.

There has been a greater demand for Sanitary Certificates during this year than in 1907. There were 53 Certificates granted last year as regards 47 in the previous year, making the total issued since the commencement of this work 760. As usual, the inspections and tests made resulted in finding serious hidden defects in the drains or house fittings. The aim of the Certificate is to guarantee that the drainage is in good working condition and water tight, and that the sanitary fitcings are of a good type and as perfect as they can practically be made. For merely a nominal fee, a person about to take a house, or one also who has already got a house concerning the sanitary condition of which he is doubtful, can secure an official examination of the house drains, etc., and a Certificate when the sanitary arrangements of the house are found in a satisfactory condition. If faults exist, a detailed specification of the work required to be done to put the premises into thorough sanitary condition is given. The information obtained is so valuable that one is not astonished that there should be a call for these Certificates, and the matter can only require to be more widely known to receive a fuller appreciation. All about to take a house are strongly recommended before signing any agreement to insist upon an up-to-date inspection and a Certificate of the sanitary fitness of the premises.

Sanitary Certificates.

Situation of Premises.	Gross Annual Value.
Ablington, Lansdown Road	£120
Allerton House, Paragon Buildings	50
All Saints' Road, 39	15
Beauthorns, Hatherley Road	140
Berkeley Place, 2	40
Burston, Pittville Circus	85
Camdore, Battledown Approach	32
Camperdown, St. Stephen's Road	125

Situation of Premises.	Gross Annual Value.
Canobie, Montpellier Drive	£85
Central Spa Nursing Home, Vittoria Walk	85
Cleevelands, Tivoli Road	45
College Lawn, 2	100
Courtrai, Andover Place	45
Denham Lodge, Lansdown Road	80
Grange Crescent, 28	20
Hatherley House, Hatherley Road	60
Hatherley Place, 3	30
Heathercroft, St. Luke's	60
Hollingbourne, Suffolk Road	40
Kennerleigh, Glencairn Park Road	50
Keynsham Terrace, 8	19
Langstone, Montpellier Drive	50
Lansdown Crescent, 43	40
Lansdown Parade, 23	33
Lansdown Place, 8	75
Lansdown Place, 19	80
Lansdown Place, 29	65
Loreburn, Montpellier Terrace	50
Loudoun, Painswick Road (2)	85
Lyncourt, The Park	105
Milton Villa, Leckhampton Road	30
Overtonlea, Parabola Road	80
Painswick Lawn, 6	26
Pembroke House, Paragon Buildings	50
Promenade, 21	75
Pittville Lawn, 5	57
Queen's Hotel, Promenade	650
Regent Street, 5	28
Rodney House, Rodney Road	50
Rodney Lodge, Rodney Road	70
Rowanfield House, Gloucester Road	40
Royal Crescent, 14	75
Segrave Place, 2	42
St. Peter's Vicarage, Tewkesbury Road	35
St. Stephen's Lawn, 1, St. Stephen's Road	65
Strathavon, London Road	35
Suffolk House, Suffolk Square	150
Suffolk Square, 5	50
Sydenham Villas, 7	40

Situation of Premises.	Gross Annual Value.
Sydenham Villas, 9	£45
The Myrtles, St. Mark's	35
Winnatts, Christ Church Road	110
York Terrace, 10	60

Slaughter-Houses.

The number of private registered slaughter-houses remains as last year, namely, eighteen, and to these 978 visits have been paid. The visits, as hitherto, have been timed as far as possible to take place while the animals were being slaughtered and dressed for food, this is the best time for inspection as the whole of the organs and carcases can be then examined. In a number of instances the organs of animals were found to be affected with some parasitical or local affection, and these were in each case destroyed. The bye-laws as to limewashing of walls and the removal of garbage, offal and skins have been on the whole well observed. I have again much pleasure in acknowledging the assistance which some of the butchers have rendered us in calling our attention to carcases which were diseased or of a doubtful character, and also to the ready way in which they surrendered any carcase or organs which we represented to them as being unfit for human food.

List of Butchers who regularly used the Abattoir during the year.

General Butchers.

Name.	Situation of Premises.
Mr. S. J. Burrows	... 38, Fairview Road
Messrs. Collins & Co.	... 278, High Street
Mr. G. M. Davis	... 4, Rotunda Terrace, Montpellier Street
Messrs. A. D. & D. Downham	3, Exchange Buildings, Bath Rd.
Mr. E. T. Drew	... 95, Winchcomb Street
Mr. Dickenson	... Prestbury
Mr. G. Hannis	... 307, High Street
Mr. J. Hayward	.... 2, St. Mark's Emporium, Gloucester Road

Name.	Situation of Premises.
Mr. L. James	... Clare Terrace, Bath Road
Mr. P. M. Nash	... 402, High Street
Mr. F. W. Pleydell	... 288, High Street
Mr. H. T. Pryer	.... 308, High Street
Mr. J. Smith	.... 276, High Street
Mr. F. Waghorne	... 4, Tivoli Buildings
Mr. G. Willis	... Regent House, Swindon Road

Pork Butchers.

Name.	Situation of Premises.
Mr. T. H. Bradley	... 23, Winchcomb Street
Mr. F. P. Carrick	... 294, High Street
Mr. T. Mills	... 222, High Street
Mr. A. Smith	.... 280, High Street
Messrs. Scudamore Bros.	.... 91, Upper Bath Road
Mr. J. W. T. Jackson	.... 243, High Street
Mr. L. Giles	... 76, Tewkesbury Road
Messrs. Locke & Sons	.... 17, Clarence Street

Number of Animals Slaughtered in the Abattoir during 1907 and 1908.

	1907		1908
Beeves	714	.....	831
Calves	947	.....	920
Sheep.....	2712	.....	3192
Lambs	422	.....	480
Pork Pigs	1523	.....	1614
Bacon Pigs.....	137	.....	213
	6455		7250

Unsound and Diseased Meat, etc., Destroyed Last Year as Unfit for the Food of Man.

4 carcases of beef—seriously affected with tuberculosis
2 forequarters of beef—localised tuberculosis
10 pigs—affected with tuberculosis
5 sheep—wasted and dropsical
12 boxes of cod—unsound

2 boxes of hake—unsound
1 box of plaice—unsound
1 barrel of apples—unsound
39 tins of condensed milk—unsound

The lungs, livers, and other internal organs of 225 animals, which were locally diseased, were also surrendered and destroyed. The total weight of meat, fish, and unsound food destroyed was 4 tons 15 cwts. 1 qr. 14 lbs. The four beasts destroyed were all affected with tuberculosis in an extensive and generalised form, so that it was necessary to destroy the entire carcases and offal of them all. Ten pigs were also found to be so badly affected with tuberculosis as to render it necessary to destroy the entire carcases and offal. In all cases (excepting one) the carcases or organs were voluntarily surrendered by their respective owners. On one occasion it was found necessary to apply for a Magistrate's Order to secure the destruction of the diseased animals.

Inspection of Food Shops.

The various butchers', fishmongers', greengrocers' shops, and other places where food is sold, were frequently inspected during the year. It is gratifying to find that out of the large amount of food consumed in Cheltenham only a comparatively small amount had to be condemned and destroyed by the Health Department. In many cases dealers come to the Health Office to obtain our advice in regard to doubtful articles of food, and, in every instance, vendors have willingly given up food considered unsound by the Inspectors. The following table gives some information as to the number of various shops where food is sold in this town :—

Butchers' Shops	63
Fish and Chipped Potato and Faggot Shops ...	13
Tripe Shops	4
Fish Dealers	21
Fruiterers' and Greengrocers' Shops	81
Restaurants	12
Tea Rooms	9
Confectionery and Sweet Shops	104
General Shops	42
Dairies, and Shops where Milk is Sold ...	47

Provision Dealers' and Grocers' Shops	... 128
Bakers' Shops	 48
Ice Cream Shops	 6

Inspections under the Factory & Workshops Act.

The administration of the Act as regards Factories comes under the Government Factory Inspector, which accounts for the fact that only fourteen visits have been paid to Factories by the Sanitary Inspectors this year. If the Government Inspector on his visit to a Factory notices any deficiencies as to sanitary accommodation, &c., he calls the attention of the Health Department to these defects, and they are then dealt with by your Inspectors under the Public Health Acts.

The Local Authority is the authority responsible for the sanitary condition of workshops, workplaces, and homes of outworkers in their district. There are 443 workshops on the register, to which 832 visits were paid during the year under review.

Cleanliness.—Seventy workshops were found to require the ceilings or walls, or both, cleansed and limewashed or repaired, and the necessary cleansing or limewashing has been done in each case.

Sanitary Conveniences.—Five workshops were found to be without sanitary conveniences, and three were found to have unsuitable or defective w.c. arrangements. Suitable and sufficient accommodation has been provided where necessary, and the defective water closets have been repaired and put into good sanitary condition.

Our attention has been called to the following defects in factories and workshops by H.M. Inspector of Factories:—

One factory with insufficient w.c. accommodation.

One factory with unsuitable w.c. accommodation.

One laundry floor in bad state of repair.

Three workshops in a dirty condition.

All these defects have been remedied and notice to that effect sent to the Factory Inspector.

Homework.—Lists containing the names and addresses of homeworkers have been received from 26 firms and entered in the register.

The Inspectors have paid 276 visits to the homes in which the work is carried on, and in the majority of cases the work

was found to be done under satisfactory conditions. The homework in this district consists mainly in the making or altering of wearing apparel. The number of outworkers in Cheltenham is 126, of which 65 are tailors, 32 bootmakers, 15 plain sewing, 5 dressmakers, 5 underclothing, and 4 miscellaneous trades.

Bakehouses.—The number of bakehouses on the register is 52, the same as in the preceding year. These have all been inspected and found to be in a satisfactory condition. The whole of the bakehouses have been limewashed in accordance with the requirements of the Act. The number of underground bakehouses within the borough is nine, the same number as in the previous year, and these have all been certified by the Sanitary Authority as being suitable with regard to their construction, lighting, ventilation, water supply, drainage, and in all other respects.

Report on the Administration of the Factory and Workshop Act, 1901, 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.	No. of Written and Verbal Notices.	Number of Prosecutions.
Factories (including Factory Laundries.)	14	3	Nil
Workshops (including Workshop Laundries.)... ...	832	105	,,
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	140	12	,,
Total	986	120	,,

2.—DEFECTS FOUND.

Particulars.	Number of Defects found	No. of Defects remedied.
Nuisances under the Public Health Acts :		
Want of cleanliness	70	70
Want of ventilation	14	14
Overcrowding	11	11
Other nuisances	...	...
Sanitary accommodation (insufficient	5	5
Sanitary accommodation (unsuitable or defective	3	3
Sanitary accommodation (not separate for sexes	...	...
Total	103	103

3.—HOME WORK.

Lists received from Employers.

	Twice in the year.		Once in the year.	
Nature of Work.	Lists.	Ontworkers.	Lists,	Outworkers.
Making and Altering Wearing Apparel...	25	120	26	126

No notices were sent prohibiting homework in unwholesome premises, and no cases of infectious disease were notified in homeworkers' premises during 1908.

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.—(1).	Number.—(2).
Dressmakers	95
Tailors	55
Laundries	85
Bootmakers	40
Milliners	27
Bakehouses	52
Miscellaneous	89
Total number of Workshops on Register...	443

5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspectors of Factories...	2
Failure to affix Abstract of the Factory and Workshop Act (s. 133)	16
Notified by H.M. Inspectors	6
Reports (of action taken) sent to H.M. Inspectors	9
Underground Bakehouses (s. 101)	9
Certificates granted during the year	Nil
In use at the end of the year	9

Cowsheds, Dairies and Milkshops.

At the beginning of the year all the cowsheds in the borough were visited to ascertain what alterations were necessary to make these places conform with the new regulations recently adopted. At this inspection the condition of the roofs, walls, ceilings, floors, lighting, ventilation, water supply, drainage, yard paving, position of manure heap, etc., were all carefully noted, and the floor area and cubical con-

tents of each cowshed were obtained. At the time of the inspection twenty-two out of twenty-four cowsheds were found to be more or less overcrowded. In some cases the sheds were very badly overcrowded, and twenty-one out of twenty-four of the floors were unsatisfactory. In eleven instances the water supply was either deficient in quantity or bad in quality. The lighting and ventilation of eighteen sheds were below the standard required under the new regulations. The yard surfaces were in many cases very irregular, favouring the collection of filth and rendering proper cleansing impossible. Far too little attention was paid to the condition of yard surfaces when the cowsheds were constructed, and it was exceptional to find one paved with a good surface ; yet their condition has an important bearing on the cleanliness of the milk. The notices requiring the necessary alterations or amendments were served in each case upon the owners of the premises and the farmers ; the cost, however, of making the alterations has been borne in nearly every case by the owners.

Three entirely new cowsheds have been built in conformity with the plans set out in last year's Annual Report. The floors and channels of all but one cowshed have been altered according to our requirements. The lighting of each shed has been increased in all cases so as to have a relation by measurement to the floor area of 1 in 30. An inlet and outlet ventilating opening of one square foot per cow has been made in every cowshed, and 800 cubic feet of space is also provided for each cow.

In three cases the cowsheds have entirely open fronts, a brick or wooden screen some 7 feet high, and at a distance of several feet from the front of the shed, have been fixed to break the wind and prevent a direct air current on to the cows. In nearly all the other sheds light and inlet ventilation has been obtained by making a permanent opening along the whole front of each shed, 12 to 18 inches in depth. In eleven instances the yard surfaces have been improved by the laying of paving bricks, grouted in cement, and laid on 6 inches of Portland cement concrete, the yards in each case being laid with a proper slope to a gully trap suitably placed for receiving surface drainage. New drains have been laid to fifteen cowsheds, and five new cesspools have been built with chain pumps for emptying same where the drain could not be connected with a public sewer. The manure is now in every case

removed to a considerable distance from the cowshed, and is so protected that the cows passing in or out of the shed cannot walk through it. A summary of the requirements to be observed by cowkeepers was sent to each farmer, with a request that no alterations should be made, or work begun, without first taking advice from the Health Department. They took advantage of this suggestion, and the work has been carried out under my direction and supervision, with, I think I may safely say, the minimum of friction, considering the great changes that have been brought about at the various farms, all of which tend to make it easier to keep the cows clean and to produce what is so much desired, namely, clean milk.

The whole of the sixty milkshops in the Borough have been systematically and periodically inspected. At the last inspection of these shops, the milk was found to be stored on the counter in the majority of cases in metal or earthenware pans. In eighteen places they were found to be contravening the regulations, which requires that all the vessels in which milk is kept shall be properly covered. A list of offenders was put before the Public Health Committee, who instructed the Town Clerk to inform the persons named in the list that proceedings would be taken against them if the regulations were not properly complied with in future. Eighteen persons made application during the year for registration as dairymen or purveyors of milk, and of these sixteen were ultimately placed upon the register, after all amendments required in the sanitary conditions of the several premises had been carried out satisfactorily.

Stable Refuse.

All stables have been kept under close observation during the year, special attention being given to secure the removal of stable refuse at least once in every seven days as required by the bye-laws regulating the keeping of animals. Since the practice adopted some years ago, of regularly visiting stables, we have received very few complaints of nuisances, and I am sure that all persons living in the neighbourhood of these places must appreciate the absence of foul smells from the large heaps of manure which were formerly allowed in many cases to accumulate until they became an intolerable nuisance.

Houses Let in Lodgings.

The bye-laws for houses let in lodgings have for their object the registration of all houses which let off furnished apartments, the periodical inspection of such houses, and the enforcing of proper sanitary arrangements, etc. At the end of 1908 there were 163 houses on the register, and to these 294 visits have been paid. Special attention has been given to these houses this year, and a careful examination has been made of the sanitary fittings and drains of many of the largest houses which come under the bye-laws. Of the 163 houses on the register, 32 were found on inspection to have sundry defects, which in some cases were really serious and dangerous to health. It was necessary in several instances to have the whole of the drains, w.c.'s, etc., taken out as they were so defective, that nothing but an entirely new sanitary system could be considered as safe or satisfactory.

The following particulars show the nature of some of the defects found :—

Defective Drains	12
,, Water Closets ...	16
,, Soil Pipes	7
,, Waste Pipes	11
Rooms overcrowded	3
Dirty Rooms	8
Improper Ash Receptacles ...	9

All these defects have been remedied, and I am pleased to say that we have met with very little opposition in this work, most occupiers having evinced a readiness to comply with the bye-laws.

Common Lodging Houses.

The Common Lodging Houses have been periodically visited both by day and night, and the bye-laws have been observed in a satisfactory manner by the keepers. There are six houses on the register, and these provide accommodation for 142 lodgers.

School Sanitation.

During the year the sanitary conveniences of four schools have been remodelled on up-to-date sanitary lines. The old insanitary trough closets at two of the Elementary schools were removed and replaced by nineteen strong fireclay pedestal wash-down closets, a full two-gallon siphon action flushing cistern and chain pull being provided to each closet. At another school a range of unsatisfactory lavatory basins have been removed and replaced by five new enamelled fireclay lavatory basins, the waste pipes of which are properly trapped, disconnected and ventilated. At St. Paul's Practising School the old system of urinals was removed, the place enlarged, and fourteen new enamelled fireclay egg-shaped urinal stalls, with proper flushing arrangements, were provided to take their place. The new urinal apartment has been roofed in by means of a raised glass roof, so that ample light and ventilation is provided. The internal walls are covered with best white glazed tiles. The floor is paved with tiles, laid with a suitable fall on 6 inches of Portland cement concrete. These urinals and w.c.'s are undoubtedly the finest set in any of the Elementary schools in this town, and stand as a model for any school managers that are about to alter or renew the sanitary appurtenances of their schools. At a large private school a very old and most insanitary trough closet and a range of twelve defective urinals were taken out. Seven pedestal wash-down closets, with separate flushing boxes and chain pulls, were fixed to take the place of the old trough closets and 60-gallon flushing tank. The old urinals were removed, and 9 new enamelled circular-back fireclay stalls, with proper flushing arrangements, were provided to take their place.

A. E. HUDSON, Mem. Royal San. Inst.,

Chief Sanitary Inspector.

The Medical Inspection of School Children and School Hygiene.

The Local Government Board asks that this subject may receive attention in the Annual Health Report.

At the coming into operation of the law requiring the Medical Inspection of School Children, on January 1st, 1908, the Board of Education sent a circular to the Education Committees directing each to call in the Medical Officer of Health to advise as to the best way of putting the provision into force in the respective districts. This circular was followed by other circulars which had for their main object the prescription of the kind of appointments required, and the methods to be employed in carrying out the work. The guidance thus given by the Board of Education was very necessary, as without it nothing approaching equality of personnel in the officers appointed, or regularity in the method of doing the work, could have been obtained. The subject being of a technical character, was not easy of understanding to the average local councillor, and the ideas as to how the work should be done, and by whom, were matters of very inexact appreciation. The work had been suggested and practically instituted by certain members of the Public Health Service, and the Medical Officer of Health was the person with the best knowledge of the matter and the one who could immediately grasp the requirements set out in the Board of Education's circulars.

In Cheltenham the Medical Officer of Health advised the Education Committee in April by means of the following written report :—

To the Chairman and Members of the Education Committee.

GENTLEMEN,

In connection with the Education (Administrative Provisions) Act, 1907, and the two memorandums sent out in regard to it by the Board of Education, one of which states that you are to be advised by the Medical Officer of Health, I beg further to present this written report in order that you may have some definite data before you for consideration in connection with the appointments, and what else is necessary, for carrying out the work of Medical Inspection of School Children in Cheltenham.

The first memorandum of the Board of Education states that the object of the Act is not to merely have made a record of the defects found in the bodies of the children upon medical examination, but is to ensure the mental and moral improvement of coming generations. In what degree this may prove to be the case will depend largely upon the way in which the work is carried out, and although it will doubtless appeal to you to be necessary to exercise every possible economy in the matter of expenditure in this matter, I would suggest that economy requires you to look to results as well as to expenditure, and that to forego the obtaining of proper results by a too niggardly use of resources is the most wasteful course. I believe that much useful knowledge and great advantage must accrue from this work if properly done. These results are of national import, and the cost

of them for this reason might very reasonably have been made to fall upon the national exchequer, and presumably it will mainly do so. The memorandum states that the effectiveness of the medical inspection is in future to be one of the elements in determining the Government grant, and by this means, at any rate, any additional expenditure incurred in making the inspection specially effective should be recoverable.

The fundamental nature of this work is of a public-health character, and inseparable from the other public-health work of the district. There cannot be two public-health authorities with separate staffs, and it is consequently proposed that the supervision of this new work shall be done by the head of the already existing Public Health Department, that is, the Medical Officer of Health. This is particularly appropriate where the Medical Officer of Health gives his whole professional time to the work of his office. As the Medical Officer of Health has many calls upon his time, and as diagnostic and curative medicine and surgery are also largely involved in this new work, the Medical Officer of Health, in directing this work, will require the assistance or co-operation of the general medical practitioner, and ultimately, in connection with the treatment of defective sense organs, teeth, &c., he will require also the assistance of those practising surgeons and physicians and dentists who have special skill in such particular practice. The memorandum of the Board of Education proposes that the whole work should be rather taken on part by part consecutively, until the whole is got into proper working order, than that its performance should be attempted at one stroke. In Cheltenham, however, there should be no difficulty whatever in getting the whole matter, including treatment, arranged within quite a short time, because in a town such as this we are much better off in regard to institutions and facilities than is the case in many other districts.

The first thing required, however, is to arrange for the inspection of the children. The second memorandum of the Board of Education gives a Schedule of Medical Inspection which is to be used to regulate this work. The points of bodily inspection of the child are to be entered under 24 headings, with additional notes as to family history and previous illnesses. This is sufficiently embracing to secure a thorough and extensive record of the condition of the child at the time of examination, if this record is conscientiously made. Though a quick worker, after becoming experienced in his work, should be able to efficiently examine the greater number of the children with dispatch, there ought to be no suggestion that the work may be hurriedly performed; the understanding should rather be that sufficient time must be given to secure a reliable result. No rule can be made as to the necessity, or otherwise, of having the children undressed—that must be left for the determination of the medical inspector, who will require to exercise common sense in the matter. The average time required per child for inspection and filling up of the schedule will depend largely upon the amount of assistance the inspecting practitioner receives from someone qualified to attend to the minor non-medical items of the schedule, to prepare the children, and make the entries at the time of the medical inspection. Fifteen minutes per child has been suggested in several quarters as the average time which the medical inspector will require to give to each child. So long a time will not be required for many of the children, but some will take up a longer time, and require references to be made to the parents, and several re-examinations.

There are roundly 7,000 children attending in 21 separate sets of school buildings in Cheltenham. The Board of Education proposes that during the present year only the children entering the schools and those leaving need be examined, and ultimately those at about the ages of 7 and 10 besides those entering and those leaving. It occurs to me that the most important of the examinations must be that made about the time the child enters the upper school from the infants' department, *i.e.*, at about 7 years of age. The difficulties of making all necessary inspections will vary in one place and another, but in Cheltenham, whilst the remainder of the present year might be used for experimental purposes, and for doing the most useful work that can be done, the whole four inspections required to be made should be commenced as from January 1st next, and all available agencies for treating the defects discovered in the children should also be in operation next year.

As regards the staff required for this work, I advise you that the best appointment you can make will be a whole time medical officer, male or female, to act as assistant Medical Officer of Health, the first time of this officer being given to the inspection of school children and such work as may arise out of it, whether in the way of extended enquiry in some cases, or advice and treatment in some. The alternative would be to appoint one or more local practitioners to do the medical examination, but on mature consideration I have come to the conclusion that the whole time officer would be far the best and most satisfactory appointment, and would cost no more money, whilst being more generally available than the local practitioner.

This Assistant Medical Officer of Health would require to be assisted continuously by at least one woman nurse or health visitor. In the first instance one woman should be appointed to this work, it being understood that her whole time is to be given to it. This woman cannot be dispensed with, by any assistance that the school teachers are capable of rendering. She will be required to see that the children come up for inspection according to appointment, prepare them for inspection, and be present at the inspection, and be the intermediary between the school and the parent, and between the medical inspector and the child's home, and the Medical Officer of Health.

There will be a formidable amount of clerking work to be done. The scheduled record of the examination will require to be very carefully filled in and kept, and the experience of those who have already had charge of work of this sort, even when much less perfectly performed, has shown that a voluminous correspondence is entailed, which in our case must run into some thousands of letters and written communications during the year. The records wlll also require arrangement and collation for the purpose of report. There must be some person available to do the clerking work in a regular and dependable manner under the instruction of the Superintending Officer.

The Medical Officer of Health seems to be expected to take a large and leading part in this business. He is likely to be the most permanent officer in connection with it, as the examining medical officer would most often be a young practitioner, who would not be likely to hold the post for more than a year or two at most.

The Medical Officer of Health will place the business in order and continue to direct it. The Board of Education's Memorandum, having

intimated that the new work is closely related to, and bound up with that already done by the Medical Officer of Health, states further that the work is to give "increased opportunity and facilities for the Medical Officer of Health to study all the conditions affecting the health of the community at all age periods, and bring him into closer touch with the personal hygiene of the population." It is likely in fact that the Medical Officer of Health, as superintending officer, will find much engagement in the carrying out of this work. This has been so where it has already been tried, in fact, the tendency appears to have been for the work to become too engrossing, in consideration of his other work, and that is why it would be better for the Medical Officer of Health to be assisted by a whole time officer as above recommended.

The Annual Report, giving the results of the inspections, and all action taken in regard to them, would seem to require to be written by the Medical Officer of Health. This will compel his close interest to the work throughout the year. It will presumably be by comparison of the annual reports of one district and another that the efficiency of the work will be judged in connection with the Government grant, and the responsibility undertaken by the superintending officer should be evident.

As to the assistance to be rendered by teachers, nurses, or health visitors, the Board of Education's Memorandum is careful to lay down this rule: "It is essential that the teacher, school nurse, or health visitor assisting in the administration of this Act should act strictly under the instruction and supervision of medical authority." As with all effective administration, it is necessary that there should be a single, official head.

The medical inspections are to be carried out at the schools, and I have made enquiry at each of the twenty-one schools in the town as to the existence of a convenient room for the inspection, and find that in one half of the schools there is no room available other than one of the class rooms, whose use could, however, be obtained by temporarily accommodating the children using such class room in other rooms of the school during the time the medical inspection is in progress. The question of the existence of a convenient room does not seem to present any considerable difficulty therefore, considering that the dislocation caused by the use of the class room will be of short duration.

Subsidiary items required in connection with the arrangement are the weighing and measuring apparatus, and necessary furniture, particularly in the way of cabinets for the storage of the cards upon which the results of the inspections are to be recorded, also these cards and other books and stationery. These minor matters await your consideration.

Only the experience to be gained when the work has for some time been in actual performance can bring the information of what else we may require, such as better provision for bathing children, and the treatment of verminous conditions. From my own observations in the schools here and elsewhere, however, I should say that the conditions suggested by the mention of such provisions are of a less marked character in Cheltenham than in many towns.

I am,

Youurs faithfully,

J. H. GARRETT,

Medical Officer of Health.

The Sub-committee who received this report and heard the statement of the M.O.H. agreed to the appointment, as advised thereby, of a whole time officer to do the inspections, and to be assistant Medical Officer of Health, but the minute recommending this course was referred back by the whole Education Committee, and afterwards other counsel prevailed, which was less well informed, and two local practitioners were appointed, one a lady and the other a gentleman, to give such part of their time as is required for the medical inspections at a salary of £100 each per annum, and they set themselves to work in the last quarter of the year. The further circulars and letters of the Board of Education made it evident, however, that a single controlling officer must be appointed, to be called the Medical Officer of the Education Committee, whose business it should be to order, control, and report upon the school medical work, and to whom all engaged in the work should be responsible, and it was pointed out sufficiently clearly that in such a district as this the appropriate person to fill this post was the Medical Officer of Health, whether the assisting officers were whole time or other. At the extreme end of the year the Education Committee appointed the Medical Officer of Health to the post, voting him £50 per annum for the work, but, as it was held that the appointment required the approval of the Town Council, the matter had to be brought before that body, which led to further discussion and postponement. I have consequently nothing at the present time to report as to the working of the Act, since I am but just taking charge of the business, but I trust the administration of the provision and what hangs upon it will now go forward satisfactorily.

As regards the hygienic condition of the school buildings in Cheltenham and their appurtenances, these have been the subject of two special reports, and from the date of the first very great betterments have taken place by the provision of new schools, and by improvements in those old ones that remain, and last year saw some further important amendments in the latter respect, and though all that has been asked for has not yet been done in every school, the condition of the schools here, taken altogether, is now well up to the average, if not above it.

Action in connection with the Milk Supply.

In my last year's report I wrote of the action which had been taken in connection with the cowsheds within the borough boundary. A careful inspection of each had been made, and notes having been taken of all requirements, notices in the form of specifications of work required to be done were prepared. The members of the Public Health Committee were then asked to visit the sheds, and the specifications proposed to be served were read out to them upon the spot, every fault being indicated, with its required remedy. The notices were then ordered to be served without alteration, and were served in the early Spring, duplicates being sent to both owner and occupier where the occupier was not owner, and six months, that is the whole Summer, was given in which to accomplish the work, whilst the cows were in the fields.

The provisions of the regulations made under the Dairies, Cowsheds, and Milkshops Order are not of themselves sufficient to enable all the structural alterations required to be ordered. They also throw the whole responsibility upon the occupier, which is inexpedient where structural

alterations in buildings belonging to the landlord are required, and in consideration of the available means of the occupier. The nuisance section of the Public Health Act, 1875, appears, however, to give the required power, and at the same time to make the landlord responsible for structural defects giving rise to a nuisance injurious to health such as those that contribute to filthy milk, the bad conditions of the floors and drainage of cowsheds, filthy undrained yards and their surroundings, and the like. But the notice having been served in duplicate upon owner and occupier, the farmer was able to confer with the landlord, and if the latter could raise his rent to cover his expenditure, that was a matter entirely between him and his tenant. The result so far as the rectification of the cowsheds is concerned has been excellent. The landlords invariably behaved handsomely, showing themselves willing, albeit at considerable expense, to do their share towards the more cleanly production of milk, and our specifications have practically been carried out in their entirety. The rest lies with the occupiers, who own the cows. This "rest," however, is no doubt an important part of the showing, requiring the constant exercise of the utmost care on the part of the cowkeepers.

At the invitation of the local Dairymen's Association, towards the end of the year, I gave an address to those interested in the milk trade, as producers and purveyors, which was followed by a free discussion in a large representative assembly. It is difficult to estimate the result of such a meeting, but those present at all events were made acquainted with the dangers attending the production and sale of milk, and of some of the things that can be done to protect milk from contamination. There were present representatives from beyond the borough, who supply milk into it, and one of the results of our general action has been to assist to arouse the outside local councils to be likewise doing something in connection with the bad condition of their cowsheds.

Last year the milkshops in the town were also again carefully inspected, and notices sent to a large number of milk purveyors who were keeping milk in the shops in uncovered vessels, and this action resulted in the general provision of muslin covers for the milk vessels in the shops.

The milk trade is admittedly one entailing much hard work, for which the return is hardly adequate, whilst to ensure the provision of harmless milk is far from easy. It cannot be claimed that what we did last year has resulted in more than a partial fulfilment of what is required, and there is a tendency, especially in the country districts, for spasmodic effort to be followed by a lapse to the old conditions. In order that the result may be continuous, an unflagging application is required, and I fear could only follow considerably greater trouble and cost; for the direct effect of putting sanitary principles strictly into force in connection with milk production is costly to the milk producer, and would also require a greater payment by the governing council for more frequent and effective official action, the inspectorial strength being hardly anywhere equal to the amount of work to be done, and the result consequently more often pretentious and ineffective than real.

Defective Sewers.

Some twelve or fourteen years ago I reported that a good many of the sewers in the town were defective, having been laid down in the

remote past before the proper construction of sewers was understood, and being now worn out, or rendered incapable of properly performing their use by imperfect construction made worse as the result of time.

The policy adopted by the Public Health Committee, now some considerable number of years ago, of having the sewers overhauled, with the intention of systematic renewal and repair where necessary, was very sound, and as a result the sewers have been made as perfect as possible in some districts of the borough. The progress of the work, however, met with an obstruction in the form of a claim that certain of the sewers were privately owned, and questions arose as to the respective rights of the purporting owners and the Corporation over these sewers. Whatever these rights may be, or whatever the obstruction may be to the continuance of the work of renewing sewers, they must admit of a settlement, but it cannot be said that any continuous determined effort has been made to settle this matter, the history of the business rather proves its deliberate avoidance and delay. The evidence before the Council of the very defective condition of the sewerage of that southern section of the town including Tivoli, and the urgent necessity of reconstruction is past any sort of denial. The report of the Borough Surveyor embodying the result of a careful examination was printed more than six months ago, its long delayed issue being at last brought about by the repeated demand of the Local Government Board. This report, with the utterly condemnatory evidence it contains, is now in the hands of the Local Government Board.

The Local Government Board tells Medical Officers of Health that in their annual reports they should refer again to any advisory report that has been made and not attended to, it being understood that the subject still requires attention. On the other hand a section of the local public state that the advertisement of defects of this sort are damaging to the town and to themselves. It is evident that this section of the public are too apathetic or too moved by self or party interest to examine the position and demand the application of the proper and just remedy, whatever that be. The subject might be stilled by suppressing the officer, and his persistent agitation in connection with the sewers mentioned in the Borough Surveyor's Report, certainly ought to have been compulsorily closed many years ago, instead of being permitted to continue uninterruptedly, to the discredit of the town, for more than ten years.

The Early Notification of Births.

In my last Annual Report this subject was stated to be under discussion. In the end a recommendation was sent to the Council by the Pnblic Health Committee for the adoption of the new Act requiring notification of the birth to the Medical Officer of Health within thirty-six hours of the event. The recommendation also included the appointment of a Home Visitor, the payment of whose salary was proposed to be divided betweeu the Education Committee and the Town Council. The minute upon the Public Health Committee's proceedings met with objections at the Council meeting on the part of several members, when it also came out that the local members of the medical profession were adverse to the adoption on the ground that a duty was imposed upon the profession without any payment, the result being that the proposition to adopt the Act fell through.

It is quite true that the question of the saving of child life has not the urgency here as in some towns, yet, as may be noticed on a previous page of this report dealing with the death-rate of infants, there is some scope for a woman's work in this connection, and there is much more scope in other connections, as for instance the cleanly keeping of houses, and attention to poor phthisis cases, and a woman Inspector or Home Visitor might have been engaged with benefit in the manner proposed.

After the refusal of the Council to adopt the Notification of Births Act an offer came from the Secretary of the Charity Organisation Society to supply voluntary assistance in the matter. The Town Council voted itself ready to accept this assistance provided it did not come as a part of the work of the Charity Organisation Society, but was rendered as assistance to the Medical Officer of Health by mutual arrangement between the lady Secretary of the Society and the M.O.H. This arrangement, however, has not resulted in the evolution of any scheme of voluntary work of the kind proposed. The fact of women workers being an essential part of any system of medical inspection of school children may possibly in the end lead to an arrangement whereby the Nurses and Home Visitors employed in the last mentioned connection will be able to render the assistance required, whether by arrangement with the Town Council or otherwise, for since the Medical Officer of Health is at the head of both Medical Departments there will be no difficulty in making the health work of the Education Committee Home Visitors part and parcel of the Public Health service of the Borough, as carried on under the Public Health Acts.

Adoption of Sections from the Public Health Acts Amendment Act, 1907.

In the course of last year the more purely Public Health provisions of this Act were carefully considered, and a considerable number of sections selected as being of a useful character, and not in conflict with existing powers previously obtained for Cheltenham by special Act, were recommended for adoption, and between 30 and 40 sections of Parts III., IV. and V. of the Act were duly adopted and are now in force, occasion having already occurred for the application of some of them.

Sale of Foods and Drugs Act.

Return of Articles submitted to the Public Analyst during the year 1908, with the results of the Analyses.

(G. Embrey, Esq., Gloucester, Public Analyst.)

Samples submitted by Superintendent A. W. Hopkins.

Quarter ending 31st March.

	Articles submitted.	Result.
1	Sample of	Arrowroot, genuine.
1	,,	Pepper, genuine.
2	,,	Tea, all genuine.
3	,,	Milk, all genuine.
6	,,	Butter, all genuine.

Quarter ending 30th June.

1	,,	Arrowroot, genuine,
1	,,	Whiskey, genuine.
2	,,	Tea, all genuine.
2	,,	Pepper, all genuine.
3	,,	Butter, all genuine.
4	,,	Milk, all genuine.

Quarter ending 31st September.

1	,,	lard, genuine.
2	,,	Arrowroot, all genuine.
3	,,	Tea, all genuine.
3	,,	Pepper, all genuine.
6	,,	Butter, all genuine
9	,,	Milk, 6 samples genuine, 2 samples poor, 1 with 8% added water, fined £2 and costs 16/6.

Quarter ending 31st December.

1	,,	Sugar, genuine.
2	,,	Tea, all genuine.
2	,,	Pepper, all genuine.
4	,,	Butter, all genuine.
6	,,	Camphorated Oil, all genuine.
9	,,	Milk, all genuine.

ANNUAL REPORT

UPON THE

Meteorology of Cheltenham,

BY

MR. A. C. SAXBY,

F.R. MET : SOC. ;

BOROUGH METEOROLOGIST.

FOR THE YEAR 1908.

LATITUDE 51° 53′ 45″ N. LONGITUDE 2° 3′ 21″ W.

HEIGHT OF BAROMETER ABOVE MEAN SEA LEVEL, 206ft.

THE INSTRUMENTS ARE OF THE HIGHEST QUALITY
AND HAVE BEEN VERIFIED AT KEW.

To the Mayor, Aldermen, and Councillors of the Borough of Cheltenham.

GENTLEMEN,

I have pleasure in submitting to you my Annual Report for Cheltenham during the year 1908, being the 31st year during which records have been taken.

The observations have been taken twice daily by myself or qualified Assistant. The Sunshine Recorder at Pittville has been very carefully attended to by the Head Gardener, the Charts being brought in with regularity.

The Anemometer in Montpellier Gardens was blown from off the Bandstand during the gale of wind at the end of August. The instrument being a very old one, and damaged by the fall, also the situation was not good, it has not been replaced. With this exception the instruments are as formerly and in good working order.

During the week of the Gloucestershire Pageant, July 6th to 12th, and the three weeks preceeding, I sent daily telegrams of Sunshine to the Meteorological Office in London for publication in the daily weather reports. I regret the reports were not copied by the Daily Papers so freely as I expected. You are indebted to Mr. H. J. McCormick, Manager of the Cheltenham and District Light Railway Company for defraying all the expenses in connection therewith.

The Weekly and Monthly Reports have been sent to the Royal Meteorological Society as formerly.

The Weekly Reports have been published in the "Cheltenham Examiner," "Gloucestershire Echo," "Cheltenham Chronicle," and the "Looker-On."

I beg to tender my best thanks to those observers who have sent me returns from various stations over the county, and to all who have assisted me in the work.

I am, Gentlemen,

Your obedient Servant,

AUSTIN C. SAXBY,

F.R. MET. SOC.,

February, 1909. *Borough Meteorologist.*

THE METEOROLOGY OF CHELTENHAM.

Abstract of Meteorological Observations taken by A. C. SAXBY, F.R., Met. Soc., Borough Meteorologist.

Latitude 51° 53′ 45″ N. Longitude 2° 3′ 21″ W. For particulars see next page.

1908. Month.	Corrected Mean of Barom. 9 a.m. & p.m.	AIR TEMPERATURES. Means of			Absolute Max. and Min.				Relative Humidity at 9 a.m. and p.m.	Rainfall.		Bright Sunshine.
		9 a.m. & p.m.	Max.	Min.	Date.	Max.	Date.	Min.		Total fall	No. of Rainy Days.	
	INCHES.	°	°	°		°		°	%	IN.:		HOURS
January	29·931	36·5	41·5	31·4	17	55	6	19	85	1·08	11	72
February.....	29·889	42·3	47·7	36·8	19	52	2	27	86	0·75	13	73
March	29·628	40·6	46·1	35·6	23	55	18	28	88	2·96	16	93
April	29·748	43·6	50·4	36·7	29	61	24	28	82	2·00	14	129
May	29·765	55·6	63·3	47·9	2,31	74	23	39	78	1·60	13	209
June.....	29·877	58·3	67·7	48·9	3	80	7	41	74	0·83	8	265
July	29·817	62·5	70·6	54·3	3	85	12	48	76	1·83	11	221
August.....	29·780	59·7	67·9	51·4	3	83	12	31	76	3·42	15	197
September ...	29.766	56·0	62·6	49·3	30	78	13	37	81	1·48	15	116
October.....	29·906	54·3	60·6	48·0	1	76	25	30	87	1·17	12	109
November ...	29·835	46·6	51·7	41.5	22	58	10	25	86	0·84	10	74
December.....	29·688	40·4	51·7	20·7	21	54	30	21	89	2·20	20	33
Totals	357·630	596·4	681·8	502·5		811		374	988	20.16	158	1591
Means	29·803	49·7	56·8	41·9		68		31	82	1·68		133
	1	2	3	4	5	6	7	8	9	10	11	12

NOTES ON THE TABLES.

(See previous page).

COLUMN 1 is the mean reading of the Barometer at 9 a.m. and 9 p.m., corrected for temperature—32° Fahrenheit—and reduced to mean sea level, the instrument being kept at 397, High Street, 206 feet above mean sea level.

COLUMNS 3 to 8.—The maximum and minimum thermometers are read and set at 9 p.m. and entered to the same day. Instruments and screen are in Montpellier Gardens, 216 feet above mean sea level.

COLUMN 9.—The relative humidity is calculated by dividing the elastic force of aqueous-vapour at the temperature of the dew-point for the month by that corresponding to the actual temperature of the air.

COLUMN 10.—The rainfall is taken at 9 a.m. and the total entered to previous day. The rain gauge, placed within the enclosure at Montpellier Gardens, is of Snowdon pattern, 5 inch size, the rim being one foot above the ground.

COLUMN 12.—The amount of bright sunshine is registered by an improved Campbell Stokes Recorder, which is mounted on the top of Pittville Pump Room. Prior to 1908 Jordan's Twin-cylinder Recorder was used.

WIND.

	%
From the North	0·033
„ North-East	0·070
„ East	0·040
„ South-East	0·135
„ South	0·081
„ South-West	0·305
„ West	0·151
„ North-West	0·085
There were Calms	0·100

COMPARATIVE TABLE OF THE METEOROLOGY OF CHELTENHAM FOR THE YEARS 1878-1908.

A division has been made in the returns comprising this table, keeping the years previous to 1903 apart from 1903,-4,-5,-6,-7,-8. The latter make a period long enough to take as an average, since the instruments were removed to Montpellier Gardens, this situation being more central and giving more accurate observations of Cheltenham than formerly.

This is especially marked with regard to Humidity of the town. The former position was on the extreme North side of Cheltenham, the screen then being within a short distance of the stream of water which at that part forms the boundary between the Borough and Prestbury, and was thus detrimental to the natural dryness of the atmosphere.

Year.	Atmospheric Pressure.	MEAN AIR TEMPERATURES				Humidity.		Rainfall	
		Max.	Min.	Mean	Range	9 a.m.	9 p.m.	Inches.	Days.
	INCHES.	°	°	°	°	%	%		
1878	29·913	56·1	41·5	48·8	14·6	83	88	33·18	176
1879	29·944	52·2	38·5	45·3	13·7	87	89	32·63	212
1880	29·971	55·8	40·5	48·1	15·3	85	88	33·72	177
1881	29·957	55·0	38·9	46·9	16·1	82	85	25·28	185
1882	29·914	55·9	41·5	48·7	14·4	81	86	37·92	214
1883	29·964	55·6	40·6	48·1	15·0	85	89	29·93	204
1884	29·978	56·8	41·9	49·3	14·9	84	89	24·04	190
1885	29·930	54·8	40·0	47·4	14·8	84	87	26·45	193
1886	29·912	55·0	40·6	47·8	14·4	83	86	32·55	193
1887	30·029	55·3	38·6	46·9	16·7	80	83	22·78	153
1888	29·959	53·8	40·1	46·9	13·7	82	84	28·85	195
1889	29·971	55·4	40·6	48·0	14·8	84	87	27·07	181
1890	29·959	55·6	40·1	47·8	15·5	84	88	20·09	191
1891	29·957	55·1	40·0	47·5	15·1	83	87	33·14	192
1892	29·948	54·6	38·7	46·6	15·9	82	85	19·45	175
1893	29·990	59·1	41·3	50·2	17·8	81	83	19·91	169
1894	29·963	56·2	41·6	48·9	14·6	83	87	29·12	194
1895	29·923	56·2	39·6	47·9	16·6	83	87	24·99	174
1896	30·030	57·0	41·4	49·2	15·6	83	86	21·54	185
1897	29·969	56·8	42·8	49·8	14·0	82	86	26·23	191
1898	30·009	58·2	42·5	50·3	15·7	82	85	24·23	173
1899	29·989	58·5	41·2	49·8	17.3	81	85	25·72	162
1900	29·928	57·3	41·1	49·2	16·2	80	84	28·44	203
1901	29·966	56·2	40·1	48·1	16·1	79	83	23·27	169
1902	29·906	56·9	42·4	49·6	14·5	84	87	22·53	176
Means	**29·959**	**55·9**	**40·6**	**48·2**	**15·3**	**82**	**86**	**26·92**	**185**
1903	29·883	55·8	43·0	49·4	12·8	82	84	35·75	215
1904	29·988	55·7	42·8	49·2	12·9	80	84	22·41	177
1905	30·005	55·7	42·9	49·3	12·8	79	83	23·79	165
1906	29·985	56·8	43·4	50·1	13·4	78	82	24·49	164
1907	29·966	55·4	43·1	49·2	12·3	80	85	29·00	174
1908	29·803	56.8	41·9	49·3	14·9	81	84	20·16	158
Means	**29·938**	**56·2**	**42·8**	**49·4**	**13·2**	**80**	**84**	**25 93**	**175**

REMARKS UPON THE OBSERVATIONS OF THE YEAR.

A feature of the year is the small amount of rain which has fallen, the total being 7·4 inches under the average of previous years. The dry spells being from January 9th to 29th, with the exception of 14th, 17th, 22nd, and 26th when 0·01 of an inch fell on each of these days; from January 30th to February 15th, with the exception of 0·1 of an inch on the 9th; from April 5th to 19th; from June 17th to July 7th excepting 0·09 on the 4th; from July 17th to August 20th, with the exceptions of the 5th, 10th, and 13th of August; from September 26th to October 16th with two exceptions on the 8th and 9th; from November 1st to 12th.

The humidity of Cheltenham is again very favourable, and lower than any of the comparable inland stations as per list on page 73, this means a drier atmosphere than the places mentioned.

In Bright Sunshine Cheltenham holds second place in the list.

The mean temperature for the year is 1·1° above the average of previous years. The month of May was 4·0°, October 6.2°, November 6.0° above the average of corresponding months in previous years. Skating was indulged in during the first half of January.

December 29th will be remembered for the blizzard which was then experienced also for a very sudden fall in the temperature, when on the 30th the thermometer on the grass reached 9.7° and in the screen 21·3°.

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JANUARY.—The atmospheric pressure during the month has taken a very wide range of over 1·5 inch. The Barometer standing very high fell sharply from the 5th to the 8th—accompanied on the 5th by the lowest screen reading and on the 7th by the greatest fall of rain during the month—rising to the 10th, continued high to the 24th, falling slowly to the 28th. Range of pressure 1·518 inch.

Temperatures have been very uneven the entire month, on the 3rd, 4th, 5th, and early on the 6th the mean minimum temperature in screen was 20 degrees, and on the grass 14 degrees. At 9 p.m., Sunday the 5th, the cold was as intense as it had been during the day; a light S.W. air was blowing, which was the forerunner of a very rapid thaw, rain falling soon after the turn of midnight. By 9 a.m. on Monday, the 6th, the Thermometer had risen 27 degrees in 12 hours. The mean temperature of the month was 1·8 degrees below the average.

The hoar frost on the trees all day Sunday was an unusually pretty sight, which of itself indicated a dampness of the atmosphere.

Skating was indulged in on the 3rd, 4th, 5th, 12th, and 13th.

A rapid thaw set in on the 6th, accompanied by heavy rain on both the 7th and 8th. Thursday, the 9th, light snow fell all day, giving place the following days to a week-end of bright, frosty weather.

The low temperature of 20 degrees in the screen was registered on Saturday the 11th, this being only one degree less than the lowest the previous week.

Rainfall has been unusually light, a little snow fell on the 9th and 30th, hail on the 29th.

Bright sunshine has been much above the average, the means of seven days being over six hours daily.

FEBRUARY.—Atmospheric pressure was fairly regular during the month, excepting the last week. Commencing about normal, the barometer gradually rose, maintaining a high position from the 5th to 12th, slowly falling to the 15th, sharply on the 16th, keeping low to the 24th, dropping again from the 26th to the end of month, touching the lowest on the 28th. Range of pressure 1·542 inch.

The mean temperature of the month was 2·9 degrees above the average. On three days only was frost registered in the screen. Rainfall very light, being 1·25 inch under the means for the month, practically no rain fell until the 15th.

On the 20th and 21st a gale of wind, with some rain, was experienced throughout the country, Cheltenham escaped the main force of the storm, neither thunder or lightning being heard or seen.

The sun shone on each day but five, totalling well for the month.

Wind generally S.W. and W.

MARCH.—Atmospheric pressure has been generally even throughout the month, with the exception of a sharp depression of nearly one inch on the 6th, a steady rise from the 10th to 16th, and a slight depression on the 22nd. Neither change was accompanied by abnormal weather. Range of pressure 1·103 inch.

Mean temperature of the month was 1·1 degree below the average. Humidity about the average. Rainfall heavier than usual, but the total for the first three months was less than usual. Bright sunshine much less than the average. Winds generally Westerly.

Snow fell on the 1st, 3rd, and 15th.

Thunder and lightning experienced during the night of the 31st.

APRIL.—Atmospheric pressure commencing low, the Barometer steadily rose until the 7th, falling gradually until the 11th, recovering and keeping high for six days, dropping again and remaining low until the 28th. Range of pressure 1·037 inch.

The mean temperature was 2·9 degrees below the average. Dnring the first week the temperature was cool but pleasant. From the 6th to the 18th no rain was registered; nights and days were still cold. On Sunday, the 19th; a sharp storm of rain was experienced during the afternoon, and about 6 p.m. snow fell heavily for ten minutes. Other districts report very winterly weather all day, whilst Cheltenham enjoyed over 5½ hours' bright sunshine. The 20th to 27th was a very winterly week; on the 23rd, 24th, and 25th light snow fell at intervals, the fall on the evening of the 24th being heavy for half an hour. The 25th was a most pleasant day, with Westerly wind and over 10 hours' sunshine. The total snow locally would be from 4 to 6 inches, whilst farther South it is talked of as feet.

Heavy rainstorms on the 28th and 29th, causing floods on some low lying lands. Rainfall for the year was so far under the average. Bright sunshine less than former years.

MAY.—Atmospheric pressure has been undulating, commencing high the Barometer fell to the 6th, steadily rising to the 17th, receding a little to the 22nd, mounting to its highest point on the 27th. Range of pressure 1·183 inch.

The mean temperature was 4·0 degrees above the average, the high reading of 74·4 degrees in the screen was recorded on the 2nd, 27th, and 31st.

Bright sunshine totals well, there being 9 days on which 10 or more hours were recorded.

Rainfall, although slightly under the average, was experienced on 13 days, and with the brilliant sunshine helped vegetation very considerably.

Winds generally Westerly.

JUNE.—Atmospheric pressure very heavy and steady throughout the entire month, excepting during the second week; when the Barometer fell to its lowest point. Range of pressure was very confined being only 0·764 inch.

The mean temperature of the month 0·1 degree above the average, the maximum 80·0 degrees being recorded on the 3rd.

The month was an extremely pleasant one, ideal for holiday makers. Bright sunshine above the average, and but little rain, whilst none was recorded after the 17th.

JULY.—Atmospheric pressure was very unsteady. The mean of the Barometer readings was above the average, the highest 30·502 on the 29th, and the lowest 29·384 on the 17th. Range of pressure 1·118 inch.

The mean temperature was 1·3 degree above the average. Bright sunshine also above the average, and rain on 11 days only, none being registered after the 17th, this too, with the exception of the second week, was ideal for holiday makers.

The 3rd of the month was the hottest day of the year when 85 degrees were registered in the screen, and 138 degrees Solar radiation.

AUGUST.—Atmospheric pressure was very steady and regular, excepting for a wavering and lowering of the barometer from the 25th. On the 31st it fell sharply, but quickly recovered. Range of pressure 1·068 inch.

The mean temperatures for the month 0·8 degrees below the average, but absence of rain made the first part of the month oppressive. Rain fell on only three days prior to the 20th and then each day afterwards, the heaviest being on the 31st, totalling over an inch for the day, the amount for the month being quite an inch more than the average of previous years. During the last week of the month much damage was done to fruit and growing crops by wind and rain.

Bright sunshine is well ahead of other comparable stations.

Thunder and lightning experienced during the morning of the 28th.

SEPTEMBER.—With the exception of the first week of the month, the Barometer ran a very even course. Range of pressure 1.189 inch.

The mean temperature of the month was 0·4 degrees above the average, although during the second week the temperature in the screen fell to 36·8 on the 13th, but during the latter half of the month, and especially during the last four days, unusually high readings were registered. Maximum temperature in the screen on the 28th, 29th, and 30th averaged nearly 73 degrees—the highest being 77·5 degrees—whilst the mean temperature on the grass was over 51 degrees.

Rainfall was very light, the total being a quarter of an inch under the average for the month.

Bright sunshine was under the average, although there were only five blank days.

OCTOBER.—Atmospheric pressure has been remarkably regular and high the entire month. Range of pressure only 0·575 inch.

The mean temperature of the month was 6·2 degrees above the average. Temperatures during the first half of the month were unusually high for October, the average maximum readings in the screen for the first week being nearly 68 degrees. The latter half of the month was cooler, due to the rain.

Rainfall light, being registered on two days only up to the 15th, ten of the remaining days accounting for 1·26 inch.

Bright sunshine about the average being registered each day but seven. Light fogs were observed on the 4th and 5th.

NOVEMBER.—Atmospheric pressure very uneven during the month especially during the fourth week when a depression of the Barometer on the 21st was accompanied by a strong westerly wind. Range of pressure 0·926 inch.

Temperature very high for time of year, the mean being six degrees above the average. Frost in the screen registered on two nights only.

Rain fell on ten days only, totalling a little over three quarters of an inch.

Bright sunshine, a good supply, there being eight blank days.

DECEMBER.—The month of December will long be remembered for the seasonable weather during the few days following Christmas Day. On the morning of the 27th, a snow mantle covered the ground to the extent of about two inches, flakes falling at intervals until past noon. The 28th was a pleasant day. The Barometer fell sharply early on the 29th, accompanied by high winds, bringing with it a blizzard of fine snow which continued all day, being the worst since 1881. The actual depth of snow was about five inches, although in drifts it measured feet.

During the night of the 29th, the thermometer in the screen fell to 21·3 degrees and on the grass to 9.7 degrees. Then followed a rapid thaw. The frost not getting into the ground, all traces of the severe spell were soon dispelled.

COMPARATIVE TABLE OF HUMIDITY AND BRIGHT SUNSHINE REGISTERED AT INLAND STATIONS DURING THE YEAR 1908.

The lower the percentage of humidity the drier is the atmosphere.

HUMIDITY %	STATION.	ABOVE MEAN SEA LEVEL.	BRIGHT SUNSHINE HOURS.
86	Bath	84—Feet	Total—1741
89	Belvoir Castle ...	276 „	„ 1485
86	Berkhampsted ...	397 „	„ 1526
85	Birmingham ...	542 „	„ 1150
86	Buxton	977 „	„ —
86	Cambridge	43 „	„ 1578
82	**Cheltenham** ...	**216** „	„ **1591**
83	Coventry	309 „	„ 1395
89	Nottingham ...	85 „	„ 1295
85	Oxford	212 „	„ 1530
84	Sheffield	450 „	„ 1201

RAINFALL IN THE COUNTY OF GLOUCESTER IN 1908.

STATION.	OBSERVER.	RAIN-FALL.	RAINY DAYS.
		Inches.	
Cheltenham	A. C. Saxby	**20.16**	**158**
Bourton-on-the-Water ...	E. W. Kendall	26·80	168
Great Barrington	H. J. Barrett	25·24	177
R.A.C., Cirencester	P. G. Grundy	25·84	177
Berkeley	R. Shore	25·30	156
Over Court	R. C. C. Lippincott ...	30·26	197
Clifton...	R. F. Sturge	27·36	173
Prestbury	J. W. Gay	21·58	199