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BOROUGH OF TORQUAY.



ANNUAL REPORT

OF THE

Medical Officer of Health

For the Year 1935

BY

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

Together with summary of

Reports of the Sanitary Inspectors

— AND —

Meteorological Observer.



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

LADIES AND GENTLEMEN,

I have the honour to present to you the Annual Report on the Sanitary circumstances of the Borough and the Health of the inhabitants during the year 1935.

The report is drafted on the instructions of the Ministry of Health as laid down in their circular issued in October, 1935.

In the autumn Sanction was given for the erection of the new School Clinic and Welfare Centre at Barton and the work of construction is now well in hand. This should prove a great boon for that area. The necessary details for the presentation of several small Clearance Schemes in Torre were completed, and an enquiry was held early in 1936. The acquisition of land for housing purposes has been a great difficulty, but it is hoped this will soon be overcome.

I have to thank my colleagues and members of the department for their assistance and hearty co-operation.

I have also to express my appreciation of the cordial support afforded me by the Council and especially by the Members of the Public Health Committee.

I am, Ladies and Gentlemen,

Your obedient servant,

THOMAS DUNLOP.

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

LADIES AND GENTLEMEN,

I have the honor to present to you the Annual Report
on the sanitary circumstances of the Borough and the Health
of the inhabitants during the year 1888.

The report is divided on the instructions of the Ministry
of Health as follows in their circular issued in October
1888:

"The sanitary condition was given for the section of
the new school (Catholic and Wesleyan) at Brixton and the
work of sanitation is now well in hand. This should prove
a great boon for that area. The necessary details for the
presentation of annual reports (Sanitary Returns) in 1888 were
completed, and an enquiry was held early in 1888. The
acquisition of land for housing purposes has been a great
difficulty, but it is hoped this will soon be overcome."

I have to thank my colleagues and members of the
Department for their assistance and hearty co-operation.

I have also to express my appreciation of the cordial
support afforded me by the Council and especially by the
Members of the Public Health Committee.

I am, Ladies and Gentlemen,

Yours obedient servant,

THOMAS DUNN.

BOROUGH OF TORQUAY.

PUBLIC HEALTH DEPARTMENT.

STAFF.

Medical Officer of Health
and School Medical Officer.
Inspector of Midwives and
Nursing Homes.

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

Deputy M.O.H. and School
Medical Officer.
M.O. for Maternity and Child
Welfare.

J. V. A. SIMPSON, M.D., D.P.H.

*Medical Officer, Ante-Natal
Department and M.O. of
Maternity Wards, Torbay
Hospital.

P. A. MCCALLUM, M.C.,
B.Ch. D.P.H.

Dental Surgeon for
Maternity and Child Welfare.

A. MACDONALD, L.D.S.
(died December, 1935)

Senior Sanitary Inspector.
Inspector under Contagious
Disease Animals Act.
Port Sanitary Inspector.

G. E. BODY, C.R.S.I. and
Meat Certificate.

District Sanitary and
Inspectors of Meat and
Foods.

C. J. LOVELESS, C.R.S.I. and
Meat Certificate.

A. THOMPSON, C.R.S.I.

J. SMITH, C.R.S.I. and Meat
Certificate.

H. T. BEECHEY, C.R.S.I. and
Meat Certificate.

Health Visitors and Infant
Life Protection Visitors.

K. M. MILBURN, S.R.N.,
Certified Midwife, H.V. Cert.
R.S.I.

I. P. RANDOLPH, S.R.N.
Certified Midwife, H.V.
Cert. R.S.I.

STAFF—continued.

Matron of Isolation Hospital	M. J. STEWART, S.R.N.
*Borough Meteorologist	C. BELLINGER, F.R. Met. Soc.
*Bacteriologist	E. QUANT, F.C.S., M.P.S.
*Veterinary Surgeon	C. MASSON, M.R.C.V.S.
Clerk in Medical Officer's Office	W. H. NICKELS.
Clerk in Sanitary Inspector's Office	E. V. ROBERTS.
Clerk in Maternity and Child Welfare Department	K. HUDSON.
Ambulance Attendants	A. J. BOON A. J. WESTERN J. R. WICKINS F. BACKWELL

*Part-time Officers.

BOROUGH OF TORQUAY.

GENERAL STATISTICS.

Area of the Borough, 5,376 acres.

Population : Census 1931, 46,165.

Estimated at middle of 1935 by Registrar
General, 44,700.

Number of inhabited houses, 10,909.

Rateable Value : £502,471.

Sum represented by a penny rate, 1935-36, £1,973.

Extracts from Vital Statistics of the Year.

			Total M.	F.	{ Birth rate per 1,000 of the estimated resident population, 11.9.	
<i>Live Births</i>	{	Legitimate	496	257		239
		Illegitimate	39	23		16

Stillbirths ... 17 10 7 Rate per 1,000 total
(live & still) births 52.

Deaths ... 611 294 317 Death rate per 1,000 of
the estimated resident
population, 13.6.

Deaths from puerperal causes

	No. of Deaths	Rate per 1,000 total (live & still) births
Puerperal Sepsis	2	3.6
Other puerperal causes	2	3.6
	4	7.2 *

Death rate of Infants under one year of age

All infants per 1,000 live births	...	...	39
Legitimate infants per 1,000 legitimate live births			26
Illegitimate infants per 1,000 illegitimate live births			51

<i>Deaths from</i> Measles (all ages)	...	...	...	4
„ Whooping Cough (all ages)	...	...	...	1
„ Diarrhoea (under 2 years of age)...	...	...	...	1

* Vide notes on Maternal Mortality page—18.

BOROUGH OF TORQUAY

GENERAL STATISTICS

Area of the Borough: 1,000 acres.
 Population: 19,000.
 Number of inhabited houses: 10,000.
 Number of acres of land: 1,000.

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BOROUGH OF TORQUAY.

PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

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

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

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

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

Torquay is essentially a residential town and health resort; consequently, a large proportion of its inhabitants are villa residents, while the remaining portion may be said to obtain a livelihood by catering for them. There are

numerous large hotels and many up-to-date boarding houses for the accommodation of visitors. There are no manufacturing factories in the district.

During the summer and early autumn there is a very large influx of visitors, who are catered for by the inhabitants of the smaller houses.

CLIMATE.

The position of the town, built as it is on a promontory, surrounded on two sides by the sea, accounts to some extent for the mild and equable temperature experienced during winter. The meteorological records show that we enjoy a large proportion of sunshine at this period of the year. There is also an almost complete absence of fog.

The benefit of living under such climatic conditions must be apparent to all, but it is inestimable to those who are asthmatical or who are sufferers from chronic bronchitis. To the aged and infirm, who are extremely sensitive to every change of temperature, life under such conditions is prolonged and made worth living.

The bright sunshine and the possibility of being constantly in the open air, is most advantageous to children and those who are delicate have every chance of growing up strong and healthy.

THE SUMMER CLIMATE.

It is now an established fact that Torquay has become a most popular holiday resort, and during the season the population more than doubles itself.

It is unquestionable that during the hottest days, the maximum temperature here is five to ten degrees lower than that recorded in London and the Midlands. It stands to reason, if one considers the position of Torquay, flanked by the sea and with Dartmoor in the rear, it is constantly fanned by cool breezes from one or other direction. It seems difficult to imagine a more delightful spot in which to spend a holiday. Boating, bathing and fishing are of the best, whilst in the neighbourhood are innumerable places of beauty and interest, which are easily accessible by sea, coach or rail.

METEOROLOGY.

Full details of the Meteorology of the Borough will be seen in the appended Annual Report of the Borough Meteorologist, but the following resumé of the climatic conditions may be of interest:—

	1931	1932	1933	1934	1935
Highest Maximum Temperature	75.0	78.0	85.0	82.0	84.0
Lowest Minimum	23.7	29.0	25.0	25.0	24.4
Mean Maximum	56.1	56.8	57.7	58.1	57.5
Mean Minimum	45.1	45.7	45.4	45.8	45.9
Mean of Maximum and Minimum	50.5	51.2	51.6	51.9	51.7
Difference from Average	-0.8	-0.3	+0.2	+0.5	+0.3
Number of days on which rain fell	177	171	151	151	184
Total fall in inches	34.34	37.00	27.17	33.87	38.14
Number of Hours of Bright Sunshine	1515.00	1498.5	1935.0	1824.10	1755.4
Mean daily units Ultra-Violet Rays	2.37	2.83	3.41	4.53	3.77

MEDICAL BATHS.

Within recent years the value of "Spa Treatment" has become more fully recognised, and the results of this form of treatment are exceedingly good in suitable cases, especially when it can be taken where climatic conditions are propitious.

Torquay has a climate, both in summer and winter, which offers many advantages for invalids and others, and it also possesses an Establishment where all modern British and Continental methods of Spa treatment are available. It is in the unique position of being the only British Marine Health Resort with a complete equipment for Spa treatment.

Here it is possible for invalids to have their course of treatment without the risks inseparable from a Northern winter or the fatigue of a tedious Continental journey.

The Medical Baths at Beacon Hill are modern. All forms of baths, douches, packs, electricity, light treatments—also Plombières treatment—are administered by a highly skilled staff.

The dressing rooms are comfortably heated, furnished and equipped. There is plenty of light and every room in the building is well ventilated and kept scrupulously clean. There is a large tepid sea water swimming bath, which has recently been refitted. An up-to date plant for the purification

and filtering of the water has been installed. The whole of the water is passed through this plant twice daily. All danger from bacterial infection is thus eliminated.

No expense has been spared to ensure absolute comfort for the weakest invalid or for those who undergo treatment to keep fit and well. There is a lofty and well furnished cooling lounge where light refreshments can be obtained, and the view of Torbay from its windows cannot be surpassed. It is without doubt one of the finest cooling lounges in the kingdom.

VITA-GLASS SUN LOUNGE.

The popularity of this adjunct to the Medical Baths has induced the Council to considerably extend it. The work at the time of writing is now well in hand. From this lounge there is a magnificent view of Torbay. It is a delightful room in which to spend a few hours.

VITAL STATISTICS.

DEATHS.

The total deaths registered in the Borough in 1935 was 623 of whom 112 were non-residents, and whose deaths were transferred to their own districts, whilst the deaths of 100 residents dying outside the Borough have to be added. The net total is therefore 611 of whom 294 were males and 317 females.

The death rate is equal to 13.6 per 1,000, against 13.8 in 1934. The average of the previous five years was 14.1. The death rate for England and Wales in 1935 was 11.7 and that for the 132 smaller towns (population 25,000 to 50,000) was 11.2. As the age and sex distribution of Torquay differs widely from that of the country as a whole, it is necessary to use a factor to remove this inequality. The factor furnished by the Registrar General is .76, by which our rates must be multiplied. This gives us a corrected death rate of 10.3 per 1,000 per annum.

Of the 611 deaths

	Percentage of total deaths equals
21 were under 1 year of age	3.4
5 were 1 year and under 2 years	.8
3 were 2 years and under 5 years	.5
5 were 5 years and under 15 years	.8
16 were 15 years and under 25 years	2.6
50 were 25 years and under 45 years	8.2
134 were 45 years and under 65 years	22.0
377 were 65 years and over	61.7
611 at all ages	100.0

It will thus be seen that 377 or 61.7 per cent., were persons aged 65 and upwards.

There were 18 inquests; and 13 uncertified deaths were recorded.

WARD DISTRIBUTION.

Ward	Deaths at all ages	Under 1 year.
Torre	51	2
Waldon	64	1
Upton	81	3
Ellacombe	96	2
Strand	35	4
Torwood	54	1
St. Mary-Church ..	88	4
Babbacombe	76	3
Chelston	66	1
Totals	611	21

DEATHS FROM ZYMOTIC DISEASES.

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

Small-pox	—
Measles	4
Whooping Cough	1
Scarlet Fever	—
Diphtheria	1
Fevers { Typhus	—
{ Enteric	—
{ Continued	—
Diarrhoea	1

The zymotic death rate is therefore equal to .15 per 1,000, against .13 per 1,000 in 1934.

Four deaths were registered as due to influenza.

BIRTHS.

The total births registered during the year was 535—males 280, females 255. Of these 39 or 7.2 per cent. were illegitimate.

Still-births registered were 17.

The birth rate for the Borough is equal to 11.9 per annum, the rate for 1934 was 11.2 per 1000. The average of the previous five years was 12.3. The rate for England and Wales in 1935 was 14.7, and for the small towns 14.8.

The Still-birth rate for the Borough is equal to .32, that for England and Wales .62.

In comparing our birth rate with that of the country as a whole or those of other districts, the age and sex constitution of the population must be borne in mind. In Torquay we have a high proportion of females to males (1,474 females per 1,000 males), and of the female population some 40 to 50 per cent. are spinsters, and are above or below the child bearing age; hence it is unreasonable to expect anything but a low birth rate.

WARD DISTRIBUTION.*

	Males	Females	Illegitimate
Torre ..	31	31	3
Waldon ..	20	29	4
Upton ..	48	37	3
Ellacombe ..	37	43	6
Strand ..	18	18	6
Torwood ..	18	6	4
St. Mary-Church ..	51	43	8
Babbacombe ..	26	26	—
Chelston ..	50	45	3
Totals ..	299	278	37

*These are the gross registered births—not corrected by transfer by Registrar General.

INFANTILE MORTALITY.

There were 21 deaths of children under one year of age. This gives an infantile mortality rate of 39 per 1000 births. That for 1934 was 48, and the average of the previous five years was 54. The rate for England and Wales in 1934 was 57, and that for the small towns 55.

The following tables are of interest:—

TABLE A. *Showing the Births, Infantile Deaths and Infantile Mortality for a series of ten years as compared with those of the country as a whole.*

Year.	Total Births recorded.	Deaths of Infants Under 1 year.	Infantile Mortality for the Borough.	Infantile Mortality for England and Wales.
1926	507	32	63	70
1927	570	29	50	69
1928	557	28	50	65
1929	529	27	51	74
1930	539	37	66	60
1931	571	32	54	66
1932	499	25	47	65
1933	529	26	49	64
1934	493	24	48	59
1935	535	21	39	47

TABLE B. *Showing the principal Causes of Deaths among Infants.*

	1935	1934	1933	1932	1931	1930	1929	1928	1927	1926
Measles ..	-	-	-	-	-	-	-	1	-	1
Whooping Cough ..	-	1	-	-	4	1	2	-	3	1
Diarrhoea ..	1	2	2	2	2	1	4	1	2	2
Tubercular Diseases ..	-	-	2	-	-	-	-	-	-	1
Bronchitis ..	-	-	1	3	-	6	2	2	2	3
Pneumonia ..	1	6	4	2	10	5	2	4	1	5
Premature Birth	12	14	14	11	12	19	14	17	12	14
Congenital Defects										
O.D.D. ..	5	-	1	5	4	4	3	3	6	4
All other cases ..	2	-	2	2	-	1	-	-	3	1
Totals ..	21	24	26	25	32	37	27	28	29	32

Full particulars, giving exact details of the causes of death, the age stated in weeks and months under one year, are given in Table IV., page 67.

MATERNITY AND CHILD WELFARE.

SUPERVISION OF MIDWIVES.

The Town Council, acting through their Maternity and Infant Welfare Committee, is the Supervising Authority for the Borough.

Notifications of intention to practice were received from thirty-five midwives during 1935. Twelve of these were members of the staff of the Torbay Hospital, and as such

are exempt from inspection. Regular quarterly inspections are carried out by the Medical Officer of Health. The midwives' equipment and their records have been found satisfactory and well kept. Those midwives attached to the two Nursing Associations attend regularly at the Welfare Centres. This gives them an interest in this branch of the work and induces them to advise mothers to bring their infants for examination.

Notifications numbering 98 were sent by midwives to the Local Supervising Authority as required by the rules of the Central Midwives' Board. The reasons are summarised as follows :—

1.	Sending for medical help :				
	(a) For mother—in pregnancy	...	...	1	
		in labour	...	60	
		in lying-in period	...	4	
	(b) For infant	...	...	12	
2.	Proposal to substitute artificial for breast feeding	...	...	21	
3.	Liability to being a source of infection	...	...	—	
4.	Having laid out a dead body	...	...	—	
5.	Death of mother or child occurring in practice	...	...	—	

MATERNAL MORTALITY.

All maternal deaths are investigated by the Medical Officer of Health after consultation with the Medical Attendant, form 97/MC.W. being prepared in each instance. Four such deaths were registered, two being due to sepsis and two to other causes. Three were treated in the Torbay Hospital.

The Maternal Mortality Rate is equal to 7.2 per 1,000 births, that for England and Wales was 4.1.

The Maternal Mortality Rate is calculated from the number of deaths due to diseases of pregnancy, childbirth and the puerperal state per 1,000 registered births (live and dead).

In 1935 four deaths were so registered. Two to septic causes :—

- (a) following difficult labour and post-partum haemorrhage.
- (b) result of infection following suspected criminal abortion.

Two other puerperal causes :—

- (a) following Caesarian section.
- (b) Eclampsia.

As there were 535 live births and 17 still-births, the maternal mortality rate, equals 7.2 per 1,000 births.

This is exceptionally high. The rate for 1934 was 1.92 per 1,000 births, while that for England and Wales in 1935 was 4.1.

Too much weight must not be attached to such a high figure, as in cases where we are dealing with such small numbers, one extra death means an increase of almost two per 1,000 births, on the rate.

This is a new experience for the Borough, and from a full investigation into the histories of the cases it is difficult to suggest how these deaths could have been prevented.

MATERNITY BEDS AT THE TORBAY HOSPITAL.

There is one ward with nine beds devoted to maternity cases. The demand for assistance under the Town Council's scheme appears ever increasing. Before accepting responsibility the Medical Officer of Health makes careful enquiry into the financial position and home accommodation of prospective mothers. Patients receiving assistance under the scheme are bound to attend the Ante-Natal Clinic as and when required by the Medical Officer in charge. Thus many more women are kept under supervision during their pregnancies than would otherwise be the case.

ANTE-NATAL SCHEME.

The arrangements for this Clinic are in the hands of the Torbay Hospital Authority. The Town Council pay rent for the premises and a sessional fee to Dr. McCallum

the Medical Officer; this is for one session a fortnight, but as this officer prefers it, he holds a session each week.

The following information is of interest :—

	All Women	Torquay Women only
(a) Total attendances made by expectant mothers	993	829
(b) Average attendance of expectant mothers	19	14.9
(c) Total number of expectant mothers who attended during the year ...	349	284
(d) Percentage of total notified births, represented by the number (c) ...	58	50.4

The attendances show an almost 29% increase on those for 1934 and definitely proves the necessity for a weekly session for Torquay women alone.

Every effort is made both through practising midwives and by the home visiting of the Health Visitors to induce expectant mothers to take advantage of these facilities. Further endeavours are being made to develop the post-natal uses of this clinic.

CONSERVATION OF INFANT LIFE.

The Notification of Births Act renders it compulsory for the parents, etc., to notify the birth of a child to the Medical Officer of Health within 36 hours of its occurrence.

Births registered (Local Registrar)—

(1) Live Births, Legitimate	540	(2) Illegitimate	37	(3) Total	577
-----------------------------	-----	------------------	----	-----------	-----

Still Births registered—

(1) Legitimate	..	16	(2) Illegitimate	1	(3) Total	17
----------------	----	----	------------------	---	-----------	----

Birth adjusted by inward and outward notifications—

(1) Live Births	..	547	(2) Still Births	16	(3) Total	563
(1) Notified by Midwives		503	(2) Notified by parents and doctors			60

HEALTH VISITING.

About ten days after the birth of a child the Health Visitor endeavours to get in touch with the mother in those cases in which a visit is desirable or likely to be appreciated.

Enquires are made concerning the child, information given about our Welfare Centres, and the mother encouraged to bring the child. In most cases subsequent visits are paid at increasing intervals; in some, until the child comes under the supervision of the School Medical Department. The Health Visitor also investigates infant deaths and still-births, follows up cases notified or suspected as ophthalmia neonatorum, and assists the Medical Officer in the work of the Welfare Centres.

There can be no question that this is most valuable work, and must to some extent be credited with the great reduction in the infantile mortality since it was inaugurated. It requires great tact, a wide knowledge of working class conditions and personal sympathy on the part of the worker. The greatest care is taken that there shall be no interference with the interests of the medical attendant in his patient.

There are two Health Visitors devoting their whole time to this work. The results are epitomised in the following table :—

HEALTH VISITORS' REPORT, 1935.

Visits paid by Health Visitors :—

To expectant Mothers	(1)	First visits	43	(2)	Total visits	84
To infants under 1 year	(1)	"	518	(2)	"	2185
To children aged 1—5 years					"	3782
Still births investigated					"	14
Miscellaneous visits					"	44
Cases out when visited					"	684
Cases removed					"	261
Cases under Children and Young Persons Act (5 to 9 years)					"	46
						Total visits
						7100

Attendances at the Welfare Centres 143

Cases not considered necessary to visit 25

In cases of removal particulars are sent to the Medical Officer of Health of the district where the parents have gone.

Records of 154 cases were sent to other Authorities and the cases of 89 children from other areas were enquired into, whilst 36 removals could not be traced.

PROVISION OF MILK TO NECESSITOUS MOTHERS AND INFANTS.

All applications for free supplies of milk under the Milk (Mothers and Children) Order, 1919—are inquired into by the Medical Officer of Health. In most instances full details

of the family conditions are obtained by the Health Visitor ; care is also taken to prevent overlapping with charitable agencies distributing relief. I also make it a condition that whenever it is at all possible the infants shall be taken regularly to one of the Welfare Centres. I am fully satisfied that in many cases the provision of this milk has resulted in the saving of infant life in the times of necessity.

All milk supplied is Grade " A " Tuberculin Tested.

ADMINISTRATION OF CHILDREN AND YOUNG PERSONS ACTS, 1908 AND 1932.

The duties under Part I. of the above Acts were taken over by the Corporation on the 1st May, 1930, the Health Visitor being appointed to carry out the duties under the Act.

- | | | | | |
|---|-----|-----|-----|----|
| (1) The number of foster mothers on the register at the end of the year | ... | ... | ... | 14 |
| (2) The number of children on the register at the end of the year | ... | ... | ... | 17 |

145 visits were made to or on behalf of the above foster mothers and children.

INFANT WELFARE CENTRES.

The whole of the work is controlled by the Infant Welfare Sub-Committee of the Town Council, and the following three Centres are established.

- (1) Ellacombe Centre meets in the Primitive Methodist Hall, Market Street, on Fridays, from 2.30 to 4.30 p.m.
- (2) Market Street Centre meets as above on Mondays, from 2.30 to 4.30 p.m.
- (3) St. Marychurch and Babbacombe Centre meets in the St. Marychurch Parish Hall on Thursdays, from 2.30 to 4.30 p.m.

The new School Clinic and Welfare Centre for the Barton area is now, at the time of writing practically completed, and when furnished in about a month's time will be ready for use. It should prove of great use in this growing area.

For each Centre there is a Committee of Voluntary Workers, who carry out the social side of the work, and their regular and unselfish efforts add to the Centres being so popular and successful. This is highly appreciated by all dealing with the administration of the Infant Welfare Work, and we desire to tender them our thanks.

Dr. Simpson, the Deputy Medical Officer of Health, attends each Centre and is responsible for the medical arrangements, and is assisted by one of the Health Visitors. One of the midwives from the District Nursing Association attends and carries out the weighing of the children.

Some idea of the scope of the work may be seen from the following figures for the three Centres combined (143 sessions held) :—

A. Total number of attendances at all Centres			
during the year	...	...	6922
(1) By children under one year of age			3962
(2) By children between the ages of one			
and five years	...	...	2960
(3) Average attendance of children per			
Centre	...	...	48.4
B. Total number of children attending Centres			
for the first time	...	...	352
(1) Children under one year	...	...	301
(2) Children between one and five years			51

Percentage of notified live births represented by the number in B (1) equals 55.

The majority of the children are seen on each occasion, defects noted and pointed out to the parent, and instructions given concerning diet and infant management.

Here the Medical Officer has the opportunity of detecting defects, giving advice, and instructing the Health Visitor about following up where necessary. Seven patients were admitted to the Rosehill Children's Hospital for various disabilities. Every effort is made to see that defects found receive suitable treatment. Minor cases of otorrhœa are treated at the Clinic, but any of a serious or chronic nature

are referred to their own doctors, as are cases of tonsils and adenoids. Crippling defects are sent to the Orthopædic Clinic, and when hospital treatment is considered advisable the children are sent to the Princess Elizabeth Orthopædic Hospital at Exeter or to Ivybridge Hospital.

The following particulars may be of interest :—

No. of cases on Clinic Register at beginning of year (including 1 tuberculosis case under supervision of County Council)	53
--	----

No. of new cases during year (including 2 transferred from Clinics outside Borough)	25
---	----

They were :—

Congenital Deformities	...	9
Genu Valgum	...	7
Genu Varum	...	2
Intoeing or Eversion of Feet		2
Rickets	...	3
Accessory Thumb	...	1
Erbs Palsy	...	1

No. of Transfers out and discharges during year	...	...	...	...	29
---	-----	-----	-----	-----	----

They were :—

Transfers to Clinics outside Borough	...	...	1
Transfers to Education Dept.			17
Transfers to Public Assistance Committee	...	...	2
Discharged	...	...	9
Cured	...	8	
Relieved	...	1	
Unrelieved	...	—	
Died	...	—	

No. of cases in Hospital at beginning of year	...	...	...	...	2
---	-----	-----	-----	-----	---

No. of cases admitted to Hospital during year	8
No. of cases in Hospital at end of year	1
Total attendances at Clinic during year	308
No. of cases on Clinic Register at end of year (including 1 tuberculosis case under supervision of County Council) ...	49

DENTAL WORK.

Much importance is attached to dental attention for mothers and young children. The Dental Surgeon devotes one afternoon session a week to this work. Headway is slow, but every year we observe an increase in the attendance at the Clinic, as the following shows:—

1930	1931	1932	1933	1934	1935
69	126	191	268	293	351

The work of the department was temporarily interrupted early in December owing to the death of the Dental Surgeon the late Mr. A. MacDonald, L.D.S. Except for this break in the continuity, the work during the remainder of the year shows an increase and a continued expansion compared with previous years.

There were 171 cases treated (91 mothers, 42 boys and 38 girls under school age), and 351 attendances made. A summary of the work done is as follows:—

	Fillings	Extractions	Other operations
Permanent teeth	42	235	—
Temporary ...	25	71	—
Totals ...	67	306	237

Other operations include dressings, removal of green stain, etc.

During the year, general anæsthesia was administered by the Assistant Medical Officer on 68 occasions for the removal of 168 teeth (82 of these teeth being extracted on account of sepsis). Six cases were rendered edentulous and three were referred to voluntary societies for assistance to obtain dentures.

In 161 instances, advice was given to mothers on oral hygiene, massage of the gums, etc.

The increasing number of cases treated and the increase in attendances show that steady progress is being made in the Dental Section of Maternity and Child Welfare.

SUMMARY OF NURSING ARRANGEMENTS.

Professional Nursing in the Home. (a) General—Nurses of the Queen's Institute for District Nursing, and St. Marychurch District Nursing Association are available for this purpose, independently of the Local Authority. (b) For Infectious Diseases.—The Town Council utilises the services of the above Associations in home visiting cases of Ophthalmia Neonatorum and other minor ailments when instructed by the Medical Officer of Health.

Midwives.—Vide page 17 for registration and inspection of midwives. The Council contributes to the funds of these Associations.

Lying-in Accommodation.—The Maternity Ward of the Torbay Hospital is referred to on page 19.

MATERNITY AND NURSING HOMES REGISTRATION ACT, 1927.

At the beginning of 1935 there were eleven nursing homes on the register. Since then three applications for registration were received and granted. There were thus fourteen on the register at the end of the year.

GENERAL NURSING HOMES.—Limefield, Trinity and Mount Stewart.

MATERNITY HOMES.—Harleston, Stratford Lodge, St. Margarets, Saroa and Melrose.

MENTAL HOMES.—Arthington and Heathcourt.

MEDICAL HOMES.—Southwood, St. Clements, St. John of God and Oak Hurst.

1. Number of applications for registration, 3.
2. Number registered at end of year, 14.
3. Number of orders made refusing or cancelling registration, nil.
4. Number of appeals against such orders, nil.
5. Number of cases in which such orders have been
 - (a) Confirmed on appeal, nil.
 - (b) Disallowed, nil.
6. Number of applications for exemption from registration, 4.
7. Number of cases in which exemption has been
 - (a) Granted, 4.
 - (b) Withdrawn, nil
 - (c) Refused, nil.

PUERPERAL FEVER.

Three cases were notified. Two were treated in the Torbay Hospital, one dying, while a third was notified from her own home and this also proved fatal.

PUERPERAL PYREXIA.

Six notifications were received. Five were treated in the Torbay and one in Whitecliffe Hospitals. All recovered.

SCARLET FEVER.

Notifications of 79 cases were received, 31 less than last year; 16 cases occurred in the first quarter of the year, 18 in the second, 17 in the third, and 28 in the fourth. Cases were notified from every ward, the highest incidence being in Ellacombe, closely followed by Torre and St. Marychurch.

Sixty cases were removed to the Isolation Hospital.

DIPHTHERIA.

Twenty-two cases were notified, two more than in the previous year. They were all removed to the Isolation Hospital for treatment. There was one death, an infant of 8 months died within three hours of admission.

ENTERIC FEVER.

Five cases of Enteric Fever were notified. None of them was of a very typical nature and there was no connection between any of them. They were all treated in the Torbay Hospital, except one in a nursing home. Two were admitted for diagnosis and treatment from districts outside the Borough. There were no deaths.

OPHTHALMIA NEONATORUM.

Three cases were notified. None of them resulted in impairment of vision. Suspicious cases seen at the Welfare Centres are treated by the district nurses under the direction of the Deputy Medical Officer of Health. The Health Visitors paid four primary and nine subsequent visits to ophthalmia cases.

WHOOPIING COUGH.

Although not present in epidemic form there were a considerable number of cases and there was one death.

MEASLES.

Measles was prevalent, four deaths being registered.

INFANTILE DIARRHŒA.

One death was registered as being due to diarrhœa.

NOTIFIABLE DISEASES DURING THE PAST FIVE YEARS.

DISEASE	1931	1932	1933	1934	1935
Puerperal Pyrexia	3	—	4	11	6
Diphtheria	57	42	28	20	22
Scarlet Fever	10	25	125	110	79
Enteric Fever (including para-typhoid) ..	2	10	3	5	5
Puerperal Fever	—	1	2	2	3
Pneumonia	11	16	23	25	21
Encephalitis Lethargica	2	1	—	1	1
Poliomyelitis	—	—	—	—	—
Erysipelas	7	5	4	21	9
Cerebro-Spinal Meningitis	—	1	—	—	1
Ophthalmia Neonatorum	3	5	5	4	3
Malaria	—	—	—	—	—
Pulmonary Tuberculosis	61	71	51	61	84
Other Tubercular Diseases	12	10	7	13	10
Polio Encephalitis	—	—	—	—	—
Dysentery	—	—	2	—	—

ERYSIPELAS.

Nine cases were notified.

TUBERCULOSIS.

During the year 84 cases of Pulmonary Tuberculosis were notified and 10 of other forms. There were 38 deaths from the former and 4 from the latter. In addition 26 deaths of non-residents were transferred to their own sanitary areas.

The death-rate for Torquay is equal to .93 per 1,000.

The following table gives the sex and age of new cases and deaths from pulmonary and other forms of the disease.

NEW CASES AND MORTALITY DURING 1935.

Age Periods	NEW CASES				DEATHS			
	Pulmonary		Non-Pulmonary		Pulmonary		Non-Pulmonary	
	Male	Female	Male	Female	Male	Female	Male	Female
Under 1 year	—	—	—	—	—	—	—	—
1 to 5 years	—	—	1	—	—	—	1	—
5 to 10 "	—	—	2	1	—	—	1	—
10 to 15 "	—	1	—	1	—	—	—	—
15 to 20 "	3	10	1	—	—	5	—	—
20 to 25 "	6	12	—	1	1	3	1	—
25 to 35 "	9	8	1	—	3	2	—	—
35 to 45 "	8	2	1	1	4	5	—	—
45 to 55 "	9	4	—	—	3	5	—	—
55 to 65 "	5	4	—	—	2	3	—	—
66 & upwards	3	—	—	—	1	1	—	1
TOTALS	43	41	6	4	14	24	3	1

Whitecliffe Hospital is utilised by the Devon County Council for cases of Pulmonary Tuberculosis, hence many of our transferable deaths occur in this institution. Free disinfection of rooms and bedding is carried out after death or removal of cases.

CANCER, MALIGNANT DISEASE.

There were 93 deaths registered from the above cause. The age and sex distribution is as follows :—

Age period	Under 30	30—35	35—45	45—55	55—65	65—75	Over 75	Totals
Males ..	1	—	1	3	14	20	11	50
Females ..	1	—	1	8	3	13	17	43
TOTALS ..	2	—	2	11	17	33	28	93

The death rate from cancer is equal to 2.0 per 1,000 per annum.

It must be remembered that the population here contains a larger proportion of persons of advanced years and of females over males than the country as a whole, so that it is only to be expected that the cancer rate would be high.

VENEREAL DISEASE.

The Centre is at Torbay Hospital and is run by the Devon County Council. Sessions are held Tuesdays and Wednesdays at 5.30 p.m. for males and on Thursdays at 5 p.m. for females.

SMALL POX AND VACCINATION.

No cases were notified. No primary or re-vaccinations were carried out by the Medical Officer of Health.

Through the courtesy of the Vaccination Officer, Mr. Horner, I am able to give the results of primary vaccination for the years from 1900 to 1934.

Years.	Total births registered	Successfully vaccinated	Insusceptible of Vaccination	Had Small-pox	Number of Declarations from Conscientious Objectors	Died Unvaccinated	Postponed by Medical Certificate	Removed to other districts the Vaccination Officer of which has been apprised	Removed Address unknown	Percentage successfully Vaccinated	Excluding those who died Unvaccinated. Percentage
10 Years' Average 1900—1909	578	468	—	—	39	4	6	3	10	82	87
10 Years' Average 1910—1919	522	219	1	—	235	33	9	3	15	41	44
10 Years' Average 1920—1929	563	227	2	—	291	27	6	6	13	38. 5	40
1930	577	187	3	—	326	32	7	6	14	32. 6	34.3
1931	609	168	4	—	374	22	15	8	14	27. 5	28.6
1932	560	181	5	—	344	16	3	4	5	32. 3	29.4
1933	565	169	3	—	335	24	8	3	13	29.91	31.0
1934	552	136	3	—	353	21	4	3	32	24. 6	25.6

HOSPITALS AND OTHER INSTITUTIONS.

THE BOROUGH ISOLATION HOSPITAL is situated on the Newton Road and belongs to the Town Council. It has 26 available beds, is well equipped and up-to-date.

Number of cases treated in the Isolation Hospital during 1935 :—

Scarlet Fever	..	..	60
Diphtheria ..	..	..	23
Measles ..	..	..	5
Mumps ..	..	..	1
Chicken Pox	..	..	1
Pneumonia ..	..	..	3
Scabies ..	..	..	1
FOR OBSERVATIONS			
Diphtheria ..	..	..	13
Diphtheria "Carriers"	..	..	5
Scarlet Fever	..	..	3
Total			115

SMALL-POX.—By arrangement with the Devon County Council cases would be treated at their Hospital at Upton Pine, near Exeter.

TUBERCULOSIS.—Whitecliffe Hospital on the Lower Warberry Road is used by the County Council for this purpose. There are 54 beds available.

MATERNITY.—The Torbay Hospital with nine beds.

CHILDREN'S HOSPITAL (Rosehill) has accommodation for 30 patients.

ORTHOPÆDIC.—Hospitals at Exeter (Princess Elizabeth) and at Ivybridge (Dame Hannah Rodgers). At the former the extensions mentioned in my last report have now been carried out, so that there are now 72 beds available. This, with the 24 at Dame Hannah Rodgers Hospital and 20 at the Angela Convalescent Home, give a total of 116 beds. Arrangements have also been made with the Plymouth Municipal authorities for the reception of certain cases.

THE TORBAY GENERAL HOSPITAL. — For Medical, Surgical and Maternity, 146 beds.

BACTERIOLOGICAL EXAMINATIONS.

Mr. Quant of the South Devon Bacteriological Laboratory has carried out the following examinations :—

Diphtheria	103	{	8 Positive
			95 Negative
Sputum examination for Tuberculosis ..	62	{	15 Positive
			47 Negative

Occasionally specimens are sent to the County Bacteriologist, Dr. McEwan, at Exeter, and in the laboratory attached to the Health Department, specimens from suspected throats of school children are examined as well as all such from the Isolation Hospital. Some 118 were so examined in 1934.

AMBULANCE FACILITIES.

The Corporation possess three Motor Ambulances and these are under the direction of the Medical Officer of Health. They are, (1) a first class Daimler Ambulance for the transport of surgical and medical cases especially on long journeys, (2) a new Morris Ambulance for the removal of local surgical and medical cases, and (3) a Morris Ambulance for the removal of infectious cases. The ambulances are garaged at the Town Hall and during office hours can be obtained by communicating with the Medical Officer of Health at his office Telephone No. 3221. When the offices are closed application should be made to the Senior Ambulance Attendant at his house, Telephone No. 3483.

All members of the Ambulance staff are fully trained members of the St. John Ambulance Brigade, and we have had many letters of appreciation of the work and attendance of the men and comfort of the Ambulances.

A summary of the work done is as follows :—

No. of journeys, removal of cases, etc.	..	..	972
.. Accidents moved to Hospital, etc.	..	..	143
.. Infectious cases moved to Hospital, etc.	..	..	99
.. Bodies moved to Mortuary ..	..	..	36
.. Loads of Bedding removed ..	..	..	209
			1459
TOTAL MILEAGE—			
Daimler Ambulance	..	..	1837
Morris	..	..	6415
Morris .. (Disinfection) ..	..	..	5351
			13601

DISINFECTION.

Free disinfection is carried out in all cases of notifiable infectious disease, and also after the removal or death of consumptive patients. Rooms are first fumigated with formalin, and then the bedding is removed to the disinfecting station at the Isolation Hospital and subjected to steam sterilisation. The disinfector is a "Thresh" Current Steam Disinfector.

Full advantage is taken of the facilities, all cases where notifiable disease occurs being fully disinfected, and a very large proportion of non-notifiable cases.

When information has come to hand of houses, etc., infected with vermin we offer to spray the rooms with insecticide and also to steam-sterilise bedding, etc.

No. of Rooms Disinfected	..	..	..	337
.. Lots of Bedding Disinfected	..	..	..	268

WATER SUPPLY.

The main town supply is derived from upland surface gathering ground, on the borders of Dartmoor, about 15 miles from Torquay. The extent of this area is 2,303 acres and belongs to the Corporation. All inhabited houses and farms have been cleared from it, thus preventing any menace to the purity of the water. This source of supply is supplemented by water drawn from the Fernworthy catchment area, situated about 10 miles from the main catchment area at Tottiford. This area has an extent of 2,400 acres, principally moorland in character and practically uninhabited. The works at Fernworthy consist of an intake and weir. From here the water is conveyed through pipes 16 inches in diameter to the Trenchford reservoir. The maximum amount of water allowed to be drawn is 3,000,000 gallons per day. This water is extremely soft and in order to prevent solvent action on lead it is treated with lime .5 grain per gallon. All the water is passed through mechanical filters, capable of dealing with 3,150,000 gallons per day.

The total amount of water consumed during the year was 944,017,000 gallons, equal to 2,641,142 gallons per day, or 36.13 gallons per head of an average population throughout the year of 67,890, increased during the summer to about 90,000.

QUALITY OF THE WATER.

It possesses all the qualities of a good upland surface water. The watershed has been so protected as to make the possibility of pollution infinitesimal. It is also subjected to mechanical filtration rendering it doubly safe and removing any suspended peaty matter. It is extremely soft yet contains sufficient lime and magnesia salts to prevent any solvent action on lead. It is in all respects one of the best domestic water supplies in the kingdom.

Regular monthly analyses of the water are made, samples being taken from different areas in the Borough. The results vary very slightly; the following is a typical result:—

RESULT OF CHEMICAL ANALYSIS.

Physical character—Very pale straw colour, clear, no odour or deposit. Reaction: pH=8.0.

Chemical Constituents	Expressed in parts per 100,000		
Total Solids	..	..	5.7
Chlorides	..	..	1.4
Hardness	..	..	2.0
Nitrites	..	..	nil
Nitrates	..	..	nil
Free Ammonia	..	..	0.0018
Organic Ammonia	..	..	0.008
Oxygen absorbed in 4 hours	..	..	0.130

SEWERAGE.

The sewage of the whole district, and most of the storm water, is conveyed to the main sewer in Fleet Street, that of the Strand, Torbay Road, Vaughan Parade, Victoria Parade, Beacon Hill, George Street and Swan Street being pumped into the main sewer. The main sewer is 7 feet in diameter, and runs from Fleet Street to Hope's Nose a distance of about two miles. The outfall is at such a level that sewage is discharged at all states of the tide. No method of treatment is adopted as the flow of the current is outward toward mid-channel beyond Berry Head and does not in any circumstances return to the Bay.

As the development of the outlying parts of the Borough progress, sewer extensions become necessary. The Borough Engineer informs me that during the year, 5,400 ft. of 9in. to 15in. sewers have been laid.

In addition relief sewers have been provided in Babba-combe, a total length of 1800 ft. of 18in. to 24in. having been laid.

DRAINAGE OF HOUSES.

Much attention is devoted to this subject. Practically the whole of the villa residences and the majority of hotels and large boarding houses have the most up-to-date sanitary arrangements. The drains except in a few cases where difficulties of levels or distance from sewers prevent it, are connected to the sewers.

COLLECTION AND DISPOSAL OF HOUSE REFUSE.

In my report for 1928 I gave a detailed description of the reconstructed Destructor. That this has acted satisfactorily throughout the year is evident by the lack of complaints by residents in close proximity to the plant.

The removal and destruction of house refuse are carried out by the Corporation under the direction of the Borough Surveyor. In most parts of the town there is a weekly collection, but in certain areas twice a week, while many hotels and large boarding houses have a daily collection.

Motor transport is used for this purpose. The amount collected during the year amounted to 13,353 tons: this shows a decrease of 465 tons on last year.

The Chief Sanitary Inspector reports as follows :—

The many Statutory duties associated with the Department have been carried out in a satisfactory manner and without resort to legal proceedings. Nothing of an exceptional nature has to be recorded.

MEAT AND FOODS INSPECTION.

The periodical inspection of all foods exposed for sale or in preparation for sale has received the attention such an important subject requires.

I am glad to state that it was only found necessary to seize and obtain a Magistrate's Order for one small parcel of food. All other foodstuffs were either voluntarily surrendered or surrendered on request at the time of inspection.

The diseases and other conditions met with during the year call for no comment.

Tuberculosis shows a slight increase in both bovine animals and calves, while a slight decrease is shown in pigs. The carcasses of four cows, one heifer, two calves, six pigs and parts of two pigs were destroyed, whereas during 1934 five cows, parts of three heifers, five pigs and parts of five pigs were destroyed on account of this disease.

Of the total of 563 pigs' heads, nine with a total weight of $86\frac{1}{2}$ lbs, were obtained from shops, having been sent into the Borough from surrounding districts. In 1934, of the 632 pigs' heads, 42 were sent into the Borough, with a total weight of $431\frac{1}{2}$ lbs.

The accompanying tables A to J show the amount of work involved in food inspection.

TABLE A.
DISEASED OR UNSOUND FOOD DESTROYED.

Organs, etc. Destroyed.			DISEASES.											Totals.
			Tuberculosis.	Flukes.	Cirrhosis.	Abscess.	Cysts	Strongyli.	Inflammation.	Pleurisy.	Injury.	Actinomycosis	Unsound.	
Beasts :	Lungs ..	7	—	—	4	1	—	—	—	—	—	—	—	12
	Livers ..	13	48	61	2	—	—	—	—	—	—	—	9	133
	Tongues ..	—	—	—	1	—	—	—	—	—	—	—	—	1
	Heads ..	3	—	—	3	—	—	—	—	—	4	—	—	10
	Carcases ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Cows :	Lungs ..	7	—	—	4	—	—	—	—	—	—	—	—	11
	Livers ..	6	6	15	—	—	—	—	—	—	—	—	5	32
	Tongues ..	—	—	—	—	—	—	—	—	—	—	—	—	—
	Heads ..	4	—	—	—	—	—	—	—	—	1	—	—	5
	Carcases ..	4	—	—	—	—	—	—	—	—	—	—	—	4
Heifers :	Lungs ..	3	—	—	2	1	—	1	—	—	—	2	—	9
	Livers ..	4	59	52	—	—	—	—	—	—	—	2	—	117
	Tongues ..	—	—	—	1	—	—	—	—	—	—	—	—	1
	Heads ..	1	—	—	—	—	—	—	—	—	3	1	—	5
	Carcases ..	1	—	—	—	—	—	—	—	—	—	—	—	1
Calf Carcase ..	..	2	—	—	—	—	—	—	1	—	—	1	—	4
Sheep :	Lungs ..	—	—	—	4	—	103	25	14	—	—	4	—	150
	Livers.. ..	—	263	—	519	—	—	—	—	—	—	2	—	784
	Heads ..	—	—	—	—	—	—	—	—	—	—	2	—	2
	Carcases ..	—	—	—	—	—	—	—	—	—	—	2	—	2
Pigs :	Lungs ..	57	—	—	4	3	27	220	129	3	—	2	13	458
	Livers ..	36	—	80	3	2	—	21	6	—	—	—	2	150
	Heads ..	563	—	—	5	—	—	—	—	—	—	—	—	568
	Carcases ..	6	—	—	—	—	—	—	1	—	—	—	2	9
	Parts of ditto	2	—	—	—	—	—	—	—	—	—	—	—	2
Other Organs :	Mesenteries ..	132	—	—	—	—	—	1	2	—	—	1	2	138
	Spleens ..	8	—	—	—	—	—	—	1	1	—	—	3	13
	Stomachs ..	8	—	—	—	—	—	—	1	1	—	—	3	13
	Kidneys ..	—	—	—	—	66	—	—	1	1	—	—	3	71
	Miscellaneous	16	—	—	7	—	—	13	21	6	2	40	44	149
Other Foods ..	..	—	—	—	—	—	—	—	—	—	—	99	1	100
Chilled Meat ..	..	—	—	—	—	—	—	—	—	53	—	70	10	133
Totals ..		883	376	208	559	73	130	281	177	65	10	228	98	3088

The number of organs or parts of carcasses destroyed shows a decrease of 19.58 per cent. on that of last year.

TABLE B.

1934	CARCASSES EXAMINED				1935
3015	Bullocks	..	..		2882
86	Cows	..	..		80
642	Heifers	..	..		784
27917	Sheep and Lambs..	..	..		27339
8406	Pigs	..	..		8405
3142	Calves	..	..		3252
<u>43208</u>					<u>42742</u>

TABLE C.

CARCASSES DESTROYED

Tuberculosis	..	..	4 Cows' carcasses	..	3862 lbs.
"	..	..	1 Heifer's carcass	..	480 "
"	..	..	2 Calves' carcasses	..	164 "
"	..	..	6 Pigs' carcasses	..	546 "
"	..	..	2 " " parts of	..	72 "
Swine Fever	..	..	2 " " "	..	135 "
Pleurisy and Peritonitis	..	..	1 " carcass	..	160 "
Unsound	..	..	1 Calf's "	..	160 "
Pleurisy and Peritonitis	..	..	1 " " "	..	65 "
Unsound (Chilled)	..	..	2 Lambs' carcasses	..	73 "
			<u>22</u>		<u>5717</u> "

TABLE D.

NUMBER OF CARCASSES EXAMINED IN THE DIFFERENT SLAUGHTER-HOUSES
IN THE BOROUGH

No.	Bullocks	Cows	Heifers	Sheep & Lambs	Pigs	Calves	Total	Visits
1 ..	61	3	65	987	633	26	1775	381
2 ..	14	9	35	479	103	34	674	243
3 ..	139	4	115	986	911	137	2292	408
4 ..	10	1	35	125	81	1	253	284
Abattoir	247	61	410	5121	2871	1331	10041	899
6 ..	42	1	77	865	267	210	1462	191
Totals ..	513	79	737	8563	4866	1739	16497	2406

TABLE E.

NUMBER OF CARCASSES EXAMINED IN THE DIFFERENT SLAUGHTER-HOUSES
OUTSIDE THE BOROUGH.

	Bullocks	Cows	Heifers	Sheep & Lambs	Pigs	Calves	Total	Visits
A ..	—	—	41	260	—	—	301	182
B ..	11	1	38	241	141	—	432	187
Total ..	11	1	79	501	141	—	733	369

These give the number of carcasses examined in the slaughter-houses in the Borough and the two under my supervision in the adjoining district. Compared with last year there was an increase of 138 animals slaughtered. At the Public Slaughter-house there was an increase of 100.

TABLE F.
TOTAL NUMBER OF CARCASSES EXAMINED IN DIFFERENT SLAUGHTER-HOUSES
AND SHOPS

Slaughter-houses	..	..	..	16,999
Shops	..	..	..	25,743
				<u>42,742</u>

Carcasses in shops show a decrease of 1.43% and Slaughter-houses 0.54% Those inspected in shops include chilled carcasses while many home dressed carcasses would have been previously examined in the slaughter-houses.

TABLE G.
DISEASED OR UNSOUND FOOD DESTROYED

1934					1935			
Tons	cwts.	qrs.	lbs.		Tons	cwts.	qrs.	lbs.
2	1	0	4 $\frac{1}{2}$	Voluntarily surrendered	1	8	0	10
11	5	3	2 $\frac{1}{2}$	Surrendered (after inspection)	9	1	2	27
—	—	—	—	Seized	—	—	—	6
13	6	3	7		10	9	3	15

The total weight of food destroyed showed a decrease of 6,376 lbs.

TABLE H.
PERCENTAGE OF ANIMALS INSPECTED FOUND AFFECTED WITH TUBERCULOSIS
IN SLAUGHTER-HOUSES

Bullocks	..	..	..	13 in 524	2.5%
Cows	..	..	..	7 in 80	8.7%
Heifers	..	..	..	2 in 816	0.24%
Calves	..	..	..	2 in 1739	0.115%
Pigs	..	..	..	554 in 5007	11.6%

The above shows the percentage of animals found to be affected with tuberculosis at the time of slaughter. Cows, bullocks and calves show a slight increase, but heifers and pigs a slight decrease.

TABLE I
PREMISES WHERE DISEASED OR UNSOUND FOOD WAS FOUND

Where	Seized	Weight lbs	Voluntarily Surrendered	Weight lbs	Surrendered on Request	Weight lbs	Total Weight lbs	Total Number
Shops ...	21	6	T.B. 7 49	130 593	T.B. 6 25	65½ 103½	195½ 702½	T.B.13 95
Slaughter-houses	—	—	—	—	T.B.870 1900	13791½ 6272½	13791½ 6272½	T.B.870 1900
Siding ...	—	—	123	2405	—	—	2405	123
Other Places	—	—	3	18	84	122	140	87
Totals ...	21	6	182	3146	2885	20355	23507	3088

TABLE J.
TYPE OF FOOD DESTROYED

Nature of Food	No. of Articles	Weight
Frozen and Chilled Meat ..	133	2,900
Tuberculous Meat ..	883	13,987
Other Organs, parts of carcasses ..	1912	6,248½
Rabbits, Tinned Foods, etc. ..	160	371½
	<u>3088</u>	<u>23,507</u>

PUBLIC HEALTH (MEAT) REGULATIONS.

On the whole the Regulations are generally carried out by the different traders concerned. Displaying foodstuffs in the open windows, on tables, and on shelves in the doorway is still practised by a few traders when opportunity permits. This, and the removal of internal organs from the Public Slaughter-house before inspection have been the only matters calling for official action.

SLAUGHTER HOUSES.

The number of Slaughter-houses in the Borough at the dates mentioned are as follows :—

	In 1920	In January 1933	In December 1935
Registered	2	1	1
Licensed	4	6	5
	<u>6</u>	<u>7</u>	<u>6</u>

These premises are visited four or five times a week and the Public Abattoir daily, including Sundays and Bank Holidays.

The two slaughter-houses between Edginswell and Kingskerswell are still under my supervision. Here, the licensed occupiers give every facility for inspection and rarely fail to notify alterations of times of slaughter.

So far no further development has taken place in connection with the acquisition of the slaughter-house at Parkfield Road now used by the majority of butchers in the town.

The Borough Surveyor has been requested to prepare plans and estimates of the probable cost of reconstruction to present-day standards. As soon as these are obtained, it is hoped that thorough modernisation both in the building and in the equipment will be speedily carried out; Torquay will then have premises worthy of an important health resort.

DISPOSAL OF DISEASED AND UNSOUND FOODS.

All diseased and unsound food is burned in the Corporation's Refuse Destructor.

MILK SUPPLY.

There are 84 registered dairymen and 27 cowkeepers in the Borough.

433 visits were paid to dairies and 187 inspections of cowsheds were made. In addition, Mr. C. Masson, the Council's Veterinary Inspector, has made a half-yearly examination of the cows, these totalled 589. Fourteen cases of mastitis and one case of tuberculosis were detected. Nine samples of milk were taken for bacteriological examination and the milk from three animals was withdrawn from sale.

For cases of tuberculosis see remarks under Tuberculosis Order, etc., page 46.

MILK AND DAIRIES (SPECIAL DESIGNATIONS) ORDER, 1923.

Licensed by the Ministry of Health—

- (a) Two producers and distributors of Certified and Grade "A" (T.T.) milk.

Licensed by the Local Authority—

(b) 22 distributors of "Certified," Grade "A" (T.T.), Grade "A" and Pasteurised milk.

Two bottlers of Grade "A" (T.T.) milk.

(c) Three producers and distributors of Pasteurised milk.

Samples of Graded and ordinary milk were obtained and submitted to the Medical Officer for bacteriological examination and analysis.

The results of the bacteriological examinations were as follow :—

TABLE K.
CERTIFIED MILK.

	Mean Count per c.c.	Bacillus coli present in	No. of Samples	Mean Percentage of Fat
	12,401	1 c.c. to 0.01 c.c.	2	
	27,128	1 c.c. to 0.1 c.c.	3	
	27,730	1 c.c.	1	
	6,832	Absent in all dilutions	36	
mean	18,522		42	3.4

42 samples were examined. The colonies ranged from 105 to 49,693, with a mean count of 18,522. Last year the mean count was 5,142 whilst *Bacillus coli* was absent in all samples. The percentage of fat was 3.4 compared with 3.6 last year.

GRADE "A" AND GRADE "A" (T.T.)

	Mean Count per c.c.	Bacillus coli present in	No. of Samples	Mean Percentage of Fat
	5,886	1 c.c. to 0.01 c.c.	15	
	3,620	1 c.c. to 0.1 c.c.	9	
	—	1 c.c.	—	
	8,338	Absent in all dilutions	48	
mean	5,946		72	3.9

The number of samples examined (72), showed an increase of 71.5% compared with those examined in 1934. The standard has not been quite so good in that more samples

failed on the *Bacillus coli* test; but the average bacterial count of 5,946 per c.c. is better than the average of 13,877 per c.c. last year.

It will be seen from the above table that 15 samples failed to meet the standard required for this grade of milk.

The fat contents ranged from 3.0% to 5.75% giving a mean of 3.9% which is slightly higher than the mean of 1934.

PASTEURISED.

	Mean Count per c.c.	<i>Bacillus coli</i> present in	No. of Samples	Mean Percentage of Fat
	2,879	1 c.c. to 0.01 c.c.	24	
	2,616	1 c.c. to 0.1 c.c.	22	
	1,850	1 c.c.	1	
	4,152	Absent in all dilutions	57	
mean	2,874		104	3.71

The number of samples examined (104), showed an increase of 82.5%, which is due to the fact that approximately two samples per week were obtained from the Elementary Schools.

The results show that 23% of the samples contained *Bacillus coli* in 0.01 c.c., while the mean bacterial count was 3,130 per c.c. Of the 74 samples obtained from the schools, 17.6% contained *Bacillus coli* in 0.01 c.c., and the mean bacterial count was 2,458.

The percentage of fat was 3.7 compared with 3.83 in 1934.

ORDINARY MILK.

	Mean Count per c.c.	<i>Bacillus coli</i> present in	No. of Samples	Mean Percentage of Fat
	6,624	1 c.c. to 0.01 c.c.	5	
	4,475	1 c.c. to 0.1 c.c.	7	
	—	1 c.c.	—	
	6,323	Absent in all dilutions	6	
mean	5,807		18	4.1

Only 18 samples were examined during the year, but these were satisfactory; 33.3% were free of *Bacillus coli* and 28% contained *Bacillus coli* in 1/100 c.c. dilutions. The mean count was 5,807 and the mean percentage of fat 4.1 compared with 18,270 and 3.9 respectively last year.

As in past years four samples of milk per week were forwarded to the Devon County Council's laboratory at Exeter; these totalled 219 and included two "Certified", two Grade "A" and 19 Pasteurised. The two "Certified" and one Grade "A" were up to the standard laid down, but one Grade "A" failed on the coli test; as regards the Pasteurised samples, seven failed on the coli test.

The majority of the samples of ordinary milk were taken at the time of delivery to the dairyman, but 45 were taken at the farm at the time of production.

TABLE L.
DEVON COUNTY COUNCIL'S BACTERIOLOGICAL EXAMINATION OF MILK SAMPLES
JANUARY 1ST TO DECEMBER 31ST, 1935.

Period	Mean Count per c.c.	<i>Bacillus coli</i> present in	No. of Samples	Classification
1st Quarter	135,400	1 c.c. to 0.001 c.c.	7	Failed
	42,300	1 c.c. to 0.01 c.c.	7	"
	52,400	1 c.c. to 0.1 c.c.	8	Satisfactory
	34,516	1 c.c.	18	Certified
	21,002	Absent in all dilutions	21	"
	mean 57,043		61	
2nd Quarter	249,442	1 c.c. to 0.01 c.c.	14	Failed
	76,618	1 c.c. to 0.1 c.c.	11	Satisfactory
	22,050	1 c.c.	6	Certified
	4,891	Absent in all dilutions	22	"
	mean 88,258		53	
3rd Quarter	359,202	1 c.c. to 0.01 c.c.	41	Failed
	114,383	1 c.c. to 0.1 c.c.	6	Satisfactory
	34,820	1 c.c.	5	Certified
	13,250	Absent in all dilutions	4	"
	mean 130,414		56	
4th Quarter	113,141	1 c.c. to 0.01 c.c.	21	Failed
	36,600	1 c.c. to 0.1 c.c.	14	Satisfactory
	2,500	1 c.c.	1	Certified
	19,561	Absent in all dilutions	13	"
	mean 42,950		49	

From the above it will be seen that 90 were of " Certified " standard, 39 of Grade " A " quality and 90 failed either on the coli test or bacterial count. Expressed in percentages we have 41.1% of " Certified " and 17.8% of Grade " A " standard and 41.1% failure. However, this shows an improvement on 1934 when the percentages were 30.2%, 22.8% and 46.8% respectively.

42 samples were examined by the County Bacteriologist for the presence of Tuberculosis by means of guinea pig inoculation ; one was reported positive, 39 negative and two inconclusive owing to the premature death of the guinea pig.

It must be emphasised that pasteurisation does not relieve the producers and distributors of milk from maintaining every effort to make milk, as sold to the public, both safe and clean. Pasteurisation is a most valuable help in destroying pathogenic organisms ; but it is a method which needs unremitting care on the part of the dairymen. It must not be used as an excuse for uncleanness and dirty methods ; and unless the process of pasteurisation is carefully controlled by those who work it, a false security may be engendered.

TUBERCULOSIS ORDER, 1925 & PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

All cases of bovine tuberculosis (except when only one gland is affected) found at the time of slaughter are notified to the County Authorities. The name and address of the farmer from whom the animals were purchased are sent with particulars of the extent of the disease.

During the year the particulars of seven animals were notified to the County Authorities.

Under the Order one animal was slaughtered, tubercle bacilli having been discovered in a sample of milk by the County Bacteriologist. The whole of the carcase and internal organs were condemned.

Total compensation payable was £6 5s. 0d.

ICE CREAM.

Frequent inspections are made of the premises where ice cream is prepared or sold, including those of hawkers' barrows.

Fifteen samples were bacteriologically examined and the results are shown in the following table.

TABLE M.

Mean Count per c.c.	Bacillus coli present in	No. of Samples
1470	1 c.c. to 0.1 c.c.	2
—	1 c.c.	—
769	Absent in all dilutions	13
1119		15

The samples were obtained from cafés, sweet shops, hawkers' barrows and the Corporation plant at Beacon Quay. The majority of these samples were the produce of firms who make a speciality of this commodity and as these firms supply most of the retailers a smaller number of samples for examination was required.

During the Summer we had on our register 52 retailers and one wholesaler.

THE MILK & CREAM REGULATIONS, 1912 & 1917,
AND THE FOOD AND DRUGS (ADULTERATION)
ACT, 1928.

The Food and Drugs (Adulteration) Act, 1928; the Public Health (Condensed Milk) Regulations, 1923 and 1927; the Public Health (Dried Milk) Regulations, 1923 and 1927; the Public Health (Preservatives in Foods) Regulations, 1925; are enforced by the County Police on behalf of the County Council. Through the courtesy of Superintendent Martin, I am able to give the following particulars of samples of foods submitted to the Public Analyst.

TABLE N.

Samples taken.	No.	Result of Analysis.		Result of Proceedings (if any).
		Genuine	Not Genuine	
Arrowroot ..	1	1	—	—
Baking Powder ..	1	1	—	—
Brandy ..	1	1	—	—
Butter ..	2	2	—	—
Coffee and Chicory ..	1	1	—	—
Cream ..	2	2	—	—
Flour ..	1	1	—	—
New Milk ..	30	30	—	—
New Zealand Cheese ..	1	1	—	—
Vinegar ..	1	1	—	—
Whisky ..	1	1	—	—

INSPECTION OF OTHER FOODS.

Periodical inspections are made by the District Sanitary Inspectors of all foodstuffs exposed in shops, on hawkers' barrows, and stalls in the Market.

These premises have, almost without exception, been found clean. Concern must still be felt, however, owing to the lack of precautions taken to protect foodstuffs from flies and dust and possible contamination by customers suffering from colds and coughs.

Many high-class provision dealers in other towns provide a glass screen at the front of the counter or cover the foods exposed with transparent paper; either method indicates a superior standard of cleanliness, a fact that should be considered a good business proposition.

Regular visits are paid in the early morning to the Fish Quay to inspect the fish before distribution.

The cargoes of vegetables landed at the harbour consigned from Northern France are also inspected.

CHEMICAL AND MICROSCOPICAL EXAMINATIONS OF FOODS, Etc.

During the year the following articles have been examined in the Laboratory attached to the Department :—

Meat and other foods, viz., 2 Fat for Jaundice ; 14 Rabbits for parasites ; 1 for poisoning ; 2 Bone marrows for Pyaemia ; 1 Pig's heart for Septic pericarditis ; 1 Beast's liver for mould ; 2 Milks, one for Mastitis, and one for colouring matter ; 1 Flour for meal-mite ; 4 Lemonade for *Bacillus coli* ; 1 Tin of Oysters--unsound ; 1 Beast's lungs for Parasites. Total, 30. Water, sewage, etc., 26.

KITCHENS OF HOTELS, Etc.

Section 70 of the Torquay Corporation Act, 1923, empowers inspection of the above.

Frequent inspections are made of the kitchens and larders of cafes and tea rooms, as well as a number of boarding houses and hotels. On the whole, these are found to be in a satisfactory condition, whilst many of the larger hotels are quite elaborate in their equipment.

SHOPS ACT, 1934.

Whilst the Act deals principally with the hours and conditions of employment of young persons, section 10 has added a little more to the duties of the Department.

A rough estimate shows approximately 1160 trades or businesses to be visited. Of course many of these trades will already be under the operation of the Factories and Workshops Act, whilst many will be "one man" concerns.

Since the Act was put into operation, 78 premises have been inspected and eight found to have insufficient W.C. accommodation, whilst two Exemption Certificates have been applied for.

FISH AND CHIP SHOPS.

There are 18 fish and chip shops and four hawkers on the register.

Four applications for licences to carry on the trade were received,—two were granted and two refused, whilst three were renewed for the statutory period of twelve months.

Certainly little trouble has been experienced with these trades, but the odour associated with frying is a source of great annoyance, whilst the discarding of paper bags and wrappings in the street adds much to the litter and general appearance of neglect. This is very prevalent during the holiday periods.

OTHER OFFENSIVE TRADES.

One tripe dressing establishment and three marine store dealers are on the register.

RAG FLOCK ACT.

Five samples of rag flock were procured and analysed in the Public Health Laboratory.

All were found to conform to the required standards as regards chlorine contents. These ranged from 10 to 30 parts per 100,000, giving a mean of 19.5 parts per 100,000.

All upholsterers' premises are periodically inspected and have been found to be kept clean and satisfactory.

CONTAGIOUS DISEASES (ANIMALS) ACTS.

No cases of Foot and Mouth Disease, Epizootic Abortion or Parasitic Mange were notified, but one case of Tuberculosis was notified by the Veterinary Inspector (see cases under Tuberculosis Order). One case of Swine Fever was notified, and two pigs sent to the Public Abattoir for slaughter were found to be affected with the disease.

In connection with the diseases of animals the following cases were examined microscopically or bacteriologically in the Laboratory attached to the Department.

For Tuberculosis 10 ; Actinomycosis 3 ; Swine Fever and Swine Erysipelas 2 ; other diseases 9 ; Milk 1 ; making a total of 25.

INSECT PESTS (DESTRUCTION) ACTS.

No cases were detected or notified during the year.

RATS AND MICE (DESTRUCTION) ACT, 1919.

The activity in rat and mice suppression has been similar as in past years. On the whole, it is safe to say that the rat population has considerably diminished in recent years. The reconstruction of many business premises in the town has done much to eliminate the pests.

During the past twelve months 235 different premises were treated and 3,530 baits supplied.

SANITARY CERTIFICATES.

The drains and sanitary fittings of 20 premises were tested and reports furnished. Twelve certificates were granted. Others are in hand or in abeyance for the time being.

SANITARY INSPECTION OF THE DISTRICT.

Here is given in tabulated form the various matters dealt with by the District Sanitary Inspectors. A large number of visits have also been made with the Medical Officer of Health.

TABLE O.

SUMMARY OF THE SANITARY INSPECTORS' WORK.

					TOTAL
Houses inspected	..	..	..	..	432
Houses visited	..	..	..	..	903
Visits to Stentiford's Hill property	..	..	..	..	67
Visits to Westhill and Hele properties	..	..	..	..	70
Dirty premises limewashed and cleansed	..	..	..	..	67
Rooms disinfected	..	..	..	..	337
Cases of overcrowding abated	..	..	..	..	5
Defective floors repaired	..	..	..	..	40
Water supply laid direct from main to tap over sink	..	..	..	..	10
Defective yards re-paved	..	..	..	..	12
External plastering repaired	..	..	..	..	20
Internal " " "	..	..	..	..	24
Stoves repaired	..	..	..	..	20
Coppers repaired	..	..	..	..	6
R.W.P.'s and gutters repaired..	..	..	..	..	17
Nuisances from keeping fowls and animals	..	..	..	..	10
Ashbins provided for house refuse	..	..	..	..	49
Roofs repaired	..	..	..	..	17
Handrails fixed	..	..	..	..	5
Door and door frames repaired or renewed	..	..	..	..	22

Windows repaired or renewed	..	..	..	70
Yards and outbuildings cleansed	..	..	..	4
Smoke test applied	..	..	..	670
Water tests applied	..	..	..	199
New sets of house drain laid	..	..	..	86
Defective house drains repaired	..	..	..	64
Intercepting traps with fresh air inlets fixed	..	..	..	44
New fresh air inlets fixed	..	..	..	45
Old "Masons" traps and other old types abolished	..	..	..	29
Inspection chambers to drains built	..	..	..	158
Drains ventilated to head of system	..	..	..	81
Soil pipes fixed outside buildings and ventilated	..	..	..	61
Iron and brick traps removed and earthenware gullies fixed	..	..	..	199
Waste pipes from baths, lavatories and sinks trapped	..	..	..	186
Choked drains cleared	..	..	..	67
Defective w.c. cisterns repaired or new provided	..	..	..	95
W.C.'s repaired or new provided	..	..	..	174
Glazed sinks fixed	..	..	..	75
Lavatory basins fixed	..	..	..	138
Housemaids sinks fixed	..	..	..	—
Houses closed as unfit for human habitation	..	..	..	—
Workshops visited	..	..	..	195
Workshop notices	..	..	..	39
Houses repaired	..	..	..	50
Sanitary certificates granted	..	..	..	12
Visits to piggeries	..	..	..	35
" stables	..	..	..	26
" common lodging houses	..	..	..	11
" public elementary schools	..	..	..	117
" private schools	..	..	..	5
Offensive accumulations removed	..	..	..	38
Nuisances from stables and manure pits abated	..	..	..	1
Miscellaneous	..	..	..	263
Inspections, rats and mice	..	..	..	73
Number baits issued, rats and mice	..	..	..	3530
Re-visits in connection with above works	..	..	..	2020
Legal notices	..	..	..	7
Preliminary notices	..	..	..	316
Letters and communications in connection with the work of the department	..	..	..	1262
Verbal notices	..	..	..	61
Written and verbal complaints	..	..	..	278
Slaughter houses visited	..	..	..	2775
Butchers shops	..	..	..	4700
Butchers carts	..	..	..	148
Fish Quay	..	..	..	251
Railway siding	..	..	..	151
Market Hall	..	..	..	92
Other shops	..	..	..	502
Bakehouses	..	..	..	67
Fish and chip shops	..	..	..	67
Marine stores	..	..	..	17
Ice cream shops	..	..	..	43
Tripe boilers	..	..	..	25
Places of entertainment	..	..	..	21
Cafes, etc., visited	..	..	..	29
Carcases inspected—Shops	..	25,743	..	..
Slaughter-houses	..	16,999	— — — —	42742
Number of vessels inspected	..	..	..	173
Weight of food destroyed	..	..	..	23507 lbs.
Visits to dairies	..	..	..	433
Visits to cowsheds	..	..	..	187
Public conveniences inspected	..	..	..	174
Caravans and tents inspected	..	..	..	10
Samples of milk for analysis, for per cent. of fat	..	..	..	171

Samples of milk bacteriologically examined	455
Samples of ice cream bacteriologically examined ..	15
Samples of meat and other foods bacteriologically examined ..	30
Samples of rag flock examined for percentage of chlorine ..	5
Bedding, etc., disinfected	268
Shops inspected under Shops Act	74
Overcrowding survey—houses visited	88

The above summary gives some idea of the variety of subjects that come under the supervision of a Public Health Department and indicates the amount of work carried out by the staff.

Again much credit is due to the District Sanitary Inspectors for the exercise of tact and judgment in dealing with the many interests concerned. This is borne out by the absence of legal proceedings and the small number of statutory notices served.

PORT SANITARY INSPECTION.

During the period under review a total of 576 vessels entered the harbour. Of these 40 were of foreign registration. The coastwise vessels include summer pleasure steamers, private yachts, local fishing boats and sand barges. The majority of the latter are in and out of the harbour daily, and as they are only occupied for a few hours a day, frequent inspection is not necessary.

The number boarded and inspected totalled 173. These were 136 steamers and 37 sailing or motor vessels. 98 were British steamers and 20 sailing; 25 foreign steamers and 30 sailing; included are those inspected by the Medical Officer of Health.

Vegetable cargoes showed a decrease of one on the previous year. Special attention is paid to ships carrying such cargoes, both as regards condition of cargoes and cleanliness of the ship.

The master of every ship boarded is questioned as to the health of the crew and the presence of rats and other vermin. It is rare to be informed of or find evidence of rats, as the cargoes carried, the smallness of the boats, the absence of confined spaces and the short time that elapses between loading and unloading, and the supervision at the port of embarkation prevents rat infestation.

The cargoes carried by the ships inspected were :—Coal, 11 ; potatoes, 4 ; cement, 44 ; slates, 4 ; timber, 6 ; onions, 8 ; sand, 4 ; bog ore, 1 ; ballast, 4 ; general 47 ; making a total of 133.

The type of vessel and tonnage entering the harbour during the period in question is as follows :—

Foreign—

Sailing, steamers and motor	-	-	40
Net registered tonnage	-	-	19,988

British—

Sailing, steamers and motors	-	-	536
Net registered tonnage	-	-	46,113

The number includes all pleasure vessels using the harbour.

LEGAL PROCEEDINGS.

No court proceedings have been undertaken during the year.

FACTORIES AND WORKSHOPS.

A total of 195 visits to Factories and Workshops were recorded.

BAKEHOUSES.

These number 29, one being of the underground type.

TABLE P.
FACTORIES AND WORKSHOPS.

1. INSPECTION OF FACTORIES, WORKSHOPS, AND WORKPLACES.
Inspections made by the Sanitary Inspectors.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (including Factory Laundries) -	68	4	Nil
WORKSHOPS (including Workshop „) -	86	—	„
WORKPLACES (other than Outworkers' Premises)	41	2	„
Total	195	6	Nil

2. DEFECTS FOUND IN FACTORIES, WORKSHOPS, AND WORKPLACES.

Particulars.	Number of Defects.				
	Found.	Remedied	Referred to H.M. Inspector.	Prosecu- tions.	
*Nuisances under P.H. Acts—					
Want of Cleanliness . . .	18	15	—	Nil	
Want of Ventilation . . .	3	3	—	—	
Overcrowding . . .	—	—	—	—	
Want of Drainage of Floors . . .	2	2	—	—	
Other Nuisances . . .	8	8	—	—	
Sanitary Accommodation {	Insufficient . . .	4	4	1	—
	Unsuitable or Defective . . .	2	2	—	—
	Not Separate for Sexes . . .	2	2	—	—
Illegal Occupation of Underground Bakehouses . . .	—	—	—	—	
Total . . .	39	36	1	Nil	

* Including those specified in Sections 2, 3, 7 and 8 of the Factory and Work shops Act, 1901, as remediable under the Public Health Acts.

THEATRES, PICTURE PALACES, ETC.

The Picture Palaces now number six, these are periodically inspected, special attention being paid to the sanitary arrangements and ventilation. All have been found clean and in good order.

LOCAL AND ADOPTIVE ACTS IN FORCE
IN THE BOROUGH.

Practically all the adoptive Acts and Regulations have been put into force by the Council, and where necessary bye-laws framed. The local Acts are the Torquay Harbour and District Act, 1886, and the Torquay Corporation Act, 1923.

THE PUBLIC HEALTH (SMOKE ABATEMENT) ACT, 1926.

Several observations have been made in connection with smoke nuisances, but owing to the intermittent nature and extent of the emissions, a nuisance has been difficult to prove.

TABLE Q.
HOUSING STATISTICS.

Number of houses erected during the year :—

(a) Total (including number given separately under (b)	212
(b) With State assistance under Housing Acts	
(i) By Local Authority	4
(ii) By other bodies or persons... ..	—

(1) *Inspection of Dwelling-Houses during the Year.*

(1) (a) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	220
(b) Number of inspections made for the purpose	903
(2) (a) Number of dwelling-houses inspected and recorded under the Housing Consolidated Regulations, 1925	109
(b) Number of inspections made for the purpose	317
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	—
(4) Number of dwelling-houses (exclusive of those referred to under preceding sub-head) found not to be in all respects reasonably fit for human habitation	106

(II) *Remedy of Defects without Service of Formal Notices.*

Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their officers	38
--	----

*(III) Action Under Statutory Powers During the Year.**(A) Proceedings under Sections 17, 18 and 23 of the Housing Act, 1930.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs	7
(2) Number of dwelling-houses which were rendered fit after service of formal notice	
(a) By owners 	2
(b) By local authority 	—

(B) Proceedings under Public Health Acts.

(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied 	—
(2) Number of dwelling-houses in which defects were remedied after service of formal notice	
(a) By owners 	—
(b) By local authority 	—

(C) Proceedings under Sections 19 and 21 of the Housing Act, 1930.

(1) Number of dwelling-houses in respect of which Demolition Orders were made ...	—
(2) Number of dwelling-houses demolished ...	—

(D) Proceedings under Section 20 of the Housing Act, 1930.

(1) Number of separate tenements or underground rooms in respect of which Closing Orders were made 	—
(2) Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit 	—

During the year the District Sanitary Inspectors have inspected 220 separate dwellings. Of these 109 were dealt with under the Housing Act, whilst a total of 69 notices were served to remedy defects.

212 new buildings have been inspected and 201 were passed for habitation. Of the number inspected, 12 were of a large type, 118 medium size and 82 were small and suitable for the so-called working classes, but of course many of these were purchased for occupation by new residents. Included in this number (212) were 8 flats, 1 shop, and 36 bungalows. During 1934, 247 new buildings were inspected and 244 passed for habitation.

Of the 220 old houses inspected, 106 were found to have one or more defects, but none were in such a state as to call for closure or demolition.

In connection with overcrowding, only five cases came to our notice, either on complaint or during house to house inspection.

The defects met with in this class of dwelling-house are those usually associated with carelessness on the part of the occupiers or neglect by the owners to attend to defects, before they have become too bad or too numerous. A very common defect is rising dampness due to the lack of a damp-proof course and perished external rendering. A cure for the latter is easily obtained, but the former is a much more difficult proposition, as the insertion of a horizontal damp-proof course is necessary, which, although not impractical, is prohibitive owing to the cost in relation to the value of the properties.

The covering of the interior walls with either matchboarding, beaver board, paint or various types of so-called damp-proof paper is practically useless and a waste of money, as such methods do not prevent dampness being drawn into the room, but merely act as a cloak, for the time soon arrives when the heat of the room draws the moisture through these coverings. The better and cheaper method is to treat the walls with one of the well-known damp-proofing compounds as follows:—

Where the wet rises from the floor nearly up to the ceiling, the wall should be completely stripped of plaster. If it extends only two or three feet up, the stripping should be continued at least a foot above the highest point of saturation.

Walls should be rendered with cement and washed sand (not sea or tidal river sand) gauged 1 to 3 and suitable damp-proofing compound added.

This rendering should be applied in one layer $\frac{1}{2}$ inch to $\frac{3}{4}$ inch in thickness, but when saturation is excessive two coats are desirable. The setting coat may be either of lime putty or it may be gauged with any quick-setting plaster; for whenever possible the face of the wall should be of a porous nature, in order to prevent condensation of moisture on its surface. This may appear contradictory in the treatment of damp walls, but it is a most essential matter and is usually overlooked by the inexperienced. Should, however, the wall be of such an impervious nature as to condense the atmospheric moisture, it will, to a certain extent, nullify the steps which have already been taken in order to secure a dry wall. When an impervious surface is papered, condensation is not especially obvious at first, for it is absorbed by the paper and held until automatically dried out by climatic conditions. This process is repeated until a mould is developed under the paper and its presence is disclosed by numbers of small black spots about the size of peas appearing on the surface, eventually ruining the paper.

This condition is fairly common where asbestos sheeting is papered, so that efficient ventilation and artificial heat are necessary, especially in the South-West where a humid atmosphere is frequent.

The method of dealing with damp walls, if carefully carried out and a porous finishing coat provided, is eminently successful in preventing further trouble, and well worth the extra expense incurred.

External rendering should be applied with a 1 inch coat of Portland cement and coarse washed sand and the damp-proofing added as advised by the makers. In exposed situations, two parts of sand only to one of cement will be required and the proportion of damp-proofing compound increased.

Considering the number of properties dealt with, we have experienced little difficulty—except in the case of about three owners—in having the requirements carried out. It is in the case of these few that a more drastic policy should be adopted

SLUM CLEARANCE—LOWER UNION LANE AND TEMPERANCE STREET.

The whole of this area has now been cleared of dwellings, the late occupiers having been re-housed at the Hele Housing Estate.

The East Street Insanitary Area,—the enquiry of the Ministry of Health was held early in January. At the time of writing the result of this enquiry has not been received.

THE COUNCIL'S HOUSING ESTATES.

As these estates come under the control of the Housing Committee and Borough Surveyor, many structural defects are remedied without reference to this department, but many neglectful and dirty tenants came to our notice and were duly reprimanded by the Inspector.

DISTRICT INSPECTION.

Early in the year the Public Health Committee sanctioned the inspection of houses (South-west District) at the rear of Abbey Road and Warren Road and the whole of Melville Hill, Melville Place and Rock Road. In the South-east District, Braddons Street, the lower end of Hillesdon Road and Stentifords Hill were to be inspected.

TABLE R.

HOUSES ERECTED IN THE BOROUGH SINCE 1919.

Year	By Private individuals	By Town Council
1920	11	—
1921	20	86
1922	36	—
1923	67	48
1924	178	—
1925	359	31
1926	361	21
1927	211	195
1928	178	20
1929	205	—
1930	188	8
1931	234	130
1932	231	58
1933	202	—
1934	247	36
1935	212	4
	2,940	637

Only four dwelling-houses have been erected by the Council during the past year, and private building operations showed a slight reduction.

Since 1919 a total of 3,577 new dwellings have been erected. Of this number it is calculated that 1,596 were of a type suitable for the working classes, so taking the average of four persons per house, 6,384 persons have found new accommodation.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1935 AND PREVIOUS TEN YEARS.

YEAR.	Population estimated to Middle of each Year by Registrar General.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		Nett Deaths belonging to the District.			
		Un-corrected Number.	Nett.		Number.	Rate.	of Non-Residents registered in the District.	of Residents not registered in the District.	Under 1 year of age		At all ages.	
			Number.	Rate.					Number.	Rate per 1,000 Nett Births	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1925	35070	508	513	14.6	535	15.2	70	65	33	64	528	15.0
1926	36990	505	507	13.7	546	14.7	80	70	32	63	536	14.4
1927	37400	571	570	15.2	603	16.1	82	88	29	50	609	16.2
1928	38170	559	557	14.5	539	14.1	74	81	28	50	547	14.3
1929	39480	547	529	13.3	605	15.3	74	82	27	51	613	15.5
1930	39480	556	539	13.6	637	16.1	92	69	37	68	614	15.5
1931	42700	594	571	13.3	613	14.3	85	93	32	54	621	14.5
1932	44050	532	499	11.3	628	14.2	19	87	25	50	626	14.2
1933	44050	565	529	12.0	628	14.2	97	104	26	49	635	14.4
1934	44040	544	493	11.2	619	14.05	102	91	24	48	608	13.8
1935	44700	577	535	11.9	623	13.9	112	100	21	39	611	13.6

TABLE II.
CASES NOTIFIED DURING THE YEAR 1935.

NOTIFIABLE DISEASE.	Number of Cases notified.										Total cases notified in each locality.								Total cases removed to hospital.				
	At all ages.	At Ages—Years.									Torre	Waldon	Upton	Ellacombe	Strand	Torwood	St. M.C.H.	Babbacombe		Chelston			
		Under 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55											55 to 65	Over 65	
Small-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria, incl'd'g ..	22	1	6	10	2	1	1	1	..	..	..	..	..	..	..	..	..	..	2	4	..	22	22
Membranous croup ..	9	..	..	1	1	1	1	2	..	..	..	..	..	..	..	..	..	..	2	2	..	1	1
Erysipelas ..	79	18	37	12	4	5	..	..	..	..	..	..	..	..	..	..	..	10	8	8	60	60	
Scarlet fever ..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	3	3
Enteric fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Typhus fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relapsing fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Continued fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever ..	3	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2	2
Cerebro-spinal ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Poliomyelitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Neonatorum ..	3	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
Encephalitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lethargia ..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pulmonary Tuber- culosis ..	84	..	..	..	1	13	18	17	10	13	9	3	6	12	8	17	4	4	13	9	11	..	..
Other forms of ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tuberculosis ..	10	1	3	1	1	1	1	1	2	..	..	..	1	2	2	1	..	1	2	..	1	..	7
Pneumonia ..	21	2	2	..	1	1	1	2	2	3	2	6	3	1	5	2	2	3	2	1	1	..	..
Malaria ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Polio-Encephalitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Pyrexia ..	6	..	..	..	1	..	..	5	..	..	..	..	..	..	..	..	1	..	..	1	3	6	6
Para-Typhoid ..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1	1	1	1
Dysentery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	244	4	29	52	17	22	28	28	19	21	15	9	30	28	29	42	18	9	32	24	32	103	103

TABLE III. CAUSES OF, AND AGES AT DEATH DURING THE
YEAR 1935. (see Notes page 66).

CAUSES OF DEATH	Net deaths at the subjoined ages of Residents whether occurring within or without the District											Total Deaths whether of Residents or non Residents in Institutions in the District	
	All ages	under 1	1 and under 2	2 and under 5	5 and under 15	15 & under 25	25 & under 35	35 & under 45	45 & under 55	55 & under 65	65 & under 75		75 & over
1	2	3	4	5	6	7	8	9	10	11	12	13	14
All { Certified .. causes { Uncertified ..	598 13	20 1	5	3	5	16	21	29	50	81 3	144 4	224 5	144 2
1 Enteric Fever ..	—	—	3	—	1	—	—	—	—	—	—	—	1
2 Measles ..	4	—	—	—	—	—	—	—	—	—	—	—	1
3 Scarlet Fever ..	—	—	1	—	—	—	—	—	—	—	—	—	—
4 Whooping Cough ..	1	—	—	—	—	—	—	—	—	—	—	—	—
5 Diphtheria ..	1	1	—	—	—	—	—	—	—	—	—	2	1
6 Influenza ..	2	—	—	1	—	—	—	—	—	—	—	—	—
7 Encephalitis Lethargica ..	1	—	—	—	—	—	—	—	—	—	—	—	—
8 Cerebro-Spinal Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—
9 Phthisis (Pulmonary Tuberculosis) ..	38	—	1	—	1	9	5	9	8	5	2	—	24
10 Other Tuberculous diseases ..	4	—	—	—	—	1	—	—	—	—	1	—	4
11 Syphilis ..	—	—	—	—	—	—	—	—	—	—	—	—	—
12 General Paralysis of the Insane, Tabes Dorsalis ..	2	—	—	—	—	—	—	1	1	—	—	—	—
13 Cancer ..	93	—	—	—	—	—	2	2	11	17	33	28	21
14 Diabetes ..	6	—	—	—	—	—	—	—	—	1	2	3	—
15 Cerebral Hæmorrhage ..	51	—	—	—	—	1	—	1	3	7	14	25	4
16 Heart Disease ..	170	—	—	—	—	3	1	2	9	28	55	72	17
17 Aneurysm ..	1	—	—	—	—	—	—	—	—	—	—	1	—
18 Other Circulatory Diseases ..	33	—	—	—	—	—	—	1	—	1	2	29	1
19 Bronchitis ..	25	—	—	—	—	—	—	1	1	3	3	17	—

20	Pneumonia, all forms	38	1	—	2	—	—	—	—	5	8	10	10	15
21	Other Respiratory Diseases	5	2	—	—	—	—	—	—	—	—	—	—	—
22	Peptic Ulcer	8	—	—	—	—	—	—	—	1	3	3	—	6
23	Diarrhoea, etc.	1	1	—	—	—	—	—	—	—	—	—	—	—
24	Appendicitis	6	—	—	—	—	—	—	—	—	—	—	—	7
25	Cirrhosis of liver	1	—	—	—	—	—	—	—	—	—	—	—	1
26	Other Diseases of Liver, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—
27	Other Digestive Diseases	2	—	—	—	—	—	—	—	—	—	—	—	2
28	Acute and Chronic Nephritis	23	—	—	—	—	—	—	—	6	1	7	7	5
29	Puerperal Sepsis	2	—	—	—	—	—	—	—	—	—	—	—	2
30	Other Puerperal Causes	2	—	—	—	—	—	—	—	—	—	—	—	4
31	Congenital Debility and Malformation, including Premature Birth	11	11	—	—	—	—	—	—	—	—	—	—	5
32	Senility	8	—	—	—	—	—	—	—	—	—	—	8	—
33	Suicide	5	—	—	—	—	—	—	—	1	2	—	—	—
34	Other Violence	15	2	—	—	—	—	—	—	—	2	—	5	5
35	Other Defined Causes	51	2	—	—	—	—	—	—	4	6	9	22	20
36	Causes ill-defined or unknown	1	1	—	—	—	—	—	—	—	—	—	—	—
		611	21	5	3	5	16	21	29	50	84	148	229	146

SPECIAL CAUSES—
included in
above figures

35
Small-pox

—

75—85	85—95	95—105
158	65	6

NOTES TO TABLE III.

The classification and numbering of Causes of Death are those of the "Short List" in the Manual of the International List of Causes of Death.

- (a) All "transferable deaths" of residents, *i.e.*, of persons resident in the district who have died outside it, are *included* with the other deaths in columns 2-10. Transferable deaths of non-residents, *i.e.*, of persons residents elsewhere in England and Wales who have died in the district, are in like manner *excluded* from these columns.

The total deaths in column 2 of Table III. should equal the figures for the year in column 12 of Table I.

- (b) All deaths occurring in Institutions for the sick and infirm situated in the district, whether of residents or non-residents are to be entered in the last column of Table III.

- (c) All deaths certified by registered medical practitioners, and all inquest cases, are to be classified as "Certified"; all other deaths are to be regarded as "Uncertified."

- (d) Deaths from Enteritis are included under Title 22, "Diarrhœa, etc."

TABLE IV.

INFANT MORTALITY DURING THE YEAR 1935.

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

CAUSES OF DEATH.		Under 1 Week	1-2 Weeks.	2-3 Weeks.	3-4 Weeks	Total under 1 Month.	1-3 Months.	3-6 Months.	6-9 Months	9-12 Months.	Total Deaths
ALL CAUSES.	Certified ..	5	-	-	1	6	10	1	2	1	20
	Uncertified ..	1	-	-	-	1	-	-	-	-	1
Measles ..		-	-	-	-	-	-	-	-	-	-
Whooping Cough ..		-	-	-	-	-	-	-	-	-	-
Diphtheria ..		-	-	-	-	-	-	-	1	-	1
Influenza ..		-	-	-	-	-	-	-	-	-	-
T.B. of nervous system ..		-	-	-	-	-	-	-	-	-	-
T.B. of intestines and peritoneum ..		-	-	-	-	-	-	-	-	-	-
Other T.B. diseases ..		-	-	-	-	-	-	-	-	-	-
Syphilis ..		-	-	-	-	-	-	-	-	-	-
Meningitis ..		-	-	-	-	-	-	-	-	-	-
Convulsions ..		-	-	-	-	-	-	-	-	-	-
Bronchitis ..		-	-	-	-	-	-	-	-	-	-
Pneumonia (all forms) ..		-	-	-	-	-	-	-	1	-	1
Other respiratory diseases ..		-	-	-	-	-	2	-	-	-	2
Inflammation of stomach ..		-	-	-	-	-	-	-	-	-	-
Diarrhoea and Enteritis ..		-	-	-	-	-	1	-	-	-	1
Hernia, intestinal obstruction ..		-	-	-	-	-	-	-	-	-	-
Congenital Malformations ..		2	-	-	-	2	3	1	-	-	6
Congenital Debility ..		-	-	-	1	1	-	-	-	-	1
Premature Birth ..		3	-	-	-	3	1	-	-	-	4
Injury at Birth ..		-	-	-	-	-	-	-	-	-	-
Atelectasis ..		-	-	-	-	-	-	-	-	-	-
Icterus neonatorum ..		-	-	-	-	-	-	-	-	-	-
Disease of Umbilicus ..		-	-	-	-	-	-	-	-	-	-
Pemphigus neonatorum ..		-	-	-	-	-	-	-	-	-	-
Other diseases of early infancy ..		-	-	-	-	-	1	-	-	-	1
Suffocation ..		-	-	-	-	-	2	-	-	-	2
Inattention at Birth ..		1	-	-	-	1	-	-	-	-	1
Other Causes ..		-	-	-	-	-	-	-	1	-	1
TOTALS ..		6	-	-	1	7	10	1	2	1	21

Nett Births in the year	{	Legitimate	496
		Illegitimate	39
Nett Deaths in the year	{	Legitimate	19
		Illegitimate	2

BOROUGH OF TORQUAY.



Meteorological Report

FOR THE YEAR 1935

WITH EXTREMES AND COMPARISON WITH
AVERAGES OF PRECEDING YEARS

BY

C. BELLINGER, F.R. Met. Soc.

BOROUGH METEOROLOGIST.

BOROUGH OBSERVATORY,
PRINCESS PIER,
TORQUAY.

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

GENTLEMEN,

I beg to submit the following Meteorological Report for the year 1935.

Observations have been taken twice daily throughout the year, at 9 a.m. and 5 p.m. (Local Time), and at 10 a.m. and 6 p.m. during Summer Time. The Readings are posted each morning at the Observatory, Princess Pier, and the various stations in the town; also at St. Marychurch Town Hall. The Evening Readings have been telegraphed, as usual, in code, to the Meteorological Office, London, from whence they are distributed to the various Press Agencies for publication in the morning papers. During the Summer Season, morning telegrams are also sent to the Meteorological Office, giving particulars of the weather at 10 a.m. (S.T.). This information is published in several of the evening newspapers in the Provinces.

Daily records of amounts of Ultra Violet Rays in the atmosphere are sent to the "Times," London, and reports are sent to the Sunlight League, London, who re-issue them in their Monthly and Yearly Publications.

Weather reports are handed in at the offices of the "Western Morning News and Mercury" and "Torbay Herald and Express" every morning. The Weekly Reports, besides being sent to the Meteorological Office, are also forwarded to the "Torquay Times" and "Torquay Directory" as well as several private individuals.

A weekly and monthly review of the type of weather experienced is published in the "Torquay Directory," "Torquay Times" and "Torbay Herald and Express."

As in past years, the Monthly Report, which shows comparison with previous years, is published in the local papers; also posted up at the Observatory and other places in the town. Copies are also forwarded to the Royal Meteorological Society, British Rainfall Organisation, and the Torquay Natural History Society. A separate Monthly

Report, giving our twenty-seven instrumental and other readings twice daily, is sent to the Meteorological Office, London.

The daily, weekly and monthly records exhibited at the Observatory, with the self-recording Thermograph and Barograph, are a source of considerable interest to visitors, for it is quite a common sight during the summer months to see fifteen to twenty persons reading the records displayed and commenting on the amount of sunshine and temperature experienced here compared with other places. Many visitors, before planning their daily itinerary, wait for the daily forecast to be posted.

The scheme of insurance initiated by the Pluvias Insurance Company and various newspapers and journals leads to a careful study of the daily rainfall, and many applications have been received for copies of our rainfall statistics.

The observations are also published, with others relating to the County of Devon, in the Annual "Climate of Devon" Report by the Devonshire Association and the "Medical Directory."

Numerous private enquiries, newspaper articles, etc., concerning the climate here have also been replied to during the year.

Considerably over a thousand telegrams, reports and communications have been despatched.

The annual inspection of the Meteorological Stations of The Borough was carried out by W. J. Thomas, Esq., from the Air Ministry, London, on 13th May, 1935, when all the instruments were tested with Kew standard instruments.

I am, Gentlemen,

Yours obediently,

C. BELLINGER,

Meteorological Observer.

OBSERVATORY AND INSTRUMENTS.

Torquay is situated in North Latitude, $50^{\circ}28'$ and West Longitude, $3^{\circ}31'$. The town faces south-west, being situated on the shores of Torbay. Many parts of the town lie on hills 200 to 250 feet above sea level, from which magnificent views of Torbay and Dartmoor can be obtained.

The geographical position of these hills is so situated as to protect the town from the cold winds of the north and east, while the River Dart to the west and south-west, the River Teign to the north, and the Bay to the south, have each a steadying effect on the climate that extremes of temperatures are rare.

The Observatory is organised and maintained by the Town Council, and is under the supervision of the Meteorological Office, Air Ministry, London, and is situated in the Abbey Park Gardens.

The Barometer, Thermometers and Rain Gauge have been verified at Kew Observatory, and are regularly observed by an Inspector on the staff of the Meteorological Office. Readings are all corrected for instrumental errors and certificates from the N.P.L. issued.

The Hygrometrical results are deducted from the daily morning readings of the Dry and Wet Bulb Thermometers by means of Regnault's Tables.

The averages for Sunshine are the result of 36 years for Temperature and Rainfall of 59 years, and for Pressure of 51 years' observations.

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

*The **Barometer** is a Fortin standard, and is read twice daily. All readings are corrected for Temperature and reduced to sea level.

Two **Barographs**. One is placed in the window of the Observatory, and the one presented by the late Sir Thomas Bazley, Bart., is exhibited at the entrance to the Pavilion.

A **Thermograph** is also placed in the window of the Observatory.

The Meteorological Observatory in Abbey Park Gardens is an enclosed site approved by the Meteorological Office, and the disposition of the various instruments are placed in accordance with the wishes of that Authority.

The Thermometers are contained in a **Stevenson Screen** of approved pattern, with double louvred sides, and consist of **Dry Bulb** and **Wet Bulb Thermometers** and **Maximum** and **Minimum Thermometers**.

Rain Guage 5 inch rim of the Snowdon pattern.

An "**Hyetograph**" **Self Recording Rain Guage** is also installed for recording exact time and duration of Rainfall and of special service in recording Rainstorms.

Grass Minimum Thermometer

Earth Thermometer, 4 feet in the ground.

Ozonometer. This is Dr. Moffatt's pattern which is a copper box with a double covering of fine wire gauze, so as to allow the free access of air to the strips of paper suspended therein. This instrument is in a double louvred screen.

The **Sunshine Recorder** is a Campbell Stokes improved pattern, with an adjustment for Latitude, and consists of glass sphere which brings the sun's rays to a focus on a card mounted in a metal bowl which is approximately spherical in shape. The movement of the burn is opposite to that of the sun. Both the recorder and the card must be made to a standard specification, otherwise records from different instruments will not be comparable with one another. The Sunshine Cards are forwarded at month ends to the Meteorological Office for examination and verification.

TORQUAY WEATHER, 1935

Speaking of the climatic conditions during the past year, they were not as favourable as the past few years, but it is found that the total sunshine record came near to the average, there being more sunny days. Rainfall record abnormal, due to more heavy falls in short periods and mean temperature part of a degree above the average.

The holiday weather, with the exception of Easter, which was rather disappointing in the sense that it was unsettled, was fair or fairly fine, and Jubilee Day, May 6th, and August Bank Holiday, 5th, were extremely fine, sunny and warm, the former day more outstanding with very warm summerlike conditions. This day was one of the finest in the year and was proved to be so when eleven days later, May 17th, very cold wintry weather was experienced, with a fall of snow for less than an hour.

Broadly speaking, the summer was short, but very sunny, dry and warm. An equinoctial gale of unusual severity occurred on September 16th, in latter half, to such extent that slates and chimney pots were dislodged from roofs and trees blown down.

Sunshine.—The total sunshine record for the year was 1755.4 hours, 40 per cent. of possible duration and gives a mean daily amount of 4.81 hours. This total is only 23.15 hours below the average for 36 years. Of the month's totals, six show an excess, January, July, August, October, November and December, the months of greatest differences being January, 13.75 hours, July, 56.07 hours and December, 13.72 hours. The months with greatest deficiencies were May, 45.64 hours, June, 36.30 hours, and September, 16.79 hours. The sunniest day was recorded in June, the 28th, with 15.6 hours. July was the sunniest month, recording 290.0 hours, 59 per cent. of possible duration, and giving a mean daily amount of 9.35 hours. The winter months were fairly sunny. There were 43 sunless days as compared with 60 last year. There were 1824.7 hours in 1934.

With the sunshine record it is worthy to note the tabulated records of cloud amounts, taken twice daily at 9 a.m. and 5 p.m. (G.M.T.) In comparison with last year there were more instances of cloud amounts 4—6, *i.e.* 40—60 per cent. clouded, and less instances of overcast sky. The mean cloud amount was 5.9, the same as 1934.

Rainfall.—The total rainfall for the year was 38.14 inches, giving a mean daily amount of 0.10 inch. This total is 4.05 inches above the average for 59 years, and working on the much shorter average of 5 years, it is 3.75 inches above. There were

five months which showed a deficiency, January, March, July, August and October, the most noted deficiencies being January, 2.96 inches, March 1.41 inches, and July 1.85 inches.

The months with the largest amounts above the average were February 1.43 inches, April 1.43 inches, June 2.44 inches, September 1.59 inches, and November 2.56 inches. The days with the greatest falls in 24 hours were June 6th, 1.13 inches, August 30th, 1.04 inches, and November 14th, 1.12 inches. There were 184 rainy days as compared with 171 last year. Of these 139 recorded amounts of .04 inch or more, and 45 amounts between .01 inch and .03 inch. The number of days on which a 'trace' only occurred was 33. The month with most rainy days was September with 23, others in order were November, 22, and June 20. November was the wettest month recording 6.31 inches, giving a mean daily amount of .21 inch, this total is much less than the wettest month in 1934, for December recorded 10.33 inches. January and July had the least number of rain days, having 7 and 4 respectively. The driest month was July with 0.32 inches and 1.85 inches below the average. Between June 26th and August 23rd, nearly two months, only .54 inch was recorded. This dry period brought on a deficiency of 0.45 inches at the end of August for year to date, but the rainy conditions which prevailed in the last 9 days of this month continued throughout September, bringing total for year to date 1.59 inches above the average, so that fears for a prolonged drought were checked. The year 1934 recorded 33.87 inches.

Temperature : Screen.—The mean temperature (mean of maximum and minimum), for the year was 51.7° . Although this is 0.2° less than 1934's mean, it is 0.3° above the average for 59 years, and taking the much shorter average of 5 years it is 0.4° above. The mean maximum was 57.5° , being 0.6° below last year, and the mean minimum was 45.9° , which is 0.1° above last year. The mean daily range was 11.6° . The mean temperature of the dry bulb at 9 a.m. at 51.6° is 0.5 degree less than last year. The mean of the dry bulb readings at 9 a.m. and 5 p.m. is 53.1° , 0.4° less than last year. The mean of the wet bulb readings at 9 a.m. and 5 p.m., is also taken, is 49.4° , which is also 0.4° less than last year. From the difference between these two means, viz.: -3.7° , the mean of relative humidity is found to be 76 per cent., which is the same as last year. The mean temperature of the grass minimum thermometer at 42.3° is 0.2° higher than last year.

HIGHEST.—February was the mildest of the winter months, mean temperature this month was 45.1° , being 1.9° above the 59 years average and 4.3° above the 5 years average. July was the

warmest of the summer months, mean maximum 71.6° and mean minimum 57.3° , giving a mean of 64.5° , which was 2.6° above the 59 years average and 2.4° above the 5 years average. This month also recorded highest shade temperature on 14th, at 84.0° , the next highest was 82.0° on 13th inst. The highest reading of the dry bulb at 9 a.m. (G.M.T.), 10 a.m. (S.T.), read at 75.3° on 24th June, and at 5 p.m. (6 p.m. S.T.), read at 79.5° on 14th July. May 6th recorded a maximum of 74.0° , which was abnormally high for the time of year. August had the greatest mean daily range at 14.9° , and November with 12.3° was greater than usual.

LOWEST.—December was the coldest month of the year, mean maximum 47.0° and mean minimum 37.4° , giving a mean of 42.2° . This is much lower than the exceptionally mild December of 1934 by 8.1° , but higher by 4.4° than the mean of December, 1933. The differences from averages were 2.0° and 2.1° below respectively on the 59 years and 5 years. The lowest shade temperature was recorded on 22nd, this month, at 24.4° , which is 7.6 degrees below freezing point. The lowest temperatures of the dry bulb readings at 9 a.m. and 5 p.m. were also recorded on 22nd December, reading at 27.8° and 31.8° respectively. May 17th recorded minimum night temperature at freezing point, a most unusual experience for this time of year. The month with the lowest mean daily range was January, 8.4° , and June had a smaller range than usual at 10.4° .

GRASS.—The mean temperature of the grass minimum thermometer was 42.3° , being 0.2° higher than last year. There were 42 ground frosts, *i.e.* days on which grass minimum recorded 30.4° or below, against 50 last year. Of these, 9 occurred in January, 8 in March, 7 in November and 7 in December. There was one record of ground frost in May, 4.1° on 17th, this is most unusual. The month with the lowest mean temperature was November, 34.1° , next in order were March 34.4° , and December 34.6° . December recorded the lowest temperature, on 22nd it read 20.2° , denoting 10.2 degrees of ground frost, which is greater than the maximum amount usually experienced. This occurred during a cold period, 19th—23rd, ice was forming and there were high hopes of skating, but a very mild period set in on the 24th, and remained so to the end of the month, so that this hope was spoiled.

Barometer—The mean barometric pressure, reduced to Mean Sea Level, for the year was 29.950 inches. This is .030 inches below the average for 51 years, and .039 inches below last year.

HIGHEST.—The month with the highest mean was January, the mean was 30.330 inches and 0.267 inches above the average. This month recorded the highest daily reading at 30.722 inches on 21st. March recorded next highest figures, the mean at 30.179 inches was 0.243 inches above the average, and highest daily reading was 30.627 inches. July's mean at 30.141 was 0.139 above the average.

LOWEST.—December recorded the lowest mean pressure, the mean at 29.645 inches was 0.306 inches below the average, although this mean was not quite so low as December, 1934, when it was 29.580 inches. November had the next lowest mean, at 29.678 inches, being 0.253 inches below the average. February recorded the lowest daily reading at 28.765 inches. It is interesting to note that February, 1934, recorded highest mean pressure for year at 30.475 inches, as compared with 29.792 inches this month. June's mean at 29.895 was 0.133 inches below the average.

RANGE.—The highest daily reading was 30.722 inches, recorded on 21st January, and the lowest was 28.765 inches, recorded on 25th February, which gives an extreme range of pressure of 1.957 inches, this is 0.288 inches less than last year. The month with greatest extreme range was December, 1.667 inches, February next, 1.601 inches. The month with least extreme range was May, 0.637 inches, July next, 0.713 inches.

There were more experiences of gales than previous year, February and April having more wind disturbance than usual. The stormiest period was latter half of February, W.S.W. gale blew in afternoon of 16th, but on 26th night came from S.E. and caused heavy swell on sea, harbour in state of turmoil, damage to craft and slates and chimney pots dislodged, all happened in early hours of 27th, wind being calm at 9 a.m. With one exception, there was less wind disturbance in the last four months of the year. An experience of equinotical gales, short, but unusually severe, occurred on 16th September, southerly gale, to such extent that slates and chimney pots were dislodged and trees blown down. Taken twice daily, there were lesser number observations of wind force 4—7, moderate to high wind and greater number of force 1—3, viz.: light to gentle breezes, compared with last year. September showed greatest number observations of force 4—7, having 50 out of 60 during the month. The general wind disposition came from the W.S.W., N.N.W., W., W.N.W., N.W., S.E., and the mean force is computed at 3.66, light to moderate. February had the greatest mean daily force at 4.2, and August had the least at 3.2.

There were records of hail showers in January, February, November and December.

Snow or sleet, of short duration, occurred on four occasions, once in February and May, and twice in March, against one last year. A full report of these phenomena will be found in the monthly resumé.

Thunder and lightning on 10 days, against 8 last year, June had 4 of these. The experiences in most cases were very minor ones, noteworthy dates were 25th June and 18th July, these days were marked by a heavy thunder shower in the afternoon, only a little thunder and lightning occurred.

The range of visibility was very good, mainly clear for several months, only a small amount of fog experienced, on 16 occasions, and less than last year.

Ozone.—The record of ozone in the atmosphere is an important one from a health point of view, the mean daily amount is 35 per cent. of possible, 1 per cent. more than last year. April showed the largest mean daily amount at 55 per cent. August had the smallest, at 22 per cent., January and July next with 23 per cent. There was only one day with no record of ozone in August, 2 in July, but 13 in January.

The method adopted to obtain these records is to suspend strips of specially prepared bibulous paper—soaked in Iodide of Potassium and Starch—in a copper box, with a double covering of fine wire gauze so as to allow the free access of air to the suspended papers, protected from the direct rays of the sun, and also the rain. The papers, when affected by ozone, are tinged with various shades of brown or blue, the intensity of which is measured by a scale of ten graduations of colour, and the true value obtained by development in water. What is said about ozone is that it is a modified form of oxygen gas, and dependent for its abundance mainly on the free development of atmospheric electricity; one thing is quite clear, namely—that it is a powerful disinfectant, and unites readily with foul gases given off from decaying vegetable and animal matter, and by depriving them of their noxious qualities is a great purifier of the air. An instrument for testing its presence or absence is not only interesting to the man of science, but is practically useful to the sanitary reformer.

Humidity—The mean value of relative Humidity, deduced from the readings of the dry and wet bulb thermometers, at 9 a.m., is 79 per cent., and at 5 p.m., 73 per cent., giving a mean of 76 per cent., which is a very satisfactory record for a seaside town.

The mean of relative humidity for each month at 9 a.m. and 5 p.m. G.M.T. is here given:—

		9 a.m.	5 p.m.
January	...	79 per cent.	74 per cent.
February	...	81 „	75 „
March	...	84 „	74 „
April	...	74 „	71 „
May	...	73 „	64 „
June	...	80 „	76 „
July	...	74 „	66 „
August	...	74 „	67 „
September	...	81 „	75 „
October	...	82 „	75 „
November	...	84 „	80 „
December	...	84 „	78 „

Ultra Violet Rays.—The recording of Ultra Violet Rays in the atmosphere has given very good results, the clear pure air of the Borough affords excellent opportunity for recording these rays, which on the basis of the formulae as given by Professor Sir Leonard Hill, F.R.S., i.e.: that from half to one unit of the rays is sufficient to cause perceptible sunburn, clearly indicates that the amounts recorded in the Borough are true to the formulae. The Professor says further: This sunburn, although in itself is unimportant, is an outward sign of the tonic action of light on the skin and consequently on the blood stream.

The total number of units of ultra violet rays recorded for the year is $1376\frac{1}{2}$, or a mean daily of 3.77 units. The total is 278 units less than last year, but greater than the previous year. The monthly totals are given in tabulated form.

Ultra Violet Radiation recording, concerning which the Borough of Torquay has the distinction of being one of the pioneers to further this science brought about by the eminent scientist, Sir Leonard Hill, F.R.S. During the past 12 months the number of local Authorities who have taken up this work have increased; they realise the value of this discovery, and the opportunity given to obtain the apparatus invented by the Professor for the purpose. The records of the Borough of Torquay are sent regularly to the Sunlight League for publication in their Journal "Sunlight" and other publications.

Professor Sir Leonard Hill says : " The figures thus obtained prove that the quality of our sunlight need be no negligible factor in maintaining and restoring health. When it is realised that from half to one unit of this powerful tonic rays is required to cause perceptible sunburn it will be seen that if full and sensible use were made of these rays they would be strong enough to prove beneficial to health : further, the fact of these rays being present should be sufficient encouragement to local authorities to make a fuller and better use of their parks and open spaces for the benefit of their townspeople."

For the past eight years Torquay has been recording these rays, and from the records now before us there is ample evidence that there is an abundance of the tonic rays in our atmosphere. We are satisfied that our recording system is perfectly correct, and that in the season there are ample rays to sunburn and brown our visitors and townspeople.

Torquay records not only by the vitaglass phials but also by ordinary glass phials, with marked difference in the results. The idea of this is to prove the units of biologically active rays present. As a practical illustration of this use of two phials, one vitaglass and ordinary glass together, in August last, the number of units recorded in the vitaglass phial was $198\frac{1}{2}$ and in the ordinary glass phial $59\frac{1}{2}$ units. Deducting this latter total from the former left a balance of 139 units, which were the real active rays ; this means that there was a mean daily value of 4.48 units of active rays throughout this particular month ; and so this ratio of active rays goes on from March to September inclusive, which shows that the atmosphere of the Borough is clear and good. Active rays are present when the air is clear and bright clouds are passing, even if there is no sun shining.

Careful examination by Sir Leonard Hill, F.R.S., of the records received by the Sunlight League during the past winter months has shown that a large number of seaside towns in the British Isles receive a supply of these health-giving rays equal to most foreign resorts. Eighteen British towns received during last winter a sufficient amount of these rays to cause tanning of the skin.

MEAN DAILY UNITS OF BIOLOGICAL ACTIVE RAYS

from Reading after deduction of glass tube.

1935.		Absolute Active Rays Units.	Mean Daily Units.
January	...	11½	0.37
February	...	18	0.64
March	...	70	2.26
April	...	93½	3.12
May	...	83	2.68
June	...	119½	3.98
July	...	166½	5.37
August	...	139	4.48
September	...	101½	3.38
October	...	40½	1.31
November	...	22½	0.75
December	...	15½	0.50
Total		881	Mean Daily 2.41

Report on the Weather for 1935

JANUARY

Weather fairly fine prevailed during this month, good sunshine record, only 4 days sunless, dry, only .50 inch rainfall, mild generally, cold snaps, 7th—11th and 27th—30th, night temperatures. Only one experience of a gale, on 25th.

The total sunshine record was 77.90 hours, giving a mean daily amount of 2.51 hours. This total is 13.75 hours above the 36 years average. A spell of most sunny weather occurred 26th—29th, totalling 22.2 hours, the day of most sunshine was the 27th, with 8.2 hours. The total is 30 per cent. of possible duration.

The total rainfall, .50 inch, gives a mean daily record of only .02 inch. This total is 2.96 inches below the average for 59 years, and 3.64 inches below the average for 5 years, worked from records tabulated since the establishment of Abbey Park as an official recording station in 1930. There were only 7 rainy days *i.e.* days which recorded an amount of .01 inch or more, 5 of which recorded .04 inch or more. The days of greatest amount were 11th with .16 inches, and 25th, .18 inches. This is the driest January on record, the nearest approach to this month's record is 0.78 inches in 1911, and next 0.80 in 1914.

The mean shade temperature was 43.9°. This is 1.0° above the 59 years average and 0.8° above the 5 years average. The mildest period was in the first three days, maximum day temperature recorded 56.0° on 1st and 2nd, and minimum night temperature 52.0° on 2nd. A cold period occurred 7th—11th, minimum in screen recorded freezing point or below, the lowest was 28.8° on 9th, and grass minimum read 24.8°, recording 5.6° ground frost, which was the greatest of 9 ground frosts recorded in the month. The lowest maximum day temperature was 39.0° on 8th, and lowest dry bulb at 9 a.m. was 30.6° on 9th. Temperatures were a little higher in the cold snap 27th—30th.

The mean height of barometric pressure, 30.330 inches is 0.267 inches above the 51 years average. The mean height 15th—25th was 30.614 inches, the highest reading for the month was 30.722 inches on 21st. There were very few days with pressure below normal, so that there were very few stormy periods in the month. Pressure dropped .8 inch 24th—25th,

reading at 29.618 inches on 25th, being the lowest for the month. This fall was marked by a very windy period, wind backed to S.W. at night of 24th, force increasing to gale at midnight, veering west, moderate gale force wind was maintained throughout 25th and until 26th morning, with gusts of gale force, accompanied by squally showers, wind slowly subsided. Pressure rose equally as quick as it fell and weather again became dry to end of month.

The prevailing winds were N.N.W., N.W. The mean force was 3.5, equivalent to a gentle or moderate breeze.

The mean cloud amount was 5.9. This is one-tenth or 1.0 less than the average.

The range of visibility was good generally and very good at times. A moderate fog occurred on evening of 9th and morning of 10th, being the only experiences in the month.

The mean relative humidity at 9 a.m. was 79%, and at 5 p.m., 74%, giving a mean daily amount of 77%. This is 8 per cent. below the average.

The mean daily amount of ozone was 23%. There was no ozone on 13 days. The greatest daily amount was 80% on 25th.

The total record of Ultra Violet Rays was 38 units, which gives a mean daily value of 1.22 units. The total of absolute rays after deduction of the glass phial from the vita phial is $11\frac{1}{2}$ units, giving a mean of 0.37 unit active rays.

The mean temperature of the sea was 47.7° . Taken at 9 observations, the highest reading was 51.0° on 1st, and the lowest was 44.5° on 29th.

Slight hail accompanied slight rain showers on morning of 12th, being the only wintry precipitation that occurred in the month.

Of optical phenomena, Lunar Coronae were observed on nights of 11th and 12th, the colours being, white, orange, violet, green, yellow and red. Rainbows were observed on 5th, 11th, 12th, 13th, 15th and 26th. A brilliant meteor was seen in the sky at 9.25 p.m. on 3rd, travelling in a northerly direction, broad with a long tail, beautiful colours.

FEBRUARY.

The weather has been of a changeable or unsettled type during this month. Conditions have been cloudy with rainy periods and also somewhat stormy, especially in the latter half, and mild generally. A notable feature has been the storm which

occurred early on the 27th morning, wind being gale force at times from the south-east, then heavy rain ensued, 3 a.m. until about 8.30 a.m., totalling 0.71 inch, the wind caused heavy swell on the sea and was in a state of turmoil in the Harbour doing much damage to craft, chimney pots and slates were blown off houses on high ground.

The total sunshine has been 74.1 hours, which gives a mean daily amount of 2.64 hours. This is 36.9 hours less than last year, and 9.92 hours below the average for 36 years. There have been 5 days sunless. The sunniest day was the 9th, with 8.3 hours, another good amount has been 8.0 hours on the 26th.

The total rainfall amounts to 4.25 inches which gives a mean daily record of 0.15 inches. This is 4.11 inches above last year and 1.43 and 2.63 inches greater than the 59 and 5 years averages respectively. There have been 19 rainy days, *i.e.* days recording an amount of 0.01 inches or more of which 15 are 0.04 inches or above. A "trace" occurred on 3 days. The first 10 days were mainly dry, then conditions became rainy from the S.W. quarter especially in the last 10 days of the month when over 3.50 inches were recorded. The greatest daily fall was 0.85 inches on the 24th.

The mean shade temperature has been 45.1°F, This is as much as 5.6° above last year, and 1.9° and 4.3° above the 59 and 5 years averages respectively. The month opened with rather mild conditions, the maximum temperature being 56° on the 2nd, and the highest minimum temperature of 49.0° recorded on the 4th. A brief cold spell occurred 6th—10th, although temperatures during the day remained above freezing point, viz. 32.0°, the lowest maximum temperature being 39.0° on the 8th. The lowest minimum was 31.0° on the 9th, and the temperature at 9 a.m. read at 32.6°. Conditions were again rather mild by the 13th, recording a maximum of 56.0° and a minimum of 49.0° on 14th morning, and remained so for the rest of the month, although nights were cooler in the last 6 days, the lowest minimum being 31.0° on the 26th, ground frost was recorded at times the lowest temperature on the Grass was 26.7° on the 24th, registering 3.7° of ground frost. (The coldness 6th—10th was intensified by the prevalence of cold north-easterly winds).

The mean height of barometric pressure is 29.792 inches. This is remarkably lower than last year's mean which was 30.475 inches, and is 0.208 inches below the average for 51 years. Pressure was unsteady in the first 6 days of the month. On the 7th morning it had risen two-thirds of an inch from the previous day, reading at 30.366 inches at 9 a.m., which was the highest for

the month. Wind was strong from the N.N.W., on this day veering to N.E. later and squally, reaching gale force at times in the afternoon. Pressure remained high and steady until the 12th and conditions were cloudy (except on the 9th, when 8.3 hours of sunshine were recorded), and dry, a similar wind prevailed causing low temperatures but was less in force, becoming light and variable on the 10th, with brief fog in morning. Weather then became unsettled, pressure falling low and unsteady in last week, the lowest reading was 28.765 inches on the 25th. Conditions were stormy with wind reaching gale force at times, from the W.S.W. or W. on the 16th, during afternoon, and 21st, in the early hours, and from a southerly direction on the 24th, at night. On the 26th night wind became strong and squally backing to S.E. and reaching gale force at times after 11 p.m., and was even stronger in the early hours of next morning, causing a heavy swell on the sea which made a turmoil in the Harbour, doing much damage to craft sheltering there and houses on high ground had occasional chimney pots and slates blown off, such a rare experience for the town, heavy rain ensued amounting to 0.71 inch, conditions were quite calm by 9 a.m.

The prevailing winds were :—W., W.N.W., S.W., W.S.W., and the mean force 4.2.

The range of visibility has been good. There has only been a slight experience of fog, this occurring on the 10th, being a moderate fog between 9.10 and 9.45 a.m.

The total record of Ultra Violet Rays is $47\frac{1}{2}$ units, which gives a mean daily value of 1.69 units. The amount after deduction of glass phial is 18 units, which gives a mean of 0.64 unit of active rays.

The mean temperature of the sea was 45.8°F . Taken on 7 days the highest temperature was 47.0° on the 18th, and the lowest was 44.5° on the 9th.

Wintry precipitation is rare. An experience of sleet occurred, starting late on the 25th, it continued into the early hours of the next morning, which laid slightly, and was visible at 9 a.m., during the next night some heavy rain fell causing snow to disappear.

Hail was experienced on the 24th, 25th and 27th, accompanying rain showers. That experienced was slight, although on the 27th a heavy shower of rain was accompanied by larger hail and the amount recorded in 8 minutes was .09 inch,

Of optical phenomena, a large Solar Halo was observed on the 17th, 22nd, 27th—28th, the colours being yellow and red. A Lunar Corona was seen on the night of the 10th, and a large plain ring was visible round the moon at 6.30 p.m. on the 14th. Rainbows were observed on the 2nd, 18th—19th, 21st—22nd, 24th and 27th—28th. A slight thundery tendency occurred on the 24th, around 8 p.m., a distant rumble of thunder heard at 7.50 p.m., was followed by a few flashes of lightning, then a shower of rain with little hail occurred, to dry conditions, although flashes of lightning were seen around the horizon into the early hours of next morning.

The mean percentage of ozone was 49%.

The mean relative humidity at 9 a.m. was 81%, and at 5 p.m. 75%, giving a mean value of 78%. This is 4 per cent. below the average.

The mean daily cloud amount at 9 a.m. was 7.2, and at 5 p.m. 6.9, giving a mean of 7.1. This is 0.4 above the average.

MARCH.

This month has been fairly fine. Conditions although not too sunny have been mostly dry and quiet. The first half has been relatively cool, whereas the latter has been relatively warm for the time of year. There was a fall of snow or sleet on the 10th night, but owing to rainy conditions developing the snow which laid slightly soon disappeared by the morning, whereas in outlying districts the duration of snowfall was much longer, laying in places, causing inconvenience to transport.

The total sunshine has been 127.9 hours, giving a mean daily amount of 4.12 hours. This total is 3.3 hours less than last year and 9.81 hours below the 36 years average. There have been 4 days sunless. The sunniest days were the 12th and 20th, with 10.1 and 10.3 hours respectively.

The total rainfall has been 1.26 inches, which gives a mean daily fall of 0.04 inch. This total is 2.11 inches less than last year and 1.41 and 1.80 inches below the 59 and 5 years averages respectively, which shows that rainfall is less than half of the averages. The 1st was rather wet, starting at 'noon' rain continued until 6.30 p.m., being heavier during the afternoon, the total amount recorded next morning being 0.50 inches. On the 10th, conditions became snowy after about 7.20 p.m., continuing into the early hours next morning, then rain ensued and so by daylight the white mantle disappeared on low lying

land, leaving only places on very high ground with evidence of any snow, the total fall, chiefly rain, amounted to 0.44 inch. There were only 9 rainy days, *i.e.* days which recorded an amount of 0.01 inch or more, 6 of which were 0.04 inch or more. A "trace" was recorded on 6 days.

The mean shade temperature has been 44.6°F. This is 0.8° above last year's mean and 0.2° and 0.7° above the 59 and 5 years averages respectively. The first half of the month was marked with a short cold snap, a maximum of 56.0° on the 6th, lowered to 36.0° on the 9th, being the coldest day of the month and the minimum registered 30.0°. Temperatures rose equally as quick although night temperatures lowered to freezing point, *viz.* 32.0 until the 14th. In the latter half temperatures were generally much above normal, especially 20th—26th. The highest temperature in the shade was 63.0 on 21st, and the highest minimum temperature 50.0° on the 24th. During the month there were 6 days when the night temperature recorded freezing point, but on no occasion was it at or below this point at observation hour, the lowest being 32.6° at 9 a.m. on the 9th. The coldness on the 9th—10th was intensified by the prevalence of cold E.N.E. to N.N.E. winds. Ground frost was recorded on 8 days, the sharpest being 6.8° on the 12th, grass minimum temperature reading at 23.6°.

The mean height of barometric pressure has been 30.179 inches. This is remarkably higher than last year by 0.462 inches and 0.243 inches above the average mean for 51 years. Pressure rose a little on the 1st to 29.402 inches, although this was the lowest for the month. Conditions on this day were somewhat stormy, rain commencing at noon and continuing rather heavy at first to 6.30 p.m., accompanied by strong squally S.E. winds which abated at night. Influenced by an anticyclone pressure remained high and steady from the 4th—10th. Mainly cloudy but dry weather prevailed. Wind was fresh from the East on the 8th, and became strong to high from E.N.E. on 9th. The highest reading of barometric pressure during this period was 30.627 inches on the 8th, which was the highest for the month. Pressure declined somewhat 10th—11th, with wind still in N.E. direction, it brought snow on the night of the 10th, which was of moderate intensity and turned to rain in the early hours of next morning. After barometer reading at 29.432 inches on the 16th, pressure rose to above normal and was anticyclonic after the 23rd, declining on the last day. Conditions were dry and quiet except 20th—23rd, when showers occurred with prevalence of

Westerly winds, being fresh or strong at times. A rumble of thunder was heard at 4.05 p.m. on the 22nd, being the only experience during the month.

The prevailing winds were:—S.E., W. and E., and the mean force 3.4.

The range of visibility was mainly good. Owing to quieter weather prevailing in the latter half of the month a little more fog than usual was experienced. The fog was of quite moderate intensity generally. On the 21st there was variable sea mist in the morning, with fog 9—9.40 a.m. On 27th sea fog early to 10.45 a.m., then a thick sea fog occurred later in day after 4 p.m. more or less, improved 5.35—6 p.m. Foggy conditions remained until 10.45 a.m. next morning.

The record of Ultra Violet Rays was 110 units which gives a mean daily value of 3.55 units. The amount after deduction of readings of the glass phial was 70 units giving a mean of 2.26 units of active rays.

The mean temperature of the sea was 45.9°F. Taken on 9 days the highest reading was 48.0° on the 30th, and the lowest was 42.5 on the 12th.

Of optical phenomena large Solar Halos were observed on 2nd, 5th, 15th, 19th, 26th and 31st, colours being yellow and red. On the 5th an unusual spectacle was seen around the sun, the Solar Halo as before described had an arc of contact with distinct colours of red, yellow, green and blue, observed at 9.12 a.m.

A Lunar Corona was seen on the nights of the 17th—18th, the colours were orange, violet, green, yellow and red. A large plain ring was observed around the moon on the nights of 15th, 18th—19th, and the times were between 9.30 and 10 p.m. There was only one occasion of a rainbow being observed, being at 4.28 p.m. on the 22nd.

The mean percentage of ozone was 31%.

The mean relative Humidity at 9 a.m. was 84%, and at 5 p.m. 74%, giving a mean value of 79%. This is 1 per cent. above the average.

The mean daily amount of Cloud at 9 a.m. was 6.2, and at 5 p.m. 5.1, giving a mean of 5.6. This is 0.4 below the average.

APRIL.

The month has been somewhat unsettled or changeable. Conditions although fairly sunny have been on the wet side, and somewhat stormy in the middle of the month. Temperatures have been above normal, especially in the latter half.

Easter weather was rather disappointing in the sense that it was unsettled, although there were fair periods. On Good Friday the morning was fair with bright sunny periods, but for the rest of the day conditions became overcast with drizzle periods, but dry between 1.30 and 6 p.m. and fast rain shower at 10.30 p.m. The total sunshine for the day was 2.6 hours, and the total rainfall .07 inch. Wind freshened and backed to S.S.W. On the next day (Saturday), showers fell during the morning but conditions became fairer with bright periods. Wind freshened and became squally from S.E. at night, and a heavy shower fell at 11.30 p.m. The total sunshine this day was 2.9 hours and rainfall .12 inch. Easter Sunday was better with considerable bright periods. Clouds threatened rain later in day, but none fell until 7.30 p.m. The total sunshine for this day was 5.8 hours, and the total rainfall .06 inch. On Monday the morning opened bright, but heavy showers fell after 10.40 a.m., then bright periods occurred in first part of afternoon, but sun became veiled after 3.30 p.m., and clouds threatened rain. The total sunshine this day was 3.8 hours, and rainfall .08 inch. A fresh S. to S.S.W. wind prevailed on the Sunday, but conditions were quiet on the Monday, a gentle cooling S.S.E. to S.S.W. breeze prevailing. Temperatures during this period were normal generally, the warmest day being Good Friday when maximum shade temperature was 56.0° F. The range of visibility was very good in the latter two days.

The total record of bright Sunshine was 169.9 hours, giving a mean daily amount of 5.66 hours. This is 41.2 hours greater than last year's total for the same month, but 9.53 hours below the average of 36 years. There was only one sunless day, the 9th. The latter half was more sunny than the former, and over 75.0 hours were recorded in the last 10 days. The sunniest day was the 24th with 11.9 hours.

The total rainfall was 3.68 inches, which gives a mean daily amount of .12 inch. This is .26 inch greater than last year's total for the same month, and 1.43 and 0.86 inches above the 59 and 5 year's averages respectively. There were 19 rainy days, *i.e.* days on which .01 inch or more fell, of which 17 were .04 inch or more. Of this total about three-quarters fell during the night time, *i.e.* between 5 p.m. and 9 a.m. (G.M.T.). A wet spell occurred from 4th—23rd. On the 15th rain commenced at 6 p.m. and continued until 3.30 a.m. next morning, being continuous heavy rain more or less 8.15 p.m. to midnight. The total fall on this day was 0.65 inch, which was the greatest daily fall for the month.

The mean shade temperature was 49.2°F. This is 1.8° higher than last year's mean for the same month, and 0.9° and 1.5° above the 59 and 5 years averages respectively. Temperatures were moderately low in the first 8 days. The lowest maximum temperature was 50.0° on the 3rd and 5th, and the lowest minimum was 33.0°. Although temperatures in screen did not record freezing point, ground frost was recorded daily 4th—6th. The lowest minimum temperature on the grass was 26.2° on the 5th, recording 4.2° of ground frost. Temperatures were normal or above for the rest of the month. The highest minimum temperature was 52.° on the 10th. The 24th, 26th and 30th were particularly warm days, the maximum temperature rose to 61.0° on each day.

The mean barometric pressure was 29.855 inches. This is higher than last year's mean for the same month by more than a tenth of an inch, but .057 inch below the average for 51 years. An anticyclone at the end of March still gave its influence in the first 3 days of the month, giving sunny and dry conditions with moderate or fresh N.W. to N. winds. A series of depressions from the Atlantic caused unsettled weather until the 23rd. Conditions during this period were cloudy with rain at times also bright periods. Wind was fresh generally, prevailing from the W.S.W. The velocity of the wind reached gale force in gusts during the day on the 10th, also on 9th night and early on 11th, and again early on 16th. The lowest readings of barometric pressure were 29.407 inches on the 17th, and 29.412 inches on the 21st. Although pressure remained low on 16th—17th, there were considerable bright periods, each day recording over 8.0 hours of sunshine. A little thunder tendency occurred on the 14th, some rumbles or claps being heard between 4.9 and 4.17 p.m., with a minor flash of lightning or two, quite a minor experience. An anticyclone persisted in the last 8 days of the month, giving sunny, dry and quiet conditions, wind prevailing from an easterly direction. The highest reading of pressure was 30.358 inches on the 29th.

The prevailing winds were:—W.S.W., N.N.W., W.N.W., E. and S.S.E., and the mean force was 4.0.

The range of visibility on the whole was quite good. There was no experience of fog.

The record of Ultra Violet Rays totalled 138 units, giving a mean daily amount of 4.60 units. The amount of active rays after deduction of the glass phial was $93\frac{1}{2}$ units, which gives a mean of 3.12 units.

Various optical phenomena were observed during the unsettled spell, viz.: 4th—23rd. Large Solar Halos were observed on the following dates:—6th, 10th—12th, 14th, 15th, 17th, 18th, 19th, 20th, 21st, 22nd, also 30th, being 6 consecutive days, 17th—22nd inclusive, the colours were red, yellow and white. A large plain ring was visible around the moon on the nights of the 11th and 12th, and was very distinct at midnight of the latter night. Such phenomena as these are generally bad omens, for stormy conditions became imminent in the next few days. Rainbows were observed on the 11th, 14th, 16th, 17th, 18th and 20th.

The mean temperature of the sea was 49.2° . Taken on 9 days the highest temperature was 52.0° on the 30th, and the lowest was 46.0° on the 3rd and 6th.

The mean percentage of ozone was 55%.

The mean Relative Humidity at 9 a.m. was 74%, and at 5 p.m. 71%, giving a mean value of 73%. This is 1 per cent. below the average.

The mean daily amount of Cloud at 9 a.m. was 6.3, and at 5 p.m. 6.2, giving a mean of 6.3. This is 0.6 above the average.

MAY.

The month was somewhat unsettled. The first half was mainly fair, but in the latter changeable, can be described as undependable. Conditions were on the cloudy side generally, with more rain than usual, but several dry days. Temperatures were generally normal or above, but low in the middle of the month, temperature in the screen recording freezing point, viz. 32° on 17th. The extreme range of barometric pressure was small, being only 0.637 inch. Weather was on the quiet side generally. Wind disposition was from a north-easterly direction. There were two outstanding features, the superb weather on Jubilee Day, May 6th, very warm and summerlike, and the snowstorm, short but rather severe at the time, on May 17th, very cold and typical to winter, a most unusual contrast in weather for the time of the year.

On Jubilee Day the sun shone continuously, the total record for this day being 12.6 hours. Temperature of the dry bulb in the screen read at 66.0° at 10 a.m. which was nearly 12.0° higher than the previous morning at the same time, this rose to 74.0° and the air temperature at 6 p.m. was 73.8° , a pleasant slight

breeze came from an easterly direction. There is no finer day in the first week of May on record, May 6th, 1928, was sunnier, 13.3 hours, but not so warm in shade, maximum temperature being 70.0°, and air temperature at 6 p.m., 68.8°.

On the 17th, minimum temperature in screen read at 32.0° and grass minimum thermometer read at 26.3°, recording 4.1° of ground frost. The day opened fair, sunny, dry and breezy, S.W. wind 10 a.m., air temperature of the dry bulb, 47.5°. Sky became overcast and rain started at 12.45 mid-day, conditions were much colder. Sleet fell after 3.45 p.m., then a heavy fall of snow ensued 4.15 p.m. until 5 p.m., after this fairer conditions with little sun, still very cold, air temperature 35.0° at 6 p.m., snow disappeared on low lying land. Further rain fell between 10.15 and 11.15 p.m., the total record for this day being 0.93 inch. There is no record of a worse experience in May. The total sunshine this day was 3.9 hours, and the maximum temperature 49.0°.

The total sunshine was 174.5 hours, giving a mean daily amount of 5.63 hours. This total shows a great deficiency from the average for 36 years, which is 220.14 hours, making 45.64 hours below. There were 4 sunless days. A bright spell occurred 21st—23rd, 14.3 hours was recorded on the 23rd, being the sunniest day of the month. Last year May was particularly sunny with 277.6 hours.

The total rainfall was 2.67 inches, giving a mean daily amount of .08 inch. This total is 0.76 inch above the average for 59 years. Of this total 0.93 inch fell in 1 day, on the 17th, leaving 1.74 inches, so that the month was a fairly dry one. On this day rain commenced at 12.45 p.m. and continued heavy, changing to sleet 3.45 p.m., then real snow for three-quarters of an hour after 4.15 p.m., dry by 5.40 p.m., during this period ending 6 p.m., 0.83 inch had fallen. This snowfall is one of the heaviest experienced for any winter month. There were 11 rainy days, 7 of which recorded over .04 inch., a "trace" occurred on 3 days. Working on the 5 years average the total is 0.70 inch above.

The mean temperature was 52.3°. This is 1.3° and 1.0° below the 59 and 5 years averages respectively. A warm period occurred 5th—7th, temperature of the air rose to 74.0°, and the dry bulb reading at 6 p.m. was 73.8°. Much cooler temperatures ensued. A sharp snap of cold weather occurred 16th—17th, the highest maximum temperatures were 50.0° and 49.0° respectively. The minimum temperature on

the 17th morning read at freezing point, viz.:— 32.0° and the grass minimum thermometer recorded 26.3° , showing 4.1° of ground frost. This is the sharpest ground frost for a May day on record, the nearest to this is 2.4° on 8th May, 1932. It is not usual that minimum temperature records freezing point— 32.0° in May, although 31.0° was registered on 8th May, 1932. The cool spell lasted until the 23rd. On this day a maximum temperature of 65.0° was recorded, being 15° higher than 7 days previous. Temperatures were more consistent in the closing days of the month. The nights were much warmer, a minimum temperature of 57.0° was recorded on the 29th, being the highest for the month.

The mean height of barometric pressure was 30.073 inches. This is 0.097 inch above the 51 years average. A noted feature of the month was the small range in pressure, the extreme range being only 0.637 inches. The month opened with pressure at a fair and steady height. A disturbance approached from an easterly direction giving a brief shower on eve of 3rd, and much rain between 3 a.m. and 10 a.m. on 4th, amounting in all to 0.62 inch. Pressure read at 29.815 inches on this morning, and was the lowest recorded during the month. Wind disposition was from the E. or S.E., being light generally but freshened on the 3rd. After this pressure rose, reaching its apex on the 8th, reading at 30.452 inches, this being the highest recorded during the month. With a little lower reading pressure remained fairly steady until the 16th. Weather was fine or fair and dry, also quiet generally, wind being from a N.E. direction, gentle or moderate breezes. A low pressure system spread from the North Sea; bringing a sharp snap of cold weather for the time of year and conditions more typical to the Arctic region. On the 17th wind changed from S.W. direction at 10 a.m. to N.E. at mid-day, a snowstorm occurred later, accompanied by a sharp fall in pressure, after this fairer conditions and a rapid rise in pressure. After this weather was more of an unsettled type, although wind disposition was still from the north-east, short rainstorms but several dry days, moderate or fresh winds, S.W. direction on 19th and 20th. The last 7 days of the month (after the 24th), although on the cloudy or dull side were mainly dry, also very quiet, light N.E. or variable breeze, steady pressure.

Wind during the month predominated from the N.E., N.N.E., E.N.E. and the mean force was 3.4.

The range of visibility was good. The month was almost free from fog, very short duration of sea fog in the evening of 4th.

The mean daily amount of Cloud was 6.0. This is 0.5 greater than the average. There were 15 observations of "overcast sky" against only 1 of "clear sky." Observations are taken twice daily.

The mean relative Humidity at 10 a.m. was 73%, and at 6 p.m., 64%, giving a mean of 69%, which is as much as 5 per cent. below the average. Several days recorded humidity below 60% (the dry air point), being very dry at 33% at 6 p.m. on the 14th, and 51% at 10 a.m. on 15th, each lowest for individual times during month.

The mean daily amount of Cloud at 10 a.m. was 6.5, and at 6 p.m. 5.6, giving a mean of 6.0. This is 0.5 below the average.

The total record of Ultra Violet Rays was $125\frac{1}{2}$ units, giving a mean daily amount of 4.05 units. This total is rather down on last year's record which was 293 units. The total of absolute rays after deduction of the ordinary glass phial readings from the vita glass readings, is 83 units, giving a mean daily amount of 2.68 units. In May last year the rays were expressively active, the mean absolute rays being 6.27 units.

The month was free from thundery conditions, although the closing days were of a close thundery type.

The mean temperature of the sea was 52.2° . Taken on 10 observations, the temperature was fairly consistent, the lowest being 51.0° on the 18th and 21st, and the highest— 54.0° on the 29th.

The mean percentage of Ozone was 40%.

Relating to optical phenomena, Solar Halos were observed on the 5th, 8th, 15th, 18th and 21st. On the first date, also visible besides the Solar Halo was an arc of contact, which is like an ellipse attached to a circle concave at 9.55 a.m. and had distinct colours—red, yellow and white. On the 11th, a similar arc belonging to a Solar Halo was observed, only convex, at 7.50 a.m., and the colours were distinct, red, yellow and green, also faint violet, but there was no Solar Halo visible, giving this arc an unusual appearance in the sky. A rainbow was observed at 5.51 p.m. on the 19th. A large plain ring was observed around the moon on 8th and 10th.

JUNE.

For the major portion of the month weather was rather unsettled. Conditions decidedly improved after the 21st (which is generally the longest day). Because of this unsettled state a

great deficiency of sunshine is shown, rainfall is more than twice the average, and day temperatures below the average, fairly consistent. More days of thunder than usual but minor experiences.

The weather over Whitsun was somewhat disappointing. On Saturday, the 8th, weather was sunny, dry, breezy, W.S.W. wind, 14.2 hours sunshine being recorded. Whit Sunday was fair generally, sunny, variable slight cloud afternoon, dry, cool in shade by gentle sea breeze. The sunshine total this day was 7.6 hours. A quite minor experience of thunder and lightning occurred late, slight thunder and flashes of lightning between 10.20 p.m. and 11 p.m. On Whit-Monday a heavy shower fell in the early hours, between 3.40 and 4 a.m., amounting to .08 inch. At morning observation, 10 a.m., sky was overcast, after which slight intermittent rain or drizzle showers occurred, slight drizzle showers afternoon, otherwise fair, short sun intervals, wind fresh to strong, southerly, temperature consistent throughout day. The total sunshine this day was 1.3 hours, and rainfall .02 inch. The maximum temperature on the Sunday and Monday was 59.0° , and the minimum was 44.0° and 54.0° respectively.

The total duration of bright sunshine was 197.0 hours, giving a mean daily amount of 6.57 hours. This total is 56.5 hours below last year's total, and 36.30 hours below the 36 years average. There were 4 sunless days, including the 21st. On this day sky was overcast but sun was faintly visible at times. In the last 9 days of the month there was a total of 83.9 hours recorded. This total included the sunniest day of the month, 15.6 hours on the 28th. This day 'is also the sunniest day for any summer month on record,' the nearest totals being 15.3 hours on July 11th, 1911, and July 7th, 1910.

The total rainfall was 4.36 inches, giving a mean daily amount of 0.14 inch. This total is 2.44 inches above the 59 years average or 2.41 inches above the 5 years average. There were 20 days which recorded an amount of .01 inch or more, including 16 with more than .04 inch. In the first 20 days, 3.98 inches fell, including a very heavy fall in 24 hours of 1.13 inches on 6th. On this day conditions were rainy, but two-thirds of this total fell during the night-time, *i.e.* between 6 p.m. and 10 a.m., including .38 inch which fell between 2.45 a.m. and 4.15 a.m. Another noted fall was .48 inch fell in just over an hour after midnight, 13th morning.

Although this is the wettest June for many years, it is not the wettest on record, for in 1879 as much as 7.34 inches was recorded. In June, 1909, there were 4.34 inches recorded. June last year recorded 1.69 inches.

The mean shade temperature was 58.4° , which is 0.2° below the 59 years average or 1.1° below the 5 years average. This mean is also 2.5° below last year's mean (June). The mean air temperature of the dry bulb, mean of 10 a.m. and 6 p.m. readings, was 59.9° , which is 2.8° below last year's mean for the same month. Temperatures were mostly consistent up to and including the 21st, with day temperatures below the normal. The lowest maximum temperature of the month was 56.0° recorded on the 4th, and the lowest minimum of the month was 44.0 on the 9th, which also recorded the lowest grass minimum, 39.0° . A warm spell occurred 22nd to 26th, the warmest day of the month occurring in this period on the 24th, recording a high maximum temperature of 79.0° , and a high minimum of 63.0° . The following 3 days were cooler again with consistent day temperature. The 29th and 30th were warm again, the latter day recording a maximum temperature of 76.0° .

The mean height of barometric pressure was 29.895 inches. This is 0.133 inch below the 51 years average. Pressure was irregular in the first half of the month, weather was unsettled and a little stormy at times, S.W. wind being the prevailing quarter. The lowest barometer reading was 29.440 inches on the 4th. Rain fell in varying amounts in this period. From 19th to 25th pressure was normal and steady, wind was fresh from W.S.W. at first but changed to Easterly direction and became light, otherwise weather was fair or fine and mainly dry. A short break in these conditions occurred on the 25th. A long thunder shower occurred in the afternoon of this day, heavy rain 1.20 p.m. to 3 p.m., little thunder, after this nice sunny periods, brief sea fog evening. Total rainfall this day was 0.26 inch. A ridge of high pressure occurred in the closing days of the month, the highest barometer reading was 30.429 inches on the 28th. Weather was fine or fair, dry and quiet, particularly bright on the 28th—29th. Although pressure was irregular, one notices from the day to day chart that there was a tendency to rise throughout the month.

Wind disposition was from the W.S.W., S.E., S.W., and the mean force was 3.9.

The range of visibility was good. There was one instance of fog, a wet sea fog on morning of 22nd, thick 5 a.m. to 6.30 a.m., but visibility was clear by 8 a.m. A very short sea fog also occurred on the evening of the 25th.

The mean daily cloud amount was 6.0, which is 0.9 above the average, which means that the sky was nearly a tenth more clouded than usual.

The mean of relative humidity at 10 a.m. was 80%, and at 6 p.m., 76%, giving a mean daily amount of 78%, which is 6% above the average.

The total record of Ultra Violet Rays was $172\frac{1}{2}$ units, giving a mean daily value of 5.75 units. The total active rays, after deduction of the ordinary glass phial from the vita phial, was $119\frac{1}{2}$ units, which gives a mean daily amount of 3.98 units. This is rather less than last year, when mean was 5.77 units.

The mean daily value of Ozone was 38%.

The mean temperature of the sea was 56.5° . Taken on 14 days, the lowest temperature was 54.0° on the 8th, and the highest was 61.0° on the 25th. Temperature was consistent until the 24th.

Thunder occurred on 4 days, against 1 last year. The dates on which it was heard were the 9th, 15th, 16th and 25th, on the former two, lightning was also observed. The experiences were quite moderate and of short duration, but the 25th was accompanied by heavy rain which lasted from 1.20 p.m. to 3 p.m., total rainfall being 0.26 inch, a little thunder was heard.

Relating to optical phenomena, large Solar Haloes were observed on the 2nd, 9th, 13th—14th, 17th, 23rd—24th, 28th and 30th, and the colours were generally red, yellow and white. On the 3rd an arc convex, belonging to a Solar Halo was observed at 7.40 a.m., the colours were distinct, red, yellow and green, there was no Solar Halo making this an unusual spectacle. A rainbow was observed on the 5th and 15th.

JULY.

The month has been fine, very sunny, dry and warm, with almost a drought, the total rainfall of 0.32 inch is the sum of 4 days. The atmosphere has been clear and air quiet. A notable feature has been the steadiness in barometric pressure, except for a short break in the middle of the month, the range of pressure has been little more than a quarter of an inch.

The total duration of bright sunshine was 290.0 hours, giving a mean daily amount of 9.35 hours. This total is only 4.4 hours less than last year, but as much as 56.07 hours above the 36 years average, and is 59% of the possible duration. There were considerable bright spells and 17 days totalled 222.8 hours, giving an average of 13.1 hours per day. The sunniest day of the month was the 7th, which recorded 15.3 hours. This equals the sunniest days for July on record, for 15.3 hours were recorded last on 7th July, 1910, and 11th July, 1911. There were 2 sunless days, the 1st and 19th, compared with none last year.

The total rainfall was 0.32 inch, giving a mean daily amount of .01 inch. This total is 0.38 inch less than last year, and as much as 1.85 inches below the 59 years average, or taking the shorter average, it is 1.59 inches below the 5 years average. On the 17th a heavy rain shower fell shortly after 10 a.m., recording .03 inch in 2 minutes. On the 18th thundery rain fell between 1 p.m. and 1.50 p.m., heavy latterly, total fall being .16 inch which was the greatest daily fall for the month, and on the 19th a short period of rain fell in morning, otherwise intermittent slight rain or drizzle occurred with showers at night, the total fall next morning being 0.12 inch. These 3 days recorded .31 inch, leaving only .01 inch over the other 28 days, so the month was a drought. There were 4 days which recorded an amount of .01 inch or over, including 2 with more than .04 inch and 3 days recorded "trace." This month is the fourth driest July on record, the years with lesser amounts being 1885 with 0.23 inch, 1898, .24 inch and 1913, .30 inch.

The mean temperature was 64.5°. Although 1.0° below last year it is as much as 2.6° above the 59 years average, or 2.4° above on the shorter average for 5 years. The month was wholly warm with maximum temperatures frequently in the 70's, the only break in continuity being the 19th with a maximum of 63.0°, being the lowest for the month. There were frequent very warm spells, the most noted being from the 12th—17th, and 24th—27th. Maximum temperatures of 82.0° and 84.0° were registered on the 13th and 14th respectively, being the highest for the month. On the latter day the air temperature of the dry bulb read at 79.5° at 6 p.m. A maximum of 80.0° was recorded on the 24th. The highest minimum temperatures during the month were 62.0° on 15th, 28th and 29th, and 61.0° on 5 other days. The last day of the month recorded a minimum of 50.0°, being the lowest for the month, while the grass minimum temperature read at 46.0°, also the lowest for the month.

The mean height of barometric pressure was 30.141 inches. This is 0.139 inch above the 51 years average. The pressure during almost the whole of the month was very steady.

A trough of low pressure from the Atlantic caused less settled weather, 17th—20th. Conditions were of a thundery tendency, and little thunder occurred on 18th in the afternoon, accompanied by a heavy shower of rain, but was of very short duration. The pressure at 10 a.m. on the 20th read at 29.610 inches, being the lowest for the month, and the next morning it rose to 30.192 inches. The highest readings for the month were 30.323 inches on the 4th and 30.311 inches on the 23rd.

The prevailing winds for the month were S.E., W., W.N.W., N.N.W., and the mean force was 3.6.

The range of visibility was very good. There was one instance of fog, short, on eve of 23rd, terrestrial, and came over after 6 p.m. (S.T.) until late, in patches.

The month was almost free from thundery elements. On the 12th, at 9 p.m., the sky had quite the appearance for a thunderstorm, air was very sultry, but a breeze from the N.W. cleared it away. At mid-day on 18th, there was much cloud of a heavy type which gave vent to fast rain, 1 p.m. to 1.50 p.m., clap of thunder 1.35 p.m., and heavier rain but of very short duration, after this nice warm sunny periods.

The mean daily amount of cloud was 4.0. This is 1.5 below the average, which means that the sky was $1\frac{1}{2}$ tenths less cloudy than usual. Out of 62 observations, 17 were recorded "clear sky" against 8 "overcast sky."

The mean relative humidity at 10 a.m. was 74%, and at 6 p.m., 66%, giving a mean daily value of 70%. This is 3% below the average. Several evening observations recorded dry air, *i.e.* humidity below 60%, and there were 2 morning observations.

The total record of Ultra Violet Rays was $241\frac{1}{2}$ units, giving a mean daily record of 7.79 units, which is a very satisfactory record. The amount after deduction of the glass phial from the vita phial was $166\frac{1}{2}$ units, which gives a mean daily value of 5.37 units. It was a common sight to see residents and visitors with tanned skins.

The mean daily amount of Ozone was 23%.

The mean temperature of the sea was 61.1° . Taken at 19 observations, the highest temperature was 64.0° on the 15th, and the lowest was 58.5° on the 22nd.

Of optical phenomena, large Solar Haloes were observed on 6th, 8th, 11th, 14th, 17th and 26th, the colours generally red, yellow and white, and except the 17th each Halo intimated a continuance of fine weather. On the 6th, besides the Halo, mock sun rings were observed at 5.50 p.m. A large diameter ring and plain was observed around the moon on night, 17th—18th, after 11.10 p.m., whole and distinct at 12.15 midnight.

A brilliant meteor was seen about 10.15 p.m. on 14th, in N. direction, over the Rock Walk, moving N.N.W. to N. On the 26th a comet was observed at 10.30 p.m., in N.W. direction, travelling S.W. to N.E., having a fairly long silver tail, lasting a few seconds.

AUGUST

Generally speaking, the weather during the month was fine or fair. The sunshine record was very good, rainfall was deficient and temperatures were above normal. Up to the 23rd of the month only .10 inch rainfall had been recorded. The month was quiet on the whole.

The total sunshine record was 221.5 hours, which gives a mean daily amount of 7.14 hours. The total is 50 per cent. of the possible duration, and 11.20 hours above the 36 years average. The middle of the month was cloudy, otherwise there were several very sunny days, 6 days averaged a record of 13.5 hours, the sunniest day of the month being the 6th with 13.9 hours. There were 3 sunless days.

The total rainfall record was 2.35 inches, which gives a mean daily amount of .07 inches. This total is (rather surprisingly) only .29 inches below the 59 years average and .23 inches below the 5 years average. The first 22 days recorded almost a drought, only .10 inch rain fell. The last 9 days yielded a total rainfall of 2.25 inches, the days of greatest amount being 24th, .57 inch, and 30th, 1.04 inches. On 24th rain commenced 11.45 a.m. and continued intermittent until 4.30 p.m., then continuous until 9.10 p.m., not heavy, followed by a heavy shower 9.55 p.m. to 10.10 p.m., .18 inch being recorded in first 13 minutes, the total record for day was .57 inches. On 30th rain started at 10 a.m. and continued, being heavy continuous rain 12.45 p.m. to 4.30 p.m., rain ceased 5.25 p.m. Up to 6 p.m. of this day, a rainfall to the extent of .71 inch had been recorded since 10 a.m., of which over half an inch fell between 1 p.m. and 4.30 p.m. A further .33 inch fell during the night, making the total record for

the day 1.04 inches. There were 11 days on which rain fell to the extent of .01 inch or more, 7 of which recorded .04 inch or more. It is worthy to note that up to the 23rd of the month, only .54 inch of rain had fallen since the 25th June last, almost 2 months.

The mean temperature was 62.5° . This is 0.8° above the 59 years average, and 0.4° above the 5 years average. Practically a warm month. The first ten days were very warm, the mean maximum temperature was 73.5° and the mean minimum 56.7° , giving a mean temperature of 65.1° . Two of the three days with the highest maximum came in this period, being the 8th and 10th, each recorded 76.0° . Also the warmest nights were in this period, the 2nd and 9th each recorded a minimum of 60.0° . Temperatures were still above normal in the following 12 days, the 21st and 22nd recorded a maximum of 76.0° and 75.0° respectively. Except the 26th of the month, which recorded a maximum of 74.0° , much cooler temperatures ensued. The 24th recorded a maximum of 62.0° , being the lowest for the month. Night temperatures continued normal until the 28th, which recorded a minimum of 46.0° , and grass minimum temperature at 41.0° , lowest for the month. The last day of the month, 31st, recorded a minimum of 57.0° , and maximum 65.0° .

The mean of barometric pressure was 30.021 inches, which is .043 inch above the 51 years average. Pressure was almost steady, in the first 22 days weather was sunny, dry, warm and quiet. The highest reading of the barometer was 30.408 inches on the 6th, which was the highest for the month. A brief disturbance occurred on the 12th, when pressure fell to 29.763 inches, causing little thundery effects. Pressure became somewhat irregular and dropped to as low as 29.492 inches on the 28th, and weather was generally unsettled, winds prevailed from the N.W. to W. quarter, fresh. From the 23rd to the 26th, weather was dull or cloudy but quiet, some rain on the 24th. Considerable sunny periods occurred in the ensuing 4 days, also some showers, a heavy shower fell at 1 p.m. on 28th when .07 inch fell in 6 minutes. A fresh or moderate wind prevailed from N.N.W., or W.N.W., but was strong and squally from the W.S.W. in the early hours of 27th. On 30th pressure was falling at 29.829 inches at 10 a.m., wind and rain set in, being continuous heavy rain, during the afternoon. Wind veered S.W. to W., fresh to strong and continued squally from W.S.W. all next day.

The prevailing winds were S.E., W.N.W., N.N.W., W.S.W. The mean force was 3.2, equivalent to a gentle breeze.

The range of visibility was very good. There was no experience of fog, a thick sea mist occurred on the evening of the 24th.

There was no experience of thunder, although clouds of a thundery type were observed on a few days, particularly so on the 18th, when clouds threatened rain, but only gave a few spots and clouds were dispersed by a freshening of wind. On the 24th was a stormy experience, a heavy thunder shower fell around 10 p.m., .18 inch being recorded 9.55 p.m. to 10.10 p.m., a little lightning occurred, but not severe. On the nights of 27th and 28th, flashes of lightning from distant storms were observed.

The total record of Ultra Violet Rays was $198\frac{1}{2}$ units, giving a mean daily value of 6.40 units. The amount of active rays, after deduction of the ordinary glass phial from the vita phial, was 139 units, which gives a mean daily record of 4.48 units. There were 11 units of vita rays, registered on 20th and 22nd, $7\frac{1}{2}$ or 7 units being active rays.

The mean relative humidity at 10 a.m. was 74%, and at 6 p.m., 67%, giving a mean percentage of 70, which is 5 per cent. below the average.

Mean daily amount of cloud at 10 a.m. was 4.9, and at 6 p.m., 5.1, giving a mean value of 5.0. There were 10 observations of "clear sky" against 9 of "overcast sky."

The mean daily percentage of Ozone was 22.

The mean temperature of the sea was 62.2° . Taken on 16 observations, the highest temperature was 63.0° on 5 days and the lowest was 61.0° on 2 days, so that temperature was fairly consistent.

Relating to optical phenomena, large Solar Haloes were observed on 7th, 11th, 16th and 29th, the colours being red, yellow and white. A large diameter, plain ring was observed around the moon before midnight of 16th. A small comet was seen at 11.18 p.m. on 9th, in N.W. direction, having a short silver tail. A partial rainbow was observed at 6.45 p.m. on 30th.

The holiday weather was very favourable. Sunday, the 4th August, was somewhat cloudy but dry and warm, the total sunshine this day being 6.8 hours. On the following day, Bank Holiday, weather was very fine, with a continuous record of sunshine totalling 13.8 hours, very warm, with a maximum temperature of 75.0° , quiet, a gentle to light S.E. to S. breeze prevailed, pleasant, and the range of visibility was very good.

SEPTEMBER

The month was a changeable one, very sunny periods, but also a few stormy periods, the latter part of the 16th, was notably stormy and slight damage was done locally, temperatures were normal or mild and fairly consistent, also most of rain fell at night.

The total sunshine record was 147.8 hours, giving a mean daily amount of 4.93 hours. This total shows a deficiency of 16.79 hours on the 36 years average. There were some very sunny periods, the 7th recorded 12.2 hours, being the sunniest, and in the latter half the 25th recorded 10.3 hours. There were 3 sunless days.

The total rainfall record was 3.94 inches, giving a mean daily amount of .13 inch. This total is 1.59 inches above 59 years average and 0.72 inch above the 5 years average. Rainfall of .01 inch or more occurred on 23 days, .04 inch or more occurred on 18 of these. The days of greatest amount were 16th, .48 inch, and 18th, .55 inch. There were also a few noteworthy falls of heavy rain in a short period; on 3rd, .34 inch fell between 7.45 and 8.15 a.m., on 4th, .45 inch fell between 5.37 and 6.10 a.m., and on 24th .11 inch fell in 13 minutes after 5 p.m. Of the month's total, 3.39 inches was the sum which fell in the nighttime, between 6 p.m. and 10 a.m., leaving only .55 inch as "daytime" rain.

The mean temperature was 59.5°. This is 1.0° higher than the 59 years average, and 0.8° higher than the 5 years average. Temperatures were mostly normal or mild and fairly consistent. The highest minimum was 59.0° on 15th, 20th and 28th, and 58.0° on several days, and the highest maximum was 69.0° on 20th. Temperatures were a little more variable in the last 7 days, the lowest minimum of 43.0° occurred on 26th, and the lowest maximum 58.0° on 30th, the lowest grass minimum was 38.0° on 26th.

The mean height of barometric pressure, 29.902 inches, is .135 inch below the 51 years average. In the first 10 days pressure rose from a little below to a little above normal reading at 30.224 inches on the 10th, being the highest for the month. The first few days were changeable with wind in the W.S.W. quarter, wind veered and came from S.E. or E.S.E., 7th—12th, giving fine or fair and mainly dry weather. Pressure became low and irregular in the middle of the month, giving periods of rain and strong wind, mainly at night, from the S.W. or W. quarter. Conditions were very stormy in the latter half of the 16th, there was rain between 3 and 10 p.m. during which .48 inch

fell, wind increased from S. and was strong gale to whole gale after 11.30 p.m. until 2 a.m. on 17th, the average velocity of wind was estimated to be 60 m.p.h. When the gale was at its height some damage was done locally such as slates and chimney pots dislodged and trees blown down. The pressure on 17th was at 29.395 inches, which was the lowest for the month. Pressure rose equally as it fell and wind was strong and squally from W.S.W. or W. all day on 17th. For the remainder of the month, pressure was at a fair height but unsteady, causing changeable conditions.

The prevailing winds for the month, as can be expected, were W.S.W., W. and E.S.E. On reviewing the record of daily observations of wind force, it is noticed that during the month there were only 10 observations of force 1—3, light to gentle breeze, as against 50 of force 4—7, moderate to high wind, so that the mean force of 4.2 is greater than usual.

The mean cloud amount was 6.2, which is 0.6 tenths above the average.

The mean relative humidity at 10 a.m. was 81%, and at 6 p.m., 75%, giving a mean of 78%. This is 1 per cent. less than the average.

Although weather was of a changeable nature, there was no experience of thunder.

The range of visibility was good. There was one instance of fog, a moderate sea fog, occurring intermittently on 21st.

The total units of Ultra Violet Rays were $145\frac{1}{2}$ units, giving a mean daily value of 4.85 units. The record of absolute rays, after deduction of the readings of the glass phial from the vita phial was $101\frac{1}{2}$ units, giving a mean daily value of 3.38 units.

The mean percentage of ozone was 36. Ozone was recorded on each day, the greatest amount being 80% on 17th.

The mean temperature of the sea was 60.6° . Taken at 11 observations, the highest readings were 62.0° on 1st, 4th, 13th and 15th, and the lowest were 58.5° on 18th and 24th.

Of optical phenomena, large Solar Haloes were observed on 8th, 20th, 23rd, 25th, 26th, 29th and 30th. On 23rd and 30th, at a little after 6.30 p.m., a mock sun ring (belonging to a Solar Halo), was also observed, with distinct colours of red, yellow and green. Rainbows were observed on 15th, 17th, 18th, 22nd and 30th. On 10th a Lunar Corona was observed on apparent clear sky.

OCTOBER

With a few exceptions, the weather during the month was fairly fine. Records of sunshine, rainfall and temperatures compare favourably with their respective averages. In the last 11 days, a cool snap was followed by a mild spell towards the end of the month.

The total sunshine record was 121.5 hours, giving a mean daily amount of 3.92 hours. This total is 5.36 hours above the 36 years average. There were some very fine sunny periods, notably in the first 12 days which totalled 68.1 hours, but the sunniest day of the month did not occur until the 21st, when 9.0 hours were recorded. There were 2 sunless days.

The total rainfall record was 3.43 inches, which gives a mean daily amount of .11 inch. This total is 0.43 inches less than the 59 years average but 0.29 inch above the 5 years average worked from the tabulated records of the past five years recording at Abbey Park. There were 19 days on which rainfall of .01 inch or more fell, but only 12 of these recorded .04 inch or more. A few noteworthy falls of heavy rain in a short period occurred, 4 days recorded a total of 2.30 inches, including the greatest daily amounts of .76 inch on 9th and .86 inch on 31st. Of the former record, .49 inch fell between 2.45 and 4.15 a.m. of 10th. On 31st rain started at 10.30 a.m. and continued, being heavy, 11.15 to 12.45 middle day, during which .40 inch fell, rain ceased 4 p.m. and by 5 p.m., .59 inch had been recorded, a further .27 inch fell at night, making the total for the day .86 inch.

The mean temperature was 52.6°. This is only 0.1° below the 59 years average, and 0.4° below the 5 years average. Day temperatures were fairly consistent until the 20th, the highest maximum was 63.0° on the 5th. Minimum temperatures were a little more variable, a low minimum of 39.0° on 12th rose to 55.0° on 15th and 16th. A cool snap prevailed 20th—23rd, brought about by a cold northerly current. Minimum temperature recorded 34.0° on 21st, and grass minimum read at 30.0°, recording 0.4° of frost, being the only occasion of frost during the month. A maximum of 52.0° was recorded on each—20th, 21st and 22nd. On the 22nd maximum temperature up to 5 p.m. was 46.0°, equally cold due to obscuration of sun after 10.15 a.m., with overcast skies and slight rain, but a milder temperature set in, so that the coldness was of short duration. The lowest maximum temperature was 51.0° on 25th. A very mild spell ensued 27th—30th, the highest minimum for the month, 57.0°, occurred on the 28th, when one of the highest maximum temperatures of

63.0° also was recorded. The warmth of this period was tempered somewhat by the prevalence of fresh, squally W.N.W. or N.W. winds. The 31st recorded a maximum of 59.0°.

The mean height of barometric pressure was 29.891 inches. This is 0.061 inches below the 51 years average. The reading on the 1st was 29.574 inches. This dropped to a very low height of 28.981 inches on the 3rd, which was the lowest for the month. The fall was occasioned by sunny periods and rainy periods, with a thundery tendency on 1st, a few rumbles of thunder and a flash of lightning accompanied a shower at 12.5 p.m. Pressure rose equally as it fell, but from 7th—11th somewhat irregular with heavy falls of rain on nights of 7th and 9th, the latter day recorded .76 inch, of which .49 inch fell between 2.45 a.m. and 4.15 a.m. of 10th, accompanied by strong squally W.S.W. winds, veering W.N.W. From 11th—19th, pressure was high and steady, weather was fair and mainly dry and quiet. The highest reading for the month occurred on the 17th, being 30.410 inches.

From 19th—30th pressure although lower, was at a fair height, rainfall was small. The last two days of the month were stormy, with much rain on the 31st, stormiest part being the afternoon of 31st with heavy rain and strong squally south-westerly winds with few gale gusts. The stormy periods were of short duration.

The prevailing winds were W.S.W., W.N.W., N.N.W., W. and N.W. The mean force was 3.8.

The range of visibility was good. There was no experience of mist or fog.

The mean cloud amount was 6.0. This is 0.1 below the average.

The total units of Ultra Violet Rays were $67\frac{1}{2}$ units, giving a mean daily amount of 2.18 units. The total units of absolute rays, after deduction of the ordinary glass phial from the vita phial were $40\frac{1}{2}$ units, giving a mean daily value of 1.31 units.

The mean relative humidity at 9 a.m. was 82%, and at 5 p.m. 75%, giving a mean daily value of 78 per cent. This is 3 per cent. below the average.

The mean daily amount of ozone was 33%.

The mean temperature of the sea was 55.5°. Taken on 10 observations, the highest reading was 58.0° on 1st, and lowest readings were 53.0° on 21st and 24th.

A very slight experience of thunder occurred on the 1st, a few rumbles about 12.5 p.m. with a flash of lightning, followed by a fast shower of rain.

Of optical phenomena, large Solar Haloes were observed on 13th and 17th, Lunar Coronae were observed on 13th, 16th and 17th, and a large plain ring was observed around the moon on the 8th, between 9 p.m. and 11 p.m. of very large diameter. Rainbows were observed on 1st, 3rd, 9th, 10th, 11th, 19th, 24th, 26th, 29th and 30th.

NOVEMBER.

This month was very unsettled and rainy until the 21st and again on 30th, due to depressions continuously crossing the British Isles, the mean barometric pressure, 29.681 inches, is .253 inch below the average.

Notwithstanding the unsettled state, the sunshine record was good, the total 82.9 hours is 4.74 hours above the 36 years average. Sun shone on 25 days, and the 24th and 25th, were very sunny with 7.6 hours and 7.9 hours respectively. This month's total greatly exceeds the total for the same month last year which recorded 36.5 hours.

The total rainfall record 6.31 inches, is 2.56 inches above the 59 years average, and 2.52 inches above the 5 years average. Of this total, 5.68 inches was the record of 11 days, so that the abnormal total resulted from heavy or very heavy falls in short periods. The day of greatest amount was 14th with 1.12 inches. On this day rain fell more or less all day with very heavy falls in latter part, .49 inch fell in 75 minutes, around 2 p.m. and 5 p.m., and over half an inch fell at night. Other noteworthy falls were .89 inch on 16th and .86 inch on 30th. Of the former record, mainly night rain, .48 inch fell in the space of 4 hours, 8 p.m. to midnight. On 30th there were rainy periods, over half an inch fell at night. The driest period was from 21st—30th, when only .04 inch fell.

Temperature was about normal, the mean 46.3° , is 1.0° above the 59 years average, and 0.8° above the 5 years average. The mildest periods were at the beginning and end of the month, the highest maximum temperatures were 59.0° on 2nd and 3rd, and 57.0° on 28th, and the highest minimum temperature was 55.0° on 3rd. Day temperatures were normal generally, but night temperatures were low, 6th—27th, the mean minimum in screen for this period of 21 days was 37.8° and grass minimum 31.1° . Ground frost was recorded on 7 occasions, but temperature in screen only recorded below freezing point on 2 of these. After a low maximum of 44.0° on 24th, temperature fell that night to 29.0° , ending 9 a.m., 25th, grass minimum at 24.8° , recording 5.6° frost, temperature rose to 49.0° , but fell again at night, minimum on 26th being 31.0 , and grass minimum recorded

4.0° frost. The sharpest ground frost, however, occurred on the 21st, the grass minimum at 24.0° recorded 6.4° frost. Much milder temperatures ensued after 26th. Hoar frost lay at 9 a.m. on 25th, dry bulb at 34.2°, being the only occasion of frost still lying at that hour.

The mean height of barometric pressure was 29.681 inches. This is .253 inch below the 51 years average. The mean height for the first 20 days was 29.558 inches. Although low there were periods of steadiness with fair and quiet weather, of a showery nature. The stormy parts were 3rd and 4th, with periods of strong squally wind, S.S.W.—S.S.E. showers; strong squally wind backing S.—S.E., with heavy rain, totalling .52 inch on night of 11th, strong squally S.S.E. winds night of 14th, with heavy rain, the day was rainy but with less wind. The lowest reading of pressure was 29.210 inches on 17th, this fall was occasioned by a heavy fall of rain, totalling .89 inch. Weather was wild most of day on 19th, rainy with strong squally S.E.—S. winds, veered eve. Dry weather ensued 21st—30th, and an anticyclone gave brilliant sunny weather on 24th and 25th, on latter day pressure read at 30.233 inches, being the highest for the month. Weather was also mainly quiet, wind was strong from W.N.W. latter part of 28th. The 30th was stormy, rainy, total fall being .86 inch, with squally south-westerly winds, moderate gale gusts, weather also mild with some mist, making a typical end to the month.

The prevailing winds were W.S.W., W., S.W. and N.W. The mean force was 3.3, gentle to moderate breeze.

The range of visibility was good or moderate, very good for the time of the year, and almost free from fog. A short period of rain fell around 9 a.m. on 13th, air temperature was cool, a slight terrestrial fog resulted, being the only occasion in the month.

The mean cloud amount was 6.1. This is 0.4 less than the average.

The total record of Ultra Violet Rays was $52\frac{1}{2}$ units, giving a mean daily value of 1.75 units. The total of absolute rays after deduction of the ordinary glass phial from the vita phial, was 30 units, which gives a mean daily value of 1.00 unit.

The mean relative humidity at 9 a.m. was 84%, and at 5 p.m. 80%, giving a mean daily amount of 82%. This is 2 per cent. less than the average.

The mean daily amount of ozone present was 36%.

The mean temperature of the sea was 51.7°. Taken at 9 observations, the highest reading was 55.0° on the 2nd, and the lowest was 48.0° on 25th.

Precipitation of hail accompanied showers on 12th and 15th chiefly rain, of short duration.

Of optical phenomena, large Solar Haloes were observed at 8.45 a.m. on 2nd and 27th, and Lunar Coronae were observed at 7.30 p.m. on 4th, and 6.40 a.m. on 18th. A large plain ring was visible around the moon between 7 p.m. and 9 p.m. on 6th. Rainbows were observed on 8th, 10th, 12th, 13th, 16th and 29th.

DECEMBER

Summarising the climatic conditions for December. From the 1st to the 23rd was fairly fine or fair, dry conditions, with about normal temperatures, but became much below normal from the 19th to the 23rd, with every prospect of skating, but a very mild period set in on the 24th and remained so to the end of the month so that this hope was spoiled. This period was also a very rainy one, as much as 3.88 inches fell, most all of which fell during the night time, so that there were very few bad rain (daytime) days in the month.

The weather on Christmas Day and Boxing Day was mainly fair, cloudy but nice sunny intervals middle part of day, little rain, very mild, with pleasant breezes between S. and W., although stronger and squally in evening of 26th, with good visibility.

The sunshine record was good, the total 70.4 hours is 13.72 hours above the average for 36 years. Only 7 days were sunless. The sunniest day was the 21st with 7.1 hours.

The total rainfall was 5.07 inches. This is much less than December, 1934, which was very wet with 10.33 inches. The differences from the averages are .78 inch above the 59 years average and .88 inch above the 5 years average. Rain fell on 20 days of .01 inch or more, of which 16 recorded more than .04 inch. The first 22 days recorded 1.19 inches. The greatest daily amount in this period was .32 inch on night of 4th, the heaviest period occurred between 9.30 p.m. and 10.30 p.m. when .21 inch fell. The last nine days of the month recorded as much as 3.88 inches. The largest amounts were .80 inches on 26th, .77 inches on 29th, and .68 inches on 30th, only .23 inch of these totals was day rain. Noteworthy falls of heavy rain in short periods were .45 inch between 2.50 a.m. and 4.20 a.m. on 27th, .57 inch

between 4.50 p.m. and 9.10 p.m. on 29th, and .37 inch between 3.40 a.m. and 6 a.m. on 31st. On dissecting the rainfall record it is found that 4.43 inches is the sum that fell between 5 p.m. and 9 a.m. and .64 inch that which fell between 9 a.m. and 5 p.m. (daytime).

The mean temperature was 42.2° . This is 8.1° less than last year and 2.0° and 2.1° below the 59 years and 5 years averages respectively. Temperatures were about normal or moderate in the first 23 days, but became much below normal 19th—23rd. On each day the minimum (night temperature) in the screen recorded temperatures below freezing point, the lowest record being 24.4° on the 22nd, on this same night or morning the grass minimum read 20.2° , recording 10.2° of ground frost, which was the greatest amount of 7 ground frosts. Other lowest temperatures during the cold spell were maximum 38.0° on 20th, dry bulb, 9 a.m. 27.8° on 22nd, and lowest dry bulb 5 p.m., 31.8° on 22nd. A particularly mild spell ensued 24th to the end of the month, the highest maximum temperature 53.0 was recorded on 26th, 27th and 31st, and highest minimum 48.0° on 26th and 31st.

The mean height of barometric pressure was 29.645 inches. This is 0.306 inch below the 51 years average. Pressure rose from a height of 29.077 inches on the 1st. Weather became fair and dry, particularly 7th—14th. The highest pressure for the month read at 30.449 inches on 10th. Wind came from the N.E. quarter, moderate or fresh and lessened in force in next few days, changing direction on 14th. Fine or fair weather ensued, although pressure lower, mainly quiet. The mild and unsettled conditions at the end of the month were occasioned by the sharp fall in pressure of $\frac{1}{10}$ ths inches from 23rd—24th, and remained low to the end of the month, the lowest reading for the month was 28.782 inches on 26th. Weather was quiet generally and the stormy parts were of short duration. Moderate gale gusts from S.S.E. occurred on 24th, and on 30th wind was squally all day but more boisterous at night from a westerly direction with moderate gale gusts.

The prevailing winds for the month were N.N.W., N.W., N.E. and the mean force was 3.4.

The range of visibility was moderate. Due to the general quietness, a little mist or fog was experienced, fog on 4 occasions, very short on 6th and 22nd, 10.30 a.m. to 2 p.m. on 18th, and 9.30 a.m. to "noon" on 20th.

The mean cloud amount was 6.5. This is 0.2 less than the average. There were 20 observations of "overcast sky" against 2 "clear sky."

The total record of Ultra Violet Rays was $39\frac{1}{2}$ units, giving a mean daily amount of 1.27 units. The total of absolute rays, after deduction of the ordinary glass phial from the vita phial, was $15\frac{1}{2}$ units, giving a mean of .50 unit.

The mean relative humidity at 9 a.m. was 84%, and at 5 p.m. 78%, giving a mean daily value of 81%. This is 5 per cent. below the average.

The mean daily value of ozone was 34%.

Precipitation of hail accompanied heavy showers of rain on 2nd and 30th.

There was a slight experience of thunder, a rumble was heard at 6 a.m. on 30th, followed by a flash of lightning.

Of optical phenomena, large Solar Haloes were observed on 18th and 22nd, Lunar Coronae on 4th, 6th, 7th, 8th and 10th, and large plain rings were observed around moon on nights of 3rd, 5th and 31st. Rainbows were observed on 4th and 6th.

The mean temperature of the sea was 47.0° . Taken at 10 observations, the highest reading was 49.0° on the 2nd, and the lowest was 44.0° on the 21st.

BAROMETRIC PRESSURE

Taken at 9 a.m. (G.M.T.) at PRINCESS GARDENS OBSERVATORY.

(in inches and thousandths).

Reduced to 32° F. and Sea Level.

1935 Month.	Mean of Month. Inches.	Difference from Average 51 years. Inches.	Highest Reading. Inches.	Date.	Lowest Reading. Inches.	Date.	Extreme Range of Pressure. Inches.
January ...	30.330	+ 0.267	30.722	21st	29.618	25th	1.104
February ...	29.792	- 0.208	30.366	7th	29.765	25th	1.601
March	30.179	+ 0.243	30.627	8th	29.402	1st	1.225
April	29.855	- 0.057	30.358	29th	29.407	17th	0.951
May	30.073	+ 0.097	30.452	8th	29.815	4th	0.637
June	29.895	- 0.133	30.429	28th	29.440	5th	0.989
July	30.141	+ 0.139	30.323	4th	29.610	20th	0.713
August	30.021	+ 0.043	30.408	6th	29.492	28th	0.916
September .	29.902	- 0.135	30.224	10th	29.395	17th	0.829
October ...	29.891	- 0.061	30.410	17th	28.981	3rd	1.429
November ..	29.678	- 0.253	30.233	25th	29.210	17th	1.023
December ..	29.645	- 0.306	30.449	10th	28.782	26th	1.667
Year	29.950	- 0.030	30.722	21st Jan.	28.765	25th Feb.	1.957
1934 Means	29.989	+ 0.009	30.921	16th Feb.	28.676	15th Dec.	2.245

SHADE TEMPERATURES

Taken at 9 a.m. (G.M.T.)
IN DEGREES FAHRENHEIT
AT ABBEY PARK OBSERVATORY

1935	Maximum Mean	Minimum Mean	Mean Temperature	Difference from Av'ge 59 yrs.	Mean Daily Range	Highest Maximum	Date	Lowest Minimum	Date	Lowest Temperature on Grass	Date
	°	°	°	°	°	°		°		°	
Jan. ...	48.1	39.7	43.9	1.0 +	8.4	56.0	1st 2nd	29.0	9th	24.8	9th
Feb. ...	50.1	40.1	45.1	1.9 +	10.0	56.0	2nd & 13th	31.0	9th & 26th	26.7	24th
March	51.0	38.2	44.6	0.2 +	12.8	63.0	21st	30.0	9th	23.6	12th
April ..	54.9	43.5	49.2	0.9 +	11.4	61.0	24, 26 & 30th	33.0	5th	26.2	5th
May ...	58.7	45.9	52.3	1.3 -	12.8	74.0	6th	32.0	17th	26.2	17th
June ..	63.6	53.2	58.4	0.2 -	10.4	79.0	24th	44.0	9th	39.0	9th
July ...	71.6	57.3	64.5	2.6 +	14.3	84.0	14th 8th,	50.0	31st	46.0	31st
Aug. ...	69.9	55.0	62.5	0.8 +	14.9	76.0	10th & 21st	46.0	28th	41.0	28th
Sept. ..	64.8	54.2	59.5	1.0 +	10.6	69.0	20th	43.0	26th	38.0	26th
Oct. ...	58.4	46.8	52.6	0.1 -	11.6	63.0	28th	34.0	21st	30.0	21st
Nov. ...	52.5	40.2	46.3	1.0 -	12.3	59.0	2nd 3rd	29.0	25th	24.0	21st
Dec. ...	47.0	37.4	42.2	2.0 -	9.6	53.0	26, 27 & 31st	24.4	22nd	20.2	22nd
Year	57.5	45.9	51.7	0.3 +	11.6	84.0	14th July	24.4	22nd Dec.	20.2	22nd Dec.
1934 Means	58.1	45.8	51.9	0.5 +	12.3	82.0	18th July	25.0	3rd Feb.	22.0	3rd Feb.

Torquay 1935

MEAN TEMPERATURES (5 YEARS)

MONTH		Maximum	Minimum	Mean Temp	1935 Diff'ce.
		°F.	°F.	°	°
January	...	48.1	37.7	43.1	0.8 +
February	...	45.9	35.8	40.8	4.3 +
March	...	49.7	38.2	43.9	0.7 +
April	...	53.5	41.9	47.7	1.5 +
May	...	59.3	47.3	53.3	1.0 -
June	...	66.2	52.8	59.5	1.1 -
July	..	68.5	55.7	62.1	2.4 +
August	...	68.5	55.8	62.1	0.4 +
September	...	64.7	52.7	58.7	0.8 +
October	...	58.7	47.2	53.0	0.4 -
November	...	52.4	41.9	47.1	0.8 -
December	...	49.1	39.5	44.3	2.1 -
Year	...	57.0	45.5	51.3	0.4 +

SUNSHINE RECORDS. PRINCESS PIER OBSERVATORY. HOURS AND HUNDRETHS.

Authenticated by the Meteorological Office, London.

1935 MONTH	Monthly Totals Hours and Hund'ths.	Percent- age of possible duration %	Mean of Daily Sunshine hours	Difference from Av'ge Month for 36 years.	Difference from Average for 36 years. to-date.	Days of Most Hours of Sunshine.		Number of Days on which Sunshine was Recorded.	Number of Days giving an Amount above a given Number of Hours according to the Season.
						Hours.	Date.		
January	77.90	30	2.51	13.75 +	13.75 +	8.2	27th	27	10 days of 4 hours and over
February	74.10	27	2.64	9.92 -	3.83 +	8.3	9th	23	9 " 4 " "
March	127.90	35	4.12	9.81 -	5.98 -	10.3	20th	27	11 " 5 " "
April	169.90	41	5.66	9.53 -	15.51 -	11.9	24th	29	10 " 7 " "
May	174.50	36	5.63	45.64 -	61.15 -	14.3	23rd	27	11 " 8 " "
June	197.00	40	6.57	36.30 -	97.45 -	15.6	28th	27	8 " 8 " "
July	290.00	59	9.35	56.07 +	41.38 -	15.3	7th	29	19 " 8 " "
August	221.50	50	7.14	11.20 +	30.18 -	13.9	6th	28	14 " 8 " "
September	147.80	40	4.93	16.79 -	46.97 -	12.2	7th	27	9 " 7 " "
October	121.50	37	3.92	5.36 +	41.61 -	9.0	21st	29	13 " 5 " "
November	82.90	31	2.76	4.74 +	36.87 -	7.9	25th	25	10 " 4 " "
December	70.40	29	2.27	13.72 +	23.15 -	7.1	21st	24	6 " 4 " "
Totals...	1755.40	40%			23.15 -	15.6	June 28th	322	
Means ...	4.81								
1934	1824.70								
Means ...	5.00	41%			47.48 +	15.0	July 6th	305	

RAINFALL

(in Inches). Records taken at ABBEY PARK OBSERVATORY.

1935. MONTH.	Monthly Totals.	Difference from Average Month for 59 years.	Difference from Average of 59 years to-date.	Greatest fall in 24 hours. Amount and Date.		Rainy Days.		Number of Days on which "Trace" only was recorded.	Total Number of Days on which rain fell.
						Days of 0.01 to 0.03 inch	Days of 0.04 inch or more.		
January ...	Inches. 0.50	Inches. 2.96 —	Inches. 2.96 —	Inches. 0.18	Date. 25th	2	5	5	7
February ...	4.25	1.43 +	1.53 —	0.85	24th	4	15	3	19
March ...	1.26	1.41 —	2.94 —	0.50	1st	3	6	6	9
April ...	3.68	1.43 +	1.51 —	0.65	15th	2	17	0	19
May ...	2.67	0.76 +	0.75 —	0.93	17th	4	7	3	11
June ...	4.36	2.44 +	1.69 +	1.13	6th	4	16	2	20
July ...	0.32	1.85 —	0.16 —	0.16	18th	2	2	3	4
August ...	2.35	0.29 —	0.45 —	1.04	30th	4	7	0	11
September	3.94	1.59 +	1.14 +	0.55	18th	5	18	3	23
October ...	3.43	0.43 —	0.71 +	0.86	31st	7	12	4	19
November	6.31	2.56 +	3.27 +	1.12	14th	4	18	2	22
December	5.07	0.78 +	4.05 +	0.80	26th	4	16	2	20
Total ...	38.14		40.5 +	1.13	June 6th	45	139	33	184
Mean	0.10								
1934	33.87 0.09		0.23 —	0.80	Nov. 13	36	135	36	171

**MONTHLY MEANS
FOR TWENTY-FIVE YEARS.
1911-35 inclusive.**

MONTH.	TEMPERATURE OF AIR.				Humidity per cent.	Hours of Sunshine Hours & Hund'ths.	Cloud. Amounts 0 to 10.	RAIN.	
	Maximum.	Minimum.	Mean daily range.	Mean Temperature				Days it fell.	Total Inches and Hund'ths.
	°	°	°	°	%				
January	48.2	39.2	9.0	43.7	85	62.22	6.9	17	3.68
February	48.2	39.1	9.1	43.6	82	78.53	6.7	15	3.00
March	50.3	39.5	10.8	44.9	78	133.92	6.0	15	2.72
April	54.4	42.5	11.9	48.5	74	178.73	5.7	14	2.19
May	60.6	48.2	12.4	54.4	74	212.86	5.5	13	1.86
June.....	65.4	52.4	13.0	58.9	72	239.05	5.1	10	1.69
July	68.7	56.1	12.6	62.4	73	230.31	5.5	12	1.93
August.....	68.1	55.8	12.3	62.0	75	202.97	5.6	13	2.88
September....	64.8	53.0	11.8	58.9	79	162.42	5.6	13	2.61
October.....	58.6	48.2	10.4	53.4	81	117.77	6.1	16	3.67
November	52.0	42.1	9.9	47.1	84	75.77	6.5	16	4.09
December	49.2	40.4	8.8	44.8	86	59.79	6.7	19	4.92
Year.....	57.4	46.4	11.0	51.9	78	1754.34	6.0	173	35.24

OBSERVATIONS OF WIND DIRECTIONS.

Taken from PRINCESS PIER OBSERVATORY (9 a.m. and 5 p.m. G.M.T.)

1935 MONTH	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	N.E. N.E.	E. N.E.	E. S.E.	S. S.E.	S. S.W.	W. S.W.	W. N.W.	N. N.W.	Calm.	Total Number Observations
January	7	1	2	0	0	0	2	15	1	3	0	0	0	2	9	20	0	62
February	0	3	0	1	1	9	10	5	1	3	0	0	2	8	10	3	0	56
March	1	5	7	12	1	2	8	6	3	2	1	1	2	3	5	3	0	62
April	3	2	5	2	3	3	4	3	2	2	0	5	3	13	5	5	0	60
May	1	11	5	5	0	2	0	2	8	11	4	4	1	3	0	5	0	62
June	0	1	1	9	4	8	5	1	0	3	5	4	2	13	3	1	0	60
July	2	5	1	12	1	2	8	5	1	1	2	5	0	2	9	6	0	62
August	3	1	0	13	3	5	4	4	1	1	0	3	4	6	7	7	0	62
September ...	0	0	0	4	4	3	11	4	0	1	7	2	2	15	3	4	0	60
October	0	1	0	1	1	5	9	9	0	0	0	2	0	12	11	10	1	62
November ...	1	1	0	1	0	7	11	6	1	2	1	2	3	13	5	5	1	60
December	6	7	0	2	3	4	6	7	1	2	0	2	2	3	6	11	0	62
Year	24	38	21	62	21	50	78	67	19	31	20	30	21	93	73	80	2	730
1934	14	35	27	60	21	63	69	70	13	37	20	37	34	96	43	86	5	730

WIND FORCES.

Observations taken at PRINCESS PIER OBSERVATORY.

Force 8 or more indicates gale, or strong gale ; 4—7, moderate to high wind ; 1—3, light to gentle breezes.

1935 MONTH.	Forces 8 or more at other Obs'ns.	Forces 8 or more at Obs'n Hours.	Force 4—7	Force 1—3	Calm	Mean Daily Force	Total Number Observations.	Prevailing Winds.
January	2	0	33	29	0	3.5	62	N.N.W., N.W.
February	6	1	46	9	0	4.2	56	W., W.N.W., S.W., W.S.W.
March	0	0	33	29	0	3.4	62	S.E., W., E.
April	4	0	43	17	0	4.0	60	W.S.W., N.N.W., W.N.W., E., S.S.E.
May	0	0	33	29	0	3.4	62	N.E., N.N.E., E.N.E.
June	0	0	42	18	0	3.9	60	W.S.W., S.E., S.W.
July	0	0	35	27	0	3.6	62	S.E., W., W.N.W., N.N.W.
August	0	0	26	36	0	3.2	62	S.E., W.N.W. N.N.W., W.S.W.
September ...	1	0	50	10	0	4.2	60	W.S.W., W., E.S.E.
October	0	0	43	18	1	3.8	62	W.S.W., W.N.W., N.N.W., W., N.W.
November ...	0	0	29	30	1	3.3	60	W.S.W., W., S.W., N.W.
December ...	0	0	29	33	0	3.4	62	N.N.W., N.W., N.E., W. to N.
Totals	13	1	442	285	2	3.66	730	W.S.W., N.N.W. W., W.N.W., N.W., S.E.
1934	7	0	491	234	5	3.76	730	W.S.W., N.N.W., N.W., W., S.W. and S.E.

OBSERVATIONS OF CLOUD AMOUNTS.

Cloud forms, higher and lower, and the direction they are moving, are also observed, and is a very important observation. Cloud amounts are of rapid change.

“0” indicates clear sky ; and “10” overcast sky.

1935 MONTH.	0.	1 to 3.	4 to 6.	7 to 9.	10.	Number of Observations.
January	3	16	11	21	11	62
February	1	6	14	17	18	56
March	8	10	17	12	15	62
April	3	7	25	9	16	60
May	1	17	17	12	15	62
June	3	12	19	13	13	60
July	17	14	15	8	8	62
August	10	13	16	14	9	62
September	2	11	19	12	16	60
October	2	18	9	22	11	62
November	1	17	9	20	13	60
December	2	13	10	17	20	62
Totals ...	53	154	181	177	165	730
1934 ...	52	165	156	177	180	730

TEMPERATURES AND HUMIDITY, Also CLOUD, OZONE and WIND.

Observations made at ABBEY PARK and PRINCESS PIER
OBSERVATORIES.

1935. MONTH	HUMIDITY.			CLOUD Cloud mean 0 to 10.	OZONE. Percentage of possible. Mean Daily Amount.	WIND. Prevailing Quarters.	GRASS TEMPERATURES.		
	Dry Bulb mean. Air Temp. 9 a.m., 5 p.m. readings G.M.T.	Wet Bulb mean. 9 a.m., 5 p.m. readings G.M.T.	Relative Humidity mean per cent. Saturation 100				Mean.	Lowest.	No. of days at or below 30.4° F.
January	43.8	40.9	77	5.9	23	N.N.W., N.W.	36.2	24.8	9
February	45.9	43.2	78	7.1	49	W., W.N.W., S.W., W.S.W.	36.2	26.7	6
March ...	46.2	43.4	79	5.6	31	S.E., W., E.	34.4	23.6	8
April ...	50.7	46.8	73	6.3	55	W.S.W. N.N.W. W.N.W., E., S.S.E.	39.8	26.2	3
May	54.1	49.2	69	6.0	40	N.E., N.N.E., E.N.E.	43.1	26.3	1
June.....	59.9	56.1	78	6.0	38	W.S.W., S.E., S.W.	50.5	39.0	0
July	67.1	61.3	70	4.0	23	S.E., W., W.N.W. N.N.W.	54.0	46.0	0
August...	65.0	59.3	70	5.0	22	S.E., W.N.W., N.N.W., W.S.W.	51.7	41.0	0
September	60.9	57.0	78	6.2	36	W.S.W., W., E.S.E.	50.6	38.0	0
October	53.7	50.5	78	6.0	33	W.S.W., W.N.W. N.N.W., W., N.W.	42.2	30.0	1
November	47.2	44.9	82	6.1	36	W.S.W., W., S.W., N.W.	34.1	24.0	7
December	42.5	40.3	81	6.5	34	N.N.W., N.W., N.E.	34.6	20.2	7
Year...	53.1	49.4	76%	5.9	34%	W.S.W., N.N.W., W., W.N.W., N.W. and S.E.	42.3	20.2 Dec.	42
1934 Means	53.5	49.8	76%	5.9	34%	W.S.W., N.N.W., N.W., W., S.W. and S.E.	42.1	22.0 Feb.	50

**OBSERVATIONS OF FROST, HAIL, SNOW,
SLEET, THUNDER AND LIGHTNING, FOG,
AND STATE OF VISIBILITY.**

1935 MONTH.	Days of Frost.	Hail.	Snow or Sleet.	Thunder and Light- ning.	Fog.	Range of Visibility.	Duration of Fog.
January	9	1	0	0	2	Good generally	Short
February	6	3	1	1	1	Good	Very short
March	8	0	2	1	3	Moderate	Short
April	3	0	0	1	0	Good	nil
May	1	0	1	0	1	ditto	Very short
June	0	0	0	4	2	ditto	ditto
July	0	0	0	1	1	Very Good	ditto
August	0	0	0	0	0	ditto	nil
September ...	0	0	0	0	1	Good	Short
October	1	0	0	1	0	ditto	nil
November ...	7	2	0	0	1	Good or Moderate	Very short
December ...	7	2	0	1	4	Moderate	Short
Totals ..	42	8	4	10	16		
1934 ...	50	6	1	8	19		

METEOROLOGICAL ABSTRACT, 1935.

ABBEEY PARK AND PRINCESS PIER OBSERVATORY.

	1935	1934
Highest Shade Temperature ...	84.0°F.	82.0°F.
Lowest Shade Temperature ...	24.4°F.	25.0°F.
Mean Maximum Temperature ...	57.5°F.	58.1°F.
Mean Minimum Temperature ...	45.9°F.	45.8°F.
Mean Temperature ...	51.7°F.	51.9°F.
Mean Range of Temperature ...	11.6°F.	12.3°F.
Total Rainfall ...	38.14 inches	33.87 inches
Mean Humidity ...	76%	76%
(percentage of possible 100)		
Hours of Bright Sunshine ...	1755.40	1824.70
Sunny Days ...	322	305
Mean Ozone ...	35%	34%
(percentage of possible 100)		
Prevailing Winds ...	W.S.W., N.N.W., W., W.N.W., N.W., S.E.	W.S.W., N.N.W., N.W., W., S.W., S.E.
Mean Daily Units of Ultra-Violet Rays	3.77	4.53

Torquay Observatory (Abbey Park and Princess Pier)
For the year 1935.
Height O.D. 27ft.

RAINFALL.			TEMPERATURES IN SCREEN							Humidity 9 a.m. 0—10	Cloud 9 a.m. 0—10	Sunshine hours	Sunless Days
Month	Total Depth	Greatest fall in 24 hours	Wet Days in and over	MEANS			EXTREMES						
				Depth	Date	°F.	Maxi- mum	Mini- mum	°F.				
January	0.50	0.18	25th	7	°F. 43.0	°F. 48.1	°F. 39.7	°F. 43.9	°F. 29.0	°F. 56.0	6.0	77.90	4
February	4.25	0.85	24th	19	44.4	50.1	40.1	45.1	31.0	56.0	7.2	74.10	5
March	1.26	0.50	1st	9	43.9	51.0	38.2	44.6	30.0	63.0	6.2	127.90	4
April	3.68	0.65	15th	19	49.1	54.9	43.5	49.2	33.0	61.0	6.3	169.90	1
May	2.67	0.93	17th	11	51.9	58.7	45.9	52.3	32.0	74.0	6.5	174.50	4
June.....	4.36	1.13	6th	20	58.9	63.6	53.2	58.4	44.0	79.0	6.2	197.00	3
July	0.32	0.16	18th	4	65.5	71.6	57.3	64.5	50.0	84.0	4.5	290.00	2
August.....	2.35	1.04	30th	11	62.8	69.9	55.0	62.5	46.0	76.0	4.9	221.50	3
September ...	3.94	0.55	18th	23	59.9	64.8	54.2	59.5	43.0	69.0	6.3	147.80	3
October	3.43	0.86	21st	19	52.5	58.4	46.8	52.6	34.0	63.0	5.9	121.50	2
November ...	6.31	1.12	14th	22	46.2	52.5	40.2	46.3	29.0	59.0	6.4	82.90	5
December ...	5.07	0.80	26th	20	41.5	47.0	37.4	42.2	24.0	53.0	6.5	70.40	7
WHOLE YEAR	38.14	1.13	June 6th	184	51.6	57.5	45.9	51.7	24.0	84.0	6.1	1755.40	43
Highest Daily Temperature	84.0°F.	July 14th	Highest Barometer Reading	30.722 inches	January 21st								
Lowest " "	24.0	Dec. 22nd	Lowest " "	28.765	February 25th								
" " Grass Temperature	20.2	Dec. 22nd	Heaviest Daily Fall of Rain	1.13	June 6th								
			Sunniest Day ..	15.6 hours	June 28th								

MEAN DAILY UNITS ULTRA-VIOLET RAYS.

(By Acetone Methylene Blue Gauge).

	1935	1934
January	1.22	1.14
February.....	1.69	1.39
March	3.55	2.37
April	4.60	3.38
May.....	4.05	9.45
June.....	5.75	8.60
July.....	7.79	7.88
August.....	6.40	6.87
September.....	4.85	7.80
October.....	2.18	3.01
November.....	1.75	1.15
December	1.27	1.11
Mean Daily.....	3.77	4.53

UNITS OF ULTRA-VIOLET RAYS.

MONTHLY, 1935

Totals and Means.

	Total Units.	Daily Mean.
January	38	1.22
February.....	47½	1.69
March.....	110	3.55
April.....	138	4.60
May.....	125½	4.05
June.....	172½	5.75
July.....	241½	7.79
August.....	198½	6.40
September.....	145½	4.85
October.....	67½	2.18
November.....	52½	1.75
December.....	39½	1.27
Year.....	1376½	3.77

SEA TEMPERATURE.

TAKEN 90 YARDS FROM THE SHORE.

1935 MONTH	Highest Temp- erature.	Date.	Lowest Temp- erature.	Date.	Number of Obser- vations.	Mean Temp- erature.	Extreme Range of Temp- erature.
	°F.		°F.			°F.	°F.
January	51.0	1st	44.5	29th	9	47.7	6.5
February	47.0	18th	44.5	9th	7	45.8	2.5
March	48.0	30th	42.5	12th	9	45.9	5.5
April	52.0	30th	46.0	3rd, 6th	9	49.2	6.0
May	54.0	29th	51.0	18th, 21st	10	52.2	3.0
June	61.0	25th	54.0	8th, 16th, 19th	14	56.5	7.0
July	64.0	15th	58.5	22nd	19	61.1	5.5
August	63.0	11th, 17th, 21st, 23rd, 26th	61.0	3rd, 13th	16	62.2	2.0
September ...	62.0	1st, 4th, 13th, 15th	58.5	18th, 24th	11	60.6	3.5
October	58.0	1st	53.0	21st, 24th	10	55.5	5.0
November ...	55.0	2nd	48.0	25th	9	51.7	7.0
December ...	49.0	2nd	44.0	21st	10	47.0	5.0
Whole Year	64.0	July 15th	42.5	March 12th	133	54.4	7.0 June & Nov.

GROUND TEMPERATURES

FOUR FEET BELOW THE SURFACE

Taken at 9 a.m. G.M.T. at ABBEY PARK OBSERVATORY

1935				Mean of Month	Highest Reading	Lowest Reading
				°F.	°F.	°F.
January	...	...		47.9	50.2	45.7
February	...	...		46.0	47.0	45.0
March	...	...		45.9	48.0	44.5
April	...	...		49.3	51.7	47.9
May	...	...		52.9	54.0	51.8
June	...	...		56.4	59.4	54.4
July	...	...		61.9	63.8	59.6
August	...	...		64.3	65.0	63.3
September	...	...		61.8	63.0	60.5
October	...	...		57.6	60.4	55.2
November	...	...		52.2	55.3	49.0
December	...	...		46.5	49.0	44.0
Mean Year	...	...		53.6		

SUNSHINE VALUES FOR 1935.

Aberystwyth (M.O.H.)	...	1544.4
Bath	...	1565.8
Berwick-on-Tweed	...	1393.0
Bexhill	...	1757.9
Birmingham	...	1450.7
Blackpool	...	1615.9
Bognor Regis	...	1728.5
Bournemouth	...	1734.5
Bridlington	...	1563.7
Brighton	...	1715.8
Buxton	...	1384.9
Cheltenham	...	1544.5
Clacton	...	1797.4
Colwyn Bay	...	1479.1
Cromer	...	1731.0
Douglas	...	1725.6
Dover	...	1804.5
Eastbourne	...	1789.3
Exmouth	...	1519.4
Falmouth	...	1603.2
Felixstowe	...	1842.2
Folkestone	...	1792.0
Guernsey	...	1729.8
Harrogate	...	1464.5
Ilfracombe	...	1521.3
Leamington	...	1438.0
Llandudno	...	1544.9
London—Kew Observatory	...	1511.0
Lowestoft	...	1877.0
Margate	...	1835.9
Newquay	...	1557.6
Paignton	...	1619.3
Plymouth	...	1644.8
Rhyl	...	1540.0
Ross-on-Wye	...	1571.9
Sandown	...	1893.7
Scarborough	...	1510.9
Scilly	...	1710.9
Sidmouth	...	1666.2
Tenby	...	1676.3
TORQUAY	...	1755.4
Tunbridge Wells	...	1621.5
Ventnor Hospital	...	1774.9
Weymouth	...	1706.2
Worthing	...	1802.2
Yarmouth	...	1780.8

METEOROLOGICAL OFFICE—AIR MINISTRY

SUNSHINE IN 1935

The table gives monthly and annual totals of the duration in hours and tenths of bright sunshine as recorded by the Campbell Stokes sunshine recorder at nearly 260 stations in the British Isles.

The sunshine for the year was variable but, on the whole, somewhat above average. For the country generally, the sunniest months were May and July and the dulllest June and October, but striking variations occurred in different districts in individual months. For example, January was exceptionally sunny in the west of Scotland and notably dull in the north of Ireland, while in comparison with the average, November was the dulllest month of the year in the north-east of England. May was remarkably sunny except in the southern half of England: in the west of Scotland, north-west of England and north Ireland the excess was exceptional. The totals at Eskdalemuir and Stonyhurst were the largest recorded in any month since observations were first taken in 1909 and 1881 respectively. The excessive sunshine in July was general and very marked: at some stations it was the sunniest July on record and at many places in east and south-east England more than 300 hours were registered. The autumn months were, for the most part, rather dull but December was fortunate with regard to sunshine in some districts, particularly in the west and north. A large excess was enjoyed in the west of Scotland, and, at Stornoway, in the Outer Hebrides, it was the sunniest December since records began in 1881.

In the above list Torquay is placed in the 30th position. The highest total in the list is Harwich which has 154.6 hours more Sunshine than Torquay, the reason for this is that the line of clear sky followed the coast line from the East coast Lowestoft to the South-East and South coast via the Isle of Wight, skirting the Devon coast and Torquay to Start Point, towns west of this had much cloudier conditions, thus Plymouth, North Devon and Cornwall had many hours less Sunshine than Torquay.

It is interesting to make a comparison of our Sunshine record in the winter months with those of other towns, so give below the records of 24 Health Resorts for the four winter months of November, December, January and February. It will be seen that Torquay enjoys a very favourable condition,



SUNSHINE VALUES FOR 1935.

	Nov.	Dec.	Jan.	Feb.	Total hours & tenths
Aberystwyth (M.O.H.)...	76.3	61.5	48.1	64.1	250.0
Cheltenham ...	70.4	38.4	38.8	58.6	206.2
Douglas ...	73.2	69.3	64.1	61.2	267.8
Exmouth ...	72.6	66.0	65.0	65.6	269.2
Falmouth ...	96.9	68.1	50.4	64.7	280.1
Guernsey ...	76.8	36.7	62.8	68.5	244.8
Ilfracombe ...	72.8	47.4	46.2	53.2	219.6
Llandudno ...	74.1	46.2	32.2	48.5	201.0
Newquay ...	92.6	62.2	52.4	59.9	267.1
Paignton ...	76.6	60.9	65.2	64.1	266.8
Plymouth ...	80.5	58.5	69.8	67.3	276.1
Scilly ...	111.2	68.3	51.6	78.2	309.3
Sidmouth ...	82.8	71.3	74.7	72.7	301.5
Weymouth ...	76.5	79.7	77.7	72.3	306.2
Bexhill ...	60.6	53.5	71.0	63.2	248.3
Bognor Regis ...	63.8	57.7	85.2	67.4	274.1
Bournemouth ...	67.7	69.9	88.2	70.0	295.8
Brighton ...	58.6	51.8	77.7	60.2	248.3
Sandown ...	60.7	54.5	82.1	75.4	272.7
Ventnor Hospital ...	61.8	63.7	87.8	68.1	281.4
Worthing ...	63.1	58.8	82.7	65.5	270.1
Bath ...	68.3	53.0	55.0	73.3	249.6
Tenby ...	67.6	71.8	66.3	77.9	283.6
TORQUAY ...	82.9	70.4	77.9	74.1	305.3



