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Contributors

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BOROUGH OF DARWEN.

REPORT

OF

F. G. HAWORTH, M.B.C.M., L.R.C.S.,
(GLAS.) (EDIN.)

D.P.H. (Camb.), F.R.Met.Soc.,

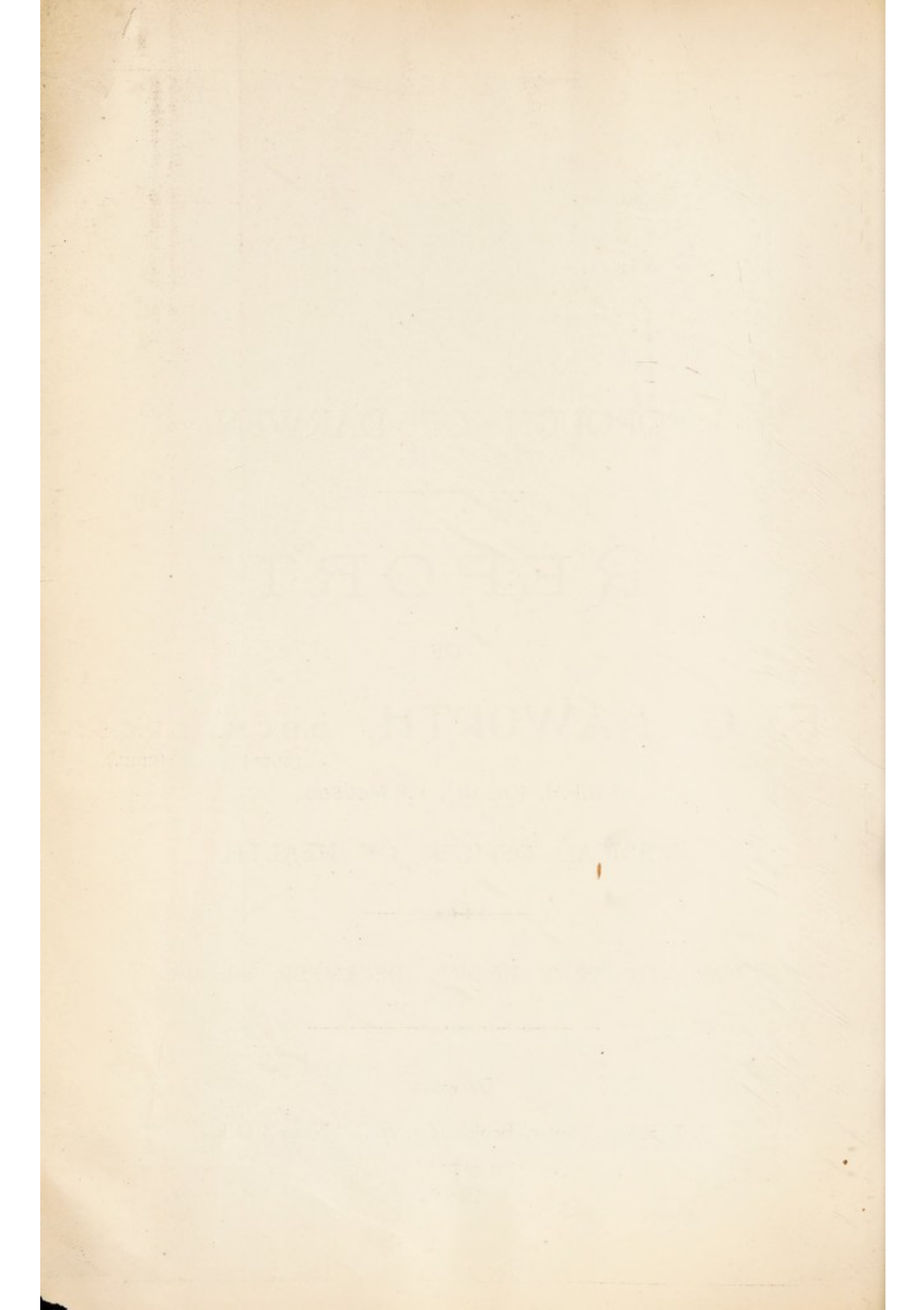
MEDICAL OFFICER OF HEALTH.

FOR THE YEAR ENDING DECEMBER 31st, 1898.

Darwen :

J. J. Riley, Printer, Bookbinder, &c., "News" Office.

—
1899.





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THE GILLIBRAND OBSERVATORY.



Vale House, Darwen,

February, 1899.

*To the Chairman and Members of the
Health Committee.*

Gentlemen,

I have the honour to present to you my Fourth Annual Report
for the Year ending December 31st, 1898.

I am, Gentlemen,

Your obedient servant,

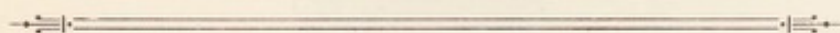
F. G. HAWORTH,

Medical Officer of Health,

Darwen Urban Sanitary Authority.

Members of the Health Committee,

1898-99.



Mayor :

COUNCILLOR JAS. T. BALLANTYNE, M.B., J.P.

Chairman :

COUNCILLOR JOHN TOMLINSON, J.P.

Vice-Chairman :

COUNCILLOR RALPH SHORROCK.

ALDERMAN COCKER, J.P.
" DUXBURY, J.P.

ALDERMAN ECCLES, J.P.
" WARDLEY.

COUNCILLOR ASPDEN, J.P.
" BRINDLE, J.P.
" CARUS, J.P.
" COOPER.
" T. W. A. FORREST.

COUNCILLOR RAWLINSON, J.P.
" REGAN.
" SHACKLETON, J.P.
" JAS. TOMLINSON.
" R. YATES.



Chief Inspector of Nuisances - - - - - W. E. MARSDEN.

Assistant " " - - - - - C. R. WALSH.

Scavenging Superintendent }
Farm Inspector - - - - - W. H. ECCLES.

Medical Officer of Infectious Diseases Hospital - - - F. G. HAWORTH.

METEOROLOGY.

As mentioned in my last Annual Report, a Meteorological Observatory has been built in Bold Venture Park, the whole of the cost being defrayed by Councillor J. W. Gillibrand, Chairman of the Parks Committee.

The Station has been visited and inspected by Mr. Marriott, of the Royal Meteorological Society, and also by Mr. Brodie, of the Meteorological Office. Both these gentlemen spoke in the highest terms of the structure and its equipment.

Owing to the delay in the delivery of the instruments continuous observations were not commenced until May, since which time Mr. Mainland, the Curator of the Observatory, has been indefatigable in his attentions and systematic in the recording of the various observations.

For the purpose of placing on record in graphic form an account of the weather as it occurs on each day, I have designed the accompanying Meteorological Charts, one for each month, commencing on the first of May.

The columns on the left hand side of the Chart show the barometer scale in inches and tenths, the hours of sunshine commencing at the top and the inches and tenths of the daily rainfall. On the right hand of the Chart in the upper part of the column the temperature is marked for each five degrees commencing at 15 deg. F. and going up to 95 deg. F. The lower part of the column is taken up by the figures showing the amount of moisture in the atmosphere, commencing with 0 and going up to 100 per cent., which represents the line of complete saturation as well as one inch of rainfall.

The Chart is ruled in columns, one for each day of the month, and divided by cross lines into squares for the various figures. The top lot of squares are numbered for the days of the month; in the second are drawn arrows to show the direction of the wind, the arrows being represented as going with the wind. Reference to the diagrams which shows the number of days the wind has blown from the different quarters will explain the points of the compass into which each square can be divided.

The feathers on the tails of the arrows denote the velocity of the wind according to the subjoined scale:—

WIND SCALE.

No. 0	=	1 mile per hour, or Calm.		
„ 1	=	3 miles	„	„ Light Air.
„ 2	=	6 „	„	„ Light Breeze.
„ 3	=	10 „	„	„ Gentle Breeze.
„ 4	=	15 „	„	„ Moderate Breeze.
„ 5	=	21 „	„	„ Fresh Breeze.
„ 6	=	28 „	„	„ Strong Breeze.
„ 7	=	36 „	„	„ Moderate Gale.
„ 8	=	45 „	„	„ Fresh Gale.
„ 9	=	55 „	„	„ Strong Gale.
„ 10	=	66 „	„	„ Whole Gale.
„ 11	=	78 „	„	„ Storm.
„ 12	=	91 „	„	„ Hurricane.

The inverted cones tell us the amount of bright sunshine on each day according to the figures in the second left hand column.

The curve of black lines indicates the barometric pressure during the month, the mean of which is shown by the straight black line across the Chart.

The maximum temperature in the shade is indicated by the upper curve of dotted lines, whilst the mean of this is shown in the topmost dotted straight line, and the minimum temperature in the shade is the lower dotted curve, whilst the mean minimum temperature is the lower straight dotted line.

The mean temperature for the month is indicated by the middle dotted line across the Chart.

The small circles with a dot in the centre of each one tells you the temperature of the dew point, and in this respect indicates the process of condensation which goes on. The whole of the Charts are not complete in this particular, as the addition of this information was an after-thought.

The black columns represent the amount of relative humidity of the atmosphere, the percentage being shown in the lower part of the right-hand side. These figures go from 10 per cent. up to 100 per cent., which is the line of saturation.

The Rainfall is also indicated in the same place by shaded lines, the amount of fall being read on the lower part of the left-hand side. The line of saturation as mentioned before is also that of one inch of Rainfall, the other figures being decimal parts of one inch.

My purpose in introducing these Charts has been to place on permanent record a daily account of the weather in an attractive form, and in such a way that with a little attention it is easily read, presenting itself in a much more agreeable way than the mere enumeration of figures. I hope also to popularize the Station which marks the generosity of our townsman. To one who has made the subject of Meteorology only a casual study, there is in the scrutiny of these Charts much to interest and instruct; the effect of the wind, changes of the barometer, temperatures, etc., etc., are seen at a glance. One looks back at the days when, with a falling barometer and temperature, and a suitable moisture laden wind with absence of sunshine, seeing many reasons for unfavourable weather, and reasons which will prompt us to go much further into the study of Climatology.

GILLIBRAND OBSERVATORY.

Position, List of Instruments, &c.

The Observatory proper is in Lat. $53^{\circ} 41' 25''$ N. and Lon. $2^{\circ} 28' 32''$ W., and is at an altitude of 728 ft. above mean sea level.

Observations are taken twice daily, at 9 a.m. and 9 p.m., local time.

The Instruments in use are—

Barometer (Fortin Pattern), by Pastorelli & Rapkin, London.

Self-recording Aneroid Barometer, " "

Sunshine Recorder (Campbell-Stoke's Universal Pattern), by Pastorelli & Rapkin.

Robinson Cup Anemometer, by Munroe, London.

Dine's Pressure Tube Anemometer, by Munroe, London.

Thermograph, by Pastorelli & Rapkin, London.

Thermometer: Dry Bulb, by Pastorelli & Rapkin, London.

 " Wet Bulb, " "

 " Maximum, " "

 " Minimum, " "

 " Solar Radiation (Black Bulb), by Pastorelli & Rapkin.

 " " (Bright Bulb), " "

 " Terrestrial Radiation (minimum), by Hicks, London.

 " Earth, 1 ft., by Pastorelli & Rapkin, London.

 " " 4 ft., " "

 " " 10 ft., by Hicks, London.

 " Water, by Casella, London.

Rain-Gauge (8 in. Meteorological Office Pattern), by Pastorelli & Rapkin.

 " Self-recording, by L  g  , London.

Summaries of Meteorological Observations.

MAY.

BAROMETER—Highest 30·362 ins. on the 7th.

Lowest 29·117 ins. „ 11th.

Mean 29·878 ins.

AIR TEMPERATURE—Highest of the maxima, 65·0 deg. on the 24th.

Lowest „ 46·0 „ „ 17th.

Mean „ 53·2 „

Highest of the minima, 45·6 „ „ 23rd.

Lowest „ 34·2 „ „ 16th.

Mean „ 40·9 „

Mean for the Month 47·0 „

EARTH TEMPERATURE—At 1 ft. depth, mean 48·7 deg.

„ 4 ft. „ „ 46·3 „

„ 10 ft. „ „ 44·5 „

WATER TEMPERATURE—Mean, 47·3 deg.

DEW POINT—Temperature ranged from 56·0 deg. to 36·6 deg.

HUMIDITY (Percentage)—Range, 99 to 60.

SUNSHINE—No. of Days' Sunshine, 21 ; total duration, 94 hrs. 9 mins.

RAIN—Total Fall, 3·95 in.

Greatest Fall in 24 hours, depth 1·26 in. ; date, 10th.

Number of Days on which ·01 or more fell, 15.

CLOUD—Of the 62 Observations (taken at 9 a.m. and 9 p.m.), there were only six occasions on which the sky was clear.

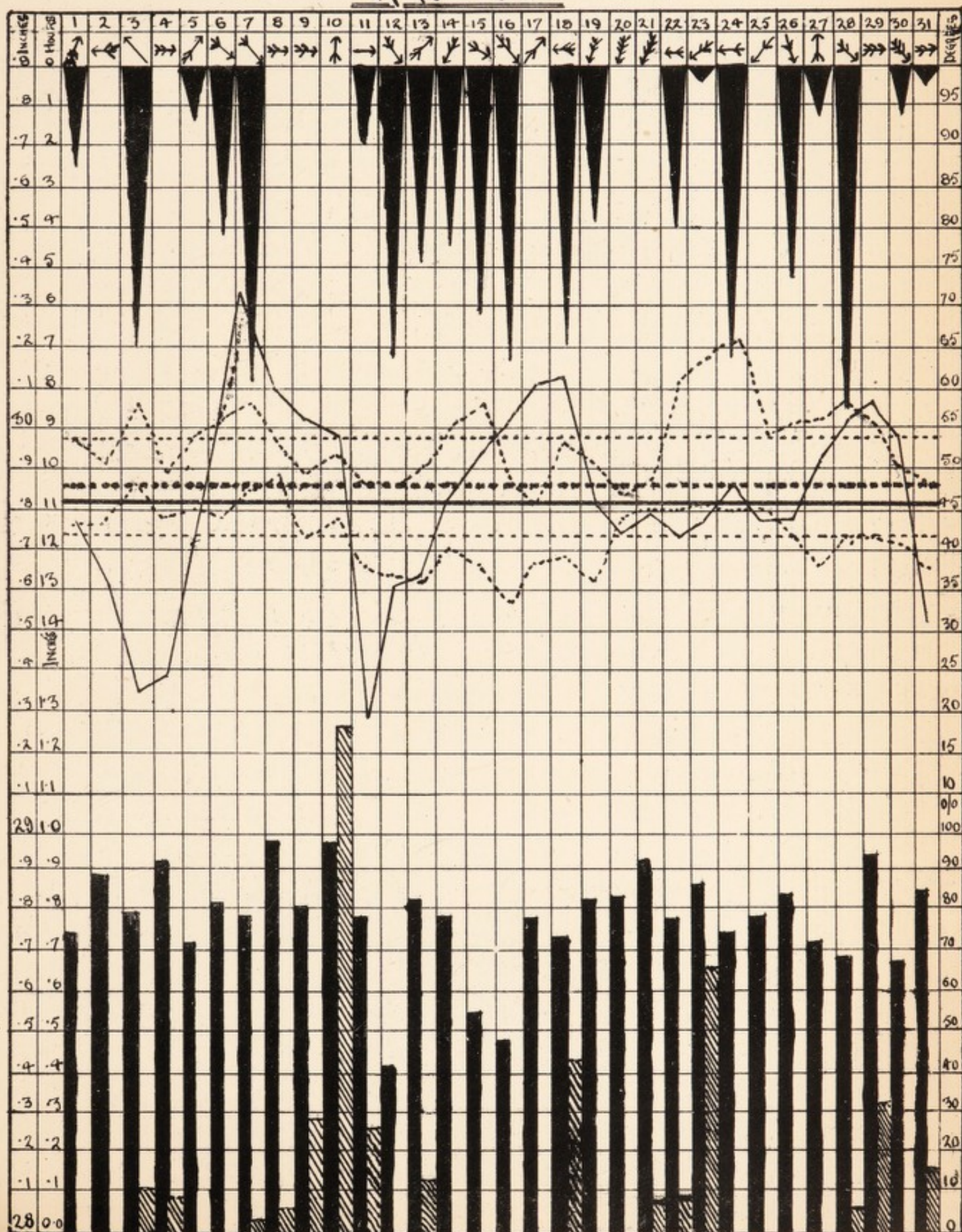
WIND—Summary of Observations of Direction :

From	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
	1	10	5	3	7	8	16	12

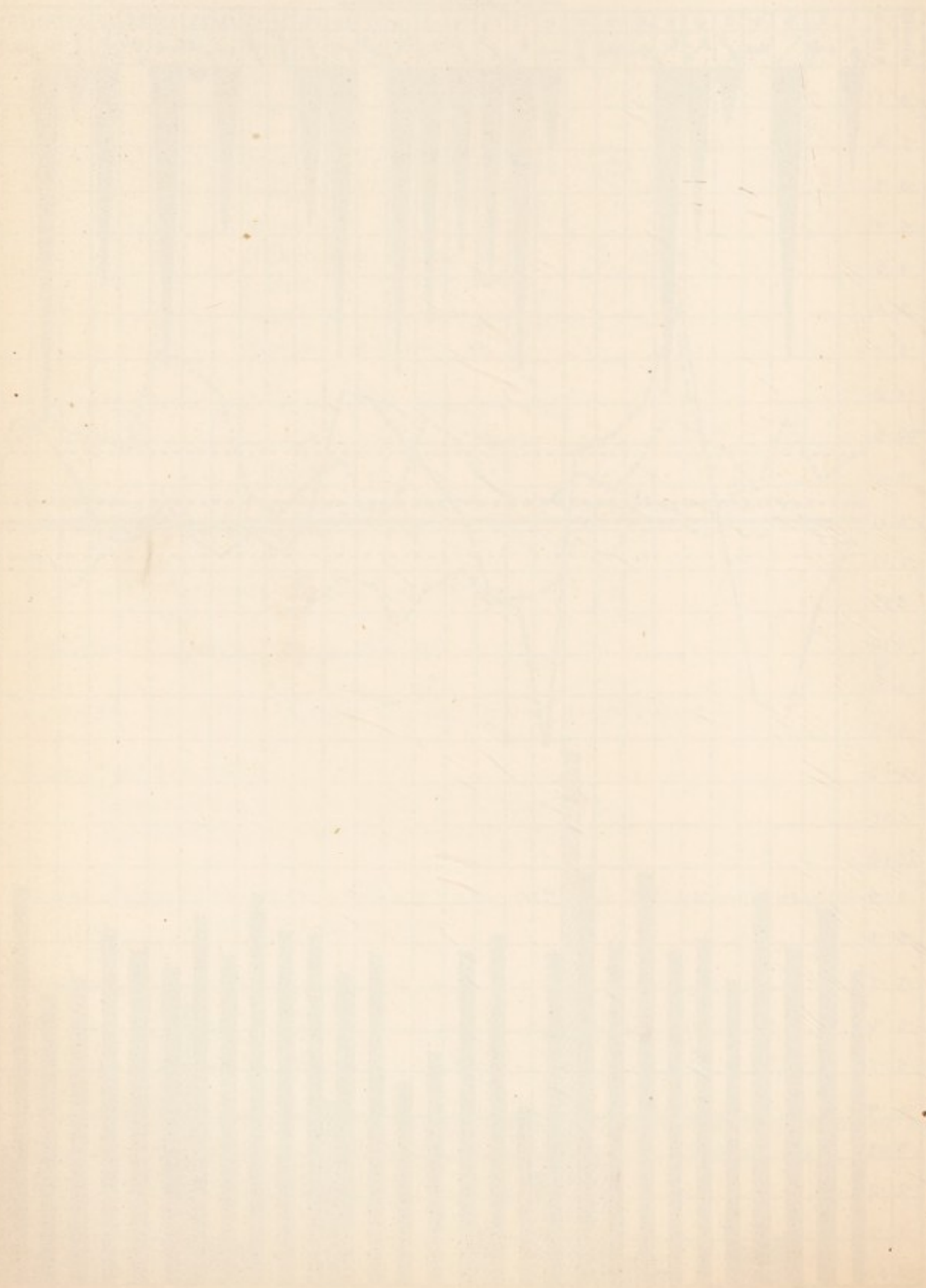
The greatest velocity recorded during the month was 48 miles an hour—recorded between 9 a.m. and 9 p.m. on the 19th, the direction being from North-North-East and East by North.

DIAGRAM OF METEOROLOGICAL READINGS

taken at the
GILLIBRAND OBSERVATORY DURING
MAY 1898.



Journal of the
Geological Survey of
India
Vol. 10, Part 1, 1918



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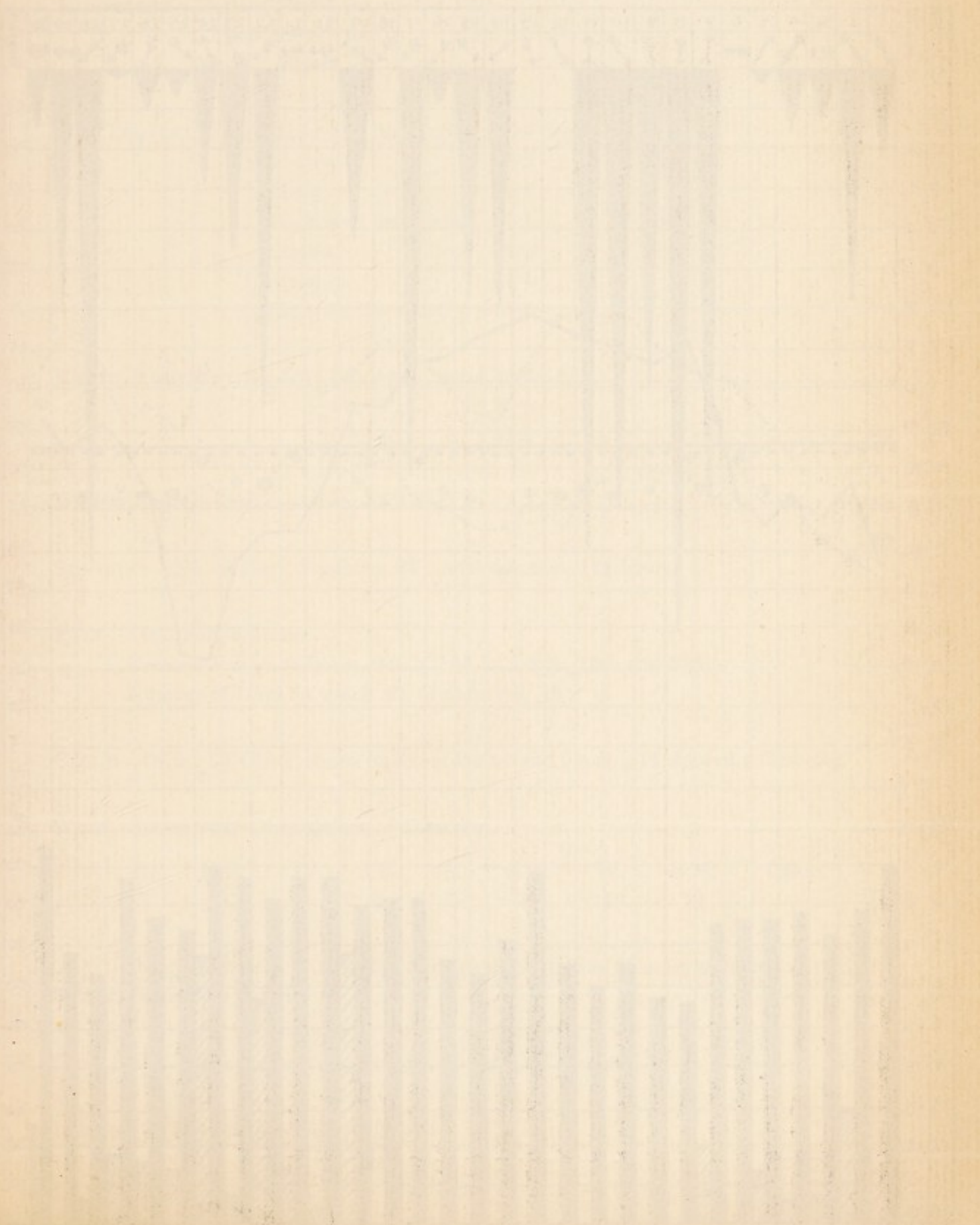
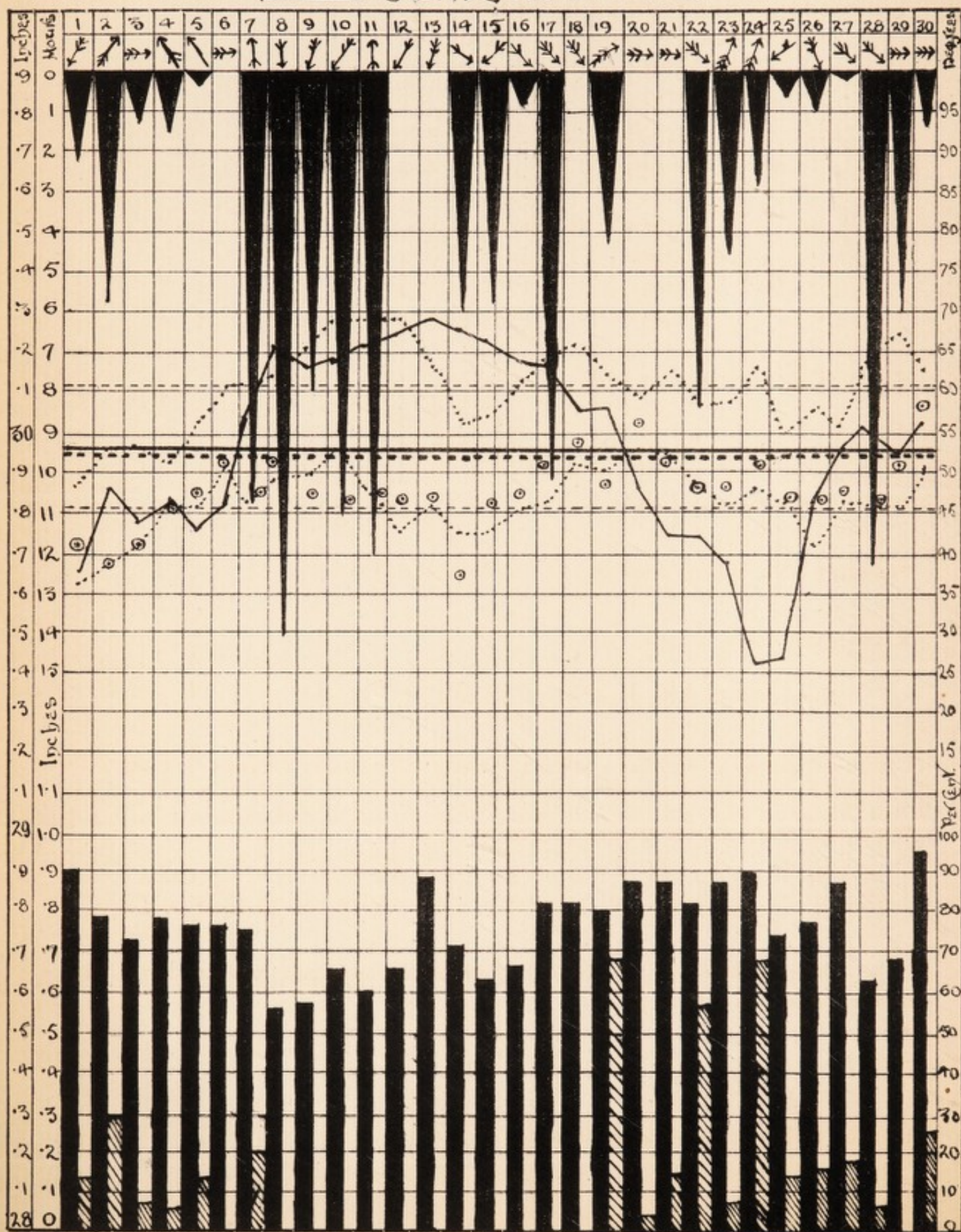


DIAGRAM OF METEOROLOGICAL READINGS

taken at the

GILLIBRAND OBSERVATORY DURING

JUNE 1898.



JUNE.

BAROMETER—Highest 30·297 ins. on the 13th.

Lowest 29·419 ins. „ 24th.

Mean 29·963 ins.

AIR TEMPERATURE—Highest of the maxima, 69·9 deg. on the 10th.

Lowest „ 45·2 „ „ 1st.

Mean „ 60·7 „

Highest of the minima, 55·1 „ „ 30th.

Lowest „ 36·0 „ „ 1st.

Mean „ 46·4 „

Mean for the Month 53·5 „

EARTH TEMPERATURE—At 1 ft. depth, mean 55·2 deg.

„ 4 ft. „ „ 50·5 „

„ 10 ft. „ „ 47·2 „

WATER TEMPERATURE—Mean, 53·0 deg.

SUNSHINE—No. of Days' Sunshine, 24 ; total duration, 124 hours.

RAIN—Total Fall, 3·71 ins.

Greatest Fall in 24 hours, depth 0·68 in. ; date, 18th and 23rd.

Number of Days on which ·01 or more fell, 16.

CLOUD—Of the 60 Observations (taken at 9 a.m. and 9 p.m.), 14 shewed a clear sky.

WIND—Summary of Observations of Direction :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
2	9	2	3	3	16	12	13	0

The greatest velocity recorded during the month was 21 miles an hour—this velocity being registered on 6 days.

DEW POINT—Temperature ranged from 56·8 deg. to 37·9 deg.

HUMIDITY (Percentage)—Range, 95 to 56.

JULY.

BAROMETER—Highest 30·378 ins. on the 10th.

Lowest 29·676 ins. „ 22nd.

Mean 30·108 ins.

AIR TEMPERATURE—Highest of the maxima, 69·1 deg. on the 16th.

Lowest „ 52·1 „ „ 19th.

Mean „ 62·9 „

Highest of the minima, 56·0 „ „ 18th.

Lowest „ 42·0 „ „ 30th.

Mean „ 48·8 „

Mean for the Month 55·8 „

EARTH TEMPERATURE—At 1 ft. depth, mean 58·7 deg.

„ 4 ft. „ „ 54·7 „

„ 10 ft. „ „ 49·6 „

WATER TEMPERATURE—Mean, 54·8 deg.

SUNSHINE—No. of Days' Sunshine, 29 ; total duration, 214 hours.

RAIN—Total Fall, 1·25 in.

Greatest Fall in 24 hours, depth 0·28 ; date 18th.

Number of Days on which ·01 or more fell, 10.

CLOUD—Of the 62 Observations (taken at 9 a.m. and 9 p.m.), 16 shewed a clear sky.

WIND—Summary of Observations of Direction :

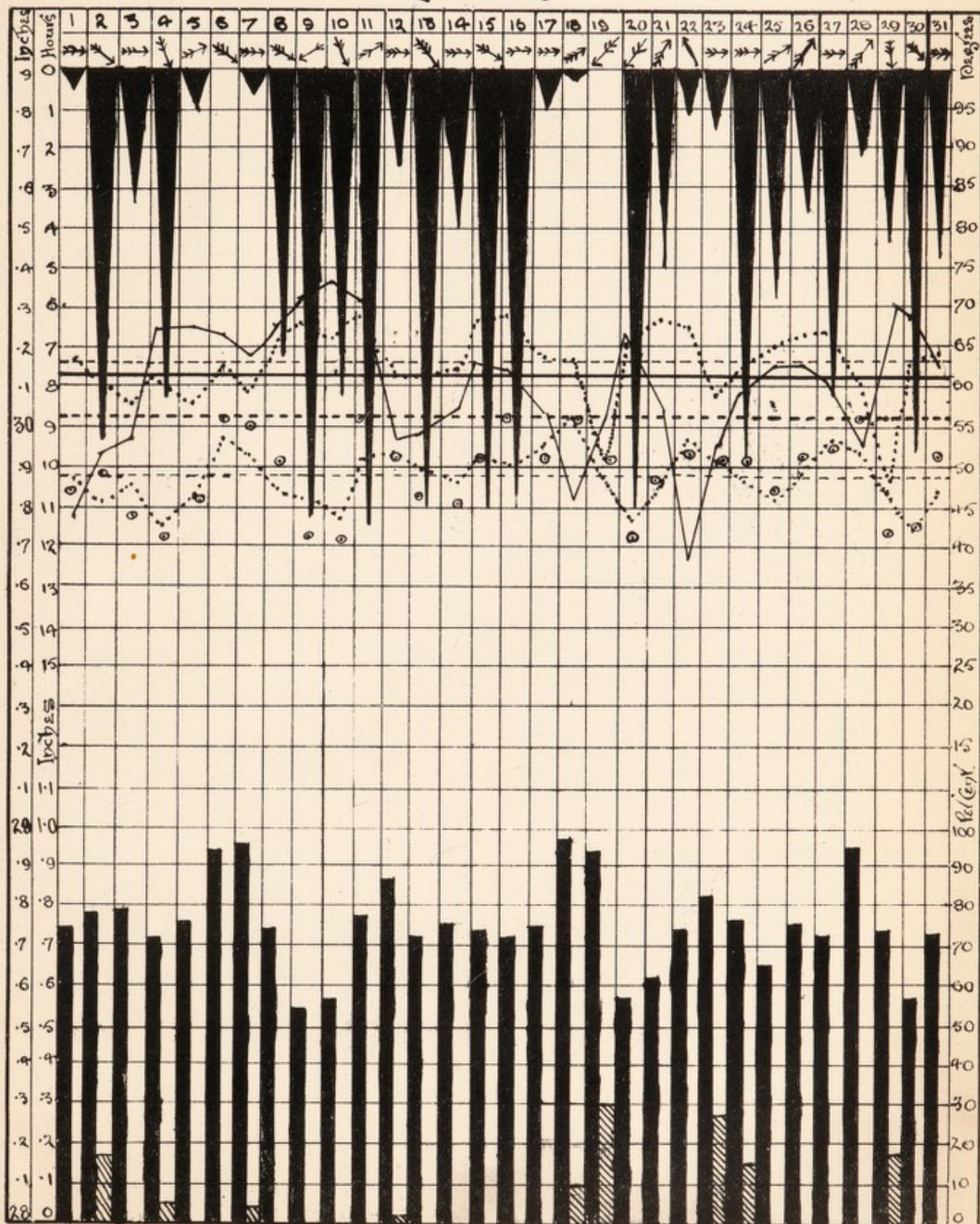
N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
1	6	0	2	0	15	21	17	0

Light Breezes prevailed generally.

DEW POINT—Temperature ranged from 56·6 deg. to 41·2 deg.

HUMIDITY (Percentage)—Range, 97 to 55.

DIAGRAM OF METEOROLOGICAL READINGS taken at the GILLIBRAND OBSERVATORY during JULY 1898.



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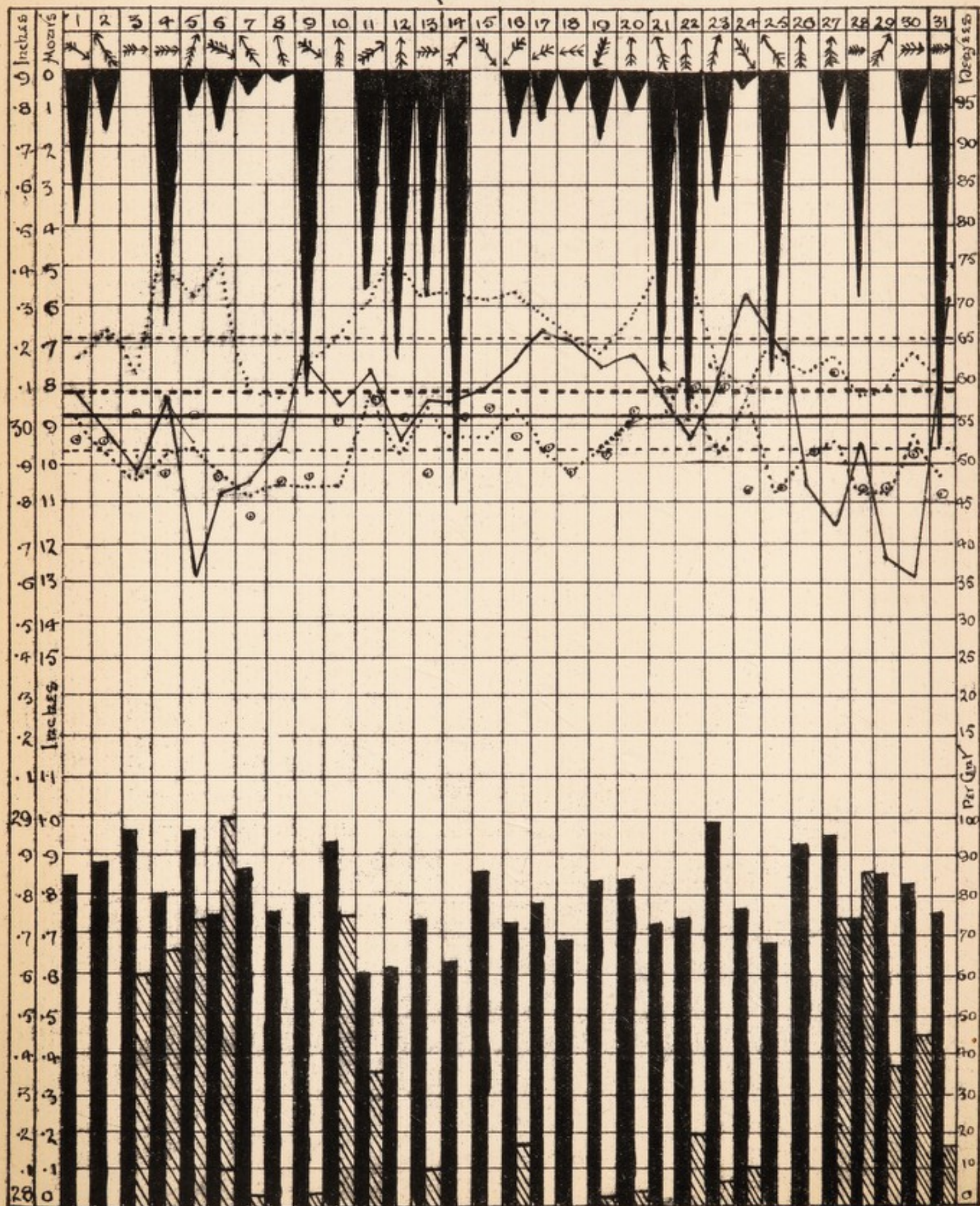
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DIAGRAM OF METEOROLOGICAL READINGS taken at the GILLIBRAND OBSERVATORY during AUGUST 1898.



AUGUST.

BAROMETER—Highest 30·318 ins. on the 24th.

Lowest 29·615 ins. „ 5th and 30th.

Mean 30·016 ins.

AIR TEMPERATURE—Highest of the maxima, 76·9 deg. on the 12th.

Lowest „ 57·9 „ „ 28th.

Mean „ 66·6 „ „

Highest of the minima, 60·0 „ „ 22nd.

Lowest „ 45·5 „ „ 7th.

Mean „ 51·3 „ „

Mean for the Month 58·9 „

EARTH TEMPERATURE—At 1 ft. depth, mean 59·0 deg.

„ 4 ft. „ „ 56·3 „

„ 10 ft. „ „ 51·7 „

WATER TEMPERATURE—Mean, 56·4 deg.

SUNSHINE—No of Days' Sunshine, 26 ; total duration, 127 hours.

RAIN—Total Fall, 7·39 ins.

Greatest Fall in 24 hours, depth 1·00 ins. ; date, 5th.

Number of Days on which ·01 or more fell, 20.

CLOUD—Of the 62 Observations (taken at 9 a.m. and 9 p.m.), 6 shewed a clear sky.

WIND—Summary of Observations of Direction :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
0	3	1	6	11	20	12	9	0

The greatest velocity recorded during the month was 54·5 miles an hour—this velocity being registered on the night of the 30th and the morning of the 31st.

DEW POINT—Temperature ranged from 60·9 deg. to 43·3 deg.

HUMIDITY (Percentage)—Range, 99 to 62.

SEPTEMBER.

BAROMETER—Highest 39·372 ins. on the 3rd.
 Lowest 29·557 ins. „ 29th.
 Mean 30·059 ins.

AIR TEMPERATURE—Highest of the maxima, 78·9 deg. on the 4th.
 Lowest „ 52·0 „ „ 25th.
 Mean „ 63·3 „ „
 Highest of the minima, 61·1 „ „ 6th.
 Lowest „ 37·0 „ „ 24th.
 Mean „ 50·2 „ „
 Mean for the Month 56·7 „

EARTH TEMPERATURE—At 1 ft. depth, mean 57·4 deg.
 „ 4 ft. „ „ 56·2 „
 „ 10 ft. „ „ 53·0 „

WATER TEMPERATURE—Mean, 54·2 deg.

SUNSHINE—No. of Days' Sunshine, 26 ; total duration, 100 hours.

RAIN—Total Fall, 2·32 ins.

Greatest Fall in 24 hours, depth 1·43 ins. ; date, 29th.

Number of Days on which ·01 or more fell, 12.

CLOUD—Of the 60 Observations (taken at 9 a.m. and 9 p.m.), 17 shewed a clear sky.

WIND—Summary of Observations of Directions :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
0	1	1	9	9	24	8	8	0

The greatest velocity recorded during the month was 45 miles an hour—this velocity being registered on the 18th.

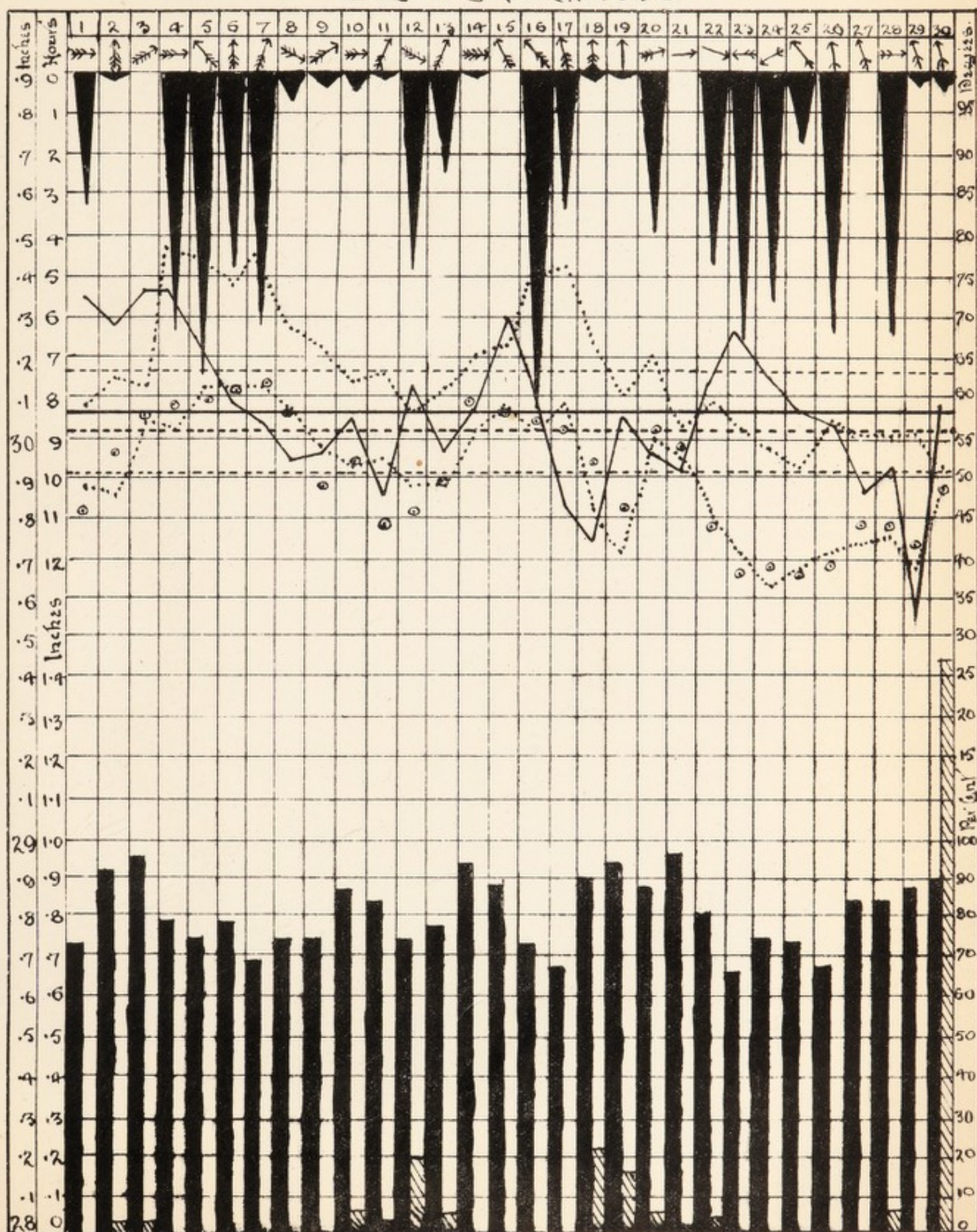
DEW POINT—Temperature ranged from 61·4 deg. to 38·0 deg.

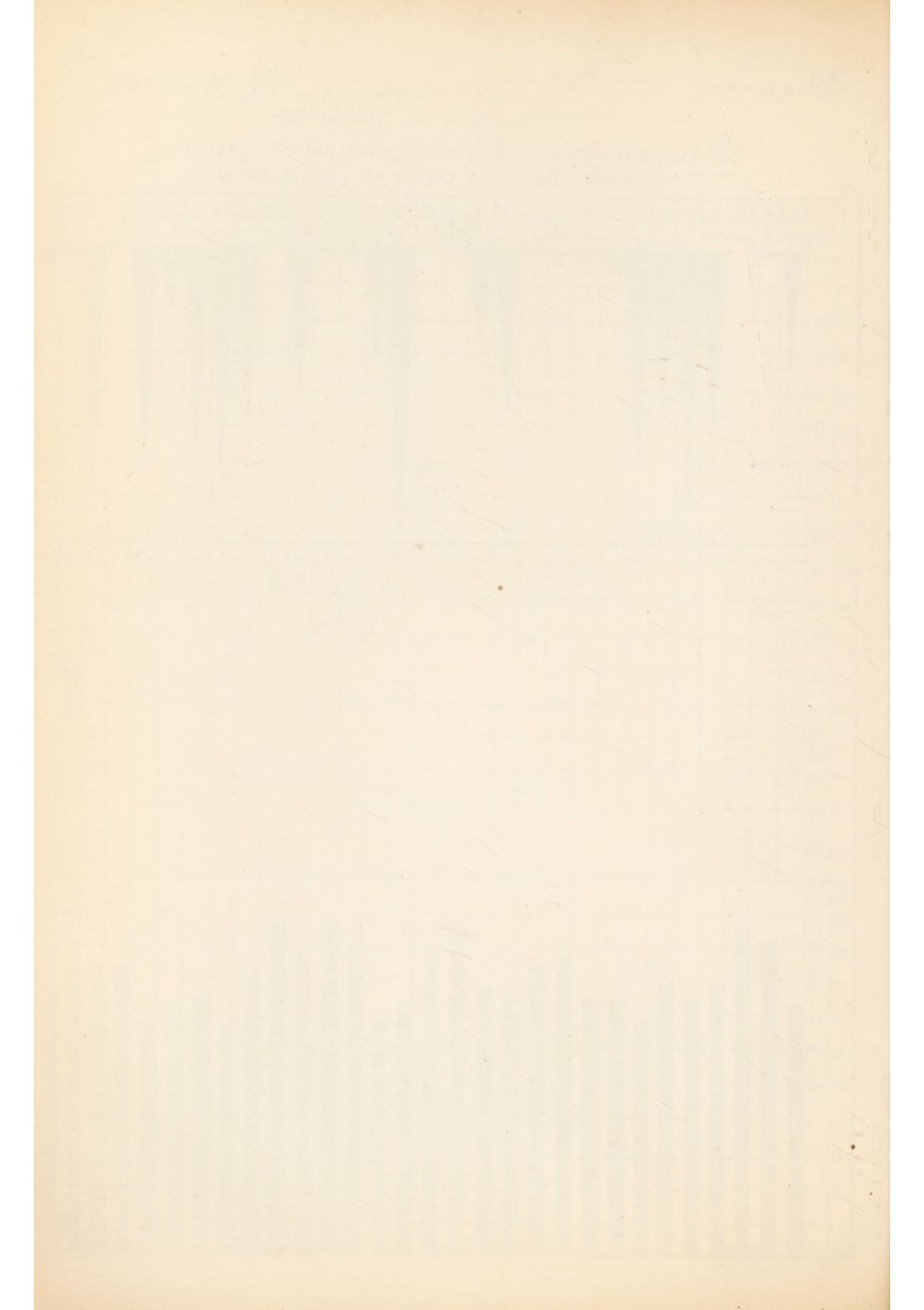
HUMIDITY (Percentage)—Range, 95 to 65.

DIAGRAM OF METEOROLOGICAL READINGS

== Taken at the ==

GILLIBRAND OBSERVATORY during
== SEPTEMBER 1898. ==





Journal of Meteorological Observations

Station: [illegible]
Date: [illegible]
Observer: [illegible]

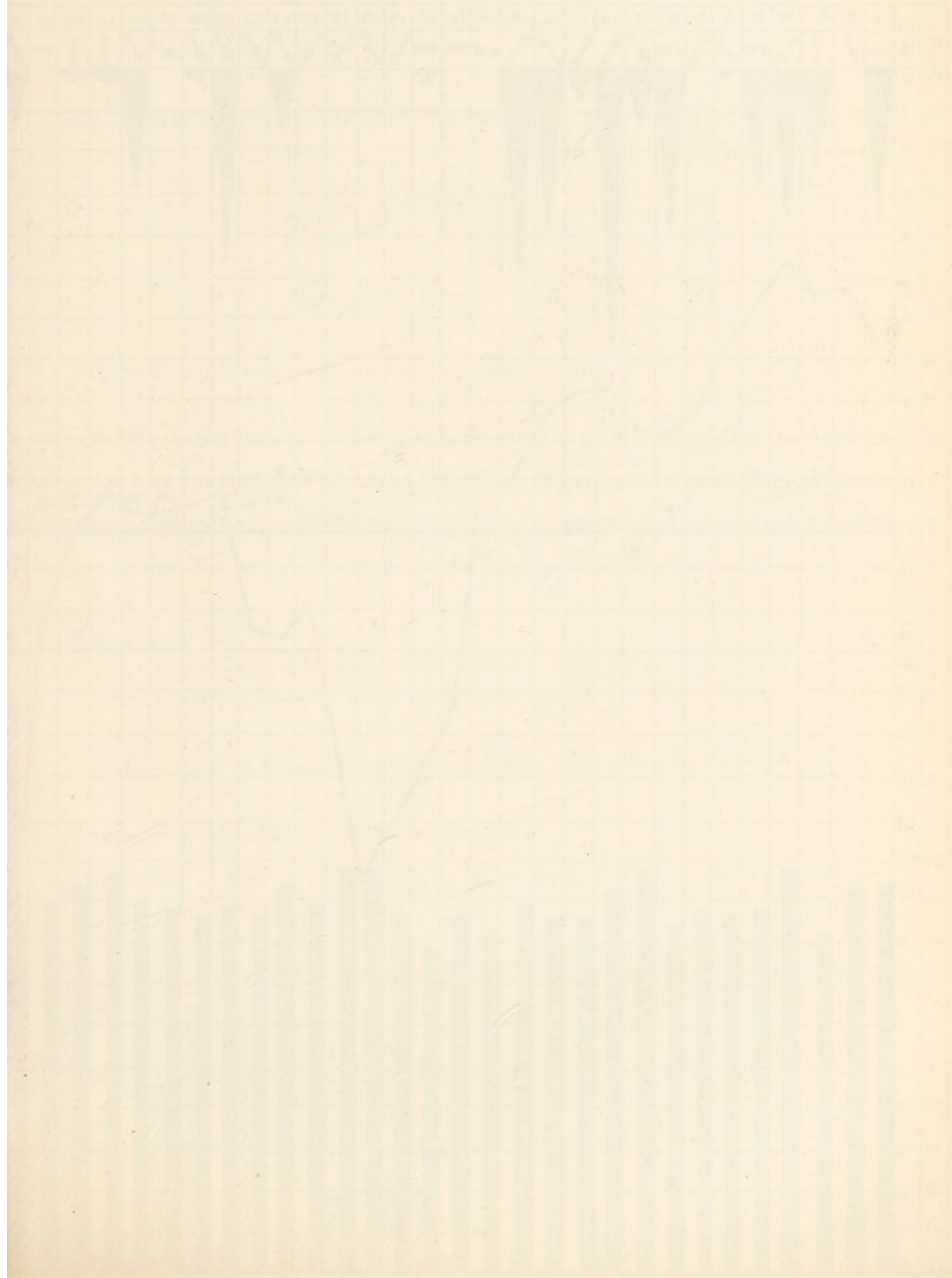


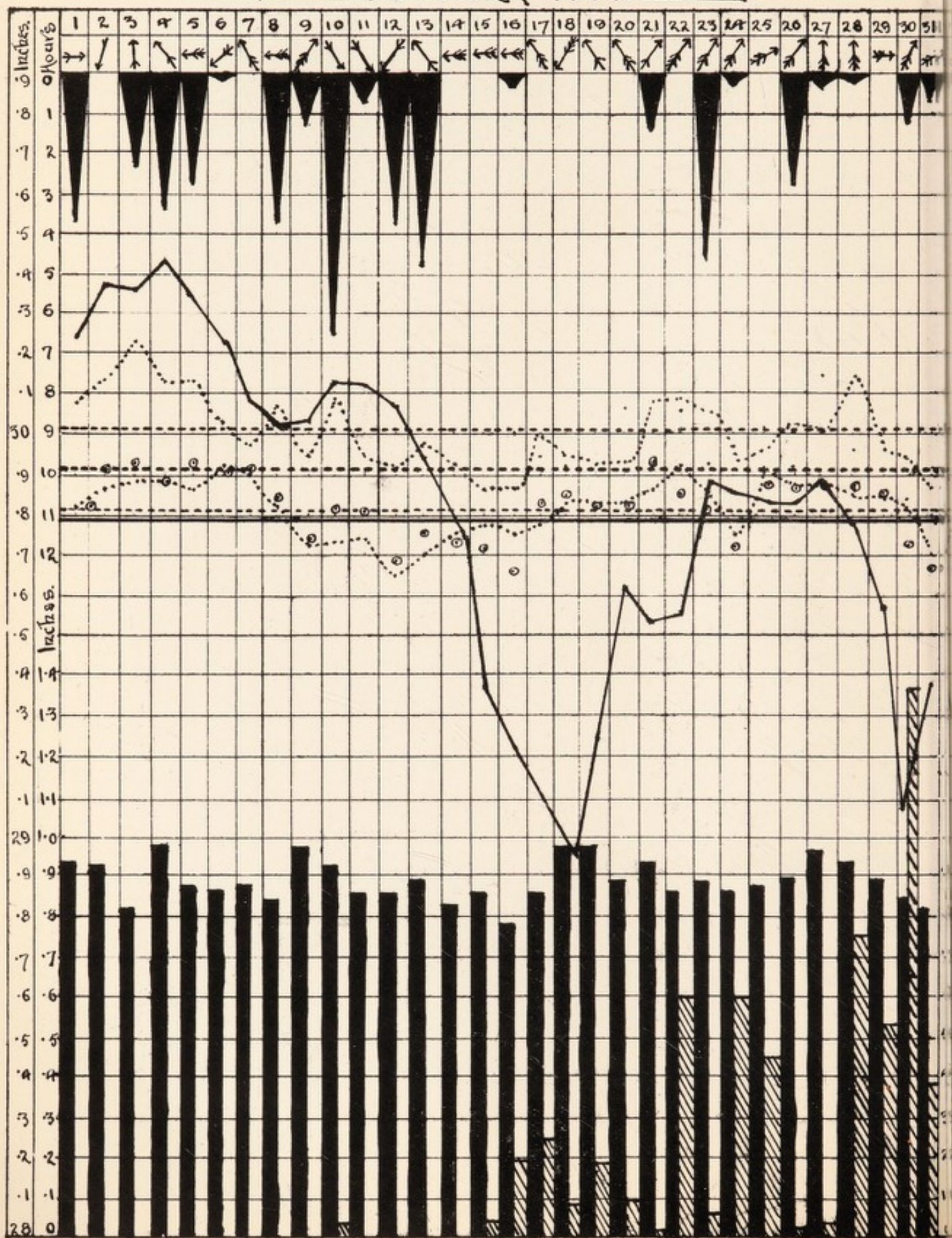
DIAGRAM OF METEOROLOGICAL READINGS

taken at the

GILLIBRAND OBSERVATORY

during

OCTOBER 1898.



OCTOBER.

BAROMETER—Highest 30·380 ins. on the 2nd.
 Lowest 29·089 ins. „ 30th.
 Mean 29·798 ins.

AIR TEMPERATURE—Highest of the maxima, 66·6 deg. on the 3rd.
 Lowest „ 48·0 „ „ 15th and 16th.
 Mean „ 55·2 „ „
 Highest of the minima, 51·5 „ „ 6th.
 Lowest „ 37·9 „ „ 12th.
 Mean „ 46·0 „ „
 Mean for the Month 50·6 „

EARTH TEMPERATURE—At 1 ft. depth, mean 51·1 deg.
 „ 4 ft. „ „ 52·3 „
 „ 10 ft. „ „ 52·4 „

WATER TEMPERATURE—Mean, 48·8 deg.

SUNSHINE—No. of Days' Sunshine, 20 ; total duration, 55 hours.

RAIN—Total Fall, 5·68 ins.
 Greatest Fall in 24 hours, depth 1·37 in. ; date, 30th.
 Number of Days on which ·01 or more fell, 18.

CLOUD—Of the 62 Observations (taken at 9 a.m. and 9 p.m.), 20 shewed a clear sky.

WIND—Summary of Observations of Direction :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
1	13	7	11	6	17	3	4	0

The greatest velocity recorded during the month was 28 miles an hour—this velocity being registered on the 18th.

DEW POINT—Temperature ranged from 53·4 deg. to 38·2 deg.

HUMIDITY (Percentage)—Range, 99 to 79.

NOVEMBER.

BAROMETER—Highest 30·270 ins. on the 18th.

Lowest 28·709 ins. „ 25th.

Mean 29·711 ins.

AIR TEMPERATURE—Highest of the maxima, 57·1 deg. on the 3rd.

Lowest „ 34·0 „ „ 22nd.

Mean „ 47·6 „ „

Highest of the minima, 48·3 „ „ 17th.

Lowest „ 25·0 „ „ 22nd.

Mean „ 38·1 „ „

Mean for the Month 42·8 „ „

EARTH TEMPERATURE—At 1 ft. depth, mean 44·1 deg.

„ 4 ft. „ „ 48·9 „ „

„ 10 ft. „ „ 50·9 „ „

WATER TEMPERATURE—Mean, 43·9 deg.

SUNSHINE—No. of Days' Sunshine, 12 ; total duration, 42 hours.

RAIN—Total Fall, 5·36 ins.

Greatest Fall in 24 hours, depth 1·10 ins. ; date, 2nd.

Number of Days on which '01 or more fell, 19.

CLOUD—Of the 60 Observations (taken at 9 a.m. and 9 p.m.), 11 shewed a clear sky.

WIND—Summary of Observations of Directions :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
0	3	2	10	10	23	3	9	0

The greatest velocity recorded during the month was 28 miles an hour—this velocity being registered on 2 days.

DEW POINT—Temperature ranged from 49·5 deg. to 28·1 deg.

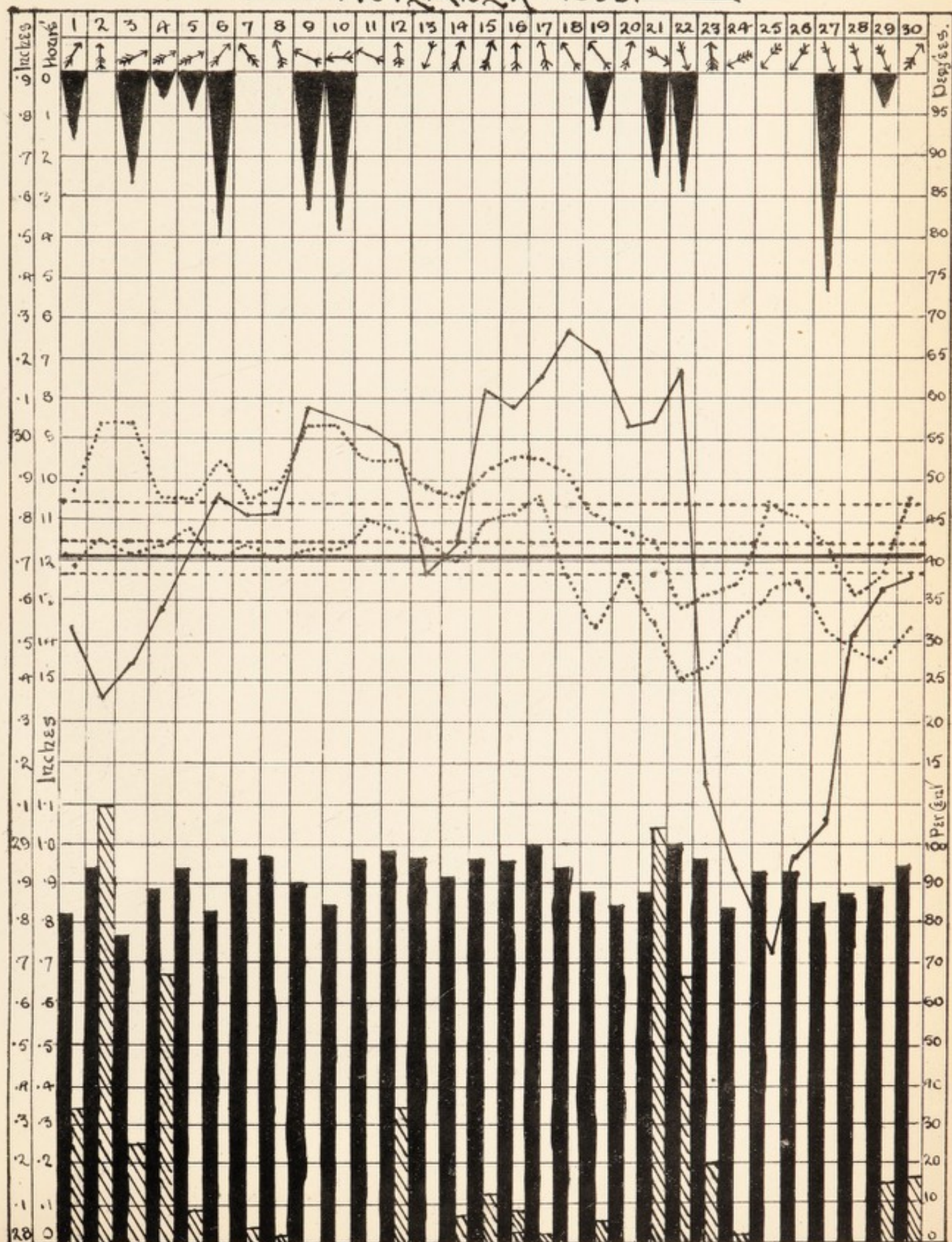
HUMIDITY (Percentage)—Range, 100 to 77.

DIAGRAM OF METEOROLOGICAL READINGS

taken at the

GILLIBRAND OBSERVATORY during

NOVEMBER 1898.



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Volume 10, No. 1, 1902
Published by the
U.S. Weather Bureau
Washington, D.C.

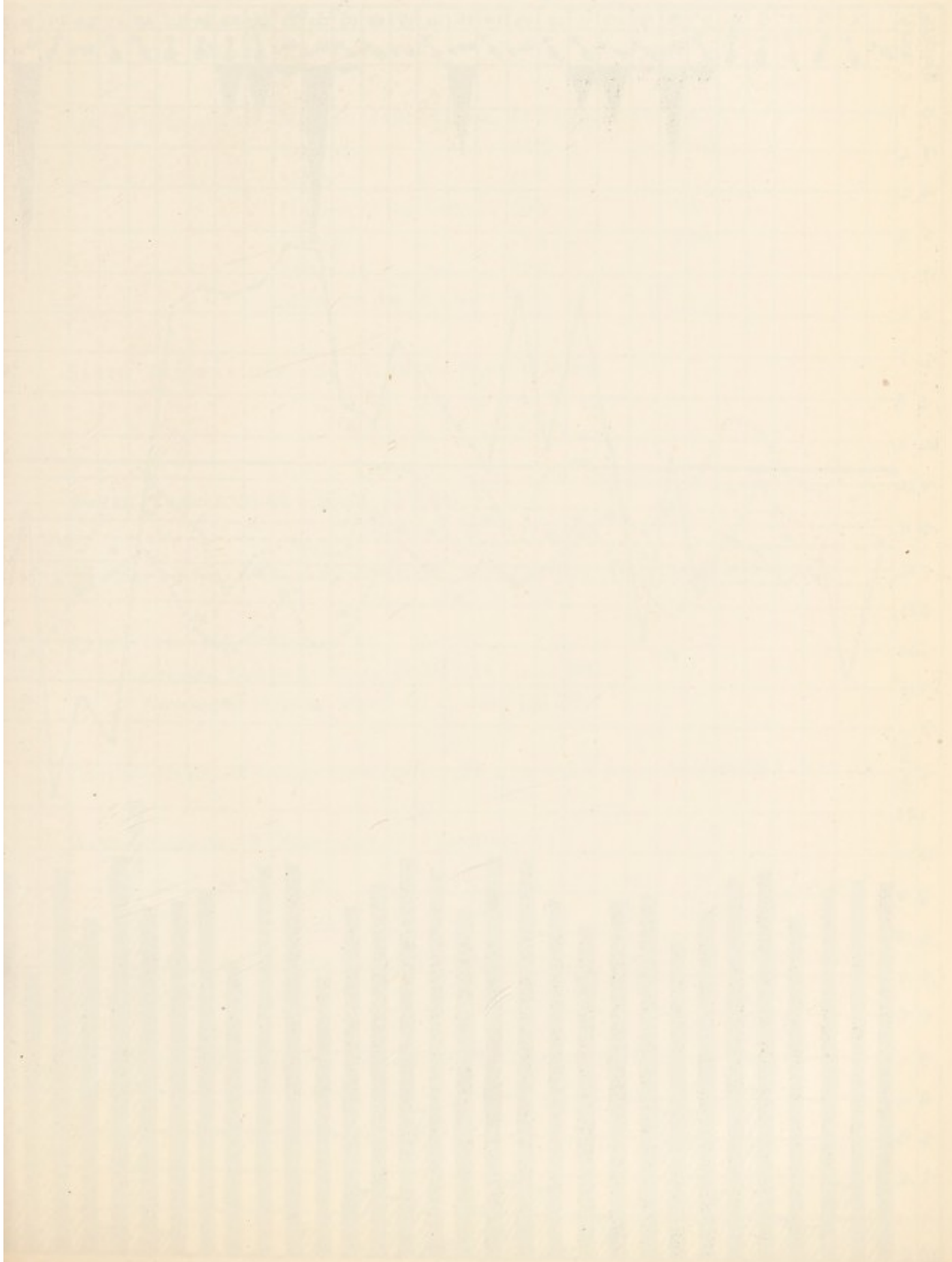
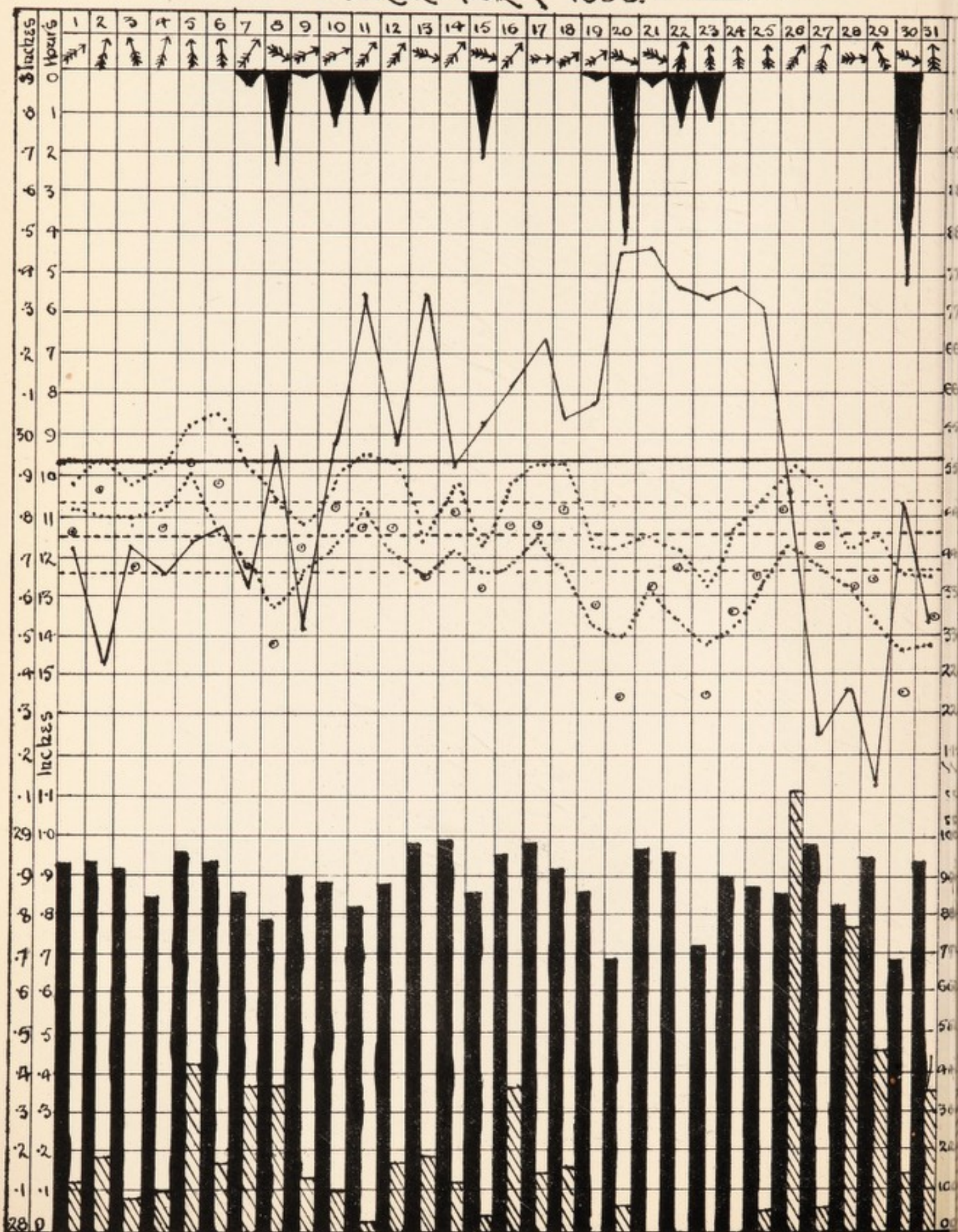


DIAGRAM OF METEOROLOGICAL READINGS taken at the GILLIBRAND OBSERVATORY during DECEMBER 1898.



DECEMBER.

BAROMETER—Highest 30·474 ins. on the 21st.

Lowest 29·117 ins. „ 29th.

Mean 29·921 ins.

AIR TEMPERATURE—Highest of the maxima, 55·2 deg. on the 5th.

Lowest „ 35·9 „ „ 23rd.

Mean „ 46·7 „

Highest of the minima, 50·0 „ „ 5th.

Lowest „ 27·8 „ „ 30th.

Mean „ 37·9 „

Mean for the Month 42·3 „

EARTH TEMPERATURE—At 1 ft. depth, mean 42·0 deg.

„ 4 ft. „ „ 45·2 „

„ 10 ft. „ „ 47·9 „

WATER TEMPERATURE—Mean, 43·5 deg.

SUNSHINE—No. of Days' Sunshine, 12 ; total duration, 17 hours 48 minutes.

RAIN—Total Fall, 6·21 in.

Greatest Fall in 24 hours, depth 1·11 ; date 26th.

Number of Days on which ·01 or more fell, 26.

CLOUD—Of the 62 Observations (taken at 9 a.m. and 9 p.m.), 11 shewed a clear sky.

WIND—Summary of Observations of Direction :

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calms.
0	1	0	4	10	30	8	9	0

The greatest velocity recorded during the month was 36 miles an hour—this velocity being registered on 2 days.

DEW POINT—Temperature ranged from 52·6 deg. to 22·2 deg.

HUMIDITY (Percentage)—Range, 99 to 69.

The accompanying Chart shows the number of days the Wind has blown from each point of the Compass since the 1st of May. The number of days is indicated in the outer circle, whilst the divisions of the Compass are found in the inner circle. The square in the centre helps one to realize the divisions of the top squares in the Meteorological Charts.

The lines of different lengths are drawn to scale, and indicate at a glance the direction of the most prevalent winds.

POPULATION.

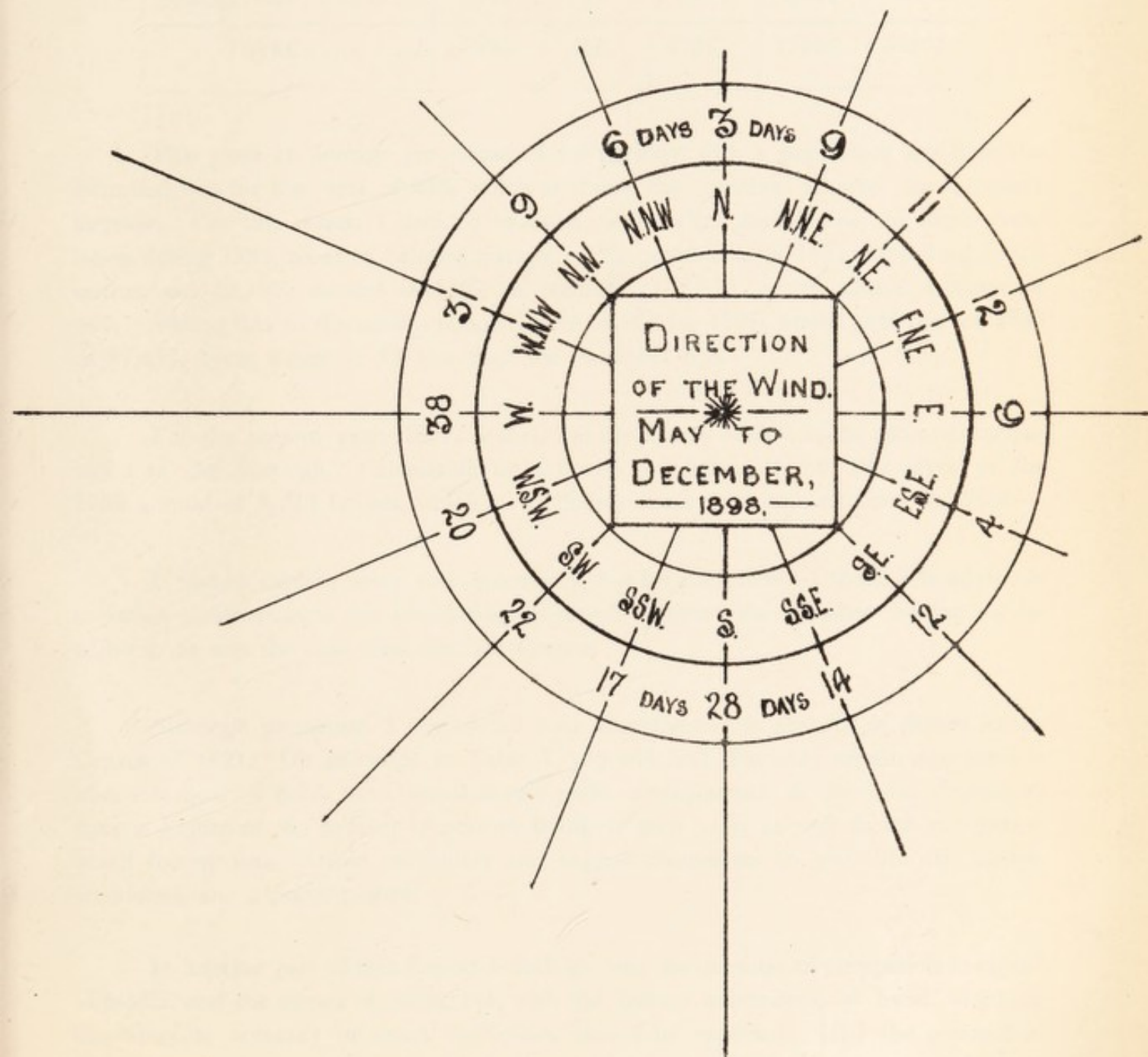
TABLE I.

(From the Return of the Registrar-General of the Census of 1891.)

AGE.	MALES.	FEMALES.	AGE.	MALES.	FEMALES.
UNDER } 1 YEAR... }	436	449	45 YEARS.....	702	890
1 "	415	393	50 "	626	766
2 YEARS.....	377	418	55 "	443	493
3 "	363	380	60 "	286	410
4 "	358	382	65 "	184	249
5 "	1919	1861	70 "	108	148
10 "	1892	2012	75 "	50	69
15 "	1833	2072	80 "	19	33
20 "	1626	1911	85 "	2	7
25 "	1433	1618	90 "	—	2
30 "	1162	1330			
35 "	987	1223		16025	18167
40 "	894	1045			
			Total..... 34,192		

The Population for 1897 was estimated for statistical purposes at 37,500.

In that year, commencing on April 26th and finishing on May 29th, the School Attendance Officers, for purposes of their own, made a census of the town's population of school children. By an agreement with them they decided to include, as far as possible, an enumeration of the total number of houses and the inhabitants.



The following is a list—

WARD.	No. of Houses.	Empties.	Males.	Females.	Total.
Central	1497	6	3121	3599	6720
West Central	760	13	1628	1800	3428
North-East	1874	13	4305	4725	9030
North-West	1095	2	2299	2751	5050
South-East	1347	23	2924	3230	6154
South-West	1422	11	3092	3491	6583
TOTAL	7995	68	17369	19596	36965

This gives an average per house of 4.6 persons, with a population less than the estimated one for that year of 535, which is about the number allowed for a yearly increase. For this reason I decided to estimate the vital statistics on the same population during 1898, so as to balance matters. The population in 1891, according to the census, was 34,192, showed in 1897 an increase of 2,773, or an annual increase of 462. Adding this to the census population of 36,965 for 1897, would yield one for 1898 of 37,427, being therefore 73 less than the estimated one.

For the present year, 1899, I shall use the figures 37,900 as the estimated population of the Borough. Calculating on a house population of 4.6, this gives us for 1899 a total of 8,239 houses, which is 94 houses fewer than were returned for 1898.

I cannot explain away this inaccuracy, but for the present I think it is advisable to rather under-estimate the population, as it will prevent the number having to be reduced, as was the case after the last Census.

Although premature, I beg to call your attention to the absence of details in the Census of 1891. On reference to Table I. you will find that only certain age periods were returned. I think the Council should make arrangements at the next Census to have a Return of the number of persons living at each year, as well as the occupation of all the workers. Other particulars may suggest themselves to you, but the above-mentioned are important ones.

In another part of this Report I shall go into the question of occupation in regard to health, and the causes of death, but, with the limited information at hand, anything like absolute accuracy or exact deductions cannot be expected. Had the occupation of all the people been given, some Statistical information might have been obtained from it.

BIRTHS.

The number of Births registered during the year was 1,131, viz., 577 males and 554 females.

The annual Birth-rate was 30.0 per 1,000 of the estimated population.

Table II. gives the estimated Population, number of Births, and the Birth-rate, for the Darwen Sanitary District since 1882, inclusive.

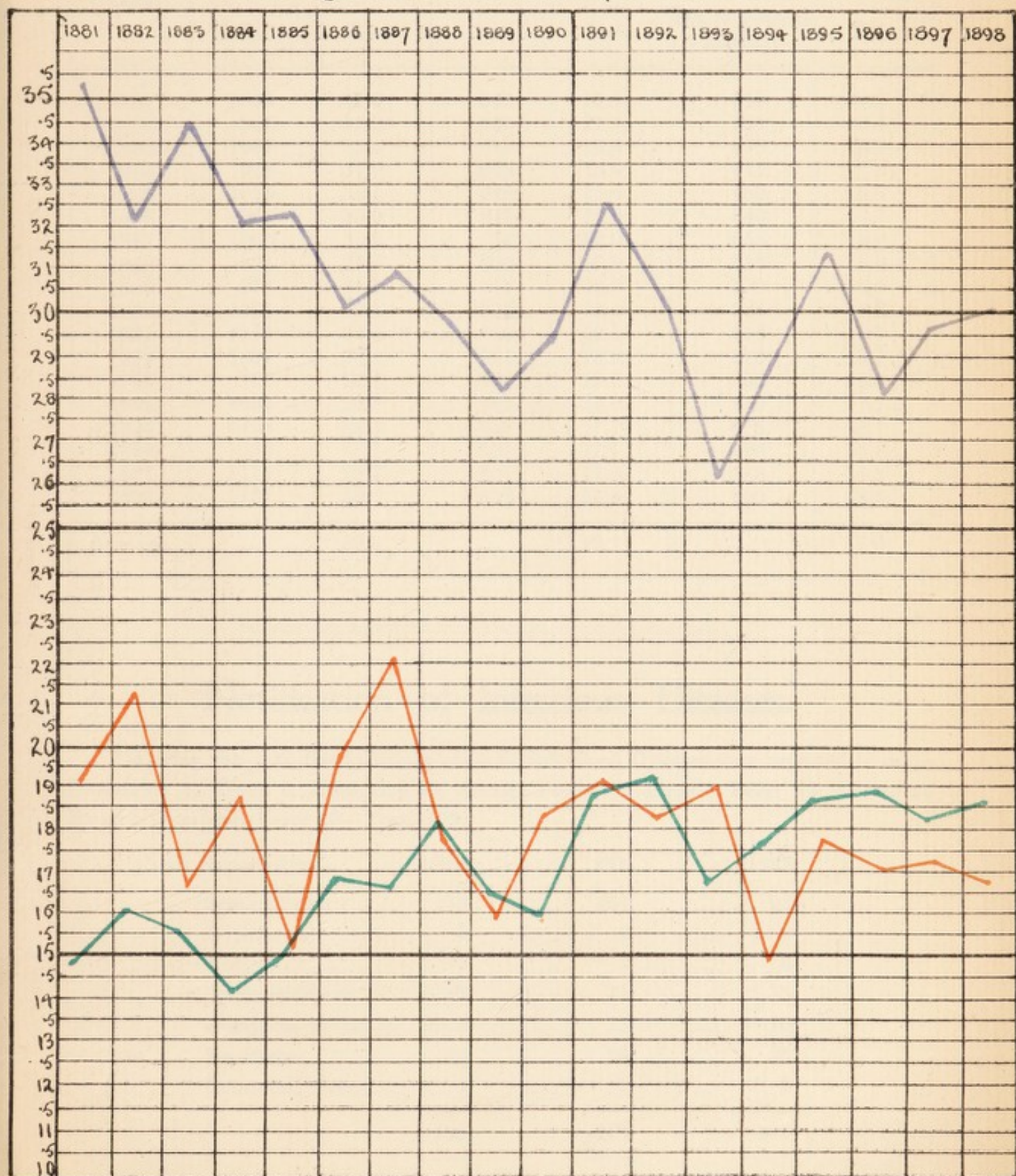
TABLE II.

YEAR.	ESTIMATED POPULATION AT THE MIDDLE OF THE YEAR.	TOTAL BIRTHS.	BIRTH-RATE.
1882	30,295	987	32.2
1883	30,733	1057	34.4
1884	31,360	978	31.9
1885	31,720	1015	32.1
1886	32,185	905	30.0
1887	33,491	1000	30.8
1888	33,500	994	29.6
1889	34,500	978	28.1
1890	36,500	1075	29.4
1891	34,500	1115	32.3
1892	35,000	1057	30.3
1893	35,500	955	26.1
1894	36,000	1039	28.1
1895	36,000	1128	31.3
1896	36,052	1032	28.1
1897	37,500	1114	29.7
1898	37,500	1131	30.0

The average Birth-rate for the last 17 years is 30.3 per 1,000.

Chart 1.

BIRTHS, MARRIAGES and DEATHS
 registered during the undermentioned years,
 shewing the rates per 1000.



BIRTHS marked in BLUE DEATHS marked in RED.
 MARRIAGES marked in GREEN

1910

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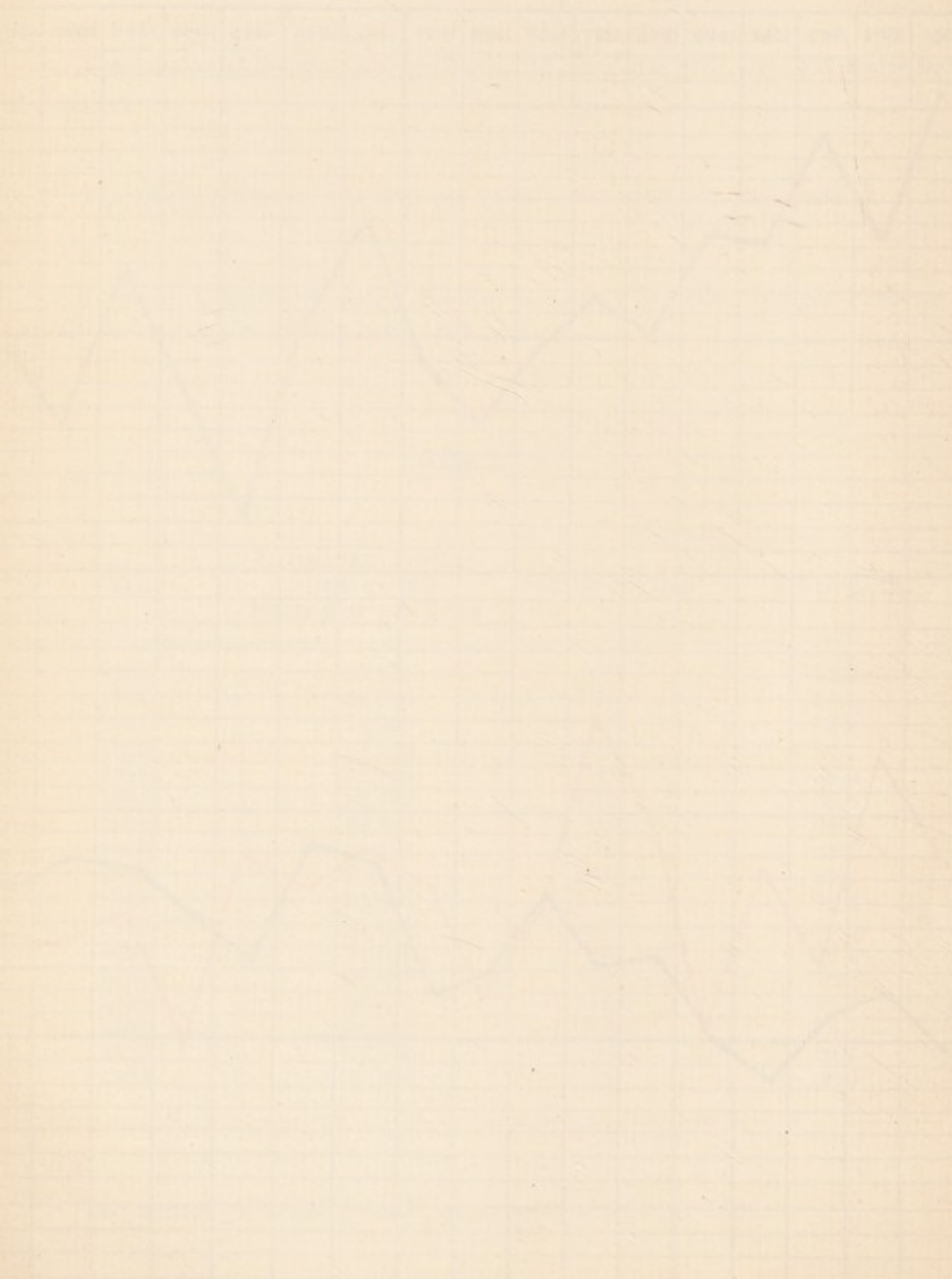


TABLE III.

YEAR.	BIRTHS.		DEATHS.		MARRIAGES.	
	No.	Rate.	No.	Rate.	No. of Persons Married.	Rate.
1881	1053	35.4	569	19.1	440	14.7
1882	987	32.2	650	21.4	490	16.0
1883	1057	34.4	518	16.8	478	15.5
1884	978	31.9	595	18.9	444	14.1
1885	1015	32.1	489	15.4	480	15.1
1886	965	30.0	641	19.9	540	16.7
1887	1000	30.8	716	22.0	558	16.6
1888	994	29.6	600	17.9	616	18.2
1889	978	28.1	544	16.0	570	16.5
1890	1075	29.4	673	18.4	586	16.0
1891	1115	32.3	660	19.1	648	18.7
1892	1057	30.2	641	18.3	670	19.1
1893	955	26.1	677	19.0	592	16.7
1894	1039	28.8	542	15.0	640	17.7
1895	1128	31.3	640	17.7	676	18.7
1896	1032	28.1	627	17.1	696	18.9
1897	1114	29.7	651	17.3	688	18.3
1898	1131	30.0	632	16.8	700	18.6
Average...	...	30.5	...	18.1	...	17.0

Notification of Infectious Diseases.

During the year the following cases of Infectious Diseases were reported to me—
 Diphtheria 2, Croup 6, Erysipelas 35, Scarlet Fever 93, Enteric Fever 43, Continued
 Fever 3, Puerperal Fever 10—Total 192.

Cases Reported in—	1896.	1897.	1898.
Scarlet Fever	139	101	93
Diphtheria	5	2	2
Croup	7	3	6
Typhoid Fever.....	33	41	43
Puerperal Fever ...	9	12	10
Erysipelas	70	56	35
Continued Fever ...	3	1	3
	<u>266</u>	<u>216</u>	<u>192</u>

TABLE IV.

Shows the Cases reported in the various Wards—

WARDS.	SMALLPOX.	SCARLET FEVER.	DIPHTHERIA.	CROUP.	FEVERS.					CHOLERA.	ERYSIPELAS.	TOTAL.
					TYPHUS.	TYPHOID.	CONTINUED.	RELAPSING.	PUERPERAL.			
Central		8		1		3					5	17
West-Central...		11		2		1					3	17
North-East ...		12				13	1				6	32
North-West ...		12	2	1		4			1		5	25
South-East ...		13		1		15	2		2		7	40
South-West ...		37		1		7			7		9	61
		93	2	6		43	3		10		35	192

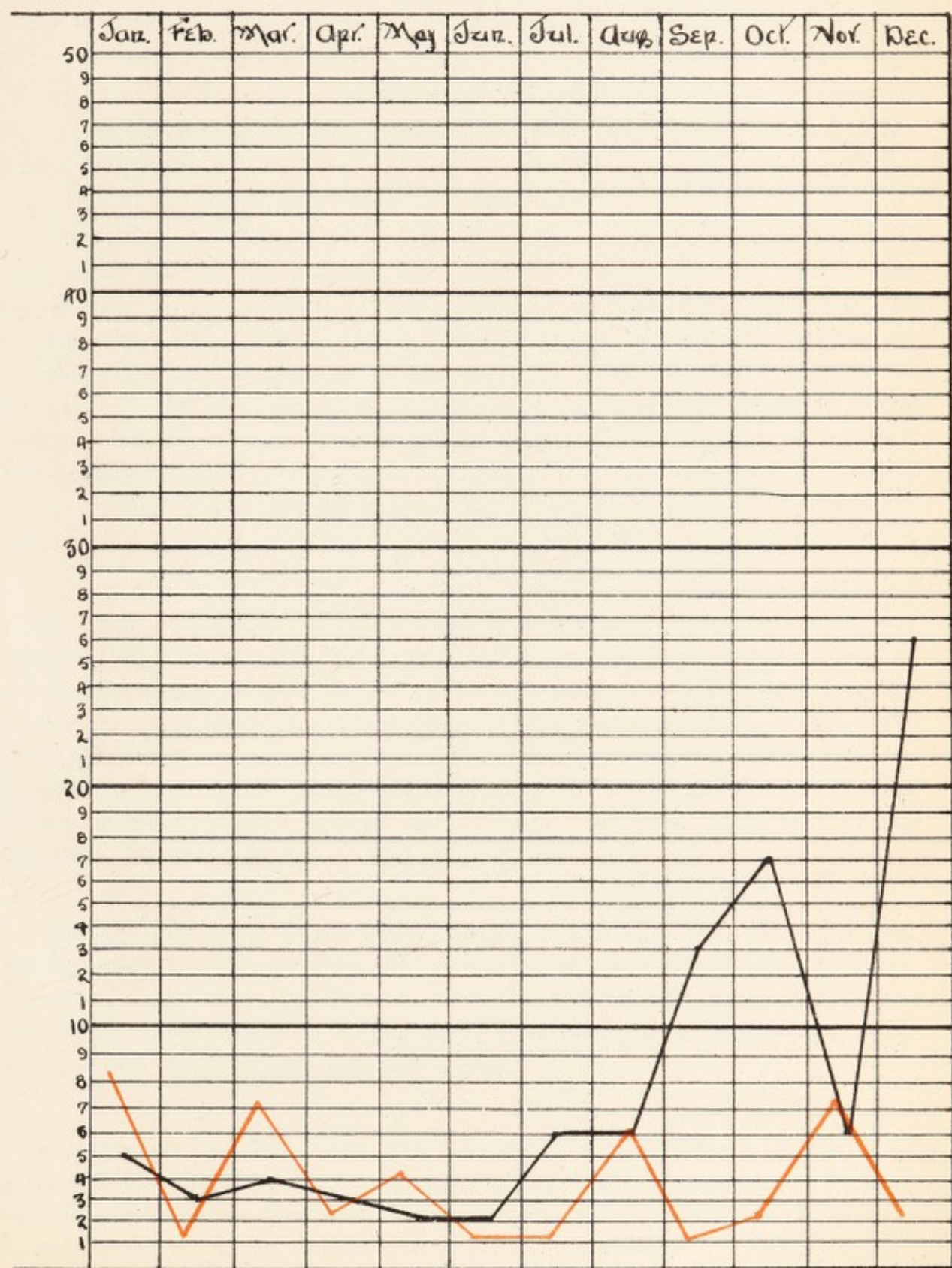
TABLE V.

Shows the Distribution, calculated at the rate per 1,000 of the Population for each Ward, and for the Borough.

WARDS.	SMALLPOX.	SCARLET FEVER.	DIPHTHERIA.	CROUP.	FEVERS.					CHOLERA.	ERYSIPELAS.	TOTAL.
					TYPHUS.	TYPHOID.	CONTINUED.	RELAPSING.	PUERPERAL.			
Central		1·15		·14		·43					·71	2·44
West-Central...		2·83		·51		·25					·77	4·38
North-East ...		1·35				1·48	·11				·68	3·65
North-West ...		2·30	·38	·19		·76			·19		·96	4·80
South-East ...		2·14		·16		2·47	·33		·33		1·15	6·60
South-West ...		5·54		·15		1·05			1·05		1·35	9·16
		2·48	·05	·16		1·14	·08		·26		·93	5·12

INFECTIONOUS DISEASES NOTIFIED.

— 1898. —



— Scarlet Fever marked in Black. —
 — Typhoid " " " Red. —

1903

Journal of George Thompson

1903

Jan 1	Left New York for Philadelphia
Jan 2	Arrived Philadelphia
Jan 3	Spent day in Philadelphia
Jan 4	Left Philadelphia for Washington
Jan 5	Arrived Washington
Jan 6	Spent day in Washington
Jan 7	Left Washington for Baltimore
Jan 8	Arrived Baltimore
Jan 9	Spent day in Baltimore
Jan 10	Left Baltimore for New York
Jan 11	Arrived New York
Jan 12	Spent day in New York
Jan 13	Left New York for Philadelphia
Jan 14	Arrived Philadelphia
Jan 15	Spent day in Philadelphia
Jan 16	Left Philadelphia for Washington
Jan 17	Arrived Washington
Jan 18	Spent day in Washington
Jan 19	Left Washington for Baltimore
Jan 20	Arrived Baltimore
Jan 21	Spent day in Baltimore
Jan 22	Left Baltimore for New York
Jan 23	Arrived New York
Jan 24	Spent day in New York
Jan 25	Left New York for Philadelphia
Jan 26	Arrived Philadelphia
Jan 27	Spent day in Philadelphia
Jan 28	Left Philadelphia for Washington
Jan 29	Arrived Washington
Jan 30	Spent day in Washington
Jan 31	Left Washington for Baltimore
Feb 1	Arrived Baltimore
Feb 2	Spent day in Baltimore
Feb 3	Left Baltimore for New York
Feb 4	Arrived New York
Feb 5	Spent day in New York
Feb 6	Left New York for Philadelphia
Feb 7	Arrived Philadelphia
Feb 8	Spent day in Philadelphia
Feb 9	Left Philadelphia for Washington
Feb 10	Arrived Washington
Feb 11	Spent day in Washington
Feb 12	Left Washington for Baltimore
Feb 13	Arrived Baltimore
Feb 14	Spent day in Baltimore
Feb 15	Left Baltimore for New York
Feb 16	Arrived New York
Feb 17	Spent day in New York
Feb 18	Left New York for Philadelphia
Feb 19	Arrived Philadelphia
Feb 20	Spent day in Philadelphia
Feb 21	Left Philadelphia for Washington
Feb 22	Arrived Washington
Feb 23	Spent day in Washington
Feb 24	Left Washington for Baltimore
Feb 25	Arrived Baltimore
Feb 26	Spent day in Baltimore
Feb 27	Left Baltimore for New York
Feb 28	Arrived New York
Feb 29	Spent day in New York

Small blue notes in black

For Infectious Diseases reported, Central Ward occupied the best position. Coming next, is North-East Ward, with an exceptionally low record in Scarlet Fever, considering the class of property in some parts of it; in regard to Typhoid Fever, things were not so good.

The Two Wards at the South end of the Borough showed a bad record, both for Scarlet Fever as well as Typhoid Fever. In South-West Ward, Puerperal Fever showed to bad advantage.

TYPHOID FEVER.—There were 43 cases reported during the year, being 2 more than in the previous year, and 10 more than in 1896. The steady increase in the number of these cases is unaccountable, and none the less disquieting. The absence of a common cause renders the solution a very difficult one, as it is quite impossible to trace these sporadic cases to a definite source. In all cases, every precaution is taken to prevent the spread of the disease, and full inquiries are made as to food, milk, and water supplies, as well as in all the sanitary arrangements. In some instances it is found that a case of Typhoid Fever has occurred in the same house some time before; when this is so, the drains are at once inspected in the most thorough manner, and any faults detected are remedied.

Although the night-soil is not now put upon the land, it must be evident that this practice, which has obtained in the past, will for some considerable time continue to bear fruit, and we must wait for its gradual disappearance, and at the same time be fully prepared to take active measures in the event of a special outbreak. The Water supplies are receiving constant attention, and with the danger in view, it is not likely that anything will be overlooked. The system of marking the location of Infectious Diseases on a plan by means of small Flags is still continued, this plan being kept in the Health Office for easy reference.

The Milk supplies to Typhoid Fever houses are still indicated by pieces of elastic carried from each house to the farm from which the milk is obtained; in addition to this, pieces of elastic are carried from the houses in which Scarlet Fever exists to the Schools attended by the patients; by this means great assistance is obtained in tracing the cause of the spread of this particular disease.

Arrangements had been made with Professor Delepine, of Owens College, Manchester, for the examination of, and the report on, the blood of suspected cases of Typhoid Fever. Very little use has been made of this ready means of confirmation of the diagnosis, and the interest in the test seems to be gradually subsiding.

Although strong objections are always raised against the closing of Elementary Schools on account of Infectious Diseases, no systematic attempt is being made by the Managers to thoroughly cleanse and disinfect them, and the bottles of Solution of Mercuric Chloride supplied free by the Health Department, are now never called for.

SCARLET FEVER.—We had cases of Scarlet Fever reported every month throughout the year, beginning with 5 in January, the number gradually decreasing until July, when a rise took place, which continued until the end of the year, when, in December, the large number of 26 was notified; the total for the year being 93, or 8 less than in the preceding year.

The difficulties in the way of securing perfect isolation for a disease, the convalescent period of which is so long drawn out, are insurmountable in the majority of Cottage houses, so that now the Hospital is gradually being made more use of, and, with the addition of Nursing facilities, there is every probability of a more extended use of the place, with consequently better results.

CHART No. IV. is similar to what have appeared in previous Annual Reports, and is based on the same lines, viz., each Red Square represents an Epidemic Week for the town opposite to which it is placed, and for the number of the week in the year under which it appears; the basis of calculation is at the same rate as before, being 15 cases or more for every 100,000 of the population. There were 8 towns in this Lancashire list which escaped an Epidemic Week, viz—Liverpool, Manchester, Salford, Chadderton, Rochdale, Burnley, Preston, and Lancaster.

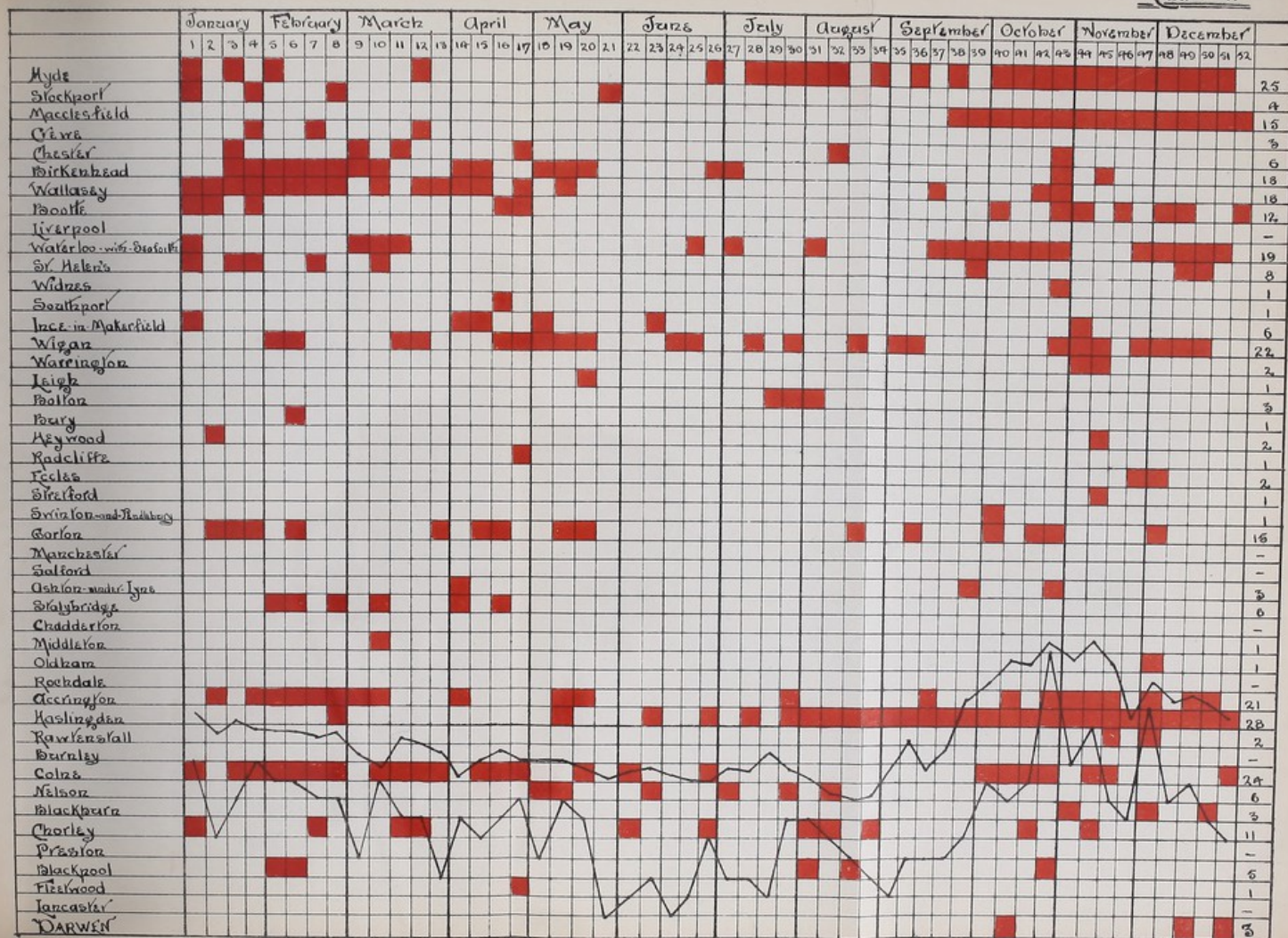
Strangely enough, some of the largest towns were again free. In Darwen the number of Epidemic Weeks was 3, as compared with 4 in the previous year.

The upper curve represents the incidence of Scarlet Fever throughout England and Wales, whilst the lower one is for the 46 towns on the list according to the number of Epidemic Weeks.

The disease ran its usual course.

Reference to CHART II. will show the course, during the year, of the two Infectious Diseases, viz—Typhoid and Scarlet Fevers.

Carl A.



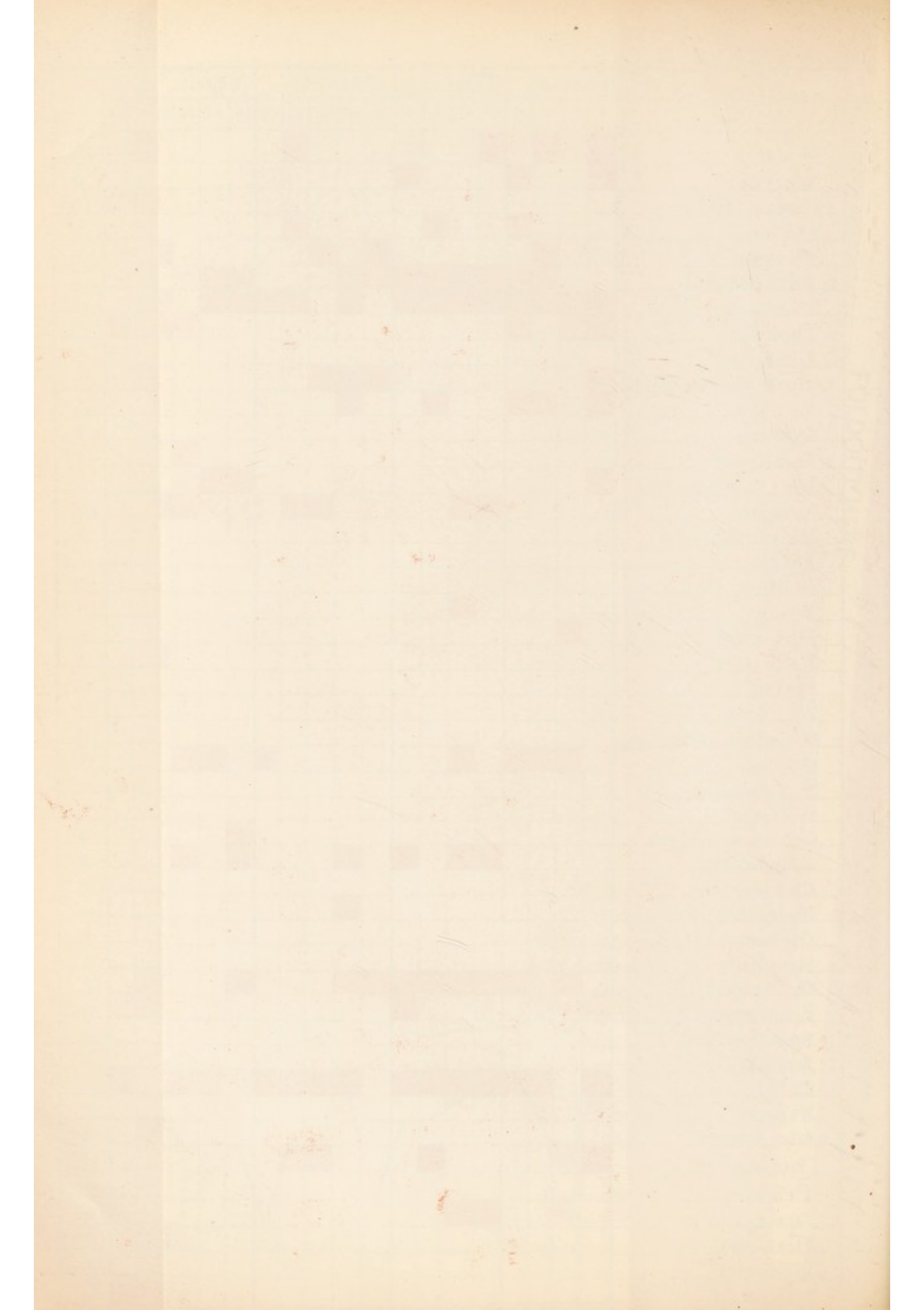


CHART III. becomes more interesting with the addition of each year, and may, in time, give us much valuable information on the course of Scarlet Fever; thus, beginning with 1888, there were 224 cases notified, in 1889 154 cases, 1890 73 cases, and in 1891 37 cases, showing for the four years mentioned a gradual decline. This apparently accidental circumstance was again repeated during the four following years, as in 1892 there were 260 cases, in 1893 243 cases, in 1894 124 cases, and in 1895 42 cases, thus exhibiting the same gradual decline each year, with an almost phenomenal rise in the fifth year.

The third period, beginning with 1896, in which there were 139 cases, in 1897 101 cases, and last year, 1898, there were 93 cases. The present year will either confirm this regularity of appearance, or break the continuity which characterised the two periods referred to. Whatever the results may be, it is an interesting study, and points to certain conclusions. Scarlet Fever is most prevalent from the second to the fifth year of life, and taking the first epidemic year, when the largest number of children are attacked, the number gradually decreases as the susceptible children are gone through; in the meantime, another group of children is growing up, which, in the fourth year from the commencement of the epidemic, present the maximum number of children of a susceptible age. This may seem to many of my readers to be mere theorising, but future information will probably prove there to be some truth in it. Take the year 1897. The total number of epidemic weeks in the 46 Lancashire towns was 360, whilst last year there were only 287, showing a steady decrease throughout Lancashire.

Colne and Haslingden headed the list with 24 such weeks each, followed closely by Hyde, Accrington, and Wigan, with 22 weeks each. Wallasy and Bootle had each 17 weeks, Macclesfield had 14, and Waterloo and Seaforth had 18.

It is remarkable that St. Helens, which suffered so much during 1897 with 41 epidemic weeks, should show only 5 such weeks during the first three months of the year, then have a period of rest until September, and again in December have 2 weeks, thus showing the natural tendency of this disease to run its usual course, even when one would have expected the whole of the susceptible children to have been exhausted.

Another feature of the disease is its tendency to move in cycles of districts, thus—during the first three months of the year Scarlet Fever was prevalent in Birkenhead and Wallasy, and at the same time appeared in Accrington and Colne; these two latter towns being some distance apart, but on the same line of railway. It next appeared in Wigan and Ince, keeping to the former town during the remainder of the year.

From Accrington, in which place it was epidemic almost throughout the year, it spread on with tremendous force to Haslingden.

Gorton suffered during the first six months from nine epidemic weeks, then the disease travelled to Hyde, and on to Macclesfield, clearly proving that whatever its tendency to run a certain course throughout the year, there is evidence of its passage along lines of travel.

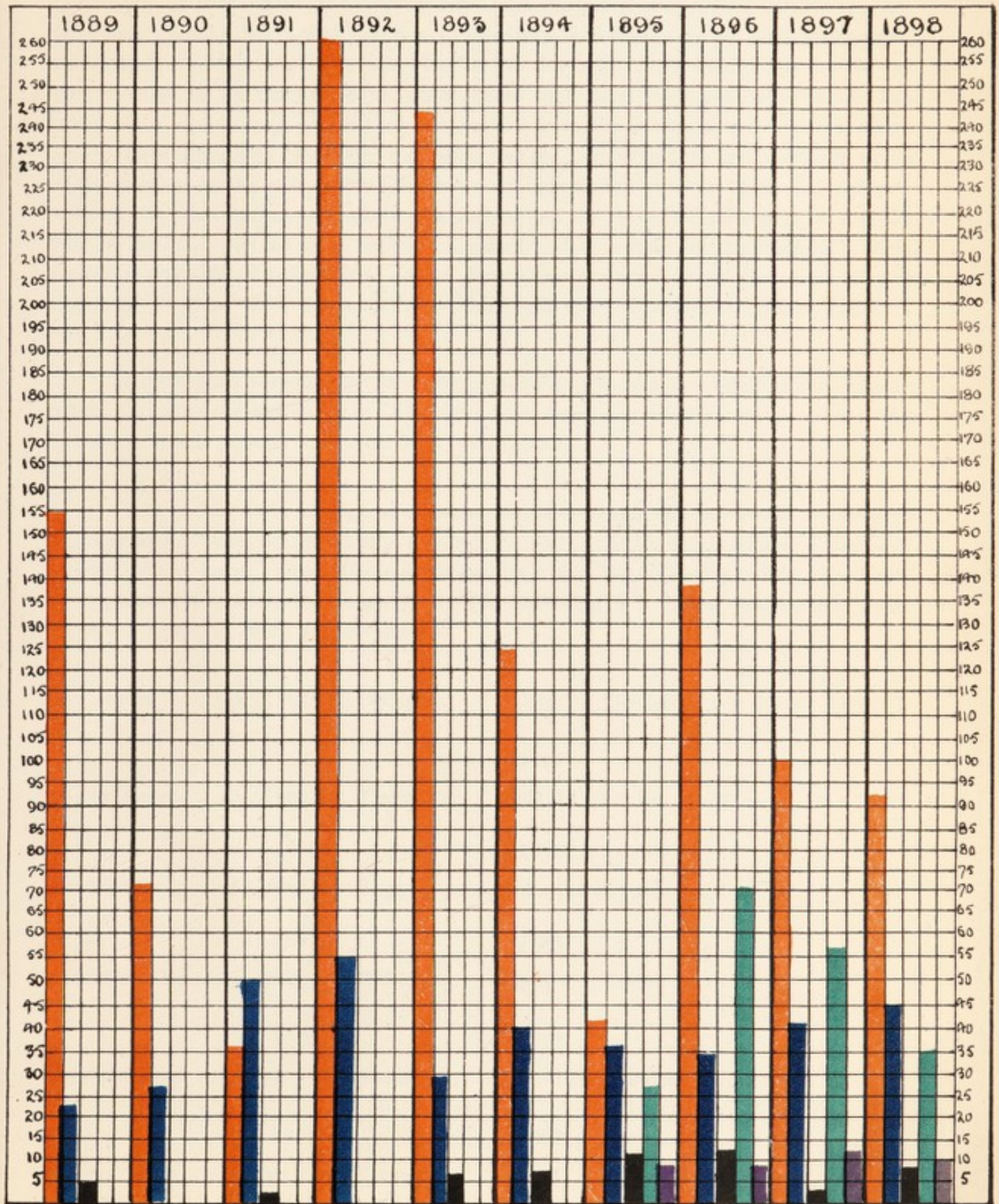
Consumption as an Infectious Disease.

Since Heredity is now acknowledged to play so small a part in the production of this disease, and infection as a means to that end has more than taken its place, various branches of the Incorporated Society of Medical Officers of Health are agreeing as to the advisability of making this a Notifiable Disease. Much discussion is at the present time taking place throughout the country on the necessity of providing sanatoria for the treatment of Phthisis, a very worthy object in the face of the large number of deaths which annually occurs, but this does not strike at the root of the mischief, viz., prevention, but only provides help for those who are stricken, without in any way using even ordinary precautions to prevent the healthy from being attacked. That this comes within the scope of the duties of all Sanitary Authorities goes without saying, just as do the precautionary measures in regard to other infectious diseases.

Many objections to the Notification of Consumption may be raised, a few of which I will at this point discuss.

1st. EXPENSE.—The initial cost would be the greatest, because a large number of existing cases would be included, and which would probably last some years before proving fatal; after a time, however, this would be regulated, and the after cost so much lessened, and each year would see the expense a diminishing one. From the 1st January, 1891, to December 31st, 1898, there have occurred 266 deaths from Phthisis Pulmonalis, this averages per year 33.2, allowing 5 per cent. for recoveries, which is an arbitrary number, as I have no statistics at hand. In round numbers this would give us 35 cases per year to be paid for presumably at the ordinary rate, viz., 2s. 6d. each, or an annual expenditure of four pounds seven shillings and sixpence; surely not an extravagant sum for a population of 38,000 people.

INFECTIOUS DISEASES NOTIFIED during the undermentioned years.



Scarlet Fever - Red. Typhoid Fever - Blue. Diphtheria - Black.
Erysipelas - Green. Puerperal Fever - Purple.

2nd. Its inefficiency on account of the chronic character of the disease, and the length of time which must necessarily elapse in many cases before notification can be done; granted, but would not this Compulsory Notification rather tend to diminish this evil by drawing particular attention to the diseases? And should this not be the fact, it must be an advantage to know where such cases do exist before death has taken place, even though much time has elapsed from the commencement of the illness up to its notification. Possibly, too, some people may object to the notoriety which such attention on the part of the officials would induce, but this has been the difficulty with all the other infectious diseases, and nothing but the spread of knowledge on sanitary matters generally can do away with it. Certainly, what is good for the community must be for the benefit of individuals. Apart from these apparent drawbacks to the Notification of Phthisis, there are advantages which will more than counterbalance them.

I have gone through the local Registrar's Returns, and as a result of this enquiry I find that since the beginning of 1890 there have been, up to the end of 1898, 261 houses in which persons have died from consumption.

I have purposely left out of consideration those cases which, though returned as Consumption, were not medically certified as such, and I only include Tubercular disease of the lungs. From these investigations I find the following, taking the streets in Alphabetical order as the easiest way. The following is a list of houses, also those in which a second death has occurred—

Street.	No.	Date.	Occupier.	Date.	Occupier.	Date.	Occup'r.
		1895		1897			
Argyle Street	...45...	June 5...	Thompson	... Feb. 13...	Eccles	.....
		1890		1892			
Brook Street.....	1...	Aug. 5...	Briggs	..... Feb. 17...	Nuttall	.....
		1897		1898			
Blackburn Rd...	467...	July 17...	Wilson	..... April 8...	Wilson	.....
		1898		1898			
Fowler Street	...18...	May 14...	Saunders	..... July 15...	Saunders	.....
		1892		1892			
George Street	... 3...	May 15...	Ramsden	..... May 17...	Ramsden	.....

Street.	No.	Date.	Occupier.	Date.	Occupier.	Date.	Occup'r.
		1892		1893		1897	
Hanover Street...	25...	July 11...	Dempsey	Mar. 31...	Dickenson	Jan. 21...	Briggs
		1891		1895			
Primrose Hill ...	9...	Jan. 30...	Riding	Sept. 6...	Singleton		
		1893		1896			
Star Street.....	10...	Aug. 29...	Yates	Mar. 6...	Yates		
		1895		1897			
Vale Street	8...	Feb. 26...	Fielding	Oct. 29...	Walkden		
		1892		1895			
William Street....	11...	May 25...	Calvey	June 7...	Calvey		

Showing that 10 out of the 261 houses have had a second, and in one instance a third, case occurring at a short or long interval.

Some of them, as for instance—Wilson, Saunders, Ramsden, Yates, and Calvey, are apparently of the same family, and very probably slept together, or in the same room; such was the case with Ramsden, Saunders, and Yates, to my own knowledge, but had notification been in force, and proper precautions taken, it is more than likely that a second person in the family would have escaped an attack. Where the names are different, the evidence, such as we have, goes to prove that the infection was in the room during the time of a fresh occupancy, and thus the atmosphere loaded with Tubercle Baccili, breathed during the long hours of night, and without efficient ventilation, found a suitable nidus in the lungs of the persons breathing it.

The most remarkable case was the one at 25, Hanover Street, where three separate persons died from Consumption, and all apparently of different families occupying the house at different periods.

I have furnished you with this information as a plea for the Compulsory Notification of Phthisis, which I commend to your notice.

At present, on the receipt of a copy of the Deaths from the Registrar, where one has taken place from Consumption, the Inspectors, with as little friction as possible, disinfect the bedroom in which the death has taken place. This, however, leaves much yet to be done in the way of getting rid of all the articles soiled with the sputum as quickly as possible by burning.

SMALL-POX has visited five towns in the list of forty-six in Lancashire which I have taken for purposes of comparison. In all there were 23 cases, as follows—Crewe 1, Birkenhead 1, Liverpool 17, Leigh 1, and Heywood 3.

It is gratifying to learn that the County has escaped so well, and yet more so that Darwen has not suffered.

There is no doubt that the new Vaccination Act is a pernicious one, as future events will prove. The loophole to escape the requirements of a hygienic law, which has been made for persons who are ignorant as to the value of protection given by Vaccination, shows its weakness, not in the compulsory dealing with a man's children, but in protecting the public against an infectious disease.

SCARLET FEVER I have already dealt with, but at this point I wish to draw comparison with the other towns. The highest rate obtained at Hyde, viz., 9.06 per 1000 of the population at the last Census; and the lowest was at Preston, which was 0.44 per 1000; whilst at Darwen it was 2.72 per 1000, this rate at Darwen being also calculated on the population at the last Census.

Of the 46 towns there were 19 with a higher sickness rate, and 27 with a lower one than we had.

DIPHTHERIA was reported in all the towns with the exception of Colne; the highest was Birkenhead, with a rate of 1.87 per 1000; and the lowest, was Darwen, with a rate of 0.05 per 1000.

MEMBRANOUS CROUP.—In my opinion these two diseases should be classed together, when the results would prove statistically more satisfactory.

28 towns had cases notified during the year. The following towns being exempt, viz—Macclesfield, Chester, Ince-in-Makerfield, Wigan, Bolton, Heywood, Eccles, Stretford, Gorton, Ashton-under-Lyne, Chadderton, Oldham, Accrington, Burnley, Nelson, Preston, Blackpool, Fleetwood, and Lancaster. The highest rate, viz., 0.53 per 1000, was at Colne, which, curiously enough, was free from Diphtheria; and the lowest among the towns affected was 0.01 per 1000 at Barrow-in-Furness. The rate at Darwen was 0.17 per 1000.

TABLE VI.

TOWNS.		SMALLPOX.		SCARLET FEVER.		DIPHTHERIA		MEMBRANOUS CROUP.	
		Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.
1	Hyde .....	...	...	278	9.06	5	.16	7	.22
2	Stockport.....	...	...	189	2.68	12	.17	2	.02
3	Macclesfield .....	...	...	248	6.88	22	.61	...	...
4	Crewe	1	.03	59	1.79	35	1.06	4	.12
5	Chester .....	...	...	127	3.42	45	1.21	...	...
6	Birkenhead	1	.01	653	6.53	187	1.87	4	.04
7	Wallasey .....	...	...	216	6.50	28	.84	3	.09
8	Bootle .....	...	...	261	5.30	16	.32	4	.08
9	Liverpool.....	17	.02	2421	3.67	509	.80	52	.08
10	Waterloo-with-Seaforth .....	...	...	137	7.90	13	.75	2	.11
11	St. Helens .....	...	...	383	5.37	50	.70	10	.14
12	Widnes .....	...	...	35	1.16	7	.23	4	.13
13	Southport .....	...	...	90	2.17	18	.43	2	.04
14	Ince-in-Makerfield .....	...	...	51	2.64	5	.25	...	...
15	Wigan .....	...	...	419	7.61	12	.21	...	...
16	Warrington .....	...	...	104	1.88	5	.09	3	.05
17	Leigh	1	.03	55	1.91	12	.41	10	.34
18	Bolton .....	...	...	515	4.47	30	.26	...	...
19	Bury .....	...	...	148	2.58	21	.36	2	.03
20	Heywood.....	3	.12	38	1.67	3	.12	...	...
21	Radcliffe .....	...	...	38	1.52	10	.40	6	.24
22	Eccles .....	...	...	97	3.27	38	1.28	...	...
23	Stretford .....	...	...	45	2.68	9	.41	...	...
24	Swinton and Pendlebury ..	...	...	37	1.71	3	.13	1	.04
25	Gorton.....	...	...	82	5.38	6	.39	...	...
26	Manchester .....	...	...	948	1.87	179	.35	17	.03
27	Salford.....	...	...	650	3.28	113	.56	8	.04
28	Ashton-under-Lyne.....	...	...	97	2.39	5	.12	...	...
29	Stalybridge .....	...	...	73	2.72	9	.33	10	.37
30	Chadderton.....	...	...	34	1.53	6	.27	...	...
31	Middleton .....	...	...	39	1.75	3	.13	1	.04
32	Oldham .....	...	...	342	2.60	39	.29	...	...
33	Rochdale.....	...	...	88	1.23	20	.23	7	.09
34	Accrington .....	...	...	287	7.43	36	.93	...	...
35	Haslingden .....	...	...	221	1.21	13	.71	9	.49
36	Rawtenstall .....	...	...	79	2.67	21	.71	10	.33
37	Burnley .....	...	...	149	1.71	125	1.43	...	...
38	Colne .....	...	...	150	8.94	...	...	9	.53
39	Nelson.....	...	...	85	3.74	29	1.27	...	...
40	Blackburn .....	...	...	342	2.85	62	.51	10	.08
41	Darwen .....	...	...	93	2.72	2	.05	6	.17
42	Chorley .....	...	...	113	4.89	3	.12	4	.17
43	Preston .....	...	...	48	.44	19	.17	...	...
44	Blackpool .....	...	...	77	3.22	8	.33	...	...
45	Fleetwood .....	...	...	7	.75	3	.32	...	...
46	Lancaster.....	...	...	19	.61	6	.19	...	...
47	Barrow-in-Furness .....	...	...	109	2.17	23	.44	1	.01

TABLE VI.

No. of Town.	FEVERS.										CHOLERA.		ERYSIPELAS.	
	TYPHUS.		TYPHOID.		CONTINUED		RELAPSING.		PUERPERAL.					
	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.	Notified.	Rate per 1,000.
1	...	...	50	1.63	...	...	...	...	3	.09	...	...	49	1.59
2	...	...	119	1.69	1	.01	...	...	5	.07	...	...	46	.65
3	...	...	45	1.25	...	...	...	...	1	.02	...	...	2	.05
4	1	.03	32	.97	...	...	...	...	4	.12	...	...	49	1.49
5	...	...	65	1.75	...	...	...	...	2	.05	...	...	...	...
6	...	...	235	2.35	3	.03	...	...	14	.14	...	...	...	...
7	...	...	87	2.31	...	...	...	...	4	.12	...	...	37	1.11
8	25	.50	132	2.68	3	.06	...	...	1	.02	...	...	43	.87
9	105	.16	871	1.38	63	.09	2	.00	48	.07	...	...	1075	1.62
10	...	...	55	3.19	...	...	1	.05	2	.11	...	...	11	.63
11	...	...	134	1.87	1	.01	...	...	7	.09	1	.01	172	2.41
12	...	...	135	4.49	...	...	...	...	3	.09	...	...	25	.83
13	...	...	56	1.35	1	.02	...	...	3	.07	...	...	15	.36
14	4	.20	36	1.86	1	.05	...	...	...	...	...	...	9	.46
15	...	...	93	1.69	...	...	...	...	4	.07	...	...	...	...
16	...	...	41	.74	...	...	...	...	8	.14	...	...	19	.34
17	...	...	130	4.52	1	.03	...	...	4	.13	...	...	46	1.60
18	...	...	262	2.27	...	...	1	.008	4	.03	1	.008	...	...
19	1	.01	54	.94	15	.26	...	...	5	.08	...	...	...	...
20	...	...	12	.51	1	.04	...	...	5	.21	...	...	...	...
21	...	...	31	1.24	6	.24	...	...	1	.04	...	...	18	.72
22	...	...	64	2.16	...	...	...	...	2	.06	...	...	43	1.45
23	...	...	17	.78	...	...	...	...	...	...	...	...	38	1.74
24	2	.09	119	5.5	...	...	...	...	1	.04	...	...	40	1.84
25	...	...	79	5.19	...	...	...	...	2	.13	...	...	18	1.18
26	...	...	656	1.29	...	...	...	...	38	.07	...	...	...	...
27	14	.06	390	1.96	22	.11	...	...	30	.15	...	...	149	.70
28	...	...	58	1.23	12	.29	...	...	5	.12	...	...	...	...
29	5	.18	91	3.02	...	...	...	...	2	.07	...	...	17	.63
30	...	...	26	1.17	...	...	...	...	...	...	...	...	...	...
31	...	...	16	.72	...	...	...	...	4	.18	...	...	21	.90
32	...	...	68	.51	...	...	...	...	20	.15	...	...	...	...
33	6	.08	71	.99	6	.08	...	...	18	.25	...	...	102	1.42
34	2	.05	53	1.37	...	...	...	...	4	.10	...	...	...	...
35	1	.05	62	3.40	...	...	...	...	...	...	...	...	22	1.20
36	...	...	16	.54	...	...	...	...	3	.10	...	...	53	1.79
37	...	...	119	1.36	...	...	...	...	4	.04	...	...	107	1.22
38	...	...	27	1.60	...	...	...	...	1	.05	...	...	24	1.43
39	...	...	26	1.14	1	.04	...	...	1	.04	...	...	...	...
40	...	...	235	1.96	1	.00	...	...	8	.06	...	...	...	...
41	...	...	43	1.25	3	.08	...	...	10	.29	...	...	35	1.02
42	...	...	64	2.77	...	...	...	...	1	.04	...	...	22	.95
43	...	...	231	2.14	...	...	...	...	10	.09	...	...	51	.47
44	...	...	65	2.72	...	...	...	...	5	.20	...	...	...	...
45	...	...	12	1.28	...	...	...	...	...	...	...	...	2	.21
46	...	...	88	2.80	...	...	...	...	3	.09	...	...	...	...
47	...	...	57	1.12	16	.38	...	...	4	.07	...	...	84	1.62

TYPHUS FEVER.—This comparatively rare disease was reported at the following places, viz—Crewe, Bootle, Liverpool, Ince, Bury, Swinton, Salford, Stalybridge, Rochdale, Accrington, and Haslingden. As one would naturally expect, Bootle suffered the most with 25 cases, showing a rate of 0.50 per 1000, whilst Bury was at the bottom of the list with a rate per 1000 of 0.01. There is a doubt in one's mind as to the accuracy of some of these notifications.

TYPHOID OR ENTERIC FEVER.—This disease prevails not only in the County, but all over the Country. It is impossible to account for its endemic character, with the increasing use of water closets—fresh and waste—and the consequently more rapid removal of the fœcal matter from the vicinity of the houses, also the general discontinuance of the custom of putting fresh nightsoil on the land, should all prove strong factors in the lessening of the disease, yet it still continues. During the year the course was the usual one, viz., below the line of average for the first half of the year, then a gradual rise until November, and then a drop. This useful information should, one would think, help us in fighting the disease, yet it goes on. I shall endeavour to investigate every case, as far as possible, and thus, if possible, arrive at the cause of these sporadic cases. During the year there has not been found any one cause being common to more than one case such as occurred in the previous year, and this fact renders investigation all the more difficult. The town to suffer the most was Gorton, with a rate of 5.19 per 1,000; whilst the lowest rate was 0.51 per 1,000, which happened at Oldham and Heywood. The rate for Darwen was 1.25 per 1,000.

CONTINUED FEVER.—So closely associated with the previous disease, and no doubt included in the list of notifiable ones, to secure recognition of the very mild cases of Typhoid which would otherwise escape observation.

There is no doubt many cases notified as Continued Fever have no connection with Typhoid, still the loss would be greater, were these not all recognised, in the event of an outbreak of Enteric, arising from a mild case of unnotified Continued Fever.

There were 18 towns in which Continued Fever was reported, the highest being 0.38 per 1,000 at Barrow-in-Furness, and the lowest of these towns being Blackburn, with only 1 case, which, according to the usual calculations, shows a rate of 0.00, per 1,000. Darwen's rate was 0.08 per 1,000.

RELAPSING FEVER made its appearance in 3 towns out of the 46, viz., Liverpool, Waterloo and Bolton. Waterloo had a case rate of 0.05 per 1,000, Bolton 0.008, and Liverpool 0.00 per 1,000.

PUERPERAL FEVER.—There were only 5 towns in which there were no cases reported, viz., Ince, Stretford, Chadderton, Haslingden, and Fleetwood; of the rest, the highest was Darwen, with a rate of 0.29 per 1,000; and the lowest towns were Macclesfield and Bootle, with a rate each of 0.02 per 1,000.

Although we occupy such an unenviable position in respect to this disease, we must remember that this is most probably due to the stringent By-law which was passed by you some few years ago, and which left practically no loop-hole of escape where any inflammatory action, or elevation of temperature takes place after confinement during the first week. The value of such an action is recognised by the fact that similar steps are being taken by a number of Sanitary Authorities in different parts of the country.

So much care is being exercised in Darwen, that we have all cases of elevation of temperature reported to us, where some of these, in the course of a few days, are quite well again; at any rate, there seems very little risk of losing sight of any real case of Puerperal Fever.

CHOLERA was reported—St. Helens and Leigh, one case in each town.

ERYSIPELAS is very generally a notifiable disease. It is for one reason only that I recommend its continuance, viz., that many cases of defective drains may come under our notice, and thus prevent the advent of a more serious disease; otherwise, I should certainly advise you to strike this off the list; and, in fact, I think if Phthisis were substituted it would be a great advantage to the Health Department and to the town.

In 15 towns no cases were reported. St. Helens heads the list with a rate of 2.41 per 1,000; the lowest, viz., 0.05 per 1,000, being Macclesfield. Darwen's rate was 1.02 per 1,000.

On the 27th March the following particulars were obtained from Hollins Grove School—

UPPER ROOM—

Total on Register	119
Number Present	79
<hr/>	
Absent	40
<hr/>	

INFANT DEPARTMENT—

Total on Register	56
Number Present	16
<hr/>	
Absent	40
<hr/>	

In consequence of the above, through the prevalence of Measles, the School was closed for three weeks.

On March 30th the following Report was received from Lower Chapel School—

Number on Register.....	381
Number Present	234
<hr/>	
Absent	147
<hr/>	

As most of the absentees were reported as suffering from Measles, the School was closed for three weeks.

Return of the number of Infectious Diseases reported to the Medical Officer of Health during the year 1898, and of the Deaths from the diseases notified—

	Cases Notified.	Deaths Registered.
Small Pox	—	—
Scarlet Fever	93	1
Diphtheria	2	1
Membranous Croup	6	6
Typhus Fever.....	—	—
Typhoid Fever	43	6
Continued Fever.....	3	—
Relapsing Fever.....	—	—
Puerperal Fever	10	5
Cholera	—	—
Erysipelas	35	—
	<u>192</u>	<u>19</u>

DEATHS.

The following is a list of the number of Still-born Children buried in the Cemetery since the Opening in June, 1861—

Year.	No.	Year.	No.	Year.	No.	Year.	No.
1861 ...	20	1871 ...	40	1881 ...	70	1891 ...	68
1862 ...	45	1872 ...	39	1882 ...	66	1892 ...	78
1863 ...	48	1873 ...	44	1883 ...	73	1893 ...	72
1864 ...	30	1874 ...	29	1884 ...	64	1894 ...	79
1865 ...	45	1875 ...	52	1885 ...	60	1895 ...	82
1866 ...	53	1876 ...	50	1886 ...	77	1896 ...	76
1867 ...	52	1877 ...	50	1887 ...	81	1897 ...	90
1868 ...	58	1878 ...	62	1888 ...	82	1898 ...	69
1869 ...	33	1879 ...	64	1889 ...	77		
1870 ...	45	1880 ...	71	1890 ...	82		<u>2276</u>

Comment is useless; nothing short of stringent Regulations, and securing control over the Registration of Still-born Children will lessen this number

TABLE VII.

Population as per Census enumerated.	Estimated Population to Middle of Year.	Births.	Deaths from all causes.	Deaths under 1 year.	Deaths 1 to 5.	Deaths 5 to 15.	Deaths, 15 to 25.	Deaths 25 to 60.	Deaths 60 years and upw'rds
1881 29,747	1886 32,185	965	641	187	154	28	29	135	108
	1887 32,491	1000	716	188	139	60	35	174	120
	1888 33,500	994	600	154	118	32	33	145	118
	1889 34,500	972	544	149	90	16	31	161	107
	1890 36,500	1075	673	184	68	28	30	196	167
	1891 34,500	1115	660	168	115	32	26	193	126
	1892 35,000	1057	641	177	85	35	64	175	105
	1893 35,600	955	677	184	101	40	44	167	141
	1894 36,000	1039	542	130	67	17	46	174	108
	1895 36,000	1128	640	179	92	16	43	186	124
	1896 36,652	1032	627	187	102	17	26	163	132
	1897 37,500	1114	651	182	87	19	33	195	135
	1898 37,500	1131	632	199	79	22	27	174	131

Deaths, viz., Males 308

Females 324

 632

TABLE VIII.

Shows the Diseases and Age Periods at which the People Died.

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Circulatory System.																		
Aneurism .....	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	2
Heart Disease	1	...	...	...	2	1	2	5	2	...	5	2	7	3	7	11	26	22
Syncope	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	1
	2	—	—	—	2	1	2	5	2	—	5	3	7	4	8	12	28	25
Respiratory System.																		
Atelectasis .....	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Asthma .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Bronchitis	15	7	4	8	...	...	...	...	1	...	...	4	5	7	14	30	35	
Congestion of the Lungs .....	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	1	1	
Croup	1	...	1	1	3	...	...	...	...	...	...	...	...	...	...	5	1	
Embolism .....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	
Empyema .....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	
Pleurisy .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pneumonia	4	7	9	4	2	1	1	...	2	4	2	1	4	4	5	3	29	24
	20	17	14	14	5	1	1	—	2	6	3	1	8	10	12	18	65	67
Digestive System.																		
Cirrhosis of Liver .....	...	...	...	...	...	...	...	...	...	...	...	1	1	1	...	2	1	
Disease of Stomach .....	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	
Enteritis	9	4	...	1	...	...	...	...	...	...	...	...	1	...	...	9	6	
Gastric Catarrh .....	...	2	...	...	...	...	...	...	...	...	...	1	...	...	1	1	3	
Gastritis	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...	
Gastro-Enteritis	3	4	...	1	1	...	...	...	...	...	...	1	...	1	1	6	6	
Gastric Ulcer .....	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	1	1	
Hepatitis .....	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	
Hypertrophy of the Liver .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	
Inanition	8	4	...	...	...	...	...	...	...	...	...	...	...	...	...	8	4	
Intestinal Obstruction .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	2	
Malassimilation	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	
Peritonitis .....	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	
Tonsillitis .....	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	
Icterus Neonatorum ...	3	1	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	
Melæna Neonatorum ...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	
Malnutrition	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	
	28	15	1	2	1	—	—	—	1	1	—	—	7	5	2	3	40	26

TABLE VIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Developmental Diseases.																		
Premature Birth	19	14	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19	14
Dentition	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Malformation of Head...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Congenital Debility.....	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Meningocele	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
	22	15															22	15
Constitutional Diseases.																		
Phthisis .....	...	...	...	...	...	...	1	2	4	3	1	7	7	1	1	2	14	15
Diabetes .....	...	...	...	...	...	...	...	...	1	...	...	1	...	1	1	...	2	2
Acute Rheumatism.....	...	...	...	...	...	3	...	1	...	1	...	1	1	...	...	...	1	6
Chronic Rheumatism ...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	1	2
Tuberculosis	2	2	1	1	...	...	...	1	...	...	...	...	...	...	...	...	3	4
Syphilis	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1
	4	3	1	1		3	1	4	5	4	1	9	8	2	3	4	23	30
Urinary System.																		
Bright's Disease .....	...	...	1	...	...	1	1	1	...	1	2	...	1	1	2	3	7	7
Cystitis	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	3	1
Pyelitis.....	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...
	1		1			1	1	1	1	1	2		1	1	4	4	11	8
Lymphatic Diseases.																		
Tabes Mesenterica	1	1	2	1	...	...	...	...	...	...	...	...	...	...	...	...	3	2
Tubercular Glands .....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Addison's Disease .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
Exophthalmic Goitre ...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1
	1	1	3	1							1		1				4	4

TABLE VIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Nervous System.																		
Apoplexy	1	...	...	...	1	7	8	7	15	14	25	...
Convulsions.....	4	2	3	...	...	...	...	...	...	...	...	...	...	...	...	7	2	...
Tubercular Meningitis...	...	2	...	2	...	2	...	...	...	...	...	...	...	...	...	...	6	...
Neurasthenia	1	...	1	...
Meningitis	1	3	2	1	...	...	...	...	...	...	...	...	...	...	...	3	4	...
Hydrocephalus	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...
Lateral Sclerosis	1	...	...	...	...	...	1	...
Paraplegia	1	1	...	...	1	1	...
Cerebral Sclerosis	1	...	1	...
Chorea	1	...	...	...	...	...	...	...	...	...	...	1	...	...
Epilepsy	2	...	...	...	1	...	1	...	...	...	4	...
Acute Mania	1	...	1	...
Congestion of the Brain	1	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	1	...
Paralysis Agitans.....	1	...	...	...	1	...
Puerperal Eclampsia	1	...	...	...	...	...	1	...
Hysteria	1	...	...	...	...	...	...	...	...	...	1	...
Hemiplegia	1	...	1	...	...
Cerebral Softening	1	...	...	...	1	...
	6	7	6	3	1	3	4	...	...	...	4	8	12	9	17	30	50	...
New Growths.																		
Cancer	1	...	1	...	...
Cancer of Rectum	1	...	...	...	...	...	...	...	...	1	...	...
„ Abdomen	1	...	...	...	...	1	...
„ Stomach.....	1	1	...	...	1	1	2	2	...
„ Bowel.....	2	...	...	...	2	...	...
„ Lungs.....	2	...	...	2	...	...
„ Breast	1	...	1	...	...	...	...	2	...
„ Tongue	1	...	...	1	...
„ Uterus	1	...	2	...	1	...	...	4	...
„ Liver	1	...	...	...	1	...	1	1	...
„ Ovary.....	1	...	...	...	...	1	...
Tumour of Eye	1	...	...	...	...	1	...	...
„ Brain	1	...	...	...	1	...	...	...	...	2	...
Sarcoma	1	...	...	...	...	1	...
Tumour of Uterus	1	...	...	...	...	1	...
Epithelioma of Palate....	1	...	...	1	...
„ Uterus..	1	...	...	...	...	1	...
	1	1	4	3	9	5	4	10	18	...

TABLE VIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Osseous System.																		
Spinal Caries	1	...	1	2	...
General Diseases.																		
Senile Decay .....	...	...	...	...	...	...	...	...	...	...	...	...	...	8	11	8	11
Influenza .....	...	...	...	...	...	...	1	...	1	...	...	2	...	1	1	3	3
Marasmus	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1
Alcoholism .....	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
	2	1	—	—	—	—	—	1	—	1	—	—	2	1	9	12	13	16
Zymotic Diseases.																		
Diarrhoea	15	20	4	3	...	...	...	...	1	...	...	...	...	...	...	19	24
Measles	4	6	9	6	2	...	...	...	...	...	...	...	...	...	...	15	12
Typhoid Fever .....	...	...	...	...	...	2	1	2	...	1	...	...	...	...	...	5	1
Diphtheria .....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Scarlet Fever .....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...
	19	26	14	10	2	—	2	1	2	1	1	—	—	—	—	40	38	
Septic Diseases.																		
Puerperal Fever .....	...	...	...	...	...	...	3	...	2	...	...	...	...	...	...	...	5
Pyæmia .....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
	—	—	—	—	—	—	3	—	2	—	1	—	—	—	—	—	6	
Affections connected with Pregnancy.																		
Parturition .....	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Abortion .....	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	2
	—	1	—	—	—	—	—	—	1	—	1	—	—	—	...	—	3	

TABLE VIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Diseases of Organs of Locomotion.																		
Gangrene of Leg.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...
Poisons.																		
Lead Poisoning .....	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...
Injuries .....	...	...	...	4	...	...	...	...	2	...	...	...	1	...	1	...	2	6
Inquests	1	2	2	1	1	...	...	...	2	1	2	2	3	1	2	...	13	7
Uncertified	3	2	...	...	...	...	...	...	...	...	...	1	1	1	...	5	3	...
	4	4	2	5	1	...	...	...	4	1	2	2	4	3	3	1	20	16
Totals	109	90	43	36	13	9	8	19	17	19	15	26	49	48	55	76	308	324
	199		79		22		27		36		41		97		131		632	

INFANTILE MORTALITY.

There were 199 Infants (under 1 year) died during the year.

This is at the rate of 175 per 1,000 Births.

5.3 „ 1,000 of Population.

31.0 „ centum of total Deaths.

Deaths of Infants—

	MALES.		FEMALES.		TOTAL.
Premature Birth	19	.....	14	.....	33
Convulsions	4	.....	2	.....	6
Bronchitis and Pneumonia ...	19	.....	14	.....	33
Diarrhoea	15	.....	20	.....	35
Measles.....	5	.....	6	.....	11
Whooping Cough.....	—	.....	—	.....	—
Inanition	8	.....	4	.....	12
All other Diseases	39	.....	30	.....	69
	<u>109</u>		<u>90</u>		<u>199</u>

TABLE IX.

Death of Infants—

	MALES.		FEMALES.		TOTAL.
Zymotic Diseases	19	.....	26	.....	45
Diatetic Diseases .....	—	.....	—	.....	—
Constitutional Diseases	4	.....	3	.....	7
Developmental Diseases	22	.....	15	.....	37
Septic Diseases.....	—	.....	—	.....	—
Respiratory Diseases	20	.....	17	.....	37

LOCAL DISEASES—

Nervous System	6	.....	7	.....	13
Circulatory System	2	.....	—	.....	2
Digestive System.....	28	.....	15	.....	43
Lymphatic System	1	.....	1	.....	2
Other Causes	7	.....	6	.....	13
	<u>109</u>		<u>90</u>		<u>199</u>

INANITION caused 12 deaths, as compared with 22 in the previous year. This reduction is, no doubt, greatly due to more accurate Registration, and the desire to lose sight of ambiguous terms like the above.

Last year I pointed out the difficulties of infant feeding, and I now give a copy of a Pamphlet, with instructions on the matter. One of these is given by the Registrar to every person Registering a Birth.

Directions for the Feeding of Infants.

Mother's milk is the natural food of Infants, and is therefore the best.

Regularity of feeding is absolutely necessary,

1st—For the good of the child;

2nd—To ensure the mother's milk being of uniform quality.

Too frequent feeding makes the mother's milk richer, and too long intervals between the times of feeding makes it poorer.

Table showing the Times of Feeding at Different Ages.

1st week	Feed every 2 hours.
1 week to 6 weeks old.....	„ 2½ „
6 weeks and upwards	„ 3 „

If the mother's milk should fail, or from some other cause the child has to be artificially fed, the best substitute is cow's milk properly prepared.

The following Table shows the Times of Feeding and the Amount of Food the Child should have each time.

AGE.	Intervals of Feeding.	Number of Feedings in 24 hours.	Average amount at each Feeding.	Average amount in 24 hours.
1st week.....	2 hours	10	1 ounce	10 ounces
1 to 6 weeks	2½ „	8	1½ to 2 ounces	12 to 16 ounces
6 weeks to 6 months	3 „	6	3 to 4 ounces	18 to 24 ounces
6 months	3 „	6	6 ounces	36 ounces
10 months	3 „	5	8 ounces	40 ounces

The milk should be prepared each morning in such quantity as will be required for the next 24 hours, according to the last column in the above table.

When the cream, milk, water and sugar have been mixed, these should be put into a jar with a cover on, put into a pan of boiling water, and kept there for twenty minutes, the lime water should then be added, and the milk as thus prepared put away, still covered up, in the coolest and most convenient place.

For the 1st Period, which comprises the 1st week.

Mixed as follows provides sufficient food for 24 hours.

Cream.....	15	Teaspoonsful.
New Milk	10	„
Water	50	„
Sugar	3	„

Steam as above described, then add—

Lime Water	5	„
------------------	---	---

For each feeding take two tablespoonsful of the above Mixture, warm it, and feed every 2 hours.

For the 2nd Period, from 1 to 6 weeks old.

Mix as follows—	OUNCES.	TEASPOONS.
Cream	$2\frac{1}{4}$ to 3	18 to 24
New Milk.....	$1\frac{1}{2}$ to 2	12 to 16
Water	$7\frac{1}{2}$ to 10	60 to 80
Sugar.....		$3\frac{3}{4}$ to 5

Steam as before, then add—

Lime Water	$\frac{3}{4}$ to 1	6 to 8
------------------	--------------------	--------

Of this mixture take $1\frac{1}{2}$ to 2 ounces, or 3 to 4 tablespoonsful, warm, and use this for one feeding every $2\frac{1}{2}$ hours.

For the 3rd Period, aged 6 weeks to 6 months.

	OUNCES.		TEASPOONS.
Cream	$3\frac{1}{3}$ to $4\frac{1}{2}$	.....	27 to 36
New Milk	$2\frac{1}{4}$ to 3	.....	18 to 24
Water	$11\frac{1}{4}$ to 15	.....	90 to 120
Sugar .....		.....	$5\frac{1}{2}$ to $7\frac{1}{2}$

Steam as before, and add—

Lime Water.....	1 to $1\frac{1}{2}$	9 to 12
-----------------	---------------------	-------	---------

Of this mixture warm and feed the child with 6 to 8 tablespoonsful every 3 hours.

For the 4th Period, for a Child aged 6 months.

	OUNCES.		TEASPOONS.
Cream	$5\frac{1}{2}$	.....	44
New Milk	$4\frac{1}{2}$	.....	36
Water... ..	$22\frac{1}{2}$	.....	180
Sugar .....		.....	$11\frac{1}{4}$

Steam as before, and add—

Lime Water.....	$2\frac{1}{4}$	18
-----------------	----------------	-------	----

12 tablespoonsful of the above should be warmed and given every 3 hours.

For the 5th Period, when the Child is 10 months old.

	OUNCES.		TEASPOONS.
Cream	$7\frac{1}{2}$	.....	60
New Milk... ..	5	.....	40
Water	25	.....	200
Sugar	$1\frac{1}{2}$	.....	12

Steam as before, and add—

Lime Water.....	$2\frac{1}{2}$	20
-----------------	----------------	-------	----

Warm 16 tablespoonsful or 8 ounces, $\frac{1}{2}$ pint, and feed every 3 hours.

There are 4 teaspoons to 1 tablespoon, and 2 tablespoons to 1 ounce. This makes it easy to calculate the quantities required. In the larger quantities, these may be measured in vessels of known size, and thus the trouble still more lessened.

It is important to add the Lime Water to the Food after it has been steamed, and by preparing the quantities mentioned for each period, greater regularity in strength is ensured.

It is recommended to use Milk Sugar in preference to any other kind.

PREMATURE BIRTH caused 33 deaths as compared with 27 the year before.

ZYMOTIC DISEASES.

DIARRHŒA accounted for 44 deaths, as follows—35 infants, 7 from 1 to 5 years, 1 from 25 to 35 years, and 1 60 years and upwards.

Mention was made in my last Report of the Observatory and its uses in relation to disease. As far as possible this has been noted, and particularly in regard to Diarrhœa.

A Chart is appended showing the variations of the temperature in the shade, and the earth temperature at the following depths, viz.—1 foot, 4 feet, and 10 feet.

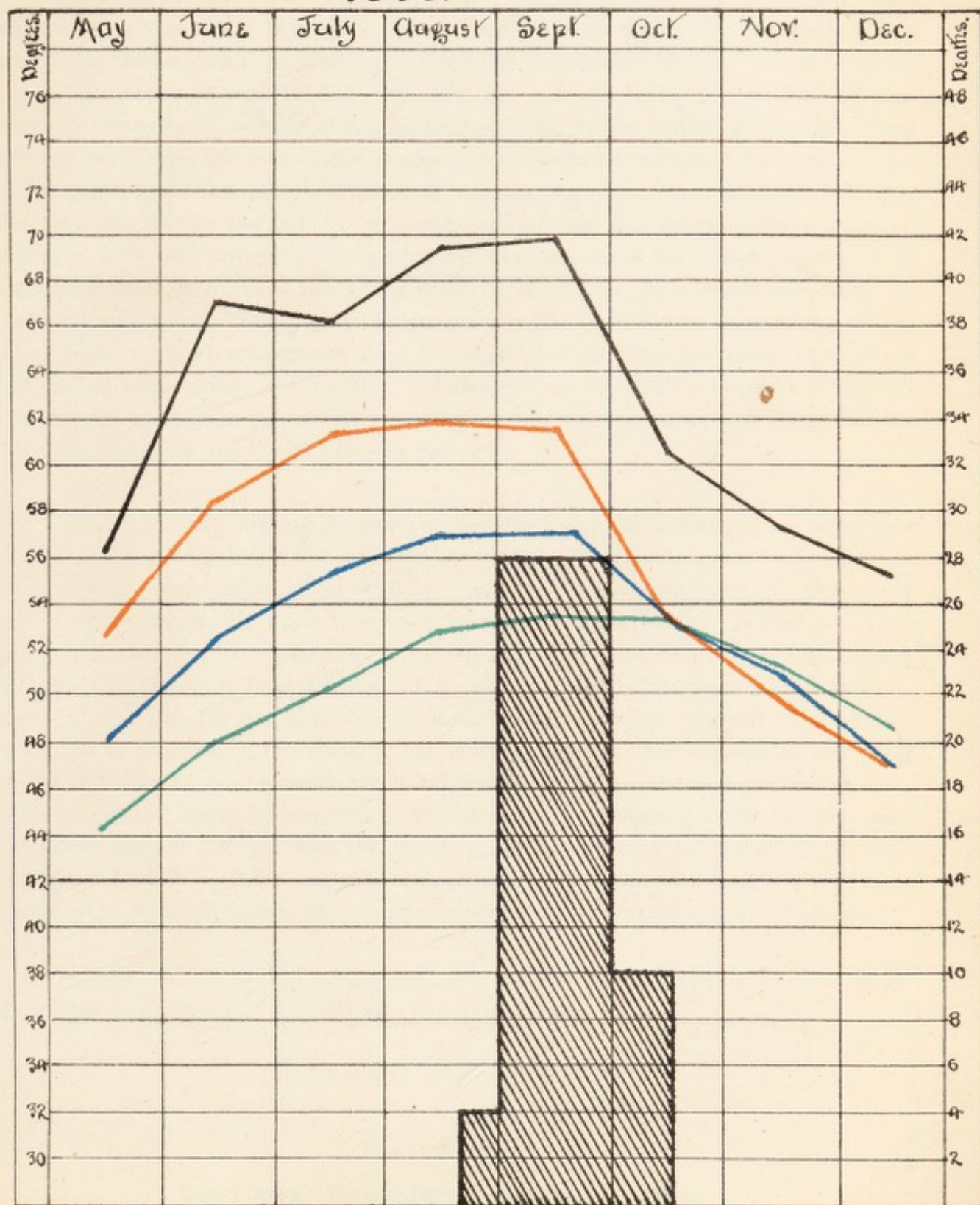
The blue line indicates the 4-foot earth temperature, the only one with which we are concerned, although it is interesting to note the gradual rise of all the thermometers from the month of May onwards, until September is reached, when the turning point is reached, and the descent begins to take place; then the 1-foot Thermometer goes down the quickest, followed by the 4-foot, but which still holds its middle position, and the temperature at a depth of 10 feet is the highest of the three.

To return to the question of Diarrhœa—On August 14th the temperature of the 4-foot earth Thermometer reached the critical point of 56 deg. F., on the 28th the first death from Diarrhœa took place, and following this were 3 more deaths during the month. This gave a period of 14 days from the earth reaching the critical temperature and the first death taking place, supposing the patient to have been ill one week before

DIARRHOEA and

EARTH TEMPERATURES.

1898.



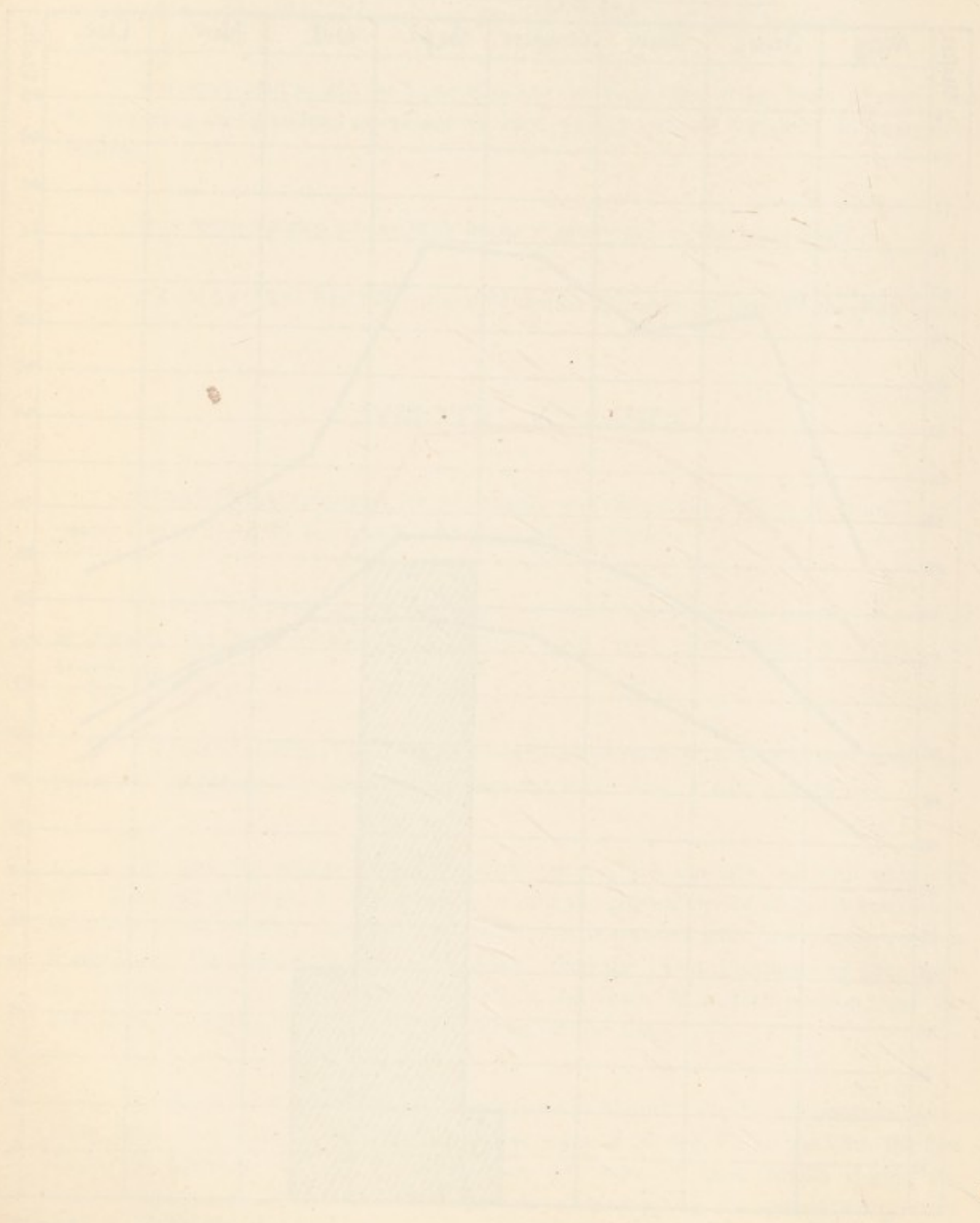
Air temperature in shade marked in black.

Earth " one foot deep " " Red.

" " four feet deep " " Blue.

" " ten " " " Green.

Diagram of the
Earth's Temperature



death supervened, which is very natural; then this gives one week for the incubation period, or one week for the development of the germs in the earth, which undoubtedly are the cause of the diarrhœa. This temperature was maintained until September 24th, when it began to recede. During that month there were 28 deaths from diarrhœa, 21 of these being infants; with the lowering of this earth temperature the deaths continued, so that in October there were 10 from diarrhœa, the last one being on the 13th of that month. Although the number of deaths continued up to the middle of October, being about 3 weeks after the turn of the temperature, this can be accounted for by the action of the germs continuing after a lowering of the temperature, as that process was a very slow one, and also by the fact that it would be some time after infection that death took place; at least, we have very strong corroborative evidence of the relation between earth temperature and diarrhœa. The Chart which accompanies this explanation may be somewhat misleading. The highest temperature of the month has been taken, so the curve shows a higher temperature than 56 deg. F., but the dates are correct upon which this critical temperature was reached, and also that upon which the decline commenced. The feature, apart from the earth temperature of this investigation, is the large number of deaths of infants which took place in September.

I had purposed making enquiries in all these cases of infants, to see what proportion of them were breast-fed and what bottle-fed; it is unfortunate this was not done, as some useful information would no doubt have been forthcoming. One point in connection with this is worth bearing in mind: With the present method of distributing milk there is every probability that the germs of diarrhœa may become mixed with the milk before its final delivery. The milk tins have lids, which, when taken off, expose a large area for the admission of dust, etc.; the measures are also kept in an open wood box, so that during the whole of the journey they are also exposed to the same morbid material; being constantly wet makes the adhesion of dust more certain, so that, on his round, the farmer is constantly removing the lid and dipping in the polluted measure, which may be infected with the germs of diarrhœa, which are wafted about with every gust of wind. I think the milk cans should be provided with taps, and the measures kept in a closed receptacle; constant washing would also be a great advantage.

As soon as the critical temperature was reached in August, printed circulars of instructions were circulated in the town, as follows—

BOROUGH OF DARWEN.

CAUTION.

Diarrhœa, Dysentery, English Cholera.

For the prevention of the above Diseases:—

Avoid Unripe Fruit. Boil all Milk before using it. All Vessels containing Milk should be kept covered. Clothing, Napkins and other things which have become soiled with excreta should be put to steep at once. Do not keep any Soiled Articles in the same Room in which Food is kept.

The first appearance of Diarrhœa should be at once checked, especially in the case of Infants and Young Children. The opinion held by many that Diarrhœa is a preventative of Convulsions is a wrong one. The feeding of Young Children in an improper manner is very often the cause of a fatal Diarrhœa, so special attention should be paid to this, and only a Milk Diet used.

At all times, but especially during the hot weather, it is absolutely necessary to get rid of all vegetable matter as quickly as possible.

Therefore, I recommend that such things as Cabbage Leaves, Potato Peelings, and everything that is waste should be Burnt on the Kitchen Fire, and not put into the Ash-tub or thrown away.

All Backyards and Slopstones should be kept as clean as possible, and wherever possible the Walls Whitewashed.

In cases where the Pails or Ashtubs are full, or Drains defective, please send notice to me at once.

F. G. HAWORTH,

Corporation Offices, Darwen, August, 1898.

Medical Officer of Health.

MEASLES was the cause of 27 deaths as compared with 40 in the previous year.

SCARLET FEVER.—There were 93 cases reported, with only 1 death, as compared with 101 cases notified and 4 deaths in 1897.

WHOOPIING COUGH.—There were no deaths from this disease. In 1897 there were 9 deaths.

TYPHOID FEVER resulted in 6 deaths as compared with 7 in the previous year.

TUBERCULAR DISEASES.

CONSUMPTION.—There were 28 deaths from this disease as compared with 27 in the previous year. The question of notification has been dealt with elsewhere.

With the above, the following deaths were registered—

Tuberculosis	7
Tabes Mesenterica.....	5
Tubercular Glands.....	1
Tubercular Meningitis	6
Tubercular Disease of Lungs.....	28
	—
Total.....	47
	—

CONVULSIONS caused 9 deaths as compared with 16 in the previous year. It is very important, where this is possible, to certify the real cause of the Convulsions.

PUERPERAL FEVER.—From this disease there were 5 deaths out of 10 notified, showing a mortality rate of 50 per cent. of cases, and a sickness rate per 1,000 Births of 0.88 ; Death-rate per 1,000 Births of 0.44.

BRONCHITIS, PNEUMONIA and PLEURISY caused 118 deaths as against 158 the year before.

Deaths of persons 60 years and upwards—

Senile Decay.....	19
Bronchitis and Pneumonia	29
Heart Disease	18
Apoplexy	21
Injuries	1
All other causes	43
	—
	131
	—

TABLE X.—Bronchitis.

Deaths at the different age periods for the last eight years.

	Under 1 Year.	1 to 5.	5 to 10.	10 to 15.	15 to 60.	60 and Upwards	TOTAL.
1891.....	30	14	2	—	18	40	104
1892.....	29	19	—	—	27	30	105
1893.....	41	24	3	—	12	29	109
1894.....	27	20	—	—	7	17	71
1895.....	24	13	—	—	21	26	84
1896.....	36	28	—	—	10	20	94
1897.....	25	13	—	—	22	26	86
1898.....	22	12	—	—	10	21	65
	234	143	5	—	127	209	718

Bronchitis is a disease of childhood and old age principally, being most frequently found at the extremes of life, thus sparing the working ages. Last year there were only 10 deaths between the ages of 15 and 60; whether this was due to better climatic conditions, to the better ventilation of workshops, or to greater attention to personal hygiene, I cannot say, but the lessened death-rate for 1898 is gratifying.

TABLE XI.—Pneumonia.

Deaths at different age periods for the last eight years.

	Under 1 Year.	1 to 5.	5 to 10.	10 to 15.	15 to 60.	60 and Upwards	TOTAL.
1891.....	6	15	4	1	44	5	75
1892.....	8	5	—	2	25	9	49
1893.....	8	8	1	1	24	8	50
1894.....	5	4	1	—	19	4	33
1895.....	9	4	1	1	15	4	34
1896.....	9	9	2	—	17	3	40
1897.....	14	12	2	2	31	10	71
1898.....	11	13	3	—	18	8	53
	70	70	14	7	193	51	405

TABLE XII.—Consumption.

Deaths at different age periods for the last eight years.

	Under 1 Year.	1 to 5.	5 to 10.	10 to 15.	15 to 60.	60 and Upwards	TOTAL.
1891.....	—	—	—	—	20	3	23
1892.....	—	—	1	2	33	1	37
1893.....	—	—	—	—	35	4	39
1894.....	—	1	1	1	42	—	45
1895.....	—	—	—	—	34	4	38
1896.....	1	1	—	—	25	2	29
1897.....	—	—	—	—	26	1	27
1898.....	—	—	—	—	26	2	28
	1	2	2	3	241	17	266

The Deaths in regard to Occupation.

Whilst getting out these particulars as to the occupation of those who died last year, I had no thought of attaching a statistical value to the results; not having the number of persons following the special occupations, no death-rates can be obtained; at the same time, some insight may be gained into the cause of death which obtains in the various trades.

HOUSEWIVES.—In an industrial community like ours, these are drained from other occupations, as nearly all women follow some special work for some time after being married, so that there can be no surprise at the advanced age to which this class of persons arrive. A reference to the list of deaths will show the diseases this class is most subject to.

WEAVERS.—There were 36 Weavers died last year, a peculiar feature being that up to the age of 45 years there were 21 females died for 2 males, the inference being that a large number of the men who start as Weavers leave the Weaving Shed for some other occupation. After 45 years there were 11 males died for 2 females, being the converse of what obtained up to that age period, showing that the women who kept to the looms attained a good old age. No doubt the heavier death-rate of females in the earlier age periods had something to do with the reduction in the number who died at a later

age, still, the probability is that a large number of women, on reaching old age, leave the weaving shop to stay at home to do the house work, and to look after the children of the younger mothers.

The wide range of diseases which proved fatal amongst the Weaving class does not give much clue as to the influence of occupation. I can quite believe that the improved ventilation of the Sheds, and the stricter supervision, has reduced the death-rate. Acute diseases, as Rheumatism, Bright's Disease, Pneumonia, Typhoid Fever, etc., do not appear to preponderate. There were 6 deaths from Typhoid Fever, 2 of these being Weavers. The other acute diseases may be looked upon as inseparable from work in a heated place, and the sudden change consequent on leaving work.

COTTON WINDER.—There were 12 deaths during the year. Consumption was responsible for 2, and Puerperal Fever for 2, the remainder of deaths do not point to any special connection with the occupation.

OVERLOOKER.—There were 3 deaths. Heart Disease was the cause of 1. This seems to prevail among mill workers, as a Drawer-in, a Warper, and a Warehouse hand suffered from the same complaint; whether this is the result of previous attacks of acute Rheumatism or not I cannot say.

COTTON SPINNERS.—There were eight deaths of persons following this occupation. The list of causes does not throw much light on the influence of occupation. One

ROLLER COVERER died from Inflammation of the Stomach and Bowels; and one

COTTON CARDER died from Influenza.

DANGEROUS TRADES.

COAL MINERS, according to the Return of Deaths, suffer from Rheumatic Fever, Heart Disease, Consumption, Bronchitis, and of course are particularly liable to Accidents; four of the five deaths were all at the working age, which means a serious loss to the respective families; the same with

QUARRYMEN.—Two out of the three died of Diseases of the Chest and the other from a Diseased Liver.

BUTCHERS, who are also subject to special dangers, two have succumbed to Heart Disease, probably the result of Rheumatic Fever following exposure, these two being at the wage-earning age.

QUARRY OWNERS, though not necessarily being a dangerous life, unless actively engaged in the quarrying operations. One died from Diabetes.

SHOPKEEPERS.

GREENGROCER.—One died from old age.

CONFECTIONERS.—One died of Consumption, and one from Cancer of the Stomach.

MILLINERS and DRAPERS show no indication of the influence of occupation.

CARTERS, as a type of out-door workers, besides suffering from Chest Affections, also are liable to Heart Disease; still, it is somewhat remarkable that 50 per cent. of those who died reached the age of 60 years.

LABOURERS.—It is singular that out of 16 Labourers who died in the year 1898, 5 succumbed to Heart Disease. Simple exposure would not account for this, without some such disease as Acute Rheumatism, unless the heart symptoms have become aggravated by the exposure and heavy manual labour. Diseases of the Respiratory Organs are noticable, as well as Chronic Rheumatism and Bright's Disease.

COACHMAN.—One death from Heart Disease.

GARDENER.—One from Apoplexy.

BRICKSETTER.—One from Senile Decay.

SEXTON.—One death.

STONEMASONS.—From diseases of the Respiratory Organs.

IRON TRADES.

ENGINEER, BOLT MAKER, STOKERS, BLACKSMITH, TIN-PLATE WORKER, and ENGINE FITTER, show the usual diseases which one associates with the several trades.

PAPER TRADES.

PAPER MAKER.—Two deaths from Old Age and Heart Disease.

PAPER CALENDERER.—One death from Consumption.

PAPER STAINER died from a Tumour of the Eye, in no way associated with his occupation.

BASKET MAKER.—One death from Consumption. This seems strange in an apparently healthy occupation, and at an advanced age.

COOPER.—There was one death from Heart Disease.

RAG SORTER.—There being one death from Consumption.

TAILOR.—One death from Heart Disease.

PAINTERS.—One from Pneumonia, one from Heart Disease, and one from Apoplexy.

POINTSMAN.—There occurred one death from Typhoid Fever.

WATCHMAN.—Two died, one from Bronchitis, and one from Apoplexy.

BAKING POWDER PACKER.—One female died from Heart Disease at an early age.

CORN MERCHANT.—One died from Inflammation of the Pleura at an advanced age.

SERVANT died from Heart Disease.

PUDDING MAKER.—One died from Consumption.

SCHOOL TEACHERS.—There were three deaths, one from Typhoid Fever, one from Disease of the Uterus, and one from Peritonitis.

PRIEST.—One died at a very advanced age, presumably from Heart Disease.

HOTEL KEEPERS and BARMAN.—These are notoriously unhealthy trades, on account of the tendency to excess of stimulants. One died at an advanced age, another some time after leaving the trade from Consumption, and a Barman from Pneumonia.

FARMERS.—The last and most healthy of occupations, and which should have been coupled with Gardeners. There were ten deaths, nine of the persons being over 60 years of age.

I have been at considerable trouble to separate these occupations, and the results do not seem to be in proportion to the labour, but I hope each year will increase the value of the information.

TABLE XIII.

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Housewives.																		
Gangrene of Leg.....	1	...	1	...
Apoplexy	1	...	6	...	17	...	24	...	...
Senile Decay	7	...	7	...	...
Puerperal Fever	1	...	...	...	...	...	...	...	...	...	1	...	...
Gastric Catarrh	1	...	1	...	...
Bronchitis	1	...	...	...	6	...	13	...	20	...	...
Bright's Disease	1	...	...	...	...	...	2	...	3	...	...
Syncope	3	...	3	...	...
Cancer.....	3	...	6	...	3	...	12	...	...
Rheumatism	2	...	2	...	...
Heart Disease	2	...	2	...	12	...	16	...	...
Enteritis	1	...	...	...	1	...	...
Phthisis	4	...	1	...	...	...	5	...	...
Acute Rheumatism.....	1	...	...	...	...	...	1	...	...
Cerebral Sclerosis	1	...	1	...	...
Epilepsy	1	...	...	...	1	...	...
Sarcoma	1	...	...	...	1	...	...
Asthma	1	...	...	...	1	...	...
Parturition	1	...	...	...	...	...	...	...	1	...	...
Cirrhosis of Liver	1	...	...	...	1	...	...
Pneumonia	2	...	...	...	2	...	2	...	6	...	...
Aneurism of Aorta	1	...	...	...	...	...	1	...	...
Intestinal Obstruction...	1	...	1	...	...
Paralysis Agitans.....	1	...	...	...	1	...	...
Pyæmia	1	...	...	...	...	...	1	...	...
Hepatitis	1	...	...	...	1	...	...
Puerperal Eclampsia	1	...	...	...	...	...	1	...	...
Epithelioma of Palate	1	...	1	...	...
Cerebral Tumour	1	...	...	...	1	...	...
Alcoholism	1	...	...	...	1	...	...
Addison's Disease	1	...	...	...	1	...	...
Gastro-Enteritis	1	...	1	...	...
Diabetes	1	...	...	...	1	...	...
	—	—	—	—	—	—	—	1	—	5	—	14	—	34	—	67	—	121

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Cotton Mill.																		
Weaving Department.																		
WEAVER.																		
Acute Rheumatism.....	1	...	1	...	1	...	...	...	...	...	...	...	3
Nephritis	1	...	2	...	...	...	...	1	...	...	...	1	3
Apoplexy	2	...	...	...	...	2	...
Acute Pneumonia	2	...	1	...	...	...	...	...	...	3
Influenza	1	...	1	...	...	...	...	...	...	...	...	2
Phthisis	1	...	1	...	1	...	...	...	...	...	1	2
Puerperal Fever	1	...	...	...	...	...	...	...	...	1
Heart Disease	2	1	...	...	...	2	1
Tubercular Meningitis...	1	...	...	...	...	...	...	...	...	...	...	...	1
Cerebral Tumour	1	...	...	...	...	...	...	...	...	1
Typhoid Fever	1	1	...	...	...	...	...	...	...	...	1	1
Gastric Ulcer	1	...	...	1	...	...	...	...	1	1
Cancer of the Breast....	1	...	...	...	...	...	...	1
Senile Decay	2	...	...	...	2	...
Hypertrophy of the Liver	1	...	...	...	...	1
Hysteria	1	...	...	...	...	...	...	...	...	...	...	1
Hepatitis	1	...	...	...	...	1	...
Diabetes	1	...	...	...	...	...	...	1
Cancer of the Bowel	1	...	...	...	...	1	...
Gastro-Enteritis	1	...	...	...	...	1	...
	—	—	—	—	—	3	2	6	—	8	—	4	9	2	2	—	13	23
OVERLOOKER.																		
Tonsillitis.....	1	...	—	...	...	...	...	...	...	1	...
Heart Disease.....	1	...	1	...	...	...	...	...	1	...
Pneumonia	1	...	...	...	...	...	...	...	...	1	...
	—	—	—	—	—	—	—	2	—	1	—	—	—	—	—	—	3	—
DRAWER-IN.																		
Phthisis	1	...	...	...	...	...	...	...	...	1	...
Heart Disease.....	1	...	...	...	...	...	...	...	...	1	...
	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	2	—

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
TWISTER.																		
Senile Decay	1	...	1	...
Pyelitis.....	1	...	...	...	...	...	...	...	1	...
	—	—	—	—	...	—	—	—	1	—	—	—	—	—	1	—	2	—
WARPER.																		
Heart Disease.....	1	...	...	...	...	...	...	...	...	...	1
WAREHOUSE.																		
Heart Disease.....	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Diabetes	1	...	...	...	...	...	...	...	1	...
Lead Poisoning	1	...	...	...	...	1	...
Bright's Disease	1	...	...	...	...	...	1	...
	—	—	—	—	1	—	—	—	1	—	1	—	1	—	—	—	4	—
			1				1		1		1					
COTTON WINDER.																		
Pneumonia	1	...	...	...	...	1
Puerperal Fever	1	...	1	...	...	...	...	...	...	...	...	2
Lateral Sclerosis	1	...	...	...	...	...	...	...	1
Heart Disease.....	1	...	...	...	...	...	...	...	...	...	...	1
Cerebral Congestion	1	...	...	...	...	...	...	...	...	...	...	1
Abortion	1	...	...	...	...	...	...	...	...	1
Bright's Disease	1	...	...	...	...	1
Phthisis	1	...	1	...	...	...	...	...	...	2
Aneurism of the Aorta..	1	...	...	...	...	1
Epilepsy	1	...	...	...	...	...	...	1
	—	—	—	—	—	—	3	—	3	—	3	—	3	—	—	—	—	12
COTTON MANUFACTURER.																		
Bronchitis	1	...	...	...	...	1	...
Apoplexy	1	...	1	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	1	—	1	...	—	2	—

TABLE XIII.—continued.

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Cotton Spinner.																		
Typhoid Fever	1	...	...	...	...	...	...	...	...	...	1	...
Pulmonary Congestion...	1	...	...	...	...	...	1	...
Gastric Catarrh	1	...	...	...	...	1	...
Apoplexy	1	...	...	...	...	1	...
Puerperal Fever	1	...	...	...	...	...	...	...	...	...	1
Phthisis	1	...	...	...	...	...	...	...	...	...	1	...
Acute Mania	1	...	...	1	...
Bronchitis	1	...	...	1	...
	—	—	—	—	—	—	2	1	—	—	1	—	2	—	2	—	7	1
Cotton Carder.																		
Influenza	1	...	...	...	1	...
Roller Coverer.																		
Gastro Enteritis	1	...	1	...
Dangerous Trades.																		
COAL MINER.																		
Acute Rheumatism.....	1	...	...	...	1	...
Heart Disease.....	1	...	...	...	...	...	1	...
Disease of Stomach	1	...	...	...	1	...
Bronchitis	1	...	...	1	...
Phthisis	1	...	...	...	...	...	...	...	...	1	...
Accident	1	...	...	...	...	...	...	...	...	1	...
	—	—	—	—	—	—	—	2	—	—	1	—	2	—	1	—	6	—
MANAGER OF COAL MINE.																		
Pneumonia	1	...	1	...

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
QUARRYMEN.																		
Acute Bronchitis.....	1	...	...	...	1	...
Cirrhosis of the Liver...	1	...	...	...	1	...
Phthisis	1	...	...	...	1	...
	—	—	—	—	—	—	...	—	—	—	—	—	3	—	—	—	3	—
BUTCHERS.																		
Acute Cystitis.....	1	...	1	...
Heart Disease.....	1	...	...	...	...	...	1	...	...	...	2	...
	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	—	3	—
QUARRY OWNER.																		
Diabetes	1	...	1	...
Shopkeepers.																		
GREENGROCER.																		
Senile Decay	1	...	1
CONFECTIONERS.																		
Cancer of the Stomach..	1	...	...	...	...	...	1
Phthisis	1	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	1	1
MILLINERS.																		
Apoplexy	1	...	...	...	1
DRAPER.																		
Cystitis	1	...	1	...

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Labourer.																		
Pneumonia	1	...	1	...	2	...
Influenza	1	...	...	...	1	...
Heart Disease.....	1	...	...	...	...	...	...	...	...	4	...	5	...
Bright's Disease	1	...	...	...	...	1	...	2	...
Typhoid Fever	1	...	...	...	...	...	...	...	...	...	...	1	...
Chorea	1	...	...	...	...	...	...	...	...	...	...	...	1	...
Rheumatism	1	...	1	...
Apoplexy	1	...	...	...	...	1	...
Cancer of Lung	1	...	...	1	...
Phthisis	1	...	...	...	...	1	...
	—	—	—	—	1	—	2	—	—	—	1	—	4	—	8	—	16	—
Carter.																		
Heart Disease	1	...	...	1	...
Cancer of Rectum	1	...	...	...	...	...	...	...	...	...	...	1	...
Senile Decay	1	...	...	1	...
Pneumonia	1	...	...	...	...	...	...	1	...
Phthisis	1	...	...	...	...	...	...	1	...
Apoplexy	1	...	...	1	...
	—	—	—	—	—	—	1	—	—	—	2	—	—	—	3	—	6	—
Gardener.																		
Apoplexy	1	...	...	1	...
Coachman.																		
Heart Disease.....	1	...	...	1	...
Sexton.																		
Pneumonia	1	...	...	...	...	1	...
Stone Mason.																		
Pneumonia	1	...	1	...	1	...
Bronchitis	1	...	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	1	...	1	—	—	2	—

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Bricksetter.																		
Senile Decay	1	...	1	...
Engineer.																		
Cirrhosis of the Liver	1	...	1	...
Iron and Engine Fitter.																		
Apoplexy	1	...	1	...
Pneumonia	1	...	...	...	...	...	...	...	1	...
	—	—	—	—	...	—	—	—	1	—	—	—	—	—	1	—	2	—
	1	...	...	...	...	...	1	...	2	...
Bolt Maker.																		
Bronchitis	1	...	1	...
Stoker.																		
Cancer of Rectum	1	...	...	...	1	...
Bronchial Pneumonia...	1	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	2	—
	2	...	...	...	2	...
Blacksmith.																		
Apoplexy	1	...	...	...	1	...
Heart Disease	1	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	2	—
	2	...	...	...	2	...

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Tin-plate Worker.																		
Phthisis	1	...	...	...	1	...	...	...	2	...
Paper Maker.																		
Senile Decay	1	...	1	...
Heart Disease.....	1	...	...	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	2	—
Paper Calenderer.																		
Phthisis	1	...	...	...	...	...	...	...	1	...
Paper Stainer.																		
Tumour of Eye	1	...	...	...	1	...
Basket Maker.																		
Phthisis	1	...	1	...
Cooper.																		
Heart Disease.....	1	...	...	...	1	...
Rag Sorter.																		
Phthisis	1	...	...	...	...	...	1
Tailor.																		
Heart Disease.....	1	...	...	...	...	...	1	...

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Painter.																		
Pneumonia	1	...	...	...	...	1	...
Heart Disease.....	1	...	...	...	...	...	...	1	...
Apoplexy	1	...	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	3	—
												2						
Pointsman.																		
Typhoid Fever	1	...	...	...	...	...	...	1	...
Watchman.																		
Bronchitis	1	...	...	...	...	1	...
Apoplexy	1	...	...	...	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	2	—
Baking Powder Packer.																		
Heart Disease	1	...	...	...	...	...	...	...	...	...	...	1
Corn Merchant.																		
Pleuritis	1	...	...	1	...
Servant.																		
Heart Disease	1	...	...	...	...	...	...	...	...	...	...	1
Pudding Maker.																		
Phthisis	1	...	...	...	...	1	...
School Teacher.																		
Typhoid Fever	1	...	...	...	...	...	...	...	...	...	1	...
Uterine Fibroid	1	...	...	...	...	1
Peritonitis	1	...	...	...	...	1	...
	—	—	—	—	—	—	1	—	—	—	—	1	1	—	—	—	2	1

TABLE XIII.—*continued.*

DISEASES.	Under 1 Year		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 60		60 and Up- wards		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Priest,																		
Heart Disease.....	1	...	1	...
Hotel Keeper.																		
Apoplexy	1	...	1	...
Phthisis	1	...	...	...	...	...	...	...	1	...
	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	2	—
Barman.																		
Pneumonia	1	...	...	...	...	...	1	...
Farmer.																		
Heart Disease.....	3	...	3	...
Apoplexy	—	1	...	1	...	2	...
Bronchitis	1	1	1	1
Syncope	1	...	1	...
Congestion of Lungs	1	...	1
Cancer of the Liver	1	...	1	...
	—	—	—	—	—	—	—	—	—	—	—	—	1	—	7	2	8	2

TABLE XIV.

Estimated Population, Number of Deaths and Death-rates from all causes from Zymotic Diseases, of children under 1 year, and persons 60 years and upwards, during the last 14 years.

YEAR.	Estimated Population at middle of Year.	Total Deaths from all Causes.	Death-rate per 1,000 of Population.	Total Deaths from seven principal Zymotic Diseases.	Death-rate from Zymotic Diseases per 1,000 of Population.	Total Deaths under 1 year of age.	Percentage of Deaths under 1 year to Total Deaths.	Total Deaths of Persons 60 Years and upwards.	Percentage of Deaths of Aged Persons to Total Deaths.
1885	31,720	489	15.4	25	0.7	129	26.3	103	21.0
1886	32,185	641	19.9	109	3.3	187	29.2	108	16.8
1887	32,491	716	22.0	99	3.0	188	26.3	120	16.7
1888	33,500	600	17.9	55	1.9	154	25.6	145	24.1
1889	34,500	554	16.0	70	2.0	149	26.8	107	19.3
1890	36,500	673	18.4	44	1.2	184	27.3	167	24.8
1891	34,192	660	19.1	60	1.7	168	25.4	126	19.0
1892	35,000	641	18.3	67	1.9	177	27.6	105	16.3
1893	35,500	677	19.0	79	2.2	184	27.1	141	20.8
1894	36,000	542	15.0	40	1.1	130	23.9	107	19.7
1895	36,000	640	17.7	77	2.1	179	27.9	124	19.3
1896	36,652	627	17.1	81	2.2	187	29.8	132	21.0
1897	37,500	651	17.3	63	1.6	182	27.9	135	20.7
1898	37,500	632	16.8	78	2.0	199	31.4	131	20.7

TABLE XV.

Deaths during the Ten Years 1889 to 1898 inclusive, of Children under 5 years and
Persons 5 years and upwards.

	UNDER 5 YEARS OF AGE.										5 YEARS AND UPWARDS.									
	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Smallpox .....	...	...	21	...	25	...	41	14	28	...	...	...	3	1	...	...	...	...	...	...
Measles	6	...	4	2	7	2	2	5	2	1	...	...	2	5	3	2	...	...	2	...
Scarlet Fever	4	4	1	1	4	2	...	2	1	1	...	...	1	...	1	...	...	...	1	...
Diphtheria	1	1	1	2	2	17	3	26	9	...	...	...	...	1	...	...	...	2	...	...
Whooping Cough	28	5	2	26	2	1	10	2	1	3	...	...	3	4	10	2	1	2	1	3
Croup	4	12	17	17	13	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CONTINUED	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Typhus .....	...	1	2	2	...	...	...	...	...	...	...	...	...	8	7	...	...	...	...	6
{ Typhoid .....	...	...	2	1	...	...	...	...	...	...	...	...	2	3	...	...	...	...	...	...
{ Others .....	...	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Diarrhoea and Dysentery	2	24	10	5	20	6	18	17	11	42	...	...	2	...	...	...	3	...	...	2
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	3	2	5	7
Rheumatic Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	2	...
Erysipelas .....	...	...	...	1	1	...	2	2	...	...	...	...	2	1	...	1	...	1	...	1
Pyæmia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5	5	3	5
Puerperal Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	5	...	...	...
Ague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis	1	1	...	...	1	...	...	1	...	...	...	...	33	31	44	44	38	28	27	28
Bronchitis, Pneumonia and Pleurisy	46	66	68	63	84	49	51	82	64	58	...	...	119	93	82	52	72	53	93	50
Heart Disease	4	2	1	...	...	...	1	...	...	1	...	...	27	35	57	47	43	37	35	47
Injuries	1	4	4	3	1	...	5	2	3	4	...	...	15	15	13	5	20	15	9	4
All other Diseases	125	144	153	133	126	118	138	153	150	143	140	171	171	170	168	180	163	184	197	189

TABLE XVI.

Lancashire Large Towns.

	General Death-rate.	Zymotic Death-rate.
MANCHESTER	21.9	3.11
SALFORD	22.7	4.03
LIVERPOOL	24.0	3.22
OLDHAM	17.6	2.15
BLACKBURN	18.4	2.57
PRESTON	19.3	3.07
BOLTON	19.4	2.93
BURNLEY	16.3	2.04

Lancashire Smaller Towns.

BOOTLE	19.71	4.99
ST. HELENS	19.36	3.09
SOUTHPORT	14.49	0.81
WIGAN	18.88	2.45
WARRINGTON	17.8	3.2
BURY	17.82	2.7
ASHTON-UNDER-LYNE	19.1	1.7
ROCHDALE	—	—
ACCRINGTON	15.35	2.29
BARROW-IN-FURNESS	14.34	2.2
ECCLES	16.6	3.2
LANCASTER	14.14	2.12
LEIGH	17.4	3.5
WIDNES	16.8	—
RADCLIFFE	16.4	2.5
DARWEN	16.82	2.20

TABLE XVII.

ANALYSIS of the Vital and Mortal Statistics of Thirty-three of the Largest English Towns during the Year 1898.

Towns.	Estimated Population 1898.	Births.	Deaths.	ANNUAL RATE PER 1,000 LIVING.			Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.	Principal Zymotic Diseases.										
33 Towns	11,218,378	339,350	212,848	30.3	19.0	2.85	31,752	13	6,290	1,570	3,419	4,658	2,190	13,612	178	1.2
32 Provincial Towns	6,713,612	206,918	128,912	30.9	19.3	2.87	19,187	12	3,215	987	1,647	2,498	1,592	9,235	185	1.6
London	4,504,766	132,432	83,936	29.5	18.7	2.78	12,565	1	3,075	583	1,772	2,160	598	4,376	167	0.6
West Ham	286,654	8,749	4,406	30.6	15.4	2.68	765	...	91	23	180	119	72	280	170	2.4
Croydon	124,421	3,146	1,723	25.4	13.9	1.99	248	...	34	9	17	35	11	142	150	...
Brighton	122,310	3,024	2,062	24.8	16.9	2.36	288	...	82	7	21	21	18	139	180	0.5
Portsmouth	186,618	4,974	3,033	26.7	16.3	2.16	402	...	69	32	55	43	43	160	156	1.0
Plymouth	99,136	2,935	1,932	29.7	19.5	2.15	212	...	70	4	10	28	6	94	170	0.6
Bristol	316,900	9,055	5,437	28.6	17.2	2.69	852	...	307	14	44	115	25	347	164	0.7
Cardiff	177,770	5,520	2,627	31.1	14.8	2.24	396	...	50	8	129	43	17	149	158	0.7
Swansea	102,001	2,941	1,889	28.9	18.6	3.21	326	...	88	11	124	40	13	50	184	1.5
Wolverhampton	88,051	3,140	1,868	35.8	21.3	3.19	280	...	19	23	38	9	20	171	200	1.1
Birmingham	510,343	17,316	10,179	34.0	20.0	2.78	1,417	...	181	46	131	251	114	694	191	2.9
Norwich	111,699	3,329	2,112	29.9	19.0	3.26	363	...	75	23	14	37	45	169	192	0.8
Leicester	208,662	6,156	3,522	29.6	16.9	3.35	697	...	214	44	62	19	30	328	191	2.4
Nottingham	236,137	6,800	4,160	28.9	17.7	2.37	558	...	104	34	24	58	56	282	178	0.8
Derby	104,834	2,861	1,759	27.4	16.8	2.26	235	...	53	20	9	28	28	97	169	...
Birkenhead	113,189	3,429	1,969	30.4	17.4	2.53	285	...	30	32	49	8	38	128	186	0.8
Liverpool	633,645	22,224	15,153	35.2	24.0	3.22	2,034	2	276	143	147	326	166	974	184	3.4
Bolton	122,495	3,776	2,368	30.9	19.4	2.93	358	...	31	23	8	45	38	213	168	0.3
Manchester	539,079	17,591	11,766	32.7	21.9	3.11	1,673	...	271	65	53	170	125	989	197	0.8
Salford	215,702	7,475	4,884	34.7	22.7	4.03	867	...	99	62	32	130	80	464	212	1.0
Oldham	148,288	3,748	2,600	25.3	17.6	2.15	319	...	85	24	10	65	22	113	175	0.1
Burnley	109,546	2,964	1,781	27.1	16.3	2.04	224	...	8	6	30	7	27	146	195	1.7
Blackburn	138,228	3,595	2,451	27.1	18.4	2.57	342	...	50	16	31	5	32	208	206	3.3
Preston	116,356	3,596	2,245	31.0	19.3	3.07	356	...	2	4	8	61	43	238	225	2.9
Huddersfield	102,454	2,295	1,627	22.5	15.9	1.61	164	...	32	10	13	11	10	88	153	2.2
Halifax	96,729	2,210	1,724	22.9	17.9	2.15	207	...	70	14	8	35	18	62	163	2.7
Bradford	238,737	5,594	4,102	24.0	17.6	2.12	493	...	104	11	17	68	49	244	185	1.2
Leeds	416,618	12,968	7,983	31.2	19.2	3.12	1,295	2	191	119	223	161	92	507	182	0.4
Sheffield	356,478	12,044	7,197	33.9	20.2	3.82	1,358	...	175	56	94	219	142	672	195	2.3
Hull	229,887	7,666	4,209	33.4	18.4	2.99	686	...	92	28	17	68	58	423	182	1.4
Sunderland	143,849	5,077	3,247	35.4	22.6	3.69	532	2	85	32	9	68	69	267	202	0.7
Gateshead	103,775	3,679	2,133	35.5	20.6	3.10	320	3	51	19	10	66	18	154	208	0.3
Newcastle-on-Tyne	223,021	7,041	4,764	31.4	21.4	2.82	634	3	126	25	30	139	67	244	190	0.7
DARWEN	37,500	1,131	632	30.0	16.8	2.2	78	...	27	1	1	...	11	44	175	1.5

GOVERNMENT FORM A.

TABLE OF DEATHS during the Year 1898, in the Darwen Urban Sanitary District,
Classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES adopted for the purpose of these Statistics ; public institutions being shown as separate localities. (Columns for Population and Births are in Table B.) (a) Wards.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.															TOTAL.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	At all Ages	Under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up- wards	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	FEVERS										Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phtthisis.	Bronchitis, Pneu- monia & Pleurisy.	Heart Disease.	Influenza.	Injuries.	All Other Diseases.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Central	{ 112	41	17	1	3	26	24		Under 5. 5 upwds.	2</

Area and Population of the District or Division to which this Return relates.

Area in Acres, 5,919.

Population (1891), 34,192.

Population (estimated to middle of 1898), 37,500.

Death-rates : General, 16.8 per 1,000 Population, estimated to middle of 1898 ; Infant (under one year of age), 175 per 1,000 Births Registered

GOVERNMENT FORM B.

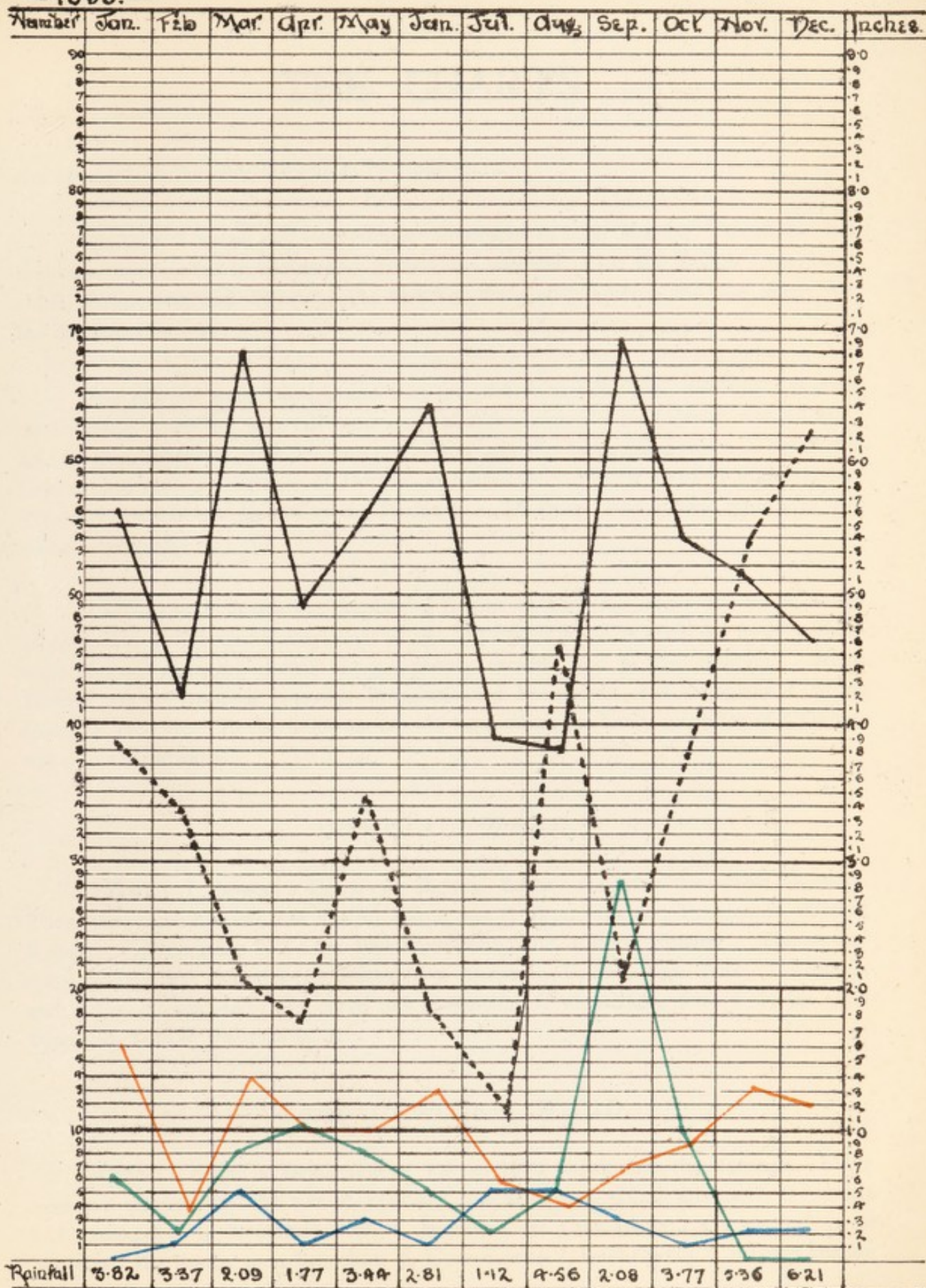
TABLE OF POPULATION, BIRTHS, and of NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the Year 1898, in the Darwin Urban Sanitary District; classified according to Diseases, Ages, and Localities.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; public institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.										No. of such Cases removed from their Homes in the several Localities for Treatment in Isolation Hospital.																							
	Last Census.	Estimated to middle of 1898.			Smallpox	Scarlatina	Diphtheria	Membranous Group	FEVERS.					Erysipelas	Smallpox	Scarlatina	Diphtheria	Membranous Group	FEVERS.					Erysipelas	Smallpox	Scarlatina	Diphtheria	Membranous Group	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas			
									Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal						Cholera	Erysipelas																		
(a) Wards.	(b)	(c)	(d)	(e)	Smallpox	Scarlatina	Diphtheria	Membranous Group	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Smallpox	Scarlatina	Diphtheria	Membranous Group	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	Smallpox	Scarlatina	Diphtheria	Membranous Group	Typhus	Enteric or Typhoid	Continued	Relapsing	Puerperal	Cholera	Erysipelas	
Central	{	6,222	6,957		Under 5. 5 upwds.	2	6	1	1	1	2				5		2																					
West-Central	{	3,801	3,875		Under 5. 5 upwds.	3	8	1	1	1					3																							
North-East	{	7,530	8,753		Under 5. 5 upwds.	3	9		12	1	1				6		1																					
North-West	{	4,864	5,202		Under 5. 5 upwds.	2	10	1	4						5																							
South-East	{	5,769	6,057		Under 5. 5 upwds.	2	11	1	14	2					7		3																					
South-West (H.)	{	6,006	6,656		Under 5. 5 upwds.	11	26	1	2	5					8		1																					
Totals	{	34,192	37,500	1,131	Under 5. 5 upwds.	23	70	3	38	3					34		9																					

State here whether "Notification of Infectious Disease" is compulsory in the District—Yes. Since when?—1887.
Mark (H) the Locality in which the Isolation Hospital is situated.

Chart 5.

-1898.-



Total Number of Deaths.....marked in Black.

" " " " from Bronchitis, Pneumonia and Pleurisy " " Red.

" " " " Consumption..... " " Blue.

" " " " Zymotic Diseases " " Green.

THE CHARTS

Are arranged on the same lines as in previous years.

CHART 5 shows the total number of Deaths in each Month. The dotted line indicates the Rain-fall in inches and tenths; the red line is for the Deaths from Bronchitis, Pneumonia, and Pleurisy; the blue line for Consumption; and the green line for Zymotic Diseases.

The line for total Deaths, and that for the Rain-fall, run somewhat parallel until August, when the Rain-fall went up, whilst the number of total Deaths was reduced; and in September the Rain-fall was a very low one, the curve going down to about two inches; and the total number of Deaths went from 38 in August up to 69 in September. This increase was entirely due to the Deaths from Diarrhœa, and I have gone into this matter elsewhere.

CHART 6 indicates the number of Deaths of Children under five years of age as compared with Persons sixty years of age and upwards. The lines are fairly parallel until August, when the deaths of aged people exceeds that of the children. Heart Disease was the cause of 3 deaths, Bronchitis and Pneumonia of 2, Apoplexy 4, Senile Decay 3, etc., etc. In the following month, September, the heavy mortality of Children was due to Diarrhœa.

CENTRAL WARD.

CHART 7 showed a Death-rate slightly below that for the whole Borough. There were three curves: the first in March due to Bronchitis and Pneumonia, causing 3 deaths, Consumption 2, 4 from Premature Birth, and 1 from Measles. The second curve in June was caused by 3 deaths from Apoplexy, 2 Premature Birth, 1 Measles, and 1 Croup; and the third curve was in September, when there were 4 deaths from Diarrhœa, 2 from Pneumonia, etc.

WEST CENTRAL WARD.

CHART 8 had a Death-rate of 1.5 per 1000 higher than the Borough. There were two curves: the first was in February, due as follows—Heart Disease 1, Bronchitis 1, Consumption 1, Premature Birth 1, Inquest 1, etc.; the second curve was in November, when the deaths were Bronchitis 2, Consumption 2, Senile Decay 2, Bright's Disease 1, Inquest 1, etc.

NORTH-EAST WARD.

CHART 9.—The Death-rate was 1.0 per 1000 above the Borough. March started the first curve, the deaths being as below—Heart Disease 1, Bronchitis 1, Pneumonia 1, Consumption 3, Apoplexy 1, Premature Birth 3, Measles 1, etc., etc. The same rate obtained in April, when Heart Disease caused 2 deaths, Bronchitis 2, Consumption 1, Measles 4, Bright's Disease 1, Diphtheria 1. The last curve occurred in September, and was due to the following causes—Bronchitis 1 death, Pneumonia 2, Consumption 2, Diarrhoea 9, Influenza 1, etc.

NORTH-WEST WARD.

CHART 10 shows a Death-rate of 1.9 per 1000 lower than the whole Borough. There were three distinct curves, all occurring during the first half of the year. The first was in January, when the following deaths occurred—Bronchitis 2, Pneumonia 1, Injuries 1, Old Age 2, Typhoid Fever 1, Rheumatic Fever 1, Puerperal Fever 1; the second curve followed in March, from the following causes—Heart Disease 1, Injuries 1, Influenza 1, Measles 2, Rheumatic Fever 1, etc.; the last curve was in June, as follows—Heart Disease 2, Bronchitis 1, Pneumonia 1, Consumption 1, Convulsions 1, etc.

SOUTH-EAST WARD.

CHART 11.—The Death-rate in this Ward was 1.1 per 1000 below that for the Borough. There were three curves, commencing in January, the second in June, and the last in September. In January the following deaths occurred—Bronchitis 4, Convulsions 1, Inanition 2, Typhoid Fever 1, Measles 1; in June deaths took place as follows—Heart Disease 1, Bronchitis 1, Pneumonia 3, Apoplexy 1, Premature Birth 1, Inquests 2, Typhoid Fever 1, Uncertified 1, etc.; and in September—Heart Disease 1, Pneumonia 1, Apoplexy 1, Diarrhoea 5, Uncertified 1, etc.

SOUTH-WEST WARD.

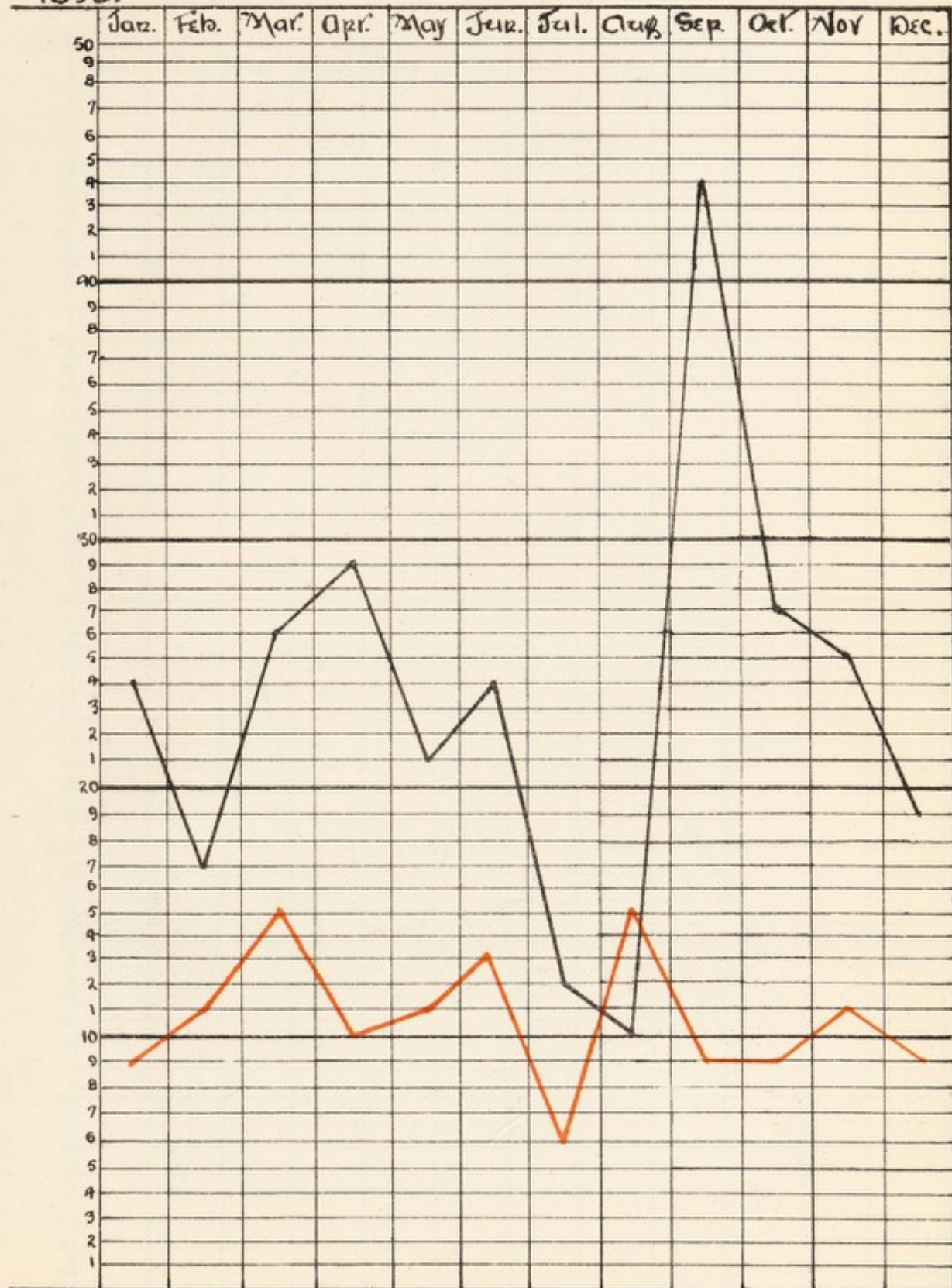
CHART 12 shows a Death-rate of 18.0, being 1.2 per 1000 higher than the Borough. There was only one principal curve, and this was in September, when the deaths were as under—Bronchitis 1, Apoplexy 1, Premature Birth 3, Diarrhoea 8, etc.

TOTAL DEATHS

of

children under "five" and persons over "sixty."

-1898.-

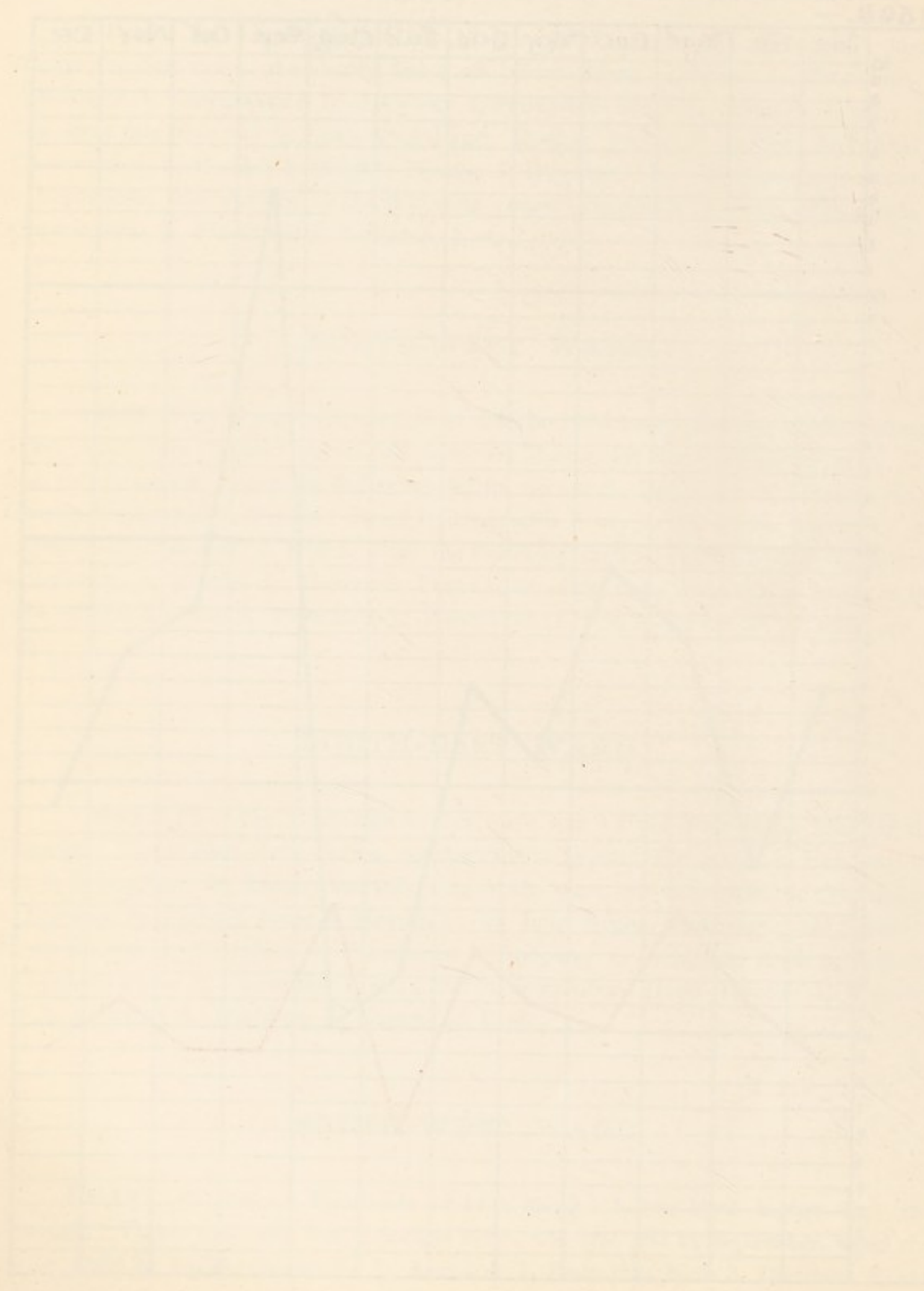


— Children under 5 years marked in Black. —

— Persons 60 years and upwards marked in Red. —

TOTAL DRAINAGE

of the [illegible] [illegible] [illegible]



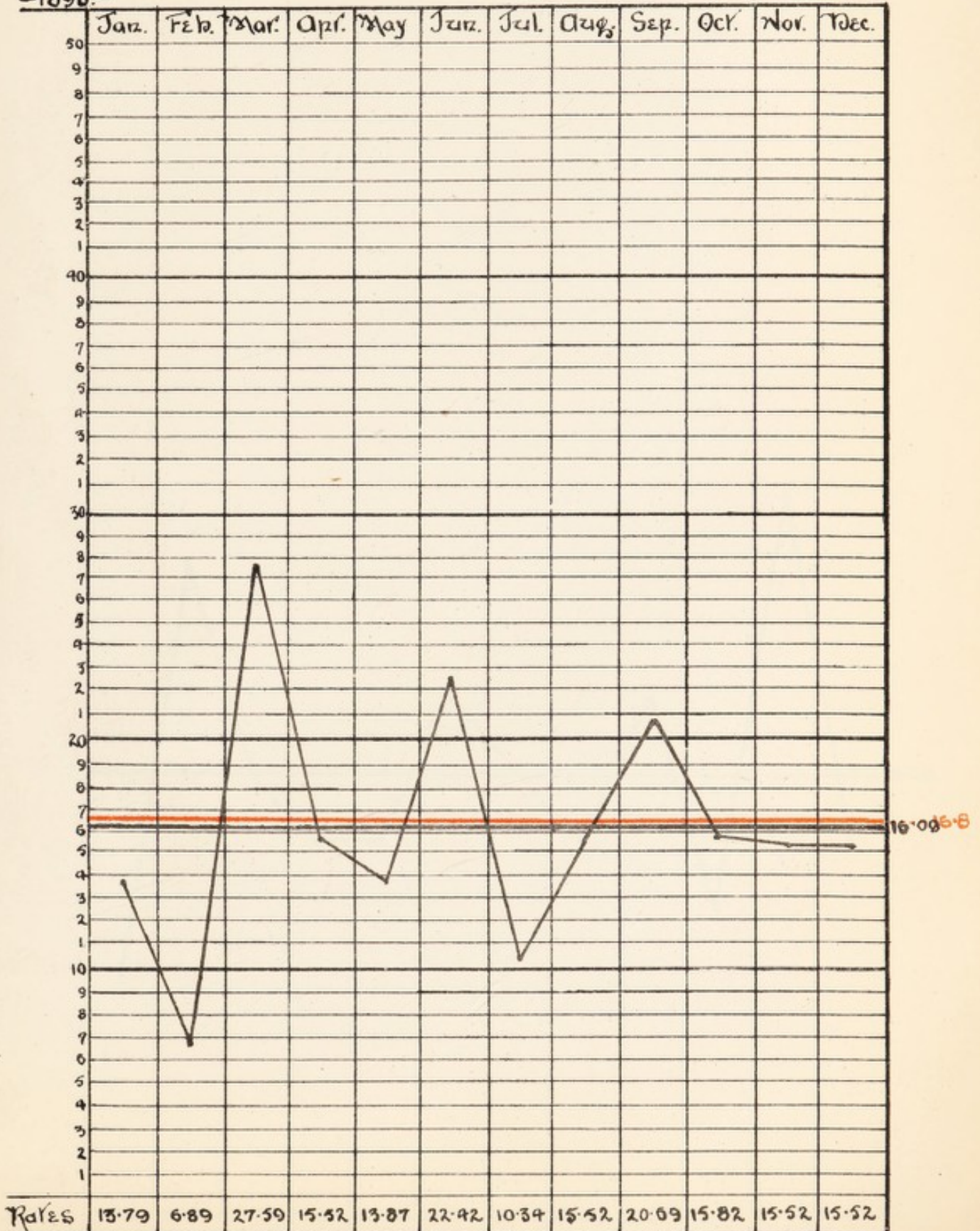
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Chart 7.

CENTRAL WARD.

Death-Rate per 1000 per annum.

-1898.-



Straight line in black shows Annual D.R. for the Ward.

1932

CENTRAL WARD

1000-1000 per 1000 per annum

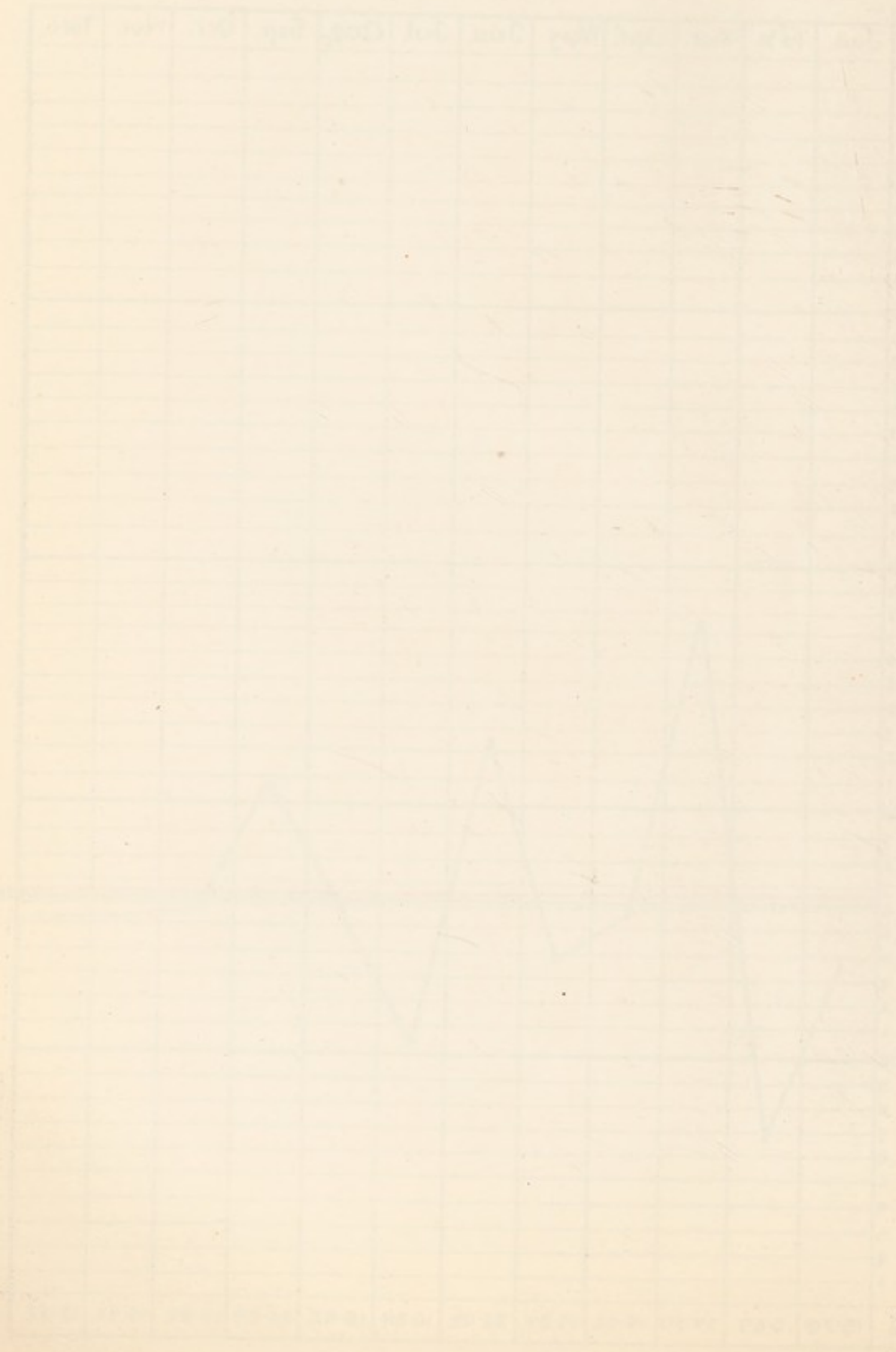
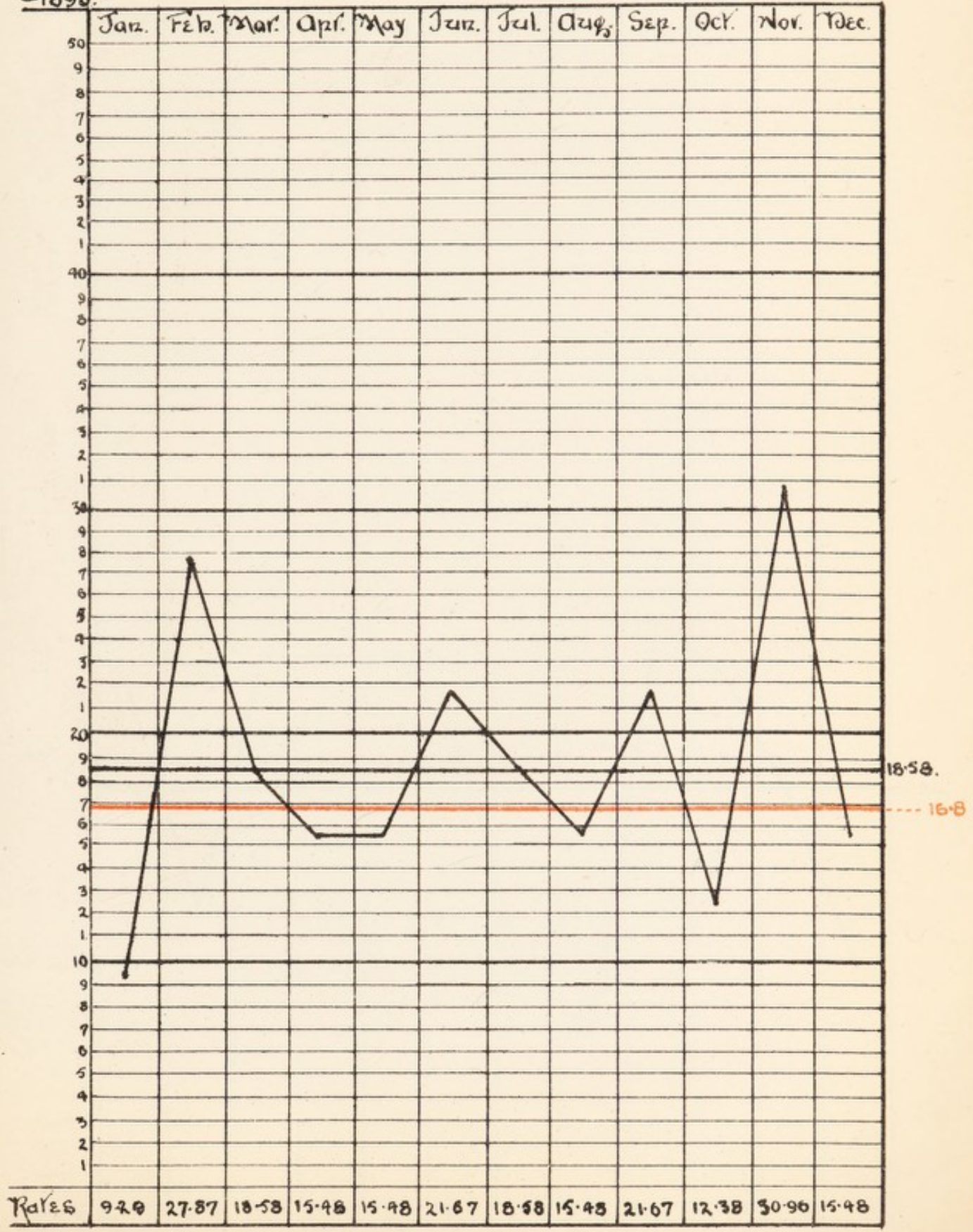


Chart 8.

WEST CENTRAL WARD.

Death-Rate per 1000 per annum.

-1898.-

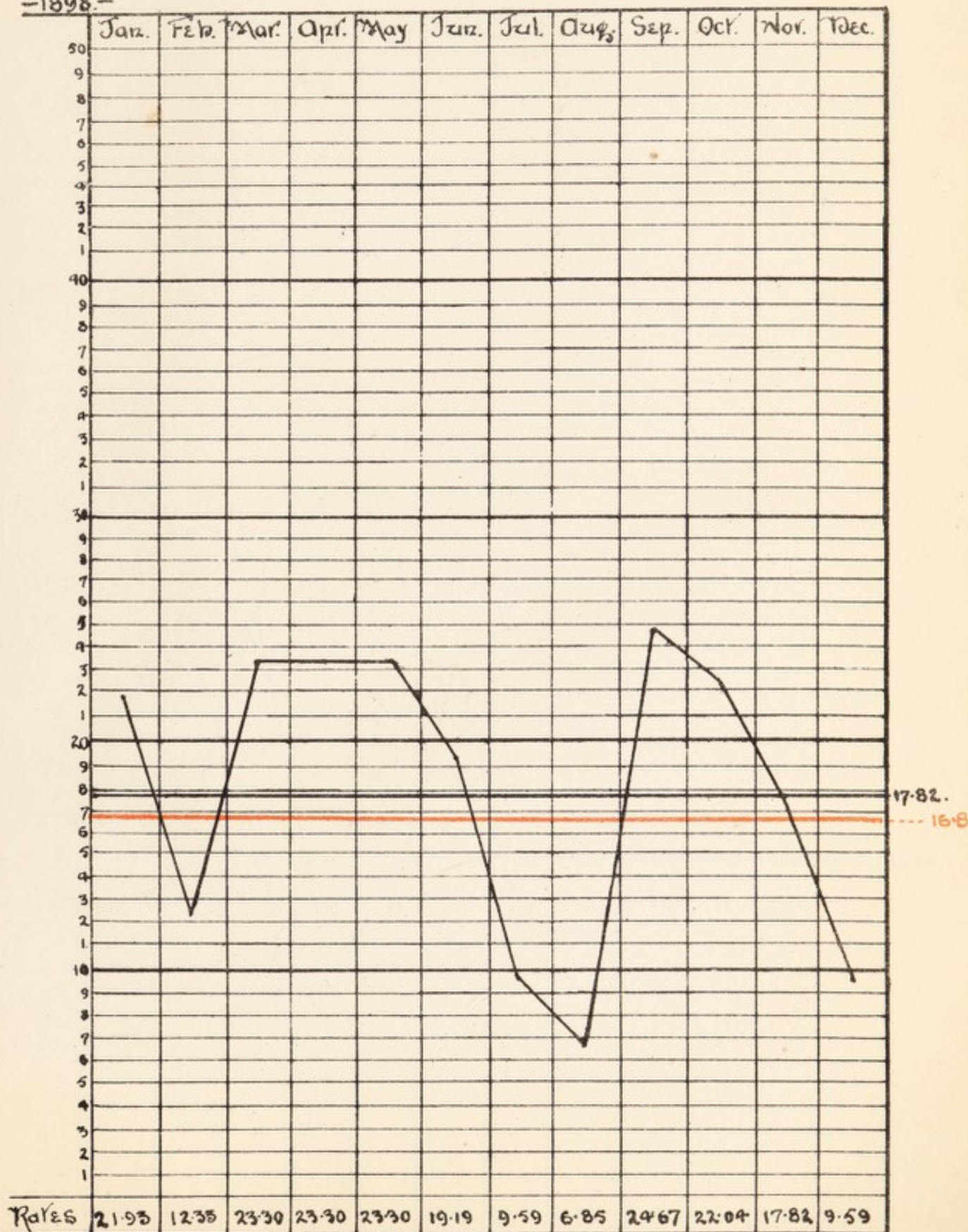


Straight line in black shows Annual R.R. for the Ward.

NORTH EAST WARD.

Death-Rate per 1000 per annum.

-1898-

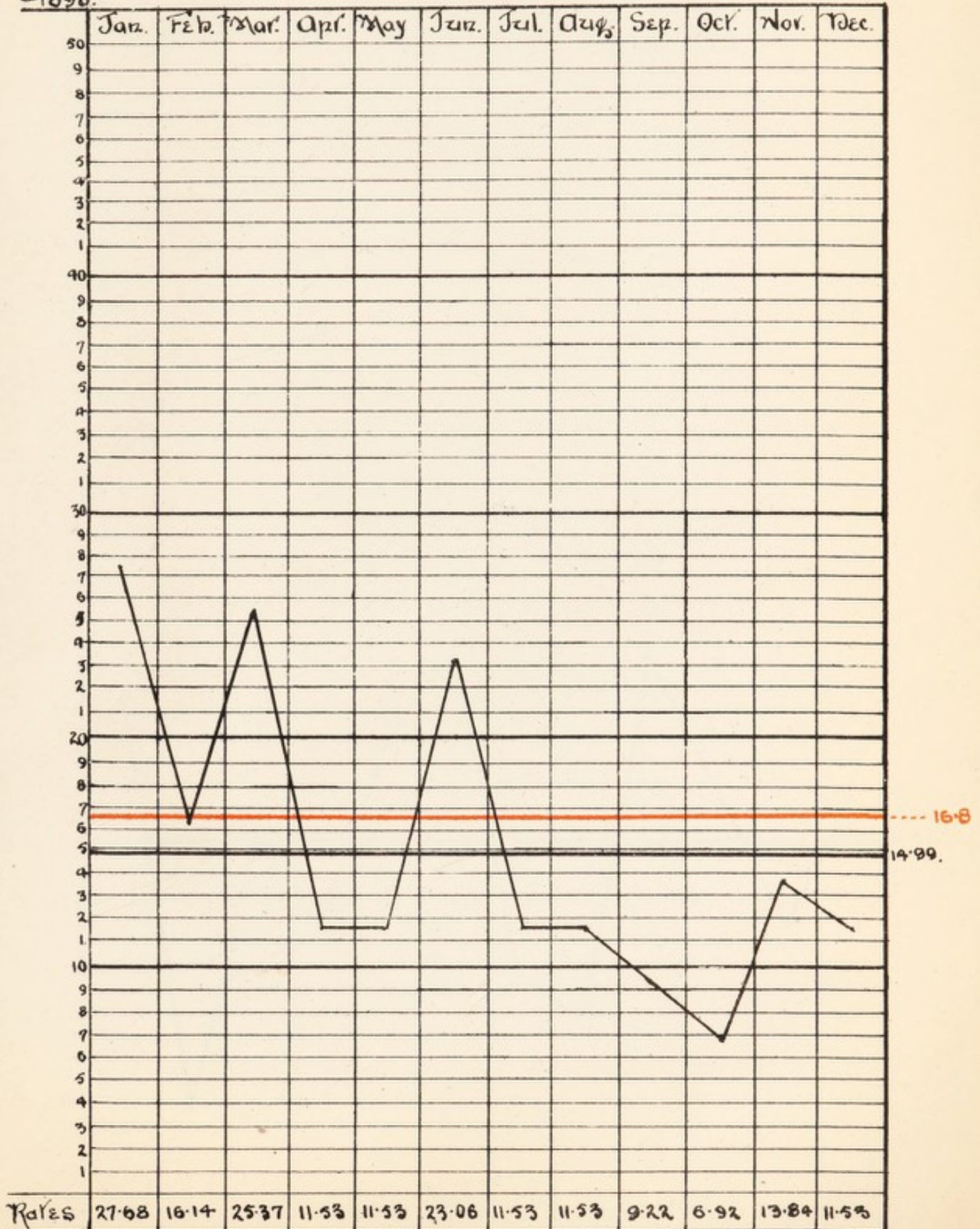


Straight line in black shows Annual Avg. for the Ward.

NORTH WEST WARD.

Death-Rate per 1000 per annum.

-1898.-

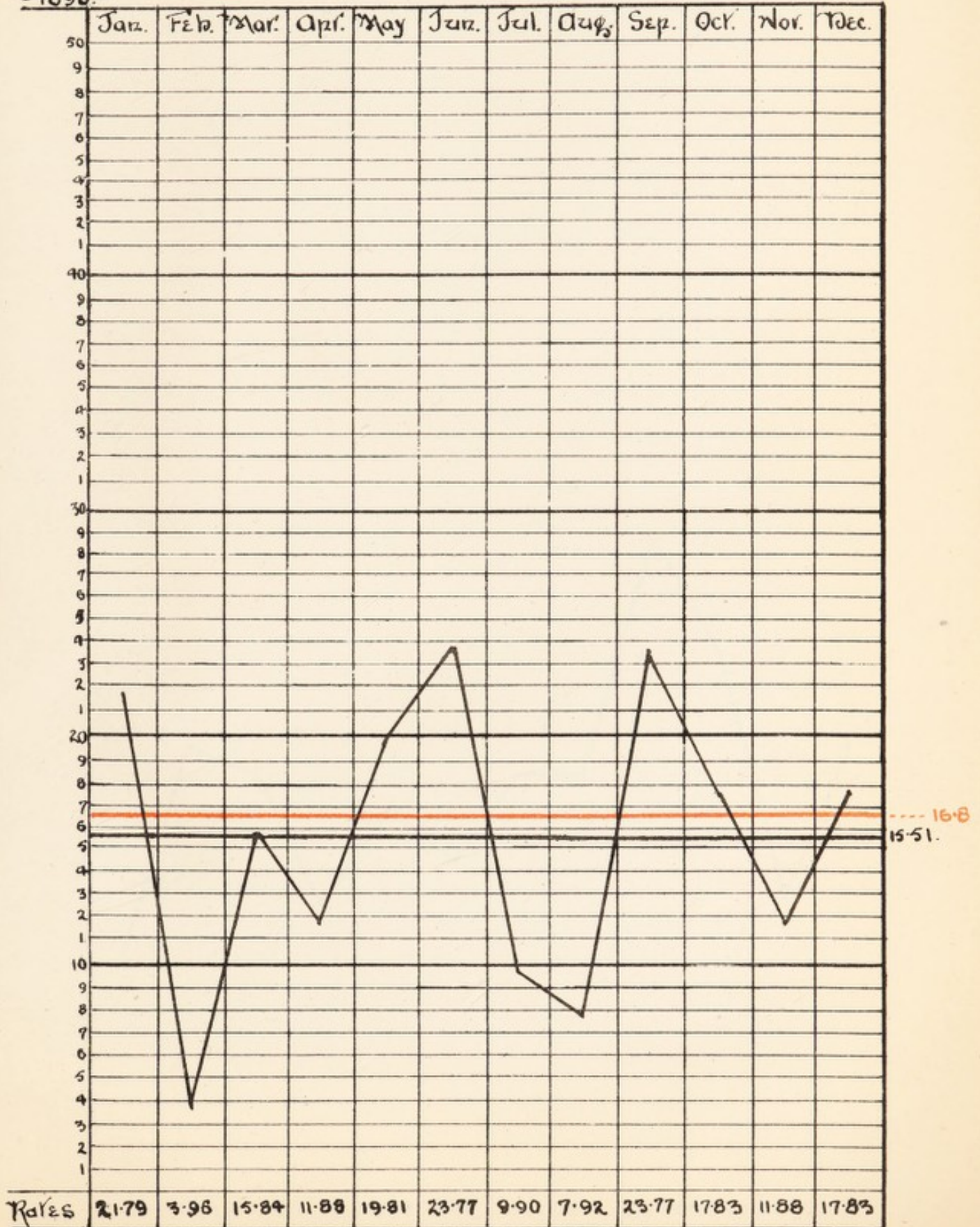


Straight line in black shows Annual D.R. for the Ward.

SOUTH EAST WARD.

Death-Rate per 1000 per annum.

-1898.-

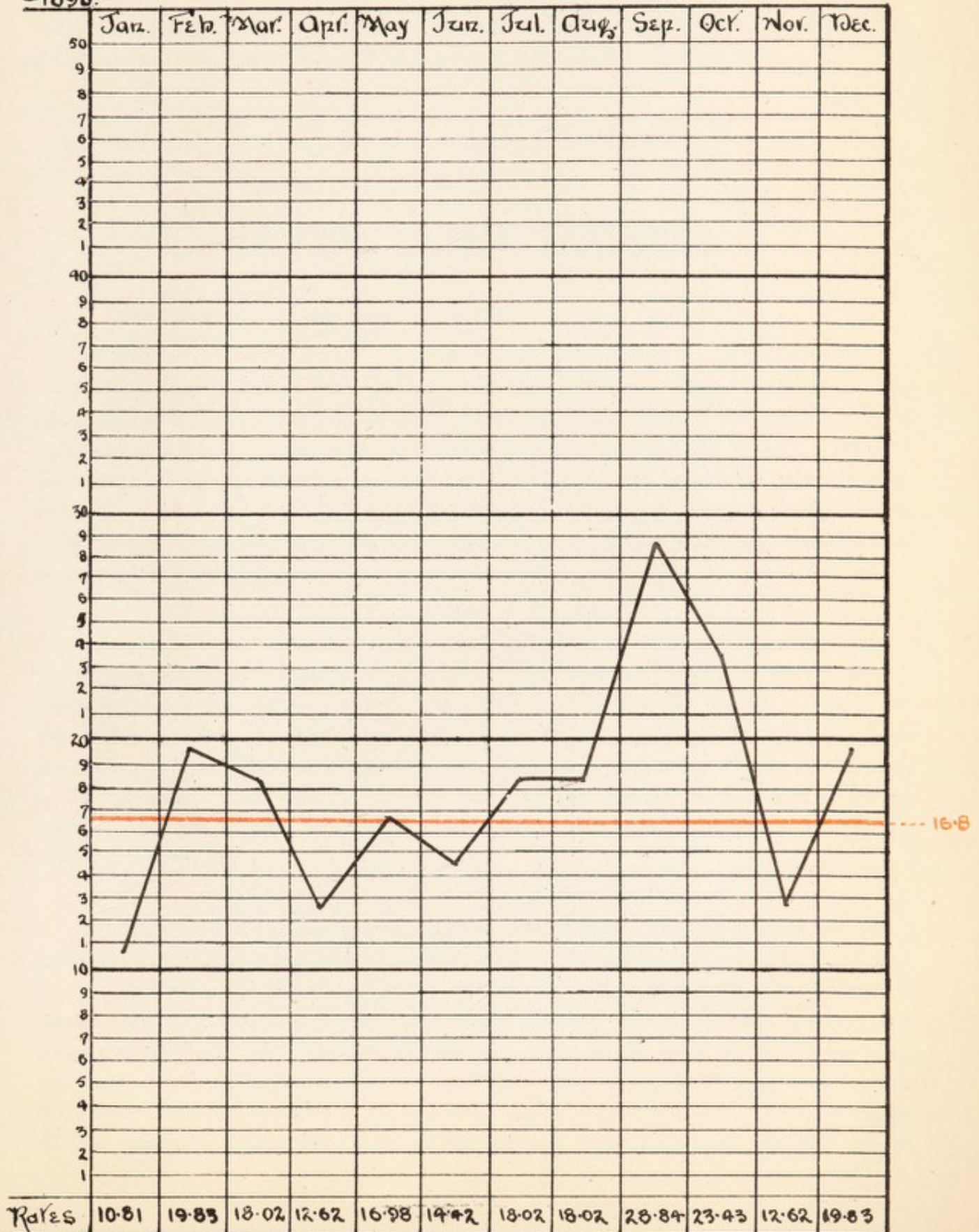


Straight line in black shows Annual D.R. for the Ward.

SOUTH WEST WARD.

Death-Rate per 1000 per annum.

-1898.-



Straight line in black shows Annual D.R. for the Ward.

I have explained these Charts, giving the causes of Death during the months of higher mortality to show you the influence at work, and their periods. The Zymotic Diseases, with one exception, have not contributed much, but this exception, viz., Diarrhoea, has been a most potent factor in raising the death-rate. The unfavourable conditions of September contributed very largely to a high death-rate, the information gained during that period will, I hope, help us to prevent a repetition.

FARMS AND DAIRIES.

These were all inspected during the year.

The improvement in their general condition continues, more attention is now being paid to a regular cleansing of the Cowsheds, and the value of this, with increased light and ventilation, is now more appreciated than was at one time the case. Some of the owners are now quite willing to meet the Corporation in making improvements, where the necessity of these is pointed out, without the usual notices being served. This "modus operandi" certainly tends to create a better feeling, and in the end the work is more satisfactorily done.

Several Farmers were, during the year, summoned for keeping Cows in sheds in which there was not a sufficiency of air space. With one exception, the owners gave a guarantee to put the matter right if they were allowed a reasonable length of time, this time being sufficient to clear the barns of the stock of hay. The one defended case was, no doubt, on principle, and, as such, was taken as a test case. It was proved that, as the Cowshed opened directly into the barn, the two should be measured together, and with this the animals had ample cubic space. The Bench took this view, and dismissed the case.

I wish, in this place, to protest against this decision, and my reasons are as follows—during the hay season the barn, in the majority of places, is completely filled with hay, so that when the Cows are put up, and for some time afterwards, the air space is insufficient. The Magistrates ruled that it was the duty of the Officials to take action when the barn was full, which would not only increase the work of the Department, but create a bad feeling between Farmer and Farm Inspector. Apart from this, there is the danger of the hay becoming polluted with the exhalation from the animals' lungs. At this particular Farm there were sliding doors in front of the stalls occupied by the

Cows, but these had been removed before the case came on, and subsequent to my Report to the Committee, so that it would be as reasonable to say that the Cowshed and Barn should be measured as one at the same time that these sliding doors existed, and were kept closed ; but that it is the duty of the Inspector to find them closed before action could be taken, although their obvious use is to screen off the animals from the air in the barn.

During the year the following Bye-laws were passed by the Council, and sanctioned by the Local Government Board.

BOROUGH OF DARWEN.

Contagious Diseases (Animals) Acts, 1878 & 1886.

Dairies, Cow Sheds and Milk Shops Order of 1885, and the Dairies,
Cow Sheds and Milk Shops Amending Order of 1886.

REGULATIONS

Made by the Mayor, Aldermen and Burgesses of the Borough of Darwen,
acting by the Council.

(7th February, 1898.)

INTERPRETATION OF TERMS.

1.—In these Regulations the expression "Council" means the Mayor, Aldermen, and Burgesses of the Borough of Darwen, and the expression "the Borough" means the Borough of Darwen.

Revocation of former Regulations and date of coming into operation of these Regulations.

2.—These Regulations shall come into force on the 4th day of April, 1898, and from and after such date all Regulations heretofore made under or having effect, in pursuance of the Dairies, Cow Sheds and Milk Shops Order of 1885 shall be revoked.

FOR THE INSPECTION OF CATTLE IN DAIRIES.

3.—In every case where the Medical Officer of Health, Inspector of Nuisances, or any other Officer specially authorised by the Council in that behalf, has, for the purpose of inspection, obtained access to a Dairy in pursuance of the Statutory provision in that behalf, no person shall wilfully obstruct any such Officer in the inspection of the cattle therein, and the occupier of such Dairy shall not, without reasonable excuse, neglect or refuse when required by any such Officer to render him such assistance as may be reasonably necessary for the purposes of such inspection.

For prescribing and regulating the Lighting, Ventilation, Cleansing, Drainage, and Water Supply of Dairies and Cow Sheds in the occupation of persons following the trade of Cowkeepers or Dairymen.

4.—Every person following the trade of a Cowkeeper or Dairyman shall

LIGHTING.

- (a) cause every Dairy and Cow Shed in his occupation to be lighted in such manner as to secure the passage of light into every part of the interior of such Dairy and Cow Shed.

VENTILATION.

- (b) cause every Dairy and Cow Shed in his occupation to be provided with adequate means of ventilation, and to be properly ventilated at all times when such Dairy or Cow Shed is in use, by means of a sufficient number of openings or windows in the walls on two opposite sides of the building, or in the wall on one side and in the roof, so as to afford effectual means of ventilation by direct connection with the external air, and shall in addition, where such openings and windows are constructed so as to close, cause adequate means of constant ventilation to be provided by means of openings in the external walls of such Dairy or Cow Shed, or by some other effectual method or appliance.

5.—No person following the trade of a Cowkeeper or Dairyman shall cause or suffer any greater number of cattle to be at any time kept in a building used as a Dairy or Cow Shed than will admit of the provision of six hundred cubic feet of free air space for each cow.

CLEANSING AND WATER SUPPLY.

6.—Every person following the trade of a Cowkeeper or Dairyman or purveyor of milk shall

- (a) cause the interior of every Dairy, Cow Shed, and Milk Store in his occupation to be maintained at all times in a thorough state of cleanliness, so that no offensive matter is allowed to sink into the floors or allowed to remain on the said floors for a longer period than 12 hours.
- (b) cause the internal walls and ceiling or roof of every Dairy and Cow Shed in his occupation to be thoroughly lime-washed at least twice in each year, or oftener as occasion may require. Provided that the foregoing requirements shall not apply to any internal wall the surface of which is painted, or where the material of or with which such surface is constructed or covered is such as to render the limewashing thereof unsuitable and inexpedient, if the surface of such internal wall is kept thoroughly cleansed ;
- (c) cause the floors to be thoroughly cleansed twice a day ;
- (d) provide for every Dairy and Cow Shed in his occupation a proper and sufficient supply of wholesome water for the health and good condition of the cattle therein, and of quality suitable and proper to be used for the washing and cleansing of all milk vessels ;
- (e) cause every receptacle in which such water is placed, for the use of cattle, to be emptied and cleansed thoroughly every day, and more frequently if required ;
- (f) in every case where the water may be stored for the purpose of supplying any Dairy or Cow Shed, in a cistern or cisterns, cause such cistern or cisterns to be conveniently placed so as to allow of ready access, and to be properly constructed of slate or other non-absorbent material, and to be so placed as to prevent fouling of the water, and such cistern shall have a proper and closely-fitting cover, and be maintained in a thoroughly clean condition.

DRAINAGE.

7.—Every person following the trade of a Cowkeeper or Dairyman shall

- (a) cause every Dairy and Cow Shed in his occupation to be so constructed that the floor thereof shall have a fall to a channel which shall discharge over a properly trapped drain made of glazed earthenware pipes with cemented joints and so that all urine and liquid filth may be properly carried away outside the building and so arranged that no inlet to any drain or gully that may be provided for the drainage of the Dairy or Cow Shed, shall be within such Dairy or Cow Shed.

For securing the Cleanliness of Milk-stores, Milk-shops, and of Milk-vessels used for containing Milk for sale by such persons.

8.—A person following the trade of a Cowkeeper or Dairyman shall cause every Milk-store and Milk-shop in his occupation to be maintained at all times in a thorough state of cleanliness.

He shall cause every milk-vessel used for containing milk for sale by him to be maintained in a thorough state of cleanliness, and to be thoroughly cleansed with steam or boiling water on each day on which it shall have been used.

9.—No person shall permit cows in his possession to be milked unless at the time of milking the udders are clean, and for such purpose he shall before each milking operation, effectively wipe down and cleanse the udders and teats of the cows. He shall not himself milk cows nor permit any person in his occupation to milk cows with hands which have not been previously thoroughly cleansed and made free from contamination till the act of milking has been completed.

For prescribing Precautions to be taken by Purveyors of Milk and Persons selling Milk by Retail against Infection or Contamination.

10.—A purveyor of milk or person selling milk by retail shall

- (a) not keep any milk that may be intended for sale in any place where it would be liable to become infected or contaminated by gases or effluvia from any sewer, drain, cesspool, or privy, or other source of contamination.
- (b) He shall take all such other precautions as may be necessary to prevent the infection or contamination of any milk that may be stored or brought upon any premises occupied by him, and shall not do any act or thing likely to expose any milk to infection or contamination, nor shall he omit to do any act or thing necessary for the due protection of such milk from infection or contamination;

- (c) He shall not use for the delivery of milk for sale to any person, any can or other vessel that may have been in the possession of any person who, he has been informed, or has reasonable grounds for believing, was at the time suffering from an infectious disorder, or any can that may have been delivered or left at the residence of such person, until such can or vessel shall have been thoroughly cleansed with steam or boiling water.
- (d) He shall not cause or permit any room used for the storage or sale of milk to be occupied as a living room, nor cause or permit any such room to communicate by door, window, or other aperture with any bedroom or with any other place likely to cause contamination of the milk, nor cause or permit any article or thing of a decomposing nature or substance to be placed or stored in any room used for the storage or sale of milk, nor cause or permit any business to be carried on upon premises used or partly used for the sale or storage of milk which is likely to cause the contamination of such milk.

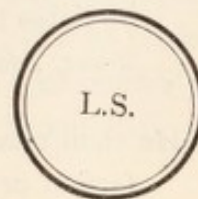
11.—Every purveyor of milk or person selling milk by retail shall, immediately on the outbreak of any infectious or contagious disease within the building or upon the premises in which he keeps milk, or amongst the persons employed in his trade or business, give notice thereof to the Medical Officer of Health for the Borough, and shall supply to the Medical Officer of Health a list of his customers.

PENALTIES.

12.—Every person who shall offend against any of the foregoing Regulations shall be liable for every offence to a penalty of £5, and in the case of a continuing offence, to a further penalty of 40s. for each day after written notice of the offence from the Council.

Provided, nevertheless, that the Justices or Court before whom any complaint may be made, or any proceedings may be taken in respect of any such offence, may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this regulation.

The Common Seal of the Mayor,
Aldermen and Burgesses of the
Borough of Darwen was hereunto
affixed in pursuance of an Order
of the Council of the said
Borough, in the presence of



ALEX. CARUS, Deputy-Mayor.

CHAS. COSTEKER, Town Clerk.

In August a communication was received from the Vestry of Camberwell, asking for support in regard to action in connection with Condensed Separated Milk, and it was agreed by the Council to give such support. In view of this I made enquiries into the quality of the different brands sold in the town, and the result was that out of 19 such brands only two were found to contain the required amount of fat. This state of things is very disgraceful, and points to the necessity of taking stringent measures for the protection of infant life in regard to its common food.

SANITARY CONVENIENCES,

DECEMBER 31st, 1898.

	Central	West Central	North- East	North- West	South- East	South- West	TOTAL.
Houses.....	1573	806	1963	1145	1407	1497	8391
Wash Stands	227	139	109	130	66	117	788
Water Closets	244	180	59	134	58	129	804
Baths	159	78	90	91	51	111	580
Ash Pits	43	130	40	94	55	100	462
Pails.....	1293	653	1727	974	1115	1206	6968
Cesspools.....	2	12	9	20	28	5	76
Waste W. C's.....	222	69	276	89	169	138	963
Ashtubs	1425	473	1765	863	1113	1102	6741
Urinals.....	49	12	.....	4	8	3	76
Dust Bins	20	17	8	7	5	5	62
Back to Back Houses.....	.....	3	6	.....	.....	28	37
Cellar Dwellings.....	.....	1	.....	.....	10	3	14
Latrines	8	5	8	15	.....	.....	36

The following List compares the Sanitary Conveniences
with the previous year.

	1897.		1898.		Increase.		Decrease.
Houses	8227	.....	8391	.....	164	.....	—
Wash Stands.....	740	.....	788	.....	48	.....	—
Water Closets	759	.....	804	.....	45	.....	—
Baths	524	.....	580	.....	56	.....	—
Ash Pits	508	.....	462	.....	46	.....	—
Pails	6962	.....	6968	.....	6	.....	—
Cesspools	89	.....	76	.....	—	.....	13
Waste Water Closets	760	.....	963	.....	203	.....	—
Ashtubs	5457	.....	6741	.....	1284	.....	—
Urinals	75	.....	76	.....	1	.....	—
Dust Bins	49	.....	62	.....	13	.....	—
Back to Back Houses	37	.....	37	.....	—	.....	—
Cellar Dwellings	14	.....	14	.....	—	.....	—
Latrines	31	.....	36	.....	5	.....	—

Sanitary Office, Darwen,

December 14th, 1898.

To the Medical Officer of Health.

I beg to report on the Sanitary condition, etc., of the premises mentioned below, and where cases of Typhoid Fever have occurred.

6, RILEY STREET.

Michael Docherty, age 18, removed to Hospital on December 9th. Premises—2 living rooms and 2 bedrooms. Occupants—man, wife and 11 children (ages ranging from 18 years to 1 week, both sexes). Drainage of house, fair. Pail closet, some distance from house. Ash-tub. House rendered damp on account of high ground at gable end. Water supply, Sunnyhurst. Milk, no regular supply.

12, MOUNT PLEASANT STREET.

John McDonald, age 17, removed to Hospital December 14th. Occupants of house—man, wife and 2 children, also female lodger. Two living rooms, 2 sleeping rooms. Drainage good. Closet, pail system. Ash-tub. Water supply, Earnsdale. Milk, J. Entwiste, Hey Fold. House requires limewashing.

14, EDWARD STREET.

Luke Marsden, age 17. House—3 rooms for living, and 3 for sleeping. Occupants—man, wife and 5 children. Drainage, good. Closet, pail. Milk supply, Driver, Hoddlesden. Water supply, Earnsdale. The occupier of these premises is a Marine Store Dealer, and is at present storing rags, etc., in back yard.

1, SYDNEY STREET (HODDLESDEN).

Mary J. Heap, age 19. Removed to Hospital, October 18th. House—2 rooms downstairs, and 2 bedrooms. Occupants—man and daughter. Pail closet. Ash-tub. Drainage, fair. Milk, Turner, Ranken Arms. Water supply, Sunnyhurst.

5, WILLIAM STREET (SOUGH).

Bertha Ashworth, age 8. Removed to Hospital, November 26th. House—2 rooms downstairs, and 2 bedrooms. Occupants—man, wife and 6 children. Ages range from 11 years to 6 months. Pail closet. Ash-tub. Drainage, fair. Milk supply, Hopwood, Cranberry Lane. Water supply, Sunnyhurst.

12, TEMPLE (BLACKSNAPE).

Nancy A. Knowles, age 23. House—2 rooms downstairs, and 2 bedrooms. Occupants—man, wife and 3 children (upgrown). Closet at gable end of house—pail system. Slopwater is discharged on meadow land behind the house. No proper drains. Ashes thrown on side of Blacksnape Road. Drainage from other houses runs past this house in channel. Milk supply, Aspden, Drummer Stoops. Water supply Blacksnape.

2, ST. PAUL'S TERRACE (HODDLESDEN).

Alice Taylor, age 51 years. Occupants—man, wife (patient) and 6 children, one of which has been sent away to friends at Preston. The house contains 4 rooms, 2 upstairs and 2 downstairs. Drainage good. Pail closet. Tub for ashes. Water supply, Sunnyhurst. Milk is obtained from Leach, Fatten Houses.

I am, yours obediently,

W. E. MARSDEN,

Inspector of Nuisances.

SCAVENGING

Is still carried on effectively, with a few exceptions, such as closed back yards common to a number of houses, and in which access is rendered difficult.

WORKSHOPS

Continue to receive close attention. Many alterations as to cleanliness and ventilation have been effected.

BAKEHOUSES

Have all been visited, and found in satisfactory condition.

Report on Wells and Sources of Private Water Supplies within the Borough.

TO THE CHAIRMAN AND MEMBERS OF THE WATER COMMITTEE.

GENTLEMEN,

In accordance with your instructions I have had a careful examination made of all the wells and private sources of supply to the various isolated Dwellings, Farms, etc., within the Borough.

In many cases the supply is sufficient and may be termed good, being gathered off the upper moorlands and the higher pastures which are never manured, of which the following are examples—

Scotland Reservoir.
Astley Bank and District.
Old Lyons.

Higher Sunnyhurst.
The Lord's Hall.
Duckshaw, etc.

In some instances the supplies themselves are good, being gathered from the same sources as the above, but by being conveyed in earthenware pipes or stone drains at a very shallow depth below heavily manured meadow lands they are very suspicious, and, after our experience at Earnsdale, I should have no hesitation were nightsoil still put upon the land in saying they were dangerous. Under this description the following may be placed—

Lower Trees.
Higher Coney.

Bold Venture.
Radfield Head, etc.

Other supplies are in themselves good, but by not being collected in properly guarded troughs are very liable to pollution. This occurs more particularly at—

Fickle Hall.
Crown and Thistle Inn.
Turncroft Farm.

Dickinson Brow.
Hall Moss Farm, etc.

Several wells which arise in meadow lands are of a very suspicious origin, viz.—

Sugar Leach.

Far Hillock.

Spout House.

Taylor's Green, etc.

Bent Hall Moss.

Some few places have a scarcity of water in the summer, as for instance—

Turncroft Hall.

Turn Lane.

Near Scotland Farm.

Radfield Head, etc.,

and others have at all seasons to carry water for considerable distances, amounting in one instance to 400 yards. Example—

Bottoms, 150 yards.

Moss Side Farm, 230 yards.

Plantation Cottage, 300 yards.

Hampson's Farm, 200 yards.

Near Sett End Cottage, 400 yards.

Mount Pleasant Farm, 250 yards, etc.

The supplies which are good in themselves, but become liable to pollution from their collecting receptacles, could easily be improved by fixing proper closed guards to them, and those which pass through manured meadows should be conveyed in properly jointed iron pipes.

There are several instances in which the springs or wells are themselves in the farm yards, and in close proximity to shippens and drains; it is almost impossible to prevent them being polluted, and they should be discontinued; for instance at—

Bog Burn.

Knowl Fold.

Hillock.

Top o'th Meadow, etc.

The water supplies at—

Turn Lane.

The Peak.

Intack.

Grainings.

Sett End.

Punstock,

are distinctly bad, and immediate steps should be taken to have them put right.

The Sett End supply is very dangerous, being polluted on its route by the Corporation's Tip.

In conclusion, in considering the various supplies it must be remembered that the whole of the water used is consumed in an unfiltered state, or if filtered at all, in the ordinary domestic Filters, which have been shown by various Scientists to be of little or no use in arresting bacteria, if they do not really form a means of assisting their propagation, and therefore considered from this point of view the whole of the supplies might be designated as "suspicious," as if any malevolent microbes were to obtain access, there is no means of arresting them before the water is consumed.

I am, Gentlemen,

Your obedient servant,

R. W. SMITH-SAVILLE,

Water Engineer.

Darwen, March 21st, 1898.

No. of Well	SITUATION.	FOR WHAT PURPOSE USED.	SOURCE OF SUPPLY.	REMARKS.
1	Messrs. Wilcock, Ltd., Borough Road	Manufacture of Mineral Waters	Bore-hole, 26 yards deep, under workshop floor	Also have town's water on premises.
2	Back Bridge Street	Steaming Potatoes.....	Well, 5' 0" x 5' 0" x 5' 0" deep	Liable to much pollution.
3	No. 1, Sudell Road	Horses, swilling, etc.....	Well, lined with wood, 3' 0" square x 4' 0" deep	Liable to pollution.
4	Astley Terrace, 8 houses	Drinking and domestic purposes	Well near Astley Bank	Water comes to open trough in yard, no taps in the houses. Good supply.
5	Riley Street, 16 houses	" "	In Riley Street	Liable to much pollution. Town's water now being connected.
6	Spring Vale Brewery	Brewing, etc.....	Well, Hampden's Mill Yard	Very good.
7	Low Hill Plantation	Drinking and domestic purposes	Print Shop Lodge	This well supplies stables, Bowling Green Hotel; Nos. 382, 383, and 384, Bolton Road; Craven Heifer Beer-house; Steam Laundry, Bowling Green Yard.
8	Upper Print Shop Lodge	Drinking purposes	From overlying land	Supplies Perry & Ollier; 8 Cottages at Print Shop; Nos. 22 and 23, Print Shop; Nos. 2 to 4, Bury Fold; Low Hill House. The lodge is liable to pollution, and used for cattle drinking purposes.
9	Bury Fold	Drinking and domestic purposes	Hill side	Good supply gathered from Moors to 10 houses and Ellerslie.
10	Near Kebb's Cottage	" "	Drift in Plantation to three wood cisterns (kept locked)	Good supply, "Thorncliffe."
11	Near Crown & Thistle Inn, Blacksnape	" "	Water from Moor on W. side of road	Good supply, Crown and Thistle.
12	Higher Grimehills	" "	Gathering ground, N. side of farm	Tub covered, good supply.
13	140 yds. E. of Far Hillock	" "	From manured meadow	Water to be carried 140 yds., suspicious.
14	Hillock Farm	" "	Water pumped from well	Bad and liable to pollution.
15	250 yds. W. of Cuckoldmans.	" "	Spring	Suspicious; only one trough, 2' 0" x 2' 0" x 2' 0" deep. Cattle drink from same well.
16	Gorton Well, near Cranberry..	" "	"	Supplies Moss Side Farm, 230 yds. to be carried; Plantation cottage, 300 yds. to be carried; Bottoms, 5 cottages, 60 yds. away; Cranberry Fold, have pump from well. Fair supply.
17	140 yds. E. of Bottoms	" "	"	Used by three cottages, Cranberry Fold.

18	40 yds. E. of Day Eye Farm.	Drinking and domestic purposes	Spring	Piped into Day Eye Farm-house from meadow land. Suspicious.
19	230 yds. W. of Hampson's Farm	"	"	To be carried to Hampson's Farm; spring rises from meadow land. Suspicious.
20	New Meadow Gap	"	"	Water drawn up well. Good supply.
21	Scotland Reservoir	"	Hoddlesden Moors	Has an area of 1.053 acres and supplies the following places with water:—Far Scotland Farm, Near Scotland, Stand, Sunnyfield, Holker House, Meadow Head, Larkhill Farm, and partly supplies Sett End Lodge. Apparently good water gathered off moorland.
22	Back-o'-th'-Height	Uninhabited	Scotland Reservoir	Two troughs. Liable to slight pollution in troughs.
23	Near Scotland Farm	Drinking, etc.	Hoddlesden Moor	Good supply.
24	Middle	"	Scotland Reservoir	One trough. Good supply.
25	Far	"	"	In house. Good supply.
26	Sunnyfield	"	"	One trough. Good supply.
27	Stand	"	Spring	Good supply.
28	Stand Hill	"	Manured meadow	Two wells; also supplies Slack, 5 cottages. Suspicious.
29	Langshaw Head	"	Scotland Reservoir	In house and two troughs.
30	Holker House Farm	"	"	In house and two tubs. Liable to pollution in distribution.
31	Meadow Head	"	"	Taps in house, also well 120 yds. away. Good supply.
32	Larkhill	"	"	Size 50' 0" x 27' 0" x 5' 0" deep, fenced round. Supplies Harwood's, Top-o'-th'-Meadow, Harwood's Lane, house at Sett End. Source of supply good, but liable to pollution in distribution, being carried under Blacksnake tip in earthenware pipes. Water is tainted and discoloured, and is undoubtedly polluted, having at times quite a greasy surface. Bad.
33	Sett End Lodge	"	Scotland Reservoir and Drift near Blacksnake	Piped, two troughs. Bad.
34	Harwood's Farm	"	Sett End Lodge	Spring well, under farmyard floor. Suspicious; 24 feet deep; cattle drink from trough from Sett End lodge; supply bad.
35	Top-o'-th'-Meadow	"	Spring and Sett End Lodge	Also tub. Water to be carried 430 yards; supply bad.
36	Harwood's Lane	"	Sett End Lodge	One trough. Good supply.
37	Lower Barn Farm	"	Hill side, 6 acres gathering ground	

No. of Well	SITUATION.	FOR WHAT PURPOSE USED.	SOURCE OF SUPPLY.	REMARKS.
38	Hatten's Farm	Drinking, etc.	Hill side, E. of Farm	Four troughs. Good supply.
39	Taylor's Green	"	Manured meadow	Taps in house and one trough. Suspicious.
40	Fatten Houses	"	W. P. Shorrocks Farm	In house and trough. Suspicious.
41	20 yds. S. of Marsh House Farm	"	Spring in meadow, 100 yds. N.E.	Tank, 36' 0" x 24' 0" x 6' 0" deep; walled round; supply to farm and five houses. Fair quantity, but of suspicious character.
42	200 yds. N.E. of Turncroft Hall	"	Spring	Well, covered over and locked. Supply good, but has been known to fail.
43	150 yds. N.E. of Turncroft Farm	"	"	Two wells, one covered. Good supply, but well not properly protected.
44	Old Lyons	"	Adjacent moor land	Concrete tank, made by Bolton Corporation. Good supply.
45	Green Lowe Clough	"	Adjacent pasture land	One well. Moderate supply only, but water good.
46	250 yds. W. of Top-o'-th'-Brow	"	Off moor land	One concrete tank, piped to house. Good supply.
47	Dickinson Brow	"	Hill side	One trough. Good supply; cattle, however, also use same trough.
48	20 yds. from Higher Cadshaw	"	Pasture land	One trough, and pipes in house. Good supply.
49	Cush House	"	Spring	One well, liable to pollution; sewer pipe runs against the well, and liquid manure runs on land just above. Bad.
50	Cadshaw Brow Farm	"	Adjacent hill, W. side	One trough. Good supply.
51	Cadshaw Farm	"	Manured meadow land	One well and trough; also supplies Half-Way Inn in pipes. Apparently good supply, but suspicious.
52	60 yds. W. of Hospital	"	Hill side	Covered tank, 10' 0" x 5' 9" x 6' 0". Good supply.
53	200 yds. E. of Sugar Leach	Not at present	Adjacent land	Bad, as water is conveyed by lead pipes, and acts upon same, but they have well in field 100 yards away in manured meadow. Sus- picious.
54	Hall Moss Farm	Drinking, etc.	Hill side	One tub, liable to pollution, owing to tub not being properly protected.
55	Higher Barn	"	"	One tub. Fair supply.
56	100 yds. from Meadow Head.	"	Black Hill	Two tubs and cistern. Good supply.
57	Near Wethead Farm	"	150 yds. W. Plantation	At present pipe containing water choked up, and water has to be carried from well used by cattle.

58	50 yds. S. of Wethead Farm ..	Drinking, etc.	Hill side.....	Fair supply. Well as above.
59	Far Wethead Farm	"	"	Cistern and tub. Good supply.
60	Prospect Farm	"	"	One trough. Good supply.
61	Bull Hill Farm	"	Plantation	Pipes and two troughs. Good supply.
62	60 yds. from Bull Hill	"	Drift, 200 yds. N.W.	Very good supply.
63	30 yds. S. No. 5, Bull Hill Road	"	Hill side.....	Supplies 5 to 15, Bull Hill Road.
64	100 yds. W. of Bent Hall Moss Farm	"	Spring	Supplies 5 to 15, Bull Hill Road, Bent Hall Moss Farm, and Mount Pleasant Farm, 300 yards away; liable to pollution. Sewage from houses, Bull Hill Road, empties on land 35 yards away, and land falls rapidly towards well. Suspicious.
65	Mount Pleasant Farm	Cattle.....	Adjacent land	Fair supply for cattle, but domestic water is obtained from Bent Hall Moss well, as above; 300 yards to be carried.
66	Bent Hall Moss.....	Cattle only.....	Adjacent land	Moderate. Domestic water carried from Bent Hall well, as before mentioned, and which is suspicious.
67	60 yds. S. of Mr. Thompson's, Bull Hill	Drinking, etc.	Hill side pastures	Piped to house. Good supply.
68	100 yds. S.E. of Grainings ...	"	Manured meadow land.....	Liable to much pollution: supplies five houses. Bad.
69	Near Jack Kay's Farm.....	"	Pasture land	Fair supply.
70	Bogburn.....	"	Spring	Well, considerable depth, but built of rubble, and close to shippon wall. Water clear, but suspicious.
71	Kirkhams	"	Meadow.....	Supply from three troughs, and suspicious.
72	30 yds. W. of Lord's Hall ...	"	Moors	Good supply, but poor storage.
73	Duckshaw	"	"	Good supply, fairly well collected. This sup- plies "Moorthorpe."
74	250 yds. W. of Higher House	"	"	Piped to house. Good supply.
75	400 yds. W. of Fickle Hall ...	"	"	In stone drain, to farm. Good supply.
76	100 yds. W. of Green Lowe...	"	Hill side.....	Two tubs. Good supply.
77	20 yds. S.W. of Bold Venture (Bury Fold)	"	Through manured meadow ...	Supplies three houses, but water is bad, and occasionally not fit for use.
78	30 yds. S. of Higher Height Side	"	Meadow land.....	Suspicious.
79	Jennet House	"	Drift near Quarry.....	Good supply.
80	700 yds. W. of Radfield Head	"	Spring	Pipes in six houses. Water fair, but becomes scanty in summer.

No. of Well	SITUATION.	FOR WHAT PURPOSE USED.	SOURCE OF SUPPLY.	REMARKS.
81	Intack	Drinking, etc.	From Messrs. Potter & Co....	Often discoloured with road washings, and unfit for drinking. Water has frequently to be brought from Lower Trees.
82	Higher Trees.....	"	The Moors	Pipes in house. Good.
83	Higher Coney	"	Moor and meadow land	Moderate supply, and suspicious, from passing through meadow land.
84	Lower Coney.....	Drinking, domestic, etc.	Out of rock above.....	Good supply, but very poor trough and collecting accommodation.
85	Lower Trees.....	"	"	Piped in house.
86	Sniddle Hill	"	From moor land, hill side.....	Good supply.
87	Pinfold	"	From pasture land.....	Supply very suspicious.
88	Holly Bank	"	Spring, 250 yds. W. from manured land	Piped to trough. Not very clean, and suspicious.
89	40 yds. W. of Punstock	"	Stone drain from hill side.....	There is no trough. Liable to pollution.
90	80 yds. S. of Sunnyhurst Farm	"	Moor land	Tank, 15' x 5' x 7'. Very good supply.
91	Lower Wenshead	"	Spring in garden	Good supply.
92	Higher "	"	Off the Moors	Storage Lodge, 30' x 20' x 10'; pipes to house. Good supply.
93	Stepback	"	"	Good supply.
94	Turn Lane.....	"	Manured meadow land.....	Very bad. Supply scanty. Farm buildings and conveniences in a very dilapidated condition.
95	Earnsdale	"	Near Carr Hall.....	Formerly bad, but the farm is now supplied with town's water.
96	The Height	"	Spring, 300 yds. W., in Plantation	Conveyed in pipes to house. Good supply.
97	Near Birch Hall Farm	"	From hill side	In pipes to well, and thence to farm. Good supply.
98	800 yds. W. of the Peak	"	Spring	Wells very dirty and liable to pollution, being on road side; this well supplies three houses; the well is without the borough. The supply is bad.
99	100 yds. S. of Bog Bank Farm	"	Spring in quarry	In pipes to house. Good supply, but occasionally rather short.
100	Higher Bog Height	"	Adjacent manured meadow land	Supply sufficient, but suspicious.
101	Lower "	"	"	In house from Higher Bog Height. Same supply as above.

102	Meadow Head Farm	Drinking domestic, etc...	Land S. of farm.....	Rather short in summer, and suspicious.
103	Lower Meadow Head Farm...	" "	Land S. of farm.....	From Meadow Head Farm. See above.
104	Spout House	" "	Spring 300 yds. W. of farm ...	Sufficient supply, but carried through manured meadow in earthenware pipes, and consequently suspicious.
105	80 yds. W. of Greenlands.....	" "	[Springs—manured meadow land	All water to be carried. Supply sufficient, but suspicious.
106	30 yds. W. of Moss Farm.....	" "	Land about 200 yds. W.	Supply sufficient, but suspicious.
107	Earcroft	" "	In pasture land about 400 yds. W.	Cattle drink from collecting tub at source; liable to pollution, and suspicious.
108	100 yds. E. of Oakenhurst Farm	" "	Spring from manured land ...	Supply sufficient, but suspicious.
109	Anchor Inn and Farm	" "	Land 300 yds. S.W.	This water receives drainage from Sunnyhurst Vale, but it is filtered and carried to farm.
110	Baron Mill.....	Drinking	Earnsdale Reservoir, compensation water	Suspicious.
111	"	Cattle	Knowl Spout.....	Suspicious.
112	Knowl Fold	Drinking	Spring	Sufficient supply of water, but liable to pollution, and suspicious.
113	Sunnyhurst Vale	Drinking, etc.	Earnsdale Brook	Good supply.
114	Astley Bank District.....	"	The Moors.....	Good supply.
115	Mr. Harwood, Bolton Road...	"	In cellar.....	This water could not be examined, as permission to do so was refused.

Appendix to Report upon Wells and Private Water Supplies.

Municipal Offices,

March 28th, 1898.

To the Chairman and Members of the Health Committee.

Gentlemen,

In response to instructions from the Water Committee, I have prepared the accompanying Report upon Wells and Private Sources of Water Supply generally within the Borough, and I am directed by them to forward you the accompanying copy with my recommendations respecting several of them.

I beg to formally certify that the following supplies are not proper supplies of water for the houses named, and recommend that the owners of the same should be noticed to lay a proper service thereto. These can be supplied either from existing water mains, or from mains which might be laid within a reasonable outlay as provided by the Act.

No. of Well.	SUPPLY.	HOUSE OR PLACE SUPPLIED.
7	Low Hill Plantation	No. 382, 383 and 384, Bolton Road, and Craven Heifer Beerhouse.
8	Print Shop Lodge	Perry & Olliers' Mineral Water Manufactory.
13	Far Hillocks Well	Far Hillocks Farm.
14	Hillock Farm.....	Hillock Farm.
15	Spring, Cuckoldmans ...	Cuckoldmans' Farm.
—	Haddocks	Haddocks Farm.
33	Sett End.....	Coal Offices, &c.
34	Do.	Harwoods Farm.
35	Do.	Top o'th' Meadow Farm.
36	Do.	Harwoods Lane, Old Sett End.
41	Spring in Meadow.....	Marsh House Farm.
70	Spring.....	Bog Burn Farm.
71	Do.	Kirkham's Farm.
107	Do.	Earcroft Farm.
109	Do.	Anchor Inn and Farm.
112	Do.	Knowl Fold.

I also beg to recommend that notices be served upon the Owners of the following Wells to carry out the various works specified, and which are absolutely necessary for the protection of their supplies, and in the event of their failing so to do, that notices be served upon them to obtain another supply to your satisfaction.

These are generally good, or are merely suspicious from their gathering, collecting, storing, distribution or surroundings, and are such as are not within a reasonable distance of any existing (or likely to be proposed) water mains.

No. of Well.	SITUATION.	SUGGESTIONS FOR REMEDYING SAME.
1	Mineral Water Works, Borough Road	Surface round Well should be concreted and flags bedded and jointed in cement.
7	Low Hill Plantation	Well requires guarding.
8	Upper Print Shop Lodge.	Lodge to be fenced round.
9	Bury Fold	Pipes should be laid across road from No. 1 Trough.
18	Dayeye Farm.....	Warn replacing of manure on land adjacent.
19	Hampson's Farm	Warn replacing of manure on land adjacent.
23	Near Scotland Farm	Better protection for collecting trough ; separate trough for domestic purposes.
29	Langshaw Head	Warn re-manuring and to protect wells.
31	Meadow Head	Better collecting trough required, and warn re-manuring.
39	Taylor Green.....	Warn re-manuring and to protect wells.
43	Turncroft Farm.....	Cistern requires guarding.
47	Dickinson Brow.....	Trough requires guarding ; separate one providing for cattle.
49	Cush House	Sewage pipes require diverting and manure tank removing ; water protecting ; warn re-manured land.
51	Cadshaw Farm	Warn re-manuring ; separate trough should be provided for cattle
53	Sugar Leach	Warn re-manure, and lead pipes.
54	Hall Moss Farm	Tub requires raising and guarding.
57	Near Wethead Farm.....	Cistern and pipes require cleaning out.
64	Bent Hall Moss Farm ...	Sewage from houses, Bull Hill, requires diverting, and the vicinity of wells protecting.
65	Mount Pleasant Farm ...	Sewage from houses, Bull Hill, requires diverting, and the vicinity of wells protecting.
66	Bent Hall Moss.....	Sewage from houses, Bull Hill, requires diverting, and the vicinity of wells protecting.
68	Grainings	New tub, and better protected ; warn re-manure.
72	Lords Hall.....	Larger trough accommodation and guarding.
75	Fickle Hall.....	Trough requires guarding.
77	Bold Venture.....	Water should be better collected and conveyed, and particular attention given to storage ; warn re-manuring of gathering ground.
78	Higher Height Side	Water should be better collected and conveyed, and particular attention given to storage ; warn re-manuring of gathering ground.

No. of Well.	SITUATION.	SUGGESTIONS FOR REMEDYING SAME.
81	Intack.....	Proper storage to be provided and protected.
83	Higher Coney	Write and warn re-manure, and remove hen-pen from line of pipes.
84	Lower Coney	New trough, and protecting.
87	Pinfold	Protect collecting trough.
88	Holly Bank	Trough requires guarding, and warning re deposit of manure.
89	Punstock	Provide proper collecting trough, and protect same.
94	Turn Lane	Provide proper supply.
98	The Peak	Provide proper collecting accommodation, and protect same.
100	Higher Bog Height	Trough to be raised and guarded, and separate trough providing for cattle.
101	Lower Bog Height.....	Trough to be raised and guarded, and separate trough providing for cattle.
102	Meadow Head Farm.....	Trough to be raised and proper collecting tank to be provided.
103	Lower Meadow Head ...	Trough to be raised, and proper collecting tank to be provided.
104	Spout House	Warn re-conveyance through manured land.
106	Moss Farm.....	Warn re-manuring.
108	Oakenhurst Farm	Trough requires guarding ; warn re-manuring.

The following Wells are not actually used for drinking purposes, but are in such a position that it is not desirable they should continue, and I should be glad if you would give instructions for their being closed.

No. of Well.	SITUATION.	SUGGESTIONS FOR REMEDYING SAME.
2	Back Bridge Street	This is a very shallow well, and is used for steaming potatoes at a chipped potato shop.
3	No. 1, Sudell Road	Only used for swilling ; shallow, and in cellar of dwelling house.
95	Earnsdale Farm.....	The old well formerly used, but now supplanted with town's water. This should be removed so that it cannot possibly be used again.

I am, gentlemen,

Your obedient servant,

R. W. SMITH-SAVILLE,

Passed March 29th, 1898.

Borough Surveyor.

Patients in Hospital during 1898.

Name.	Address.	Disease.	Admitted.	Discharged.	Days.
Alice Charleson ...	47, Gillibrand St...	Typhoid Fever	.....	Jan. 8...	8
Florence Deane ...	19, Malta St.	Scarlet Fever ...	.....	" 27...	27
Betsy Heyes	4, Riley St.....	Typhoid Fever	Jan. 11...	Feb. 26...	46
Isabel Ann Bury...	3, Nelson St.	Scarlet Fever ...	" 14...	" 26...	43
William Walsh.....	9, Essex St.....	" ..	" 20...	" 26...	37
Chas. P. Walsh ...	"	" ..	" 20...	" 26...	37
Dora Allanson.....	17, Harwood St...	" ..	Mar. 12...	April 23...	42
Maggie Marshall...	21, Preston St. ...	Typhoid Fever	" 21...	Mar. 29...	8
Nora Norman	21, Lorne St.	Diphtheria	April 26...	May 10...	14
Mary J. Heap.....	1, Sydney St. Hod.	Typhoid Fever	Oct. 18...	.....	74
Annie Entwistle ...	42, Cavendish St...	Scarlet Fever ...	" 18...	Dec. 3 ...	46
Bertha Ashworth...	5, Will'm St., Sough	Typhoid Fever	Nov. 26...	.....	35
George Fish.....	9, Ashton St.	Scarlet Fever ...	Dec. 7...	.....	24
Michael Docherty..	6, Riley St.....	Typhoid Fever	" 9...	.....	22
John E. McDonald	12, Mt. Pleasant St.	" ..	" 14...	.....	17
Alice Maud Tuck..	19, Kay St.....	Scarlet Fever ...	" 14...	.....	17
Madge Whittaker...	57, Greenway St...	" ..	" 17...	.....	14
William Chadburn.	20, Sunnybank St.	" ..	" 20...	.....	11
Mary Halliwell ...	15, Bk. Astley St..	" ..	" 20...	.....	11
					533

The Hospital was partly remodelled, and completely furnished, giving better accommodation for the patients and the staff. Nurse Erskine was appointed Matron, and Mr. and Mrs. Ryecroft Porter and Portress respectively. This increased the efficiency of the Hospital, with the result that much more use is now being made of it.

SUMMARY OF MEDICAL OFFICER'S REPORT FOR 1898.

Urban Sanitary District of Darwen.

Area in Statute Acres.....	5919
Population (Census), 1891.....	34192
Population (Estimated), 1898	37500

NAME OF MEDICAL OFFICER OF HEALTH - - F. G. HAWORTH.
SALARY £200.

	Males.	Females.	Total.
Births Registered.....	577	554	1131
Deaths Registered	308	324	632
Birth Rate			30'0
Death Rate			16'82
Rate of Infant Deaths, under one year, to 1,000 Births			175
Death Rate from the seven principal Zymotic Diseases, per 1,000 of population			2'20

Diseases prevalent.—Typhoid, Scarlet, and Diarrhoea. Period.—Third Quarter.

Any Schools Closed?—Two. If so, for what disease?—Measles.

What is the character of the Hospital Accommodation?—Isolation for all Infectious Diseases.

Is it joint or otherwise?—No. No. of Beds available for the District.—18.

What were the Cases treated?—Typhoid and Scarlet Fevers, and Diphtheria.

Deaths in Hospital.—One. From what Causes?—Enteric Fever.

How is Disinfection carried out?—Steam at Hospital, Equifex Spray in Houses.

Apparatus used?—Washington Lyon's.

Is the Infectious Disease (Notification) Act in force? Darwen Corporation Act, 1887.

Are any Diseases not specifically mentioned in the Act notifiable (for instance Measles, Whooping Cough, Diarrhoea, &c.)?—No.

What is the character of House Accommodation?—Principally Cottage. Good.

Has any action been taken under "The Housing of the Working Classes Act, 1890"?—50 Houses in course of erection.

Is the Water Supply good and subject to your Inspection?—Yes.

Is Scavenging carried out satisfactorily?—Yes.

By Sanitary Authority or Contract?—Sanitary Authority.

How is the Refuse disposed of?—On Land. Destructor in course of erection.

What is the character of Drainage and the form of Sewage Disposal?—Single International.

Canal Boats?—No.

What is the Condition of the Bakehouses?—Good.

Slaughter Houses?—Public, good ; One Private, good.

Lodging Houses? Are they registered?—One Private Lodging House, registered ; One Municipal Lodging House, registered.

Dairies, Cowsheds, and Milkshops—Are they periodically inspected?—Yes. What is their condition?—Fair. Are they subject to Regulations made under the Order of the Local Government Board?—Yes. What amount of Air Space in Cubic Feet is required for each Cow?—600.

Have the Factories and Workshops been inspected, and with what result?—Yes, in good condition.

Food unfit for Human Consumption, Amount seized?—4 Beasts, 14 Sheep, 4 Calves, 1 Pig, 3 Rabbits, $2\frac{1}{2}$ cwt. Apples.

Any Special Report of Medical Officer of Health during the year?—All are embodied in Annual Report.

Department of Inspectors of Nuisances.

Number of Notices served—1859.

Number of Nuisances remedied—1199.

Number of Legal Proceedings taken and result—Three cases. Convictions obtained in each case.

Smoke.

Number of Observations—103.

What is the time limit allowed for the emission of black smoke per hour?—15 Minutes.

Has the Authority adopted :—

(a) "The Infectious Disease (Prevention) Act, 1890?—Yes, except Secs. 5 to 11 inclusive, and 15.

(b) "The Public Health Acts Amendment Act, 1890"?—Yes, except paragraph relating to Music and Dancing.

TABLE XVIII.

Streets in which cases of Infectious Diseases amongst
Paupers have occurred during 1898.

DIARRHŒA has been responsible for cases in—

SOUTH-WEST.	SOUTH-EAST.	WEST-CENTRAL.	CENTRAL.
Albert Street	St. John's Street	Crown Street	Corporation Street
Stoney Flats	Blacksnap		
Bolton Road			

MEASLES has occurred in—

NORTH-EAST.	CENTRAL.	SOUTH-WEST.
Henry Street	Wharton Street	Bolton Road
Holden Fold		

GOVERNMENT FORM B

Table of New Cases of Sickness coming to the knowledge of the Medical Officer of Health during the year 1898, in the Urban Sanitary District of Darwen, among Out-door Paupers.

	Under 5 Years.	5 Years and Upwards.
Smallpox	0	0
Measles	2	5
Scarlet Fever.....	0	0
Diphtheria.....	0	0
Croup (non-spasmodic)	0	0
Whooping Cough	0	0
CONTINUED FEVERS {	Typhus	0
	Enteric or Typhoid	0
	Other or Doubtful...	0
Diarrhoea and Dysentery	3	4
Cholera	0	0
Rheumatic Fever	0	1
Erysipelas	0	0
Pyæmia	0	0
Puerperal Fever	0	0
Ague	0	0
Pneumonia	1	3
Chicken Pox.....	0	0



REPORT

OF THE

INSPECTOR OF NUISANCES

FOR THE

Year ending December 31st, 1898.



SANITARY INSPECTOR'S OFFICE,

DARWEN, JANUARY, 1899.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I beg to submit my Annual Report of the work carried out in the Health Department during the year ending December 31st, 1898.

Summary of Nuisances dealt with.

No. of Houses and Premises Inspected.....	6,668
„ Nuisances discovered	1,370
Preliminary Notices served.....	697
Legal Notices served	1,162
No. of Nuisances Abated	1,199
„ Re-inspections	2,002
„ Complaints Received	130
„ „ Attended to	130
Letters written respecting Nuisances.....	79

Description of Nuisances dealt with.

To Open and Flush Choked Drains	79
„ Re-fix and Cement uneven Gullies	74
„ Disconnect Waste Pipes from Drain.....	20
„ Repair Defective Soil Pipes	2
„ „ Water Closets	15
„ „ Downspouts	126
„ Cleanse Yards, Flag Yards, and Repair defective Flagging	80
„ Construct Proper Drains	295
„ Cleanse and Limewash Dirty Houses	101
„ Abate Nuisances caused by Overcrowding	15
„ Cleanse and Limewash filthy Closets	44

To Remove accumulations of Refuse	54
„ Abate Nuisances caused by the Keeping of Animals ...	16
„ Abolish Cesspools	8
„ „ Unsanitary Ashpits	93
„ Provide Coverings for Ashtubs	69
„ Repair broken Slop-pipes	74
„ Re-build Dangerous Walls, Closets, Buildings, &c.....	4
„ Open and Flush Waste Water Closets	70
„ Abate Nuisances under Quarry Fencing Act	2
„ Broken Ashtubs	43
„ Insufficient Ashes Accommodation	4
„ Snow Notices	230
„ Miscellaneous Nuisances	33

44 Drains were tested after complaints of Nuisances from householders, 41 of which were found to be defective, and the necessary notices were served.

70 Waste Water Closets have been found to be choked.

Infectious Diseases.

192 cases of Infectious Disease were notified to this Department during 1898, 17 of which were removed to the Hospital, viz., 6 Typhoid Fever, 10 Scarlet Fever and 1 Diphtheria.

No. of Notifications	192
„ Houses Re-visited	245
„ „ Disinfected.....	223
„ Rooms Fumigated	130

At all infected houses printed and verbal instructions were given as to the proper means of isolation of the patients, and the disinfection of the clothing and surroundings. At the termination of the cases the premises were fumigated, and in many instances the bedding was removed to the Hospital for stoving.

Particular attention has been paid to the drains, &c., at all houses where infectious diseases have occurred, and after being tested, many have been found to be defective. Notices were at once served, and the various matters attended to.

Analysis of Notifications.

DISEASE.	JANUARY.	FEBRUARY.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	OCTOBER.	NOVEMBER.	DECEMBER.	TOTAL.
Scarlet Fever.....	5	3	4	3	2	2	6	6	13	17	6	26	93
Typhoid Fever ...	8	2	7	2	4	1	1	6	1	2	7	2	43
Continued Fever	1	..	..	..	..	..	1	..	..	1	..	..	3
Erysipelas	2	2	5	2	2	3	..	3	3	3	5	5	35
Puerperal Fever	2	1	2	..	2	1	..	2	..	..	..	..	10
Diphtheria .....	..	..	..	2	..	..	..	..	..	..	..	..	2
Memb. Croup ...	..	..	1	1	1	..	..	1	..	..	..	2	6
Total	18	8	19	10	11	7	8	18	17	23	18	35	192

Infected Bedding.

The following is a List of Articles removed to the Hospital to be stoved from 73 houses—

Beds	100	Sheets.....	47
Mattresses	85	Suits of Clothes.....	6
Bolsters	74	Carpets	14
Pillows	115	Rugs	3
Quilts	86	Sundries.....	171
Blankets	112		

Factory and Workshops.

There have been 164 visits made to the Workshops in the Borough, which number 132, and comprise 22 different trades.

All the Bakehouses have been visited on several occasions, and due attention has been paid to the drainage, lighting, and ventilation.

It has been necessary to serve notices for the abatement of the following Nuisances—

Limewash and Cleanse	5
Choked Drain.....	1
„ Waste Water Closet	1
Unsanitary Ashpit	1
Defective Downspout.....	1
Provide Closet for Workshop	1

Smoke Observations.

102 Smoke Observations were taken, of which 8 exceeded the limit of 15 minutes, against 16 in 1897.

The average number of minutes is $8\frac{3}{4}$.

12 Notices have been served to abate Nuisances.

	Dense.	Black.	Moderate.	Slight.	Not Smoking.
Cotton Hall (Whipp Bros.)	$5\frac{1}{2}$	.....	$5\frac{1}{2}$	..... 49
„	5	.....	$14\frac{1}{2}$	..... $40\frac{1}{2}$
„	$6\frac{1}{2}$	.....	$8\frac{1}{2}$	..... 45
Union Street Spinning Co.....	$14\frac{1}{2}$	.....	$6\frac{1}{2}$	..... 39
„	7	.....	$38\frac{1}{2}$	..... $14\frac{1}{2}$
„	4	.....	$39\frac{1}{2}$	..... $16\frac{1}{2}$
„	3	.....	$50\frac{1}{2}$	..... $6\frac{1}{2}$
Vale Street Mill	$14\frac{1}{2}$	.....	$5\frac{1}{2}$	..... 40
„	10	.....	$10\frac{1}{2}$	..... $39\frac{1}{2}$
„	9	.....	$20\frac{1}{2}$	..... $30\frac{1}{2}$
Lower Wood Mill	7	.....	$9\frac{1}{2}$	..... $43\frac{1}{2}$
Woodside Mill	4	.....	6	..... 50
Lee Foundry	9	.....	$9\frac{1}{2}$	..... $41\frac{1}{2}$
Orchard Mill (Pegamoid)	$7\frac{1}{2}$	.....	14	..... $38\frac{1}{2}$
„	$1\frac{1}{2}$	$3\frac{1}{2}$	.....	11	..... 13 31
Queen Street Mill	$6\frac{1}{2}$	.....	10	..... $43\frac{1}{2}$
Industry Mill	$11\frac{1}{2}$	.....	14	..... $34\frac{1}{2}$
„	5	.....	14	..... 41
Two Gates Mill	$5\frac{1}{2}$	.....	$40\frac{1}{2}$	..... 14
Progress Mill	$4\frac{1}{2}$	.....	32	..... $23\frac{1}{2}$

		Dense.	Black.	Moderate.	Slight.	Not Smoking.
Provident Mill			11½	15½		33
„			8½	27½		24
„			7½	18½		34
Hindle Street Mill	1		4½	34	17½	3
Dove Mill				7½	3	49½
„			4	34		22
Sudellside Mill			7	14		39
Speculation Mill.....			4	22		34
„			2	20		38
Carrs Mill			9½	20		30½
„	2		4	15	14	25
Darwen Mills, Mill Gap.....			23	29½		7½
„			1½	13½	36	9
„				18	37	5
„			3	16½	15½	25
Brookside Mill			9½	26½		24
„			2½	15	38½	4
„			3½	6		50½
„			7	31		22
Belgrave Mills.....			12½	6½		41
„			6½	9½		44
George Street Mills			9	50		1
„			13	14		33
„			17	12½		30½
„			10½	30		19½
„			19½	30½		10
„			10	50		
Bottom Croft Mill			7½	24		28½
Hollins Mill			4	44½		11½
„			5	35		20
„			11	26½		22½
„			20½	17		22½
„			11	43		6
„			9½	44		6½
No. 1 Spinning Mill			13½	4½		42
Britannia Mill.....			8½	17½		34
Hollins Grove Mill.....			13½	8		38½
„			9½	30½		20
Heyfold Mill			8	8½		43½
„			10	8		42

		Dense.	Black.	Moderate.	Slight.	Not Smoking.
Woodfold Mill			13½	5		41
„			3	7		50
„			9½	33		17½
Cotton Hall Spinning Co.			14	14		32
„			11½	13		35½
„			12½	16½		31½
„			16	28		16
„			10	29		21
Cotton Hall Weaving.....			5	25		30
„			5	7		48
Darwen Mills (Eccles Bros.)...			11	19½		29½
„	13½		8	9	9	20½
„	9½		8½	8	11	23
„			10	4	2½	43½
India Mill	1		12½	23½	23	
„			10½	49½		
South Belgrave Mill			18	8½		33½
Barley Bank Mill			11½	6½	5	37
„			5	20		35
New Bridge Mill.....			16½	5½		38
„			12½	1		46½
Spring Vale Brewery			5	3		52
„	2		12½	14½	14½	16½
Hampden Mill			8	6½		45½
Tackfield Mill.....			9½	9½		41
Greenfield Mill			4	5½		50½
„			6	5		49
Springfield Mill, Sough			7	8½		44½
Hope Mill			5	20½		34½
Albert Mill			5	27½		27½
Spring Vale Paper Mill	3		12	14	17	14
„			7½	36½		16
„	1½		6½	11	22	19
„			7	39½		13½
Bowling Green Mill			9½	34½		16
Vale Brook Mill.....			12	23½		24½
Lorne Street Mill				24		36
Livesey Fold Mill				12½		47½
Holme Mill.....			3	30½		26½
Bank Top Mill			13	7½		39½
Radford Mill			13½	4		42½
Springfield Mill, Bolton Road..			13½	5		41½

Hackney Carriage Department.

During the year 1898 the following number of Licenses were granted—

Licenses granted for Tram Cars, &c.	10
„ to Conductors	19
„ to Drivers.....	18
Badges issued to Drivers.....	5
„ Conductors	9

Vans Occupied as Dwellings.

54 visits have been made to Vans which have entered the Borough, for the purpose of discovering any cases of sickness and noting their condition.

Notices to abate Nuisances were served in 2 cases.

Common Lodging Houses.

There is now only one Registered Lodging House in the Borough in addition to the Model Lodging House.

Several nightly visits have been made to both these houses, and everything was found all right.

Unsound Food.

The Wholesale Market, the Fish, Fruiterers and Butchers' Shops, etc., have been periodically inspected, and examinations have been made of the food exposed for sale. Three persons were convicted and fined for contraventions of the Act, as you will see by the list of prosecutions.

The following articles were declared unfit for food, and accordingly destroyed—

- 2½ Cwt. Apples.
- 3 Rabbits.

Sanitary Prosecutions.

Ellen Madden	Stoney Flats	Overcrowding house
Thomas McNicholas...	„	„
Micah Clarke.....	Old Workhouse Buildings...	Occupying unregistered lodging-house
Thomas Smith	Blackburn	Exposing unsound rabbits
Arthur Collins	„	„
Abraham Shepley	„	„ unsound apples

Sale of Food and Drugs Acts.

Since I was appointed by you in September as Inspector under the above Acts, I have only been able to obtain 5 Samples from Farmers residing outside the Borough.

The Samples were all found to be genuine.

General Information.

Two Notices were served to close Schools on account of the prevalence of Infectious Diseases.

Notices were posted in all Waste Water Closets, calling the attention of the Occupier to his liability in case the Closet got choked.

There are close on 1,000 Waste Water Closets in the Borough, and 70 of these came under the notice of this Department as being choked.

I have submitted several Reports on Overcrowding in various parts of the Borough. Two persons were prosecuted for this nuisance.

In conclusion, I must tender my thanks to my Assistant, Mr. C. R. Walsh, and my Clerk, Mr. Harold Grime, for the assistance they have rendered in carrying out the ever increasing work of the Department.

I am, Gentlemen,

Your obedient servant,

W. E. MARSDEN,

Chief Inspector.

General Information

The following information is for your information only. It is not intended to be used as a basis for any action. The information is subject to change without notice. The information is not to be used for any purpose other than that for which it was intended. The information is not to be used for any purpose other than that for which it was intended.

Table of Food and Drug Act

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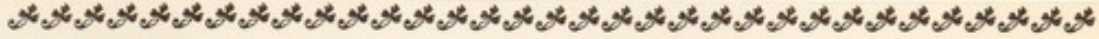
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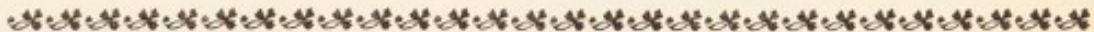
REPORT

OF THE

Scavenging Superintendent

FOR THE

Year ending December 31st, 1898.



TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I beg to lay before you my Report for the past year.

The following Table shows how the Ashes, &c., have been disposed of:—

Bold Venture Tip.....	4,556 loads.
Holden Fold „	4,865 „
Hoddlesden „	289 „
Whitehall „	2,198 „
Sewage Works	625 „
Street Watering.....	793 „
Market Garbage to Grimehills.....	517 „
Slaughter „ „	198 „
Sweepings to various Tips	2,894 „
Excrement removed to Farms.....	526 „
„ „ Sewage Works	6,101 „
No. of Pails emptied	364,905
„ Ashtubs „	176,346
„ Ashpits „	5,921
Length of Streets swept by Machine, in miles ...	615 $\frac{1}{4}$
„ „ Hand „ ...	884 $\frac{1}{2}$
Street Gullies cleansed.....	19,655
Backyards „	6,694
Loads of Snow removed from Streets	466

On February 8th, we commenced to collect the Excrement during the night. A great difficulty was experienced, owing to so many pails having to be fetched from inside the backyards. This was overcome by distributing cards, stating the night on which the Pails would be called for. We have been supplied with duplicate keys for Mills, Schools, &c., where the doors could not be left loose.

Difficulty was also experienced in obtaining Water for washing the Pails. We at first commenced to get water from the Hydrants, but this was too slow a process, the water in some cases having to be carried a very considerable distance. We then started to change three or four loads of pails nightly, bringing them to the Dépôt, thoroughly cleansing them and tarring them inside, and taking them out the following night.

The Public Urinals are cleansed and disinfected daily.

All Backyard Gullies are also having constant attention.

We have now three Low Carts on the weekly and half tub system. It is resolved to put the whole of the town on the weekly system as soon as a sufficient number of Low Carts are procured.

No. of Ashtubs put in during year, 196.

*Dairies, Cowsheds and Milkshops Orders, 1885, and Regulations made by the
Local Authority, 1898.*

During the year there were on the Register 131 Cowsheds and Milkshops.

These have been inspected, and it is very gratifying to find that there is still great improvements being made in lighting and ventilating Shippons and Dairies.

Three Farmers were proceeded against for not complying with notices served upon them to provide more Air Space. One was fined costs, the other two costs, and to carry out work before May, they having a very large quantity of Hay housed over the cattle.

There has been two new Dairies built during the year.

There are 33 Purveyors of Milk in the Borough who do not reside therein.

Much dissatisfaction has been expressed by our own registered Farmers, on account of their being subject to our new Regulations and outsiders allowed to come in the Borough without their places being subject to our inspection. I think all Purveyors of Milk in the Borough ought to be registered, and their premises thoroughly inspected before registration.

I remain,

Your obedient Servant,

W. H. ECCLES,
Scavenging Superintendent and Dairies Inspector.

THE UNIVERSITY OF CHICAGO

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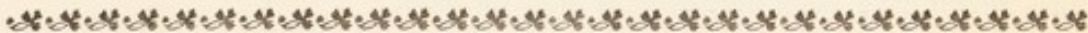
REPORT

OF THE

MEAT INSPECTOR

FOR THE

Year ending December 31st, 1898.



TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I beg to lay before you my Report for the past year.

The number of Cattle Slaughtered during the year 1898 are as follows—

Public Abattoirs.

	1898.		1897.
Beasts	1,013	.....	1,064
Sheep	5,626	.....	5,698
Calves	466	.....	436
Swine	552	.....	439
	<hr/> 7,657		<hr/> 7,637
	<hr/>		<hr/>

Private Premises.

Beasts	487	.....	455
Sheep	4,950	.....	4,160
Calves.....	95	.....	51
	<hr/> 5,532		<hr/> 4,666
	<hr/>		<hr/>

Old Slaughter-houses used for dressing Tripe.

The amount of Tripe dressed and prepared for Food is about the same as last year, 221 tons, which has been inspected and found all right, with the exception of a few bellies, which have come in the Borough from Liverpool, Birkenhead, Glasgow, and Blackburn, which have been destroyed as unfit for food.

I have also inspected the Vans from week to week which sell Butchers' meat in the Borough, which come from Blackburn, as well as our own vans, and found all satisfactory; and I do not hesitate to say that Darwen will compare with any town in Lancashire for quality of Meat, which speaks well for those engaged in the trade as butchers.

There is also a lot of meat brought from Birkenhead, out of which 220 quarters have been brought to the Slaughter-houses, the other I have inspected at the shops, which I have found to be of first-rate quality. There is also a large quantity of frozen meat which I have inspected and found fit food.

I have, during the year, visited the Cattle on the Farms, and in two or three instances found a beast suffering from Tuberculosis. I have called the farmers' attention to them, and they have sent them to the Knacker's Yard. These beasts as a rule are very good milkers, and their milk is mixed with the other milk. This ought not to be so, as I believe milk is a great conveyer of disease.

Meat destroyed during the year as unfit for food :—

Beasts.....	4
Sheep.....	14
Calves	4
Swine	1

Gentlemen,

I remain

Your humble Servant,

WILLIAM BICKERSTAFFE,

Meat Inspector.

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