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MADRAS RECORD OFFICE.

Government of Madras.

Public DEPARTMENT.

G.O. No.	1728	Press
		~~Mis.~~
Dated	16-12-1869	

Not to be folded or roughly handled

96-37

*Proceedings of the Madras Government, Public Department,
16th December 1869.*

No. 88. Read the following letter from the Sanitary Commissioner for Madras, to the Chief Secretary to Government, Fort Saint George, dated Madras, 7th December 1869, No. 3332.

I have the honour to forward, for submission to Government, six copies of the report on the Vital Statistics of the City of Madras during the third quarter of the current year.

No. 89. ORDER THEREON, 16th December 1869, No. 1728.

From the Vital Statistics of the City of Madras for the third quarter of 1869, the Government learn with satisfaction that the public health for the period embraced by the report presents a favourable contrast with that of the previous nine third quarters, or the third quarter of the past year, and this although cholera, after a long absence, made its appearance in the second quarter, and continued through the third quarter of the year.

2. The total number of deaths from this epidemic was 453, or 275·2 less than the average of nine previous third quarters.

3. The Sanitary Commissioner appears with justice to attribute it to the zeal and activity of the Medical Department, and of the Municipal Commissioners, that the disease was controlled and its spread limited. The portions of the town most severely visited were Vepery, Choolay, Poodoopettah, and Perambore. The Government desire to call the attention of the Municipal Commissioners to the necessity of taking special measures for the improvement of the conservancy and drainage of these localities.

(True Extract.)

Chief Secretary.

To the President of the Municipal Commission, Madras,
„ Inspector-General of the Indian Medical Department, } with the Report.
„ Sanitary Commissioner.

Exd. J. Wright.

VITAL STATISTICS OF THE CITY OF MADRAS

FOR THE

THIRD QUARTER OF 1869.

The number of deaths registered during the quarter amounted to 3,317, or 177 less than the mean of the nine preceding third quarters. Of these 3,317 deaths, 1,469, or 462·7 *below* the average, are attributable to "*special*" diseases, while 1,848, or 286 *above* the average, are from "*other*" diseases. Compared with the mortality of the third quarter of the year (1868) immediately preceding, there is a decrease of 98 deaths.

Notwithstanding the prevalence of Cholera to an extent that considerably alarmed the public mind—an alarm the more felt, as the previous two years had been marked by an unusual exemption from this pestilence—the public health, as indicated by the mortuary rate, must be considered satisfactory, whether viewed in contrast with the average mortality of the previous nine third quarters, or the third quarter of the past year.

The following Table shows the deaths in corresponding quarters of previous years.

I. TABLE showing the average deaths in Madras, during the third quarters of nine previous years ending 1868, as contrasted with the mortality of the third quarter of 1869.

	Small-pox.	Measles.	Fevers.	Dysentery.	Diarrhoea.	Cholera.	Other Diseases.	Total.	Order of salubrity.
Third quarter 1860...	54	4	592	381	242	2,131	1,671	5,075	10
Do. 1861...	162	...	544	369	309	1,568	1,339	4,291	9
Do. 1862...	75	4	625	338	290	590	1,631	3,553	7
Do. 1863...	16	...	521	283	201	15	1,461	2,497	2
Do. 1864...	3	1	498	257	227	139	1,325	2,450	1
Do. 1865...	14	...	579	281	305	455	1,592	3,226	4
Do. 1866...	29	...	500	285	172	1,655	1,527	4,168	8
Do. 1867...	158	2	605	280	227	1	1,500	2,773	3
Do. 1868...	54	6	731	331	285	...	2,008	3,415	6
Total...	565	17	5,195	2,805	2,258	6,554	14,054	31,448	
Average...	62·8	1·9	577·2	311·7	250·9	728·2	1561·5	3494·2	
1869...	4	...	524	259	229	453	1,848	3,317	5
Increase...	...	...	...	...	...	...	286·5	...	
Decrease...	58·8	1·9	53·2	52·7	21·9	275·2	...	177·2	

As regards all diseases, compared with previous quarters, the present one holds the fifth place in order of salubrity.

The appearance of Cholera, after so long an absence from amongst us, in the second quarter, when 15 deaths were registered, awakened an amount of intelligent activity on the part of the Government and the Municipal authorities, which, I think, it may be safely alleged controlled and limited the spread of the disease.

Printed at 118693

PUBLIC.

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THE PRESIDENT OF THE
MUNICIPAL COMMISSION,

Madras.

Dated December, 1869.

Secy.

Em.

G. O., 16th December 1869, No. 1728.

118693

Reviewing the Report on the Vital Statistics of the City of Madras for the Third Quarter of 1869.

Be this as it may, the mortality for the quarter is returned at 453 or 275 below the average of the 9 preceding third quarters.

The death rate, by all diseases for the quarter, calculated upon the estimated population of 450,000, is 7.37 per mille, equal to an annual rate of 29.48.

The distribution of the 3,317 deaths amongst the different classes of the community is shown in the following table, the deaths in each class being compared with the mean mortality of the nine third quarters, from 1860 to 1868 inclusive.

Mortality amongst different classes of the inhabitants.

II. Deaths in Madras during the Third Quarter of 1869 among each class of the Inhabitants.

	Europeans.		East Indians.		Hindoos.		Mahomedans.		Total.		General Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Small Pox ...	...	...	...	...	1	3	...	...	1	3	4
Measles ...	...	...	...	...	...	...	...	...	...	...	...
Fevers ...	1	...	7	7	228	238	19	24	255	269	524
Dysentery ...	3	...	2	1	90	127	21	15	116	143	259
Diarrhœa ...	1	5	7	10	98	84	9	15	115	114	229
Cholera ...	8	6	15	11	185	189	19	20	227	226	453
Total...	13	11	31	29	602	641	68	74	714	755	1,469
Other Diseases ...	17	7	48	38	743	748	134	113	942	906	1,848
Total...	30	18	79	67	1,345	1,389	202	187	1,656	1,661	3,317
Mean mortality of nine third quarters, from 1860 to 1868:—											
Special Diseases ...	15.3	7.8	22.9	27.0	825.4	784.1	120.7	128.5	984.4	947.3	1931.7
Other " " ...	17.1	7.8	26.5	30.7	658.3	563.0	133.9	125.1	835.9	726.6	1562.4
Total...	32.4	15.6	49.4	57.7	1483.7	1347.1	254.6	253.6	1820.3	1673.9	3494.1
Increase ...	...	...	38.9	...	...	...	...	...	...	...	...
Decrease ...	...	...	...	...	96.8	...	119.2	...	...	...	177.1

The deaths amongst Europeans are returned at 48, or exactly the mean of the nine previous third quarters; but 15 in excess of the third quarter of 1868.

By *special* diseases, the deaths are 24, or 0.9 above the average. By *other* diseases, they are exactly the same (24) against an average of 24.9, or 0.9 below the average.

The proportion of deaths amongst males and females is 30 to 18, or as 100 males to 60 females.

136 East Indians have died, or 38.9 above the average of previous nine third quarters. Of this increase, 10.1 pertain to "*special*," and 28.8 to "*other*" diseases.

Amongst males 79 deaths are registered, and 67 amongst females, or in the proportion of 100 males to 84.8 females.

Amongst Hindoos the aggregate deaths are 2,734, or 96.8 below the average. In "*special*" diseases, there is a decrease of 366.5 deaths; but in other diseases, an increase of 269.7; of these 2,734 deaths, 1,345 are returned as males, and 1,389 as females, or in the proportion of 100 males to 103.2 females.

Europeans.

East Indians.

Hindoos.

The Mahomedan community has lost 389 souls, or 202 males and 187 females.

Mahomedans.

The aggregate numbers are 119.2 below the average, and this diminution is to the extent of 107.2 from diseases of the "*special*" class, and 12 from "*other*" diseases.

The proportion of deaths amongst males and females is as 100 males to 92.5 females.

Mortality compared with the third quarter of 1868.

The following Tables exhibit the comparative mortality of the third quarters of 1868 and 1869, and of the third quarter, compared with first and second quarters, of the current year:—

III.

Diseases.	1868.	1869.	Increase.	Decrease.
Small-pox ...	54	4	...	50
Measles ...	6	...	...	6
Fevers ...	731	524	...	207
Dysentery ...	331	259	...	72
Diarrhœa ...	285	229	...	56
Cholera ...	...	453	453	...
Total of special diseases ...	1,407	1,465	58	...
Other diseases ...	2,008	1,848	...	160
General Total...	3,415	3,317	...	98

IV. TABLE showing the comparative death-rate of the first, second, and third quarters of 1869.

	First Quarter.	Second Quarter.	Third Quarter.	INCREASE IN THIRD QUARTER, COMPARED WITH		DECREASE IN THIRD QUARTER, COMPARED WITH	
				First Quarter.	Second Quarter.	First Quarter.	Second Quarter.
Small-pox ...	16	16	4	...	...	12	12
Measles ...	3	1	...	...	...	3	1
Fevers ...	476	483	524	48	41	...	...
Dysentery ...	191	169	259	68	90	...	...
Diarrhœa ...	108	146	229	121	83	...	...
Cholera ...	...	15	453	453	438	...	...
Total...	794	830	1,469	675	639	...	...
Other Diseases ...	1,672	1,602	1,848	176	246	...	...
Grand Total ..	2,466	2,432	3,317	851	885	...	...

Mortality by special diseases.

The *special diseases*, against which deaths are recorded, are Small-pox, Measles, Fevers, Dysentery, Diarrhœa, and Cholera, and the aggregate deaths by them are 1,469.

Small-pox.

1860 ...	54
1861 ...	162
1862 ...	75
1863 ...	16
1864 ...	3
1865 ...	14
1866 ...	29
1867 ...	158
1868 ...	54

Total...

Average ...

1869 ...

Small-pox.—The deaths by this disease for every third quarter of the nine years ending 1868, compared with those registered during the quarter under report, are shown in the margin. It will be observed that the mortality is lower this year than in the corresponding period of any preceding year, except 1864, and 58.8 below the nine years average. The remark made in my last Report, that we might look for an unusual exemption from this disease this year, appears likely to be verified.

Fevers.		
1860	...	593
1861	...	511
1862	...	625
1863	...	521
1864	...	498
1865	...	579
1866	...	500
1867	...	605
1868	...	731
Total...		5,195
Average		577.2
1869	...	524

Measles.		
1860	...	4
1861	...	0
1862	...	4
1863	...	0
1864	...	1
1865	...	0
1866	...	0
1867	...	2
1868	...	6
Total...		17
Average		1.9
1869	...	None

Dysentery.		
1860	...	381
1861	...	369
1862	...	338
1863	...	283
1864	...	257
1865	...	281
1866	...	285
1867	...	280
1868	...	331
Total...		2,805
Average		311.7
1869	...	259

Diarrhœa.		
1860	...	242
1861	...	309
1862	...	290
1863	...	201
1864	...	227
1865	...	305
1866	...	172
1867	...	227
1868	...	285
Total...		2,258
Average		250.9
1869	...	229

Cholera.		
1860	...	2,131
1861	...	1,568
1862	...	590
1863	...	15
1864	...	139
1865	...	455
1866	...	1,655
1867	...	1
1868	...	0
Total...		6,554
Average		728.2
1869	...	453

Fevers.—Deaths by Fevers are rather below the average of the previous nine quarters. It is unsatisfactory commenting upon this class of disease, we have no knowledge of the type of Fever prevalent that counts so many victims; and many deaths recorded under this head do not occur from "Fevers" at all, but from diseases, of which Fever is merely a symptom or concomitant.

Measles.—No deaths from Measles are recorded. The disease is not recognized by native medical practitioners; and deaths from this disease are doubtless often returned under "Fevers" or other diseases. Still, the fact of no deaths being recorded would point to the absence of the disease; for had it prevailed to any extent, a few deaths might have been expected to occur amongst Europeans and East Indians, under the charge of competent medical men.

Dysentery.—Dysentery has numbered 259, or 52.7 less than the average of nine preceding third quarters, and with one exception (1864) the mortality is lower than for any preceding third quarter. The same low rate of mortality was recorded for the first and second quarters of the year.

Diarrhœa.—The deaths by Diarrhœa are also below the average of the nine preceding third quarters by 21.9. It may be interesting to trace the incidence of this disease, as illustrated by mortality, amongst the different classes of the community. This I will do, after noting the death rate by Cholera, in view to trace the connection that may exist between the two diseases.

Cholera.—The deaths from Cholera are 453, or 275.2 less than the average of nine previous third quarters. The epidemic therefore—although sufficiently alarming, the more so, as before stated, as it came upon us after a most unusually extended period of almost entire exemption—was far less wide spread than in many previous years, as will be seen by the marginal table. The progress of the pestilence is shown by the following tabular statement, in which the weekly mortality is given.

Weeks.		1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.	11th.	12th.	13th.	Total.
Cholera	...	11	4	13	44	62	66	43	31	45	44	32	38	20	453

The relative proportion in which the different districts or localities suffered, is exhibited in the following Table.

V.—TABLE showing the Deaths from Cholera in the different Districts of the Town of Madras during 3rd Quarter of 1869, arranged according to weeks.

Districts.	1st to 2nd July.	Week ending 9th July.	Week ending 16th July.	Week ending 23rd July.	Week ending 30th July.	Week ending 6th August.	Week ending 13th August.	Week ending 20th August.	Week ending 27th August.	Week ending 3rd Sept.	Week ending 10th Sept.	Week ending 17th Sept.	Week ending 24th Sept.	25th to 30th Sept.	Total.	Population.	Deaths per 1000 of Population.
Tondiarpettah...	...	...	...	1	...	...	...	1	...	3	2	2	1	1	11	16,865	0.65
Washerman's Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21	13,469	1.56
Royapuram...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16	16,358	0.97
Monegar Choultry...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	28	10,356	2.89
Cashmoo...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	81	95,181	0.06
Pudloo Naicks' Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Big Pancherry...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
John Pereira's Garden...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fort St. George...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moolool Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uttapaulian...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Choolay...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Perambore...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gunpowder Mills...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Viasarapandy...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puramettoo...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
New Town...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Vepery...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poodoopettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Egmore...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Connacswarapuram...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kelpankum...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chintadripettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Narasingapuram...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nagahia Covel...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chetput...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Codumbankum...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ningunbankum...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mackay's Garden...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poodoopankum...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Triplicane...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fisherman's Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Theroovateswarum Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Saint Thomas...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Royapettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meer Saib's Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kistnam Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Alwar Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Thanam Pettah...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total...	1	10	4	13	44	62	66	43	31	45	44	32	38	20	453	4,27,771	1.05

The highest mortality occurred in Vepery, in which locality 37 deaths occurred out of an estimated population of 3,089 souls, or in the proportion of 11.97 per mille.

The next highest rate of mortality is recorded against Choolay, in which 42 deaths are recorded in 4,266 inhabitants, or in the ratio of 9.84 per mille. Poodoopettah suffered next in order, or to the extent of 7.40 per mille of population. Then Perambore 3.29 per mille. In many districts, the incidence of the disease was slight. The entire mortality upon the estimated population of 450,000 was 1.006 per mille.

The incidence of the pestilence upon the different classes of the community is shown in the following table:—

VI. Table showing the deaths from Cholera during the 3rd quarter of 1869, among each class of the inhabitants:—

Classes.	Population.	Total deaths from Cholera.	Ratio per mille of Population.
Europeans	17,219	40	2.32
East Indians		374	
Hindoos		39	
Mahomedans	365,576	39	1.02
Total...	450,000	453	1.006

I am obliged to group Europeans and East Indians together, as I have no knowledge of the relative numbers of the two classes. Taken together, there are 40 deaths out of an estimated population of 17,219, or in the ratio of 2.32 per mille. Amongst Hindoos, the mortuary rate is 1.02, and amongst Mahomedans as low as 0.58.

It will be instructive, in connection with the Annual Report, to prepare a map, showing the deaths in each district of the city, and the dates of first and last deaths in each, so as to trace the progress of the disease.

The pestilence has not yet quite died out; but is on the decline, the deaths in the different weeks ending 22nd of the present month, being 25, 21, 15.

I shall await the termination of the disease before touching upon the history of its outbreak, which will be best left for consideration in the Annual Report.

BIRTHS IN MADRAS.

The births, during the quarters under report, are as follows:—

		Males.		Females.		Total.
Born alive.	Europeans	14	14	28		
	East Indians	68	59	127		
	Hindoos	583	466	1,049		
	Mahomedans	45	59	104		
	Total...	710	598	1,308		
Still-born.	Europeans	...	1	1		
	East Indians	5	...	5		
	Hindoos	24	19	43		
	Mahomedans	3	1	4		
	Total...	32	21	53		
General Total...		742	619	1,361		

TABLE showing the Births in Madras among, different classes of the Inhabitants, in the 3rd Quarter ending 33th September 1869.

		BORN ALIVE.										STILL BORN.										Total Births.		
		Europeans.		East Indians.		Hindoos.		Mahomedans.		Total.		Total of both Males and Females.	Europeans.		East Indians.		Hindoos.		Mahomedans.		Total.		Total of both Males and Females.	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		M.	F.	M.	F.	M.	F.	M.	F.				
1	Tondiarpettah	...	...	...	...	2	...	...	...	2	...	2	...	...	...	1	...	...	...	1	...	3		
	Washerman's Pettah	...	...	...	...	18	18	7	7	25	25	50	...	...	...	...	...	...	...	...	50			
	Monegar Choultry	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Royapooram	1	1	2	5	9	9	...	...	12	15	27	...	1	...	...	...	...	1	...	28			
	Cashmode	...	...	1	2	...	...	...	...	2	1	3	...	...	...	...	...	...	...	...	3			
Total ...		1	1	2	6	29	29	7	7	39	43	82	...	1	...	1	...	1	1	2	84			
2	Peddoo Naick's Pettah.	...	2	3	2	53	46	...	1	56	51	107	...	...	...	...	...	...	...	...	107			
	Big Parcherry	...	...	2	4	2	3	...	...	4	7	11	...	...	...	...	...	...	...	...	11			
	John Pereira's Garden.	...	...	3	...	...	1	...	...	...	4	4	...	...	...	...	...	...	...	...	4			
	Total ...	...	2	5	9	55	50	...	1	60	62	122	...	...	...	...	...	...	...	...	122			
3	Fort St. George	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Mootealpettah	1	2	14	15	35	18	1	2	51	37	88	...	1	...	3	...	...	4	...	92			
	Uttapolliam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Total ...		1	2	14	15	35	18	1	2	51	37	88	...	1	...	3	...	...	4	...	92			
4	Choolay	...	...	...	...	22	25	3	...	25	25	50	...	...	...	...	...	...	...	...	50			
	Pursewalkum	...	...	1	6	4	64	49	1	71	54	125	...	1	...	3	...	1	3	4	129			
	Gunpowder Mills	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Perambore	...	...	2	...	13	15	6	6	21	21	42	...	...	...	1	...	1	2	2	44			
	Viasarapandy	...	...	...	...	3	5	...	...	3	5	8	...	...	...	...	...	...	...	...	8			
Total ...		...	1	8	4	102	104	19	6	120	105	225	...	1	...	4	...	1	1	5	6	231		
5	Pareamettoo	...	...	...	...	5	2	...	...	5	2	7	...	...	...	1	...	...	1	...	8			
	New Town	...	...	1	1	...	...	...	...	1	1	2	...	...	...	...	...	...	...	...	2			
	Vepery	3	...	3	1	13	11	3	7	22	19	41	...	...	...	...	...	...	...	...	41			
	Poodoopettah	...	...	1	...	9	10	...	...	10	10	20	...	...	...	1	...	1	...	1	21			
	Egmore	6	8	26	18	178	146	1	4	211	176	387	...	1	2	11	12	3	16	13	416			
	Comaleeswarapuram.	...	...	...	...	11	8	1	1	12	9	21	...	...	...	1	...	1	...	1	22			
	Keilpaukum	1	...	...	...	1	2	1	...	3	2	5	...	...	...	...	...	...	...	...	5			
	Chetput	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Total ...		10	8	31	20	217	179	6	12	264	219	483	...	1	2	14	12	3	19	13	32	515		
6	Chintadripettah	...	...	2	1	22	14	1	...	25	15	40	...	...	...	...	...	...	...	...	40			
	Narasingapuram	...	...	2	...	2	...	1	...	2	5	7	...	...	...	...	...	...	...	...	7			
	Codumbankum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Nungumbankum	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1			
	Mackay's Garden	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Total ...		...	2	3	24	17	1	1	27	21	48	...	...	...	...	...	...	...	...	...	48			
7	Triplicane	...	...	...	...	49	30	15	20	64	50	114	...	...	...	4	1	...	4	1	5	119		
	Poodoopaukum	...	...	...	...	11	7	...	...	11	7	18	...	...	...	...	...	...	...	...	18			
	Fisherman's Pettah	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
	Theroovateeswaram. pettah	...	...	...	...	6	4	1	...	7	4	11	...	...	...	1	...	...	1	...	12			
Total ...		...	...	...	...	66	41	16	20	82	61	143	...	...	...	4	2	...	4	2	6	149		
8	St. Thomé	1	...	4	1	28	19	1	3	34	23	57	...	...	...	...	...	...	...	...	57			
	Alwarpettah	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	1			
	Royapettah	1	...	2	1	15	12	3	5	21	18	39	...	...	...	2	...	2	...	2	41			
	Meer Saib's Pettah	...	...	...	...	5	4	...	1	5	5	10	...	...	...	1	...	1	...	1	11			
	Kistnampettah	...	...	...	...	3	1	...	...	3	1	4	...	...	...	...	...	...	...	...	4			
	Thanampettah	...	...	...	...	4	1	...	1	4	2	6	...	...	...	...	...	...	...	...	6			
Total ...		2	...	6	2	55	38	4	10	67	50	117	...	...	...	3	...	3	...	3	120			
General Total...		14	14	68	59	583	466	45	59	710	598	1,308	...	1	5	24	19	3	13	21	53	1,361		

The 1,361 births out of the population of 450,000 souls represent a per mille birth rate of 3·02 for the quarter, or 12·08 per annum against a death rate of 7·37 (quarterly), and 29·48 (annually). No advance has evidently yet been made in effecting registration of births, and cannot be expected till the measures I recommended to the Municipality in my letters No. 2,722, dated 2nd August 1869, and No. 2,758, dated 6th August, be carried out; and even then, a large number of births will escape registration, as many take place without the attendance of any recognized midwife.

METEOROLOGY.

The main features of the climate of Madras during the quarter, are illustrated by the tables and diagrams that accompany this Report.

Atmospheric pressure. The mean reduced atmospheric pressure is represented by 29·727 inches. The average of 20 previous years is 29·748, the difference is 0·021 inches.

Approximate mean temperature. The “approximate mean temperature” has been 1°·9 above the 20 years’ average, the “mean maximum temperature” 5°·1, and the “mean minimum” 1°·5 above the average. The highest maximum temperature recorded was 102°·2 in the week ending 9th July, and the lowest maximum 91°·3 in the week ending 13th August.

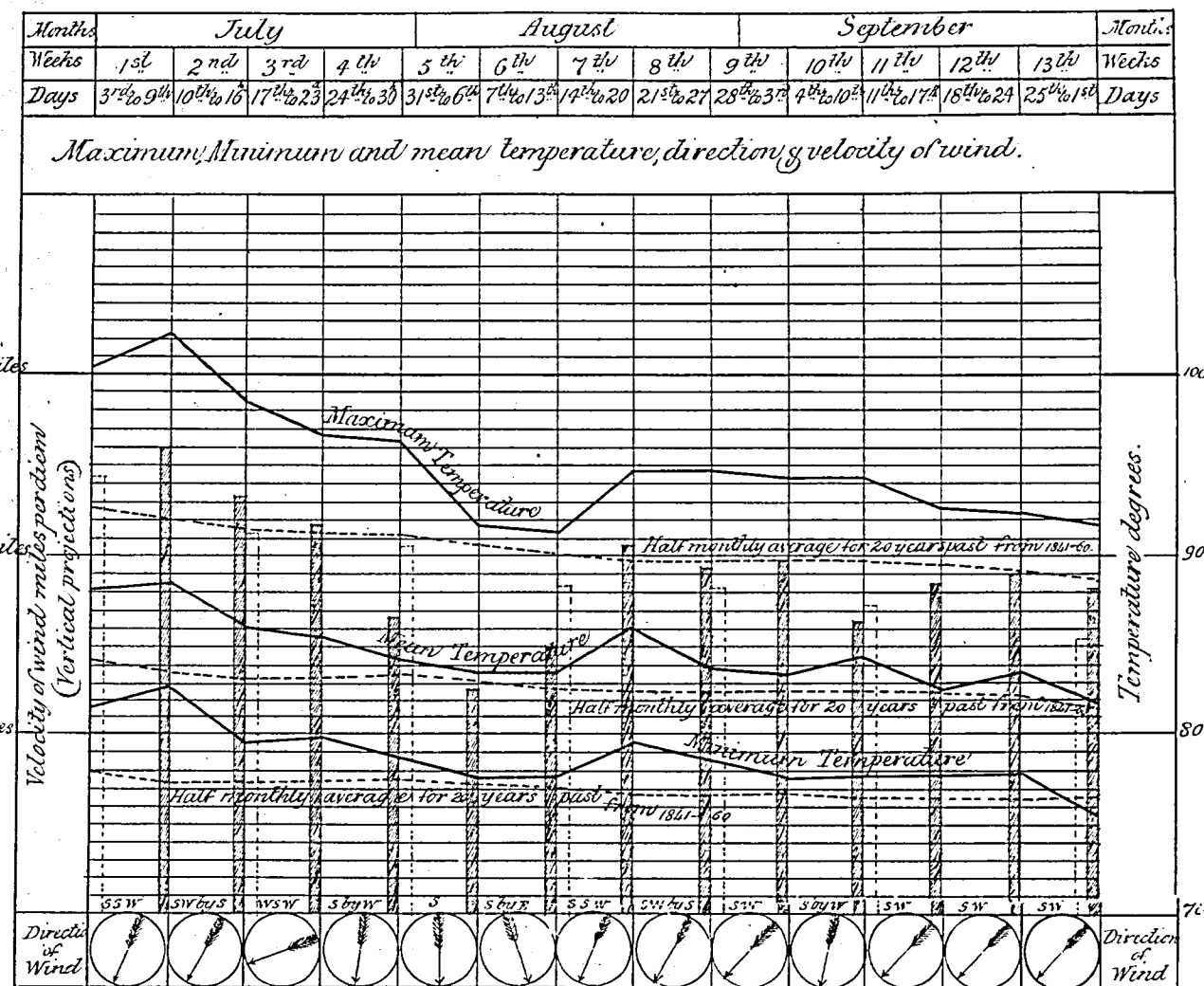
Humidity. The mean humidity for the period, saturation being represented by 100, is 70 against the 20 years’ average of 72. The air then has been sensibly drier than usual.

Rain-fall. The fall of rain has been equally 14·24 inches, or 1·82 inches above the 20 years’ average; every week has been marked by a slight fall, the greatest 3·41 inches, being in the week ending 27th August, and the next greatest 1·31 inches in the last week.

Direction and velocity of wind. The mean direction and velocity of wind is represented as S. S. W; wind travelling at the rate of 190 miles a day, which is 5 miles in excess of the velocity of 20 preceding years.

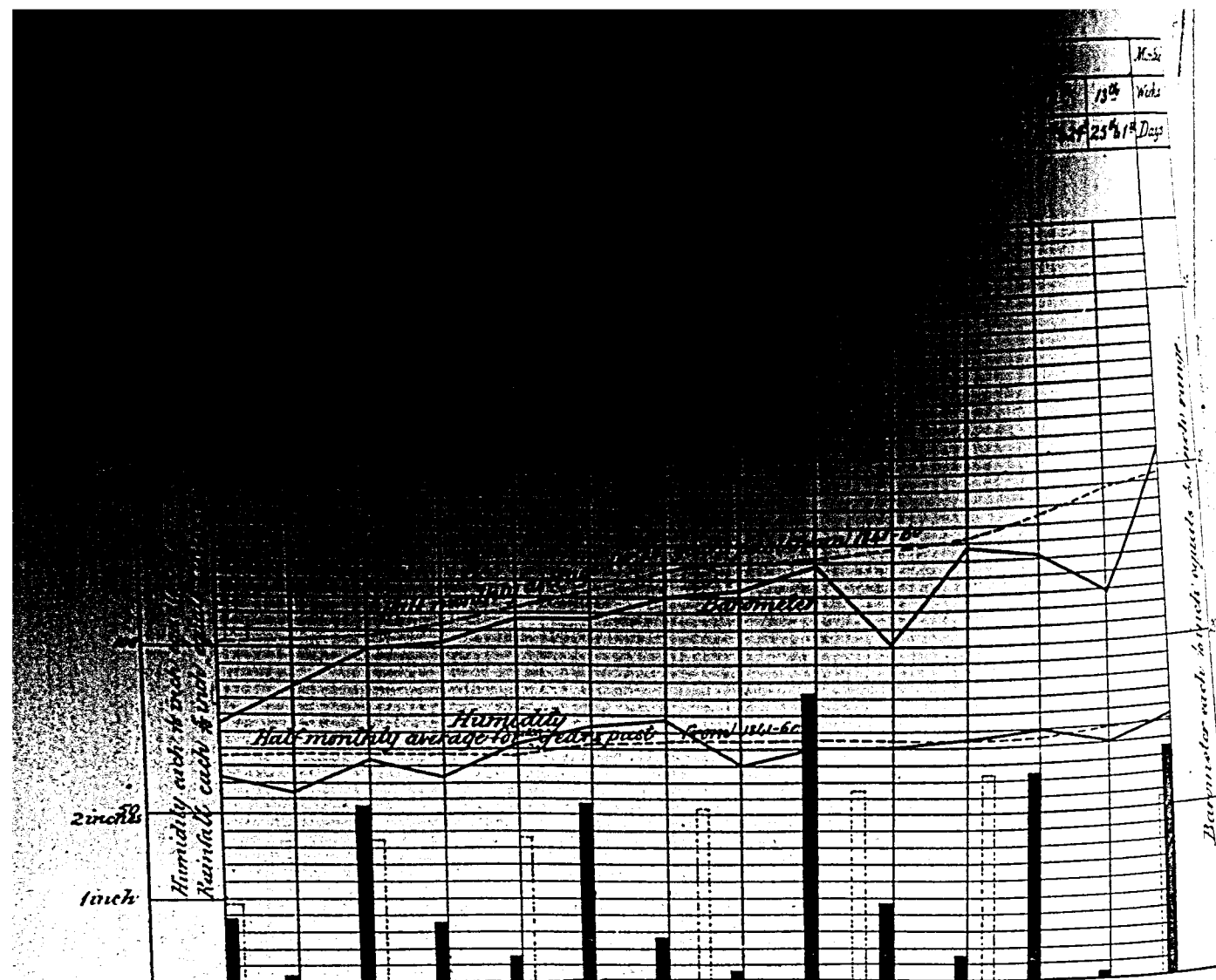
These figures indicate a slight departure from the usual meteorological features of the period, expressed by a very slightly reduced atmospheric pressure. A temperature somewhat considerably above the average, a somewhat drier condition of the air, and this, notwithstanding a rain fall of 1·82 inches in excess of the average, and a velocity of wind somewhat in excess of the average.

Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.

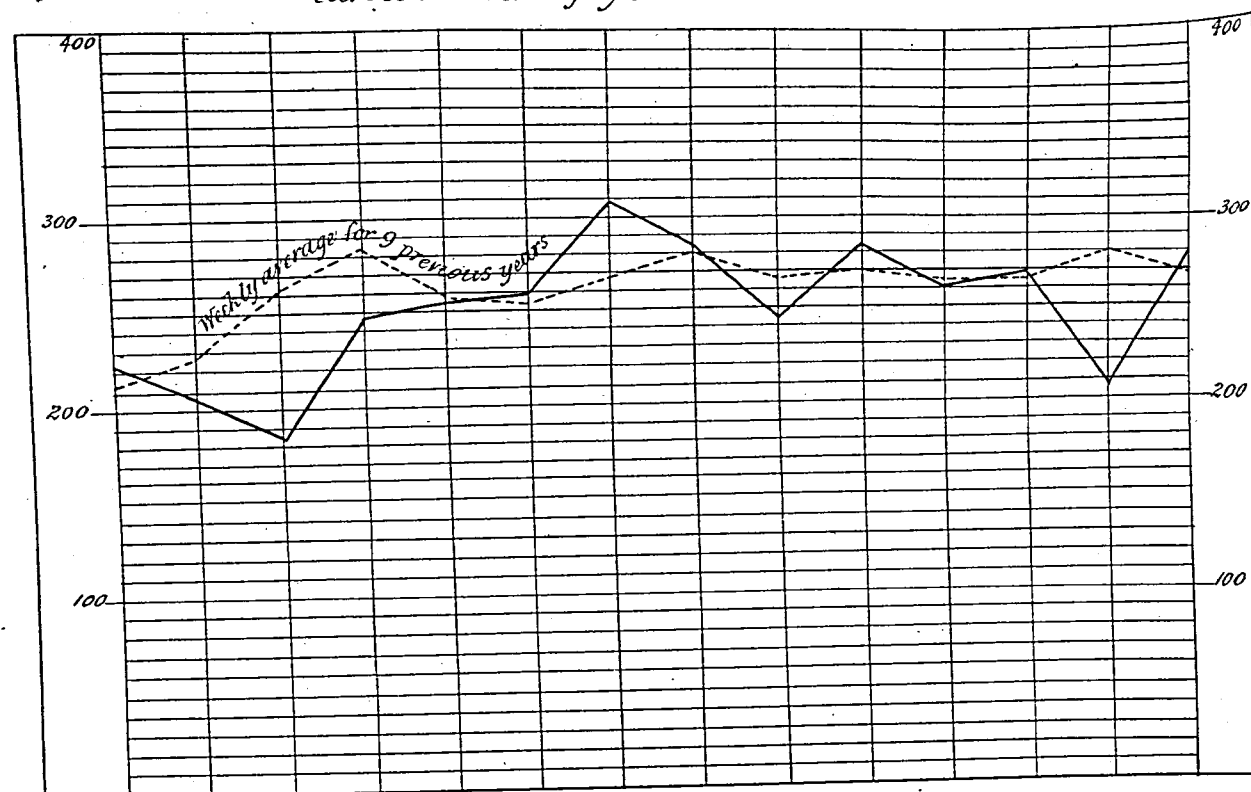


Curves of Mortality by all diseases.

Smallpox & Fevers.

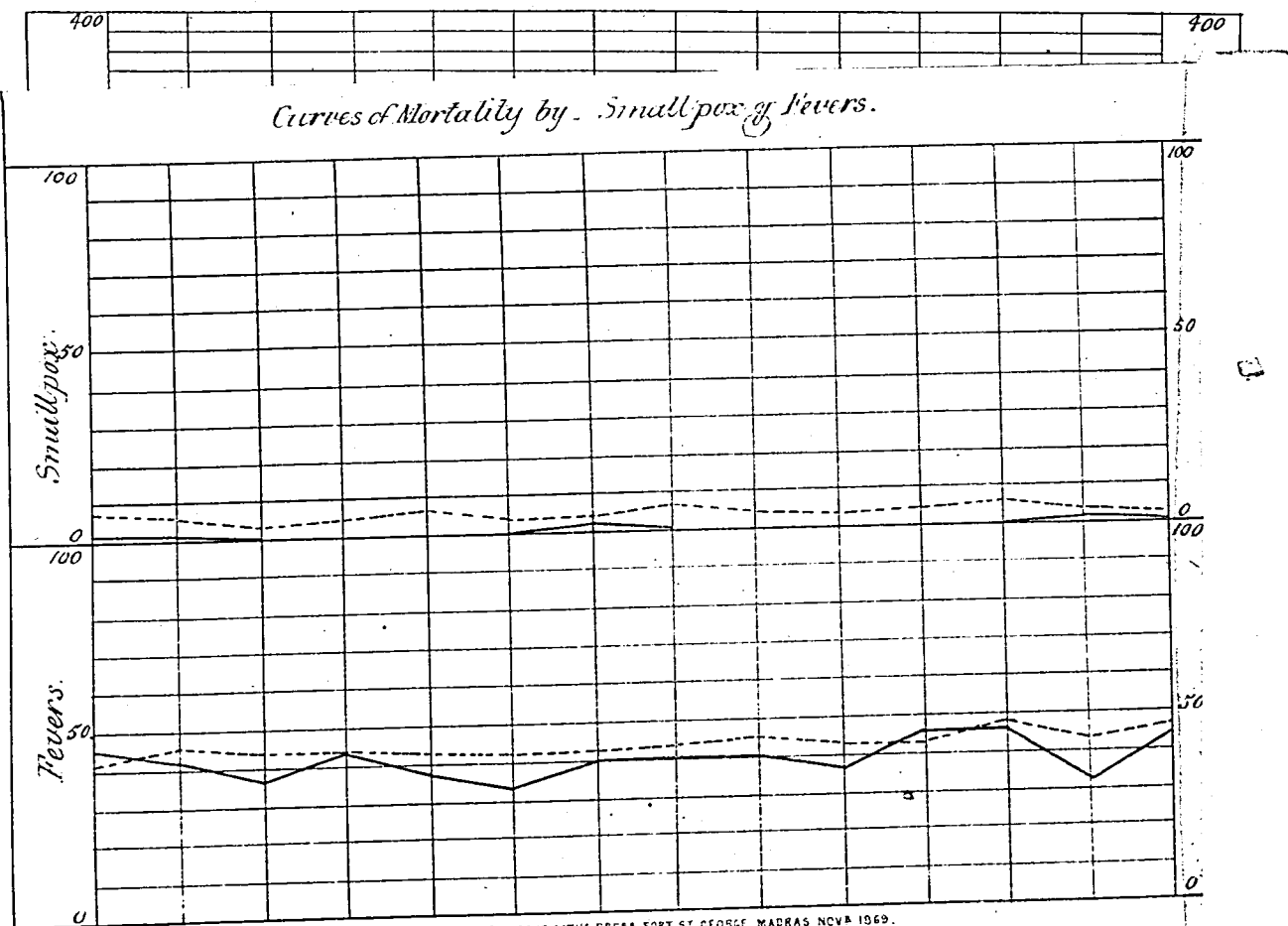
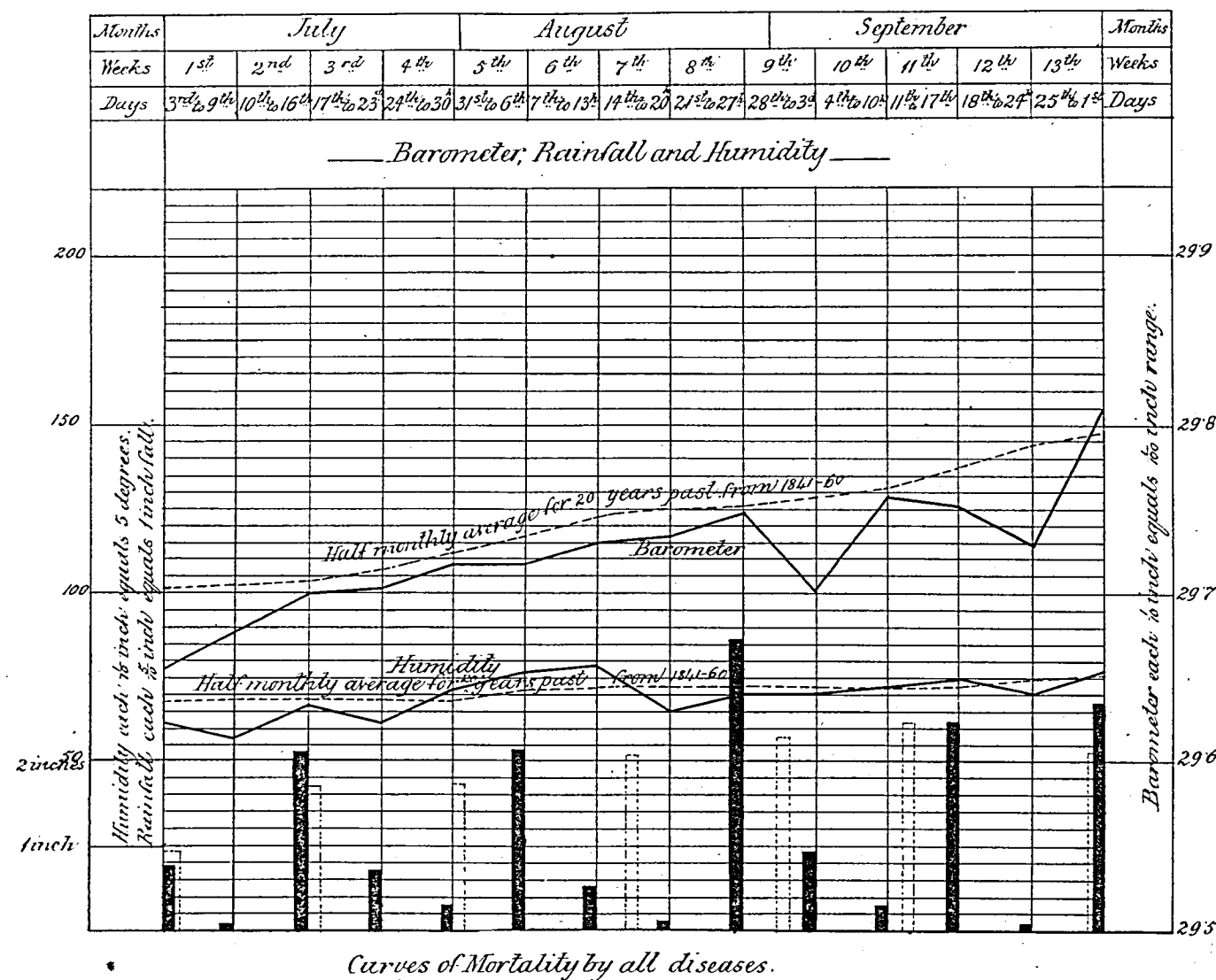


Curves of Mortality by all diseases.



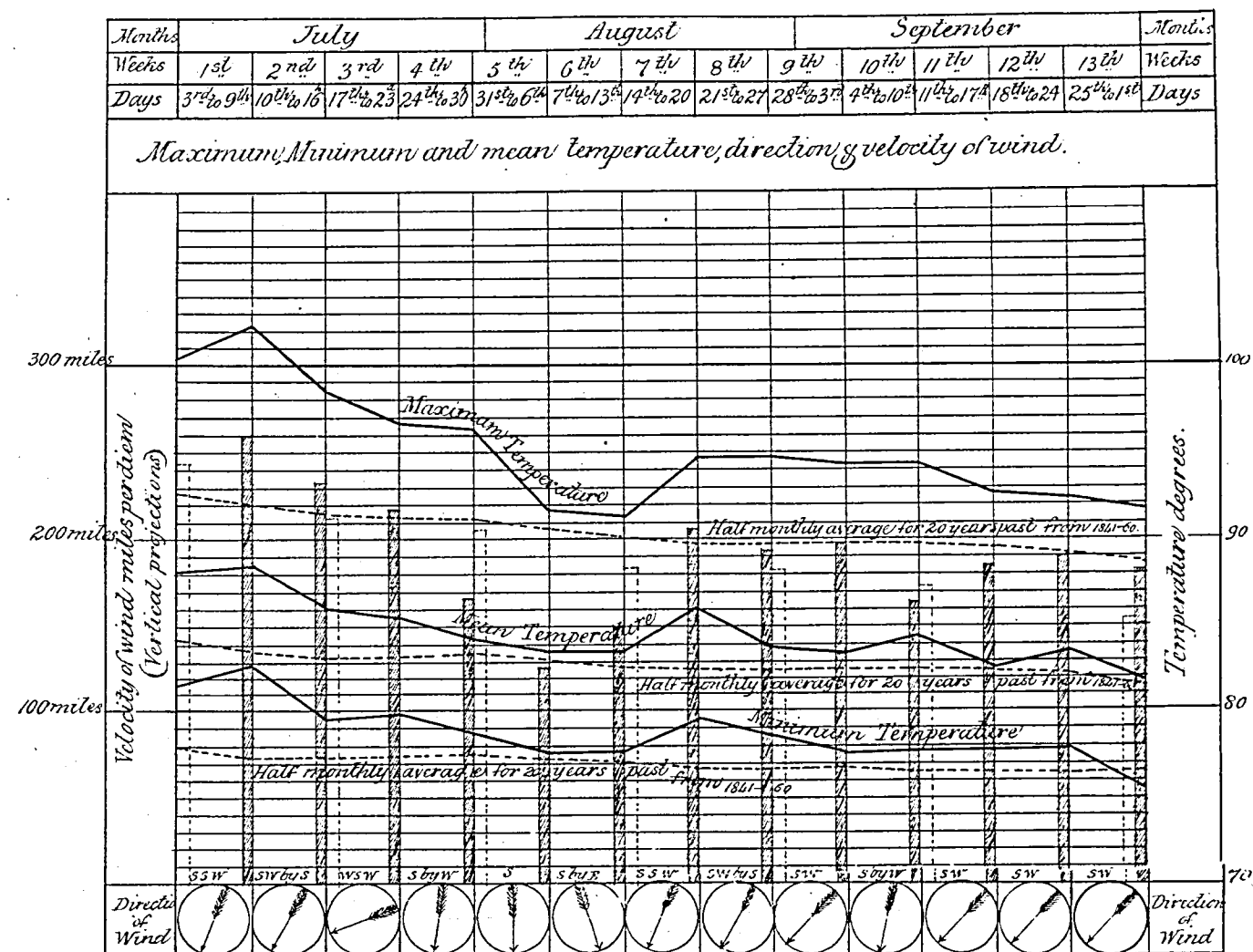
DRAWN ON TRANSFER PAPER BY V. VARDARAJA MOODELY, OFFICE OF SANITARY COMMISSIONER.
LITH BY R. BALLOREY, GOVT LITH PRESS, FORT ST GEORGE MADRAS OCT 1869

Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.



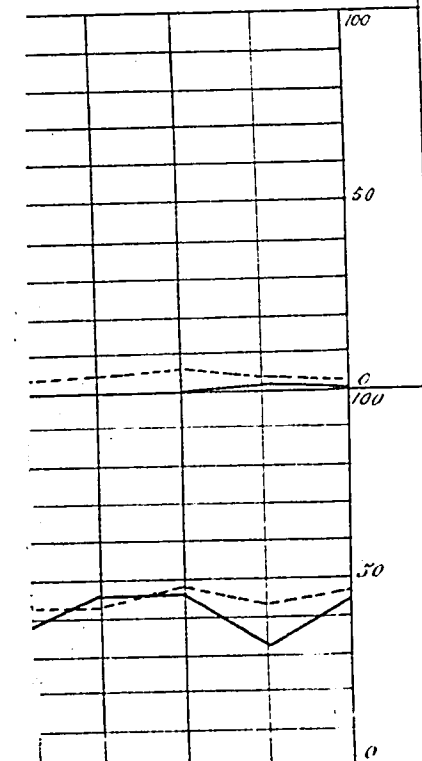
LITH. BY R. J. BALDREY GOVT. LITH. PRESS FORT ST. GEORGE MADRAS NOV. 1869.

Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.



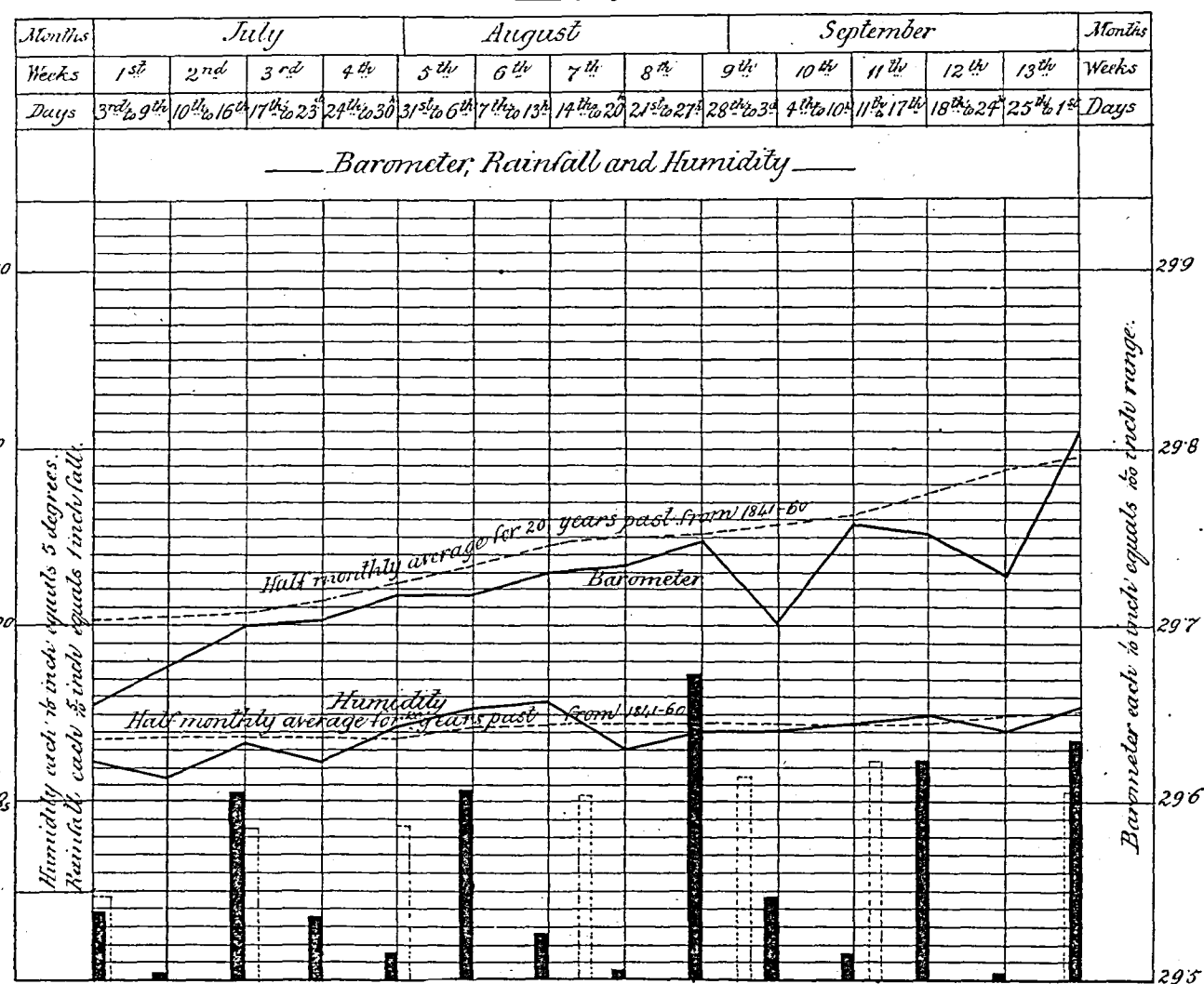
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1869.

Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.



Curves of Mortality by all diseases.

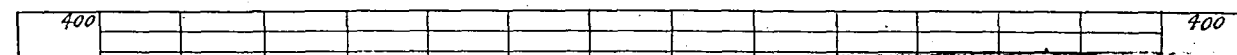
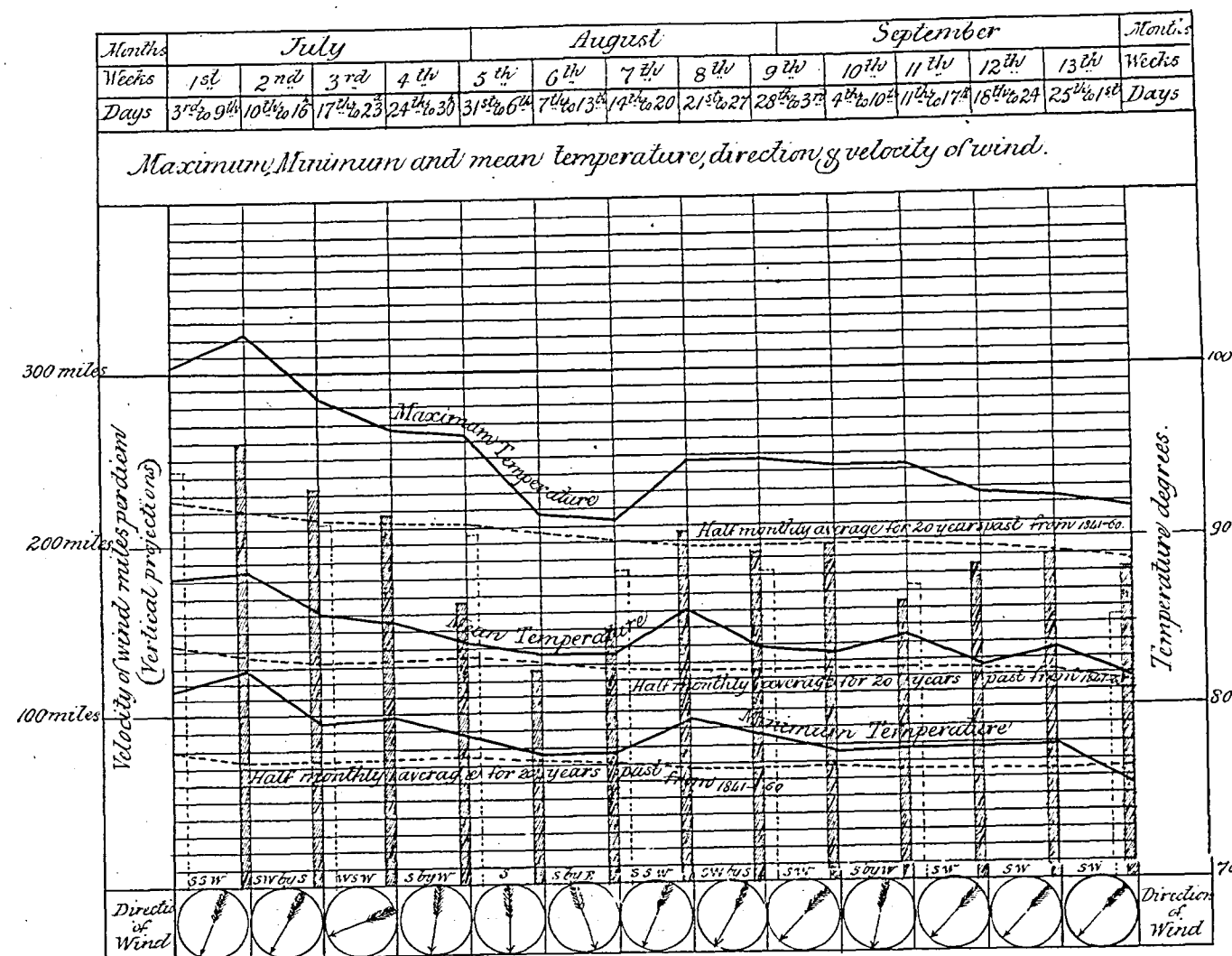


Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.



Curves of Mortality by all diseases.

Curves of Mortality by Diarrhoea and Dysentery.

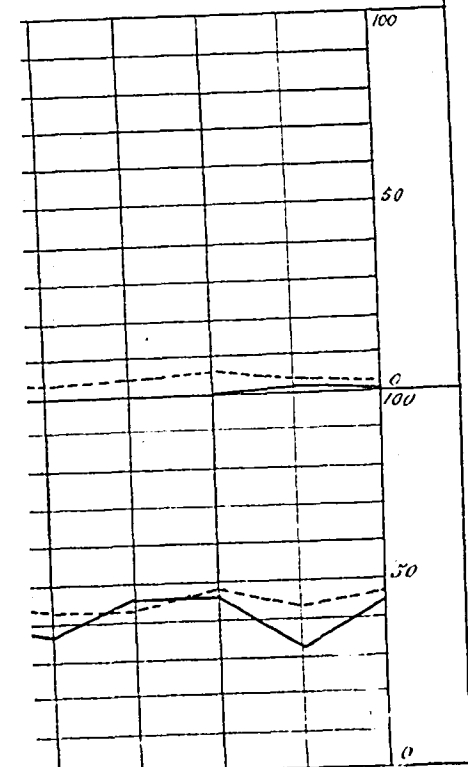
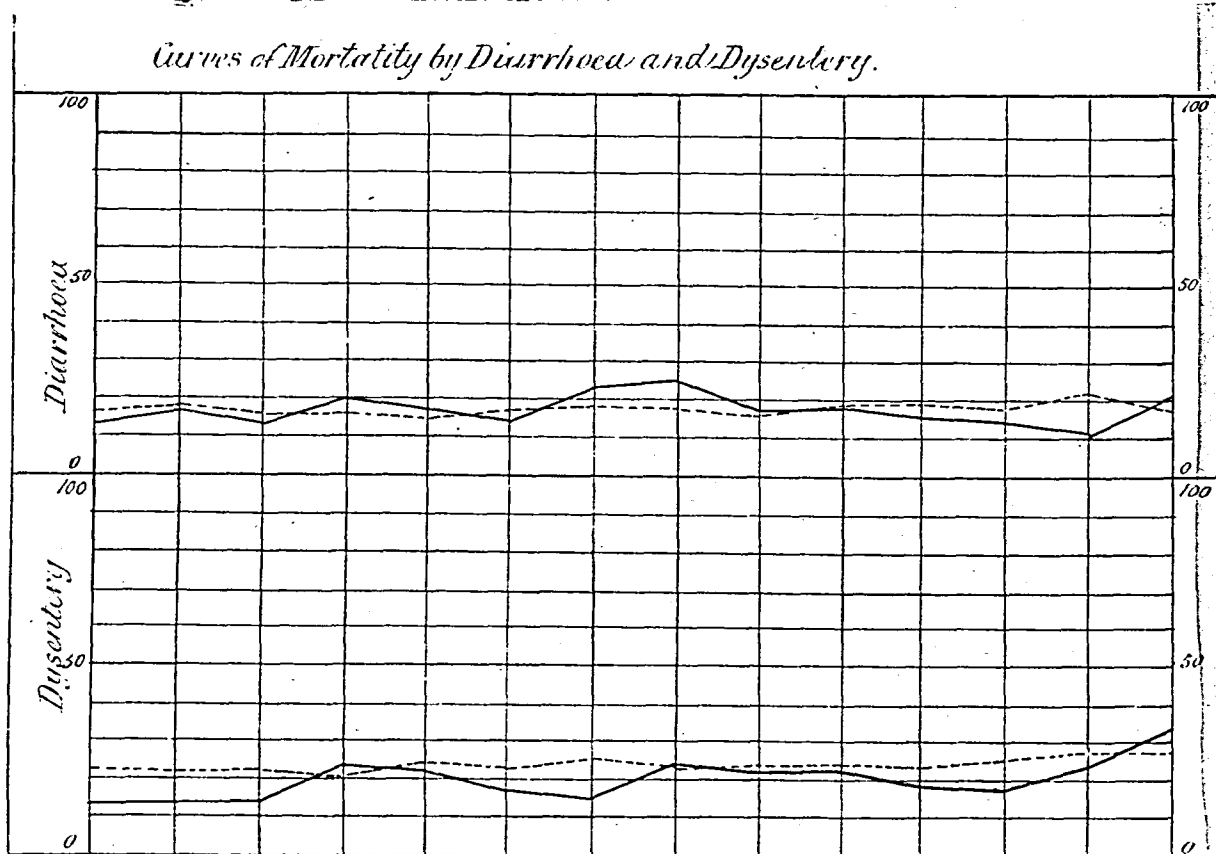
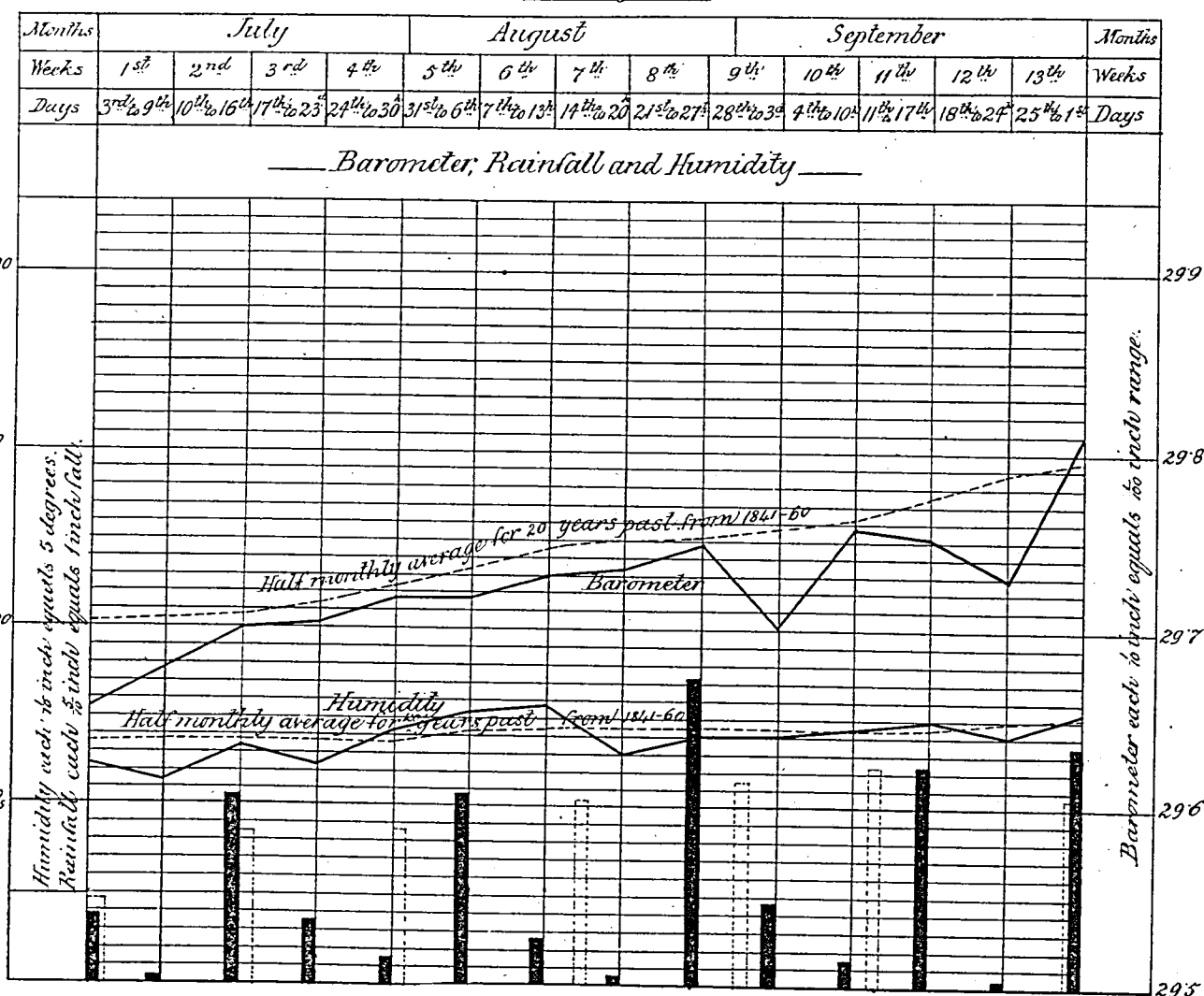


Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.



Curves of Mortality by all diseases.

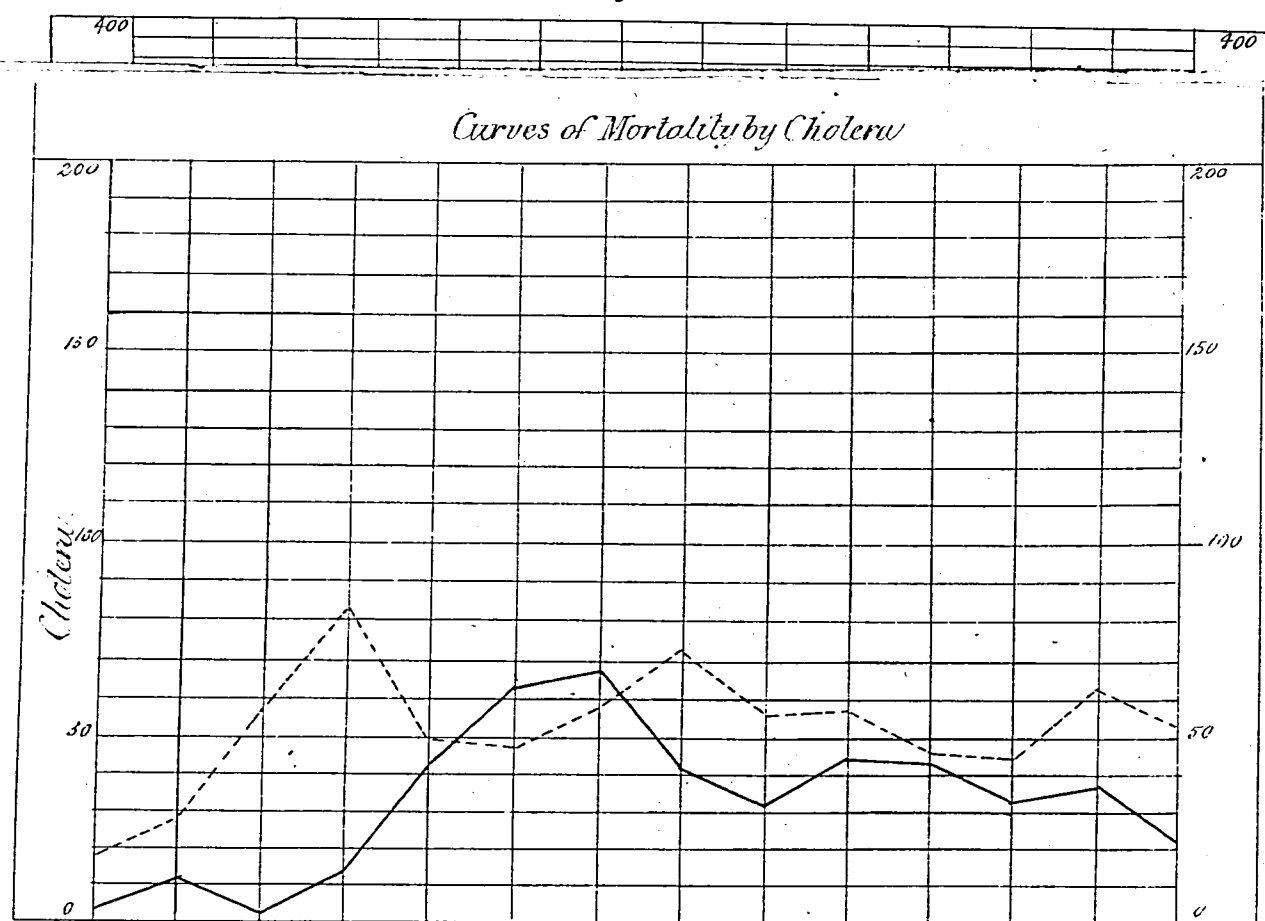
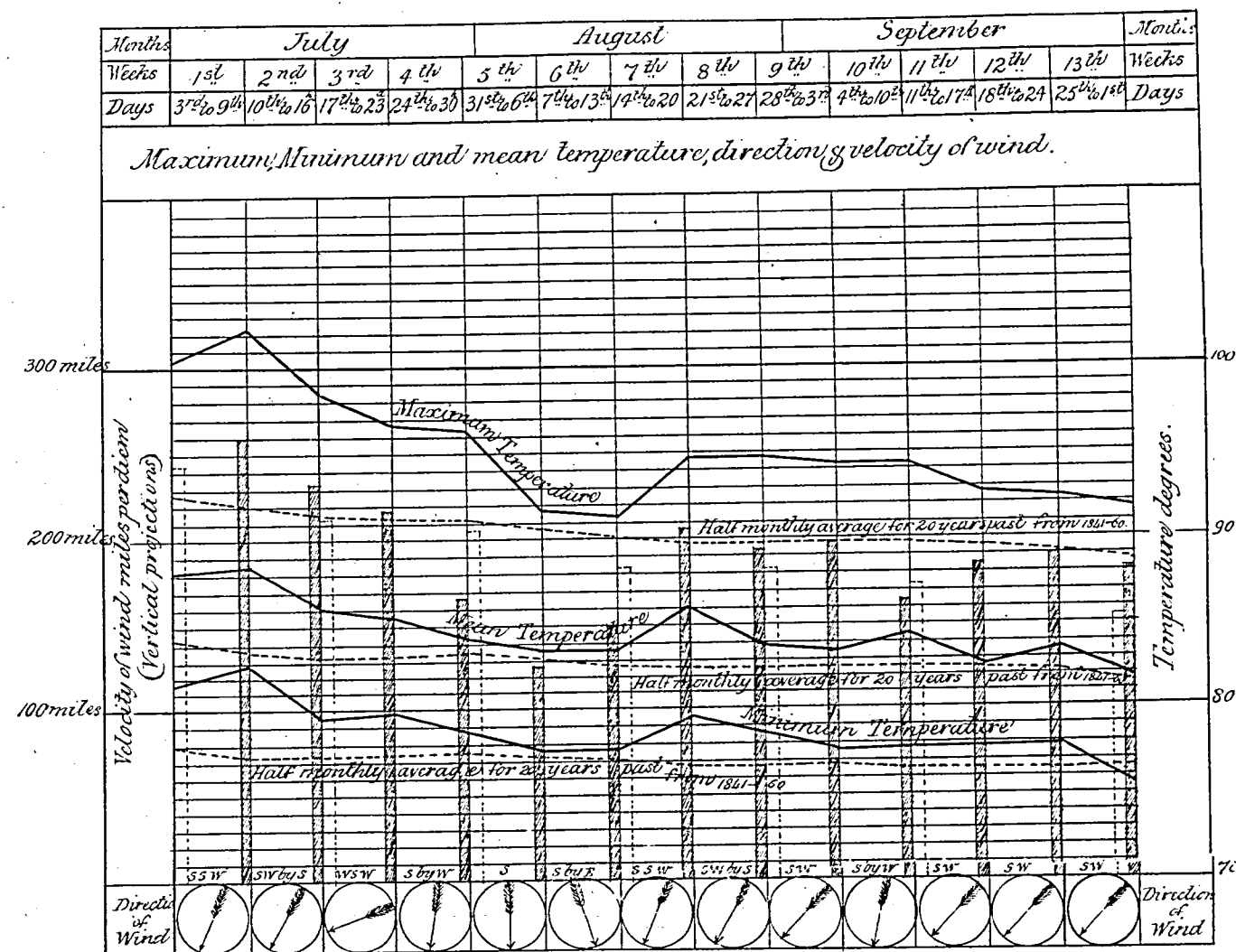


Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.



Curves of Mortality by all diseases.

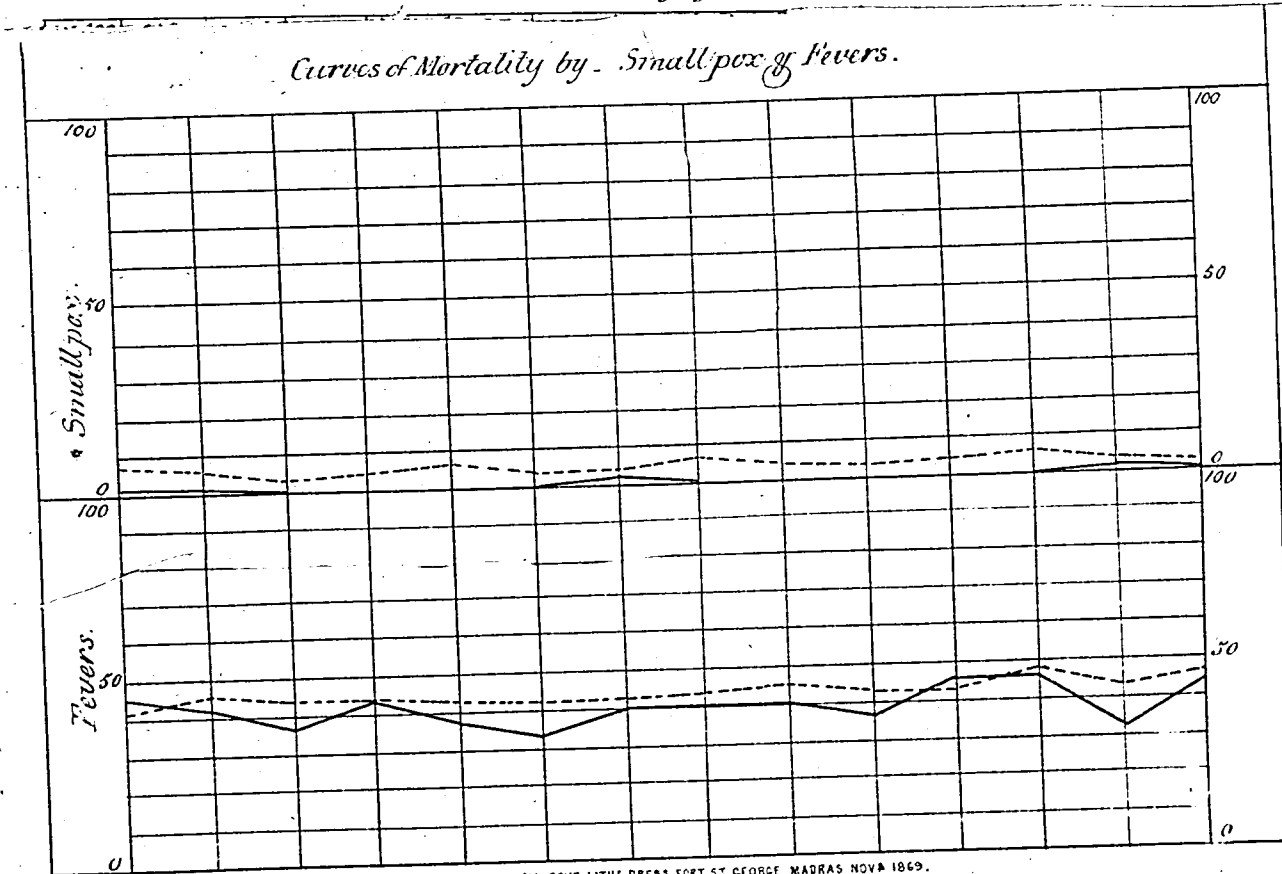
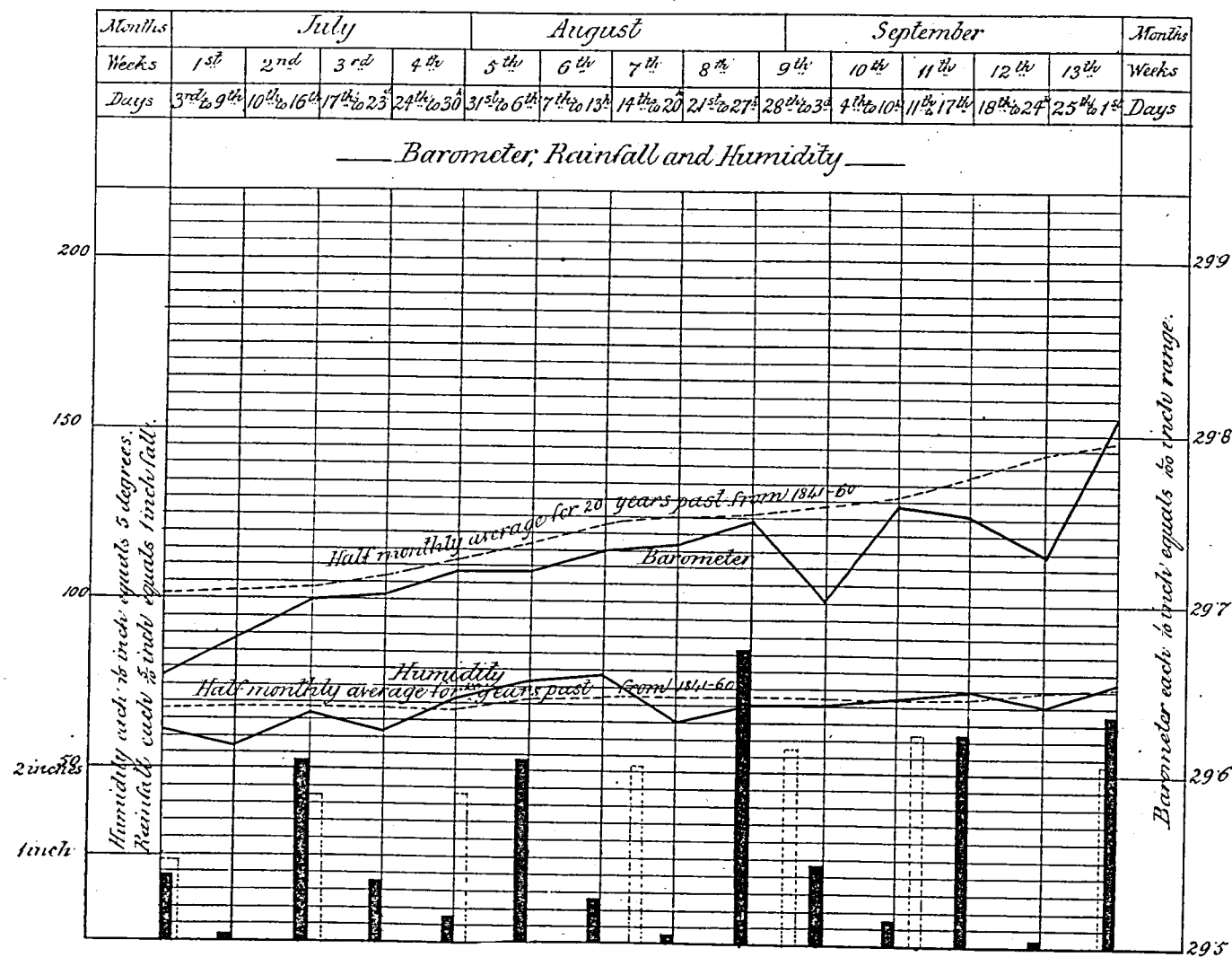


Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.



Curves of Mortality by all diseases.

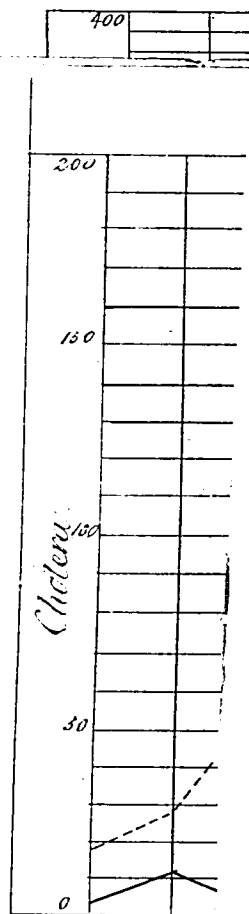
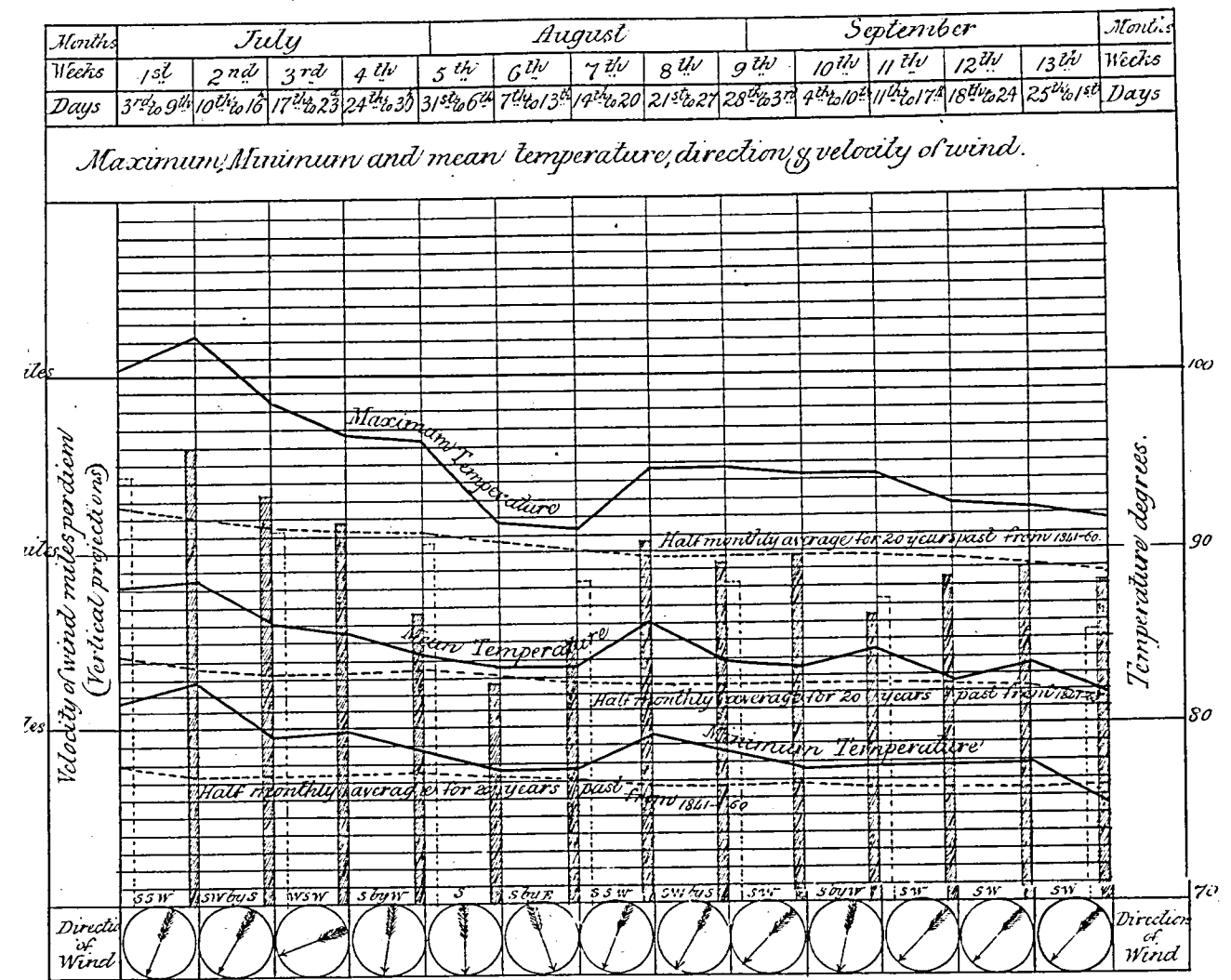


Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.



Curves of Mortality by all diseases.

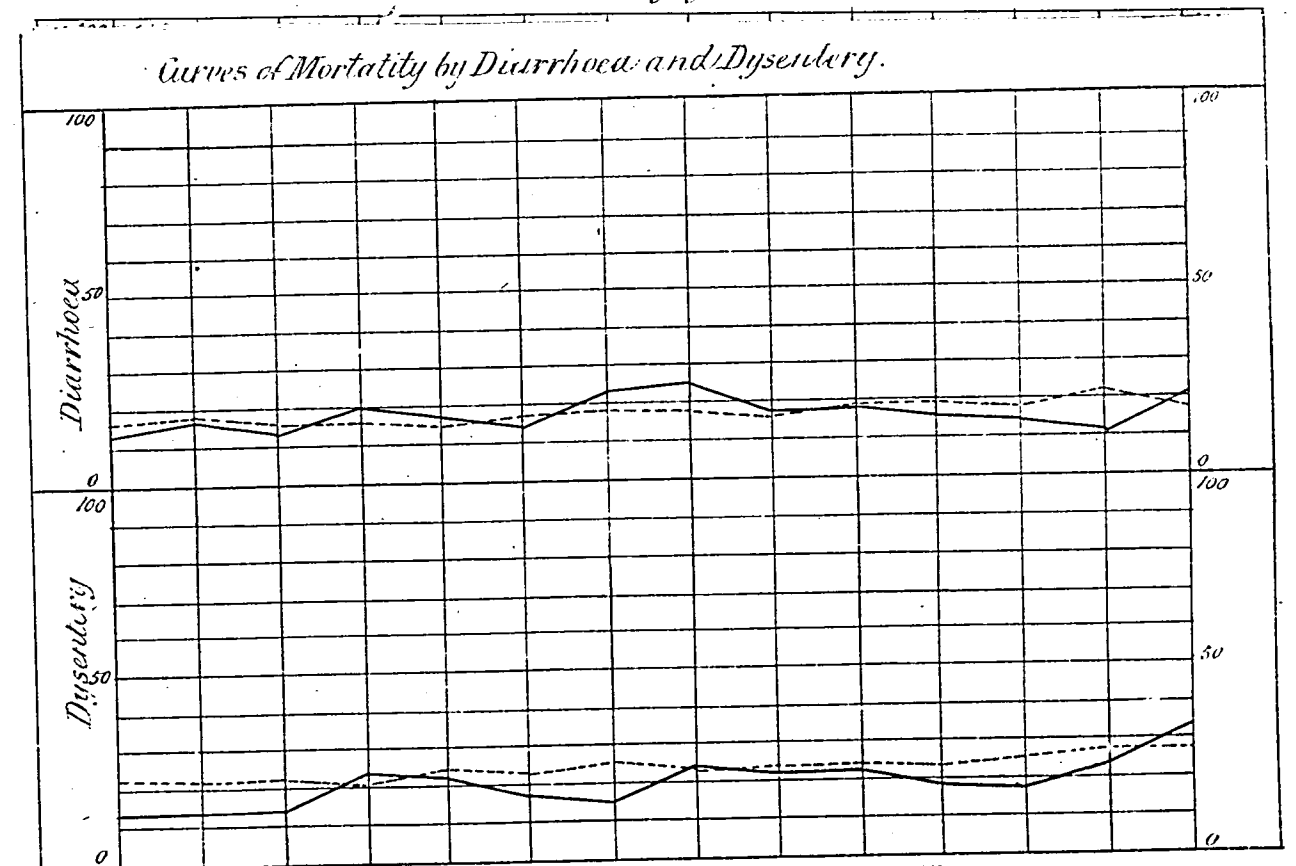


Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.

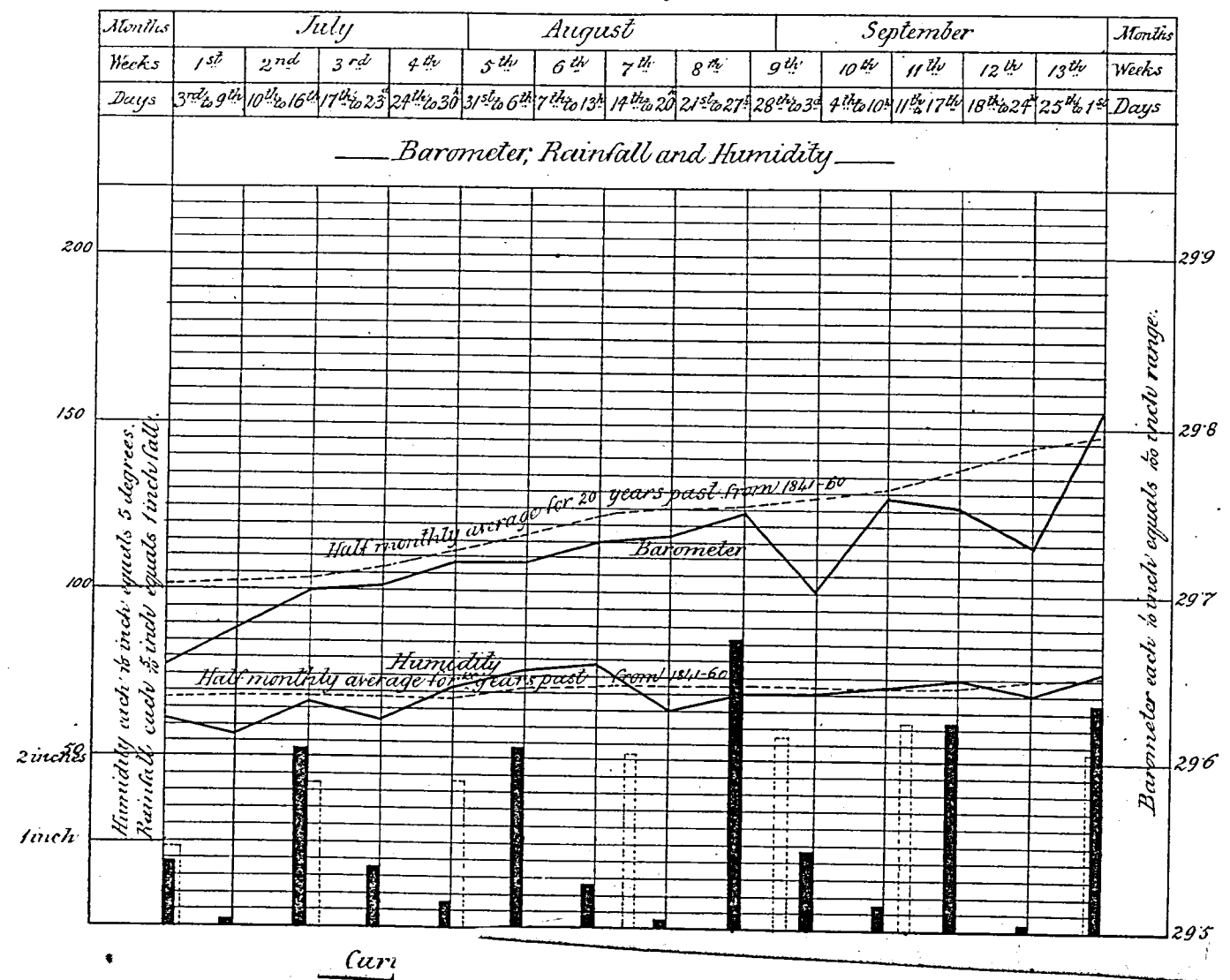


Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.

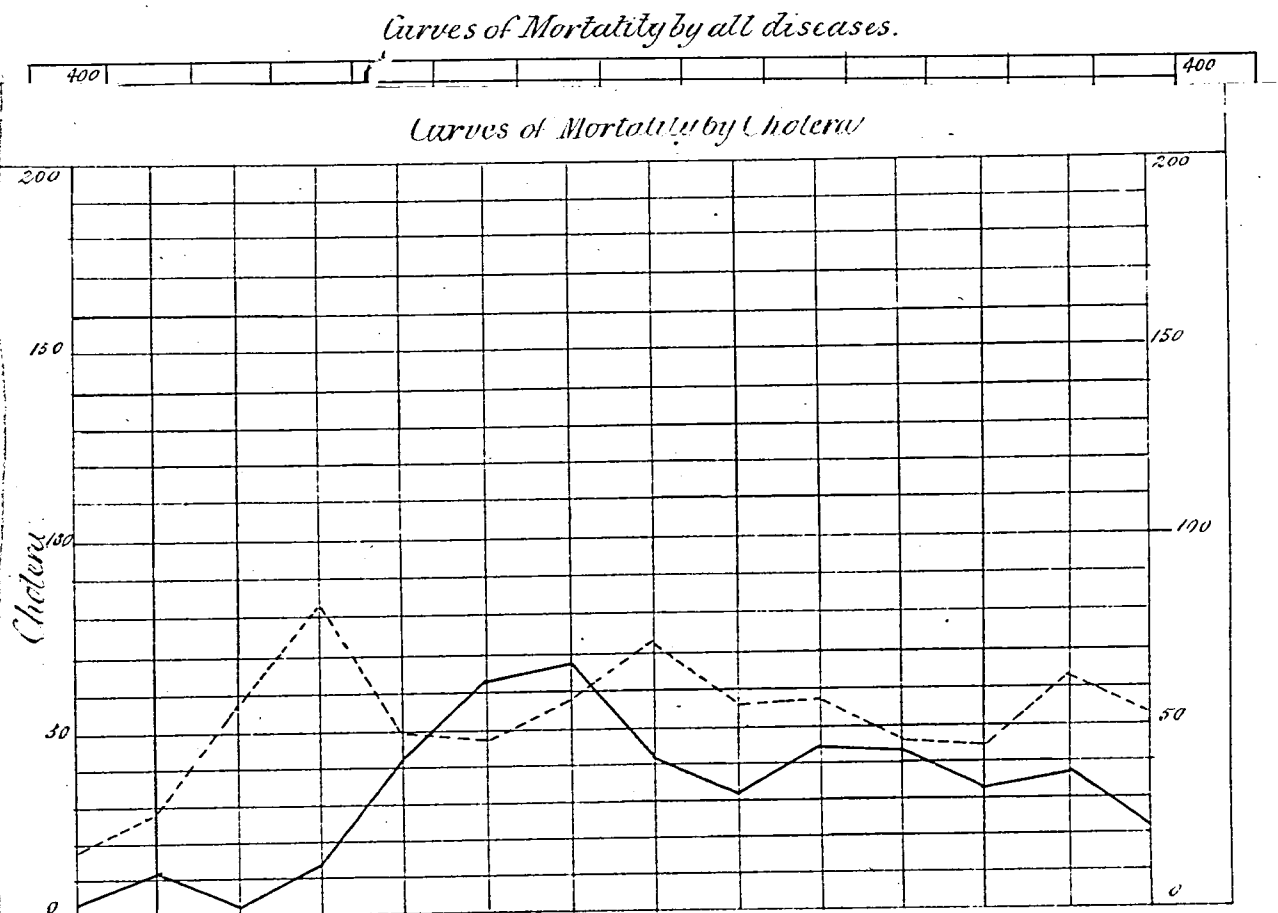
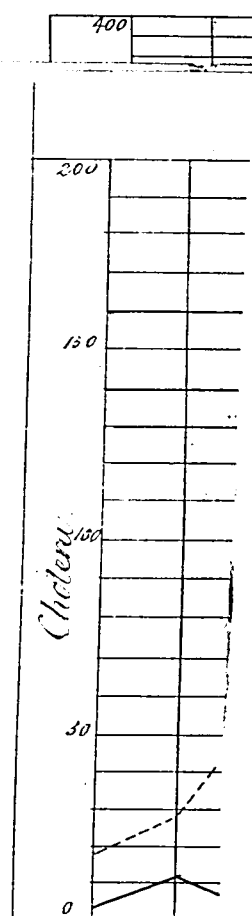
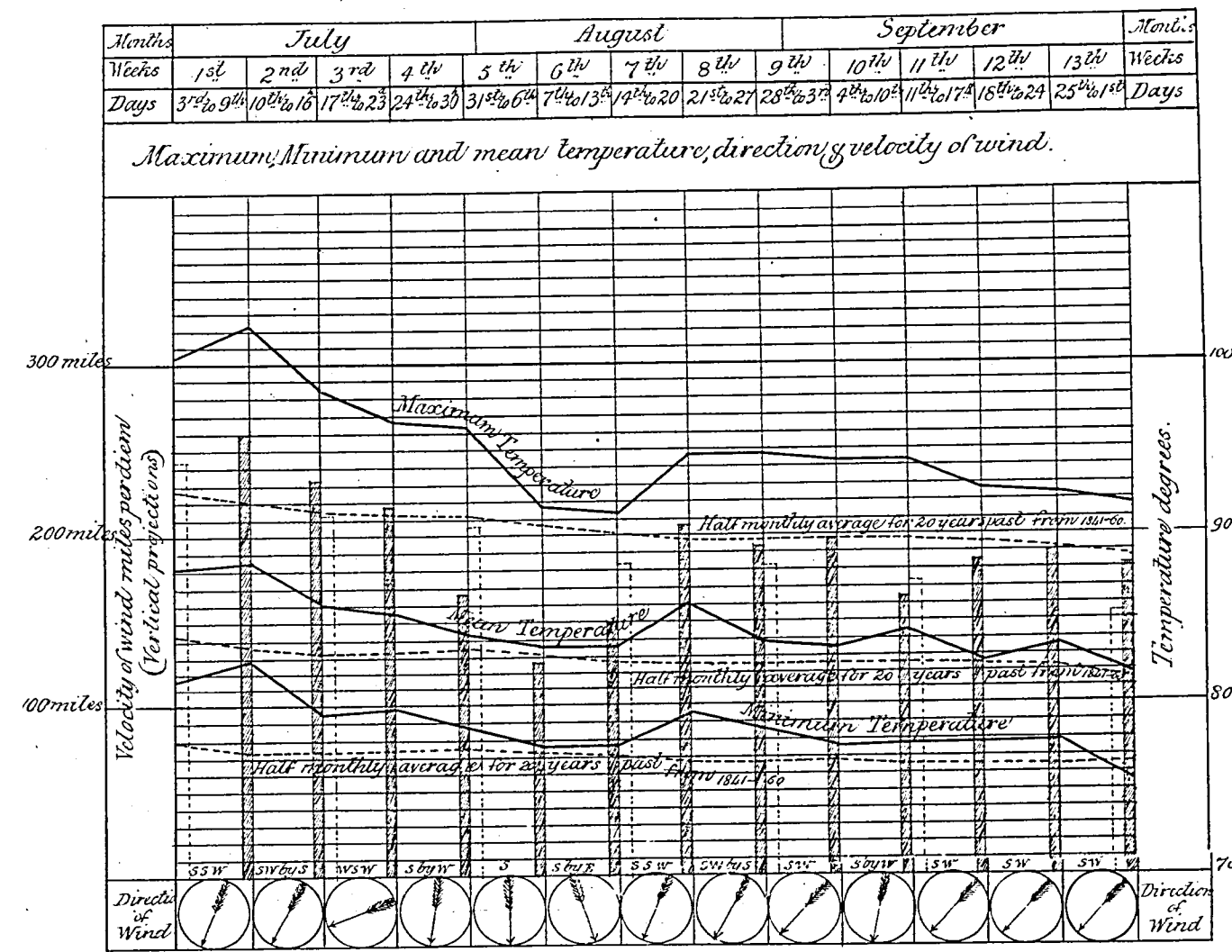


Diagram showing the Mortality by all diseases and special diseases as influenced by atmospheric pressure, Rainfall and Humidity.
3rd Quarter 1869.

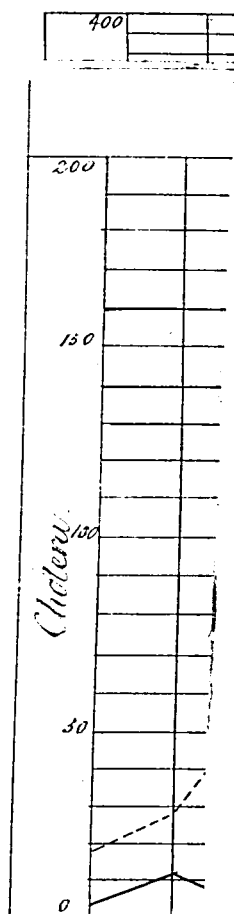
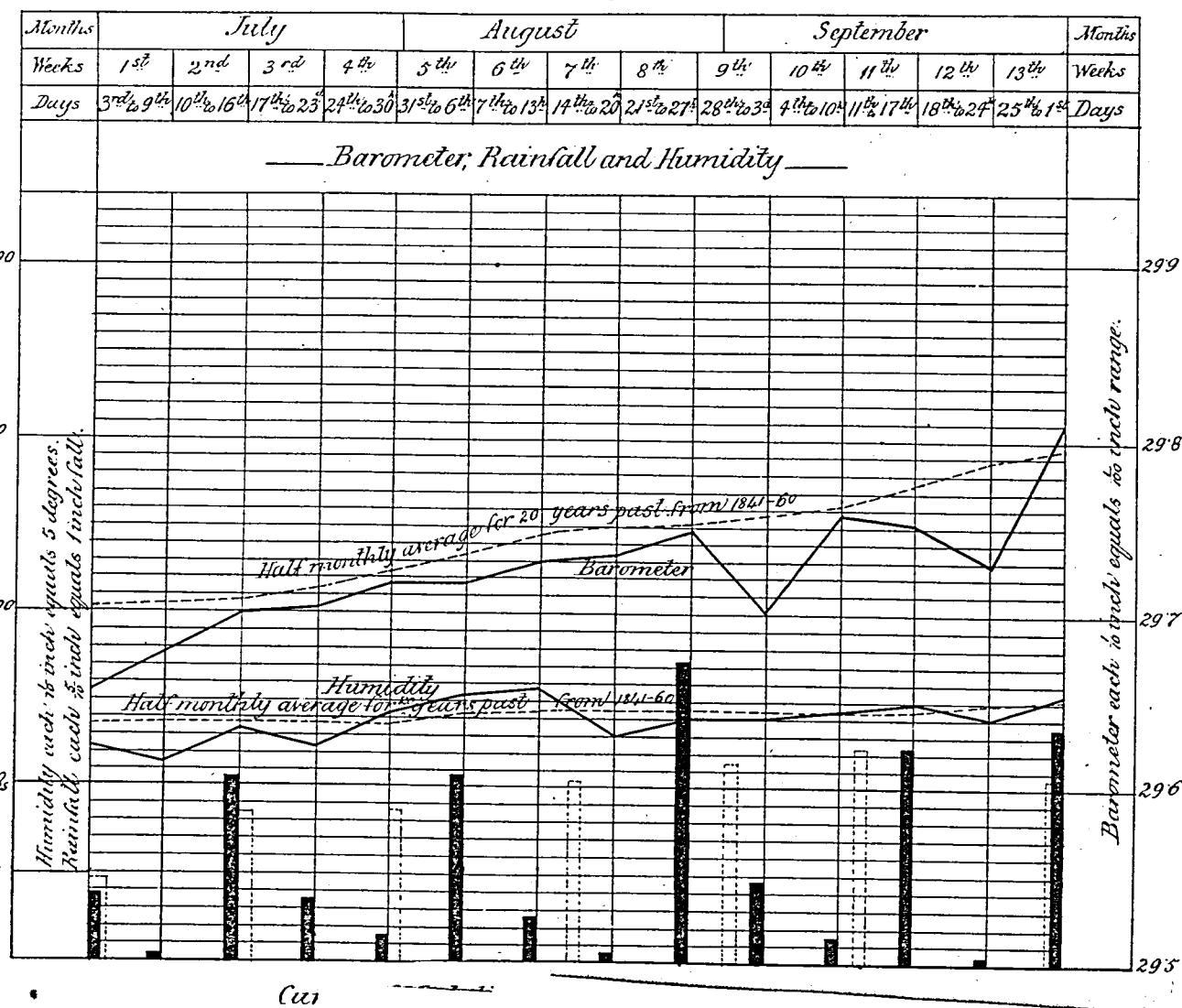


Diagram of Mortality by all diseases and special diseases as influenced by temperature, and direction & velocity of wind.
3rd Quarter 1869.

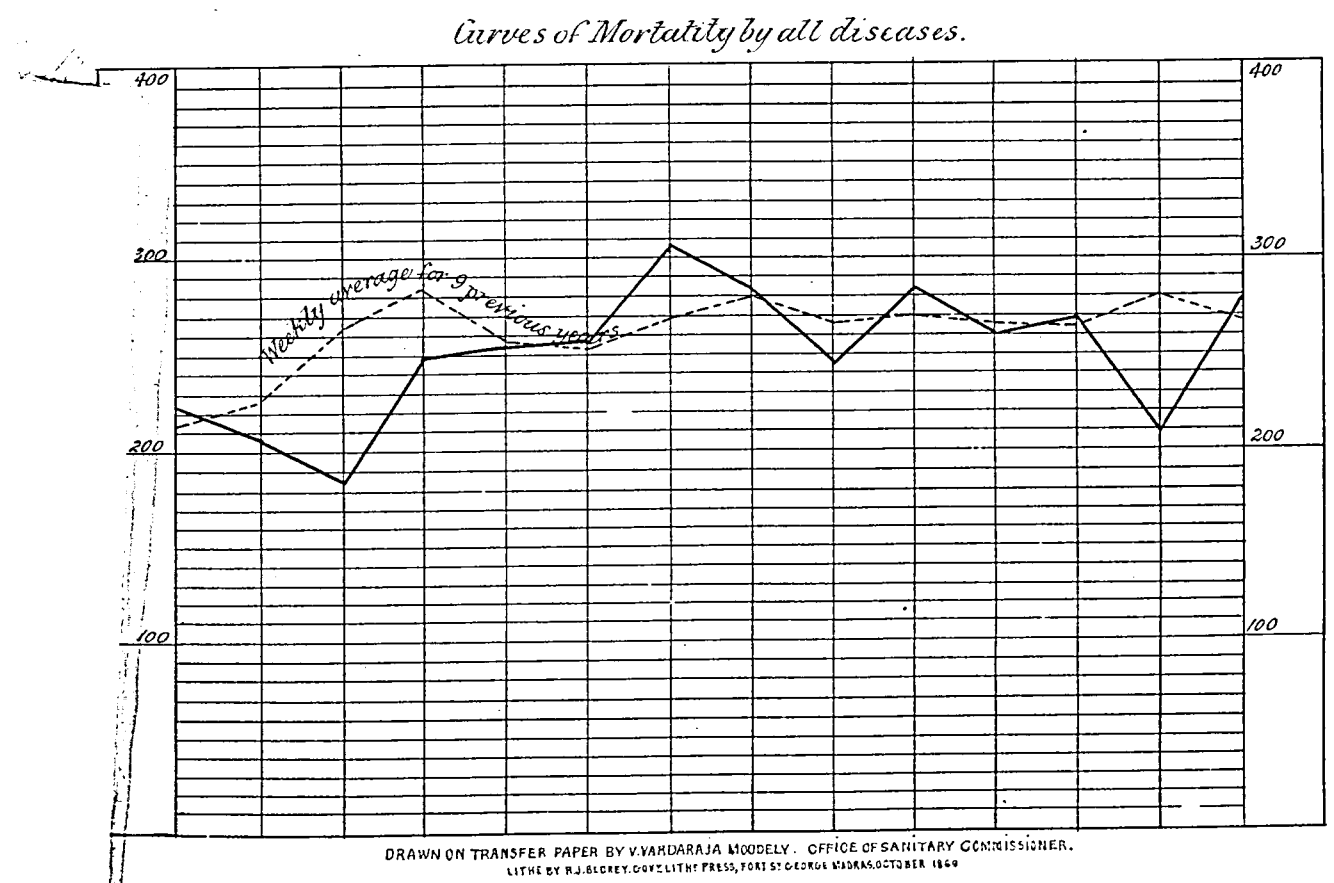
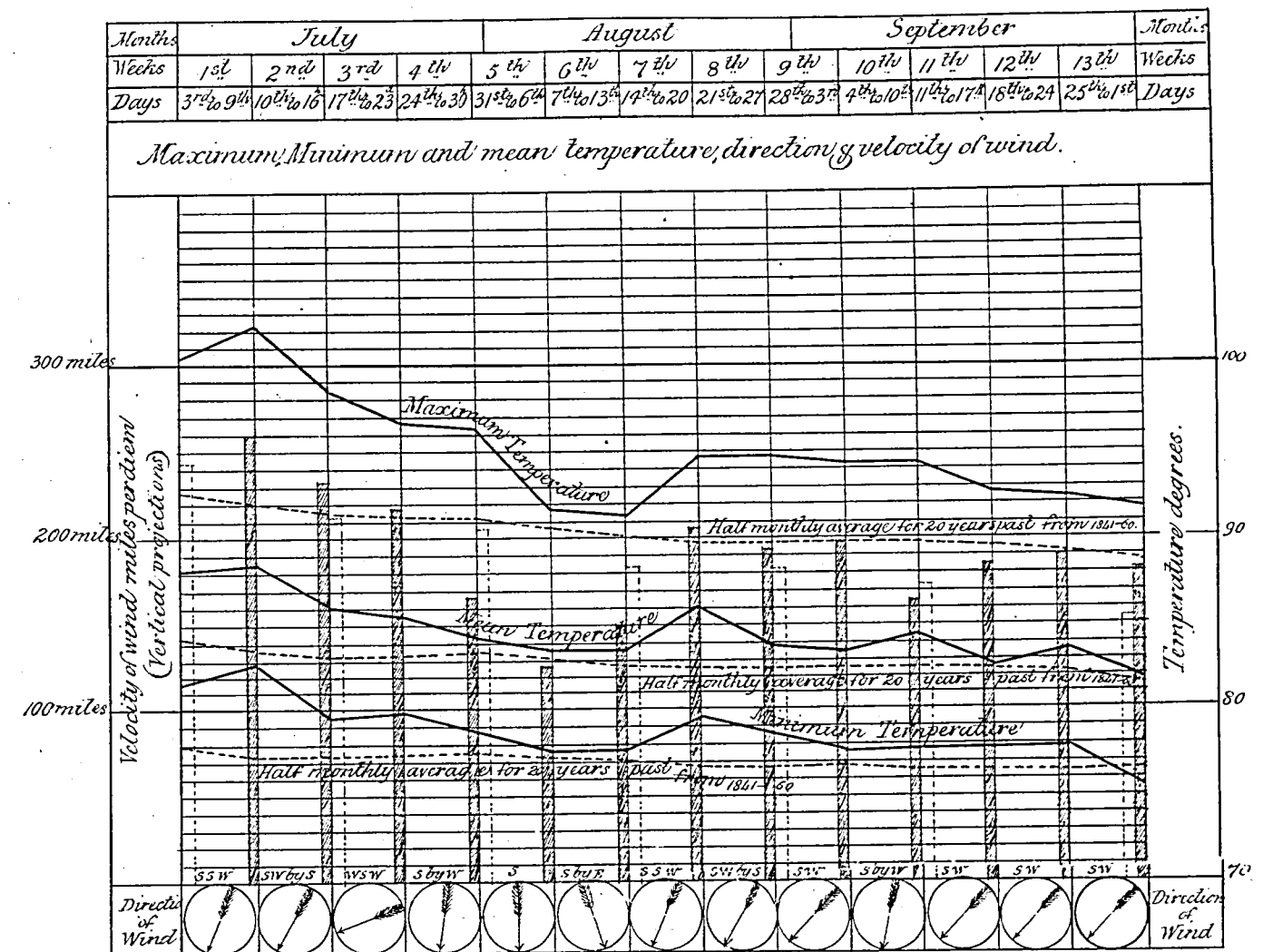


Table shewing the Mortality from Special Diseases in the 3rd quarter of 1869.

	1st to 2nd July.	Week ending 9th July.	Week ending 16th July.	Week ending 23rd July.	Week ending 30th July.	Week ending 6th August.	Week ending 13th August.	Week ending 20th August.	Week ending 27th August.	Week ending 3rd Sept.	Week ending 10th Sept.	Week ending 17th Sept.	Week ending 24th Sept.	25th to 30th Sept.	Total.
Small-pox	...	1	...	...	...	...	2	...	...	...	...	...	1	...	4
Measles	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fevers	16	41	38	43	38	34	40	40	40	36	45	45	32	37	525
Dysentery	4	13	13	22	22	17	15	24	22	22	19	17	22	27	259
Diarrhoea	5	16	13	20	18	14	24	25	17	18	16	15	10	18	229
Cholera	1	10	4	13	44	62	66	43	31	45	44	32	38	20	453
Other Diseases...	42	127	115	151	133	129	161	151	133	161	136	158	104	146	1,847
All Diseases	68	208	183	249	255	256	308	283	243	282	260	267	207	248	3,317

Average of the 3rd Quarters of 9 previous years arranged according to weeks.

Small-pox	1.8	5.6	4.7	4.9	6.2	4.6	4.4	5.4	5.2	3.8	4.3	5.8	4.6	1.5	62.8
Measles	0.1	...	0.3	0.2	...	...	...	0.2	0.2	0.2	...	0.1	0.2	0.4	1.9
Fevers	26.1	45.5	44.3	43.2	42.8	42.0	42.8	44.2	45.1	43.8	44.6	47.3	43.5	22.0	577.2
Dysentery	8.4	20.5	21.6	20.0	23.2	21.9	25.4	22.6	23.7	23.6	22.9	24.6	28.1	25.2	311.7
Diarrhoea	8.2	17.2	15.6	16.8	17.2	18.0	18.9	18.3	16.9	18.4	20.1	18.1	20.7	26.5	250.9
Cholera	16.4	26.3	58.5	82.3	50.0	49.6	57.9	70.2	55.9	57.6	47.9	45.5	60.9	49.2	728.2
Other Diseases...	35.1	112.2	118.3	145.7	118.3	116.3	119.8	119.2	119.5	123.0	123.2	121.8	122.1	97.0	1,516.5
All Diseases	96.1	227.3	263.3	283.1	257.7	252.4	269.2	280.1	266.5	270.4	263.0	263.2	280.1	221.8	3,494.2

	1st to 2nd July.	Week ending 9th July.	Week ending 16th July.	Week ending 23rd July.	Week ending 30th July.	Week ending 6th August.	Week ending 13th August.	Week ending 20th August.	Week ending 27th August.	Week ending 3rd Sept.	Week ending 10th Sept.	Week ending 17th Sept.	Week ending 24th Sept.	25th to 30th Sept.	Average.
Barometer reduced to 32° F.	29.701	29.679	29.701	29.702	29.718	29.717	29.730	29.732	29.746	29.702	29.757	29.750	29.729	29.817	29.727
Mean Maximum Temperature.	99.6	102.2	98.4	96.8	66.5	91.7	91.3	94.9	94.9	94.4	94.1	92.9	92.4	92.0	95.7
Mean Minimum Temperature.	78.3	82.8	79.5	79.9	78.7	77.8	77.7	79.5	78.9	77.2	77.6	77.6	78.0	75.4	78.4
Mean Temperature	85.9	88.5	86.0	85.6	84.2	83.8	83.5	86.0	84.0	83.3	81.3	82.4	83.4	81.6	81.5
" Humidity	69	58	66	61	71	76	78	65	70	70	72	75	70	76	70
Prevailing Wind	S. by W.	S. S. W.	S. W. by S.	S. W. S. W.	S. by W.	S.	S. by E.	S. S. W.	S. W. by S.	S. W.	S. by W.	S. W.	S. W.	S. W. by S.	S. S. W.
Mean Velocity in Miles	189	260	231	218	167	198	150	206	191	198	163	183	190	183	190
Rain-fall	0.02	0.03	2.11	0.67	0.26	2.19	0.39	0.08	3.41	0.96	0.29	2.49	0.03	1.31	14.24

Table showing the Mean half-monthly Meteorological condition of Madras for 20 years past.

	Half month ending 15th July.	Half month ending 31st July.	Half month ending 15th August.	Half month ending 31st August.	Half month ending 15th September.	Half month ending 30th September.	Average.
Barometer reduced to 32° F.	28.708	29.721	29.749	29.753	29.763	29.796	29.748
Mean Maximum Temperature	91.5	91.1	89.9	89.9	89.8	88.4	90.6
" Minimum Temperature	77.4	77.7	77.0	76.7	76.7	76.3	76.9
" Temperature	83.3	83.5	82.5	82.5	82.5	81.8	82.6
" Humidity	69	68	73	73	71	76	72
Prevailing Wind	S. W.	S. W. by W.	S. W. by S.	S. W.	S. W. by S.	S. S. W.	S. W. by S.
Mean Velocity in Miles	213	205	184	182	172	154	185
Rain-fall	1.68	1.78	2.05	2.33	2.46	2.12	12.42

Explanation of Diagrams.

In last quarter's report, I remarked that I purposed making some change in the diagrams hitherto used to illustrate these Mortuary Reports.

The scale of former diagrams is too small to enable the eye to trace the "waves" of mortality, or the lines indicating the meteorological features. I have, therefore, so proportioned the scale that the "waves" may be rendered more apparent, and be more readily traced by the eye. I have also split up the meteorological elements into two tables, and so arranged the diagrams of diseases that it is easier to trace the associations of each, with any particular meteorological condition.

The curves of barometrical readings, humidity and rain-fall are shown upon the left hand table, and those of maximum, minimum and mean temperature upon, the right hand, together with the means (in dotted lines) of the 20 years' average. In association with each of these meteorological diagrams, the curves of "all diseases," Fevers, Diarrhoea, Dysentery, and Cholera are separately shown, and upon scales which admit of greater amplitudes being given to the "waves," so that the eye may readily follow them and contrast them with the curves representing the meteorological elements, each meteorological diagram being accompanied by diagrams of similar diseases.

As the present year will complete 10 years of these Mortuary Reports, I shall, when I have leisure, reduce the 10 years' means in diagrammatic form, and in association with the 20 years' meteorological means for each week in the year.

OFFICE OF
SANITARY COMMISSIONER,
Madras, 27th October 1869.

J. Manning
Sanitary Commissioner for Madras.

VITAL STATISTICS
OF THE
CITY OF MADRAS,
FOR THE
THIRD QUARTER OF 1869.

Public Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Read the following ^{report} ~~letter~~ of Vital
Statistics of Madras for the
third quarter of 1869.

Order thereon 15 December 1869. N^o 1728.

From the Vital
Statistics of the City of Mad-
ras for the 3rd quarter of 1869,
the Government learn with
satisfaction that the public
health for the period pre-
sented by the report pre-
sents a favorable contrast
with that of the previous nine
third quarters, or the third
quarter of the past year,
and this although Cholera,
after a long absence, made
its appearance in the second
quarter, and continued
through the third quarter,
of

Phil

A. D.

of these localities.

11/11/18

of the year.

2. The total number of deaths from this epidemic was 453 or 275.2 less than the average of nine previous third quarters.

3. The Sanitary Commissioner appears with justice to attribute to the zeal and activity of the Medical Department and of the Municipal Commissioners, that the disease was controlled and its spread limited. The portions of the Town most severely visited were Teyary, Choolay, Poodupettah and Perambore. The Government desire to call the attention of the Municipal Commissioners to the necessity of taking special measures for the improvement of the conservancy and drainage of

To the President of the Mun. Comm. Madras } with the Report
— Insp. Gen. and Insp. Dept.
— Sanitary Commr.

Pub. Secy. to Govt. of Madras 11/11/18

Part of 186 1 200000

Part 186

To

The Head of the Bureau of
Finance

Dear

Dated

10 Decr.

1869, No.

Recd.

1728

Nos. 88089.

Receiving the report
the total statistics of
the city of Havana,
in the 30 quarters of
1869