

XLIII. *Part of a Letter from W. Watſon, M. D. F. R. S. to John Huxham, M. D. F. R. S. at Plymouth, giving ſome Account of the late Cold Weather. Dated London, 14 February, 1767.*

Dear Sir,

Read Nov. 19, 1767. **T**HIS waits upon you to inform you of the degree of cold we have lately experienced. After as mild a winter as has been known here for many years, the froſt has been intenſe. Until the latter end of December, many of the tender annual exotic plants continued alive; ſuch as the African Marygold, Naſturtium Indicum, and others of this claſs. I ſaw even the plant, uſually called Balm of Gilead, at that time flouriſhing without ſhelter. Mr. Miller of Chelſea, with whom I talked upon this ſubject, informed me, that he had known the like but twice in his life; and that was in the years 1717 and 1722. However, at the beginning of laſt month, January, after ſome ſmart guſts of wind at Eaſt, it began to freeze; and continued increaſing, until the fifth of that month, in the morning, my thermometer, an excellent one made by Mr. Bird, ſtood in the open air ſomewhat under 20'', in the evening it was 29''. It continued thereabouts to the ninth, when in the morning it ſtood at 20'' again, and at night at 21''. On the tenth in the morning it ſtood at 17'', at night at 18''. From this time to the eighteenth it was never below 23'', but

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frequently

frequently above the freezing point. On the eighteenth at night it stood at $19''$ and $\frac{1}{2}$. On the nineteenth at six in the morning it stood at $16''$, at eight in the morning $15'' \frac{1}{2}$, at eleven at night $17''$. On the twentieth at eight in the morning it stood at $18''$ at eleven at night $22''$. On the next day, January twenty-first, the frost broke; the thermometer at four in the afternoon standing at $36''$.

In the country it has been observed much colder. On January tenth, at Cardington in Bedfordshire, Mr. Howard, Fellow of the Royal Society, by two thermometers, observed the mercury, at six in the evening, to stand at $9''$. And upon the same day the Rev. Mr. Wollaston, at East Dereham in Norfolk, found it so low as $8''$. Mr. Ellinet, at Norwich, on the nineteenth of January, found his thermometer, at eight o'clock in the morning, to stand at $7''$; at noon at $22''$; at five in the afternoon $18''$; at ten at night at $8''$. Seven degrees therefore is the lowest point, at which I have heard the thermometer has stood any where in England during the late frost.

January tenth was the coldest day at Plymouth, where Dr. Farr, a very ingenious physician, and Mr. Mudge, who has communicated several papers to the Royal Society, each observed his thermometer to stand at $23''$ and $\frac{1}{4}$.

The severe frost of 1739, of which no account appears in the Philosophical Transactions, began December twenty-ninth, when Lord Charles Cavendish's thermometer in his room stood at $25''$; the next evening $21''$.

From this time his Lordship placed his instrument out of the window, and at some distance from it; when

in the evening of December thirtieth, it stood at 17". On the morning of January fifth, it stood at 13". On the eighth at 15". The ninth at 14". Twenty-second at 19". Twenty-fifth at 17". On February fifth at 21". During all this time, the thermometer was seldom above 32", the freezing point.

Thirteen degrees, therefore, during this frost, was the lowest observation, by Lord Charles Cavendish in Marlborough Street.

I am,

with all possible respect,

Dear Sir,

your most obliged,

and obedient Servant,

W. Watfon.

Abstract from a Meteorological Diary kept at Plymouth.

This contains Observations twice a Day; the Barometer and Thermometer are made by Siffon, the Rain Machines also, and similar to that described in the Edinburgh Medical Effays.

N. B. One of the Thermometers is kept in a Parlour where there is no Fire, the other without Doors in the Rain Machine, which is never affected by the Sun, but was not examined before or after the Sun set; so that the lowest State of the Thermometer in these Parts is not ascertained.

J A N U A R Y 1767.

Day	Bar.	Ther. within doors.	Ther. without doors.	Wind.	Rain	Weather.
1 9 a. m.	30 20	44		N.	2	Clear
11 p. m.	29 84	45		E. b. N.	3	D° a remark. gust of wind for some h. in the n.
2 9 a. m.	29 82	42	32	N. E.	2'''	Clear
11 p. m.	29 65	40		N. E.	2'''	D° with frost this night and the last
3 9 a. m.	29 66	40	30	N. N. E.	2'''	Fair; a few flakes of snow fell thro' the day
11 p. m.	29 77	39		N. E.	2	Clear
4 9 a. m.	29 88	38	30	E.	2'	D° a very sharp air
11 p. m.	29 96	35		E.	2	D°
5 9 a. m.	29 95	33		N. E.	2	D°
11 p. m.	29 91	35		N. W.	2	D°
6 9 a. m.	29 75	35		N. N. W.	2	D°
11 p. m.	29 74	38	33	N. W.	2	Cloudy; little or no frost
7 9 a. m.	29 64	39		E. b. N.	0	Hazy
11 p. m.	29 56	39		S. W.	1	.230 Rain, heavy; but towards morn. severe frost
8 9 a. m.	29 61	36		E. b. N.	2	Frost; clear with a very sharp air
11 p. m.	29 70	35		N. E.	2	Heavy falls of snow
9 9 a. m.	29 70	35		N.	1	Slight falls of snow at times
11 p. m.	29 72	35		N. W.	2	Clear and sharp air
10 9 a. m.	29 60	34	23 5	N. W.	2	D°
11 p. m.	29 46	34		S. W.	2'''	Cloudy; and towards morning rain

Jan. Day	Bar.	Ther. within doors.	Ther. without doors.	Wind	Rain	Weather
11 9 a. m.	29 22	33	24	N.	1	.110 Hail; sleet; and after, most heavy fall of snow
11 p. m.	29 20	33		N.	1	Cloudy; snow in 3 h. cov. upw. 6 inch. deep
12 9 a. m.	29 17	32	24	N. W.	1	Clear wind with the sun; a very fine day
11 p. m.	29 15	35		S. W.	2	Cloudy. N. B. Thermometer at noon 24
13 9 a. m.	28 93	37		S. S. E.	2'''	Cloudy; snow every where melt. by the thaw
11 p. m.	28 67	39		S. E.	3	Rain heavy through the night; stormy
14 9 a. m.	28 67	40		S.	2	.960 Heavy rain in the morn. showery thro' the day
11 p. m.	28 90	42		S.	2	Showery
15 9 a. m.	29 30	44		S. S. E.	2''	Cloudy, with sun-shine at times
11 p. m.	29 36	45		S. S. E.	2'''	Cloudy
16 9 a. m.	29 42	44		S. S. E.	2'''	.320 Showery
11 p. m.	29 55	44		E.	2	Cloudy
17 9 a. m.	29 70	40		N. E.	2	Cloudy; with a sharp cold air
11 p. m.	29 80	44		E. b. N.	2	D°
18 9 a. m.	29 82	36		N. E.	2	Fair; air very sharp
11 p. m.	29 90	35		N. E.	2	Clear and frost
19 9 a. m.	29 90	35		N. N. W.	1	.070 Clear till 4 p. m. then showery
11 p. m.	29 92	38		N.	0	Clear and frost
20 9 a. m.	30 0	36	27	N.	0	D°
11 p. m.	30 8	38	34	W.	1	Cloudy; thaw; towards morning rain

Depth of Rain which has fallen at Plymouth during
the Year 1766.

1766	Dec. Inc. Parts	Barom. hig. state	Barom. low. state
January	0 .165	30 74	29 83
February	2 .590	30 65	29 40
March	1 .690	30 45	28 83
April	3 .780	30 43	29 26
May	2 .600	30 23	29 21
June	3 .880	30 21	29 33
July	3 .550	30 3	29 56
August	1 .600	30 10	29 44
September	2 .630	30 20	29 45
October	2 .650	30 45	29 08
November	4 .660	30 50	28 62
December	3 .280	30 44	29 14
Inches	35 .075		

N. B. In the latter end of December 1766, the weather was so mild, and had been so in the preceding weeks, that ripe strawberries were gathered in my garden at the Royal Hospital.

Meteorological Register, kept at the Royal Hospital near Plymouth, continued from January 20, to March 1, 1767.

Day	Jan.	Bar.	Th ^r .	Wind	Rain	Weather	Remarks
21	9 a. m.	29 97	39	W. b. S.	2	Slight showers	
	11 p. m.	29 92	40	W. b. S.	1	Cloudy	
22	9 a. m.	29 67	42	W. b. S.	2''	Small rain constant thro' the day	
	11 p. m.	29 74	44	N. W.	2	Cloudy	
23	9 a. m.	29 94	44	N.	2	Showery, but clear for the most part	
	11 p. m.	29 9	45	N.	2	Cloudy weather	
24	9 a. m.	29 90	46	S. W.	2	Small rain through the day	Highest state of Barom. } 30 5
	11 p. m.	29 81	48	S. W.	2'	D°	Lowest state of Barom. } 29 4
25	9 a. m.	29 72	49	S. W.	2'''	Cloudy, with small rain at times	
	11 p. m.	29 65	49	S. W.	2'''	D°	
26	9 a. m.	29 62	49	S. W.	2'''	Showers in the forenoon, afterw. clear	Highest state of Therm. } 53
	11 p. m.	29 68	49	W: b. S.	2	Cloudy	Lowest state of Therm. } 39
27	9 a. m.	29 50	50	S.	3	Rain heavy and constant thro' the day	
	11 p. m.	29 58	50	S. S. E.	2''	D°	
28	9 a. m.	29 67	50	N. N. E.	2	Small rain through the day	The quantity of rain is very considerable during this period; and yet, on looking back into the register, I find that in the month of March 1765,
	11 p. m.	29 50	49.5	N. E.	1	Rain	Inc.
29	9 a. m.	29 77	46	S. S. E.	2	Rain from noon till 4 p. m.	the total is 10.829 and taking in from the 23d of February, to the 2d of April 1765, viz. 39 days,
	11 p. m.	29 77	48	S. S. E.	2	Cloudy	Inc.
30	9 a. m.	29 73	50	S. W.	2	Fair till 11 a. m.	the amount is } 13.900
	11 p. m.	29 72	51	S. W.	2	Rain constant since 11 a. m.	
31	9 a. m.	29 73	52	S. S. W.	2	Rain constant, with hazy weather	
	11 p. m.	29 78	53	S.	2	Small rain	
Feb.							
1	9 a. m.	29 90	52	S. S. E.	1	Fog, with small r. aft. heavy thro' day	
	11 p. m.	29 74	53	S. S. W.	2	Cloudy	
2	9 a. m.	29 09	52	S. E.	1	Hazy weather, with rain at times	
	11 p. m.	29 91	53	S. E.	1	D°	
3	9 a. m.	29 83	51	S. E.	2	Fair, with sun-shine thro' the day	
	11 p. m.	29 72	52	E.	1	Clear	
4	9 a. m.	29 60	51	E.	2	Fair through the day	
	11 p. m.	29 56	49	E. b. S.	2	Clear	
5	9 a. m.	29 54	51	E.	2	D°	
	11 p. m.	29 59	50	E.	2'	Cloudy	
6	9 a. m.	29 60	48	E. b. S.	2	Small rain, with hazy weather	
	11 p. m.	29 41	51	E.	2''	Rain	
7	9 a. m.	29 23	51	E.	2	Hazy, with showers	
	11 p. m.	29 15	51	S.	2	Heavy showers, with squalls.	

Day Feb.	Bar.	Th.	Wind	Rain	Weather	Remarks	
8	9 a. m.	29 15 51	S. W.	2"	.600	Hazy showers through the day	
	11 p. m.	29 13 50.5	S. W.	2		Cloudy	
9	9 a. m.	29 32 51	E.	1		Hazy weather, with rain till 1 p. m.	
	11 p. m.	29 37 51	S. W.	2		Cloudy, but afternoon fair	
10	9 a. m.	29 17 51	S. W.	2"		Thunder showers heavy, with squalls	
	11 p. m.	29 48 51	W. b. W.	2		Showery	
11	9 a. m.	29 23 51	S. E.	2	.770	Rain const. from 11 a. m. thro' the d.	
	11 p. m.	29 20 51	S. S. W.	3		Rain, with very heavy squalls	
12	9 a. m.	29 35 50	N.	2		Slight showers, with sun-shine between	
	11 p. m.	29 52 49	N.	1		Clear and serene	
13	9 a. m.	29 22 49	S. E.	2"		Rain constant; hazy, w. var. to S.W.	
	11 p. m.	29 17 50	W.	2"	.990	Heavy showers	
14	9 a. m.	29 34 50	W.	2"		Hail storms, with heavy showers	
	11 p. m.	29 50 51	S. W.	2		Cloudy	
15	9 a. m.	29 54 51	S.	2	.670	Rain very heavy till the afternoon	
	11 p. m.	29 57 51	W. b. S.	2		Clear	
16	9 a. m.	29 53 50	S. S. W.	2'		Cloudy, with small rain at times	
	11 p. m.	29 63 50	S. W.	2		Cloudy weather	
17	9 a. m.	29 28 51	S.	2	.450	Rain constant till 2 p. m.	
	11 p. m.	29 32 50	S. W.	2		Showery	
18	9 a. m.	29 38 51	S. W.	2		Rain till noon	
	11 p. m.	29 67 51	S. W.	2	.420	Showery; but clear for the most part	
19	9 a. m.	29 67 51	S. W.	2"		Clear	
	11 p. m.	29 68 51	S. S. W.	3		Rain in the night very heavy	
20	9 a. m.	29 26 51	S. E.	2"	.710	Rain constant through the day	
	11 p. m.	29 4 51	S. W.	3		Hail-ft. with most heavy squalls of w.	
21	9 a. m.	29 32 51	S. E.	2	.300	Fair, with sun-shine	
	11 p. m.	29 14 49	S.	2		Rain since 5 p. m.	
22	9 a. m.	29 43 48	W. b. N.	2		Fair	
	11 p. m.	29 65 48	W.	2		Showers in the even. at present clear	
23	9 a. m.	29 80 48	S.	1		Clear	
	11 p. m.	29 87 49	W. b. N.	2	.716	Cloudy; in the night, heavy rain	
24	9 a. m.	29 86 50	W.	2'		Rain drizzling through the forenoon	
	11 p. m.	36 5 50	W. b. N.	2		Cloudy	
25	9 a. m.	29 74 51	S. W.	2"	.510	Rain constant till 3 p. m.	
	11 p. m.	29 70 51	W.	2		Showery	
26	9 a. m.	29 51 51	S. W.	2"		Rain drizzling constant through the day	
	11 p. m.	29 44 51	S. W.	3		Rain; wind at S. W. a storm	
27	9 a. m.	29 5 52	N. W.	2"		Black and cloudy weather; but little r.	
	11 p. m.	29 56 51	N. W.	2"		D°	
28	9 a. m.	29 6 49	N. N. W.	2"	.284	Showery in the morn. afterw. Hail-ft.	
	11 p. m.	29 90 49	N. N. W.	2"		Show. at times; but fair for the most part	
Total				94	.940	or near 10 inches of rain in 39 days	

N. B. The machine is placed free of eddy winds, at a very considerable distance from any building, except to the North, where, however, it is sixty feet distant, and from that quarter we have little or no rain.