tive humidity. Without going into details it can be stated that practically the same argument applies to the other days and places.

From a consideration of the various statistics from different localities that have come under the writer's notice, it seems that sunstroke is as frequently associated with a very low relative humidity as it is with a very high relative humidity. Apparently the first one to call attention to the occurrence of sunstroke with a low relative humidity was Dr. A. J. Miles, of Cincinnati, in a paper read before the American Public Health Association in 1881 ("Sunstroke Epidemic of Cincinnati," Public Health, Vol. VII), and this present paper confirms his statements.

RELATIVE HUMIDITY INSIDE AND OUTSIDE OF BUILDINGS.

By A. J. HENRY, Chief of Division of Records and Meteorological Data.

In Weather Bureau Bulletin No. 19—Report on the Relative Humidity of New England and Certain Other Localities—some results are given of observations on the relative humidity within and without the Weather Bureau building in Washington, D. C. The conclusion there reached was that outside hygrometric observations could not be depended upon to give the humidity conditions within, except when the temperatures outside and inside were substantially the same.

The observations, as will be seen by a reference to the bulletin above mentioned, consisted in a simple determination of the relative humidity of the air in the observer's office and in the standard thermometer shelter on the roof. They were continued from the date of publication of the bulletin above mentioned, April 22, with a few interruptions, to June 18, 1896.

The new material confirms in a general way the conclusion heretofore reached. It is worthy of mention, however, that while there is close agreement between the relative humidity inside and outside, so long as the temperatures are the same, many cases will arise when the inside and outside temperatures differ by a considerable amount even in the warmer part of the year.

The greatest differences between the relative humidity inside and outside are found when the outside air is saturated, or nearly so, and, also, after a period of rain, when the temperature of the outside air has fallen considerably below the temperature of the room. During the period included between the dates above mentioned the differences between outside and inside (outside—inside) ranged from 36 per cent below to 28 per cent above; that is to say, the inside fell 36 per cent below the outside on one occasion and rose 28 per cent above it on another.

On 14 days out of the 45 (31 per cent of the time) the variation was over 10 per cent at the hour of observation, 2 p. m.

It is obvious, from a consideration of the weather conditions at the time some of the greatest differences were observed, that better ventilation, or perhaps a more perfect mechanical mixture of the air outside and inside, would have resulted in a closer agreement between the calculated humidity values.

The observations were made originally for the purpose of determining how far the ordinary hygrometric observations made in standard roof shelters could be safely used as indicating the probable moisture conditions in cotton mills in the immediate vicinity. It has been shown that the variation in a closed room is much smaller than in the open air as would naturally be expected, and that the agreement between the humidity of a room and that of the outside air depends almost wholly upon the amount of ventilation and the temperature of the room. It is possible, of course, to increase the moisture in a room much beyond the natural amount, but it will always be necessary to provide for a renewal of the air at short intervals, since the limit of endurance in a still, hot and damp atmosphere is soon reached.

Relative humidity inside and outside of the Weather Bureau building, Washington, D. C.

Date.	Dry thermometer.		Wet thermometer.		Relative humidity.	
	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.
1896.	°	°	°	°	*Per ct.*	*Per ct.*
March 2	72.0	39.0	54.0	36.0	28	75
4	67.5	38.0	50.0	32.0	26	50
5	71.0	41.5	52.0	36.0	24	58
6	74.0	45.5	54.0	40.5	33	64
7	74.0	60.5	56.0	54.5	30	68
9	73.0	46.5	54.0	42.5	25	72
10	70.0	45.0	53.5	39.5	27	61
11	71.0	33.5	56.0	33.5	37	100
12	69.5	27.5	52.0	23.5	26	54
13	72.0	30.0	55.0	27.0	31	67
14	72.0	32.2	53.5	26.0	26	38
16	72.0	33.5	57.0	33.5	38	100
17	68.0	37.0	53.0	33.0	34	66
19	73.0	62.0	63.0	58.0	57	79
20	70.0	36.5	54.0	32.0	33	62
21	73.0	43.0	55.5	39.0	30	70
27	72.0	40.0	55.0	32.0	31	38
28	74.0	49.5	54.0	41.0	33	46
31	74.0	58.0	38.0	50.0	36	56
Mean	71.7	42.0	53.7	37.3	32	64
April 7	70.0	41.0	53.0	34.0	29	46
8	73.0	66.0	54.0	38.0	25	46
9	66.0	50.0	51.0	40.0	32	38
10	72.0	43.0	58.0	40.5	42	81
11	75.0	47.0	60.0	44.0	40	79
12						
13	80.0	79.0	65.0	65.0	44	47
14	82.0	88.0	67.0	69.5	43	49
15	79.0	81.0	62.0	62.0	37	33
16	84.0	86.0	66.0	68.0	38	39
17	88.0	91.5	70.0	71.5	40	37
18	89.0	91.0	69.5	70.5	36	37
21	81.0	81.0	65.0	65.0	41	41
22	74.0	63.5	55.5	49.0	28	32
Mean	77.9	69.5	61.2	55.2	37	47
May 2	73.0	63.0	65.0	60.0	65	84
4	74.0	75.5	66.0	60.0	66	38
5	81.0	82.5	65.0	64.5	41	36
6	74.0	56.0	64.0	49.5	58	63
7	69.0	63.0	57.0	52.0	47	46
9	78.0	87.5	70.0	69.0	67	38
11	90.0	91.5	69.5	68.0	36	28
12	86.0	86.0	66.5	66.0	35	34
13	77.8	77.8	67.0	66.2	57	54
14	75.0	74.0	70.0	69.0	78	78
16	79.2	77.0	56.7	57.5	41	28
18	88.0	91.0	74.0	68.0	52	30
20	72.0	56.0	64.0	55.5	65	97
21	69.8	63.0	63.8	61.0	72	89
22	75.8	76.0	70.8	71.8	78	82
23	75.7	75.0	64.0	63.5	52	53
25	71.0	68.0	64.8	63.0	71	76
26	77.3	80.0	71.0	71.5	73	66
27	78.0	79.0	66.2	65.0	54	47
28	78.0	85.5	70.0	73.5	67	56
29	75.0	73.0	61.0	58.0	44	39
30	74.0	73.5	61.0	61.0	47	48
Mean	76.9	75.2	65.8	63.3	58	55
June 1	73.0	72.0	61.3	57.6	51	40
2	72.7	71.7	60.0	57.0	47	39
3	74.8	74.0	61.0	60.0	45	43
4	77.0	66.0	66.0	64.0	54	90
5	75.2	73.8	68.0	65.8	69	66
6	80.5	80.5	67.5	67.5	51	51
8	86.0	87.5	76.0	75.0	57	57
9	80.0	77.0	71.0	68.5	64	65
10	72.5	76.5	60.0	66.0	47	57
11	76.0	77.0	65.0	60.0	55	35
12	78.0	81.5	61.0	61.5	36	30
13	73.0	62.3	65.0	65.8	65	82
15	71.0	68.5	64.5	62.5	70	73
16	73.5	72.5	68.5	67.5	78	78
17	75.0	74.5	69.0	68.5	74	74
18	78.0	79.4	68.0	69.0	60	59
Mean	76.0	74.7	65.7	64.8	58	59

AUTOMATIC CLOUD PHOTOGRAPHY.

By OLIVER L. FASSIG, Observer, Weather Bureau.

The following interesting items are quoted from a letter recently received by the Editor from Mr. Oliver L. Fassig:

Through the kindness of Dr. von Bezold and Professor Sprung, I spent the whole of the month of October at the Potsdam Observatory, and took part in the daily observations of cloud height and velocity which are being carried on there in accordance with the International