

ANALYSIS OF THE OBSERVATORY RECORDS FOR NOVEMBER,
1865, IN CONJUNCTION WITH THOSE OF BIRTHS, DEATHS,
&c. BY E. SWABRECK HALL.

To the mass of the community, particularly all those under 45 years old, never was there any month of the twelve, in the previous eight years and ten months, so auspicious to health and life as the present month, other months have had a smaller number of total deaths but they were at ages indicative of less favorable atmospheric conditions.

Atmospheric pressure mean, 29.808, was + .083 only above the 20 years' adopted standard. The daily fluctuations, and extreme range of the month, were less extensive than is usual in November. The greatest movement of the barometer, between any two 1 p.m. records, was a rise of + .532 on the 17th, being less than for any November of the previous four years. The greatest fall, was — .518 on the previous day, altogether there were ten days on which the movements exceeded one-fifth of an inch. The extreme range of the whole month was .956 of an inch, being considerably below that of the Novembers of the two preceding years. The maximum was, 30.236 on the 27th, the minimum, 29.280 on the 16th.

Wind force total, was 136.90 lbs., being + 27.64 lbs. above the average of the previous eight years,—1863 and 1861, however, had both a greater aggregate force than the present month. Last year's was not so much, by upwards of 12 lbs., *west* and *north-west* were the predominant winds, exceeding the average largely, both in frequency and force. All the other six points of the compass were below the average in frequency, though *east* and *south-west* were in excess in force, and the rest below. The greatest pressure noted at any of the three—daily observations, was 10.42 lbs. to the square foot, and was recorded with a north-west *hot-wind* at 1 p.m. on the 11th; with a west-wind at sunset on the 16th; with an east-wind at 7 a.m. on the 19th; the latter being a most remarkable occurrence. *Calms*, 8, were 2.29 below the average of the previous 7 years.

Temperature mean 59.23 degrees, is + 1.44 degrees above the 20 years' mean, and + 1.16 more than November, 1864, had. The mean of all the maxima of the self-registering thermometer was, 71.50 degrees; showing an unusually great high-day temperature, and being + 1.27 more than November last year had. The mean of all the records of the minimum self-registering thermometer was 48.77 degrees, being almost identical with last year. The mean of both is 60.13 degrees. The maximum was noted on the 11th being 95 degrees, or 19 degrees above that of 1864 November, and higher than any November of the previous 24 years—1843, however, approached within half a degree of the present month. The minimum, or lowest night temperature, was 39 degrees, recorded on the 17th. No November since 1856 has had so low a minimum as this. The extreme range, 56 degrees, therefore, much exceeds that in any November recorded, that of 1843 being only 49.20 degrees.

The mean *daily-range* of temperature was 22.73 degrees, being + 3.89 degrees above the 20 years' average, and + 1.50 higher than 1864 had. 1862, however, had + .20 of a degree higher, but no other of the 24 previous years approached nearer than a degree less than the present. The greatest range of any day was 42 degrees on the 11th. This is the highest record for November in 24 years, except in 1846, when 44.8 degrees was registered. The smallest range was 13 degrees, noted on the 20th and 26th. On diseased, aged, and enfeebled persons, these extreme ranges of temperature had a very fatal effect, though quite innocuous to young and healthy individuals.

Solar-Intensity mean, 107.73 degrees, is + 1.58 degrees above the average of the previous nine years, and + 3.87 higher than 1864 had. 1856, only, had a higher mean, 112. The maximum was recorded on the 11th, being 129 degrees. Last year's was 4 degrees less, and no other year of the nine was higher than 120. The minimum solar-temperature was 71 degrees on the 26th. In this month, contrary to what was reported for November, 1864, cloud mean, it will be seen hereafter, was below the average. The mortuary record does not indicate that this excessive sunshine was directly injurious to life.

Terrestrial radiation had a mean of 46.48 degrees, which is only .01 below the nine years' average, and less than November 1864 had. The maximum

was 56 on the 22nd, and the minimum 39 on the 17th, the former being one degree, and the latter eight degrees, above the corresponding observations in 1864.

Rain was registered on 12 days of the month being $\cdot 90$ below the average of the previous ten years. The total amount precipitated was 2.03 inches, which is $\cdot 73$ of an inch less than the 20 years' average for November, but is almost identical with the amount gauged in November 1864. During the present month, however, the rain was more equally distributed. On the 12th, 14th, and 16th, the surface channels ran briskly. On the last 13 days there were only two days of sprinkling showers. *Snow* was persistent on Mount Wellington during the whole month, and the additions on three days were very copious, but soon disappeared. None fell in the city, but there was *hail* with the rain on the 23rd. Thunder was heard on the 11th and 12th, accompanied by lightning on the last named day.

Spontaneous-evaporation amounted to 5.46 inches, the highest quantity ever recorded except in January 1862, when it recorded 5.82 inches. In November 1864 spontaneous-evaporation was but little more than rainfall.

Humidity mean, 66, is $\cdot 5$ below the 20 years' average. It ranged from 45 to 93.

Elastic-force of Vapour, had a mean of 332, being + 5 above the average, with a range from 225 to 534.

Cloud mean, 5.59, is $\cdot 50$ below the 20 years average, and $\cdot 96$ less than November 1864 had.

Ozone mean was 8.46, being + 1.01 above the average of the previous eight years, but only + .05 more than in November 1864. Saturation (10) was twice recorded, and four times it fell to 7, the minimum. The tendency to catarrhal and inflammatory affections of the respiratory organs, alluded to in the October report as induced by the great prevalence of ozone, was maintained this month from the same source. Yet only one death in the mortuary tables appears to have any connection therewith—a man of 45 from pneumonia (inflammation of the lungs.)

Electricity, as registered by the electrometer, gave very different results, this month to what was recorded for November 1864. There were 30 positive indications, with a range from 2 to 8 of tension; while last year had only 15, but with an extreme tension of 9. Negative was registered 29 times, with a range from 1.5 to 9.5 of tension. In 1864 there were 42 indications of negative with a maximum tension of 8.5. Nil was only recorded once, on the 12th.

The 37 Deaths for November, 1865, is $\cdot 6$ less than last year had, and $\cdot 3$ less than the average of eight years; 1863 and 1859, however, had both fewer deaths than the present month, though the other six had all more. No one of the years, moreover, was so propitious to all under 20 years, inclusive of infants, the year of minimum mortality, 1859, even having one-third more deaths under that age.

Nov. 1865	Ages.	Novembers.									Avg. 8 yrs. Novs., 1857-1864
		Oct., 1865	1864	1863	1862	1861	Max. 1860	Min. 1859	1858	1857	
4	Under 1	8	4	7	12	9	7	4	3	6	6 4.8
0	1 to 5	0	2	1	6	3	8	3	7	6	4 4.8
2	5 to 20	2	6	4	3	2	5	2	3	4	3 5.8
7	20 to 45	11	12	6	9	11	9	11	12	14	10 4.8
8	45 to 60	6	9	5	6	7	11	4	7	5	6 6.8
16	60 and above	12	10	7	9	7	11	5	6	10	8 1.8
37		39	43	30	45	39	51	29	38	45	40

The deaths "under 1 year of age" were much below the eight years' average. Three out of the four were under three weeks old. At "1 to 5," there was not a single death—as was noted also in October—which is without parallel, not even any single month in a year during the whole period being without

deaths in this group of ages, in all the previous eight years. At "5 to 20," the deaths were greatly below the average, though both 1861 and 1859 had equally as small a mortality in this group. By comparing the deaths last year with this, it will be seen that the deaths at all ages above 20, were numerically the same in both years though differently distributed in the three groups, while at all ages under 20 the present year's mortality is only half of that in November 1864. At "20 to 45" years of age, the number of deaths was considerably below the eight years' average, and only 1863 had less, by one. At "45 to 60" the deaths were somewhat above the average, two out of the eight years only having a greater number. At "all ages above 60," the deaths were nearly double the average, and greatly exceeded in number every year of the eight. The oldest was a man of 86, but six others had lived beyond three score and ten.

Nov., 1865	Classes of Disease	Novembers.								Avg. of 8 yrs. Novembers, 1857-1864.		
		Oct., 1865	1864	1863	1862	1861	Max. '60	Min. '59	1858		1857	
3	1. Zymotic	2	1	3	8	3	4	4	6	4	4	1-8
9	2. Constitutional	8	11	6	7	4	5	6	6	4	6	1-8
21	3. Local	16	20	16	22	18	36	13	22	26	21	5-8
4	4. Developmental	10	6	2	5	8	2	3	1	4	3	-78
0	5. Violent &c.	3	5	3	3	6	4	3	3	7	4	2-8
37		39	43	30	45	39	51	29	38	45	40	

In the *Zymotic class of diseases*, 3 deaths are tabled—a child three weeks old from thrush, one five months old from *diarrhœa*, and a man of 35 from *delirium tremens*. In November 1864, there was only one death in this class. 1863 and 1861 had the same number as the present year, and the other five years all had more, the average of the eight being considerably above this November's amount. In the *Constitutional class of diseases*, the deaths were nearly thirty-three per cent. above the average. Last year's November was still greater, but all the other seven years much less. Five of the nine deaths were caused by malignant diseases classed as *cancer*, the ages being 45, 55, 65, 67, 72 respectively. The other four died from *consumption*. One woman of 28, having been born in Tasmania and another of 25, was registered as born in Melbourne. The other two, both men above 60 years old, were English by birth. Last year the deaths from consumption were two more, and one was Tasmanian born.

The *Local class of diseases* had a mortality slightly below the average, though one more than 1864 had. The first order, *diseases of the brain and nervous system* had 6 deaths, being 2 from apoplexy, 3 from paralysis, and 1 from convulsions. Last year this order had only 2 deaths. In the second order, *diseases of the heart and organs of circulation*, 4 deaths occurred, while 1864 had 10. The third order, *diseases of the lungs and organs of respiration*, gave two deaths, 1864 had 5. In the fourth order, *diseases of the stomach and organs of digestion*, the deaths were 4. Last year had but one. In the fifth order, *diseases of the urinary organs*, there were three deaths this year, to one last. The sixth and seventh orders had each one death, last year had not any, but had one in the eighth, which in this year, had none. In the *developmental class* the deaths were a fraction above the average, though two less than 1864 had; one was a babe that only survived its birth for an hour and a half; the other three were two women, aged 67 and 68, and one man aged 86, who died at the Invalid Asylum.

In the fifth class, *violent and accidental deaths*, the record is "nil"; no year of the previous eight had less than three, and the average is 4 2-8. *Inquests* were two, both sudden deaths. The first an old man from *apoplexy*, the second from bursting of an *aneurism of the aorta* into the pericardium (bag of the heart). In November 1864, the inquests were 5. The deaths in



Hall, Edward Swarbreck. 1865. "Analysis of the observatory records for November 1865, in conjunction with those of births, deaths &c." *Papers and proceedings of the Royal Society of Tasmania* 122–125.

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