## ANALYSIS OF THE OBSERVATORY RECORDS FOR FEBRUARY, 1866, IN CONJUNCTION WITH THOSE OF BIRTHS, DEATHS, &c. By E. Swarbreck Hall.

February, though having the smallest number of days of any month in the year, has had on the average of the previous nine years, the greatest number of deaths. In last year, however, March was higher. Notwithstanding many meteorological conditions in the present month adverse to health and life, others of more auspicious character have so counteracted the injurious effects, that on the whole the mortuary records give a total of deaths below the February average of the previous nine years, and only one more than last year had, though the heat and dryness of the present month have been so unusually in excess.

In excess. Atmospheric pressure, 29.903, was only + .053 above the 20 years' mean of the adopted standard, but + .102 higher than February 1865 had. The extremes were: —Maximum, 30.391 on the 2nd; minimum, 29.321 on the 12th; being a range for the month of 1.070 inches. Last year the extremes were both much lower, though the range was considerably greater. The greatest movement on any day of the barometer, was a rise of + .694 of an inch on the 13th. There were six other days in which movements exceeded one-fifth of an inch; the highest being a rise of + .420 on the 1st, and the lowest a fall of — .263 on the 17th. Wind-force had a total of 41.86 lbs, being — 15.15 lbs, less than the Fabruary

Wind-force had a total of 41.86 lbs., being -15.15 lbs. less than the February average of the previous 9 years, and 16.01 below the 4 years' average of the standard tables. It was also less than 1865 by -2.35 lbs. South-east winds were more than usually numerous, but of so gentle a type that the total force was below the average. North-west alone exceeded the average considerably both in number and force. From all the rest of the points of the compass the winds were much below the mean both in frequency and force. The greatest force of the wind from any point was only 2.60 lbs. pressure to the square foot, and registered six times. The calms were only 14, being  $-1\frac{1}{4}$  less than the 4 years' mean, -3.88 below that of the previous eight years, and 5.00 fewer than 1865. Constant, but gentle movement was the character of the winds this month. There was a hot wind on the 18th, but of a very subdued kind.

Temperature mean, by the three daily observations, was 65.19 degrees; being  $\pm 2.66$  above the 20 years' mean. Only one year (1855) in the previous 25, had a higher mean, 68.00 degrees. Last year's mean was only 60.74 degrees. The self-registering maxima and minima thermometers gave a mean of 66.75 degrees. The mean of all the maxima or high-day records was 76.50 degrees, while in February 1865, it was only 69.86. The low-night minima gave a mean of 57.00 degrees, which exceeds that of last year by  $\pm 5.64$  degrees. So that both days and nights of the present month were considerably warmer than in February 1865. The maximum temperature, 87 degrees, was registered on the 8th and 18th. Last year's maximum was only 79. The minimum temperature was, 49 degrees, on the night of the 25th, being 6 degrees higher than the minimum of February 1865. The extreme range of the month, 38 degrees, is much below the February average, for in the previous 25 years, 17 had a much higher maximum, and not one of them so warm a minimum. Equable, but continuous high temperature, therefore, chacterised the present February in a very unusal degree.

February in a very unusal degree. Daily-range of temperature mean, 19.50 degrees, is — 89 of a degree less than the 20 years' mean, and—1.00 degree less than 1865 had. The greatest range, 31 degrees, was noted on the 22nd, and the smallest, 10 degrees, registered on the 10th.

The solar self-registering thermometer gave a mean of 110.20 degrees, being +2.33 more than the February average of the previous ten years, and +3.65 above the mean for 1865. There has not been so much hot sunshine in February since 1857. The maximum of the present month, however, was only 122 degrees, on the 22nd. Only 1861 had a lower maximum (117) in the previous ten years; 1862 had the same as the present month, but all the rest more, the highest

being 143 in February, 1857. The lowest record of the solar-thermometer was 81.5 on the 27th, but on twenty-two out of the twenty-eight days of the month, the records exceeded 100 degrees.

The terrestrial radiation self-registering thermometer on the grass, gave a mean of 54.20 degrees, which is +4.73 more than the 20 years' average, and +5.92 above last year's mean. The extremes were, 61 in the night of the 9th, 44.5 in that of the 1st. No February in the previous 10 years gave so warm an earth temperature as the present month.

warm an earth temperature as the present month. Rain fell only on the 1st. No rebruary in the previous to years gave so warm an earth temperature as the present month. Rain fell only on the 1st, 9th, 12th, and 28th days of the month, to the aggregate amount of '55 of an inch, which is—'92 of an inch below the 20 years' average for February. In 1865 there were 15 wet days in February, and a total rain-fall of 2.94 inches. Out of the previous 25 years, eight had even a smaller rain-fall than the present month. No snow appeared on Mount Wellington during the month, as there did in February 1865. Snontaneous composition, amounted to 5.85 inches, being much the highest

Spontaneous-evaporation amounted to 585 inches, being much the highest amount in any February since 1856, during which period only have records been kept.

Elastic-force of vapour mean was 405 being +32 above the 20 years' average, and +12 more than 1865 had. The extremes were 672 at 1 p.m., on the 12th, 283 at 7 a.m., on the 20th. In the previous 25 years, only 1861, 1858, 1857, and 1856, had a higher mean.

Humidity mean was 66, being  $-4\frac{1}{2}$  below the 20 years' mean, and -8 less than in 1865.

Cloud mean was only 4.66, which is—1.03 less than the 20 years' average, and —1.84 below 1865. In the 25 years' records, only Februaries 1858 and 1844 had a smaller mean.

Ozone had the maximum of 10 (saturation) on the 12th and 28th, and the minimum of 5 on the 2nd. The mean, 8.05 being +1.04 higher than the mean of the previous 8 years, and even +0.24 above 1865. This high degree of ærial purity must principally have arisen from the numerous sea-breezes, together, perhaps, with the abundance of positive electricity. While many other of the phenomena this month were adverse to health and life, their evil influences were much counteracted by this very general atmospheric purity.

Electricity had 16 positive indications, with maximum tension of 6.5, while February 1865 had only 3 with maximum tension of 4. Negative indications were 38, with maximum tension of 6.5 also—1865 had 42 negative records with maximum tension of 7. "Nil" was only registered twice, on the 9th and 12th. In February 1865 there were 11 "nils." Lightning was seen on the evening of the 19th, the day after the hot wind. No Thunder was heard during the month.

The 54 Deaths in the present month are -5 4-9ths less than the February average of the previous nine years, - five out of the nine having a much larger mortality, 1857 the same in number, last year one less only, but 1864 and 1861 respectively 7 and 12 less. The analysis of the ages at death, and the diseases causing death, will, however, give a clearer idea of the lethal peculiarities of the month under review.

366.	Ages.	1866.	g Februaries.										yrs. 865	
51   Feb., 1866.		Jan., 18	865	1864	1863	862	Min'61	60	Max59	58	29	18. 9 57-18		
Fe		Ja	18	18	18	18	M	1860	M	1858	1857	AT	18	
	Under 1	9	15	10	25	21	8	22		34	1000000	20	5-9	
7268	1 to 5     5 to 20	$\begin{vmatrix} 1\\0 \end{vmatrix}$	52	4	$\begin{vmatrix} 9\\2 \end{vmatrix}$	9	$\frac{10}{2}$	$\frac{13}{3}$	$\frac{11}{2}$	16	51	9 1	1-9 6-9	
6	20 to 45	5	7	11	12	8	3	10	18	8	10		6-9	
	45 to 60	5	9	8	5	11	8	14	5	-5	8		1-9	
15	60 and above	11	15	13	16	8	11	5	8	6	11	10	3-9	
54	in the plotter	31	53	47	69	58	42	67	75	70	54	59	4-9	

" Under one year of age" the deaths are considerably below the average, and only one more than 1865 had. Six out of the nine years had a mortality at this age above that of the present month. At "1 to 5 years of age" the mortality was also below the average, though 2

more than 1865 had, Six of the nine years were much more numerous.

At "5 to 20" the deaths were slightly above the average, but the same in number as last year.

At "20 to 45" the number was much below the average, and one less than in 1865. Only 1861 had a smaller mortality in this group of ages. At "45 to 60" the deaths were slightly below the 9 years' average, and one

less than 1865 had.

At "60 and above," the deaths were nearly one half more than the average -only 1860 had more, and last year had exactly the same number. It is thus evident that more than two thirds of the mortality of the month has fallen upon children below 5 years old, and old people above 60, the latter, and at "5 to 20," being alone above the nine years' February rate.

9981 Classes of Disease	1866		9 yrs. 865.								
Classes of Disease	Jan., 1	1865	1864	1863	1862	Min. '61	1860	1859	Max.'58	1857	Avg. of 1857-1
241. Zymotic72. Constitutional133. Local74. Developmental35. Violent &c.	$     \begin{array}{r}             6 \\             4 \\           $	$     \begin{array}{c}             11 \\             11 \\         $	3 8 27 8 1	14	$27 \\ 9 \\ 15 \\ 5 \\ 2$		$\frac{13}{28}$		6	$     \begin{array}{r}       7 \\       6 \\       32 \\       7 \\       2     \end{array} $	$18 \ 6-9 \\ 9 \ 2-9 \\ 23 \ 1-9 \\ 5 \ 6-9 \\ 2 \ 7-9 \\$
54	31	53	47	69	58	42	67	75	70	54	59 4-9

In the 1st or Zymotic Class of diseases, the deaths were considerably above In the 1st or Zymotic Class of diseases, the deaths were considerably above the nine years' average. 19 were from bowel-complaints, of which 12 were under 2 years old, one at 49, and all the rest above 60. Last year these complaints only caused 8 deaths, *i.e.*, 7 below 2 years old, and only one above 60; other years, however, suffered a much greater mortality from bowel-complaints than the present. For instance, in February, 1863, there were 21 deaths from these diseases; in 1862, 25; in 1859, 22; in 1858, 24. In the 2nd or Constitutional class of diseases the deaths were considerably below the average, and still fewer than 1865 had. Indeed, only the first two years of the series of 9, had less than the present. Two of the 7 deaths were from Cancer, at 41 and 80 years old respectively. The rest were from Con-sumption, of which two females, aged 14 and 22, were born in Tasmania. Last year the deaths from consumption were 6, but only one born in Tasmania.

Last year the deaths from consumption were 6, but only one born in Tasmania. The 3rd or *Local class* of diseases, had a mortality very much below the average, and considerably less than any other February in the 9 years recorded.

In the 1st order of this class, Diseases of the brain and nervous system, the deaths were 9, being 3 more than 1865 had. In the 2nd order, Diseases of the heart and circulatory system, there was only one death, while 1865 had 6. In the 3rd order, Diseases of the lungs and respiratory system, there were 2 deaths. Last year had 3. There was only one other death in any of the other Last year there were 2 in the orders of this class, *i.e.*, the 5th, or Urinary. 4th, and one each in the 6th and 8th orders.

The 4th or Developmental class of diseases had above the average deaths though one less than either of the two preceding Februaries had. Four were infants, one a year old, one two months old, and two under a month. The three old people were aged 70, 81, and 85 respectively. The two last died at the male Invalid Asylum.

The 5th or Violent and accidental class of diseases had slightly more than the average through precisely the same in number as 1865 had. One was from burns; another a fall causing fracture in the neck, the third knocked down by a race-horse.

The deaths this month on which inquests were held, were 4. Last year had 3. In *Hospital*, inclusive of two of the deaths on which inquests were held the mortality was 9, 1865 had 15. Two only in the present month were received into hospital from other districts, last year had 7.

into hospital from other districts, last year had 7. Of the 54 deaths, 30 were males, 24 females, a much more normal proportion than in 1865, when they were, 36 and 17 respectively. In the *Glenorchy* and *Queenborough* divisions of the registration district, the deaths were 2 and 4, all the rest died in the city.

On four days in the month no deaths took place. In the first week there died 13; in the second 12; in the third 16; in the fourth 13. The greatest number of deaths on any two consecutive days were 7 on the 21st and 22nd.

number of deaths on any two consecutive days were 7 on the 21st and 22nd. The registers of births were 53, being 14 less than in 1865 - but the Registry Office was closed on more days than usual from public holidays.



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