

## JANUARY, 1872.

PRIVATE OBSERVATORY, HOBART TOWN.

Day of Month.	Bar. 37 feet abv. sea level corrected & reduced.		Self-Registering Thermometers.				Wind.		Rain in inches.
	Highest.	Lowest.	Highest in shade.		Highest in sun.	Lowest on grass.	Direction from three daily re- gisters.	Force in lbs. per square foot.	
			Lowest in shade.	Lowest in shade.					
1	29 862	29 763	76	46	112°0	41°0	NW SE	1 30	0·08
2	29 612	29 497	71	47	107°0	46°0	NW SW	8 33	
3	29 919	29 906	71	40	111°5	36°0	NW NE NW	5 20	0·23
4	29 994	29 859	69	50	98°0	47°5	NW SW NW	5 52	
5	30 197	30 165	74	44	112°0	41°0	NW SE	1 04	0·05
6	30 151	30 049	77	52	112°0	48°0	NW SE	1 04	
7	30 065	30 025	77	56	112°5	55°5	N SE	1 04	0·21
8	29 947	29 943	78	58	111°0	51°0	NE SE NE	3 12	
9	29 813	29 667	96	62	126°0	53°5	NW SE	7 78	1·10
10	29 719	29 685	77	60	84°5	59°0	NW SW	1 04	
11	29 915	29 871	71	43	110°0	40°5	SW SE	1 30	0·26
12	29 991	29 963	75	46	110°0	43°0	SW SE	1 30	
13	30 028	30 005	69	53	72°0	51°5	SW NE SE	1 30	0·23
14	29 960	29 762	82	59	119°0	56°0	NW SE	1 56	
15	29 857	29 841	81	60	93°5	59°0	SE	5 99	0·05
16	29 664	29 451	92	62	124°0	60°0	NW	5 73	
17	29 559	29 364	86	56	120°0	51°5	NW SE NW	1 30	1·72
18	29 941	29 818	77	55	116°0	52°0	SW SE S	1 04	
19	29 945	29 873	76	50	114°0	46°5	NE SE	1 04	0·05
20	29 960	29 865	77	53	115°0	53°0	NW SE	1 04	
21	29 672	29 425	85	55	122°5	53°0	N SE	10 41	0·05
22	29 477	29 170	84	59	105°0	62°0	SW	1 30	
23	30 065	30 034	80	49	109°0	46°0	S SE	1 04	0·05
24	30 381	29 982	77	47	117°0	43°0	SW SE	1 04	
25	30 044	29 967	78	57	115°0	56°0	NW SE	2 86	0·05
26	29 760	29 514	85	58	118°0	56°5	SW SE	7 80	
27	29 818	29 799	80	55	115°0	54°0	NW	1 56	0·05
28	29 983	29 825	80	53	115°5	49°0	NE SE	5 20	
29	29 612	29 591	82	59	119°0	56°0	NE NW	1 78	0·05
30	29 747	29 661	76	56	110°0	51°0	SE NE	1 04	
31	29 617	29 517	80	55	117°0	50°5	NW W NW	1 04	
Monthly Mean	66·81	111·06	50·60	Total Force	77·52	1·72			
	29 822								

The mean in all cases is taken from the sums of the three daily registers, and not from the maximum and minimum.  
 The direction of the wind is registered from currents moving at a height of 102 feet and the force according to Lind's Wind Gauge. The supposition, however, of a uniform velocity during the month is a very arbitrary one, and the results can be considered only approximately correct.  
 The relations of the quantities of rain which fell under the different winds are registered each evening at sundown.  
 The 25 years' standard tables are used for obtaining the difference from the average.

*Leaving, Flowering, and Fruiting of a few standard plants in the Royal Society's Garden during the month.*

- 8th.—First apricot gathered (Roman).  
 11th.—Jargonelle pear ripe.  
 12th.—Veronica angustifolia in flower.  
 15th.—Grevillea robusta in full flower.  
 18th.—Mulberries commencing to ripen.

Barometer mean, 29 822in., being 0·95in. below the average.  
 Temperature mean, 66·81°, being 0·03° below the average.  
 Solar intensity mean, 111·06°, being 1·42° above the average.  
 Dew point mean, 52·6°, being 2·05° above the average.  
 Humidity of air mean, 64, being 03 per cent. below the average.  
 Elastic force of vapour mean, 419, being 046 per cent. above the average.  
 Total amount of rain, 1 72in., being 1 36in. above the average.  
 Increase of spontaneous evaporation on rainfall, 3·80in.  
 Mean amount of ozone, 7·09, being 0·22 of chromatic scale above the average.  
 Electricity active on the 1st, 2nd, 4th, 11th, 12th, 18th, 19th, 23rd, and 24th. Thunderstorm on the 8th.

FRANCIS ABBOTT.

## NOTES ON THE METEOROLOGY AND MORTALITY OF THE HOBART TOWN REGISTRATION DISTRICT DURING THE MONTH OF JANUARY, 1872.

BY E. SWARBRECK HALL.

The meteorology of this month is quite peculiar, and had not some of the phenomena most adverse to health and life been counteracted by others of the opposite character, the health of the community would have been seriously affected, and the death-rate have been much in the excess of the 15 years' mean for January. As it was, the excess of deaths is scarcely appreciable, being only the fifteenth of one, and no epidemic disease became prevalent.

From the commencement of this year the meteorological standard of comparison for my monthly notes will be (in most of the phenomena) for 30 years instead of for 25 years as before. By the conjoint labours of Mr. Francis Abbott, F.R.A.S., Mr. Roblin, Curator of the Royal Society's Museum, and myself, tables for the longer period have been compiled, thus extending our Meteorological Records from 1841 to 1870 inclusive. They will soon be in the hands of the Government printer, and available for all interested in the subject.

*Atmospheric-pressure* mean, 29·822, was only + '078 above the 30 years' mean. The maximum, 30·381, occurred on the 24th, the minimum, 29·170, on the 22nd, so that the whole range of the month was 1·211 inches, and recorded within two days. This is by far the highest range in any January since 1855, except 1856. Between the morning observations of the barometer on the 22nd and 23rd the mercury rose + '864 of an inch. In January, 1856, it was 1·014, but no other January approached to anything near that of the present month. On 13 other days the variations of atmospheric-pressure were above one-fifth of an inch. The lethal influence of this, conjoined with great heat, and wide alterations of temperature, was exemplified in the heavy death-rate from diseases of the brain, &c.

*Wind-force* total, 77·52 5· lbs., was + 176 lbs. above the mean. The ozone-bearing, health-promoting, gentle sea breezes from the South East were the greatest in number, but those of the opposite character from the North West were the greatest in force. The four strongest winds recorded had 5·21 lbs. pressure to the square foot each, three were from the North West on the 2nd, 16th, and 17th, the other a South West on the 22nd, when the barometer attained its minimum. Hot winds were recorded on the 9th, 16th, 21st, 22nd. *Calms* were 19, being - 2·10 below the average.

*Temperature* mean, 66·81 degrees, was + 4·12 above the 30 years' mean for January. Only January 1856 had a higher mean, *i.e.*, 71·10. The greatest high-day temperature was 96 degrees on the 9th. The smallest low-night temperature was 40 degrees on the 3rd, giving the extreme range for the month of 56 degrees, the same as in the month of December preceding. Only January 1849 had a wider range, the maximum being 105—(the highest ever recorded here)—the minimum 43. The *wet bulb* thermometer mean was 59·31 degrees, being + 3·41 above the 30 years' standard.

*Daily range of temperature* had the mean of 25·00 degrees, being + 4·36 above the 30 years' standard average. Three years only had higher means, *i.e.*, 1862, 25·03; 1856, 25·13; 1841, 25·50. The greatest range in any twenty-four hours was 34 degrees on the 9th.

*Solar intensity* mean, 111·06, was + 3·04 above the mean of the 15 years recorded in the standard tables. The years 1856, 1857, 1862 only had higher means. The maximum was 126 degrees on the 9th, this has been exceeded in nine years out of the 15.

*Terrestrial radiation* mean, 50·60 degrees, was - '10 below the 15 years' average. The maximum was 62 degrees in the night of the 22nd, the minimum 36 degrees in the night of the 3rd.

*Elastic force of vapour* mean, 419, was + 46 above the 30 years' average. In only three years was this mean exceeded, *i.e.*, in 1856, 1859, 1861. The range of the month was from minimum 214 on the morning of the 3rd, to maximum 675 at 1 p.m. on the 16th.

*Humidity* mean, 64, was - 3 below the 30 years' standard.

*Rain* fell to the aggregate amount of 1·72 inches, which is + '15 of an

inch above the 30 years' mean for January. The greatest part of it (1·31 inches) was precipitated in 26 hours following the hot-wind on the 9th. This was a most beneficial event on sanitary grounds, as it gave a thorough cleansing to the gutters, drains, sewers, &c., which, from the previous long continued dry weather, were full of decomposing organic matters, and very offensive. The death records give one instance at least of the effects of such filth accumulations; a boy of 16 died in Hospital from Pythogenic or Typhoid fever, or more expressively *filth-fever*, taken from a bad street in the centre and lower part of the city. Every year's delay in properly sewerage the city is causing an increased saturation of the soil with the seeds of this and other zymotic diseases, as well as adding to the ultimate expense which will be entailed upon the citizens. Fortunately our water supply is not liable to be contaminated with the soakage of these pestilential products, but it behoves every family to pay great attention to their water butts and cisterns, for the dust which is so great in dry windy weather is loaded with animal ordure and other organic matters, and settles abundantly in the uncovered receptacles of water, and there rapidly ferments and decomposes. Every water-cask ought to be thoroughly cleansed at least once a week. I demonstrated to the Royal Society some years ago how full of living creatures water long stored in casks, &c., became. Our mountain supply of water could not at its origin be of a purer quality; but no pains or expense should be spared to deliver it uncontaminated to the citizens. Too much obnoxious dust settles in the reservoirs at the Cascades, and even in the covered one in Hill-street, owing to the opening in the latter's gables not being screened with gauze wire as I long ago suggested should be done. The proposal before the Municipal Council to convey the water from the "Springs" to the "bower" in pipes, instead of the open channels, is in every sanitary respect highly desirable, but there should be no union of different metals in their construction. Nevertheless, I must repeat what I have said heretofore, that since the new waterworks came into operation deaths from Diarrhoea in the city have been much diminished, though liable to augment again from the increasing accumulations in the vile cess-pits and cloacæ so prevalent in the city. The dread penalty paid by so many towns in Great Britain for this sort of sanitary neglect and mismanagement ought to warn the authorities of all the young cities and towns of the southern hemisphere, how they overlook these most important matters. Pure as is the air we receive in our happily situated island, it can, and will be polluted by local neglect of scavenging, sewerage, and ventilating, and human lives will have to pay the penalty of such want of hygienic forethought. The rain fell on 6 days, which is — 2·93 below the average of 16 years.

*Snow* was never seen on Mount Wellington this month.

*Spontaneous Evaporation* amounted to 5·52 inches, thus far exceeding precipitation, as was sure to be the case with so much wind and heat.

*Cloud* mean, 4·92, was — ·82 below the average.

*Ozone* had the mean of 7·09, which is + ·16 above the January average for the 13 years of the new standard tables. On four observations saturation (10) was recorded.

*Electricity* had 23 positives with tension from 3 to 8·5, and 32 negatives with tension from 1·5 to 5·5. Nils were 7. *Thunder* and *lightning* were observed on the 8th.

There were 50 deaths during the month, being +  $\frac{1}{15}$  above the January average for the previous 15 years, and only + 3 more than 1871 had. Under one year old there were 18 deaths—being one only more than January 1871 had. From 1 to 5 there were 4 deaths; 1871 had not any. From 5 to 10 one death; 1871 also one. From 10 to 15 no deaths; 1871 the same. From 15 to 20 two deaths; 1871 none. From 20 to 60 there were 18 deaths, being + 4 more than in 1871. At 60 and all ages above, the oldest being 94, there were only 7 deaths, while 1871 had 15. In the *Zymotic* class of diseases there were 13 deaths, being + 7 more than in the previous month, December 1871. Typhoid fever 1; croup 1; erysipelas 1; pyæmia, after wound in the hand 1; diarrhoea 9, mostly very young infants. In the *Cachectic* or constitutional class there were 7 deaths, 2 of them from *Consumption*, one of them a girl of 20 being a native of Tasmania, the other a sailor from a ship in harbour, a half-caste native of New Zealand, aged 24. In *diseases of the brain and nervous system* there were

14 deaths, being twice as many as in the previous month of December. In diseases of the heart, &c., only one death. In diseases of the lungs, &c., only one, which is remarkable with such wide daily ranges of temperature, and verifying the remark I have often had occasion to make, that mere alterations of temperature do not cause diseases of the organs of respiration to the extent that they do in the British Isles. In the other classes there was nothing unusual. In the Hospital there were 13 deaths, 5 of them not belonging to the Hobart Town registration district. There was only one *Inquest*, a suicide from poisoning with strychnine. At the *Cascades Invalid Asylum* there was only one death of a man aged 94, but a child of one of the officers of the House of Correction there died at the age of 4 months, as its fellow-twin did on the 24th of December previous, but which was not entered into my report for that month, as the death was not registered until the 11th January, notwithstanding the penalty the Act provides for such neglect. At the *Brickfields Male Invalid Asylum* there were two deaths, one aged 75 the other 77.