On the weather at Cannes during the season 1875-76 : a report of meteorological observations made at Cannes from November 1, 1875, to April 30, 1876, with remarks / by W. Marcet.

THE

WEATHER AT CANNES

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ON THE

WEATHER AT CANNES

DURING

THE SEASON 1875–76

A REPORT OF METEOROLOGICAL OBSERVATIONS MADE AT CANNES

FROM NOVEMBER 1, 1875, TO APRIL 30, 1876

WITH REMARKS

BY

W. MARCET, M.D., F.R.S., F.M.S.

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THE WEATHER

ON

THE MEDITERRANEAN COAST OF THE SOUTH OF FRANCE.

After a usually dry and hot summer on the Riviera nature begins to suffer much from the drought, and man, animals, and plants all rejoice at the warm and welcome rain which falls in November and December. Early autumn visitors on the Mediterranean coast are not unlikely to complain of the weather on their first arrival, and often the earliest impression of the Southern climate is anything but favourable. They have reason, however, to be thankful for this period of rains, which is beneficial in every way, as it clears the atmosphere of vegetable and animal dust, often odoriferous and most objectionable, while the water used for drinking becomes cleansed of the impurities it had unavoidably acquired during the dry summer, and after the rain is over becomes pure and sparkling.

Nature wakes up afresh during these early winter rains; grass sown in expectation of wet weather, as lawns have to be dug up and sown afresh every season, sprouts and grows with wonderful activity; the air becomes fresh and bracing, without feeling cold or even chilly, except at and after sunset; and the winter season on the Mediterranean coast has fairly set in. Looking back to the notes of the weather I have taken since my second winter spent on the Riviera, I find that at Nice, in 1872, on October 16 there was rain and a thunder-storm, with

strong north-east wind, rain on the 17th, on the 18th, 19th, 20th, 21st, 22nd, 23rd, 24th (weather then very bad), rain also on the 26th, 27th, and 28th. The weather then turned fine. In November there were only eight days on which rain fell. December was wet.

In 1873 I arrived at Nice, on October 16, in a thunderstorm, with very heavy rain; between that day and the end of the month there were nine days on which rain fell. In November rain fell on nine days, and there was a beautiful winter season, much the finest of the five winters I have spent in the South of France. In 1874 I arrived at Cannes on October 9; there were five wet days during the remainder of that month, viz., from the 15th to the 20th, with one day's interruption. On the 18th and 20th there were heavy gales from the NE. with rain. In November rain fell on eight days. December was a wet month. In 1875 I arrived at Cannes on October 23. In the latter part of October rain fell on the 27th, 30th, and 31st. In November there was the usual number of eight days on which rain fell. Altogether the season was not so fine as usual, and the number of rainy days exceeded that in any of the other seasons. As a rule, by the middle of November, and often sooner, the lawns and gardens look as green and fresh as in England by the end of May.

The rainy period usually continues throughout December, but in January there is in general a very small number of wet days.

I now beg to subjoin in a very concise form a general view of the weather on the Mediterranean coast of the South of France, extracted from my notes for the seasons 1872–73, 1873–74, 1874–75 and 1875-76.

November.—That month is remarkable for the regularity with which the number of days, fine, overcast, and rainy, follow each other respectively. The fine days amount to 19, 20, 20, and 20 in each year respectively, giving a mean of 20. The days overcast, or with no sun and without rain, yield a mean of 2·2, and those on which rain fell equal a mean of 8·5.

	NICE						CANNES					
	1872–73			1873–74			1874–75			1875–76		
Days	Fine	Overcast	Rainy	Fine	Overcast	Rainy	Fine	Overcast	Rainy	Fine	Overcast	Rainy
November .	19	3	8	20	1	9	20	2	8	20	3	9
December .	12	5	14	26	4	1	18	0	13	21	2	9
January .	20	6	5	26	2	3	23	5	3	14	3	14
February .	19	5	4	18	4	6	15	4	9	24	2	3
March .	20	1	10	26	1	4	21	3	7	19	2	10
April . .	21	0	9	21	1	8	20	1	9	15	0	15
	111	20	50	137	13	31	117	15	49	113	12	60

December shows a number of fine days, the mean of which is 19·2; those in December 1873 amounting to no less than 26. The overcast days (without sun or rain) number five and four in 1872 and 1873 respectively; there are none for that month in 1874, and two in 1875. The number of days on which rain fell in December varies from one year to another. There was only one in the beautiful season 1873–74, the mean of the four years being 9·2.

January was the finest month in three out of the four seasons; it exhibits, however, 14 wet days and 14 fine days last season, against a mean of 23 fine days for the three others. The mean for the four seasons numbers 20·7 (fine days). The mean number of days without sun or rain was 3·1. The days on which rain fell varied from three in 1873–74 to fourteen in 1875–76.

February.—The number of fine days varies from 15 in 1875 to 24 in 1876, with a mean of nineteen. The number of days overcast for the four seasons shows a mean of 3·7, while that of the rainy days equals a mean of 5·5.

March.—With the exception of March 1874, the number of fine days in that month is much the same in the several seasons under consideration. They amount to a mean of 21·5 for the four years. Their number in March

and January in the four years respectively shows but very little difference. The rainy days in March vary from 4 in 1874 to 10 in 1873 and 1876, exhibiting a mean of 7·7, while the days overcast (without rain) are very few, numbering 1, 1, 3, and 2.

April also exhibits a large number of fine days, ranging from 15 to 21 in the four seasons, with a mean of 19·2. The number of fine days in April was much the same in every season, except in the last, where it fell to 15. The rainy days vary from 8 to 15 for the four seasons, with a mean of 10. There were hardly any overcast days without rain.

If we write out the several months in succession, beginning with those with the greatest number of fine days, we shall have the following table:—

	Mean Number of Fine Days	Mean Number of Rainy Days
	°	°
March	21·5	7·7
January	20·7	6·2
November	20·0	8·5
December	19·2	9·2
April	19·2	10·0
February	19·0	5·5

Which shows how very nearly the mean number of fine days is the same in every month of the season, March and January including the greatest, while April and December exhibit the largest number of rainy days.[1]

Meteorological Observations made at Cannes from November 1, 1875, *to April* 30, 1876.

Last winter I published a record of observations for the season 1874–75, of which the following may be con-

[1] I only wish these remarks to be considered in a general point of view, and it should be remembered that the weather at Cannes and Nice is not always the same, although usually so, the two towns being both on the sea side, and only about twenty-one miles distant from each other. Cannes, however, is farther from the range of the Maritime Alps than Nice; there is about 46 miles as the crow flies from Cannes, and 31 miles from Nice to the nearest part of the range.

sidered the sequel. The present observations extend over the whole of the six months from November to April last, and were made twice a day regularly—in the morning at nine o'clock, and at night between eleven and twelve o'clock.

The instruments were all manufactured by Casella, of Holborn, London, and consisted of a barometer, a maximum, minimum, dry-and-wet-bulb thermometers, and a thermometer with a small trough, used for taking the temperature of the sea.

The maximum and minimum thermometers were placed under a deal screen, with no front or back to it, so that the air could move freely over the instruments, east and west. The two thermometers were hooked horizontally to two upright rods fixed to the upper side and floor of the box. The instruments were thus sheltered from the effects of radiation.[1] Mr. Casella had disposed the dry-and-wet-bulb thermometers in a perforated mahogany box, and this was hung up at the corner of the screen in which the other thermometers had been placed.

The screen was made fast to the railing of a balcony on a first floor on the north side of the house. It was far enough from the glazed door opening on that balcony to eliminate any influence from the temperature inside the house. A wall on the east side of the balcony kept off the east wind, while access of air was tolerably free from the north and west. The instruments are graduated partly with the Centigrade, partly with the Fahrenheit scale, and I subsequently transformed the Centigrade readings into Fahrenheit divisions with the assistance of Dowling's Tables. The relative degree of humidity was calculated from the readings of the dry-and-wet-bulb thermometers, according to Glaisher's Hygrometrical Tables.

The temperature of the sea-water was ascertained by means of a thermometer (with a small trough) lowered

[1] If any radiation took place it must have been very slight; indeed, the night and minima readings may be rather high in comparison with corresponding observations made in a spot fully exposed to the winds, and away from the warming influence of houses.

directly into the sea, in which it was held for some moments; in a few cases only the temperature was taken in a large pitcher, filled with sea-water from rocks situated near my house. The observation was always carefully made, and the reading only recorded when the temperature was found to be constant after repeated trials.

I shall beg to commence by giving a general view of the weather in each month seriatim, premising that on the whole the weather, often so fine on the Riviera, was less so than usual last season. There were during *November* (as stated previously) twenty fine days, two days overcast without rain, and eight days on which rain fell. By *fine days* is meant those with a bright blue sky—perhaps a few fleecy clouds will appear, blowing off in the evening; a cloudy day will either turn fine in the afternoon or resolve itself in a day overcast or rainy, hence it is that I have not adopted the word *cloudy* as a heading. *Rainy days* are entirely irrespective of the amount of rain fallen; a day with perhaps only a slight shower being considered as rainy. The first days in November were dull and overcast—day and night, with light winds (rain fell in the night of October 31); the morning of November 3, however, was beautiful and calm. It rained on the 4th, and on and off on the 8th. On the 6th a NW. (mistral) gale rose in the evening about six o'clock, and continued for three full days, moderating at intervals; a three-quarter gale blew on the 12th; the 13th and 14th were fine, although still windy. On the night of the 10th there was a double halo round the moon; a halo was also visible on the nights of the 11th, 12th, 13th, and 14th; during this windy period, the barometer fell from 30·01 inches on the 4th to 29·62 on the 11th, when it rose again. The relative humidity ranged from 77·8 on the 3rd to 57·8 on the 9th (rising to 78·6 on the 8th), and the temperature at 9 A.M. varied from 53°·6 on the 1st to 61°·8 on the 14th. On the 11th there was rain in the morning and another short puff of mistral. Three-quarters of a gale blew on the 12th; the 13th and 14th were fine, although still windy. The 16th, 17th, 18th, and 19th were calm and beautiful.

On the 20th there was a return of mistral (violent gale) day and night, but the 21st was calm and beautiful. Rain fell on the 23rd, 24th, and 25th; the 26th, 27th, and 28th were fine; it rained on the 29th, and the 30th was overcast. The mean relative humidity from October 27 to November 30 was 69·9, which is comparatively low, as usual when the NW. wind prevails.

December shows 18 fine days, 0 overcast, and 13 days on which rain fell. While November was an unusually windy month, with only five calm days, December exhibits fifteen days without wind; there were twelve days on which light winds blew, and four days with winds —strong to a gale. December set in with rain during the first three days, to which succeeded a fine day followed by another wet one. From the 5th to the 17th, with the exception of half-an-hour's rain, the weather was beautiful, occasional light clouds or a few cumuli appearing at the horizon. Rain fell on the 17th, 18th, 19th and 20th, and then the weather remained fine, the sky being often cloudy in the morning, and clearing up about midday. December proved colder than November; indeed, it was the coldest month of the season, the mean temperature being 46°. The mean degree of relative humidity at 9 A.M. was 72.

January exhibits fourteen fine days, three overcast, and fourteen rainy. Although, as a rule, January is a fine month on the Riviera, it was anything but so last season. It set in with four fine days and a light breeze mainly from a northerly direction; the barometer stood high at first, falling from 30·35 on the 1st to 29·86 on the 4th. From the 5th to the 15th there were one fine day, two days overcast, and seven days rain, with a prevalence of east wind. On the 12th a great fall of the barometer took place from 30·30 on the morning of the 11th to 29·60 on the 12th in the evening. A strong east wind, blowing half a gale at times, began on the evening of the 12th and lasted till the evening of the 13th.

On the 15th the weather became fine and remained so

till the 20th, when rain fell again two days in succession, the 23rd and 24th were fine, the three days following were wet, and the last three days of the month were fine with the exception of one day overcast. The mean relative humidity for that month at 9 A.M. was 68·9.

February has twenty-four fine days, two days overcast, and three days with rain. This was a very fine month. It commenced with rain in the afternoon on the 1st, followed by seven fine days in succession; the mistral (strong west and north-west wind) blew uninterruptedly from the 4th till the 9th, attended with much dryness of the air, its degree of moisture ranging from 87·4 on the 3rd to 42·4 on the 6th, after which the relative humidity increased again till the 10th; rain fell during the night of the 9th. Again there was a spell of eleven successive fine days, during which time the relative humidity at 9 A.M. varied from 92·8 to 62·4; on the 19th at 3.30 P.M. with a strong west wind the relative humidity fell to 51.2. The prevalent wind during that time was westerly, but there were several days without any wind, or with a very light breeze only. February 22 was overcast, and the 23rd was overcast with an appearance of mist; from that date till the end of the month the weather was fine. On the 23rd and 24th there were gales from the NW., but the 25th was a beautiful day with a light breeze. On the 26th a strong south-west breeze continued from morning till night. On the 27th there was a strong west wind, falling in the evening; on the 28th it rose again; and the 29th was fine with a light south breeze. Mean relative humidity at 9 A.M. 71·0.

March shows nineteen days fine, two overcast, and ten rainy. The month begins with six fine days; on the 1st a very strong NW. gale rose suddenly at 10 P.M. and continued next day till noon, when it abated, but wind blew more or less all day; from that time till the 7th the weather was calm or there were light breezes only. The 7th was overcast, and again the mistral blew. The 8th was fine; on the 9th, 10th, and 11th rain fell, a gale blew

from the west or west by south during those three days. From the 12th to the 18th was a period of fine weather, but again the westerly wind, strong to a gale, blew on four of these days. The 19th and 20th were fine, with west wind from light to strong on the 19th; the 21st was also fine, with a strong easterly wind. As usual with easterly wind, the rain was not long in coming, and on the 22nd rain fell; the weather felt very cold. The next day, however, the wind having subsided, although still strong out at sea, the afternoon turned out fine and warm. Rain again fell on the 24th and 25th, strong east wind blew on the 24th, and the mistral returned on the 25th—the night of this last date was fine; 26th and 27th were fine; the mistral, which had continued all night of the 25th, subsided on the 26th. A calm fine morning on the 27th, with east wind and a little rain later in the day. On the 28th wind mostly from the north-east from light to strong, again some rain. The 29th was fine, calm, though not free from clouds, and with a shower in the afternoon. The 30th was a beautiful morning with light breeze; the 31st was also fine; there was a strong E. wind blowing all day and night. Mean relative humidity of the atmosphere for that month at 9 A.M. 68·9.

April exhibits 15 fine days, no days overcast, and 15 days on which rain fell. The 1st and 2nd were days with rain in the morning, fine afternoons, and light breeze. After this we find a succession of twelve fine days, up to the 15th. Till the 13th the air was, as a rule, calm, or a light breeze only was blowing; the sky was blue, with a few light fleecy clouds. On the afternoon of the 3rd and 7th only, a puff of south wind blew in the afternoon. The weather felt quite warm and most agreeable, the maximum temperature reaching to 68° and being only one day (April 3) so low as 59°. The mistral (a SW. gale) began blowing on the 13th early in the morning; in the afternoon and evening it had veered to W. and NW. On the 14th the wind had shifted to the east and blew strong; the 15th rain fell, while the east wind continued. On the 16th

west wind and rain are recorded; rain also fell on the 17th and 18th, which were calm days; rain again on the 19th and light easterly breeze. Rain fell on the 20th, 21st, 22nd, 23rd, 24th, and 25th. On the 20th the wind was S. by E.; 21st was calm, on the 22nd a SE. puff, and the 23rd, 24th, and 25th calm. After this long wet period there were two fine days calm,—the 26th, 27th; the 28th was fine and calm, but with a slight shower in the evening. The 29th was dull and showery, and a strong NE. wind was blowing. The 30th, or last day of the season, was fine; in the afternoon and at night the clouds were seen moving slowly from east to west. Mean relative humidity at 9 A.M. for the month, 75·5.

We shall now proceed to consider in a tabular form the state of the atmosphere with respect to the motion of the air.

Last autumn and winter, on the Mediterranean coast of the South of France, there were more rainy days, and the winds were more frequent and higher than usually. The following table with respect to the winds bears out this fact:—

STATE OF THE ATMOSPHERE (WINDS).

SEASON 1874-75				SEASON 1875-76						
				Day			Night			Main Directions of the Wind
	Calm	Light to Fresh	Strong to a Gale	Calm	Light to Fresh	Strong to a Gale	Calm	Light to Fresh	Strong to a Gale	
November .	19	6	4	5	14	11	8	14	7	NW.
December .	14	10	7	15	12	4	12	18	1	N. and E.
January .	20	5	6	8	18	5	4	22	4	N. „ NE.
February .	15	9	4	4	8	16	11	10	8	W. „ SW.
March .	4	22	5	2	11	18	9	11	10	NW., W., NE.
April. .	3	15	12	5	16	9	17	7	3	E. and S.
	75	67	38	39	79	63	61	82	33	

Perhaps the number of calm days *recorded* is fewer in the 1875–76 than in the preceding season—in some measure because more attention was given to the winds in the latter season, days with a light breeze being occasionally reckoned as calm in the first season. It may, therefore, be more correct to consider in the two seasons the days calm and with wind light to fresh collectively. In the season 1874–75 there were 142 days either calm or with wind light to fresh, while in the season 1875–76 the number of days of this description amounted only to 118. On the other hand, instead of 38 days in 1874–75 on which the wind was strong to a gale, there were 63 days in 1875–76 recorded under that same heading. Hence it is that the autumn and winter of last season were much more windy than the autumn and winter of 1874–75. On clear starlight nights a light northerly breeze frequently blows, and I have often observed it between 11 and 12 o'clock at night; if the sky should be overcast the night is perhaps calm, or an easterly breeze from light to fresh may be blowing, but as a rule the nights are calm, or a light northerly land breeze is felt. This accounts for 82 nights with a breeze light to fresh. On the whole the air is much calmer at night than in the daytime, as we observe 61 calm nights and 82 nights with wind light to fresh, against 39 calm days and 79 days on which the wind is recorded as light to fresh. In the season 1874–75 April alone was a windy month; while in the season of 1875–76 November, February, and March were very windy, especially March. In March and April (together) 1874–75 there are 17 days under the heading strong to a gale, while there are 27 days under the same heading in 1875–76. In February 1875 there are 9 days on which the wind was strong to a gale, against 16 in February 1876. On the other hand, December and January were very calm in both seasons—in the first (1874–75) there were 49 days, and in the second (1875–76) 53 days calm or with a breeze light to fresh (mostly light).

In my report of the weather for the season 1874–75,

I alluded to the characters of the wind called *the mistral.* It is a north-west wind (though it blows occasionally from the west or south-west) varying from strong to a gale, always attended with a fall of the barometer, and as a rule very dry. It will be observed in the monthly account of the weather given above that the relative humidity, as ascertained by the dry-and-wet-bulb thermometers, is always low when the mistral prevails.

With respect to the influence of the mistral upon health, persons subject to rheumatic pains or inclined to hysteria, with a weak state of the heart and feeble circulation, may feel a temporary return of their ailment when this wind blows; some even will say they can feel the mistral coming, which is, probably, a circumstance due to the dryness of the air. I do not think that in sheltered situations (and there are many places at Cannes and in its immediate vicinity where the mistral is hardly felt at all) persons suffering from pulmonary affections are the worse for that wind, although the extreme dryness of the air may prove objectionable in bronchitic affections and diseases of the throat. There is little doubt, I think, that after long-continued dry weather the throat becomes more irritable, and a day's rain is then most welcome as a means of giving much relief. Of course the dust blowing about in the air is, to say the least, very unpleasant, in all cases where the lungs or air-passages are affected.

I cannot think, however, that the mistral or dry westerly wind is so uncomfortable as the easterly wind when it blows hard, whether from the north-east, east, or south-east. This is a damp wind, feeling cold and chilly, and more often than otherwise the forerunner of wet weather. Thus, if on a fine clear morning the wind should blow steadily from an easterly direction, the probability is that early in the afternoon the sky will be obscured by dark clouds, and rain will soon follow. On the other hand, heavy dark clouds in the west in the morning, or about noon, are pretty sure to vanish in the evening if the wind is at all from the west. A rainy period may continue most provokingly

for some days until a strong westerly wind begins blowing; when the clouds disappear as by magic, the weather turning beautifully fine, and perhaps a succession of fine days sets in.

Temperature of the Air.

The temperature of the air was taken daily in the morning at 9 o'clock, and at night between 11 and 12 o'clock.

The six months written out in succession for the two last seasons, commencing with the coldest at 9 A.M., would follow each other thus:—

1874-75	1875-76	
February . . .	December.	
December . .	Februar	Same mean temp.
January . . .	January.	
March . . .	March.	
November . .	November.	
April . . .	April.	

They follow each other, therefore, very nearly in the same order, the only difference being that February is the first and December the second in 1874–75, while December is the first and February the second in 1875–76. This shows that the changes in the monthly mean temperature at 9 o'clock, followed from one month to another nearly in the same order in the two seasons.

Turning our attention to a valuable meteorological paper by Mr. R. Strachan, F.M.S., we are able to compare the mean temperature at 9 A.M. of each of the six winter months at Cannes with the mean temperature in London at the same hour (or nearly the same hour, on account of the difference of longitude) of the corresponding months in thirteen years, viz. from 1861 to 1873. These temperatures, taken in such a metropolis as London, where coal-fires may be counted by tens of thousands, must, of

course, be rather higher than they would have been in the country. I subjoin them in a tabular form, together with the mean monthly temperatures at 9 A.M. of the last two winter seasons at Cannes. In this southern station, consisting of a small town and straggling villas, fires may be expected to impart to the atmosphere scarcely any heat, although there must be a certain absorption of heat by the houses on sunny days, checking the cold at night to a slight degree.

TEMPERATURE OF THE ATMOSPHERE AT CANNES (1875–76), AND IN LONDON (MEAN FOR 13 SEASONS).

Cannes, 9 A.M.				London, 9 A.M. Mean of Thirteen Seasons	Increase at Cannes for the Season 1875–76
1874–75		1875–76			
	°F.		°F.	°F.	°F.
February	44·2	December	46·0	40·9	5·1
December	45·2	February	48·6	40·6	8·0
January	49·6	January	48·6	38·6	10·0
March	51·0	March	53·0	41·0	12·0
November	54·0	November	53·2	42·5	10·7
April	56·7	April	57·5	47·7	9·8
Mean	50·1		51·1	41·8	9·3

The temperature at 9 A.M. cannot of course be considered as representing the mean daily temperature; the correct mean temperature can only be obtained from observations taken frequently throughout the day and night. An approach to the mean temperature may be calculated from the maxima, minima, and readings at 9 A.M.; this would yield 50°·8 for the season 1875–76, while the corresponding observations for 1874–75 would give 50°·5, the difference between the two seasons amounting only to 0·3° Fahr.

Comparing the temperature at 9 A.M. at Cannes with that observed in the morning of the same day at Kew, we have a result interesting to record, although there be a slight difference of time between the two places. According to the report of the observations made at Kew, as published in the *Illustrated London News*, 10 o'clock is the

hour at which they were noted, and twenty-eight minutes are to be added for difference of longitude; so that there is very nearly an interval of an hour-and-a-half between the readings of the instruments at the two stations. Notwithstanding this circumstance it will be found that the temperature at Cannes was constantly higher than that observed on the same day an hour-and-a-half later at Kew. It is also worth observing that the temperatures of the southern and northern stations varied from one month to the other nearly in the same order respectively, as will be seen in the following table in which the months are entered, beginning with the coldest.

Temperatures at Cannes at 9 A.M. Local Time		Temperatures at Kew at 10 A.M. Local Time		Excess at Cannes for 1875–76		Excess at Cannes for 1874–75	
	°		°		°		°
December	46·0	January .	36·9	December	7·0	December	14·4
January .	48·6	December	39·0	January .	11·7	January .	5·6
February	48·6	February	41·8	February	6·8	February	9·2
March .	53·0	March .	42·2	March .	10·4	March .	10·1
November	53·2	November	42·9	November	10·3	November	11·8
April .	57·5	April .	49·9	April .	7·6	April .	8·5
Mean .	51·1		42·2		9·0		9·9

In the preceding season—that of 1874–75, the winter months did not follow each other in the same order at Kew and at Cannes; but the mean excess of temperature at Kew was nearly the same in the two seasons, as we find it to be 9°·9 in the season 1874–75 and 9°·0 in the season 1875–76. The greatest difference (1875–76) was in January, when the temperature was higher at Cannes (9 A.M.) than at Kew (10 A.M.) by 11°·7, and the least difference was in February, when the excess temperature at Cannes fell to 6°·8.

Maxima.—The mean monthly maximum temperature extends from 52°·3 to 61°·3, which follows closely the range between the extremes of the mean monthly maxima in the season 1874–75, viz. 51°·8 and 61°·5.

The six months at Cannes for the season 1875–76 and the corresponding months in London (mean of thirteen

seasons), beginning with those with the lowest maxima, would follow each other as in the subjoined order.

It is remarkable that the excess of the mean maximum temperature at Cannes over that for thirteen seasons in London should be so nearly the same in the corresponding seasons for 1874–75 and 1875–76, although the excess in each individual month is far from corresponding in the two seasons.

Mean Maxima at Cannes, 1875-76.		Mean Maxima in London (for 13 Seasons)		Excess at Cannes, 1875–76		Excess at Cannes, 1874–75	
December	52°3	January .	42°9	December	6°9	December	8°5
January .	54·2	December	45·4	January .	11·3	January .	13·8
February	56·6	February	45·7	February.	10·9	February.	6·1
March .	59·0	March .	47·9	March .	11·1	March .	9·7
November	60·0	November	48·4	November	11·6	November	12·8
April .	61·3	April .	57·2	April .	4·1	April .	4·3
Mean .	57·2		47·9		9·3		9·2

Having compared the mean maxima at Cannes for 1875–76 with the mean maxima of thirteen seasons in London, let us now enquire into the comparative maximum temperature at Cannes and Kew for last winter. The six months may be written out in succession in the following order, beginning with those exhibiting the lowest mean maxima:—

Mean Maxima at Cannes, 1875–76.		Mean Maxima at Kew, 1875–76.		Excess at Cannes, 1875–76		Excess at Cannes, 1874–75	
December	52°3	January .	41°8	December	9°8		15°6
January .	54·2	December	42·5	January .	12·4		8·4
February	56·6	February	46·2	February	10·4		11·7
March .	59·0	March .	47·5	March .	11·5		10·6
November	60·0	November	48·0	November	12·0		13·4
April .	61·3	April .	55·4	April .	5·9		5·5
Mean .	57·2		46·9		10·3		10·3

On the present occasion we find that the excess of the mean maxima at Cannes over that at Kew is precisely the same in the seasons 1874–75 and 1875–76,

amounting to 10°·3. This is a curious circumstance, as the two seasons were very different from each other in so many respects. The greatest excess in the mean monthly maximum temperature at Cannes over that registered at Kew last season was in January, when the mean of the maxima readings was 54°·2 at Cannes, and 41°·8 at Kew, giving a difference of 12°·4 in favour of the Southern station.

A comparison between the monthly *highest* maxima at Cannes and Kew will be best established by referring to the following table :—

Highest Monthly Maxima at Cannes, 1875–76		Highest Monthly Maxima at Kew, 1875–76		Excess at Cannes, 1875–76	
	°		°		°
December . .	57·2	December . .	54·7	December . .	2·6
January . . .	58·6	January . . .	54·7	January . . .	3·9
April	68·0	February . .	58·3	April (excess at Kew) . . .	2·4
March . . .	69·0	November . .	58·5	March	8·0
February . .	71·6	March . . .	61·0	February . .	13·3
November . .	74·3	April	70·4	November . .	15·8
Mean . .	66·4		59·6	(Excess) .	8·7

I find in the record of temperatures I published for the season 1874-75 an accidental error in the numbers for the highest maxima at Cannes, and now beg to subjoin the correct readings, comparing them with the corresponding readings at Kew :—

Highest Monthly Maxima at Cannes, 1874–75		Highest Monthly Maxima at Kew, 1874–75		Excess at Cannes, 1874–75	
	°		°		°
December . .	62·4	February . .	49·8	December . .	9·4
March	64·4	December . .	53·0	March	7·7
February . .	64·4	January . . .	53·6	February . .	14·6
January . . .	67·2	March . . .	56·7	January . . .	13·6
April	68·0	November . .	59·8	April (excess at Kew) . . .	4·8
November . .	69·0	April	72·8	November . .	9·2
Mean . .	65·9		57·6		10·5
				Excess for Kew not included.	

It will be found that the mean of the monthly highest maxima at Cannes exceeds the corresponding mean at Kew by 8°·7 in the season 1875–76, and by 10°·5 in the season 1874–75. In both cases the highest maximum temperature recorded in April, at Kew, exceeds the corresponding temperature at Cannes; in 1875–76 this excess amounts to 2°·4, and in 1874–75 to 4°·8; while in 1875–76 the greatest excess at Cannes (over Kew) was in November, 15°·8, in the season 1874–75 the greatest excess was in February, 14°·6.

Temperature of the Air at Night, and Lowest Readings of the Thermometer.

Minima.—We must now take into consideration the lowest readings of the thermometer, beginning with those observed within the screen, and therefore independent of radiation. I regret I have not on record observations taken throughout the season with a thermometer left all night on the grass, by means of which the degree of nocturnal radiation can be ascertained. My notes of the lowest temperature registered on the grass at night extend only from February 8 till April 30. It will not be without interest to compare with each other the readings of the two minima thermometers.

The mean winter monthly minimum temperature at Cannes, from the readings under the screen, ranged from 39°·2 in December to 49°·6 in April, with a mean of 44°·2 for the whole season. The six winter months would succeed each other as follows in a table, beginning with those exhibiting the lowest temperature. I have appended a similar table for the mean minima of thirteen seasons in London from Mr. Strachan's tables.

It will be seen at once that there is really no difference between the mean minima readings in the seasons for 1874–75 and 1875–6, the mean difference in favour of Cannes being in the first case 6°·8, and in the second 6°·6;

but while February, 1874–75, was the coldest month of that season, with a temperature of 39°·2, December was the coldest in the following winter, with a temperature of also 39°·2. There was no fall of snow last season, while there was one snow-storm in February 1875.

Mean Monthly Minima at Cannes, 1875–6.		Mean Minima in London, 13 Seasons		Difference in favour of Cannes, 1875–76		Difference in favour of Cannes, 1874–75	
	°		°		°		°
December	39·2	January .	34·6	December.	2·2	December	3·3
January .	42·8	March .	36·7	January .	8·2	January .	11·6
February	42·8	December	37·0	February .	5·8	February	2·2
March .	44·6	February	37·0	March .	7·9	March .	7·9
November	46·4	November	38·1	November	8·3	November	9·4
April . .	49·6	April . .	42·6	April ·	7·0	April . .	6·2
	44·2		37·7		6·6	Mean.	6·8

Let us now consider the minima at Kew last winter together with the minima readings at Cannes for the same season. These winter months will succeed each other as follows, beginning with those exhibiting the lowest minima :—

Minima at Cannes, 1875–76		Minima at Kew for 1875–76		Difference in favour of Cannes for 1875–76		Difference in favour of Cannes for 1874–75	
	°		°		°		°
December	39·2	January .	31·8	December	4·1	December	10·9
January .	42·8	December	35·1	January .	11·0	January .	6·2
February	42·8	March .	36·5	February	5·6	February	7·8
March .	44·6	February	37·2	March .	8·1	March .	9·1
November	46·4	November	38·1	November	8·3	November	10·6
April . .	49·6	April . .	41·0	April . .	8·6	April . .	10·4
Mean.	44·2		36·6		8·6		8.2

The mean difference in favour of Cannes was therefore, last season, nearly the same as it had been in the previous one, the variation amounting only to 0°·4. The month exhibiting the greatest difference in the season 1875–76 between the minima at Cannes and Kew was *January*, when the mean coldest temperature was 11° less at Cannes than in the northern station.

The extreme minima in every month, or greatest

degree of cold registered under the screen (in the absence of radiation), were as follows, beginning with those months exhibiting the lowest reading. I have appended a table showing the corresponding readings at Kew for 1875–76, and also the difference in favour of Cannes for 1874–75.

Extreme Monthly Minimum Temperature.

At Cannes, Season 1875–76		At Kew, Season 1875–76		Difference in favour of Cannes, 1875–76		Difference in favour of Cannes, 1874–75	
	°		°		°		°
February	30·2	January .	21·2	February	8·3	February	6·5
November	31·7	December	21·7	November	4·7	November	10·7
March .	32·0	February	21·9	March .	4.0	March .	8·9
December	32·5	November	27·0	December	10·8	December	12·8
January .	37·0	March .	28·0	January .	15·8	January .	13·5
April . .	38·8	April . .	31·6	April . .	7·2	April . .	12·7
Mean .	33·7		25·2		8·5		10·8

It will be seen that the month in which the cold, independent of radiation, attained its extreme degree at Cannes last winter was in February, when it registered 30°·2. The coldest temperature of that season at Kew was also recorded in that same month, when the minimum readings fell to 21°·2, the extreme cold being therefore less at Cannes by 8°·3. The extreme degree of cold between the two stations showed the least difference in March, when it amounted only to 4°; while the greatest difference was in January, the extreme minimum reading being in that month higher at Cannes than at Kew by 15°·8. It will be observed also that the monthly difference between the two stations in the season 1874–75 is greater than in 1875–76.

The night temperature between 11 and 12 for the seasons 1874–75 and 1875–76 is recorded in the following table, which shows the mean weekly temperatures at that hour:—

1874–75		1875–76	
Date	Temperature between 11 and 12 night	Date	Temperature between 11 and 12 night
	°		°
October 28	57·2	October 27	52·2
November 4	55·2	November 3	56·0
„ 11	49·2	„ 10	56·0
„ 18	50·2	„ 17	48·2
„ 25	48·5	„ 24	41·0
December 2	50·8	December 1	39·0
„ 9	44·0	„ 8	41·0
„ 16	39·2	„ 15	50·0
„ 23	41·0	„ 22	48·4
„ 30	43·8	„ 29	46·3
January 6	49·6	January 5	43·6
„ 13	53·2	„ 12	46·2
„ 20	49·0	„ 19	48·8
„ 27	47·2	„ 26	48·4
February 3	43·3	February 2	42·1
„ 10	42·2	„ 9	43·1
„ 17	40·2	„ 16	52·9
„ 24	44·6	„ 23	52·3
March 3	47·7	March 1	53·6
„ 10	52·2	„ 8	51·0
„ 17	47·2	„ 15	45·2
„ 24	44·4	„ 22	50·6
„ 31	48·0	„ 29	53·3
April 7	50·0	April 5	55·0
„ 14	50·5	„ 12	48·7
„ 21	54·3	„ 19	52·9
„ 28	58·0	„ 26	56·0
May 4	—	May 2	—
Mean . . .	48·4	Mean . . .	48·9

It is remarkable that the mean night temperature between 11 and 12 o'clock should be so nearly the same in the two seasons, although the records in the corresponding weeks should in many instances differ from each other. Thus in the week included between December 2 and 9, the mean temperature between 11 and 12 P.M. was, in 1874, 50°·8, and on that same hour between December 1 and 8, 1875, it was 39°; again the mean temperature between 11 and 12 at night in the week from March 24 to 31, 1875, was 44°·4, while between March 22 and 29, 1876, the mean temperature recorded at the same hour was 50°·6.

The difference during the season 1875–6 between the mean temperature noted at night at the above stated time and the mean minimum temperature for the season or coldest time in the early morning, amounts to (48·9 — 44·2) 4°·7, while for the season 1874–75 the corresponding difference was found to be 3°·2.

Relative Humidity of the Air.

The tables at pages 24 and 25 show the mean weekly temperature and relative atmospheric moisture for the two seasons as recorded at 9 A.M. and between 11 and 12 at night; together with the relative humidity at Kew for 1875–76, observed at 10 A.M.

If, on the other hand, we write out in succession the six months of the season 1875–76, commencing by those which exhibit the least degree of moisture, we shall have the following table. (The difference of atmospheric humidity in 1874–75 is appended for the sake of comparison.)

Atmospheric Moisture, Cannes, 1875–76		Atmospheric Moisture, Kew, 1875–76		Difference for 1875–76. Dryness in Excess for Cannes	Difference for 1874–75. Dryness in Excess for Cannes
9 A.M.		10 A.M.			
	°		°	°	°
January .	68·9	January .	85·8	16·9	13·3
March .	68·9	March .	76·1	7·2	8·2
November	69·9	November	82·5	12·6	18·5
February	71·0	February	82·9	11·9	13·2
December	71·8	December	87·7	15·9	8·2
April . .	75·5	April . .	75·1	0·4	1·3
	71·0		81·7	12·5 Excess for Cannes	10·4

In 1875–76 the air is a little drier at Cannes, in relation to Kew, than it was in 1874–75, the proportion being 12·5 to 10·4. It is remarkable, however, how nearly equal the difference of atmospheric moisture between Cannes and Kew is in both seasons. By referring to

[1] Excess moisture at Cannes.

the atmospheric humidity in 1874–75 as recorded in my report published last autumn, the mean humidity at Cannes for the season will be found to be 74·4, which is near to what it was in 1875-6, when we observe it to be 71°.

The atmospheric moisture is not distributed, however, throughout the six months, in the same way in both seasons. While December exhibits the highest mean degree of atmospheric dampness in 1874–75, we find the corresponding month in 1875–76 to be January. The driest state of the atmosphere in 1874–75 is in November, and the corresponding month in 1875–6 is April.

The observations are entered weekly in the next table in the same form as I have found them reported at Kew, or from Wednesday to Wednesday. The months do not therefore begin and end with the first and last day; the object of this arrangement being to allow us to examine into the hygrometric condition of the air, weekly as well as monthly. The same disposition had been adopted in my meteorological record for the season 1874–75, so that we are able to compare both seasons with each other, with respect to their degree of atmospheric humidity.

Date	Cannes 9 A.M. Temperature	Cannes 9 A.M. Relative humidity	Cannes Between 11 & 12 night Temperature	Cannes Between 11 & 12 night Relative humidity	Kew 10 A.M. Relative humidity
Oct. 27 to Nov. 2	51°7	73°7	52°2	84°2	76°6
Nov. 3 „ 9	56·2	71·0	56·2	75·7	84·9
„ 10 „ 16	58·2	72·0	56·0	66·9	84·1
„ 17 „ 23	52·8	63·3	48·2	68·2	79·6
„ 24 „ 30	43·0	71·5	41·0	69·7	82·4
Mean	53·4	69·9	50·7	72·2	81·5
Dec. 1 to Dec. 7	42·3	73·8	39·0	78·2	81·7
„ 8 „ 14	42·5	60·2	41·0	67·1	89·0
„ 15 „ 21	49·2	75·9	50·0	76·9	90·7
„ 21 „ 28	49·0	78·3	48·4	75·2	89·7
Mean	45·7	72·0	44·6	74·3	87·7
Dec. 29 to Jan. 4	47·5	69·4	46·3	73·7	91·2
Jan. 5 „ 11	46·1	59·9	43·6	72·2	76·3
„ 12 „ 18	49·2	71·0	46·2	74·6	86·1
„ 19 „ 25	49·6	72·3	48·8	76·2	83·7
„ 26 to Feb. 1	50·1	71·8	48·4	75·6	91·9
Mean	48·5	68·9	46·7	74·5	85·8
Feb. 2 to Feb. 8	43·4	63·2	42·1	68·8	79·5
„ 9 „ 15	43·1	74·1	43·1	81·8	86·5
„ 16 „ 22	53·6	81·4	52·9	79·2	83·2
„ 23 „ 29	54·3	65·2	52·3	68·9	82·4
Mean	48·6	71·0	47·6	74·6	82·9
Mar. 1 to Mar. 7	56·7	68·5	53·6	67·6	79·8
„ 8 „ 14	54·0	61·8	51·0	62·0	78·4
„ 15 „ 21	49·9	59·5	45·2	69·4	66·5
„ 22 „ 28	50·1	80·6	50·6	85·3	77·6
„ 29 to April 4	55·0	84·2	53·3	78·3	75·2
Mean	53·1	71·0	50·7	72·5	75·3
April 5 to April 11	61·1	69·5	53·0	77·6	72·1
„ 12 „ 18	53·1	78·9	48·7	77·9	76·3
„ 19 „ 25	57·5	84·8	52·9	92·1	77·4
„ 26 to May 2	60·6	74·1	56·0	74·8	74·6
Mean	58·1	76·9	55·1	80·6	75·1

Cannes					Kew
9 A.M.			Between 11 & 12 night		10 A.M.
Date	Temperature	Relative humidity	Temperature	Relative humidity	Relative humidity
	°	°	°	°	°
Oct. 28 to Nov. 3 . .	61·5	74·5	57·2	75·2	89·3
Nov. 4 „ 10 . .	59·8	66·3	55·2	67·7	89·7
„ 11 „ 17 . .	51·8	69·5	49·2	72·1	80·3
„ 18 „ 24 . .	52·8	64·1	50·2	68·2	87·3
Mean . .	56·5	68·6	52·9	70·8	86·6
Nov. 25 to Dec. 1 . .	49·2	85·7	48·5	86·5	86·2
Dec. 2 „ 8 . .	51·2	86·9	50·8	86·8	83·4
„ 9 „ 15 . .	45·0	83·1	44·0	80·4	85·8
„ 16 „ 22 . .	41·2	75·7	39·2	80·2	83·4
„ 23 „ 29 . .	43·3	71·9	41·0	73·2	91·2
Mean . .	46·0	80·7	44·7	81·4	86·0
Dec. 30 to Jan. 5 . .	42·8	78·5	43·8	78·6	86·7
Jan. 6 „ 12 . .	50·0	76·5	49·6	82·2	92·0
„ 13 „ 19 . .	53·0	74·2	53·2	76·2	89·6
„ 20 „ 26 . .	49·8	71·2	49·0	70·3	84·5
Mean . .	48·9	75·1	48·6	76·8	88·2
Jan. 27 to Feb. 2 . .	49·2	71·6	47·2	69·0	90·1
Feb. 3 „ 9 . .	45·0	69·2	43·3	76·3	89·1
„ 10 „ 16 . .	43·3	69·9	42·2	82·3	88·9
„ 17 „ 23 . .	43·5	76·6	40·2	80·7	79·5
Mean . .	45·2	71·8	43·2	77·1	86·9
Feb. 24 to Mar. 2 . .	44·4	79·6	44·6	81·9	84·6
Mar. 3 „ 9 . .	49·0	81·2	47·7	87·2	84·1
„ 10 „ 16 . .	54·0	81·5	52·2	77·9	84·7
„ 17 „ 23 . .	51·2	66·8	47·2	72·0	73·1
„ 24 „ 30 . .	52·0	72·9	44·4	77·6	69·2
Mean . .	50·1	76·4	47·2	79·3	79·1
Mar. 31 to Apr. 6 . .	33·4	75·2	48·0	81·2	72·6
Apr. 7 „ 13 . .	55·8	74·5	50·0	81·5	94·0
„ 14 „ 20 . .	55·6	69·4	50·5	84·0	74·6
„ 21 „ 27 . .	58·8	76·5	54·3	86·1	64·8
Apr. 28 to May 4 . .	63·5	73·4	58·0	89·5	72·8
Mean . .	57·4	73·8	52·1	84·5	73·6 [1]

[1] In this table, as published last season, I had erroneously entered the

Temperature of the Surface of the Sea.

I much regret that the limited time I could dispose of prevented me from making a sufficient number of observations for a correct estimation of the mean temperature of the surface of the sea, and I only wish the following figures to be considered as near approximations to its real temperature.

It will be observed that the temperature of the surface of the sea for the two seasons was nearly the same in every month respectively.[1]

TEMPERATURE OF THE SEA.

	Highest	Lowest	Mean 1875–76	Number of Days on which an Observation was taken	Mean Temperature of the Sea at the Surface for 1874–75
	°	°	°		°
November .	64·4	57·2	61·0	22	60·4
December .	58·4	54·5	57·0	19	55·6
January . .	57·0	55·0	55·7	11	55·8
February . .	56·3	49·3	54·6	14	54·5
March . . .	58·0	54·5	55·8	12	55·8
April . . .	63·0	55·0	59·4	13	58·5
Mean . .	—	—	57·2	—	56·8

The mean monthly highest temperature of the surface of the sea was in November, and the lowest in February; while in January and March it was nearly the same, showing that in the month of March the increased temperature of the air had begun to tell upon that of the surface of the sea. The mean temperature of the sea-surface for the six months 1875–76 is 57·2, while in the

mean daily relative humidity at Kew instead of the relative humidity *at* 10 A.M. I have made the correction in the present table, calculating the relative humidity at Kew for every day of the season at 10 A.M. from the data given in the *Illustrated London News*, and then entering the means.

[1] The widest difference is of 1°·4 in December.

season 1874–75 it amounts to 56°·8, the difference therefore being 0°·4 only.

Compared with the minimum temperature of the atmosphere, we find the sea-water at the surface much the warmest throughout the winter 1875–76, as may be seen by the following table:—

	Mean Minimum Temperature of the Air at Cannes, 1875–76	Mean Temperature of the Sea Surface	Excess of Heat in Sea Water
	°	°	°
November	47·4	61·0	13·6
December	40·2	57·0	16·8
January	43·8	55·7	11·9
February	43·8	54·6	10·8
March	45·6	55·8	10·2
April	50·6	59·4	8·8
Mean	45·2	57·2	12·0

In the seasons 1874–75 the mean excess of the temperature of the surface of the sea over that of the minimum temperature of the air was 12°·1; while the corresponding difference in 1875–76 amounted to 12·0°, the excess being therefore, we might say, exactly the same in both seasons. It follows that the temperature of the air near the Mediterranean must derive a considerable accession of heat throughout the winter from that which is stored up by the water during the summer; and this may be considered as one of the most powerful agents to which we are indebted for the comparatively mild winter temperature of the South of France. The house I inhabit at Cannes is on the west bay, and situated at about seventy-five yards from the sea and about thirty feet above it, while it is sheltered on the north side in some measure by a hill, the foot of which is only separated from the house by the high road. This proximity to the sea and shelter from the north wind makes the situation of the house rather warmer than other places at a further distance from the water and on the high ground. Hence it is that I have observed in the morning ice and hoar-frost in spots

some distance from the sea, while there was no sign of either where I lived. Of course these circumstances must be taken into account as favouring high readings for my thermometers.

On the Radiation of Heat after Sunset.

As the setting sun approaches the horizon, and in proportion as its rays become less powerful, the radiation into space of the heat absorbed by the soil and all the other objects on its surface exposed to the external air commences to create cold. The human body is not exempted from this cause of loss of heat, but fortunately it possesses within itself a power of creating heat by increased chemical action. A sensation of cold, however, is very generally experienced at sunset, which has to be counteracted by extra clothing and exercise. In the pamphlet I published last winter, on *The Mediterranean Coast of the South of France in its Medical Aspect*, I related an observation I had made on a very clear evening, with reference to the fall of the temperature of the air at sunset. Since then it has occurred to me that it would be interesting to observe the degree of the nocturnal radiation of heat from the soil by comparing the readings of a minimum thermometer exposed to the air on the grass, and consequently under the full influence of radiation, with the readings of the minimum thermometer under the screen and where it was sheltered from the effects of radiation. These observations were not commenced till February 8, 1876; they have been continued since then with but few interruptions till the end of the season. It should be borne in mind that the excess of cold registered on the grass, over that observed under the screen, does not belong to radiation alone, and that the cold due to evaporation must, when the grass is damp, partly account for the phenomenon.

Between the 8th and 29th of *February* (no observations on 15th and 16th) the two lowest readings on the

grass were 22°·4 recorded on the 9th, and 25°·4 on the 12th. The minima under the screen on those same nights were 31°·2 and 34°, the difference for radiation amounting to 8°·8 and 8°·5 on each of these two nights respectively. The highest minimum on the grass was 49°·9, recorded on the morning of the 23rd, while under the screen the minimum reading was 50°·1.

	Minima on the Grass	Minima under the Screen	Difference for Radiation and Evaporation
	°	°	°
February	37·9	44·5	6·6
March	42·1	47·0	4·9
April	45·6	50·6	5·0

The mean of the minima on the grass for the twenty days in February was 37°·9, while under the screen for the corresponding days it amounted to 44°·5, giving a mean difference of 6°·6 for radiation.

In *March* there were no readings of the thermometer on the grass on the 6th, 11th, 23rd, and 29th. The lowest reading recorded on the grass was on the 21st = 23°·4; that same morning the minimum under the screen was down to 33°, the difference for radiation amounting to 9°·6. The highest reading on the grass was on the 18th = 51°·9, that same morning the minimum reading under the screen was 52°. The mean for the month of the corresponding temperatures both for the readings on the grass and under the screen are 42°·1 for the former and 47°·0 for the latter, giving a difference of 4°·9 only for radiation.

The daily observations on the grass in *April* are complete; the lowest reading was on the morning of the 14th = 29°·4, while the corresponding minimum under the screen was 39°·5, giving a difference of 10°·1. The highest minimum reading on the grass was 54°·9 on the 29th, and the corresponding minimum under the screen was 56°·4, giving 1°·5 for radiation. The mean of the minima on the grass in April was 45°·6, and of the corresponding minima under the screen 50°·6, showing a mean difference of 5°·0 for radiation.

The heat which, after sunset, leaving the soil and other warm bodies exposed to the air, is radiated into space makes its way through the atmosphere, and by so doing must check the rate of cooling of the air to a slight extent, so that strictly the difference of temperature between two thermometers—one on the grass, the other under a screen—may not represent exactly the temperature of radiation (including the influence of evaporation). The atmosphere, however, allows the heat of radiation to pass so freely that a very small portion of it is retained, and we may reasonably expect that, in early morning, when the cold from radiation is the greatest, the atmosphere itself has entirely parted (by radiation into space) with the heat it had absorbed in the evening from the earth. The evaporation of moisture from the surface of the soil creates a considerable degree of cold, or, in other words, much heat is taken from the soil by the moisture in contact with it, in order to pass from the state of a liquid into that of vapour. It is well known that the cold produced by evaporation and radiation has been taken advantage of in warm countries to make ice. The following is a mode of obtaining ice in India.[1] At Hooghly, about twenty miles from Calcutta, pits are dug in the ground about three feet long and two feet wide, and from one to one-and-a-half feet deep. Some straw is put at the bottom of the pits, and wetted with water. Earthenware saucers, containing a little water, are placed on the wetted straw, and left fully exposed to the air. At early dawn ice is found in the saucers, out of which it is scraped, and enough is collected each morning while the cold nights last to put into the ice-houses.

With these remarks I shall conclude the present paper. More might be said on the meteorology of last season at Cannes, but it is not my object at present to draw out the subject into any fuller details. I might, of course, have given the readings of the barometer. This

[1] I hold these particulars from a gentleman who writes, I understand, from personal observation of the process such as it is described.

I have omitted, as I propose to limit myself to those indications with reference to the weather which may be considered as useful, especially in a medical point of view. The present record of meteorological phenomena cannot be considered as showing what is the climate of Cannes. This can only be done from a series of observations carried through a great number of years. My present object has been to give an account of *the weather* last season at that favourite winter resort. Perhaps at some future period these data may be used towards establishing its climate.

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