

to those of Buswâyeh. It is called Kharâb-el-Hâtim (خَرَابُ الْحَاتِمِ).

There is also not far from this last Qarnet-er-Ruweis (قَرْنَةُ الرَّوَيْسِ) a small ruin. He was not clear whether there were hewn stones in it.

At the northern end of the Merj is a ruin of a more modern aspect, apparently a fellâh village of our own, or a late epoch. The outlines of the houses are easily traceable, the only stones employed being unhewn ones. It is interesting as showing a more recent occupancy of the Merj by a settled population.

ON THE MONTHLY AND ANNUAL MEAN TEMPERATURE OF THE AIR IN PALESTINE AND ENGLAND IN THE TEN YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE following discussion of the temperature observations at Sarona and Blackheath is in continuation of those published in the *Quarterly Report* for July, 1891, pages 224—239.

TABLE XIII.—Mean Temperature of the Air in each Month at *Sarona*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	50·7	59·5	52·4	56·5	50·5	54·4	57·0	54·1	53·3	56·5	54·6
February..	55·7	56·2	49·8	54·2	53·3	55·5	57·8	54·2	57·6	57·5	55·2
March ..	56·6	58·3	58·0	60·0	57·4	59·5	58·3	57·2	65·3	63·0	59·4
April ..	63·6	67·2	62·4	61·4	65·6	63·2	62·4	65·5	64·8	62·8	63·8
May ..	69·0	68·5	65·3	66·0	67·1	71·7	66·2	68·3	68·2	71·5	68·2
June ..	73·6	71·0	69·5	73·3	74·0	73·8	74·7	73·3	72·8	74·2	73·0
July ..	77·2	76·7	74·9	75·7	75·5	77·3	75·8	76·0	78·9	79·0	76·6
August ..	79·0	80·1	77·6	78·8	77·4	77·7	78·6	78·8	79·4	79·3	78·8
September	76·8	78·1	76·8	74·4	74·0	77·1	76·8	77·0	77·2	78·2	76·6
October ..	73·6	72·4	72·0	73·0	71·2	74·4	72·4	76·0	77·8	78·6	74·1
November	68·8	65·5	66·3	64·4	62·8	65·2	63·1	67·5	61·3	60·3	64·5
December	56·9	56·8	59·9	56·1	59·8	61·0	58·2	60·5	56·0	57·8	58·3
Means ..	66·8	67·5	65·5	66·2	65·7	65·9	66·8	66·5	67·7	68·4	66·9

METEOROLOGICAL OBSERVATIONS.

By selecting in each month the lowest and highest numbers in Table XIII, the mean temperature has varied—

In	from	...	...	°	in	to	°	in
January	from	...	...	50.5	in	1884	to	59.5 in 1881
February	„	...	...	49.8	„	1882	„	57.8 „ 1886
March	„	...	...	56.6	„	1880	„	65.3 „ 1888
April	„	...	...	61.4	„	1883	„	67.2 „ 1881
May	„	...	...	65.3	„	1882	„	71.7 „ 1885
June	„	...	...	69.5	„	1882	„	74.7 „ 1886
July	„	...	...	74.9	„	1882	„	79.0 „ 1889
August	„	...	...	77.4	„	1884	„	80.1 „ 1881
September	„	...	...	74.0	„	1884	„	78.2 „ 1889
October	„	...	...	71.2	„	1884	„	78.6 „ 1889
November	„	...	...	60.3	„	1889	„	68.8 „ 1880
December	„	...	...	56.0	„	1888	„	61.0 „ 1885

The month of lowest mean temperature in the ten years was February, 1882, and was 49°·8, and that of the highest was August, 1881, and was 80°·1.

By taking the differences between the lowest and highest temperature in each month, and the mean of the ten years, in Table XIII., the greatest departures in each month from the mean of ten years, are in—

	Below the mean of 10 years.	Above the mean of 10 years.
January	.... 4.1 in 1884	.... and 4.9 in 1881
February	.... 5.4 „ 1882	.... „ 2.6 „ 1886
March	.... 2.8 „ 1880	.... „ 5.9 „ 1888
April	.... 2.4 „ 1883	.... „ 3.4 „ 1881
May	.... 2.9 „ 1882	.... „ 3.5 „ 1885
June	.... 3.5 „ 1882	.... „ 1.7 „ 1886
July	.... 1.7 „ 1882	.... „ 2.4 „ 1889
August	.... 1.4 „ 1884	.... „ 1.3 „ 1881
September	.... 2.6 „ 1884	.... „ 1.6 „ 1889
October	.... 2.9 „ 1884	.... „ 4.5 „ 1889
November	.... 4.2 „ 1889	.... „ 4.3 „ 1880
December	.... 2.3 „ 1888	.... „ 2.7 „ 1885

The largest departure below the mean was 5°·4 in February, 1882; the next in order was 4°·2 in November, 1889, and 4°·1 in January, 1884.

The smallest departure below the mean was 1°·4 in August, 1884; the next in order was 1°·7 in July, 1882, and 2°·3 in December, 1888.

The largest departure above the mean was 5°·9 in March, 1888; the next in order was 4°·9 in January, 1881, and 4°·5 in October, 1889.

The smallest departure above the mean was 1°·3 in August, 1881; the next in order was 1°·6 in September, 1889, and 1°·7 in June, 1886.

The mean temperature in August was the most uniform; the next in

order were July and September, the departure in these months from the mean being, in—

August....	....	....	1°4 below, to 1°3 above the mean.
July ....	....	....	1·7 " 2·4 "
September	....	....	2·6 " 1·6 "

The mean temperature in January was the most variable; the next in order were March and November. The departure from the mean in these months were, in—

January	....	....	4°1 below, to 4°9 above the mean.
March ....	....	....	2·8 " 5·9 "
November	....	....	4·2 " 4·3 "

The month of lowest mean temperature in each year has been—

Seven times in January, viz., in 1880, 1884, 1885, 1886, 1887, 1888, and 1889.

Twice in February, viz., in 1881, and 1882.

Once in December, viz., in 1883.

The three coldest months in the year are January, February, and December, and their mean value is 55°·9.

The month of highest mean temperature has always been August, and has varied from 77°·4 in 1884 to 80°·1 in 1881. The mean temperature on the mean of 10 years of the months immediately preceding and following August, viz., July and September, were of the same value, viz., 76°·6. The month of August was warmer in the year

1880	than July by	1·8,	and warmer than	September by	2·2
1881	"	3·4	"	"	2·0
1882	"	2·7	"	"	1·8
1883	"	3·1	"	"	4·4
1884	"	1·9	"	"	3·1
1885	"	0·4	"	"	0·6
1886	"	2·8	"	"	1·8
1887	"	2·8	"	"	1·8
1888	"	0·5	"	"	2·2
1889	"	0·3	"	"	1·1

And these three months are the three hottest months in the year, and their mean value is 77°·3.

The coldest month on the mean of 10 years was January, when the mean temperature was 54°·6, but February is nearly as cold, being 55°·2; then the mean temperature increases monthly by nearly 4½° till June, then a slower increase till August, the warmest month, viz., 78°·8, and then decreases, the greatest change from month to month being from October to November, which is as large as 9°·6, and further sinks 6°·2 to December.

The lowest mean annual temperature was 65°·5 in 1882, and the highest was 68°·4 in 1889. The mean of the 10 years was 66°·9.

TABLE XIV.—Mean Temperature of the Air in each Month at *Blackheath*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	32·5	31·6	40·1	41·2	43·2	35·8	34·9	34·6	36·3	35·2	36·5
February..	41·6	38·1	42·0	42·7	42·1	43·8	32·9	38·2	34·2	36·4	39·2
March ..	45·2	43·6	46·6	37·4	45·1	40·3	38·9	37·6	37·8	40·0	41·3
April ..	47·5	47·0	48·8	48·4	46·0	48·3	46·0	48·9	43·4	46·3	46·6
May ..	52·9	55·1	55·8	54·4	54·9	51·4	52·5	50·1	53·4	57·4	53·8
June ..	57·9	60·1	57·4	60·5	58·8	61·0	57·9	61·4	59·2	62·1	59·6
July ..	62·1	66·0	62·0	60·9	63·8	66·3	63·2	66·4	58·9	62·1	63·2
August ..	63·1	60·0	61·4	63·2	65·9	59·6	62·3	62·5	59·7	61·1	61·9
September	59·8	56·6	55·8	58·0	60·4	55·7	59·2	54·1	55·5	55·9	57·0
October ..	45·8	45·9	51·0	50·7	49·3	45·8	53·0	44·3	44·4	48·0	47·8
November	41·9	46·7	42·4	43·2	42·2	42·6	43·1	39·4	45·7	43·4	43·1
December	42·1	39·3	39·9	39·9	40·9	37·4	36·2	35·8	38·9	36·0	38·6
Means ..	48·8	48·4	49·6	49·1	50·4	48·1	48·4	47·4	47·3	48·7	49·1

By selecting in each month the lowest and highest numbers in Table XIV., the mean temperature has varied in—

Month	from	to	Year	Temperature
January	from	....	31.6 in 1881	to 43.2 in 1884
February	„	....	32.9 „ 1886	„ 43.8 „ 1885
March	„	....	37.4 „ 1883	„ 46.6 „ 1882
April	„	....	43.4 „ 1888	„ 48.8 „ 1882
May	„	....	50.1 „ 1887	„ 57.4 „ 1889
June	„	....	57.4 „ 1882	„ 62.1 „ 1889
July	„	....	58.9 „ 1888	„ 66.4 „ 1887
August	„	....	59.6 „ 1885	„ 65.9 „ 1884
September	„	....	54.1 „ 1887	„ 60.4 „ 1884
October	„	....	44.3 „ 1887	„ 53.0 „ 1886
November	„	....	39.4 „ 1887	„ 46.7 „ 1881
December	„	....	35.8 „ 1887	„ 42.1 „ 1880

The month of lowest mean temperature in the ten years was January, 1881, and was 31°·6, and that of the highest was July, 1887, and was 66°·4, these values are 18°·2 and 13°·7 lower respectively than the lowest and highest monthly temperatures at Sarona.

By taking the differences between the lowest and highest temperature in each month, and the mean of the ten years in Table XIV., the greatest departures in each month from the mean of ten years are, in—

Month	Below the mean of 10 years.		Above the mean of 10 years.	
	Year	Temperature	Year	Temperature
January	4.9 in 1881	....	and 6.7 in 1884
February	6.3 „ 1886	....	„ 4.6 „ 1885
March	3.9 „ 1883	....	„ 5.3 „ 1882
April	3.2 „ 1888	....	„ 2.2 „ 1882
May	3.7 „ 1887	....	„ 3.6 „ 1889
June	2.2 „ 1882	....	„ 2.5 „ 1889
July	4.3 „ 1888	....	„ 3.2 „ 1887
August	2.3 „ 1885	....	„ 4.0 „ 1884
September	2.9 „ 1887	....	„ 3.4 „ 1884
October	3.5 „ 1887	....	„ 5.2 „ 1886
November	3.7 „ 1887	....	„ 3.6 „ 1881
December	2.8 „ 1887	....	„ 3.5 „ 1880

The largest departure below the mean was 6°·3 in February, 1886; the next in order was 4°·9 in January, 1881, and 4°·3 in July, 1888.

The smallest departure below the mean was 2°·2 in June, 1882; the next in order was 2°·3 in August, 1885, and 2°·8 in December, 1887.

The largest departure above the mean was 6°·7 in January, 1884; the next in order was 5°·3 in March, 1882, and 5°·2 in October, 1886.

The smallest departure above the mean was $2^{\circ}2$ in April, 1882; the next in order was $2^{\circ}5$ in June, 1889, and $3^{\circ}2$ in July, 1887.

The mean temperature in June was the most uniform, the next in order were April, August, September, and December, the departure from the mean in these months being, in

June	....	....	....	$2^{\circ}2$	below to	$2^{\circ}5$	above the mean.
April	....	....	....	$3^{\circ}2$	..	$2^{\circ}2$	..
August	....	....	....	$2^{\circ}3$	..	$4^{\circ}0$	..
September	....	....	....	$2^{\circ}9$	..	$3^{\circ}4$	..
December	....	....	....	$2^{\circ}8$	..	$3^{\circ}5$	..

The mean temperature in January was the most variable, the next in order were February and March; the departure from the mean in these months being, in

January	....	....	....	$4^{\circ}9$	below to	$6^{\circ}7$	above the mean.
February	....	....	....	$6^{\circ}3$	..	$4^{\circ}6$	..
March	....	....	....	$3^{\circ}9$	..	$5^{\circ}3$	..

The month of lowest mean temperature in each year has been

Five times in January, viz., in	1880, 1881, 1885, 1887, and 1889.
Twice in February, ..	1886, 1888.
Once in March, ..	1883.
Twice in December ..	1882, 1884.

The three coldest months in the year are January, February, and December, being the same as at Sarona, and their mean value was $38^{\circ}1$, being $17^{\circ}8$ lower than at Sarona.

The month of highest mean temperature in each year has been—

Six times in July, viz., in	1881, 1882, 1885, 1886, 1887, and 1889.
Four .. August, viz.,	1880, 1883, 1884, and 1888.

The three hottest months in the year are June, July, and August, and their mean value is $61^{\circ}6$, being $15^{\circ}7$ of lower temperature than the three hottest months at Sarona.

The coldest month at Blackheath on the mean of 10 years is January, when the mean temperature was $36^{\circ}5$, being $18^{\circ}1$ colder than at Sarona, it then increases irregularly till July, the hottest month, viz., $63^{\circ}2$ being lower than mean of July at Sarona by $13^{\circ}4$, but lower than August at Sarona by $15^{\circ}6$. The temperature then decreases month by month to January, the large autumn decrease, which at Sarona is from October to

November, and $9^{\circ}6$ in amount, takes place here a month earlier, viz., from September to October, and is as large as $10^{\circ}8$.

The lowest mean annual temperature was $47^{\circ}3$ in 1888, and the highest was $50^{\circ}4$ in 1884. The mean of the 10 years was $49^{\circ}1$, being $17^{\circ}8$ lower than at Sarona.

By comparing the numbers in Tables XIII. and XIV. together, it will be seen that in every month the temperature at Sarona is very much higher than at Blackheath. The least and greatest differences in each month, together with the mean for 10 years, are as follows : in—

		the least differ- ence was		the greatest was		the mean of 10 years was
January	....	7·3	....	27·9	....	18·1
February	....	7·8	....	24·9	....	16·0
March	....	11·4	....	27·5	....	18·1
April	....	13·0	....	21·6	....	17·2
May	....	9·5	....	20·3	....	14·4
June	....	10·9	....	16·8	....	13·4
July	....	9·6	....	20·0	....	13·4
August	....	11·5	....	20·1	....	16·9
September	....	13·6	....	22·9	....	19·6
October	....	19·4	....	33·4	....	26·3
November	....	15·6	....	28·1	....	21·4
December	....	14·8	....	24·8	....	19·7

The month of least difference was January, 1884, and was $7^{\circ}3$, and that of the greatest was October, 1888, and $33^{\circ}4$.

The least annual difference was $15^{\circ}3$ in 1884, and the greatest was $20^{\circ}4$ in 1888. The mean difference of the 10 years was $17^{\circ}8$.

The months of least difference are June, July, and May, the mean difference of these three months being $13^{\circ}7$; and those of the greatest differences are October, November, and December (September being of nearly the same value as December), the mean difference of these three months, viz., October, November, and December, being $22^{\circ}5$.

MOSAICS ON MOUNT ZION.

BISHOP GOBAT SCHOOL, MOUNT ZION,
JERUSALEM, *July 8th, 1891.*

In Captain Conder's report to the Palestine Exploration Fund on "The Rock Scarp of Zion," dated January 10th, 1875, he alludes to a great quantity of Mosaic pavement apparently fallen from above, near the wall, built at right angles to the scarp and where Mr. Maudslay's