

186. *Nardurus tenuifloras*, Boiss. Palmyra.
 187. *Orientalis*, Boiss. Qaryetein to el Bâridi.
 188. *Bromus matritensis*, L. Palmyra.
 189. *Aegilops crassa*, Boiss. Palmyra.
 190. *Rhizocephalus Orientalis*, Boiss. Desert.

XLI.—NAIADACEÆ.

191. *Potamogeton crispus*, L. Canal ; Damascus.

XLII.—CHARACEÆ.

192. *Chara*, sp. Great fountain ; Palmyra.

XLIII.—LICHENES.

193. *Lecanora lentigera*, Web. Incrustation in salty ground.

COMPARISON OF THE ATMOSPHERIC PRESSURE IN
 PALESTINE AND IN ENGLAND IN THE TEN
 YEARS ENDING 1889.

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In the quarterly reports of the Palestine Exploration Fund, beginning July, 1888, and ending October, 1890, the results of observations taken at Sarona in the ten years ending 1889 have been published.

The observations at Sarona were taken a little north of the great orange groves of Jaffa, at a place one mile and a half from the sea shore, and about 50 feet above the sea level, in lat. 32° 4' N. and long. 34° 34' E., by Herr J. Dreher.

The observations at Blackheath were taken during the same ten years, at about 150 feet above the sea level, in lat. 51° 29' and long. 0° 1' E., by myself.

The observations at Sarona have been reduced to 32° Fah., and those at Blackheath have been corrected for the difference of elevation of 100 feet and reduced to 32° Fah.

TABLE I. shows the Highest Reading of the Barometer at *Sarona* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·269	in. 30·235	in. 30·220	in. 30·088	in. 30·262	in. 30·151	in. 30·128	in. 30·285	in. 30·166	in. 30·073	in. 30·188
February..	30·155	30·007	30·249	30·099	30·230	30·097	30·065	30·239	30·137	33·090	30·137
March ..	30·166	30·175	30·132	30·060	30·133	30·109	30·115	30·063	30·144	30·059	30·116
April ..	30·051	30·035	30·114	30·042	30·013	29·995	30·034	29·993	29·992	30·051	30·032
May ..	29·947	29·957	30·017	29·953	29·946	29·905	30·007	30·061	29·939	29·913	29·965
June ..	29·953	29·957	29·995	29·805	29·930	29·886	29·845	29·865	29·874	29·942	29·905
July ..	29·791	29·860	29·738	29·771	29·899	29·793	29·795	29·893	29·809	29·823	29·823
August ..	29·827	29·871	29·801	29·803	29·849	29·825	29·754	29·766	29·767	29·788	29·805
September	29·925	29·940	29·949	29·931	30·015	30·073	29·893	29·966	29·943	29·882	29·979
October ..	30·018	29·994	29·983	29·977	30·002	29·970	29·939	29·964	30·048	30·019	29·991
November	30·091	30·076	30·073	30·020	30·063	30·088	30·109	30·089	30·139	30·136	30·089
December	30·180	30·232	30·153	30·106	30·143	30·162	30·164	30·087	30·272	30·185	30·168
Means ..	30·031	30·028	30·040	29·969	30·040	30·030	29·987	30·023	30·019	29·997	30·017

In this table, the fact of the reading of the barometer in the six months from May to October so seldom reaching 30 inches is the first to notice. The reading exceeds 30 inches in every January, February, March, November, and December; in seven Aprils out of the ten; in three Mays, in two Septembers; in four Octobers; and there is no instance in the months of June, July, and August of a reading so high as 30 inches.

The maximum for the year has occurred in—

	The maximum was
	Ins.
January, 4 times, viz., in 1880, 1881, 1884, and 1887	30·285 in 1887
February, once	30·249 „ 1882
December, 5 times, in 1883, 1885, 1886, 1888, and 1889	30·272 „ 1888

The lowest of the monthly maximum readings has occurred five times in July and five times in August, viz. :—

	The lowest was
	Ins.
July, in 1880, 1881, 1882, 1883 and 1885	29·771 in 1883
August, in 1884, 1886, 1887, 1888, and 1889	29·754 „ 1886

The numbers at the foot of the columns give the mean of each year; the largest, 30·04, was in 1882 and 1884, and the smallest, 29·969, in 1883.

In the last column is shown the mean of the ten highest readings in each month. The highest, 30·188 is in January; the next in order is 30·168 in December. The lowest is 29·805 in August; the next in order is 29·823 in July.

The mean of all is 30·017 inches.

TABLE II. shows the Highest Reading of the Barometer at *Blackheath* in each month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·606	in. 30·515	in. 30·890	in. 30·597	in. 30·568	in. 30·354	in. 30·064	in. 30·622	in. 30·647	in. 30·656	in. 30·552
February..	30·406	30·195	30·771	30·765	30·411	30·132	30·659	30·664	30·280	30·342	30·462
March ..	30·428	30·469	30·577	30·660	30·204	30·561	30·349	30·564	30·266	30·517	30·460
April ..	30·376	30·193	30·293	30·592	30·031	30·251	30·209	30·639	30·175	30·168	30·293
May ..	30·408	30·592	30·414	30·331	30·375	30·091	30·433	30·340	30·422	30·010	30·342
June ..	30·167	30·255	30·266	30·332	30·268	30·346	30·226	30·388	30·175	30·358	30·280
July ..	30·114	30·271	30·409	30·105	30·155	30·381	30·275	30·271	30·029	30·301	30·231
August ..	30·194	30·265	30·215	30·240	30·246	30·283	30·176	30·289	30·207	30·210	30·233
September	30·436	30·364	30·314	30·208	30·307	30·295	30·361	30·421	30·402	30·387	30·350
October ..	30·353	30·414	30·464	30·470	30·584	30·094	30·307	30·546	30·406	30·116	30·375
November	30·396	30·379	30·066	30·357	30·490	30·361	30·658	30·259	30·140	30·609	30·372
December	30·599	30·558	30·356	30·520	30·170	30·511	30·525	30·442	30·425	30·544	30·465
Means ..	30·374	30·372	30·420	30·431	30·401	30·305	30·353	30·451	30·298	30·352	30·368

A very marked difference is shown in this table from the corresponding one at Sarona, the reading being above 30 inches in every month.

The maximum for the year has occurred in—

	The highest was	
	Ins.	
January, 4 times, in 1880, 1882, 1888, and 1889	30·890	in 1882
February, 3 times, in 1883, 1886, and 1887	30·765	„ 1886
March, once	30·561	„ 1885
May, once	30·592	„ 1881
October, once	30·584	„ 1884

Thus a very marked difference, excepting in the case of January, is shown from the times of maximum pressure at Sarona.

The lowest maximums for the year has occurred in—

	The lowest was	
	Ins.	
January, once	30·064	in 1880
February, once	30·195	„ 1881
April, once	30·031	„ 1884
May, twice, in 1885 and 1889	30·010	„ 1889
July, 3 times, in 1880, 1883 and 1888	30·029	„ 1888
November, twice, in 1882 and 1887	30·066	„ 1882

The numbers at the foot of the columns give the mean of each year; the largest, 30·454 inches, in 1887, and the smallest, 30·298 inches, in 1888.

The number in the last column shows the mean of the ten readings.

The highest, 30·552, is in January; and the next in order, 30·465, in December. The lowest is 30·231 in July, and the next in order is 30·233 in August. These months are in agreement with those at Sarona, and thus, though at Blackheath there was no absolute maximum in December, yet its general high pressure has the second place on the mean as at Sarona. The mean of all is 30·368 inches.

If we compare the numbers in Tables I and II together month by month, we shall see that at Blackheath the maximum atmospheric pressure has been greater in every month but two, viz., in November, 1882, and in January, 1887, when the pressure at Sarona rose higher by 0·007 inch and 0·064 inch respectively than at Blackheath. Again, in November, 1888, the difference was only 0·001 inch. In every other month the atmospheric pressure at Sarona was less than at Blackheath, and in some months by as much as six-tenths of an inch, viz., in May, 1881; January and July in 1882; February, March, and May, 1883; and April, 1887. By taking the difference between the number in the last column of the two preceding tables, the mean excess of maximum atmospheric pressure at Blackheath over that at Sarona is:—

	In.		In.		In.
January	0·364	May	0·377	September	0·371
February	0·325	June	0·375	October	0·384
March	0·344	July	0·408	November	0·283
April	0·261	August	0·428	December	0·297

TABLE III. shows the Lowest Reading of the Barometer at *Sarona* in each month.

Month.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January ..	29·873	29·751	29·855	29·527	29·678	29·616	29·682	29·442	29·709	29·748	29·688
February..	29·635	29·524	29·706	29·624	29·700	29·716	29·620	29·724	29·529	29·656	29·643
March ..	29·615	29·579	29·631	29·631	29·597	29·500	29·584	29·743	29·592	29·571	29·604
April ..	29·489	29·545	29·581	29·533	29·505	29·482	29·543	29·522	29·550	29·679	29·543
May ..	29·640	29·637	29·609	29·635	29·670	29·687	29·686	29·704	29·690	29·559	29·652
June ..	29·609	29·697	29·684	29·666	29·703	29·630	29·609	29·654	29·645	29·583	29·648
July ..	29·556	29·563	29·545	29·597	29·600	29·509	29·567	29·573	29·574	29·494	29·558
August ..	29·584	29·570	29·630	29·563	29·582	29·535	29·622	29·567	29·599	29·587	29·584
September	29·720	29·663	29·712	29·607	29·665	29·663	29·674	29·670	29·664	29·622	29·666
October ..	29·819	29·823	29·729	29·751	29·783	29·778	29·734	29·860	29·720	29·790	29·779
November	29·780	29·747	29·773	26·687	29·832	29·822	29·814	29·713	29·553	29·800	29·752
December	29·748	29·784	29·722	29·705	29·846	29·780	29·674	29·776	29·547	29·643	29·723
Means ..	29·672	29·657	29·681	29·627	29·680	29·643	29·651	29·662	29·614	29·644	29·662

The numbers in this table show very small differences from each other, and there is not one reading so small as 29·4 inches, differing in this respect very much from our experience in England.

The minimum at Saronia for the year has occurred in—

		The lowest was	
		Ins.	
January, twice, in 1883 and 1887	.... ..	29·442	in 1887
February, twice, in 1881 and 1888	.... ..	29·524	„ 1881
April, 4 times, in 1880, 1884, 1885, and 1886		29·482	„ 1885
July, twice, in 1882 and 1889	.... ..	29·494	„ 1889

The highest minimum for the year has occurred in—

		The highest was	
		Ins.	
January, twice, in 1880 and 1882	.... ..	29·873	in 1880
October, 4 times, in 1881, 1883, 1887, and 1888	.... ..	29·860	„ 1887
November, 3 times, in 1885, 1886, and 1889		29·822	„ 1885
December, once....	.... ..	29·846	„ 1884

The numbers at the foot of the columns give the mean for each year the largest was 29·681 in 1882 and the smallest 29·614 in 1888.

The numbers in the last column show the mean of the ten readings. The lowest is in April, 29·543 inches, and the next in order is July, 29·553 inches. The highest, 29·779 inches, is in October, and the next in order, 29·752 inches, is in November. The mean of all is 29·662 inches.

TABLE IV. shows the Lowest Readings of the Barometer at *Blackheath* in each Month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 29·874	in. 28·816	in. 29·196	in. 29·150	in. 28·460	in. 28·838	in. 28·964	in. 28·736	in. 29·165	in. 29·339	in. 29·054
February..	28·913	28·851	28·912	28·890	29·316	28·975	29·183	29·608	29·381	29·101	29·176
March ..	29·226	29·167	28·915	29·176	29·175	29·193	29·236	28·999	28·646	28·908	29·064
April ..	29·231	29·604	28·801	29·347	29·269	29·177	29·145	29·245	29·514	29·133	29·247
May ..	29·603	29·396	29·281	29·458	29·287	29·069	29·027	29·338	29·323	29·456	29·324
June ..	29·566	29·344	29·384	29·691	29·474	29·453	29·664	29·585	29·470	29·579	29·521
July ..	29·418	29·441	29·319	29·479	29·544	29·795	29·431	29·581	29·375	29·473	29·486
August ..	29·191	29·384	29·206	29·531	29·576	29·593	29·457	29·403	29·571	29·168	29·408
September.	29·166	29·383	29·166	28·748	29·355	29·392	29·587	29·206	29·605	29·391	29·300
October ..	28·716	29·008	28·719	29·349	29·316	28·875	28·548	29·228	29·210	29·099	29·007
November	28·651	28·959	29·050	28·900	29·635	29·194	28·900	28·751	29·136	29·447	29·062
December .	29·102	28·864	28·965	29·445	28·804	29·445	28·254	29·214	29·033	29·223	29·035
Means ..	29·221	29·185	29·076	29·264	29·268	29·250	29·118	29·241	29·286	29·276	29·224

Very remarkable indeed are the numbers in this table as compared with those in the corresponding table at Saroná. In every year the atmospheric pressure has been less than 29 inches, and with few exceptions the readings have been lower than those at Saroná, and in some months by an inch or more, viz., October and November, 1880; October, 1882; January and December, 1884; October, 1886; with numerous instances of 0·7 inch, 0·8 inch, and 0·9 inch. There are, however, a few instances in which the minimum at Saroná was lower than at Blackheath, viz., January, 1880; April, 1881; June, 1883; July and August, 1885; June, 1886; and July, 1887; that in July, 1885 by the large amount of 0·286 inch.

The minimum at Blackheath for the year has occurred in—

	The lowest was	
	Ins.	
January, 4 times, in 1881, 1884, 1885, and 1887	28·460 in 1884
March, twice, in 1888 and 1889	28·646 „ 1888
September, once	28·748 „ 1883
October, once	28·719 „ 1882
November, once	28·651 „ 1880
December, once....	28·254 „ 1886

The highest minimum for the year has occurred in—

	The highest was	
	Ins.	
January, once	29·874 in 1880
February, once	29·608 „ 1887
April, once	29·604 „ 1881
June, 4 times, in 1882, 1883, 1886, and 1889	29·691 „ 1883
July, once	29·795 „ 1885
September, once	29·605 „ 1888
November, once	29·635 „ 1884

The numbers at the foot of the columns give the mean for each year; the largest was 29·286 inches, in 1888, and the smallest 29·076 inches, in 1882.

The numbers in last column show the mean of the ten minimum readings:—The lowest, 29·007 inches, in October, and the next in order, 29·035 inches, in December. The highest, 29·521 inches, in June, and the next in order, 29·486 inches, in July.

By taking the difference between the number in the last column of Tables III. and IV. the average lower barometer readings in England below those in Palestine will be shown, viz. :—

	In.		In.		In.
January	0·634	May	0·328	September....	0·366
February	0·467	June	0·127	October	0·772
March	0·540	July	0·072	November....	0·690
April	0·296	August	0·176	December	0·688

The mean of all is 0·438 inch.

TABLE V. shows the Range of Barometer Reading at *Sarona* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January ..	0·396	0·384	0·365	0·561	0·584	0·535	0·446	0·843	0·457	0·325	0·490
February..	0·520	0·583	0·543	0·475	0·530	0·381	0·445	0·515	0·608	0·434	0·503
March ..	0·551	0·596	0·501	0·429	0·536	0·609	0·581	0·320	0·552	0·488	0·511
April ..	0·562	0·490	0·533	0·509	0·508	0·513	0·491	0·471	0·442	0·372	0·489
May ..	0·307	0·320	0·408	0·318	0·276	0·218	0·321	0·357	0·249	0·359	0·313
June ..	0·344	0·260	0·311	0·139	0·227	0·256	0·236	0·211	0·229	0·359	0·257
July ..	0·235	0·297	0·253	0·174	0·299	0·284	0·228	0·320	0·285	0·329	0·265
August ..	0·243	0·301	0·171	0·240	0·267	0·290	0·132	0·199	0·168	0·201	0·201
September	0·205	0·277	0·237	0·294	0·350	0·710	0·219	0·296	0·279	0·260	0·292
October ..	0·199	0·171	0·254	0·226	0·219	0·192	0·205	0·158	0·328	0·229	0·248
November	0·311	0·309	0·300	0·333	0·231	0·266	0·295	0·386	0·586	0·336	0·335
December	0·432	0·448	0·431	0·401	0·297	0·382	0·490	0·311	0·725	0·542	0·446
Means ..	0·359	0·371	0·359	0·342	0·360	0·386	0·337	0·366	0·405	0·353	0·362

The greatest ranges appear in the winter and spring months, and the smallest in the summer and autumn months.

The greatest monthly range in the year has occurred in—

						The largest was Ins.		
January, 3 times, in 1883, 1884 and 1887	....	....	....	....	....	0·843	in	1887
February, once	....	....	....	....	....	0·543	„	1882
March, twice, in 1881 and 1886	....	....	....	....	....	0·596	„	1881
April, once	....	....	....	....	....	0·562	„	1880
September, once	....	....	....	....	....	0·710	„	1885
December, twice, in 1888 and 1889	....	....	....	....	....	0·725	„	1888

The least monthly range in the year has occurred in—

						The smallest was Ins.		
June, once	....	....	....	....	....	0·139	in	1883
August, 4 times, in 1882, 1886, 1888, and 1889	....	....	....	....	....	0·132	„	1886
October, 5 times, in 1880, 1881, 1884, 1885, and 1887	....	....	....	....	....	0·158	„	1887

These small ranges are remarkable.

The mean monthly range in each year is shown at the foot of each column. The largest is 0·405 inch, in 1888, and the smallest, 0·337 inch in 1886. The mean monthly range is 0·362 inch.

The numbers in the last column show the mean range in each month. The largest, 0·511 inch, is in March, and the next in order, 0·503 inch is in February. The smallest, 0·201 inch, is in August, and the next in order, 0·248 inch, is in October.

TABLE VI. shows the Range of Barometer Reading at *Blackheath* in each month.

Month.	Years.										Means of 10 y. ars.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 0·732	in. 1·699	in. 1·694	in. 1·447	in. 2·108	in. 1·516	in. 1·100	in. 1·886	in. 1·482	in. 1·317	in. 1·498
February..	1·493	1·344	1·859	1·875	1·095	1·157	1·476	1·056	0·899	1·241	1·349
March ..	1·202	1·302	1·662	1·484	1·029	1·368	1·113	1·565	1·620	1·609	1·395
April ..	1·145	0·589	1·492	1·245	0·762	1·074	1·064	1·394	0·661	1·035	1·146
May ..	0·805	1·196	1·133	0·873	1·088	1·022	1·406	1·002	1·099	0·554	1·018
June ..	0·601	0·911	0·882	0·641	0·794	0·893	0·562	0·803	0·705	0·779	0·757
July ..	0·696	0·830	1·090	0·626	0·611	0·586	0·844	0·690	0·654	0·828	0·746
August ..	0·996	0·881	1·009	0·709	0·670	0·690	0·718	0·886	0·636	1·042	0·824
September	1·270	0·981	1·139	1·460	0·952	0·903	0·774	1·215	0·797	0·996	1·049
October ..	1·637	1·406	1·745	1·121	1·268	1·269	1·759	1·318	1·196	1·017	1·374
November	1·745	1·420	1·016	1·457	0·855	1·167	1·758	1·508	1·004	1·162	1·409
December	1·497	1·693	1·391	1·075	1·366	1·066	2·271	1·228	1·392	1·321	1·330
Means ..	1·152	1·188	1·351	1·168	1·050	1·059	1·237	1·213	1·112	1·075	1·158

These ranges differ very greatly from those in the preceding table, as at Sarona the greatest appear in the months of Winter and Spring, and frequently exceeding an inch, and in two instances, viz., in January, 1885, and December, 1886, exceeding 2 inches. The smallest appear in June, July, and August.

The largest monthly range in the year has occurred in—

	The largest was
	Ins.
January, 4 times, in 1881, 1884, 1885, and 1887	2·108 ins. in 1884
February, twice, in 1882 and 1883	1·875 in. „ 1883
March, twice, in 1888 and 1889	1·620 „ „ 1888
November, once	1·745 „ „ 1880
December, once....	2·271 ins. „ 1886

Agreeing generally in the months with those at Sarona.

The smallest monthly range at Blackheath in the year has occurred in—

	The smallest was
	Ins.
April, once	0·589 in 1881
May, once	0·554 „ 1889
June, 3 times, in 1880, 1882 and 1886	0·562 „ 1885
July, 4 times, in 1883, 1884, 1885, and 1887....	0·586 „ 1885
August, once	0·636 „ 1888

Differing generally in the months with those at Sarona.

The mean monthly range in each year is shown at the foot of each column. The largest, 1·351 inch, in 1882, and the smallest, 1·075 inch, in 1889. The mean monthly range is 1·158 inch.

The numbers in the last column show the mean range in each month. The largest, 1·498 inch, in January, the next in order, 1·409 inch, is in November. The smallest, 0·746 inch, in July, and the next in order, 0·757 inch, in June.

By comparing the numbers in the Tables V. and VI. it will be seen that the range in every month was larger at Blackheath than at Sarona; the least difference was about a quarter of an inch in the months of June, 1880 and April, 1884; there are many instances exceeding 1 inch, and three exceeding $1\frac{1}{2}$ inches in the months of January, 1884, and October and December, 1886.

By taking the difference between the numbers in the last column of Tables V. and VI., the greater range of atmospheric pressure in England over that in Palestine is shown in every month, and are—

	In.		In.		In.
January	1·008	May	0·705	September....	0·757
February	0·846	June	0·500	October	1·126
March	0·884	July	0·480	November....	1·074
April	0·657	August	0·623	December	0·884

By dividing the mean range in each month at Blackheath by the mean range at Sarona, it will be found that the range at Blackheath in—

April	is about	$2\frac{1}{4}$	times larger than at Sarona.
February, March and July	"	$2\frac{3}{4}$	" "
January, June and December	"	3	" "
May	"	$3\frac{1}{4}$	" "
September	"	$3\frac{1}{2}$	" "
November	"	$4\frac{1}{4}$	" "
October	"	$5\frac{1}{2}$	" "

The mean annual range was at—

	In.
Blackheath	1·985
Sarona	0·711

The highest reading during the 10 years, at—

	Was Ins.	January
Blackheath	30·890	in 1882
Sarona	30·285	" 1887

The lowest reading during the 10 years, at—

	Was Ins.	January
Blackheath	28·254	in 1886
Sarona	29·442	" 1887

The extreme range was at—

Blackheath	2·436 ins.
Sarona	0·843 in.

so that the range at Sarona was about $\frac{1}{3}$ of that in England.

TABLE VII. shows the Mean Monthly Reading of the Barometer at *Sarona* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·046	in. 29·997	in. 30·060	in. 29·898	in. 30·010	in. 29·919	in. 29·946	in. 29·866	in. 29·958	in. 29·921	in. 29·962
February..	29·942	29·838	30·000	29·924	29·945	29·929	29·874	29·958	29·870	29·939	29·922
March ..	29·882	29·917	29·930	29·838	29·892	29·861	29·879	29·900	29·878	29·872	29·885
April ..	29·814	29·828	29·797	29·775	29·723	29·706	29·858	29·781	29·795	29·859	29·794
May ..	29·776	29·821	29·840	29·801	29·841	29·813	29·845	29·844	29·817	29·752	29·815
June ..	29·741	29·816	29·806	29·735	29·828	29·776	29·746	29·744	29·768	29·770	29·773
July	29·679	29·705	29·689	29·689	29·717	29·679	29·677	29·671	29·672	29·648	29·683
August ..	29·716	29·675	29·705	29·697	29·707	29·657	29·685	29·653	29·696	29·665	29·686
September	29·808	29·792	29·803	29·748	29·817	29·798	29·790	29·802	29·802	29·770	29·793
October ..	29·916	29·902	29·771	29·886	29·900	29·904	29·840	29·875	29·855	29·893	29·874
November .	30·019	29·919	29·919	29·895	29·952	29·921	29·948	29·930	29·922	29·967	29·939
December .	29·944	29·975	29·953	29·924	29·980	29·950	29·979	29·949	29·977	29·953	29·958
Means ..	29·857	29·857	29·856	29·818	29·859	29·826	29·839	29·822	29·834	29·834	29·849

METEOROLOGICAL OBSERVATIONS.

The mean monthly readings are highest in the winter months, but very seldom so high as 30 inches ; the lowest are in the summer months, but none so low as 29·6 inches, so that the mean monthly atmospheric pressure is very uniform.

The highest monthly mean reading of the barometer at Sarona, in the year, has occurred in—

	The highest was	
	Ins.	
January, 4 times, in 1880, 1881, 1882, and 1884	30·060	in 1882
February, twice in 1883 and 1887	29·958	„ 1887
November, once	29·967	„ 1889
December, 3 times, in 1885, 1886, and 1888	29·979	„ 1886

so that the months of highest mean pressure are January, February, November, and December.

The lowest monthly mean reading of the barometer at Sarona, in the year has occurred in—

	The lowest was	
	Ins.	
July, 6 times, in 1880, 1882, 1883, 1886, 1888, and 1889	29·648	in 1889
August, 4 times, in 1881, 1884, 1885, and 1887	29·653	„ 1887

so that the months of lowest mean atmospheric pressure are July and August.

The numbers at the foot of each column show the mean yearly pressure ; the highest, 29·859, was in 1884, and the lowest, 29·818, was in 1883.

The numbers in the last column show the mean of the ten monthly mean readings. The highest, 29·962 inches, is in January, and the next in order, 29·958 inches, is in December. The lowest, 29·683 inches, is in July, and the next in order, 29·686, is in August. The general mean pressure is 29·849 inches.

TABLE VIII. shows the Mean Monthly Reading of the Barometer at *Blackheath* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·309	in. 29·814	in. 30·288	in. 29·842	in. 30·025	in. 29·829	in. 29·584	in. 29·953	in. 30·158	in. 30·101	in. 29·990
February..	29·737	29·753	30·054	30·019	29·855	29·647	30·054	30·248	29·888	29·824	29·918
March ..	30·034	29·819	29·847	29·856	29·871	30·006	29·918	29·988	29·530	29·801	29·886
April ..	29·811	29·867	29·713	29·934	29·755	29·721	29·844	29·928	29·811	29·661	29·805
May ..	30·013	30·037	29·988	29·897	29·932	29·731	29·856	29·941	29·979	29·758	29·913
June ..	29·840	29·910	29·852	29·906	29·970	29·955	29·905	30·127	29·861	29·949	29·928
July ..	29·830	29·929	29·814	29·801	29·894	30·104	29·850	29·979	29·711	29·860	29·877
August ..	29·906	29·792	29·852	29·948	29·934	29·907	29·984	29·915	29·944	29·712	29·894
September	29·905	29·908	29·796	29·769	29·956	29·826	29·981	29·868	30·074	29·974	29·906
October ..	29·804	29·936	29·770	29·912	30·005	29·632	29·729	30·017	29·985	29·627	29·842
November	29·891	29·895	29·538	29·749	30·087	29·835	29·855	29·681	29·780	30·135	29·845
December	29·854	29·932	29·621	30·086	29·808	30·144	29·635	29·783	29·906	30·109	29·888
Means ..	29·911	29·816	29·869	29·893	29·924	29·861	29·847	29·948	29·882	29·892	29·891

METEOROLOGICAL OBSERVATIONS.

The mean monthly readings are highest in the winter months, as at Sarona, the readings often exceeding 30 inches, excepting in the months of April and August, in which months, in none of the years, the reading reached 30 inches. The lowest reading was in January, 1886.

The highest monthly reading of the barometer at Blackheath, in the year, has occurred in—

	The highest was		
	Ins.		
January, 3 times, in 1880, 1882 and 1888	30·309	in 1880
February, twice, 1886 and 1887	30·248	„ 1887
May, once	30·037	„ 1881
November, twice, in 1884 and 1889	30·135	„ 1889
December, twice, in 1883 and 1885	30·144	„ 1885

The months agreeing, with the exception of the one instance in May, with those at Sarona.

The lowest monthly mean reading of the barometer at Blackheath, in the year, has occurred in—

	The lowest was		
	Ins.		
January, once	29·584	in 1886
February, twice, in 1880 and 1881	29·737	„ 1880
March, once	29·530	„ 1888
April, once	29·755	„ 1884
October, twice, in 1885 and 1889	29·627	„ 1889
November, twice, in 1883 and 1887	29·631	„ 1887
December, once	29·621	„ 1882

These months differ entirely from those at Sarona. The numbers at the foot of each column show the mean yearly pressure, the greatest as 29·948 in 1887, and the least 29·816 in 1881.

The numbers in the last column show the mean of the ten monthly mean readings. The highest, 29·990 inches, is in January, and the next in order is 29·928 inches, in June. The lowest, 29·805 inches, is in April, and the next in order, 29·842 inches, in October.

The average pressure of the ten years is 29·891 inches, whilst that at Sarona is 29·849 inches, so that the air over the two places is nearly the same in volume.

By comparing the results in Tables VII. and VIII. together we find that with the exception of three months, June, July and August, the mean pressure of the atmosphere at Blackheath has been in some years above, and in others below, that at Sarona; for instance the mean pressure at Blackheath was greater than at Sarona in—

January, 1880	....	by	In.	0·263	and smaller in	1886	by	In.	0·362
February, 1887	...	"	"	0·290	"	1885	"	"	0·282
March, 1880	....	"	"	0·152	"	1888	"	"	0·348
April, 1883	....	"	"	0·159	"	1889	"	"	0·198
October, 1889	....	"	"	0·266	"	1885	"	"	0·272
November, 1889....	....	"	"	0·168	"	1882	"	"	0·381
December, 1885	....	"	"	0·194	"	1886	"	"	0·344

In the months of May and September there was only one instance in each of these months, in the 10 years, of the pressure being less at Blackheath than at Sarona. It was greater than at Sarona in—

May, 1880	....	by	In.	0·237	and smaller in	1885	"	In.	0·082
September, 1888....	....	"	"	0·272	"	1882	"	"	0·007

and in the remaining months the pressure at Blackheath was always greater. The excess varied in—

June	....	....	from	In.	0·046	in	1882	to	In.	0·383	in	1887
July	....	....	"	"	0·039	"	1888	"	"	0·425	"	1885
August	....	....	"	"	0·047	"	1889	"	"	0·262	"	1887

By taking the differences between the numbers in the last column of Tables VII and VIII, we find that the mean reading of the barometer at Blackheath was higher than at Sarona, in—

January	by	In.	0·028	May	by	In.	0·098	August	by	In.	0·208
March	"	"	0·001	June	"	"	0·155	September	"	"	0·113
April	"	"	0·011	July	"	"	0·194				

and lower in the months of—

February	by	In.	0·004	October	by	In.	0·032	November	by	In.	0·094
				December	"	"	0·070				