

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oban Castle, County of Aberdeen, in Lat. 57° 10' N, Long. 8° 10' W, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet. During the MONTH of January 1885.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.				CLOUDS.				THERMOMETERS under Ground.				SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.
		9 h. A.M.		9 h. P.M.		Protected in Shade Above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.		9 h. A.M.									
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force	Direction.	Force			Readings of the H. Cup Anemometer. No. —	9 h. A.M.	Velocity (0—10), and Direction.	Amount (0—10), and Species.	Velocity (0—10), and Direction.	Amount (0—10), and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.					
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°			°	°	°	°	°	°	°	°	°	°				
1	29.725	44	29.850	45	39	32			34	33	32	32	SE	SE					—	24	24	24							Overcast Cold windy	1			
2	29.800	45	29.600	46	38	32			33	32	36	36	SE	SE			0.02		24	24	24							" " Some S.W. Rain	2				
3	29.500	45	29.512	46	37	30			35	34	30	30	W	SW			—		24	24	24							Changeable	3				
4	29.200	45	29.200	48	45	26.5			31	30	44	43	SW	SW			0.03		24	24	24							" " Some S.W. Rain	4				
5	29.350	46	29.328	46	49	29			36	35	31	31	SW	SW			0.28	24	24	24	24	24						Lightening at night clear & frosty	5				
6	29.525	46	29.500	46	38	24			28	27	30	30	W	W			0.24	24	24	24	24	24						Cold Heavy S.W. Snow	6				
7	29.450	44	29.400	46	40	26			34	33	40	38	W	W			0.45	24	24	24	24	24						" " " "	7				
8	28.950	44	28.900	52	42	31			30	30	32	31	W	W			0.37	24	24	24	24	24						Heavy rain am fine P.M.	8				
9	29.800	45	29.750	49	41	30.5			34	34	38	31	W	W			0.00	24	24	24	24	24						Fine day	9				
10	28.600	43	28.050	45	42	30			33	32	31	30	W	W			0.04	24	24	24	24	24						Overcast thining am fine P.M.	10				
11	28.400	44	29.050	45	36	30			35	34	30	30	W	W			0.03	24	24	24	24	24						Very cold heavy S.W. Snow thick	11				
12	29.375	45	29.450	46	35	24			30	30	28	28	W	W			0.03	24	24	24	24	24						Heavy S.W. Snow	12				
13	29.400	42	29.500	48	34	26			24	24	29	29	W	W			—	24	24	24	24	24						Changeable	13				
14	29.640	43	29.900	49	33	26			30	30	27	27	W	W			—	24	24	24	24	24						fine day frosty at night	14				
15	29.930	41	29.950	44	33.5	13			28	28	18	17	W	W			—	24	24	24	24	24						" " " "	15				
16	30.020	39	30.070	45	31.5	10			10	10	28	27	SE	SE			0.02	24	24	24	24	24						fine am Snowing P.M.	16				
17	29.900	42	29.880	45	32	26			31	30	35	35	SE	SE			0.05	24	24	24	24	24						Rain Sleet & Snow	17				
18	29.950	45	29.900	45	38	32			36	35	26	35	SE	SE			0.01	24	24	24	24	24						" " " "	18				
19	29.772	45	29.700	43	32.5	24			35	35	25	24	W	W			—	24	24	24	24	24						Clear P.M.	19				
20	29.675	39	29.600	43	30	18			24	24	22	22	W	W			—	24	24	24	24	24						Foggy day	20				
21	29.600	39	29.550	44	35	27			28	28	35	33	W	W			0.25	24	24	24	24	24						Overcast all day	21				
22	29.500	45	29.550	45	40	32			34	33	35	34	SE	SW			—	24	24	24	24	24						Overcast & Changeable	22				
23	29.600	44	29.700	45	37	19			22	20	35	33.5	W	SE			—	24	24	24	24	24						" " " "	23				
24	29.650	45	29.650	46	37	28			36	34	36	35	SE	SE			—	24	24	24	24	24						" " " "	24				
25	29.550	46	29.450	46	40	27.5			35	34	37	36	SE	SW			—	24	24	24	24	24						Mild day	25				
26	29.310	49	29.300	44	45	35			42	40	37	37	SW	SW			—	24	24	24	24	24						Mild day Brough Round house	26				
27	29.250	46	29.200	46	42	32			33	34	38	38	SW	SW			—	24	24	24	24	24						Overcast & Mild	27				
28	29.130	45	29.784	47	42	31			35	35	36	35	SE	SE			0.02	24	24	24	24	24						Fine and fog	28				
29	28.700	46	28.750	48	39	30			31	31	44	43	W	W			0.15	24	24	24	24	24						Overcast - Some Rain	29				
30	28.570	48	28.550	47	42	36			36	35	40	37	SE	SE			0.40	24	24	24	24	24						Windy and Rainy	30				
31	28.350	47	28.100	46	42	38			40	38	38	38	SW	SW			0.35	24	24	24	24	24						" " " "	31				
Sums.	1682	16	1680	18	131	121			54	31	99	75					2.48																
Means.	29.364	44.3	29.366	46.2	38.5	27.6			31.7	31.0	33.2	32.4																					
† Total Corrections for Instrumental Errors.	-0.20		-0.20																														
† Corrections for Diurnal Range.																																	
"Corrected Means."																																	
No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.302
for Temp. (Col. 2), = 29.344 - 42
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.225
for Temp. (Col. 4), = 29.377 - 46
Mean at Station, corrected, and at 32°, = 29.298
Correction for height, feet above Mean Sea-level, = 510
Mean, reduced to 32°, and Sea-level, = 29.808
Highest Reading, corrected for Index error, on the 16th, = 30.070
Lowest Do. Do., on the th, = 28.100
Difference, or Monthly Range, = 1.970

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 5th, = 49.0
Lowest in Month, corrected for Index errors, on the 16th, = 10.0
Difference, or Monthly Range, = 39.0
"Corrected Mean" of all the Highest, (Col. 5), = 38.5
"Corrected Mean" of all the Lowest, (Col. 6), = 27.6
Difference, or Mean Daily Range, = 10.9
** Calculated Mean Temperature of Month, = 33.0

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, =
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, =
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 32.5
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 31.7
†† Computed Temperature of Dew-Point, = 30.0
†† Do. Elastic Force of Vapour, = 167
†† Do. Weight of Vapour in a Cubic Foot of Air, =
†† Relative Humidity, (Saturation = 100), = 90
RAIN fell on 17 Days; Amount in Inches, = 2.48

WIND.												SUMMARY.		
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.			
A.M.	24	6	1		5	7	3							
P.M.	22	5	5		8	6	3							
Mean.	23	5	5		6	7	3							

Observations made and
Return verified by

George H. Smythe

(Signed)

TAKING METEOROLOGICAL WITH REMARKS ON THE USE OF INSTRUMENTS.

The Council of the Society recommend that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Louver-boarded Box for Thermometers, painted white inside and outside, and secured to four stout posts, also painted white, firmly embedded in the ground. The posts must be of such a length that the tops of the Thermometers are hung in position the Bulbs of the Minimum Thermometer, and of the Dry and Wet Bulb Thermometers will be exactly at the same height of four feet above the ground, the Maximum Thermometer being hung immediately above the Minimum Thermometer. The Thermometer Box is to be placed over a plot of grass and in a free open space to which the sun's rays have free access, and so placed that the sun's rays will not fall on the thermometer as much of the day as surrounding conditions enable the Observer to determine. The Thermometers are suspended on cross laths in the centre of the Box and face the door, which must open to the north.

The Council regard the question of UNIFORMITY OF HEIGHT ABOVE GROUND, AND METHOD OF PROTECTING THE THERMOMETERS, as vital to the success of the system of Meteorological Observation, since without it Observations made at different Stations are incompatible, thus rendering it impossible to compare the Climates of places with each other as regards their most important features.

Professor Phillips, and Negretti and Zambra's Maximum Thermometers, and Rutherford's Minimum Thermometer are recommended. It is recommended that these Thermometers be graduated on the glass stem. The Minimum Thermometer is liable to two drawbacks—viz, the loss of spirit breaking, and part of the spirit distilling by high temperatures and lodging at the top of the tube. This demerit occurs of occasional occurrence with Protected Thermometers, but of frequent occurrence with exposed Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer.

to compare the climates of places with each other as far as the climate is concerned, and to ascertain the most important features.

Professor Phillips, and Negretti and Zambra's Maximum Thermometers, and Katharford's Minimum Thermometer are recommended. It is recommended that these Thermometers be graduated on the glass scale. The Minimum Thermometer is liable to two deceptions—viz, the column of spirit breaking, and part of the spirit distilling by high temperatures and leaking at the top of the tube. This deangement of occasional occurrence with Protected Thermometers, but of frequent occurrence with exposed Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work carried on by each Observer.

Fortunately, Spirit Thermometers may be easily set right by any means, when the column of spirit chances to separate. Let the Thermometer be taken in the hand by the end furthest from the bulb, and the bulb held above the head, and then forcibly swing down towards the observer, the object being on the principle of centrifugal force, to send the spirit down the tube, and fill it up to the mark. If the column of fine shavings, or swiveling snakes, will generally be sufficient for a slanting position, after which the Thermometer should be placed in a slanting position, to allow the rest of the spirit still adhering to the sides of the tube to drain down to the column. But another method must be adopted, if the portion of spirit in the top of the tube be small. The instrument should be applied slowly and cautiously to the top out of the hand, where the detached portion of spirit is, which, being turned down to vapour by the heat, will condense on the surface of the unbroken column of spirit. Care must be taken that the heat is not applied too quickly; for, if this be done, the tube will break and the instrument be destroyed. The best way to apply the requisite amount of heat is, by bringing the end of the tube slowly down towards a heated metal plate from a gas-burner; or, if gas be not at hand, a piece of red-hot iron will serve instead.

The bulbs of the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation

new tubes, or, if the Thermometer should be placed in a stirring apparatus, to draw the rest of the spirit still adhering to the sides of the position, and to drain down to the column. But another method must be adopted, if the portion of spirit in the top of the tube be small. The spirit should be allowed slowly and cautiously to the top end, when turned there the detached portion of spirit is, which, being turned down, will condense on the surface of the unbroken column of spirit. Care must be taken that the heat is not applied too quickly; for, if this be done, the tube will break and the instrument be destroyed. The best way to apply the requisite amount of heat, is by bringing the end of the tube slowly down towards a spirit lamp, or a small flame from a gas-burner; or, if gas be not at hand, a piece of heated metal will serve instead.

The bulbs of the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation during night, have a black coating, which may easily be made, or modified, by the application of a black paint. I lampblack and white lead, the pigments of a shallow blackened box, and painted the bulbs from the wind. The blackened boxes, which were placed over the windward side of the thermometer, and were fixed by a screw, were so placed, that the blackened boxes could be freely exposed to the sun, and the thermometer could rest on wooden supports a few inches from the surface of the glass in an open situation. Snow must not be allowed to cover either of these Thermometers; nor the sun's heat to affect the minimum Thermometer by distillation. Black-bulbs enclosed in glass jackets may also be used, being indeed preferable to the

above indicated, however, be added, that the whole subject of the influence of Solar and Terrestrial Radiation is not yet in a sufficiently advanced state to warrant the exclusive recommendation of any one of these methods.

The Hygrometer in use at the Society's Stations consists of two Thermometers usually, but not necessarily, mounted together on one frame. As apparently slight deviations from the approved form of this apparatus seriously vitiate the Hygrometrical Observations, Observers are specially requested to attend to the following conditions.—The bulbs must hang down at least an inch free from the scales and frame to which they are attached; the frame must be such as will bring the tubes forward to an inch from any board on which it may be suspended; the water-bulb may be covered, and altogether placed to the side, and a little below the level of the wet bulb, but in the case of these bulbs the thermometer must be of medium thickness, such as that used by the cotton, wild silk, and woolen manufacturers; the frame must be made of wood, and the fluid in it, with water. It must be seen to by the observer, whether the fluid in the water-bulb is the same as that in the dry bulb; the fluid in the dry bulb is always clean and moistened by the observer in frosty weather; clean is a matter of great delicacy, and must be made with great care. The bulb must be moistened by immersion from 15 to 30 minutes before the hour of observation. From the film of ice thus formed evaporation will proceed as from the moist cloth in ordinary circumstances.

the water, the frame must be such as will bring the tubes forward by the action of the water, and the tubes must be so constructed, that the frame must be covered and altogether placed to the side, and a little removed from the level of the wet bulb, but in no case under the bulbs; and the thermometer must be of medium fineness, and fastened at the neck of the bulb by the cotton, which also supplies it with water. It must be seen by the Observer that the muslin is always clean and moist, and that the water pure. In frosty weather, observation is a matter of great delicacy, and must be made with great care. The bulb must be immersed by immersion from 15 to 30 minutes before the hour of observation. From the film of ice thus formed evaporation will proceed as from the moist cloth in ordinary circumstances.

In reading the Thermometer great care must be taken in bringing the eye exactly opposite the tip of the index or column of mercury. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus, if the Thermometer will be read— $39^{\circ} 9$, $40^{\circ} 0$, or $40^{\circ} 1$; or again, $40^{\circ} 4$, $40^{\circ} 5$, $40^{\circ} 6$, according as it indicates a little under, an exact coincidence with, or a little over 40° , or $40^{\circ} 5$ respectively. So also $40^{\circ} 1$, $40^{\circ} 2$, more or less must be registered $40^{\circ} 2$, or $40^{\circ} 3$, and $40^{\circ} 7$, or $40^{\circ} 8$ respectively. In reading Rutherford's Minimum Thermometer, the indication of that end of the index which is next to the surface of the spirit is alone noted. On opening the Thermometer Box, the Dry and Wet Bulb Thermometers are to be first, and then the other, read inasmuch as they are readily affected by heat from the person of the Observer.

The Hygrometer is read at 9 a.m. and 9 p.m. The Self-Registering Thermometers are read at 9 p.m. only, as indicating the greatest and least degrees of temperature in the 24 hours preceding. It is not a matter of indifference

combinations of the above, or of one over the other, are registered, 40° or 40° 3' and 40° 15' and 40° 30' more or less may be registered, 40° or 40° 3' and 40° 15', or 40° 3' respectively. In reading Rotherforde's Minimum Thermometer, the indication of the tail end of the index which is next to the surface of the spirit is alone read. On opening the Thermometer Box, the Dry and Wet Bulb Thermometers are to be first, and the corresponding read, inasmuch as they are readily affected by heat from the preparation of the Observers.

The Hygrometer is read at 9 a.m. and 9 p.m. The Self-Registering Thermometers are read at 9 a.m. and 9 p.m. only, as indicating the greatest and least degrees of temperature in the 24 hours preceding. It is not a matter of indifference when the Self-Registering Thermometers are read, since, in winter at least, the extremes may occur at any hour; and it is necessary to refer their occurrence to their proper meteorological day. In the Society's schedules, the indications registered on the 3d are those of a series of phenomena commencing at 9 p.m. on the 2d, and extending till 9 p.m. on the 3d.

No instrument ought to be used for Meteorological purposes till it has been carefully tested by comparison with a Standard Thermometer. When such Thermometers are not graduated on the stem, but merely on an attached scale, they are very liable to be moved from their position on the Scale and ought never afterwards to be used without being re-tested. The Self-Registering, especially the Minimum Thermometers, ought frequently to be compared with the dry bulb of the Hygrometer. The freezing-point of each Thermometer, marked by a scratch on the tube, ought to be tested once a year, in snow or melting ice.

In selecting instruments, the following points require attention:—The divisions of the vernier of Barometers in reference to their scales, and the perfect freedom of the Barometer from air; the correct number of the instrument, and the date of its last test.

water, in cases where the observations cannot be taken daily, the observation may be made on the 5th, 15th, and 25th of each month. When convenient, extra Sea Observations might be taken for other water-gauge depths, noting the temperature of the Air, and the state of the Sky. It is also very desirable that observations on the Gulf of Mexico, and Minnie by Thermometers should be made by Mr. Stoddard at places, and at times, as recommended at Petrel and Liverpool. The Temperature of the water at the bottom of Wells noted, and the Temperature of the water being taken, both the depth of the Wells, and of the water being noted.

Well and of the water being noted.
Mention that Test-Papers are used, Schönböhm's or Moffatt's, etc.
The Paper is affixed by a pin to a board in the Thermometer Box, and the indications registered at 9 A.M. and 9 P.M. It is desired that these indications be registered in connection with the force and direction of the wind at the time of observation, in the following manner:—this ^{new} as an Ozone entry in the schedule will indicate that Ozone paper is fitted ^{on} ^{to} ^{the} scale, that the wind is from the N.W. and that its force on the scale 0 is 5, 4, or blowing fresh.

assigned. The use of contractions, ought, therefore, to be taken very advantage of, and a list of such as in general use are given at the foot of the column. Besides special and extraordinary Observations, great prominence ought to be given in this column to Prevalent Diseases, differences in character, colour, velocity, and the distance between the Lower and Upper Strata of Clouds, the Colour of Aurora Borealis, remarkable depressions, elevations, and fluctuations of the Barometre, Thunder-storms, and remarkable falls of Snow, Hail, Rain, the Frost of Storms, and remarkable colds during the Winter.

or rain, the Hour of Storms of Wind commencing (starting) from the minimum, and ending, as with such notes on Storms as have been noted, with the Hour of the Storms of Wind commencing (starting) from the maximum.

Weight of Cylinders and the Storm-line in winter should be recorded. The use of abbreviations the state of the weather at 9 a.m. and 9 p.m. should be registered either in two columns, otherwise unoccupied, or ruled off for the purpose, from the column of Remarks.

Observations in connection with the column of Remarks.

Seasons, possess not only great scientific value, but are of considerable importance in connection with the Periodic Return of Agriculture, Horticulture, and Natural History. The Periodic Return of

The Council will direct the special attention of Observers to the registration of published Summaries may fairly represent the whole of Scotland. Observers ought to be confined to individual trees and shrubs; to particular species of birds, and to selected species of insects. The Annual Fauna, published yearly in the Society's Journal, will indicate the habits of plants and animals to which special attention is more particularly directed.

The Council recommend Observers, before purchasing new in-

The Council recommend Observers, before purchasing new instruments, and the expatriating old ones, to communicate with the Meteorological Secretary, in order that every instrument may be examined and improved before being used; and they consider it necessary that he should have full power to reject any instrument which, on being presented for comparison, does not afford him satisfaction.

(By Order) A. B.

ENNBURGH, December 1852.

[illegible][illegible]

PERIODICAL RET	
GROUPS.	
manhooding variety.	
Barley,	
Of or Big,	
Oats,	
Wheat,	
Beans,	
Pease,	
Potatoes,	
Turnips,	
Rye Grass,	
Growing	Planting

DYESSED WITH THE		Leaves,	In Leaf,
ma			
Ba			
Ba			
Ba			
Wa			
Be			
Pe			
Pa			
Tu			
Ra			

[illegible]

Oak.	.	.	.	.
Sycamore or Plane.	.	.	.	.
Lime,	.	.	.	.
Lab,	.	.	.	.
Elm,	.	.	.	.
Birch,	.	.	.	.
Beech,	.	.	.	.
Ash,	.	.	.	.
Alder,	.	.	.	.

FOREST TREES.

OBSERVATIONS

To

Mr. A. L.

BOOK POST.

ALEXANDER BU
Secretary of the

[illegible]

MIGRATORY BIRDS.	
Cuckoo,	✓
Chimney,	✓
House-Swallow,	✓
Lapwing,	✓
Plover,	✓
Sand-Martin,	✓
Starling,	✓
Swan,	✓
Rail or Corn Crane,	✓

[illegible][illegible][illegible]

Barberry, . . .	Have the greatest	Epizootic diseases.
Bourtree or Eld.		
Broom, . . .		
Hazel, . . .		
Hawthorn, . .		
Holly, . . .		
Laburnum, . .		
Lilac, . . .		
Mezereum, . .		
Mountain Ash		
Red Flowering		
Rhododendron		
Whin, . . .		

Boynes

OBSERVATIONS,

WEEK POST.

[illegible][illegible]

Rhododendron Ponticum,							
------------------------	--	--	--	--	--	--	--

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Aboyne Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 51 miles.
 Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.
 During the MONTH of February 1885.
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				SUNSHINE. Hours.	THERMOMETERS under Ground.			SEA. Temperature at 1 fathom, and Depth.	OZONE. 0—10.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. <i>Mention the hour at which Storms, including Thunder and Lightning, began and ended.</i>	Days of Month.		
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —	No. of hours in which it fell.	Amount in inches. No. —	9 A.M.		P.M.		9 h. A.M.								
		Barometer. * No. —	Attnch- ed Ther- mometer	Barometer. No. —	Attnch- ed Ther- mometer	Max. No. —	Min. No. —	Max. in Sun's rays No. —	Min. on Grass. No. —	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direc- tion.	Force	Direc- tion.	Force				9 h. A.M.	Velocity (0—10), and Direc- tion.	Amount (0—10), and Species.		Velocity (0—10), and Direc- tion.	Amount (0—10), and Species.	No. — 3 inches.					No. — 12 inches.	No. — 23 inches.
1	28300	47	28580	47	42	33			37	36	35	33	SW	10				0.07		Wi		CU						Showerg a.m Bright P.m	1				
2	28600	46	28470	47	42	33			36	35	37	36	E	8				0.10		Wi		Wi						Cold cloudy & rainy	2				
3	28450	46	28600	47	44	31			37	36	30	30	SE	55				—		Wi		Cast						Clear & cold	3				
4	28850	46	28768	47	44	28			29	29	37	37	SE	5				—		CU		Wi						dull & overcast	4				
5	28600	45	28850	49	40	32			33	33	32	32	E	48				0.10		CU		Wi						Snow a.m dull P.m	5				
6	29028	45	28572	48	44	26			30	29	43	42	SW	8				0.34		CU		Wi						Overcast & rainy	6				
7	28726	46	29000	52	44	35			39	36	40	37	SW	SW				0.15		CU		Wi								7			
8	28850	46	28778	51	49	34			38	37	37	38	E	SW				0.46		Wi		Wi							Very a.m fine P.m rain at night	8			
9	28700	46	29050	48	40	33			36	34	35	34	NW	NW				—		Wi		CU							Cold Clear day	9			
10	29150	45	29170	48	40	28			34	33	38	38	W	SW				0.05		CU		Wi							fine a.m rain P.m	10			
11	29100	47	29380	49	48	36			44	41	40	38	W	W				0.01		CU		Wi							fine day throughout	11			
12	29250	49	29350	49	56	36			50	47	38	37	SW	SW				0.10		CU		Wi								fine day rain at night	12		
13	29250	48	28950	57	42	34			36	36	42	38	SW	NW				0.29		Wi		Wi								very rainy day	13		
14	29150	47	29260	48	42.5	24.5			35	34	25	31	W	NW				—		CU		Cast								fine day	14		
15	29176	45	28970	48	42.5	22			32	30	32	32	W	NW				—		Cast		Wi								fine day	15		
16	28970	46	28940	46	44	21			34	24	25	25	NW	NW				—		CU		Cast								fine day	16		
17	28972	41	28976	46	43	21			22	22	23	23	NW	NW				—		Cast		Cast									Clear & bright	17	
18	28972	40	29150	46	42.5	27			22	22	30	28	NW	NW				—		ST		Wi										18	
19	29220	44	29450	46	41	21			29	27	23	22	NW	NW				0.01		Snow		CU									fine a.m sds of snow P.m	19	
20	29462	41	29086	46	41	16			19	18	27	25	NW	NW				—		ST		Cast									Clear fine day	20	
21	29526	41	29180	45	36	24.3			29	28	30	30	SE	SW				0.49		Snow		CU									Hurricane of wind & snow drifting	21	
22	28650	44	28970	46	44	32			37	37	32	32	SW	SW				0.04		Snow		Wi									High wind and sds of snow & sleet	22	
23	29116	46	29050	50	48	32			39	34	44	41	SW	SW				0.02		Wi		Wi									Snow & rain	23	
24	28950	53	28900	53	57	36			50	47	53	47	SW	SW				0.01		CU		CU									Overcast all day	24	
25	28925	54	28976	57	56	38			52	47	39	37	SW	SW				—		Wi		Wi										Splendid day	25
26	29076	53	29034	51	53	29			42	42	48	46	SE	SE				0.11		Wi		Wi										Overcast & rainy a.m fine P.m	26
27	29400	53	29150	53	53	42			46	44	44	42	SW	NW				—		Wi		CU										Splendid day	27
28	29400	57	29750	52	47	31			48	46	33	32	NW	NW				—		CU		CU										Cold some sds snow	28
29																																	29
30																																	30
31																																	31
Sums.		13 10 13	13	14 16 15	15	10 11			15 14	14	11 12	12						2.35															
Means.		28.983	46.5	29.032	48.6	45.2	29.5		35.5	34.1	35.4	34.0																					
† Total Corrections for Instrumental Errors.		-0.20		-0.20																													
‡ Corrections for Diurnal Range.																																	
“Corrected Means.”																																	
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = 28.917
 for Temp. (Col. 2), = 28.963 — 4.6..
 Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 28.960
 for Temp. (Col. 4), = 28.012 — 5.2..
 Mean at Station, corrected, and at 32°..... = 28.939
 Correction for height, feet above Mean Sea-level..... = 499
 Mean, reduced to 32°, and Sea-level..... = 29.438
 Highest Reading, corrected for Index error, on the 28th..... = 29.730
 Lowest Do. Do., on the 1st..... = 28.280
 Difference, or Monthly Range..... = 1.450

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 24th..... = 57.0
 Lowest in Month, corrected for Index errors, on the 20th..... = 16.0
 Difference, or Monthly Range, = 41.0
 “Corrected Mean” of all the Highest, (Col. 5), = 45.2
 “Corrected Mean” of all the Lowest, (Col. 6), = 29.5
 Difference, or Mean Daily Range, = 15.7
 ** Calculated Mean Temperature of Month, = 37.3
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th..... =
 “Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun..... =
 Lowest at Night, Black Bulb, (corrected for Index errors), on the th..... =
 “Corrected Mean,” (Col. 8), of Black Bulb, Min. on grass, =
 Difference of above Means or Range (“exposed”), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 35.5
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 34.0
 ‡ Computed Temperature of Dew-Point, = 31.7
 ‡ Do. Elastic Force of Vapour, = 180
 ‡ Do. Weight of Vapour in a Cubic Foot of Air, ... =
 ‡ Relative Humidity, (Saturation = 100), = 86
 RAIN fell on 16 Days; Amount in Inches, = 2.35

WIND.	SUMMARY.											
	Direction.	N	NE	E	SE	S	SW	W	NW	Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.												
P.M.												
Mean.												

* Each instrument tested at the Office in Edinburgh bears the stamp “S.M.S.” and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
 † Enlarging corrections for both capillarity and Index Errors.
 ‡ The Diurnal Range for Scotland is as yet unknown.
 †† Practically, though not absolutely a minus correction.
 ‡‡ These “Hygrometrical Deductions” are calculated from Glaisher’s Hygrometrical Tables, Second Edition only.
 While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the “Calculated Mean Temperature.”
 Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and Return verified by Geoff Smyth

(Signed) _____

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oban Castle, County of Argyll, in Lat. 55° 45' N, Long. 5° 45' W, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet. During the MONTH of March 1885.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.					
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.		9 h. A.M.											
		Barometer. * No. —	Attach- ed Ther- mometer	Barometer. No. —	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force	Direction.	Force			Velocity (0—6), and Direc- tion.	Amount, (0—10), and Species.	Velocity (0—6), and Direc- tion.	Amount, (0—10), and Species.	No. 1 inches.	No. 2 inches.	No. 3 inches.									
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°			°	°	°	°	°	°	°					°	°	°		
		1	29.850	45	29.800	42	37	28			32	31	31	50	NW		NW			—		Cu		Cu										Overcast to very cold	1
2	29.650	45	29.450	45	38	28			34	33	36	34	E		SE			—		Cu		Cu								2					
3	29.280	46	29.100	45	40	33.5			36	35	36	35	E		E			0.12		Ni		Ni								3					
4	29.100	46	29.220	50	44	33			37	37	36	35	E		E			0.05		Ni		Ni									4				
5	29.200	45	29.100	47	40	32			35	34	33	32	NW		NW			0.06		Ni		Ni									5				
6	29.200	44	29.430	48	39	29.5			34	33	34	32	NW		N			0.13		Ni		Cu									Overcast some sds snow	6			
7	29.368	46	29.470	48	46	28			38	35	37	39	NW		W			—		Cu		Ni										7			
8	29.570	45	29.650	48	42	26			35	34	31	29	W		N			0.05		Ni		Ni										Overcast & mild	8		
9	29.756	46	29.832	48	41	31			31	29	35	32	NW		NW			0.01		Ni		Ni										Overcast sds of hail & snow	9		
10	29.950	47	30.000	50	42	31			36	35	34	33	NW		NW			0.03		Ni		Cu											10		
11	30.018	49	30.070	53	49	30.5			37	34	41	38	NW		NW			—		Ni		Cu											11		
12	30.000	49	30.128	53	50	33			41	38	40	38	W		W			—		Cu		Cu											12		
13	30.126	53	30.176	53	57	34			41	38	36	34	W		W			—		Cu		Cu											Fine day, but overcast	13	
14	30.180	50	30.108	54	55	30			34	33	31	30	NW		NW			—		Cu		Cu											Fine warm bright day	14	
15	29.976	53	29.770	53	53	24			30	29	34	33	NW		W			—		Cu		Cu											15		
16	29.700	52	29.500	51	54	23.5			40	37.5	38	37	W		NW			—		Cu		Cu											Very cold dry rain at night	16	
17	29.100	53	28.910	53	52	28			38	36	38	38	NW		NW			—		Cu		Cu											Cold windy day	17	
18	29.166	48	29.550	57	41	28			35	32	30	28	NW		N			0.03		Cu		Cu											Very cold windy day with snow	18	
19	29.550	48	29.150	52	47	26			33	31	46	44	NW		NW			—		Cu		Ni											Warmer & wind & flying snow	19	
20	28.885	53	29.100	53	56	28			47	45	30	29	NW		NW			0.15		Cu		Cu											Stitch of snow on ground	20	
21	29.200	46	29.400	52	42	24			31	30	28	27	NW		NW			0.20		Cu		Ni											Sitch of snow on ground	21	
22	29.650	46	29.864	49	40	25			37	37	31	29	NW		N			0.04		Cu		Cu											Cold blanchy day sds snow	22	
23	29.900	44	29.700	50	45	26			32	31	35	33	NW		NW			—		Cu		Cu												23	
24	29.550	45	29.500	57	45	31			39	37	36	34	SW		NW			0.01		Ni		Ni											Bumpy & snow	24	
25	29.500	46	29.450	50	45	30			37	36	42	40	NW		NW			—		Cu		Ni											Cold dull day	25	
26	29.350	47	29.750	57	54	34			38	37	45	42	SW		W			0.06		Ni		Ni											Overcast & rain	26	
27	29.150	48	29.724	57	55	31			39	37	34	31	NW		W			—		Ni		Ni											Blanchy cold day	27	
28	29.100	47	29.650	50	51	25			38	33	38	36	NW		W			—		Ni		Ni											Cold & Peal of Thunder 2 P.M.	28	
29	29.400	48	29.650	50	44	34			36	35	35	34	W		SE			0.50		Ni		Ni											Truny day & fog	29	
30	29.850	49	29.950	53	49	25			38	37	28	26	NW		NW			0.01		Cu		Cu											Cold & m. fine & m.	30	
31	29.622	47	29.200	51.5	45	24			41	37	44	41	NW		NW			0.14		Cu		Ni											Very cold day	31	
Sums.		1310 4	17	149 3	3	121	122			197	145	172	12					1.69																	
Means.		29.545	47.6	29.557	50.2	45.9	29.0			36.4	34.7	35.6	33.9																						
† Total Corrections for Instrumental Errors.		-0.20		-0.20																															
† Corrections for Diurnal Range.																																			
† Corrected Means.																																			
No. of Column.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.474
for Temp. (Col. 2), = 29.525 51
Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.479
for Temp. (Col. 4), = 29.537 58
Mean at Station, corrected, and at 32°, = 29.477
Correction for height, feet above Mean Sea-level, = 508
Mean, reduced to 32°, and Sea-level, = 29.985
Highest Reading, corrected for Index error, on the 14 th, = 30.180
Lowest Do. Do., on the 26 th, = 28.750
Difference, or Monthly Range, = 1.430

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 13 th, = 57.0
Lowest in Month, corrected for Index errors, on the 15 th, = 24.0
Difference, or Monthly Range, = 33.0
"Corrected Mean" of all the Highest, (Col. 5), = 45.9
"Corrected Mean" of all the Lowest, (Col. 6), = 29.0
Difference, or Mean Daily Range, = 16.9
** Calculated Mean Temperature of Month, = 37.4
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, =
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, =
Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 36.0
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 34.3
†† Computed Temperature of Dew-Point, = 51.7
†† Do. Elastic Force of Vapour, = 1.80
†† Do. Weight of Vapour in a Cubic Foot of Air, =
†† Relative Humidity, (Saturation = 100), = 85
RAIN fell on 16 Days; Amount in Inches, = 1.69

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.	1			3				2	4	21	
P.M.	4			2				7	16		
Mean.	20	3	1	0	1	6	18	0			

* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
† Embracing corrections for both capillarity and Index Errors.
†† The Diurnal Range for Scotland is as yet unknown.
††† These "Hygrometric Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.
†††† While the Diurnal Range is unknown, the Artificial Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature."
Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and Return verified by Geo. H. Hughes

(Signed)

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Aboyne Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground A feet.

The Hours of Observation are of Greenwich Time.

During the MONTH of April 1885.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS.				HYGROMETER.				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS.	Days of Month.	
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.									
		Barometer.	Attached Thermometer.	Barometer.	Attached Thermometer.	Max.	Min.	Max.	Min.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	Velocity (0-10), and Direction.	Amount (0-10), and Species.	No. 1.	No. 2.	No. 3.							
		* No.	inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°						
	1	29.228	48	29.300	49	47	30			39	37	31	29	NW	NW			mi	mi									very cold & sh. of snow	1		
	2	29.400	49	29.700	52	48	28			37	34	32	30	NW	NW			cu	cu									"	2		
	3	29.710	48	29.700	54.5	49	30			42	39	34	33	NW	NW			cu	cu									"	3		
	4	29.600	47	29.520	53	57	24			32	30	35	34	E	E			cu	cu									"	4		
	5	29.300	45	29.150	47	49	31			33	33	36	34	E	E	0.02		cu	cu									very cold & sh. of snow	5		
	6	29.050	47	29.200	47	44	32			39	38	39	37	E	E	0.15		mi	mi									rain & cold	6		
	7	29.350	48	29.500	49	44	30			38	38	31	30	E	E	0.03		mi	mi									"	7		
	8	29.450	48	29.420	48	47	26			42	39	33	32	NW	NW			cu	mi									fine day, cold night	8		
	9	29.350	50	29.300	53	44	32			40	38	38	37	NW	NW	0.37		cu	mi									Overcast & cold	9		
	10	29.320	49	29.420	48	46	36			41	40	38	38	E	E	0.02		mi	mi									rainy day	10		
	11	29.468	48	29.600	51	48.5	35			40	39	36	35	E	E	0.02		mi	cu									rain a m fine P.M.	11		
	12	29.600	49	29.600	49	54	34.5			42	41	38	38	E	N			mi	cu									Overcast & cold	12		
	13	29.610	48	29.600	48	46	27			40	40	29	28	NW	NW			cu	mi									"	13		
	14	29.530	49	29.526	48	54	26			41	38	29	28	NW	E			st	cu									Bright & warm	14		
	15	29.525	49	29.525	49	54	25.5			43	41	30	30	E	E			cu	cu									"	15		
	16	29.600	49	29.650	49	47	30			40	38	32	30	E	E			cu	cu									cold & bright	16		
	17	29.718	49	29.700	49	59	21			39	37	32	32	E	E			cu	cu									fine day	17		
	18	29.800	50	29.800	55	65	27			45	43	48	42	E	NW			st	st									"	18		
	19	29.700	53	29.550	59	64	39			44	42	47	46	SW	SW			cu	cu									Very warm fine day	19		
	20	29.550	57	29.400	59	66	42			57	45	46	42	SW	SW			cu	cu									"	20		
	21	29.350	61	29.325	59	67	45			56	53	47	44	SW	SW			st	cu									"	21		
	22	29.376	55	29.400	54	59	39			47	44	45	42	SW	SW			cu	cu										"	22	
	23	29.600	54	29.150	55	58	40			40	38	45	40	NW	NW			st	st									Bright & cold	23		
	24	29.150	56	29.200	55	57	35			47	43	39	37	NW	E			cu	cu									Splendid day	24		
	25	29.00	54	29.800	54	52	25			49	39	45	45	E	E	0.92		mi	mi									Overcast & cold	25		
	26	28.700	54	28.750	54	57	39			45	45	44	43	E	SE	0.41		mi	mi									Cold a m. rainy P.M.	26		
	27	29.000	55	29.100	57	57	43			48	46	47	45	SW	SE	0.05		mi	st									Thunder from 3 to 8 P.M. w. forked lightning	27		
	28	29.176	55	29.264	56	59	37			47	43	38	37	SW	SE			cu	st									fine day some showers	28		
	29	29.200	56	29.150	53	57	34			46	42	47	43	SE	SE			cu	cu									Overcast & cold	29		
	30	29.200	56	29.500	56	54	37			45	44	45	45	E	E	0.02		mi	mi									"	30		
	31																												Overcast & cold & rainy	31	
	Sums.	1274	36	11750	695	975	810			78	07	257	206			2.01															
	Means.	29.371	51.2	29.392	52.3	53.3	32.7			426	40.2	386	36.9																		
	Total Corrections for Instrumental Errors.	-0.020		-0.020																											
	Corrections for Diurnal Range.																														
	"Corrected Means."																														
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

NOTATION USED IN GENERAL REMARKS.

a.	denotes aurora.	m.	denotes meteor.
ci.	" cirrus.	ms.	" meteors.
ci-cu.	" cirro-cumulus.	n.	" nimbus.
ci-st.	" cirro-stratus.	r.	" rain.
cu.	" cumulus.	h. r.	" heavy rain.
cu-st.	" cumulo-stratus.	c. h. r.	" continued heavy rain.
d.	" dew.	s.	" sleet.
f.	" fog.	sc.	" snow.
h. fr.	" hour-frost.	s.	" solar halo.
h.	" haze.	sq.	" squall.
h. d.	" heavy dew.	sq.	" squalls.
h.	" hail.	sg.	" squalls.
li.	" lightning.	t. s.	" thunder storm.
li. cl.	" light clouds.	w.	" wind.
li. sh.	" light showers.	g.	" gale of wind.
lu. co.	" lunar corona.		
lu. ha.	" lunar halo.		

TABLE FOR ESTIMATING FORCE OF WIND.

Estimated Force, 0-6.	Common Designation.	Estimated Force, 0-6.	Common Designation.	Estimated Force, 0-6.	Common Designation.
0	Calm	1-3	Light breeze	4	Blowing hard
0.5	Very light air	2	Fresh breeze	5	Blowing a gale
1	Light air	3	Very fresh	6	Violent gale

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction ++ for Temp. (Col. 2), = 29.351 60

Corrected Mean" of Barometer at 9 P.M., minus the Correction ++ for Temp. (Col. 4), = 29.372 63

Mean at Station, corrected, and at 32°, = 29.300

Correction for height, feet above Mean Sea-level, = 498

Mean, reduced to 32°, and Sea-level, = 29.798

Highest Reading, corrected for Index error, on the 18 th, = 29.800

Lowest Do. Do., on the 26 th, = 28.700

Difference, or Monthly Range, = 1.100

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 21 th, = 67.0

Lowest in Month, corrected for Index errors, on the 17 th, = 21.0

Difference, or Monthly Range, = 46.0

"Corrected Mean" of all the Highest, (Col. 5), = 53.3

"Corrected Mean" of all the Lowest, (Col. 6), = 32.7

Difference, or Mean Daily Range, = 20.6

** Calculated Mean Temperature of Month, = 43.0

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =

"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, =

Lowest at Night, Black Bulb, (corrected for Index errors), on the th, =

"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, =

Difference of above Means or Range ("exposed"), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 40.6

Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 38.5

Computed Temperature of Dew-Point, = 35.8

Do. Elastic Force of Vapour, = 2.11

Do. Weight of Vapour in a Cubic Foot of Air, ... =

Relative Humidity, (Saturation = 100), = 84

RAIN fell on 10 Days; Amount in Inches, = 2.01

WIND.										SUMMARY.		
Direction.	N	NE	E	SE	S	SW	W	NW		Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.					14	1	6	5	4			
P.M.	3		13	4		5	3	2				
Mean.	2	0	13	3	0	5	4	3				

Observations made and
Return verified by

(Signed)

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Port McArthur, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.

Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground A feet.

During the MONTH of March 1885.

The Hours of Observation are of Greenwich Time.

[illegible]

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction ^{††} for Temp. (Col. 2),	=	<u>29.224</u>
Corrected Mean" of Barometer at 9 P.M., minus the Correction ^{††} for Temp. (Col. 4),	=	<u>29.218</u>
Mean at Station, corrected, and at 32°,	=	<u>29.221</u>
Correction for height, feet above Mean Sea-level,	=	<u>h 96</u>
Mean, reduced to 32°, and Sea-level,	=	<u>29.717</u>
Highest Reading, corrected for Index error, on the 13th,	=	<u>29.680</u>
Lowest Do. Do., on the 22th,	=	<u>28.880</u>
Difference, or Monthly Range,	=	<u>0.800</u>

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 29 th	=	65.0
Lowest in Month, corrected for Index errors, on the 13 th	=	25.0
Difference, or Monthly Range,	=	40.0
" Corrected Mean " of all the Highest, (Col. 5),	=	52.9
" Corrected Mean " of all the Lowest, (Col. 6),	=	35.2
Difference, or Mean Daily Range,	=	17.7
** Calculated Mean Temperature of Month,	=	44.1

S.-R. THERMOMETER, Black Bulb in Sun. Highest, (corrected for Index Errors), on the th..... =

“Corrected **Mean**,” (Col. 7), of **Black Bulb, Max. in Sun**,..... =

Lowest at Night, Black Bulb, (corrected for Index errors), on the th, ... =

“Corrected **Mean**,” (Col. 8), of **Black Bulb, Min.** on grass, =

Difference of above Means or Range (“exposed”), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11),	=	43.1
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12),	=	41.2
‡ Computed Temperature of Dew-Point,	=	38.6
‡ Do. Elastic Force of Vapour,	=	234
‡ Do. Weight of Vapour in a Cubic Foot of Air, ... =		
‡ Relative Humidity, (Saturation = 100),	=	85
RAIN fell on 30 Days; Amount in Inches,	=	4.47

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.	7	2	5	5	2	1	3	6			
P.M.	11	3	6	2	2	1	1	3			
Mean.	9	3	5	3	2	1	2	6			

Observations made and
Return verified by

(Signed).

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.							
		9 h. A.M.		9 h. P.M.		Protected in Shade & above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer.		No. of hours in which it fell.	No. —	9 A.M.		P.M.		9 h. A.M.					SUNSHINE. Hours.						
		Barometer.	Atmospheric	Barometer.	Atmospheric	Max.	Min.	Max.	Min.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.	No. —	9 h. A.M.			Velocity (0-10), and Direction.	Amount, (0-10), and Species.	Velocity (0-10), and Direction.	Amount, (0-10), and Species.	No. —						No. —	No. —				
		* No.	°	No.	°	No.	No.	No.	No.	°	°	°	°																								
		inches.	"	inches.	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"			"	"	"	"	"						"	"	"	"	"	"
1	29800	57	29700	58	61	H3			51	46	46	44	NW	NW			9.04	Mi	Mi									fine day cold night	1								
2	29622	57	29600	59	67.5	H2			51	46	52	52	WS	WS			1.01	Mi	Mi									splendid day	2								
3	29500	61	29350	62	68	H2			61	57	58	55	SW	SW			0.01	Mi	Mi											3							
4	29350	63	29250	62	65	H4			58	56	58	56	SW	SW			—	Mi	Mi										overcast & mild	4							
5	29300	62	29400	51	67	H5			60	58	46	44	SW	SW			—	Cw	Cu										overcast & light wind	5							
6	29600	62	29650	60	65.5	H5.5			47	52	45	A3	W	E			0.01	Cw	Mi										fine day slight shower	6							
7	29550	61	29626	57	59	H2			47	45	44	H2	E	E			—	Cw	Cust-										overcast & cool	7							
8	29624	61	29728	58	58	28.5			53	48	38	37	E	E			—	Cw	Cust-											clear day	8						
9	29600	60	29628	58	57	31			49	44	43	40	W	NW			—	Cw	Cu										overcast & very cool	9							
10	29826	60	29900	55	60	36			48	46	42	40	E	E			—	Cust	Cust-										fine day cold night	10							
11	29850	56	29800	60	64	34			51	47	56	50	W	W			0.06	Cust	Mi										fine up to 3 PM slight sh	11							
12	29750	62	29750	63	75	54			62	54	57	53	W	W			—	Cust	Cust-											splendid day throughout	12						
13	29750	61	29750	61	66	46			58	56	50	49	E	E			0.03	Mi	Mi											fine up to 2 PM fine all showers	13						
14	29780	62	29700	61	69.5	H8			60	50	50	48	SW	W			0.02	Cust	Mi											fine in showers P M	14						
15	29776	63	29750	60	66	H4			50	48	49	46	W	W			—	Cust	Cu											fine day	15						
16	29750	58	29600	58.5	57	H4			50	46	48	46	W	NW			—	Cu	Mi											overcast all day	16						
17	29530	59	29450	62	67.5	H5.5			52	49	48	51	W	W			—	Mi	Mi												some sh	17					
18	29330	58	29180	61	67	H2.5			53	51	44	41	W	W			0.04	Mi	Mi													18					
19	29150	61	28800	61	68	H8			55	50	57	57	W	W			0.26	Mi	Mi											overcast all day sunny P M	19						
20	28800	60	29100	62	68	H6.5			57	51	46	46	W	W			0.30	Mi	Mi											rainy day high wind	20						
21	29300	58	29500	58	56	H8			48	48	48	46	NW	NW			0.08	Mi	Cu											very cold heavy showers	21						
22	29430	57	29486	59	58	H6			42	40	49	48	NW	NW			0.02	Mi	Cu											cold & windy	22						
23	29576	68	29600	58	64	36			49	45	45	43	NW	NW			—	Cust	Cu													23					
24	29600	59	29700	60	62	H15			53	49	49	46	W	W			—	Cust	Mi											fine mild & overcast	24						
25	29800	60	29900	60	65	H5			55	52	47	45	NW	W			0.03	Cu	Mi												some sh	25					
26	29950	62	29900	62	70	35			56	52	48	46	W	E			—	Mi	Mi												bright & warm	26					
27	29900	63	29900	62	75	H15			59	57	62	61	SE	SE			0.18	Mi	Mi														27				
28	29750	64	29700	63	76	56			65	64	57	57	SE	SE			0.02	Cu	Cu														28				
29	29650	63	29700	62	62	36			55	55	42	41	SE	NW			—	Mi	Cu												overcast & some sh	29					
30	29676	59	29650	62	61	46			53	49	47	47	W	W			—	Mi	Cu														30				
31																	1.5																31				
Sums.	1893	0.7	1862	10	162	143			109	14	268	21					1.01																				
Means.	29.594	60.2	29.592	59.8	64.8	42.7			53.6	50.5	48.9	47.1																									
+ Total Corrections for Instru- mental Errors.	-0.20																																				
+ Corre- ctions for Diurnal Range.																																					
"Cor- rected Means."																																					
No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							

BAROMETER, “corrected Mean” at 9 A.M., <i>minus</i> the Correction $\left. \begin{array}{l} + \\ + \end{array} \right\}$		=	25.490
for Temp. (Col. 2), = 29.574 — .84		=	25.490
Corrected Mean” of Barometer at 9 P.M., <i>minus</i> the Correction $\left. \begin{array}{l} + \\ + \end{array} \right\}$		=	29.489
for Temp. (Col. 4), = 29.572 — .83		=	29.489
Mean at Station, corrected, and at 32° ,.....		=	29.490
Correction for height, feet above Mean Sea-level,.....		=	h90
Mean, reduced to 32°, and Sea-level ,.....		=	29.980
Highest Reading, corrected for Index error, on the 26th,.....		=	29.930
Lowest	Do. Do. on the 20th,.....	=	28.780
Difference, or Monthly Range ,.....		=	1.150

S.-R. THERMOMETER, (in shade, etc.),	Highest in Month, (corrected for	
Index Errors), on the 12 th,	.....	= 75.0
Lowest in Month, corrected for Index errors, on the 8 th,	.....	= 78.5
Difference, or Monthly Range,	.....	= 46.5
"Corrected Mean " of all the Highest, (Col. 5),	.....	= 64.8
"Corrected Mean " of all the Lowest, (Col. 6),	.....	= 42.7
Difference, or Mean Daily Range,	.....	= 22.1
** Calculated Mean Temperature of Month,	.....	= 53.7

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for	
Index Errors), on the	th..... =
“Corrected Mean ,” (Col. 7), of Black Bulb, Max. in Sun	=
Lowest at Night , Black Bulb, (corrected for Index errors), on the	th, ... =
“Corrected Mean ,” (Col. 8), of Black Bulb, Min. on grass,	=
Difference of above Means or Range (“exposed”),	=

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11),	=	57.3
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12),	=	48.8
‡ Computed Temperature of Dew-Point ,	=	46.2
‡ Do. Elastic Force of Vapour ,	=	315
‡ Do. Weight of Vapour in a Cubic Foot of Air , ...	=	
‡ Relative Humidity , (Saturation = 100),	=	84
RAIN fell on 15 Days; Amount in Inches,	=	1.11

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.			4	3		4	14	5			
P.M.			6	2		3	11	8			
Mean.	0	0	5	3	0	4	12	6	0		

* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.

† Embracing corrections for both capillarity and Index Errors.

‡ The Diurnal Range for Scotland is as yet unknown.

§ *Provisional*, though not *observed*, a *rising* correction.

|| These "Hygrometrical Deductions" are calculated from Glanville's Hygrometrical Tables, Second Edition *only*.

¶ While the Diurnal Range is unknown, the Arithmetic Mean of Cols. 5, 6 and 7 will be entered as the "Calculated Mean Temperature."

‡ Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column.

§ Each year be entered in each Schedule. See *over*.

Observations made and
Return verified by

(Signed)

WITH REMARKS ON THE USE OF INSTRUMENTS.

BOOK POST.

Whether blights, diseases, etc. prevail among cattle, or in perfection; whether any have suffered from blight, disease, etc. Whether any have suffered from blight, disease, etc. Whether any have suffered from blight, disease, etc.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oban Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.
During the MONTH of July 1885.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.		
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.	Amount in inches.	9 A.M.		P.M.		9 h. A.M.								
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.			Readings of the H. Cup Anemometer. No. —	9 h. A.M.	Velocity (0—10), and Direction.	Amount, (0—10), and Species.	Velocity (0—10), and Direction.	Amount, (0—10), and Species.	No. — 3 inches.					No. — 12 inches.	No. — 22 inches.
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°			°	°	°	°	°	°	°					°	°
1	29.650	62	29.670	63	72	36			49	47	50	49	W	W					—		cu	st						Thunder West 12 noon overcast am	1			
2	29.670	64	29.670	63	83	48			56	54	59	55	SW	SW					—		cu	st						Bright & very warm	2			
3	29.670	65	29.700	66	78	56			58	56	56	55	SW	SW					—		cu	st						Thunder 2.3 p.m. overcast & showers	3			
4	29.750	64	29.800	68	74	48			58	55	59	54	W	W					—		st	cu						fine am cloudy pm	4			
5	29.700	68	29.680	65	69	55			62	58	59	55	W	SW			0.06				cu	st						fine am some sho 10 PM	5			
6	29.700	65	29.500	64	73	35			63	58	58	55	SW	SW					—		st	st						overcast & bright in times	6			
7	29.416	64	29.380	66	72	56			61	59	59	59	SW	SW			0.03				st	st									7	
8	29.376	63	29.640	62	62	44			60	52	47	43	W	W					—		cu	st						Wind & warm	8			
9	29.650	62	29.650	62	64	37			59	56	53	52	SW	SW					—		st	st						overcast & cold	9			
10	29.628	63	29.670	64	68	47			47	44	58	54	SW	W					—		st	cu						& sultry	10			
11	29.546	62	29.450	61	64	48			54	52	56	51	SW	SW			0.08				cu	st						Bright & cold some sho rain	11			
12	29.600	63	29.625	61	64	44			56	53	48	48	W	W			0.02				cu	st						fine day	12			
13	29.628	63	29.700	63	63	44			54	50	47	47	W	W			0.19				cu	st						fine am Thunder 12 to 1 some rain	13			
14	29.650	62	29.650	60	62	41			55	53	57	50	W	W			0.06				st	cu						overcast some showers	14			
15	29.600	61	29.510	60	66	43			49	48	44	43	W	W					—		st	st						& cold	15			
16	29.510	62	29.415	59	61	41.5			55	50	43	42	W	SW			0.43				st	st						& rain PM	16			
17	29.400	58	29.500	59	63	43.5			43	42	44.5	44	SW	W			0.02				cu	st						some sho of rain	17			
18	29.400	62	29.250	62	64	41			57	53	52	57	W	W			0.03				cu	st									18	
19	29.400	63	29.425	61	63	42.5			58	55	50	48	W	W			0.04				st	st									19	
20	29.500	60	29.750	61	61.5	45			58	54	49.5	49	SW	SW					—		cu	st						Bright am rain PM	20			
21	29.450	61	30.050	61	62	44			60	58	45	44	SW	SW					—		cu	st						Bright warm day	21			
22	30.000	62	29.950	64	69	35			65	61	68	66	W	W					—		st	st						Heavy & very sultry	22			
23	29.950	63	29.950	66	80	33			70	65	56	55	W	W					—		st	st									23	
24	29.900	62	29.900	67	80	45			56	56	56	55	W	W					—		cu	st									24	
25	29.900	64	29.870	71	79	51.5			60	57	65	62	W	W					—		st	st									25	
26	29.970	61	30.000	63	66	51			58	58	53	53	W	W					—		st	st						Slight rain all day	26			
27	30.050	63	30.050	65	70	40			56	56	42	42	SW	SW					—		cu	cu						overcast & warm	27			
28	30.000	63	30.000	64	74	42			55	52	41	40	SW	SW					—		st	st						Bright day	28			
29	30.000	64	30.000	66	77	40			58	56	45	43	W	W					—		cu	cu									29	
30	29.982	62	29.950	65	74.5	41.5			50	50	42	41	W	W					—		cu	cu						overcast & fog	30			
31	29.950	63	29.916	65	74	42			60	58	45	43	SW	SW					—		st	st							overcast & fog	31		
Sums.	188.3	9	171.2	2	111	12.2			210	126	151	12					0.95															
Means.	29.712	62.7	29.718	63.5	69.3	44.6			56.8	54.1	51.5	49.9																				
† Total Corrections for Instrumental Errors.	-0.20		-0.20																													
‡ Corrections for Diurnal Range.																																
“Corrected Means.”																																
No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = 29.601
for Temp. (Col. 2), = 29.652 — 9.1 — 29.601
Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.605
for Temp. (Col. 4), = 29.698 — 9.3 — 29.603
Mean at Station, corrected, and at 32° = 29.603
Correction for height, feet above Mean Sea-level, = 487
Mean, reduced to 32°, and Sea-level, = 30.090
Highest Reading, corrected for Index error, on the 21 th, = 30.030
Lowest Do. Do., on the 8 th, = 29.230
Difference, or Monthly Range, = 0.800

* Each Instrument tested at the Office in Edinburgh bears the stamp “S.M.S.” and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
† Enticing corrections for both capillarity and Index Errors.
‡ The Diurnal Range for Scotland is as yet unknown.
†† Practically, though not absolutely a minus correction.
‡‡ These “Hygrometrical Deductions” are calculated from Glaisher’s Hygrometrical Tables, Second Edition only.
§ While the Diurnal Range is unknown, the Arithmetic Mean of Cols. 9 and 6 will be entered as the “Calculated Mean Temperature.”
¶ Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2 th, = 83.0
Lowest in Month, corrected for Index errors, on the 23 th, = 33.0
Difference, or Monthly Range, = 50.0
“Corrected Mean” of all the Highest, (Col. 5), = 69.3
“Corrected Mean” of all the Lowest, (Col. 6), = 44.6
Difference, or Mean Daily Range, = 24.7
** Calculated Mean Temperature of Month, = 56.9

S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, =
“Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun, =
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, =
“Corrected Mean,” (Col. 8), of Black Bulb, Min. on grass, =
Difference of above Means or Range (“exposed”), =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 54.2
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 52.0
†† Computed Temperature of Dew-Point, = 49.8
†† Do. Elastic Force of Vapour, = 3.58
†† Do. Weight of Vapour in a Cubic Foot of Air, =
†† Relative Humidity, (Saturation = 100), = 85
RAIN fell on 10 Days; Amount in Inches, = 0.95

WIND.												SUMMARY.			
Direction.	N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.				
A.M.			3	1			8	15							
P.M.			4	2			10	14							
Mean.	0	0	4	1	0	9	14	3	0						

Observations made and
Return verified by

(Signed)

George W. Smythe

Oborne
July 1885

INSTRUCTIONS FOR TAKING METEOROLOGICAL OBSERVATIONS,

WITH REMARKS ON THE USE OF INSTRUMENTS.

ONE of the chief objects that the SCOTTISH METEOROLOGICAL SOCIETY proposed to itself when the Society was established in 1855, was to secure regular uniformity in the system of observation pursued at all its Stations. Uniformity in the observations is absolutely necessary to justify the publication of Monthly Results from different observations, it being found that differences between the Returns from two Stations, so very considerable as to render them quite incommensurable, many different hours of observation, or even from the use of differently constructed instruments. It is therefore hoped, that those who kindly furnish Reports to the Society will, by a scrupulous attention to the following Directions, secure for their Monthly Returns, an accuracy and value commensurate with the labour and pains involved in making them; and, for the Tables published by the Society, an entire comparableness among the several Returns, without which the Society's Reports must inevitably fail in achieving one of the main objects of Meteorological Observation.

The Council recommend that Observations be made precisely at 9 a.m. and 9 p.m. (Greenwich or Railway Time only), as specified in the following remarks, or at the top of the column of the column of the Schedule. It is hoped that the utmost punctuality in the time of reading the instruments will be observed. Observers, in some few cases, may find this impossible; in such instances, they are specially requested to mark opposite every reading the time at which it was taken, if not at 9 a.m. or 9 p.m. Weather-Glasses and Aneroids, though well-suited to indicate roughly variations of atmospheric pressure, are not fitted for scientific purposes. No Barometer should be used for Meteorological Observation that is not supplied with some means of adjustment or compensation which will secure that the height of the mercury in the tube is accurately measured from the fluctuating surface of the mercury in the cistern.

The Barometer in which the error arising from the fluctuating surface of the mercury in the cistern is entirely got rid of is Fortin's Barometer, the arrangement consisting in applying pressure by means of a screw to the bottom of the cistern, which is made of flexible leather, thus raising or depressing the surface till it just meets the ivory point which forms the zero point of the fixed scale. The Barometer originally constructed by Mr. Adie of London, and usually called the Board of Trade Barometer, has the great convenience of requiring no adjustment of the cistern. Its graduations are not true inches, but so much shorter as to compensate the error that would otherwise arise from the fluctuation of the surface of mercury in the cistern. This is an excellent Barometer for ordinary Observers, inasmuch as it entirely eliminates the error of observation likely to arise from a faulty eye in setting the instrument to show the zero point of the fixed scale when the light is not good. To show the accuracy with which these Barometers are made, it may be stated, that none was compared during a whole year, with the Society's Standard Barometer, by pressure was being given, to make rapidly, with the result that none of the readings differed from those of the Standard more than 0.003 inch.

Satisfaction of Fortin's Barometer is used at a number of the Society's Stations, by which the coincidence of the zero point with the surface of the mercury is indicated by a little ivory float, whose end passes freely through the lid and case of the cistern. When the index-line on this little piston-rod is brought, by the adjusting screw, to form one straight line with those on its ivory frame, the surface of the mercury is then at the exact height from which the scale is graduated. In taking an observation, this preliminary setting must be made with scrupulous accuracy; as a slight error here will vitiate the readings from the vernier.

It is absolutely necessary that the Barometer which is to be used, shall have been compared with a Standard Barometer. The Barometer should be suspended in as good a light as can be secured, and to facilitate the reading, a piece of white paper may be put behind the tube. It must be hung truly perpendicular, and exposed to neither the sun's direct rays nor the heat of a fire, and must not be hung against a wall heated by a fire. The object being to secure that the whole instrument, including the brass fittings, the contained mercury, and the attached Thermometer, shall be, when read, at one uniform temperature, it is evident that the best position is that which is least liable to sudden changes of temperature.

In taking an Observation, the Attached Thermometer is first noted: the tube must then be gently tapped, and the cistern-adjustment carefully made. The eye, by raising and lowering it, must be brought into the plane of the back and front of the index—usually the lower edge of the vernier, which must be carefully adjusted so as to form exactly a tangent to the convex surface of the mercury in the tube. Observations must be taken quickly, so as to prevent heat from the observer's hands and person from affecting the mercury. The use of a lens will facilitate an accurate adjustment and reading of the Barometer. A mistake not unfrequently made by those beginning to observe, consisting in setting the edge of the vernier to the level of the clear surface of the mercury which is in direct contact with the glass tube, must be carefully avoided.

The errors most frequently made in reading the Barometer are errors of 1/1000 inch, 0.000 inch, and 0.001 inch; that is to say, instead of 29.365 inches, either of the following is sometimes set down—viz., as 30.365 inches, 28.365 inches, 29.365 inches, or 29.815 inches. Experience having shown that even the very best Observers make these mistakes, particular attention is directed to the matter. When a Barometer having adjustable surfaces has to be removed from its fastenings, the ivory peg must first be screwed so as to form a tight plug to the cistern, thus preventing the escape of the mercury. Then screw up the mercury to the top of the tube, and the instrument, it should then be carried with the cistern uppermost. Before ascending the Barometer for its use, it is to be ascertained whether the space above the mercury in the tube is a complete vacuum; this is the case if, on striking the top of the tube, a sharp tap is produced when the ivory strike the top of the tube. If a dull tap is heard, there is air in the tube, which must be got rid of.

As Barometers are liable to be damaged by the introduction of air into their tubes on removal from place to place, or in being roughly handled, it may be useful to Observers to know how the air may be expelled. First close up the cistern by screwing the ivory peg tight, so as to prevent the escape of mercury; then screw up the ivory to about half an inch from the top of the tube; and having slowly inverted the instrument, place the top of it on a yielding substance, such as the book, and gently tap on the cistern with the palm of the hand, so as to induce the air to ascend through the column of the hand, so as to induce the air to ascend through the weight of two atmospheres—the pressure of the mercury in the Barometer, and the air outside—pressing on any air that may be inside the tube, it is usually a tedious operation to get it wholly expelled. After repeated trials, however, it is generally accomplished; and the clear metallic sound of the mercury, when gently struck against the top of the glass tube, will show when the whole of the air has been expelled. On hanging up the Barometer, care must be taken to screw down the mercury in the tube before unfastening the float of the cistern, for, if this be not attended to, the mercury will flow out, and the instrument be seriously damaged.

The Council of the Society recommend that the Self-Registering Thermometers, and the Dry and Wet Bulb Hygrometers, be kept in Stevenson's Louver-boarded Box for Thermometers, painted white inside and outside, and furnished with four stout posts, also painted white, firmly fixed in the ground. The posts must be of such a length that when the Thermometers are hung in position the Bulbs of the Minimum Thermometer, and of the Dry and Wet Bulb Thermometers will be exactly at the same height of four feet above the ground, the Maximum Thermometer being hung immediately above the Minimum Thermometer. The Thermometer box is to be placed over a plot of grass, and in a free open space so that the sun's rays have free access during as much of the day as surrounding conditions enable the Observer to secure. The Thermometers are suspended on cross laths in the centre of the box, and face the door, which should open to the north. The Council regard the question of uniformity of height above ground, and method in erecting the Thermometers, as vital in every system of Meteorological Observation, since without it Observations made at different Stations are incommensurate, thus rendering it impossible to compare the climates of places with each other as regards their most important features.

Professor Phillips, and Negretti and Zambra's Maximum Thermometers, and Litherford's Minimum Thermometers, are recommended. It is recommended that the Self-Registering Thermometers be graduated on the glass scale. The Minimum Thermometer is liable to two dangers, viz., the column of spirit breaking, and part of the top of the tube being small, and the thermometer being exposed to the sun's rays, which would cause it to be of occasional occurrence with self-registering Thermometers, but is of frequent occurrence with the Self-Registering Thermometers. Hence a systematic examination of Minimum Thermometers ought to be a regular part of the work done on by each Observer.

Fortunately, Spirit Thermometers may be easily set right by the one, when the column of spirit changes to separate. Let the Thermometer be taken in the hand by the end farthest from the bulb, raised above the head, and then, slowly swinging down towards the feet; the object being, on the principle of centrifugal force, to send down the detached portion of spirit till it unites with the column. A few blows or swinging strokes, will generally be sufficient for the purpose, after which the Thermometer should be placed in a sheltered position, to allow the rest of the spirit still adhering to the sides of the tube, to drain down to the column. But another method must be adopted, if the portion of spirit in the top of the tube be small. Heat should be applied slowly and cautiously to the top end of the tube, where the detached portion of spirit is, which, being turned into vapor by the heat, will condense on the surface of the unbroken column of spirit. Care must be taken that the heat is not applied too quickly; for, if this be done, the tube will break and the instrument be destroyed. The best way to apply the requisite amount of heat is by bringing the end of the tube slowly down towards a minute flame from a gas-burner; or, if gas be not at hand, a piece of heated metal will serve instead.

The bulbs of the Thermometers for registering the greatest heat from the sun's rays, and the least from radiation during night, have a black coating, which may easily be made, or mended, by the application of a mixture of lampblack and printer's ink. They are placed in shallow blackened boxes, whose sides protect the bulbs from the wind. The Maximum should be freely exposed to the sun, and the Minimum should rest on wooden supports a few inches from the surface of the grass, in an open situation. Snow must not be allowed to cover either of these Thermometers; nor the sun's heat to affect the Minimum Thermometer by distillation. Black-bulbs enclosed in 'glass jackets' may also be used, being indeed preferable to the above. It must, however, be added, that the whole subject of the observation of Solar and Terrestrial Radiation is not yet in a sufficiently advanced state to warrant the exclusive recommendation of any one of these methods.

The Hygrometer in use at the Society's Stations consists of two Dry and Wet Bulb Thermometers usually, but not necessarily, mounted on one frame. As apparently slight deviations from the approved form of this apparatus seriously vitiate the Hygrometrical Observations, Observers are specially requested to attend to the following conditions:—The bulbs must hang down by at least an inch free from the scales and frame to which they are attached; the frame must be such as will bring the tubes forward by an inch from any board on which it may be suspended; and the interior must be covered, and altogether placed to the side, and a little below the level of the wet bulb, but in no case must the bulb; the bulb must be of medium fineness, and fastened at the neck of the bulb by the cotton, which also supplies it with air. It must be seen to by the Observer that the medium always clean and unobstructed, and the water pure. In frosty weather, a thermometer must be used, and must be made with 15 to 30 minutes before the hour of observation. From the film of ice thus formed, evaporation will proceed as from the first cloth in ordinary circumstances.

In reading the Thermometer great care must be taken to avoid the error of reading the wrong side of the index or the wrong side of the scale. The reading ought to be taken to tenths of a degree, and noted in decimals. Thus 49° 4. 40° 5. 40° 6. 40° 7. 40° 8. 40° 9. 40° 10. 40° 11. 40° 12. 40° 13. 40° 14. 40° 15. 40° 16. 40° 17. 40° 18. 40° 19. 40° 20. 40° 21. 40° 22. 40° 23. 40° 24. 40° 25. 40° 26. 40° 27. 40° 28. 40° 29. 40° 30. 40° 31. 40° 32. 40° 33. 40° 34. 40° 35. 40° 36. 40° 37. 40° 38. 40° 39. 40° 40. 40° 41. 40° 42. 40° 43. 40° 44. 40° 45. 40° 46. 40° 47. 40° 48. 40° 49. 40° 50. 40° 51. 40° 52. 40° 53. 40° 54. 40° 55. 40° 56. 40° 57. 40° 58. 40° 59. 40° 60. 40° 61. 40° 62. 40° 63. 40° 64. 40° 65. 40° 66. 40° 67. 40° 68. 40° 69. 40° 70. 40° 71. 40° 72. 40° 73. 40° 74. 40° 75. 40° 76. 40° 77. 40° 78. 40° 79. 40° 80. 40° 81. 40° 82. 40° 83. 40° 84. 40° 85. 40° 86. 40° 87. 40° 88. 40° 89. 40° 90. 40° 91. 40° 92. 40° 93. 40° 94. 40° 95. 40° 96. 40° 97. 40° 98. 40° 99. 40° 100. 40° 101. 40° 102. 40° 103. 40° 104. 40° 105. 40° 106. 40° 107. 40° 108. 40° 109. 40° 110. 40° 111. 40° 112. 40° 113. 40° 114. 40° 115. 40° 116. 40° 117. 40° 118. 40° 119. 40° 120. 40° 121. 40° 122. 40° 123. 40° 124. 40° 125. 40° 126. 40° 127. 40° 128. 40° 129. 40° 130. 40° 131. 40° 132. 40° 133. 40° 134. 40° 135. 40° 136. 40° 137. 40° 138. 40° 139. 40° 140. 40° 141. 40° 142. 40° 143. 40° 144. 40° 145. 40° 146. 40° 147. 40° 148. 40° 149. 40° 150. 40° 151. 40° 152. 40° 153. 40° 154. 40° 155. 40° 156. 40° 157. 40° 158. 40° 159. 40° 160. 40° 161. 40° 162. 40° 163. 40° 164. 40° 165. 40° 166. 40° 167. 40° 168. 40° 169. 40° 170. 40° 171. 40° 172. 40° 173. 40° 174. 40° 175. 40° 176. 40° 177. 40° 178. 40° 179. 40° 180. 40° 181. 40° 182. 40° 183. 40° 184. 40° 185. 40° 186. 40° 187. 40° 188. 40° 189. 40° 190. 40° 191. 40° 192. 40° 193. 40° 194. 40° 195. 40° 196. 40° 197. 40° 198. 40° 199. 40° 200. 40° 201. 40° 202. 40° 203. 40° 204. 40° 205. 40° 206. 40° 207. 40° 208. 40° 209. 40° 210. 40° 211. 40° 212. 40° 213. 40° 214. 40° 215. 40° 216. 40° 217. 40° 218. 40° 219. 40° 220. 40° 221. 40° 222. 40° 223. 40° 224. 40° 225. 40° 226. 40° 227. 40° 228. 40° 229. 40° 230. 40° 231. 40° 232. 40° 233. 40° 234. 40° 235. 40° 236. 40° 237. 40° 238. 40° 239. 40° 240. 40° 241. 40° 242. 40° 243. 40° 244. 40° 245. 40° 246. 40° 247. 40° 248. 40° 249. 40° 250. 40° 251. 40° 252. 40° 253. 40° 254. 40° 255. 40° 256. 40° 257. 40° 258. 40° 259. 40° 260. 40° 261. 40° 262. 40° 263. 40° 264. 40° 265. 40° 266. 40° 267. 40° 268. 40° 269. 40° 270. 40° 271. 40° 272. 40° 273. 40° 274. 40° 275. 40° 276. 40° 277. 40° 278. 40° 279. 40° 280. 40° 281. 40° 282. 40° 283. 40° 284. 40° 285. 40° 286. 40° 287. 40° 288. 40° 289. 40° 290. 40° 291. 40° 292. 40° 293. 40° 294. 40° 295. 40° 296. 40° 297. 40° 298. 40° 299. 40° 300. 40° 301. 40° 302. 40° 303. 40° 304. 40° 305. 40° 306. 40° 307. 40° 308. 40° 309. 40° 310. 40° 311. 40° 312. 40° 313. 40° 314. 40° 315. 40° 316. 40° 317. 40° 318. 40° 319. 40° 320. 40° 321. 40° 322. 40° 323. 40° 324. 40° 325. 40° 326. 40° 327. 40° 328. 40° 329. 40° 330. 40° 331. 40° 332. 40° 333. 40° 334. 40° 335. 40° 336. 40° 337. 40° 338. 40° 339. 40° 340. 40° 341. 40° 342. 40° 343. 40° 344. 40° 345. 40° 346. 40° 347. 40° 348. 40° 349. 40° 350. 40° 351. 40° 352. 40° 353. 40° 354. 40° 355. 40° 356. 40° 357. 40° 358. 40° 359. 40° 360. 40° 361. 40° 362. 40° 363. 40° 364. 40° 365. 40° 366. 40° 367. 40° 368. 40° 369. 40° 370. 40° 371. 40° 372. 40° 373. 40° 374. 40° 375. 40° 376. 40° 377. 40° 378. 40° 379. 40° 380. 40° 381. 40° 382. 40° 383. 40° 384. 40° 385. 40° 386. 40° 387. 40° 388. 40° 389. 40° 390. 40° 391. 40° 392. 40° 393. 40° 394. 40° 395. 40° 396. 40° 397. 40° 398. 40° 399. 40° 400. 40° 401. 40° 402. 40° 403. 40° 404. 40° 405. 40° 406. 40° 407. 40° 408. 40° 409. 40° 410. 40° 411. 40° 412. 40° 413. 40° 414. 40° 415. 40° 416. 40° 417. 40° 418. 40° 419. 40° 420. 40° 421. 40° 422. 40° 423. 40° 424. 40° 425. 40° 426. 40° 427. 40° 428. 40° 429. 40° 430. 40° 431. 40° 432. 40° 433. 40° 434. 40° 435. 40° 436. 40° 437. 40° 438. 40° 439. 40° 440. 40° 441. 40° 442. 40° 443. 40° 444. 40° 445. 40° 446. 40° 447. 40° 448. 40° 449. 40° 450. 40° 451. 40° 452. 40° 453. 40° 454. 40° 455. 40° 456. 40° 457. 40° 458. 40° 459. 40° 460. 40° 461. 40° 462. 40° 463. 40° 464. 40° 465. 40° 466. 40° 467. 40° 468. 40° 469. 40° 470. 40° 471. 40° 472. 40° 473. 40° 474. 40° 475. 40° 476. 40° 477. 40° 478. 40° 479. 40° 480. 40° 481. 40° 482. 40° 483. 40° 484. 40° 485. 40° 486. 40° 487. 40° 488. 40° 489. 40° 490. 40° 491. 40° 492. 40° 493. 40° 494. 40° 495. 40° 496. 40° 497. 40° 498. 40° 499. 40° 500. 40° 501. 40° 502. 40° 503. 40° 504. 40° 505. 40° 506. 40° 507. 40° 508. 40° 509. 40° 510. 40° 511. 40° 512. 40° 513. 40° 514. 40° 515. 40° 516. 40° 517. 40° 518. 40° 519. 40° 520. 40° 521. 40° 522. 40° 523. 40° 524. 40° 525. 40° 526. 40° 527. 40° 528. 40° 529. 40° 530. 40° 531. 40° 532. 40° 533. 40° 534. 40° 535. 40° 536. 40° 537. 40° 538. 40° 539. 40° 540. 40° 541. 40° 542. 40° 543. 40° 544. 40° 545. 40° 546. 40° 547. 40° 548. 40° 549. 40° 550. 40° 551. 40° 552. 40° 553. 40° 554. 40° 555. 40° 556. 40° 557. 40° 558. 40° 559. 40° 560. 40° 561. 40° 562. 40° 563. 40° 564. 40° 565. 40° 566. 40° 567. 40° 568. 40° 569. 40° 570. 40° 571. 40° 572. 40° 573. 40° 574. 40° 575. 40° 576. 40° 577. 40° 578. 40° 579. 40° 580. 40° 581. 40° 582. 40° 583. 40° 584. 40° 585. 40° 586. 40° 587. 40° 588. 40° 589. 40° 590. 40° 591. 40° 592. 40° 593. 40° 594. 40° 595. 40° 596. 40° 597. 40° 598. 40° 599. 40° 600. 40° 601. 40° 602. 40° 603. 40° 604. 40° 605. 40° 606. 40° 607. 40° 608. 40° 609. 40° 610. 40° 611. 40° 612. 40° 613. 40° 614. 40° 615. 40° 616. 40° 617. 40° 618. 40° 619. 40° 620. 40° 621. 40° 622. 40° 623. 40° 624. 40° 625. 40° 626. 40° 627. 40° 628. 40° 629. 40° 630. 40° 631. 40° 632. 40° 633. 40° 634. 40° 635. 40° 636. 40° 637. 40° 638. 40° 639. 40° 640. 40° 641. 40° 642. 40° 643. 40° 644. 40° 645. 40° 646. 40° 647. 40° 648. 40° 649. 40° 650. 40° 651. 40° 652. 40° 653. 40° 654. 40° 655. 40° 656. 40° 657. 40° 658. 40° 659. 40° 660. 40° 661. 40° 662. 40° 663. 40° 664. 40° 665. 40° 666. 40° 667. 40° 668. 40° 669. 40° 670. 40° 671. 40° 672. 40° 673. 40° 674. 40° 675. 40° 676. 40° 677. 40° 678. 40° 679. 40° 680. 40° 681. 40° 682. 40° 683. 40° 684. 40° 685. 40° 686. 40° 687. 40° 688. 40° 689. 40° 690. 40° 691. 40° 692. 40° 693. 40° 694. 40° 695. 40° 696. 40° 697. 40° 698. 40° 699. 40° 700. 40° 701. 40° 702. 40° 703. 40° 704. 40° 705. 40° 706. 40° 707. 40° 708. 40° 709. 40° 710. 40° 711. 40° 712. 40° 713. 40° 714. 40° 715. 40° 716. 40° 717. 40° 718. 40° 719. 40° 720. 40° 721. 40° 722. 40° 723. 40° 724. 40° 725. 40° 726. 40° 727. 40° 728. 40° 729. 40° 730. 40° 731. 40° 732. 40° 733. 40° 734. 40° 735. 40° 736. 40° 737. 40° 738. 40° 739. 40° 740. 40° 741. 40° 742. 40° 743. 40° 744. 40° 745. 40° 746. 40° 747. 40° 748. 40° 749. 40° 750. 40° 751. 40° 752. 40° 753. 40° 754. 40° 755. 40° 756. 40° 757. 40° 758. 40° 759. 40° 760. 40° 761. 40° 762. 40° 763. 40° 764. 40° 765. 40° 766. 40° 767. 40° 768. 40° 769. 40° 770. 40° 771. 40° 772. 40° 773. 40° 774. 40° 775. 40° 776. 40° 777. 40° 778. 40° 779. 40° 780. 40° 781. 40° 782. 40° 783. 40° 784. 40° 785. 40° 786. 40° 787. 40° 788. 40° 789. 40° 790. 40° 791. 40° 792. 40° 793. 40° 794. 40° 795. 40° 796. 40° 797. 40° 798. 40° 799. 40° 800. 40° 801. 40° 802. 40° 803. 40° 804. 40° 805. 40° 806. 40° 807. 40° 808. 40° 809. 40° 810. 40° 811. 40° 812. 40° 813. 40° 814. 40° 815. 40° 816. 40° 817. 40° 818. 40° 819. 40° 820. 40° 821. 40° 822. 40° 823. 40° 824. 40° 825. 40° 826. 40° 827. 40° 828. 40° 829. 40° 830. 40° 831. 40° 832. 40° 833. 40° 834. 40° 835. 40° 836. 40° 837. 40° 838. 40° 839. 40° 840. 40° 841. 40° 842. 40° 843. 40° 844. 40° 845. 40° 846. 40° 847. 40° 848. 40° 849. 40° 850. 40° 851. 40° 852. 40° 853. 40° 854. 40° 855. 40° 856. 40° 857. 40° 858. 40° 859. 40° 860. 40° 861. 40° 862. 40° 863. 40° 864. 40° 865. 40° 866. 40° 867. 40° 868. 40° 869. 40° 870. 40° 871. 40° 872. 40° 873. 40° 874. 40° 875. 40° 876. 40° 877. 40° 878. 40° 879. 40° 880. 40° 881. 40° 882. 40° 883. 40° 884. 40° 885. 40° 886. 40° 887. 40° 888. 40° 889. 40° 890. 40° 891. 40° 892. 40° 893. 40° 894. 40° 895. 40° 896. 40° 897. 40° 898. 40° 899. 40° 900. 40° 901. 40° 902. 40° 903. 40° 904. 40° 905. 40° 906. 40° 907. 40° 908. 40° 909. 40° 910. 40° 911. 40° 912. 40° 913. 40° 914. 40° 915. 40° 916. 40° 917. 40° 918. 40° 919. 40° 920. 40° 921. 40° 922. 40° 923. 40° 924. 40° 925. 40° 926. 40° 927. 40° 928. 40° 929. 40° 930. 40° 931. 40° 932. 40° 933. 40° 934. 40° 935. 40° 936. 40° 937. 40° 938. 40° 939. 40° 940. 40° 941. 40° 942. 40° 943. 40° 944. 40° 945. 40° 946. 40° 947. 40° 948. 40° 949. 40° 950. 40° 951. 40° 952. 40° 953. 40° 954. 40° 955. 40° 956. 40° 957. 40° 958. 40° 959. 40° 960. 40° 961. 40° 962. 40° 963. 40° 964. 40° 965. 40° 966. 40° 967. 40° 968. 40° 969. 40° 970. 40° 971. 40° 972. 40° 973. 40° 974. 40° 975. 40° 976. 40° 977. 40° 978. 40° 979. 40° 980. 40° 981. 40° 982. 40° 983. 40° 984. 40° 985. 40° 986. 40° 987. 40° 988. 40° 989. 40° 990. 40° 991. 40° 992. 40° 993. 40° 994. 40° 995. 40° 996. 40° 997. 40° 998. 40° 999. 40° 1000. 40° 1001. 40° 1002. 40° 1003. 40° 1004. 40° 1005. 40° 1006. 40° 1007.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Aboyne Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
 Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.
 During the MONTH of August 1885.
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer. No. —	No. of hours in which it fell.	9 A.M.		P.M.		SUNSHINE. Hours.	9 h. A.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direc- tion.	Force	Direc- tion.	Force			9 h. A.M.	No.	Amount in inches.	Velocity (0—10), and Direc- tion.		Amount (0—10), and Species.	Velocity (0—10), and Direc- tion.					Amount (0—10), and Species.	No. 3 inches.	No. 12 inches.	No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
																																			inches.	°	inches.	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°	°

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction†† = 29.502
 for Temp. (Col. 2), = 29.585..... = 83
 Corrected Mean” of Barometer at 9 P.M., minus the Correction†† = 29.491
 for Temp. (Col. 4), = 29.579..... = 86
 Mean at Station, corrected, and at 32°,..... = 29.496
 Correction for height, feet above Mean Sea-level,..... = 4.91
 reduced to 32°, and Sea-level,..... = 29.987
 Highest Reading, corrected for Index error, on the 1 th,..... = 29.900
 Lowest Do. Do., on the 10 th,..... = 28.740
 Difference, or Monthly Range,..... = 1.160

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 1 th,..... = 75.0
 Lowest in Month, corrected for Index errors, on the 31 th,..... = 30.0
 Difference, or Monthly Range,..... = 45.0
 “Corrected Mean” of all the Highest, (Col. 5),..... = 62.3
 “Corrected Mean” of all the Lowest, (Col. 6),..... = 42.3
 Difference, or Mean Daily Range,..... = 20.0
 * Calculated Mean Temperature of Month,..... = 52.3
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th,..... =
 “Corrected Mean,” (Col. 7), of Black Bulb, Max. in Sun,..... =
 Lowest at Night, Black Bulb, (corrected for Index errors), on the th,..... =
 “Corrected Mean,” (Col. 8), of Black Bulb, Min. on grass,..... =
 Difference of above Means or Range (“exposed”),..... =

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11),..... = 50.3
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12),..... = 48.4
 †† Computed Temperature of Dew-Point,..... = 46.4
 †† Do. Elastic Force of Vapour,..... = 316
 †† Do. Weight of Vapour in a Cubic Foot of Air, ... =
 †† Relative Humidity, (Saturation = 100),..... = 87
 RAIN fell on 16 Days; Amount in Inches,..... = 3.41

WIND.		SUMMARY.			
Direction.	N NE E SE S SW W NW	Calm or Variable.	Mean Force.	Mean Velocity in miles per day.	
A.M.					
P.M.					
Mean.	0 1 6 1 0 1 13 4				

* Each instrument tested at the Office in Edinburgh bears the stamp “S.M.S.” and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
 † Embracing corrections for both capillarity and Index Errors.
 ‡ The Diurnal Range for Scotland is as yet unknown.
 †† Practically, though not absolutely a minus correction.
 ††† These “Hygrometrical Deductions” are calculated from Glaisher’s Hygrometrical Tables, Second Edition only.
 †††† While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 6 and 6 will be entered as the “Calculated Mean Temperature.”
 Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and
 Return verified by

(Signed) George W. Smythe

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Oban Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 1 feet.

During the MONTH of September 1885.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.								
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.																
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force	Direction.	Force	Readings of the H. Cup Anemometer. No. —	No. of hours in which it fell.	Amount in inches.	Velocity (0—10), and Direction.	Amount. (0—10), and Species.	Velocity (0—10), and Direction.	Amount. (0—10), and Species.	No. 1. inches.	No. 2. inches.					No. 22 inches.							
		inches.	°	inches.	°	°	°	°	°	°	°	°	°	°					9 h. A.M.																			
	1	29.725	58	29.700	59	63	27			48	46	42.5	44.5	E	E						Act	Act											Hard frost early morning	1				
	2	29.600	57	29.380	58	59	40			42	41	49	49	E	E			0.67			Vi	Vi											overcast & windy squalls	2				
	3	29.100	58	29.070	58	65	45			54	54	46	45	SE	8			0.03			Vi	St											Clear & dull by turns lightning at night	3				
	4	29.050	59	29.050	59	65	38			55	54	51	50	SE	8			—			Vi	Vi											overcast all day	4				
	5	29.050	57	29.100	60	65	42			49	49	48	48	SE	10			0.32			Cu	Vi											Local thunder from 3 to 6 P.M. short lightning being very	5				
	6	29.170	58	29.150	61	62	42			43	42	50	50	SE	10			0.13			Vi	Act												Some heavy squalls & rain	6			
	7	29.276	60	29.400	61	64	36			53	51	50	49	SE	10			—			Vi	Vi												fine day	7			
	8	29.270	58	29.000	57	59	40			49	49	42	42	SW	10			0.08			Vi	Vi												Cold day some showers	8			
	9	29.100	58	29.100	59	63	38			47	44	44	43	W	10			—			Cu	Cu												fine a.m. rain P.M.	9			
	10	29.150	59	29.130	59	64	39			49	46	41	40	W	10			—			Cu	Cu												splendid day	10			
	11	29.150	55	29.280	59	63	36			52	47	41	41	W	10			0.20			St	Vi												fine a.m. heavy rain P.M.	11			
	12	29.025	56	29.850	57	65	37			50	49	52	47	SE	10			0.42			Vi	Vi												rainy a.m. high wind P.M.	12			
	13	29.050	59	29.250	58	59	37			54	51	44	42	W	10			0.06			Vi	Cu												fine all day some squ	13			
	14	29.250	56	29.226	60	60	42			55	52	52	50	W	10			0.00			Cu	Vi													fine day	14		
	15	29.000	58	29.150	59	58	42			53	53	58	57	SE	10			0.15			Vi	Vi													rainy day	15		
	16	29.250	56	29.500	60	62	37			57	62	50	47	W	10			—			Cu	Act													fine bright day	16		
	17	29.600	59	29.650	60	62	35			58	56	42	42	W	10			0.13			Cu	Vi													fine a.m. rainy P.M.	17		
	18	29.620	57	29.500	60	64	38			50	47	48	47	W	10			—			Cu	Act													fine day	18		
	19	29.350	56	29.300	57	63	37			47	46	45	43	W	10			0.08			Cu	Cu													hurricane a.m. rain P.M.	19		
	20	29.400	57	29.232	57	58	42			46	45	45	45	SE	10			0.53			Vi	Vi													overcast & rainy day	20		
	21	29.475	58	29.630	57	69	41			49	46	52	47	SW	10			—			Vi	St													fine day	21		
	22	29.580	59	29.450	58	63	41			51	48	54	51	SW	10			—			Vi	St													fine day	22		
	23	29.500	59	29.530	68	60	42			54	52	46	44	W	10			—			Cu	Act														fine day	23	
	24	29.500	58	29.460	57	58	42			53	52	42	40	SW	10			0.20			Vi	Cu													fine day	24		
	25	29.500	56	29.500	53	55	32			41	40	35	35	SW	10			0.27			Vi	Cu													fine day	25		
	26	29.600	56	29.650	55	57	32			35	35	37	35	SW	10			0.08			Vi	Vi													fine day	26		
	27	29.650	57	29.530	57	58	32			36	34	37	35	SW	10			0.01			St	St													overcast rain at night	27		
	28	29.300	56	29.150	54	57	35			38	37	38	37	SW	10			0.06			Vi	Vi													fine day	28		
	29	29.170	55	29.272	55	68	35			42	40	38	36	SW	10			0.19			Cu	St														fine day	29	
	30	29.700	55	29.600	54	57	33			45	48	43	41	E	10			0.02			Vi	Cu													fine day	30		
	31																																				fine day	31
	Sums.	9161	220	8830	226	200	2405			255	201	1625	1195					3.63																				
	Means.	29.305	57.3	29.294	57.5	60.7	38.0			48.5	46.7	45.4	44.0																									
	† Total Corrections for Instrumental Errors.	-0.020		-0.020																																		
	† Corrections for Diurnal Range.																																					
	“Corrected Means.”																																					
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							

NOTATION USED IN GENERAL REMARKS.					
a.	denotes aurora.	m.	denotes meteor.		
ci.	cirrus.	ms.	meteors.		
ci.-cu.	cirro-cumulus.	n.	nimbus.		
ci.-s.	cirro-stratus.	r.	rain.		
cu.	cumulus.	h. r.	heavy rain.		
cu.-s.	cumulo-stratus.	c. h. r.	continued heavy rain.		
d.	drizzle.	s.	stratus.		
f.	fog.	sc.	scud.		
fr.	frost.	s.	sleet.		
h.-fr.	hoar-frost.	s.	snow.		
h.	haze.	so. h.	solar halo.		
h. d.	heavy dew.	sq.	squall.		
hl.	hail.	sgs.	squalls.		
l.	lightning.	t.	thunder.		
li. cl.	light clouds.	t. s.	thunder storm.		
li. sh.	light showers.	w.	wind.		
lu. co.	lunar corona.	g.	gale of wind.		
lu. h.	lunar halo.				

TABLE FOR ESTIMATING FORCE OF WIND.					
Estimated Force, 0—6.	Common Designation.	Estimated Force 0—6.	Common Designation.	Estimated Force, 0—6.	Common Designation.
0	Calm	1.5	Light breeze	4	Blowing hard
0.5	Very light air	2	Fresh breeze	5	Blowing gale
1	Light air	3	Very fresh	6	Violent gale

BAROMETER, “corrected Mean” at 9 A.M., minus the Correction† = 29.209
for Temp. (Col. 2), = 29.285 — 0.076
Corrected Mean” of Barometer at 9 P.M., minus the Correction† = 29.198
for Temp. (Col. 4), = 29.274 — 0.076
Mean at Station, corrected, and at 32°, = 29.203
Correction for height, feet above Mean Sea-level, = 495
Mean, reduced to 32°, and Sea-level, = 29.698
Highest Reading, corrected for Index error, on the 1 th, = 29.725
Lowest Do. Do., on the 30 th, = 28.600
Difference, or **Monthly Range**, = 1.125

S.-R. THERMOMETER, (in shade, etc.), **Highest in Month**, (corrected for Index Errors), on the 3 th, = 65.0
Lowest in Month, corrected for Index errors, on the 1 th, = 27.0
Difference, or **Monthly Range**, = 38.0
“Corrected Mean” of all the **Highest**, (Col. 5), = 60.7
“Corrected Mean” of all the **Lowest**, (Col. 6), = 38.0
Difference, or **Mean Daily Range**, = 22.7
“Calculated Mean Temperature of Month”, = 49.3
S.-R. THERMOMETER, **Black Bulb in Sun**, **Highest**, (corrected for Index Errors), on the th, =
“Corrected Mean,” (Col. 7), of **Black Bulb, Max. in Sun**, =
Lowest at Night, **Black Bulb**, (corrected for Index errors), on the th, =
“Corrected Mean,” (Col. 8), of **Black Bulb, Min. on grass**, =
Difference of above Means or Range (“exposed”), =

HYGROMETER, **Mean** (corrected) A.M. and P.M. Reading of **Dry Bulb**, (Cols. 9 and 11), = 47.0
Mean (corrected) A.M. and P.M. Reading of **Wet Bulb**, (Cols. 10 and 12), = 45.3
“Computed **Temperature of Dew-Point**”, = 43.4
“Do. **Elastic Force of Vapour**”, = 282
“Do. **Weight of Vapour in a Cubic Foot of Air**”, =
“Relative **Humidity**, (Saturation = 100), = 88
RAIN fell on 20 Days; Amount in Inches, = 3.63

WIND.		SUMMARY.									
Direction.		N	NE	E	SE	S	SW	W	NW	Calm or Variable.	Mean Force.
A.M.				38			5	10	4		
P.M.				144			5	133			
Mean.				0	146	0	5	113	0		

(Signed) George H. Smyth

Observations made and
Return verified by

Each instrument tested at the Office in Edinburgh bears the stamp “S.M.S.” and a number to be entered in the Heading; or the Number and Initials of the Maker may be here given.
† Embracing corrections for both capillarity and Index Errors.
‡ The Diurnal Range for Scotland is as yet unknown.
§ These “Hygrometrical Deductions” are calculated from Glaisher’s Hygrometrical Tables, Second Edition only.
|| While the Diurnal Range is unknown, the Arithmetical Mean of Cols. 5 and 6 will be entered as the “Calculated Mean Temperature.”
Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abegwe Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.

During the MONTH of October 1885.

The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.		CLOUDS.				THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.		Days of Month.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		9 h. A.M.		9 h. P.M.		Protected in Shade, &c., above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.		9 A.M.		P.M.		9 h. A.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Dirac- tion.	Force	Dirac- tion.	Force	Readings of the H. Cup Anemometer. No. —	No. of hours in which it fell.	No.	Amount in inches.	Velocity (0—6), and Dirac- tion.	Amount, (0—10), and Species.	Velocity (0—6), and Dirac- tion.	Amount, (0—10), and Species.	No. 3 inches.						No. 12 inches.	No. 22 inches.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		inches.	°	inches.	°	°	°	°	°	°	°	°	°					9 h. A.M.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

BAROMETER, "corrected Mean" at 9 A.M., 29.25, the Correction +.17 = 29.42
for Temp. (Col. 2), = 29.42 - .54 = 28.88
Corrected Mean" of Barometer at 9 P.M., 29.27, minus the Correction +.12 = 29.15
for Temp. (Col. 4), = 29.15 - .56 = 28.59
Mean at Station, corrected, and at 32°, = 29.182
Correction for height, feet above Mean Sea-level, = 500
Mean, reduced to 32°, and Sea-level, = 29.682
Highest Reading, corrected for Index error, on the 15 th, = 30.188
Lowest Do. Do., on the 26 th, = 28.372
Difference, or Monthly Range, = 1.816

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2 th, = 58.0
Lowest in Month, corrected for Index errors, on the 23 th, = 21.0
Difference, or Monthly Range, = 37.0
"Corrected Mean" of all the Highest, (Col. 5), = 48.3
"Corrected Mean" of all the Lowest, (Col. 6), = 32.7
Difference, or Mean Daily Range, = 15.6
** Calculated Mean Temperature of Month, = 40.5
S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, = 64
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 64
Lowest at Night, Black Bulb, (corrected for Index errors), on the th, = 34
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 34
Difference of above Means or Range ("exposed"), = 30

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 39.4
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 38.2
† Computed Temperature of Dew-Point, = 36.6
† Do. Elastic Force of Vapour, = 2.18
† Do. Weight of Vapour in a Cubic Foot of Air, = 90
† Relative Humidity, (Saturation = 100), = 90
RAIN fell on 18 days; Amount in Inches, = 1.91

WIND.												SUMMARY.			
Direction.	N	NE	E	SE	S	SW	W	NW	Calms or Variable.	Mean Force.	Mean Velocity in miles per day.				
A.M.	2	5	5				5	4							
P.M.	1	4	3	1			6	16							
Mean.	2	4	4	1	0	0	5	15							

Observations made and
Return verified by

(Signed)

George H. Haythorn

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Abogue Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
 Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet.
 During the MONTH of November 1885.
 The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER. No. —				WIND.				RAIN.	CLOUDS.				SUNSHINE. Hours.	THERMOMETERS under Ground.			SEA.	OZONE.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, began and ended.	Days of Month.							
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		9 h. A.M.		9 h. P.M.		9 h. A.M.		9 h. P.M.			9 A.M.		P.M.			9 h. A.M.													
		Barometer. * No.	Attach- ed Ther- mometer	Barometer. No.	Attach- ed Ther- mometer	Max. No.	Min. No.	Max. in Sun's rays No.	Min. on Grass. No.	Dry bulb.	Wet bulb.	Dry bulb.	Wet bulb.	Direction.	Force.	Direction.	Force.		Readings of the H.Cup Anemometer. No. —	No. of hours in which it fell.	Amount in inches. No. —	Velocity (0—10), and Direction.		Amount (0—10), and Direction.	Velocity (0—10), and Direction.	Amount (0—10), and Direction.					No. — 3 inches.	No. — 12 inches.	No. — 22 inches.	Temperature of WET bulb, in feet, No.	Temperature at top of air, in feet, No.	0—10. 9 A.M. 9 P.M.	
		inches.	°	inches.	°	°	°	°	°	°	°	°	°						9 h. A.M.																		
	1	29.350	45	29.250	48	52	30			42.5	41.5	50	48	W	W				0.03	W	W									Rain, a m. Gale P.M.	1						
	2	29.450	50	29.250	55	60	45			52	50	52	50	W	W				0.04	W	W									fine mild rain & night	2						
	3	29.150	53	29.100	55	59	43			57	54	48	47	W	W				—	W	W									Mild mild day	3						
	4	29.100	50	29.100	50	49	34			38	37	36	34	W	W				—	W	W									Cold day	4						
	5	29.225	48	29.350	47	45	26			30	29	32	30	W	W				—	W	W											5					
	6	29.400	47	29.500	49	53	24.5			30	28	50	48	W	W				—	W	W											6					
	7	29.600	50	29.700	53	59	38			53	51	48	46	W	W				—	W	W									overcast		7					
	8	29.800	52	29.800	52	50	41.5			50	47	48	45	W	W				—	W	W									fine mild day		8					
	9	29.900	48	29.900	49	49	29			43	41	31	31	W	W				—	W	W									overcast		9					
	10	29.942	48	29.900	48	49	27.5			41	40	38	38	W	W				—	W	W									very fine day		10					
	11	29.900	49	29.850	49	46	35			41	41	39	38	W	W				—	W	W											11					
	12	29.778	48	29.550	49	42	36			38	37	38	37	W	W				—	W	W											12					
	13	29.150	47	29.150	49	47	35			38	36	40	37	W	W				—	W	W									overcast lightning at night		13					
	14	29.275	46	29.450	45	48	26			35	35	28	27	W	W				—	W	W									wind & cold		14					
	15	29.700	45	29.900	43	39	23			32	31	25	24	W	W				—	W	W									Cold day some snow		15					
	16	29.932	48	29.918	45	40	11			15	15	26	25	W	W				—	W	W									clear		16					
	17	29.750	40	29.750	40	45	16			28	27	20	19	W	W				—	W	W											17					
	18	29.700	38	29.700	39	38	10			18	17	10	10	W	W				0.02	W	W											18					
	19	29.725	39	29.750	38	38	26			32	32	33	32	W	W				—	W	W											19					
	20	29.650	41	29.500	43	41	28			31	31	39	39	W	W				0.03	W	W									clear day rain at night		20					
	21	29.300	42	29.250	43	40	31			34	33	27	27	W	W				0.00	W	W									overcast & dull		21					
	22	29.150	38	29.150	40	38	20			25	25	33	32	W	W				—	W	W									a sh. of sun		22					
	23	29.150	37	29.200	41	39	38			35	35	32	31	W	W				0.25	W	W									fine day		23					
	24	29.250	41	29.280	43	39	31			37	37	38	38	W	W				0.10	W	W									overcast to heavy rain - rain squalls		24					
	25	29.280	42	29.250	43	40	32			35	35	37	37	W	W				0.71	W	W									drifting rain all day		25					
	26	29.150	42	28.780	42	39	25			44	44	35	35	W	W				1.80	W	W									very rainy day		26					
	27	28.450	41	28.750	45	47	33			46	46	37	36	W	W				0.32	W	W									hurricane of wind & rain		27					
	28	28.550	45	28.950	44	39	32			34.5	34.5	37	36	W	W				0.13	W	W									rain a m. fine p.m.		28					
	29	28.950	44	28.800	44	49	32			36	35	43	42	W	W				0.02	W	W									great shower of rain at night		29					
	30	29.000	43	29.200	45	45	31			39	36	37	35	W	W				—	W	W									rainy day		30					
	31																		—	W	W										fine rain rain P.M. Gale at night		31				
	Sums.	1370	137	1197	176	166	29			2100	18	187	154					346																			
	Means.	29.417	44.6	29.399	45.9	45.5	29.8			37.0	36.0	36.2	35.1																								
	† Total Corrections for Instrumental Errors.	-0.20		-0.20																																	
	† Corrections for Diurnal Range.																																				
	"Corrected Means."																																				
	No. of Column.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30						

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction†† = 29.354
 for Temp. (Col. 2), = 29.397 - 4.3 = 29.354
 Corrected Mean" of Barometer at 9 P.M., minus the Correction†† = 29.333
 for Temp. (Col. 4), = 29.379 - 4.6 = 29.333
 Mean at Station, corrected, and at 32°, = 29.343
 Correction for height, feet above Mean Sea-level, = 50.6
 Mean, reduced to 32°, and Sea-level, = 29.849
 Highest Reading, corrected for Index error, on the 10th, = 29.942
 Lowest Do. Do., on the 27th, = 28.450
 Difference, or Monthly Range, = 1.492

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 2th, = 60.0
 Lowest in Month, corrected for Index errors, on the 16th, = 11.0
 Difference, or Monthly Range, = 49.0
 "Corrected Mean" of all the Highest, (Col. 5), = 45.5
 "Corrected Mean" of all the Lowest, (Col. 6), = 29.8
 Difference, or Mean Daily Range, = 15.7
 * Calculated Mean Temperature of Month, = 37.6
 S.-R. THERMOMETER, Black Bulb in Sun, Highest, (corrected for Index Errors), on the th, = 60.0
 "Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 60.0
 Lowest at Night, Black Bulb, (corrected for Index errors), on the th, = 11.0
 "Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 11.0
 Difference of above Means or Range ("exposed"), = 49.0

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 36.6
 Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 35.5
 †† Computed Temperature of Dew-Point, = 34.1
 †† Do. Elastic Force of Vapour, = 1.96
 †† Do. Weight of Vapour in a Cubic Foot of Air, = 0.001
 †† Relative Humidity, (Saturation = 100), = 81
 RAIN fell on 12 Days; Amount in Inches, = 3.45

WIND.		SUMMARY.									
Direction.	N	NE	E	SE	S	SW	W	NW	Mean or Variable.	Mean Force.	Mean Velocity in miles per day.
A.M.		1	3	6			2	4			
P.M.			2	7		3	1	7			
Mean.		0	1	3	6	0	2	10	8	0	

* Each instrument tested at the Office in Edinburgh bears the stamp "S.M.S.," and a number to be entered in the Reading; or the Number and Initials of the Maker may be here given.
 † Enlarging corrections for both capillarity and Index Errors.
 ‡ The Diurnal Range for Scotland is as yet unknown.
 § Practically, though not absolutely a minus correction.
 ¶ These "Hygrometric Deductions" are calculated from Glaisher's Hygrometrical Tables, Second Edition only.
 †† While the Diurnal Range is unknown, the Arithmetic Mean of Cols. 5 and 6 will be entered as the "Calculated Mean Temperature."
 Any Observations not taken under the conditions specified in the Directions on the other side, or noted at the Top of each column, must be marked as such by the observer, in each Schedule. See over.

Observations made and
 Return verified by

(Signed) George H. Smythe

T_0

SCOTTISH METEOROLOGICAL SOCIETY.

Observations taken at Aboyne Castle, County of Aberdeen, in Lat. _____, Long. _____, Distance from Sea 31 miles.
Height of Cistern of the Barometer above Mean Sea-level 453.3 feet, above Ground 4 feet. During the MONTH of December 1885.
The Hours of Observation are of Greenwich Time.

ELECTRICITY.	Days of Month.	BAROMETER.				SELF-REGISTERING THERMOMETERS. Read Daily, at 9 P.M.				HYGROMETER.				RAIN.		WIND.				CLOUDS.				THERMOMETERS under Ground.			SUNSHINE. Hours.	SEA. Temperature at surface and depth.	OZONE. 0-10. 9 A.M. 9 P.M.	GENERAL REMARKS. As to occurrence of Thunder, Lightning, Storms, Hail, Meteors, Remarkable Depression or Elevation of Barometer, Prevalent Diseases, etc. Mention the hour at which Storms, including Thunder and Lightning, begin and ended.	Days of Month.																																																																																																																																																																																																																																																																																																																																																																																							
		9 h. A.M.		9 h. P.M.		Protected in Shade, 4 feet above Ground.		Exposed Black Bulbs.		Dry No. — Wet No. —		9 h. A.M.		9 h. P.M.		No. of hours in which it fell.		Amount in inches.		9 h. A.M.		9 h. P.M.		Readings of the H. Cup Anemometer.		9 A.M.						P.M.		9 h. A.M.																																																																																																																																																																																																																																																																																																																																																																																				
		Barometer. No. —	Attached Thermometer	Barometer. No. —	Attached Thermometer	Max. No.	Min. No.	Max. in Sun's rays No. —	Min. on Grass. No. —	Dry bulb. No. —	Wet bulb. No. —	Dry bulb. No. —	Wet bulb. No. —	Dry bulb. No. —	Wet bulb. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —						Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —	Direction. No. —	Force. No. —</

BAROMETER, "corrected Mean" at 9 A.M., minus the Correction for Temp. (Col. 2), = 29.440
Corrected Mean" of Barometer at 9 P.M., minus the Correction for Temp. (Col. 4), = 29.472
Mean at Station, corrected, and at 32°, = 29.456
Correction for height, feet above Mean Sea-level, = 509
Mean, reduced to 32°, and Sea-level, = 29.965
Highest Reading, corrected for Index error, on the 22th, = 30.100
Lowest Do. Do., on the 4th, = 28.200
Difference, or Monthly Range, = 1.900

S.-R. THERMOMETER, (in shade, etc.), Highest in Month, (corrected for Index Errors), on the 16th, = 60.0
Lowest in Month, corrected for Index errors, on the 7th, = 10.0
Difference, or Monthly Range, = 50.0
"Corrected Mean" of all the Highest, (Col. 5), = 45.7
"Corrected Mean" of all the Lowest, (Col. 6), = 30.0
Difference, or Mean Daily Range, = 15.7
** Calculated Mean Temperature of Month, = 37.8
S.-R. THERMOMETER, Black Bulb a Sun, Highest, (corrected for Index Errors), on the 16th, = 60.0
"Corrected Mean," (Col. 7), of Black Bulb, Max. in Sun, = 45.7
Lowest at Night, Black Bulb, (corrected for Index errors), on the 7th, = 10.0
"Corrected Mean," (Col. 8), of Black Bulb, Min. on grass, = 30.0
Difference of above Means or Range ("exposed"), = 15.7

HYGROMETER, Mean (corrected) A.M. and P.M. Reading of Dry Bulb, (Cols. 9 and 11), = 37.0
Mean (corrected) A.M. and P.M. Reading of Wet Bulb, (Cols. 10 and 12), = 35.4
Computed Temperature of Dew-Point, = 43.2
Do. Elastic Force of Vapour, = 1.89
Do. Weight of Vapour in a Cubic Foot of Air, = 86
Relative Humidity, (Saturation = 100), = 86
RAIN fell on 9 Days; Amount in Inches, = 1.50

WIND.		SUMMARY.									
Direction.	Force.	N	NE	E	SE	S	SW	W	NW	Mean Force.	Mean Velocity in miles per day.
A.M.					1			25	5		
P.M.		1	1	2	1			21	5		
Mean.		1	0	1	1	0	0	23	3		

(Signed) George A. Long

Observations made and
Return verified by

