

# SYMONS'S

## MONTHLY

# METEOROLOGICAL MAGAZINE.

XXXII.]

SEPTEMBER, 1868.

[PRICE FOURPENCE  
orōs. per ann. post free

### METEOROLOGY AT NORWICH.

WE are sorry to be obliged to express our opinion that English meteorologists by no means did themselves or their science credit at Norwich. As will be seen from subsequent pages, there were the usual reports and two or three good papers, but the palm must be awarded to that by Padre Secchi, of Rome, and the discussions were flat in the extreme. We sincerely hope our Devonshire friends will secure some tersely written local papers, and, if they can, raise some disputed point, such as "What is shade?" and secure a discussion similar to that on Storm Warnings at Dundee. Devonshire has hitherto stood well in meteorological matters. The observations of Dr. Huxham, which were commenced in 1727, form a starting point whereof the observers of the present day may well be proud; let them see to it that his *prestige* suffers not at their hands. If the discussions at Norwich were slack, it was not from the absence of observers, for among the list of those present at the meeting we find:—

Adams, Prof., F.R.S. ....	Cambridge.	Home, D. Milne .....	Wedderburn.
Barnes, R. H. ....	London.	Hough, J. ....	Wrotesley.
Belcher, Admiral Sir E. ....	,,	Jenyns, Rev. L. ....	Bath.
Birkbeck, W. ....	Norwich.	Lowe, E. J., F.R.S. ...	Nottingham.
Birt, W. R., F.R.A.S. ....	London.	Lund, C. ....	Bradford.
Blythe, H. E. ....	Burnham.	Mann, Dr. R. J. ....	London.
Blythe, Rev. W. ....	Fincham.	Meldrum, C. ....	Mauritius.
Brady, A. ....	London.	Miller, S. H., F.R.A.S. ....	Wisbech.
Deane, H. ....	Clapham.	Morgan, T. H. ....	Hastings.
Denny, H. ....	Leeds.	Peckover, A. ....	Wisbech.
Dowson, E. T. ....	Beccles.	Pengelly, W., F.R.S. ....	Torquay.
Du Port, Rev. J. M. ....	Mattishall.	Phillips, Prof., LL.D. ....	Oxford.
Ellis, A. J., F.R.S. ....	London.	Secchi, Padre .....	Rome.
Evans, C. ....	Norwich.	Smith, D., F.R.A.S. ....	Birmingham.
Evans, J., F.R.S. ....	Nash Mills.	Smyth, J., M.I.C.E.I. ....	Banbridge.
Everett, Prof., D.C.L. ....	Belfast.	Stewart, B., LL.D. ....	Kew.
Gillet, Rev. E. ....	Runham.	Strange, Col., F.R.S. ....	London.
Glaisher, J., F.R.S. ....	Greenwich.	Symons, G. J. ....	,,
Harrison, J. P. ....	Guildford.	Vivian, E. ...	Torquay.
Hennessey, Prof., F.R.S. ....	Dublin.		

There is surely no reason why Exeter should not have as goodly a muster, and, by organization and co-operation, set an example to the meteorologists of other cities of the mode of preparing, discussing and supporting meteorology at the British Association meetings in years to come.

The following abstracts are in the order in which the various papers and reports were read :—

#### REPORT OF THE COMMITTEE ON UNDERGROUND TEMPERATURE.

Professor Everett presented an interim report detailing the various preliminary steps taken by the committee with reference to suitable thermometers and modes of observation. Some few observations had been made in trial borings in the vicinity of Glasgow, and persons aware of deep dry borings were earnestly requested to communicate with any member of the committee.

Herr Sartorius Von Waltershausen, of Göttingen, said that from recent calculations he was inclined to believe the thickness of the earth's crust was fourteen geographical miles. He also ventured to express his conviction that at the time of the first formation of the seas the thickness did not exceed 50 metres (164 feet.)

#### REPORT OF THE RAINFALL COMMITTEE.

This was read by Mr. G. J. Symons, and its leading features were the following :—

Adopting the same arrangements as in former reports, it was stated that steady progress had been made with the extraction and classification of published and unpublished records, and in the examination of rain gauges. The records of the inclined and tipping funnelled gauges described in the report for 1866, and erected at Rotherham, under the superintendence of Mr. Chrimes, have been discussed with some care. One of the principal results is the determination of the true angles at which rain fell during certain months, and the effect thereof upon the indications of the gauges. The results are that—1. There is no month in the year in which a gauge whose mouth is horizontal collects as much as one which is inclined *and* kept face to wind by a vane. 2. In summer, rain falls nearly vertical the average angle therewith being about  $20^{\circ}$ ; in spring and autumn about  $45^{\circ}$ ; and in winter more than  $60^{\circ}$ . 3. The ratio of the fall on the ground to that at 25 feet above it bears a nearly constant relation to the angle of fall—for instance, in two months, when rain fell at a mean angle of  $65^{\circ}$  from the vertical, the 25 feet gauge collected 25 per cent. less than that on the ground, and on the other hand, in two months, when the mean angle was  $20^{\circ}$ , the upper and lower gauges only differed by 5 per cent. 4. The relation of these results to their cause wind was shown by several diagrams to be striking in the extreme. 5. The necessity of all observers keeping the top of their gauges strictly level is brought out very clearly by the tables of results given. By these it is shown that in summer a tilt of even one degree will cause a difference of 0.2 per cent. in the amount collected. It is not unfrequent to find gauges two or three degrees from level, which would give a total error of five per cent. *if* they were always inclined towards the wind; but as the errors are never intentional, it is probable they neutralise one another; but it would be far better for observers to be careful to keep the orifices level, and so to avoid the error altogether. Various proceedings

at stations were recorded ; and then an account was given of the new stations established in the central and eastern portions of the English lake district. In the district to which Dr. Miller confined his attention, the fall averages about 100 inches, and at one spot reaches 165 inches ; the usual influence of a range of hills or mountains windward of a station is, if the station be close to the hill, to increase the fall, that is to say, ordinarily the maximum fall is on the N.E. slope of a hill, but the normal deposition having been exceeded in consequence of the cooling and condensing influence of the hill, there is so much less vapour in the cloud when it passes onward from the hill. Hence, at say five miles N.E. of a given hill, the fall would be less than if the hill did not exist. This being the case, it might naturally have been thought that the enormous rainfall in the valleys of Wastdale and Borrowdale would leave the districts immediately N.E. thereof with little or no rain. The observations of the last two years have shown that this does not follow.

Professor Phillips and Mr. Symons have both independently been investigating the relation between height above sea level and amount of rainfall, as indicated by both new and old stations in the Cumberland district. Professor Phillips has found in the Scawfell group the maximum fall was at an altitude of 1463 feet. Mr. Symons, by an entirely different method, had determined that the maximum was at an altitude of 1000 to 1500 feet ; the two methods have, therefore, led to very similar results.

The relative wetness of different months was examined in much detail, and it was shown that while in dry districts like Norfolk the wettest month is in summer or early autumn, in wet mountainous districts it is in December or January.

The rainfall of several recent years was discussed at some length, and elucidated by large diagrams, from which it appeared that the deficiency noted in the years 1853 to 1859 had ceased, and that notwithstanding the dryness of 1862 to 1864, the period since 1859 has been quite equal to the average, and that the alarm as to forthcoming drought, which was prevalent in 1858, may be dismissed from present consideration.

#### LUMINOUS METEORS.

Mr. J. Glaisher brought up the report on luminous meteors. It stated that the atlas of star-showers, of which a few charts were last year exhibited to the British Association at Dundee, had been completed, and as it might now be obtained by members at a small cost, it was hoped that observations of shooting-stars would continue to acquire extension and improvement, so that the connection at present shown to exist between shooting-stars and comets would be confirmed by the directions and facilities afforded to observers by their use. In addition to the radiant-points described in the atlas at first observed in the northern hemisphere by Dr. Heis and Mr. Gregg, a similar list of radiant-points of star showers in the southern hemisphere is published by Dr. Heis, from the observations of shooting-stars recorded at

Melbourne between the years 1858 and 1863, by Dr. Neumayer. A complete meteoric survey of the heavens, with a view to determining the most obvious points of radiation, is thus already terminated and brought, at least provisionally, to a satisfactory conclusion. The report stated that although the unfavourable state of the sky prevented observations of the meteoric shower of November, 1867, in this country, yet they were well observed in America on the morning of the 14th of November, and they proved to be nearly as abundant as in the previous year. At Hawkhurst, in Kent, a party of observers watched occasionally until midnight, and afterwards at intervals, until six o'clock a.m. The sky was clear until ten p.m., and the moon so bright that only one or two stars of the first magnitude could be seen. One meteor only was observed. The atmosphere then became foggy, and drift clouds passed across the moon. At 12.15 the fog had increased so much that the moon could scarcely be seen, and the sky continued to become more overcast until 2 a.m. At about two hours five minutes, a large meteor comparable to the moon in brilliancy, shot from between Castor and Pollux in a comparatively clear space to the north, under Ursa major. It left a streak which was perceptible in the space between the clouds. Two or three meteors were observed in gleams among the clouds. At 6 a.m. the clouds became impenetrable, and observations were discontinued. Coming to the meteoric shower of August, 1868, the report stated that at Beeston observatory, Nottingham, the paths of twenty-six meteors were recorded, and some twenty others were counted by Mr. Lowe in the two hours thirty minutes, from 9.30 p.m. until midnight on the evening of the 9th. The meteors were most abundant between 10 and 10.15 p.m., and there were several points of divergence—one in the sword handle of Perseus, and another slightly north of, and above Cassiopœia accounted for most of the meteors. All were blue (mostly intensely blue) or colourless, and nearly all left streaks—were very rapid, and vanished instantaneously. One meteor in the sword-handle of Perseus appeared and disappeared without apparent motion. The August shower of 1868 surpassed that of previous years in accuracy of radiation (having fewer radiants) and in green, yellow and orange meteors, making it less confused in appearance, and conspicuously different from that in 1866. The radiant at  $\epsilon$  Cassiopœia produced nearly the same proportion of meteors as on the 8th and 12th of August, 1867, The proportion of stars of the first and second magnitude was nearly the same as in 1867, while the rate of frequency in 1868 was nearly double that of 1867, and nearly agreed with that in 1866. Some of the largest meteors of the shower were observed soon after midnight of the 10th. Two meteors seen at Cambridge described curves. Attention has been chiefly confined to determining the radiant point from paths of meteors principally close to Cassiopœia. The point appears to be as nearly as possible R A 2h. 16m., N P D  $36^{\circ}$ . They always came several at a time, and then a pause. Those that came together were usually in the same part of the heavens.

*(To be continued.)*

# GALE OF AUGUST 22ND.

*To the Editor of the Meteorological Magazine.*

SIR,—On the evening of the 17th of August the sky presented an extraordinary appearance at sunset. A yellow orange glare spread upwards some 10 or 15 degrees towards the zenith, extending from S.W. to N.W., the sky covered with clouds of intense blackness all round, except where they appeared to lift like a dark pall from that western portion of the horizon. Rain commenced falling at 9 p.m., and towards midnight the wind rose to a gale, which continued with great violence during the night. The next day the weather seemed completely changed from summer to autumn; the two following days were much finer, but cool; the evening of the 21st was chilly, and the same peculiar appearance of the sky at sunset was seen as on the evening preceding the first gale. Towards midnight (Friday) the sky was intensely black, and at 3 a.m. (Saturday) a most terrific gale seemed to strike the town, with a shock like an earthquake. It raged with extraordinary fury for six hours, accompanied by a perfect deluge of rain. From 3.30 a.m. to 9.30 a.m. 2.08 in. fell, in a gauge 1 ft. above the ground, and 150 ft. from sea level. The barometer fell .868 in. from 11 p.m. Friday, to 9 a.m. Saturday.

There was a lull for about one hour; the wind then suddenly veered from S.W., from which point the storm first blew, to W.N.W. and then to N.N.W., raging with unexampled fury, barometer slowly rising, the rain again descending in sheets of water; trees were snapped assunder, and the roads everywhere strewn with large broken branches. The disasters round the coast are very numerous, and it is feared the losses are very great. This storm of wind did not entirely abate under 36 hours. The total rainfall from the commencement of the storm was 2.91 inches, the largest part of which fell during the first six hours.—I am, Sir, yours truly,

EDWARD PICTON PHILLIPS.

*High Street, Haverfordwest, August 24th, 1868.*

---

RECORD OF OSLER'S ANEMOMETER.—*Saturday, August 22nd.*—Midnight to 2 a.m., wind S., calm; 2 a.m., wind backing to S.E.; gale coming on, pressure 3lbs. on the square foot, velocity 25 miles an hour; 6 a.m., S.S.E. 7 to 8lbs.=38 to 40 miles, the gusts reaching 12lbs.=50 miles; rain falling in torrents: 9 a.m., S.W., force 6lbs., 35 miles, rain ceased, sunshine; noon, gale increasing, force 7lbs.; 3 p.m., S.W., mean force 9 lbs.=43 miles, with 14lbs.=55 miles in the gusts; 11 p.m., W.S.W., 8 lbs; 2 a.m., Sunday, 23rd, pressure 2lbs., the gale passing off at W. Barometer fallen 5-tenths to 29.4 tenths, sea level. Heavy rainfall, 1 inch in 6 hours, making the rainfall during the past week 2.8 in. and since the 4th of August, 4.2 in.

T. L. MANSELL, M.D.

*Guernsey, August 24th, 1868.*

*To the Editor of the Meteorological Magazine.*

SIR,—A heavy gale of wind passed over this station on the 22nd of August, doing considerable damage. It began to blow from the W.S.W. early in the morning. Barometer at 9 p.m., of the 21st stood at 29·872 in., at 9 a.m., of the 22nd 29·271, at 3 p.m. 29·078 in.

HORIZONTAL VELOCITY OF WIND.

From 12.0 to 1 equalled 12·5 miles per hour.

„	1.0	„	2	„	13·6	„	„
„	2.0	„	3	„	14·5	„	„
„	3.0	„	4	„	15·5	„	„
„	4.5	„	5	„	15·0	„	„
„	5.0	„	6	„	14·7	„	„

giving an average of 14·3 miles per hour for the time mentioned. At 7 the wind veered to N.W., and the barometrical pressure increased to 29·140 inches, the velocity of the wind at this hour being 15·8 miles per hour. The gale continued during the night, velocity of the wind at 9 a.m. of the 23rd being 14·8 miles per hour. Great damage done here to trees: many elms blown down and large branches torn from oak and ash trees, the roads being completely strewn with them; the fruit trees also suffered considerably. Many ricks were stripped and their contents scattered.—I am Sir, yours &c.,

CHARLES GRIFFITH, F.M.S.

*Strathfield Turgiss, Winchfield, Hants,  
August 24th, 1868.*

## JULY IN ITALY.

*To the Editor of the Meteorological Magazine.*

SIR,—It is of interest to contrast the weather which prevailed in Southern Europe during the early part of this summer with that which we have had here.

*The Bullettino Meteorologico di Roma* of 31st July contains a statement by the Director of the Observatory at Palermo, under date the 20th July, that constant changes of weather were taking place, and that it might be said that the summer had not then yet commenced.

In the same journal it is stated that a continuous succession of storms had occurred at Rome, commencing in the middle of May and extending to the 10th of July; that during June rain had fallen at Rome on 14 days, to the amount of 3·63 inches; at Tivoli, 16 miles E. of Rome, on 22 days, to the amount of 6·68 inches; and at Velletri, 16 miles S.E. of Rome, on 17 days, to the extraordinary amount of 13·3 inches.—I am, Sir, yours, &c.,

D. A. FREEMAN.

*Upper Tooting, 24th August, 1868.*

## JULY IN FRANCE.

*To the Editor of the Meteorological Magazine.*

SIR,—I do not know whether you will care to get weather notes from a constant reader and occasional correspondent, residing for a

short time in a somewhat remote corner of France, midway between Rochfort and Biarritz, on the shores of the Atlantic.

As elsewhere, the weather all through July has been dry and hot, with unsteady winds, mostly from the S.W. The highest day temperature has varied from 75° to 94°; the lowest night temperature from 50° to 66°. On the 12th, at 3 p.m., there was a thunderstorm moving in a S.S.E. current. Wind before the storm N.W., shifting and blowing violently, as the storm drew nigh, through N.E., E., S.E., and when the storm had passed, to S.W., and so back to N. again. On the approach of the storm, the barometer rose from 29·98 to 30·00, fell as it passed to 29·98, rose again to 30·04, and when all was quiet once more fell to 29·98. On the 22nd, at 8 p.m., there began to rise a second storm, travelling slowly from the S.E., the wind being also S.E. Suddenly, as the storm approached, the wind sprang into a furious tempest, shifting slowly to S.W. There was but little rain, and the clouds seemed to break and travel both to the S.W. and N.E. of this spot; but at 11 p.m. the wind suddenly sprang up from the N.E., and blew furiously, with deluges of rain, vivid lightning, and terrific crashes of thunder. After the storm, there were light airs from N.E. and E. It is worthy of notice, that beyond the range of the storm, at sea, there was but little wind. On the 25th, 26th, and 27th, there was lightning at night in the distance, the clouds still moving from S. or S.E.

I have carefully recorded these facts about the wind, because I think that if we closely observe the conditions under which we get precipitation, the old loose talk (which, by the bye, Mr. Lowe renews, in a letter to the *Times*,) about excess of N.E. or S.W. winds in dry or wet seasons, is not tenable. Has there been this year any excess of N.E. and E. winds, over the average?—[We thought so. ED.]—I cannot find it, and I think it is far more rational to betake ourselves to one of two theories to account for wet and dry seasons.

The S.W. wind comes to us, generally, laden with moisture like a saturated sponge, but not a drop falls, unless the hand, in the shape of the N.E. current, is close by to wring it out. Of course the difference of temperature between land and water, and especially in winter and near the sea, counts for something, but in the interior and in summer for zero. This theory is supported by another fact. When do we have heavy and long-continued rains and snows, lasting 12, 24, 36, aye 48 hours (one memorable April)? When are thunder-storms violent and continued? With S.W. and W. winds? No; we only get showers and short storms then. For heavy and continuous rains and memorable thunder-storms the wind must be N.E., E., S.E., and the clouds rising from some point between S.E. and S.W. Why then has there been an absence of rain this summer? Let us lay it to one of two causes. First, the tropical and polar currents may, this year, have been respectively occupying broad bands of country, the one excluding the other, instead of interpenetrating and struggling for the mastery; or, secondly, the S.W. comes to us this year without its

usual charge of moisture. Maury's theory is, that our S.W. winds are the S.E. trades, and if this be so, then we may hold that the amount of moisture which they drink up in the vast wastes of the southern oceans, varies in different years, from some as yet unknown cause, or that the load has been discharged almost wholly in the equatorial calms, or at any rate before arriving in our latitudes. Finally, as these two theories contain no contradictions, may we not hold them as *both* having influence and acting together? and this probably will be found to be the truth. It would be, therefore, highly interesting to have meteorological notes from the southern hemisphere.

What I object to is, the idea that the tropical current brings us *of necessity* rain *per se*. Whether the wind be polar or tropical, in a dry season, the weather is dry and the finest and hottest days are when we have gentle airs from the W. and S.W. The old country rhyme comes more near to the truth :—

“ When the wind's in the north,  
The frost comes forth ;  
When the wind's in the south,  
It's in the rain's mouth ;  
When the wind's in the west,  
It is in the best ;  
When the wind's in the east,  
It's neither fit for man nor beast.”

Yours truly, T. L. LEWINGTON.

*Royant, Charente Inférieure.*

## SOLAR RADIATION TEMPERATURES.

*To the Editor of the Meteorological Magazine.*

SIR,—Thanks to your note on “Solar Radiation Temperatures” in the last number of your magazine, and Mr. Stow's valuable letter on the same subject; the discrepancies between reading in the sun at different stations during the late hot weather, which perplexed so many of your readers, are satisfactorily explained; and, if Mr. Stow's concluding suggestions were generally adopted, might easily be avoided for the future.

But the whole subject of the proper position for thermometers, both in the sun and shade, is one which calls for immediate attention and settlement, if the observations now being so assiduously made throughout England are to have any comparative value.

When two Government Observatories give results differing on an average by nearly 50°, as shown by your correspondent, Mr. Taylor, it is not to be wondered at if the general public, who are not acquainted with the causes of such discrepancies, should place little confidence in meteorological observations, at any rate as regards the readings in the sun.

And even as regards shade temperatures, though in this department there is something more like an approach to uniformity, there is still great room for improvement. To take one instance from your own Table of Temperatures for July of this year, I see that your corre-



spondent at Cirencester, in Gloucestershire, makes the max. temp. for that month  $75^{\circ}$ , and the min.  $59^{\circ}$ . Now at nearly every other station in England the max. temp. is reported as above  $90^{\circ}$ , the lowest, with the exception of a few places in the extreme W. and N., being  $88^{\circ}$ . On the other hand, the min. at all other stations, with the exception of one in Cornwall, was below  $50^{\circ}$ , and in one instance below  $40^{\circ}$ . So that while all other stations show a range of from  $40^{\circ}$  to  $50^{\circ}$ , the range at Cirencester would appear to have been only  $16^{\circ}$ . I have no doubt that upon enquiry the true explanation of this apparent anomaly would be found in the fact that your correspondent at Cirencester places his thermometer in some artificial shade, probably the hall or passage of a house, where their indications, however valuable in themselves, are of course worthless for the purpose of comparison with the readings of instruments placed in the open air.

This is an extreme case. But even among those who use the thermometer-stands which have lately come into use, there is far from that uniformity which is desirable. It is evident that in many of these stands the thermometers read too high, owing to insufficient provision against the transmission of direct solar heat through the roof or back of the stand. In others, owing to the stand being too small, there is not a sufficient margin of shade, yet if these points were attended to, if all thermometer-stands were made with a double roof or back, with an interval between, [if filled in with some non-conducting material like saw-dust, so much the better], and if a sufficient margin of shade were allowed, which might be secured by all stands being made of a certain prescribed size and form, the readings of good instruments in such a stand would be unimpeachable, and that great desideratum—a uniform standard of comparison, would be secured.—I am, Sir, yours,  
G. T. RYVES.

*Nuthall, Nottingham, August 26th, 1868.*

[Mr. Ryves' letter is much to the point. We have been favoured with another note from Mr. Stow which we hope to give next month having no room this. Our readers may rest assured none more earnestly desire uniformity than ourselves, but much care and numerous trials should always precede meteorological legislation. We do not think the question of the best pattern and mode of using solar radiation thermometers could be in better hands than Mr. Stow's.

Concerning Cirencester we plead guilty at once; we strongly suspect our correspondent has returned the maximum at 9 a.m., and the minimum at the same hour, in lieu of the monthly extremes, but whether this or Mr. Ryves' explanation is the true one, the readings are clearly incorrect.

Lastly, with respect to thermometer stands and boxes, we intend in our next to commence a series of articles (with engravings) descriptive of the most generally used forms, as introductory to an account of a series of experiments which our indefatigable ally, Rev. C. H. Griffith, intends commencing as to the results obtained in stands of different patterns.—Ed.]

# HIGH TEMPERATURES, JULY 13TH TO 23RD.

THERE was at one time, but we believe there is no longer, some danger of meteorologists splitting into two schools, one bent upon taking the "mean" of everything, the other declaring "means" of no use, and that individual and synchronous observations were alone valuable. As is usually the case, there was *some* truth on each side, and *in media tutissimus*. For the investigation of storms and exceptional phenomena, individual observations, such as the following table contains, are alone of use. The map is self-explanatory, and the principal deductions from it and the table seem to be—

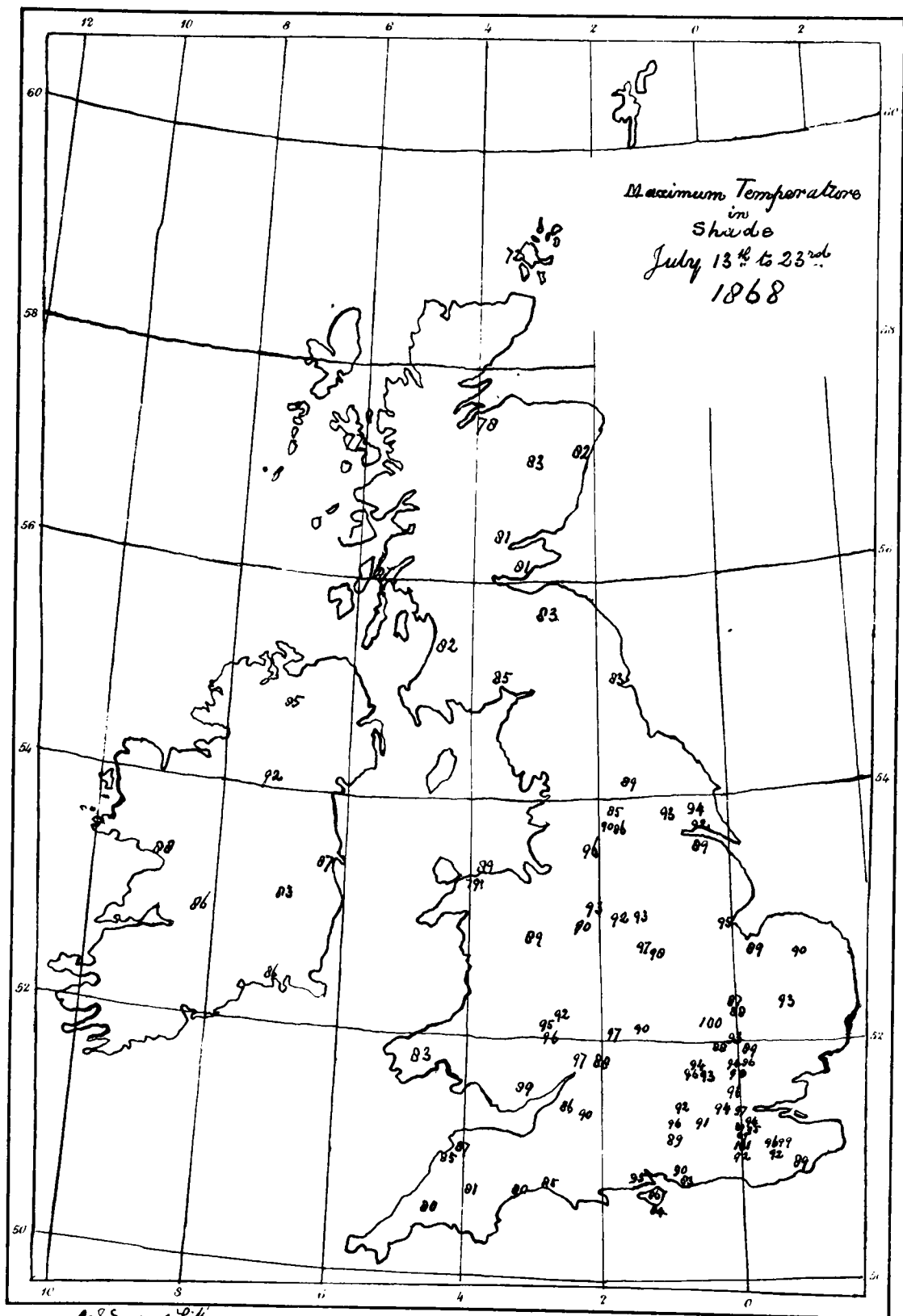
- I. That small differences of locality and in the position of the thermometers, cause greater variation in the temperature recorded than 100 miles of geographical position; compare, for example, the counties of Kent and York.
- II. That the highest temperatures are widely distributed; 95° or upwards, being recorded in most of the inland counties.
- III. That the date of the hottest day seems to have travelled eastward in a rather remarkable manner, being 13th in the W. of Ireland and N.W. of Scotland, 14th in the middle of Ireland and at one or two stations in Scotland and Wales; 15th on E. of Ireland, generally throughout Scotland and Wales, and at stations in Cornwall and Devon. The next hot day was the 21st, in the counties of Middlesex, Oxford, Cambridge and Stafford; the 22nd was hotter still at all other stations, except Worthing and Ventnor, where the maximum (such as it was) occurred on 23rd.
- IV. The lesson this table teaches is, "*Get ALL the thermometers tested, and mount them uniformly.*"

STATION.	OBSERVER.	MAXIMUM		Height above Sea.	THERMOMETER.	STAND AND REMARKS.
		TEMP.	DATE.			
MIDDLESEX—Camden Square .....	G. J. Symons, Esq. ....	93·3	21	115	Ver. Greenwich	"Glaisher" over grass.
Winchmore Hill .....	T. Paulin, Esq. ....	90·0	21	350 ?		
SURREY—Cobham (Pyports) .....	G. Dines, Esq. ....	91·4	...	66	Ver. Kew.	"Glaisher" on grass.
Wimbledon Camp .....	F. Pastorelli, Esq. ....	96·2	22	...		"Welsh" on lawn.
Sunningdale (Lynnwood).....	Admiral Sir F. W. Grey	94·0	22	265		Shaded by trees and walls.
Upper Footing .....	D. A. Freeman, Esq. ....	93·0	22	...		"Glaisher" stand.
Clapham .....	H. Ruddle, Esq. ....	94·0	22	...		In garden, well protected from sun.
KENT—Hythe .....	H. B. Mackeson, Esq. ....	91·5	22	...	Not a standard.	Modified "Glaisher."
Cranbrook (Hartley).....	G. Pile, Jun., Esq. ....	92·0	21, 22	352	Ver. Greenwich	Box stand, double, with venetian sides
Tunbridge Wells .....	Rev. F. W. Stow .....	92·4	22	403	Ver.	
Tunbridge .....	Dr. Fielding .....	100·5	22	71		
Staplehurst (Linton Park) .....	Mr. J. Robson .....	96·0	15, 22	296		
" (East Sutton) .....	Mr. Skinner .....	99·0	...	387		
Sevenoaks .....	Rev. J. B. Murdoch, ...	88·5	...	...		
Bromley .....	Rev. A. Rawson .....	89·0	...	250	Ver. Greenwich	"Glaisher" over grass.
Greenwich Observatory .....	J. Glaisher, Esq. F.R.S.	96·6	22	159	"	Small do., do., near a path; exposed.
Beckenham (Parkside).....	C. O. F. Cator, Esq. ....	95·0	22	157	"	"Glaisher" in large garden, several trees.
" (Fox Grove) .....	P. Bicknell, Esq. ....	93·8	22	142	"	Double roofed "Glaisher" over grass.
SUSSEX—Hastings (Ore) .....	T. H. Morgan, Esq. ....	89·0	22	360		

STATION.	OBSERVER.	MAXIMUM		Height above Sea.	THERMOMETER.	STAND AND REMARKS.
		TEMP.	DATE.			
SUSSEX—Worthing .....	W. J. Harris, Esq. ....	83·0	23	17	Ver. Greenwich	Modified "Stevenson" over grass.
HAMPSHIRE—Isle of Wight (Ventnor) .....	Dr. Martin .....	84·0	23	150	" "	Penthouse, approved by Mr. Glaisher.
Isle of Wight (Newport) .....	Mr. E. G. Aldridge .....	86·4	22	53	Standard.	In a well ventilated hutch.
Lymington (Wainsford) .....	H. Fawcett, Esq. ....	94·5	22	82	Ver. Kew.	Modified "Lawson."
Havant (Leigh Park) .....	W. H. Stone, Esq. M.P. ....	90·0	22	110	" "	"Glaisher" on grass.
Alton (Selborne) .....	T. Bell, Esq. ....	89·0	22	400	" "	Hangs facing N.N.E.
Strathfield Turgiss .....	Rev. C. H. Griffith .....	95·9	22	209	" "	Modified "Lawson."
BREKSHIRE—Maidenhead .....	W. Lessell, Esq. ....	92·0	...	90 ?	" "	
Wantage .....	E. C. Davey, Esq. ....	84·0	21	185	Ver. Greenwich	Against a garden wall facing N.
HERRS—Berkhamstead .....	W. Squire, Esq. ....	93·7	22	361	" "	"Glaisher" stand in garden.
Hitchin .....	W. Lucas, Esq. ....	88·0	22	238	" "	On N. wall, 5 ft. above ground.
OXFORD—Banbury .....	T. Beesley, Esq. ....	90·0	21	350	" "	{ In W. angle of a window facing N., 16 ft. above ground.
CAMBRIDGE—Cambridge (Emmanuel Col.) .....	J. G. Wood, Esq. ....	86·5	21	...	Six's.	N. side of house.
Cambridge (Beech House) .....	J. Nutter, Esq. ....	88·0	22	40	Ver. Greenwich	"Glaisher," very open position.
Abington Pigotts [Royston] .....	G. Pigott, Esq. ....	99·9	21	130	" "	In very shady part of garden.
ESSEX—Epping .....	H. Doubleday, Esq. ....	96·0	22	360	" "	"Glaisher" stand.
Harlow (Moor Hall) .....	Mr. Huntley .....	94·0	22	189	Ver. Kew.	"Stevenson" on grass.
Dunmow (High Roding) .....	Rev. E. Maxwell .....	89·0	...	252	Ver. Greenwich	On lattice, 3 in. from wall facing N.
Saffron Walden (Audley End) .....	Mr. Bryan .....	92·6	21	140	" "	"Lawson."
SUFFOLK—Bury (Culford) .....	Mr. P. Grieve .....	93·0	22	84 ?	Ver. Kew.	{ On a board fastened by wooden blocks to N. side of a stable wall.
NORFOLK—Dereham (Matfistall) .....	Rev. J. M. Du Port .....	90·1	22	165	" "	Under a thatched eave facing N.
Lynn (Hillingham) .....	Rev. H. Ffolkes .....	89·0	22	93	" "	Well shaded.
DORSET—Bridport .....	A. Stephens, Esq. ....	85·0	...	80	Ver. Kew.	On a boarded stand, shaded by trees.
DEVON—Dartmoor .....	Mr. Watts .....	81·0	...	1400	" "	"Glaisher," 5 ft. above flower bed.
Sidmouth (Belgrave) .....	Dr. Mackenzie .....	80·2	15	26	Ver. Kew.	Double boarded stand.
Bideford (Northam) .....	Rev. I. H. Gossett .....	84·5	14	173	" "	Treble boarded stand.
Barustaple .....	T. Mackrell, Esq. ....	87·4	15	31	Ver. Greenwich	{ In double frame penthouse, open to N., 5 ft. above ground.
CORNWALL—Bodmin .....	Captain Liddell, R.N. ....	79·5	15	325	" "	"Lawson," venetian in front.
SOMERSET—Bath (Paragon) .....	Dr. Barter .....	89·8	22	113	Ver. Kew.	
GLOUCESTER—Bristol (Fenchay) .....	F. F. Tuckett, Esq. ....	86·0	15	...	" "	
Newent (Boyce Court) .....	General Drummond .....	88·0	...	133	Ver. Kew.	
HEREFORD—Ross .....	H. Southall, Esq. ....	97·0	22	200 ?	" "	
Hereford (Richmond Place) .....	E. J. Isbell, Esq. ....	96·1	22	200	Ver. Kew.	
Leominster (West Lodge) .....	E. P. Southall, Esq. ....	94·6	22	229	" "	
SHROPSHIRE—Shifnal (Haughton Hall) .....	Rev. J. Brooke .....	90·0	22	353	Ver. Greenwich	
Oswestry (Hengoed) .....	Rev. A. R. Lloyd .....	89·0	21	471	" "	
STAFFORD—Stone (Barlastone) .....	W. Scott, Esq. ....	92·5	21	530	" "	
WORCESTER—Evesham (Lansdowne) .....	R. Burlingham, Esq. ....	97·3	22	120	Ver. Greenwich	

# HIGH TEMPERATURES, JULY 13TH TO 23RD—(continued.)

STATION.	OBSERVER.	MAXIMUM		THERMOMETER.	STAND AND REMARKS.
		TEMP.	DATE.		
WORCESTER—Tenbury (Orleton) .....	T. H. Davis, Esq. ....	92·2	22	Ver. Greenwich	“Glaisher,” not very good position.
LEICESTER—Wigston .....	T. Burgess, Esq. ....	93·0	15, 22		
Leicester (Belmont Villas) .....	H. Billson, Esq. ....	96·7	22		
LINCOLN—Boston .....	Dr. A. M. Adam .....	94·5	22		
Ulceby (Killingholme) .....	Rev. J. Byron .....	89·0	...	60	Louvre box, painted white, over grass. “Lawson” stand. “Glaisher” stand. “Glaisher” stand. { On two stout posts, facing N., a good thick shade above. “Welsh” on open lawn.  “Glaisher’s.”  Double louvre boarded box.
NOTTINGHAM—Nottingham (Nuthall) .....	Rev. G. T. Ryves .....	93·0	22	...	
DERBY—Derby .....	J. Davis, Esq. ....	92·0	22	180	
LANCASHIRE—Manchester (Old Trafford) .....	G. V. Vernon, Esq. ....	95·5	15	106	
YORKSHIRE—Huddersfield (Fartown) .....	Captain Chichester .....	86·0	22	...	
Huddersfield (Nortonthorpe) .....	A. M. Box, Esq. ....	90·0	22	475	
Hallifax (Willow Hall) .....	L. J. Crossley, Esq. ....	85·0	22	630	
Ripon .....	Rev. F. W. Stow .....	88·7	15	110	
Hull (Beverley Road) .....	J. Smith, Jun., Esq. ....	91·8	22	11	
Holme on Spalding Moor .....	G. Dunn, Esq. ....	93·3	22	30	
Beverley .....	T. Dyson, Esq. ....	94·0	...	...	Ver. Greenwich
NORTHUMBERLAND—N Shields (Kosella-pl.) .....	R. Spence, Esq. ....	83·3	22	124	
WALES—Cardiff (Penttyrch) .....	F. G. Evans, Esq. ....	89·0	15	100	
Haverfordwest .....	E. P. Phillips, Esq. ....	83·1	14	85	
Llandudno .....	Dr. Nicol .....	88·6	15	99	
Llanfairfechan .....	T. Paulin, Esq. ....	79·0	15	...	
DUMFRIES—Dumfries (March Hill Cottage) .....	Mr. T. Hogg .....	84·5	15	70	
ROXBURGH—Galashiels (Wooplaw) .....	J. Murray, Esq. ....	83·0	15	880	
AYR—Auchendrane .....	E. Cathcart, Esq. ....	82·0	15	96	
FIFE—Leven (Nookton) .....	W. McG. Miller, Esq. ....	81·0	15	80	
PERTH—Deanston (Stirling) .....	J. Finlay, Esq. ....	81·3	15	130	Ver. Greenwich
ABERDEEN—Ballater .....	J. W. Paterson, Esq. ....	83·0	14, 15	656	
Aberdeen (Grammar School) .....	Rev. A. Beverley .....	82·1	21	96	
INVERNESS—Culloden .....	A. Forbes, Esq. ....	78·1	15	104	
Portree .....	Mr. J. Grant .....	77·2	13	60	
ORKNEY—Sandwick .....	Rev. Dr. Clouston .....	71·6	15	78	
IRELAND—Waterford .....	Mr. R. J. Greer .....	86·0	14	60	
Killaloe .....	Rev. C. Mayne .....	86·0	14	123	
Portarlington .....	Dr. Hanlon .....	83·0	14	236	
Monkstown .....	A. Pim, Esq. ....	87·0	15	100	
Galway .....	Professor Curtis .....	88·0	13	25	Ver. Kew.
Bawnboy (Owendoon) .....	G. H. L'Estrange, Esq. ..	92·0	14	218	
Strabane (Leekpatrick) .....	Rev. C. Maxwell .....	85·0	14	260	



E. J. Symonds Litho.



## THUNDERSTORM OF JULY 11TH AND 12TH.

*To the Editor of the Meteorological Magazine.*

SIR,—In compliance with the wish expressed in your August number, that persons in the districts of the old ironworks in Surrey or Sussex should send reports of any accidents by lightning during the thunderstorms of July 11th and 12th, I write to inform you that three oak trees were struck by lightning in an area of about a square mile, between the Parish Church of Ewhurst and the sand hills north of it. There is scarcely a farm house in the neighbourhood without an iron fireback, and tradition says these were cast in the parish sometime in the 16th and 17th centuries from iron derived from the sandstone of our hills. I am also told that a farm-house was set on fire at Loxwood on the borders of Sussex. There are several features in the thunderstorm which I think are worth recording,

1. The storm came up from the north-east, precisely the opposite direction to other thunderstorms that have occurred at Ewhurst in the twelve years that I have resided there. Thunderstorms usually come up from the S.W. and go round to the N. or N.E., by Hosham and Guildford or Aldershot avoiding our hills.

2. The flashes, as mentioned by Mr. Ingram at Steyning, were often of immense length with numerous forks, and mostly horizontal and very high in the sky, so that no thunder was heard to accompany them.

3. I also distinctly noticed a diffused roseate hue in the N.E. up to about  $25^{\circ}$ ; it is not mentioned by anyone except an observer at Guildford. It suggested to my mind the probability that the flashes which produced it were very high in the air, the tints having an auroral character similar to the colours in a Gassiot tube.

4. Two oak trees were struck—or at least the bark stripped off their projecting roots—without the trees being themselves touched. One of the trees was within a quarter-of-a-mile of my house, the other at Lyne Park, in the parish of Capel.—I am, Sir, yours truly,

J. PARK HARRISON.

*Ewhurst, Surrey, August 26th, 1868.*

The amount of rainfall in the two days was—11th, 1.36 in., 12th, 0.91 in., total, 2.27 in. On the hills it was about 3 in.

## RADIATION THERMOMETER AT SOUTHAMPTON.

*To the Editor of the Meteorological Magazine.*

SIR,—In reply to Mr. Taylor's question, I have to say that the solar thermometer at the Ordnance Survey Office, Southampton, is not in vacuo, and is elevated (perhaps 12 or 18 inches) above the ground. The Greenwich instrument, on the contrary, has a vacuum jacket, and is placed on the grass.—I remain, truly yours,

E. G. ALDRIDGE.

*Alma House, Newport, I. W., August 18th, 1868.*

## AUGUST, 1868.

Div.	STATIONS. [The Roman numerals denote the division of the Annual Tables to which each station belongs.]	RAINFALL.						TEMPERATURE.				No. of nights below 32°.
		Total Fall.	Difference from average 1860-5	Greatest Fall in 24 hours		Days on which .01 or more fell.	Max.		Min.			
				Dpth	Date.		Deg.	Date.	Deg.	Date.		
I.	Camden Town .....	inches 2.28	inches. + .64	in. .53	17	10	88.2	5	46.0	26	0	
II.	Staplehurst (Linton Park) ...	2.30	— .41	.48	11	12	90.0	5	45.0	25*	0	
III.	Selborne (The Wakes).....	3.89	+ .71	1.17	17	13	82.5	4	44.0	2	0	
IV.	Hitchen .....	4.81	+ 2.46	2.22	19	16	81.0	5	46.0	25†	0	
V.	Banbury .....	3.64	+ 1.51	.95	18	13	87.0	4	45.0	1	0	
VI.	Bury St. Edmunds (Culford). ..	1.98	— .46	.66	6	8	88.0	5	42.0	25	0	
VII.	Bridport .....	4.61	+ 2.02	1.20	17	13	82.0	4, 5	42.5	26	...	
VIII.	Barnstaple.....	4.68	+ .49	1.47	18	16	85.0	4	44.5	2	0	
IX.	Bodmin .....	4.03	+ .17	.71	21	21	74.0	5	49.0	1	0	
X.	Cirencester .....	...	...	...	...	...	...	...	...	...	...	
XI.	Shifnall (Haughton Hall) ...	3.78	+ .91	1.34	18	14	86.0	3, 4	46.0	24	0	
XII.	Tenbury (Orleton) .....	4.60	+ 1.72	.91	18	20	89.6	4	42.0	1	0	
XIII.	Leicester (Wigston).....	...	...	...	...	...	...	...	...	...	...	
XIV.	Boston .....	3.29	+ 1.00	.93	18	11	88.0	5	48.0	28	0	
XV.	Gainsborough .....	...	...	...	...	...	...	...	...	...	...	
XVI.	Derby.....	3.14	+ .54	.44	22	16	89.0	4	46.0	26	0	
XVII.	Manchester .....	...	...	...	...	...	...	...	...	...	...	
XVIII.	York .....	2.56	— .15	.62	22	11	85.0	5	46.0	25	0	
XIX.	Skipton (Arncliffe) ...	6.52	+ .58	1.05	25	20	80.0	6	48.0	31	0	
XX.	North Shields .....	1.88	— .97	.54	22	12	77.8	1	45.0	31	0	
XXI.	Borrowdale (Seathwaite).....	...	...	...	...	...	...	...	...	...	...	
XXII.	Cardiff (Town Hall).....	6.46	...	1.40	18	9	...	...	...	...	...	
XXIII.	Haverfordwest .....	3.48	— 1.40	1.50	21	10	83.6	3	45.0	28	0	
XXIV.	Rhayader (Cefnfaes).....	4.38	— .28	1.30	6	14	84.0	...	43.0	...	...	
XXV.	Llandudno.....	1.73	— 2.09	.46	22	14	93.0	4	50.5	25	0	
XXVI.	Dumfries .....	4.73	+ .85	1.21	13	21	88.0	4	43.5	31	0	
XXVII.	Hawick (Silverbut Hall)....	4.19	...	1.67	22	15	...	...	...	...	...	
XXVIII.	Ayr (Auchendrane House) ...	6.16	+ 2.19	1.66	13	23	85.0	4	44.0	9	0	
XXIX.	Castle Toward .....	6.69	+ .39	1.28	11	23	82.0	2	39.0	27	0	
XXX.	Leven (Nookton) .....	3.92	+ .93	1.10	22	13	81.0	2	45.0	...	0	
XXXI.	Stirling (Deanston) .....	6.46	+ 1.84	1.72	13	22	84.0	4	42.0	31	0	
XXXII.	Logierait .....	4.81	...	1.23	11	15	...	...	...	...	...	
XXXIII.	Ballater .....	5.88	...	2.25	13	14	84.0	2	38.0	31	0	
XXXIV.	Aberdeen .....	6.94	...	2.45	11	13	80.7	2	44.0	31	0	
XXXV.	Inverness (Culloden) .....	6.62	...	2.22	14	13	81.1	4	46.4	20	0	
XXXVI.	Fort William .....	10.90	...	1.40	11	22	...	...	...	...	...	
XXXVII.	Portree .....	...	...	...	...	...	...	...	...	...	...	
XXXVIII.	Loch Broom .....	8.26	...	1.95	11	18	...	...	...	...	...	
XXXIX.	Helmsdale.....	4.70	...	1.50	14	12	...	...	...	...	...	
XL.	Sandwick .....	5.32	+ 1.61	1.28	11	20	68.5	3	43.1	11	0	
XLI.	Cork .....	5.92	...	3.07	12	13	...	...	...	...	...	
XLII.	Waterford .....	6.39	+ 2.44	1.54	12	15	80.0	3	48.0	29	0	
XLIII.	Killaloe .....	5.80	+ .87	1.58	12	22	82.5	3, 4	39.0	29	0	
XLIV.	Portarlinton .....	4.09	— .41	1.23	13	21	80.0	2	41.0	20	0	
XLV.	Monkstown .....	4.50	+ 1.29	1.37	12	15	...	...	...	...	0	
XLVI.	Galway .....	3.93	...	1.38	21	19	82.0	2	38.0	27	0	
XLVII.	Bunninadden (Doo Castle) ...	3.80	...	1.20	21	20	78.0	2	34.0	20	0	
XLVIII.	Bawnboy (Owendoon) .....	4.84	...	1.25	21	21	85.0	2	39.0	19	0	
XLIX.	Waringstown .....	4.45	...	1.16	13	17	88.0	4	38.0	19	0	
L.	Strabane (Leckpatrick) .....	5.14	...	1.65	13	20	84.0	3	36.0	20	0	

\* And 26th. † And 27th.

+ Shows that the fall was above the average; — that it was below it.



# METEOROLOGICAL NOTES ON THE MONTH.

ABBREVIATIONS.—Bar for Barometer; Ther. for Thermometer; Max. for Maximum; Min. for Minimum; T for Thunder; L for Lightning; TS for Thunderstorm; R for Rain; H for Hail S for Snow.

## ENGLAND.

LINTON PARK.—First week hot and dry, latter part of month dry and fine; winds various. The month on the whole may be regarded as an average one for August, the early ripening of the corn being due to the preceding hot and dry months. The TS on the morning of the 11th was sharp and very near, there being two storms about an hour apart. The wind was very high on the 22nd, and until midday on the 23rd, doing much damage to the hops and fruit.

SELBORNE.—Wind on 22nd and 23rd did immense damage to the hops; one farmer estimates his loss at £800. L on 9th and 15th.

BANBURY.—High wind on 22nd.

CULFORD.—The rain we have had has greatly improved the face of the country, although the pastures have not yet got their wonted colour, and more rain is anxiously looked for. Young potatoes are fast forming from the tubers produced early in the spring, and if the autumn prove favorable, these will be of more value than the early formed ones. T on 11th.

BRIDPORT.—Very heavy S.W. gale sprang up at 1 a.m. on 22nd, continuing the greater part of the day; the sea very rough; 1.20 in. of R fell on 17th, chiefly in the night.

BARNSTAPLE.—22nd, storm began at noon; several wrecks in Barnstaple Bay.

HAUGHTON HALL.—Heat most oppressive till the 6th, when we had T and heavy R, but as hot as before, when it cleared off; on the 11th R in earnest, and was most acceptable, the harvest being well secured in beautiful condition, and wheat quite an average crop, if not more. On 20th, the swedes sown two months since began to vegetate in spite of the baking, but too late to do any good; potatoes a very poor crop and all "ackerspit" as it is called here—that is, growing again from the tubers first formed; mangold have grown and borne the heat better than any other root crop. Two sulphur butterflies seen on 2nd, painted lady butterfly on 10th; leaves falling like autumn on 7th; wasps still scarce; mushrooms very plentiful on 21st; damsons and apples plentiful; after the 18th the pastures, before brown as stubble, became green as if by magic.

ORLETON.—The first five days intensely hot and dry; the grass land burnt up; harvest nearly finished; heavy R with some T on 6th, followed by a lower temp. and damp atmosphere, with frequent R, which in eight or ten days produced a magical change in the grass land; the last three days again fine and hot; mean temp. of month about 2° above the average. TS on 11th and 18th. Violent wind after 9 a.m. 22nd.

DERBY.—The rain has been above the average, but it will require much more to make up for the past drought, though the effect of what has fallen is marvellous.

YORK.—TS on 11th at 10.30 a.m., and on 15th from 3.40 to 4 p.m.

SHIELDS.—Much cloud. Two TSS on 5th, two on 6th, T on 15th.

## WALES.

HAVERFORDWEST.—The first week the intense heat continued, the 3rd being the hottest day of summer; from the 6th to the end of the month the weather very broken and stormy, especially on the 17th and 22nd, on which day it blew a fearful gale, with torrents of rain. Harvest all got in and in splendid order, the earliest known for many years.

CEFNFAES.—A pleasant month, the rain most beneficial; a very heavy R for 20 minutes about 3 p.m. on 6th. [1.30 in. entered on that day; did it all fall in that time?—ED.]

LLANDUDNO.—4th, warmest day of the season; at about 1 p.m. dry bulb 91° and wet 71°. On 22nd wet and stormy after 3 p.m.

## SCOTLAND.

**DUMFRIES.**—Beginning of month very hot, the remainder showery with strong winds. T on 7th, 11th, and 15th. Country very brown at the beginning, but fresh and green towards the end; harvest mostly secured before the end of the month.

**SILVERBUT HALL.**—The first five days sultry, fine change with TS on 6th; T and L on 14th and 15th, fine lunar rainbows on the 9th and 17th. This month on the whole has been good for the country, the crops in general have turned out well, except the potatoes, which are fingering.

**AUCHENDRANE.**—This August has been warm and wet, and consequently a bad harvest month; the soil at 3, 12, and 22 in. depth was 2° above the mean August temp. for soil for the last three years; the mean height of gauge in river still remains low 2 standard being 9; the sky much overcast, especially at night; wind moderate except on 22nd.

**CASTLE TOWARD.**—The month began hot and dry for a few days, then a week of fine mild showers, the temp. falling 4° or 5° every day till the 11th, when 1·28 in. of R fell in 24 hours.; R with T from 1 to 6 p.m. on 15th, on which day the harvest began, but the weather has been rather wet for securing the crops.

**DEANSTON.**—The fine, warm, dry weather ceased on the 4th, after which time dull and rainy. Only 146 hours of sunshine, while there were in June 300, and July 291 hours; in four days, 11th to 14th, 3·73 in. of R fell. Grain crops all cut but not all carried, young tubers growing from the potatoes.

**BALLATER.**—A large meteor at 9 o'clock on 10th. A very gratifying change of weather from the dryness of the previous three months; a great improvement in the grass and green crops.

**ABERDEEN.**—Fogs on 11th to 16th, after which a little potatoe blight. R much above the average, but, from having principally fallen on three days, the month may be considered a dry one. Harvest has been begun and very nearly finished (in good condition) in the course of the month, a thing almost, if not altogether, unprecedented in this quarter; the R has saved the turnips; grass is recovering with great rapidity; vegetation is as active as if it were spring. T on 5th, 7th, 11th, and 19th; TS on 6th and 22nd.

**ROSSE PARSONAGE.**—Very fine weather occasionally in the early part of the month, but very wet and coarse in the latter part. TS on 9th; nearly half the R fell on four days; the total fall is nearly double the average falls of the corresponding month in the three preceding years.

**LOCH BROOM.**—The month began with beautiful weather, but by the time the corn began to be ripe the R appeared, and though now much is cut not a sheaf is yet bound; the month has, on the whole, been an unpropitious one to the farmer as July was to the grazier.

**SANDWICK.**—August has been much wetter than the mean, and rather warmer; the crops are good and they are now being cut down earlier than usual.

## IRELAND.

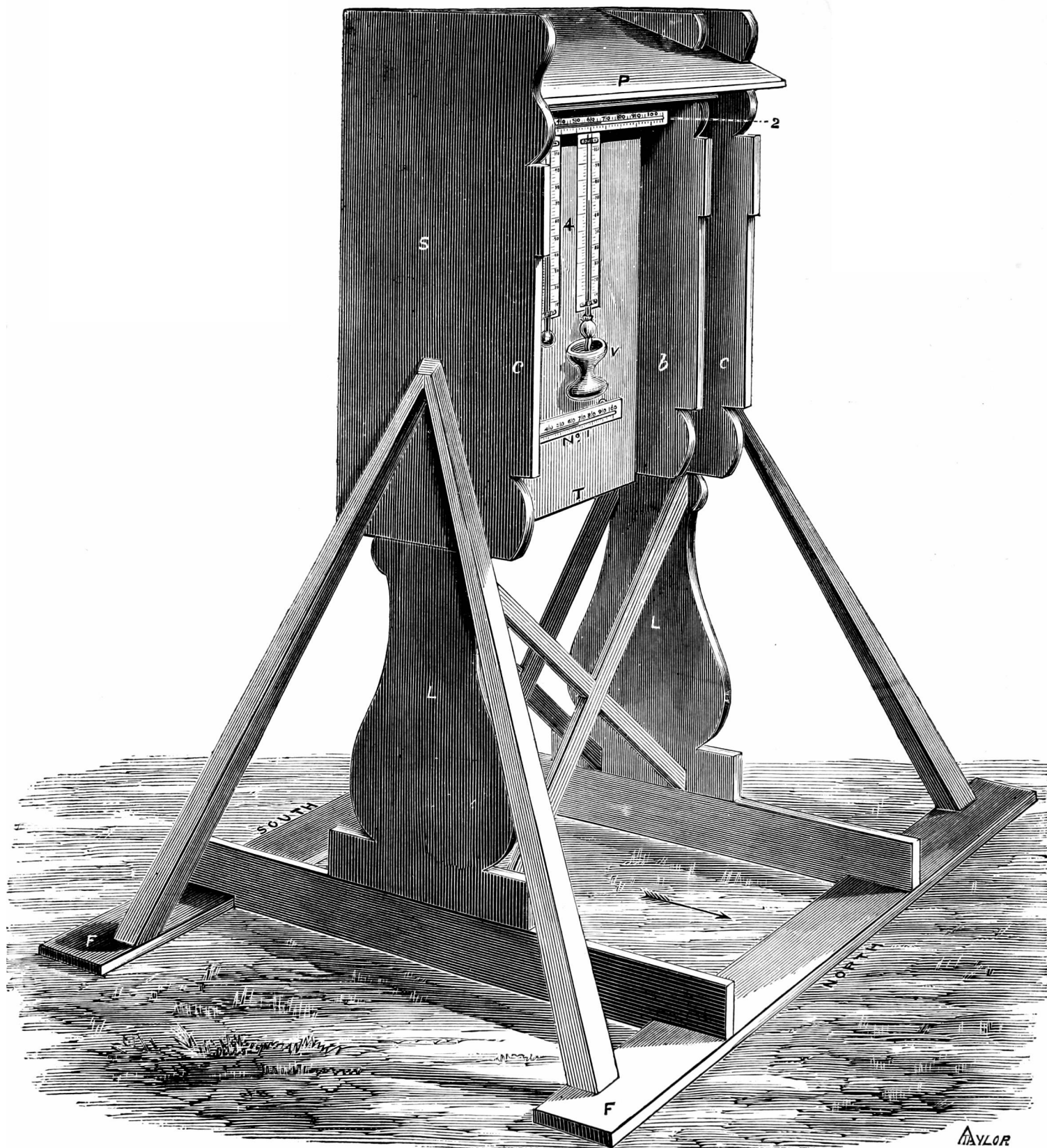
**DOO CASTLE.**—Remarkably fine month with a fair supply of R evenly distributed over it. Harvest fully three weeks earlier than usual; hay and oats harvested without the slightest drawback from unsettled weather. Temp. high at the beginning, but lowering towards the end.

**OWENDOON.**—This month has been most favorable in every respect. TS on 8th and 10th, T on 7th and 16th.

**WARINGSTOWN.**—R commenced on the 5th, but not in sufficient quantity to do any good till the 10th; the spring of grass very rapid after that date. Harvest all in haggard [? stack] and thatched at least six weeks earlier than usual.

**LECKPATRICK.**—The long drought came to an end on the 5th; cutting oats commenced at that time. The latter part of the month was unfavourable for gathering the harvest. This was the wettest August since 1862; more rainfall than during the previous three months.





LAWSON'S THERMOMETER STAND.

TAYLOR