

SYMONS'S

MONTHLY

METEOROLOGICAL MAGAZINE.

CCXLIV.]

MAY, 1886.

[PRICE FOURPENCE,
or 5s. per ann. post free.]

SWEDISH WEATHER PROVERBS.

Samling af bemärkelsedagar, tecken, märken, ordspråk och skrock rörande väderlagen. Af H. HILDEBRAND HILDEBRANDSSON. (Excerpt from "Antiqvarisk tidskrift för Sverige.") 8vo, 118 pages.

A MAGNIFICENT collection of Swedish weather proverbs (about 900), duly classified, and with remarks, notes, and explanations by Dr. Hildebrandsson. Of course the series includes many which are common to all Europe, if we may not say to all the world; but it includes many which we have never seen before, and doubtless many others the full force of which our knowledge of Swedish is insufficient to reveal. We may quote one which at any rate would not be bad for London, and which may perhaps be regarded as the Swedish equivalent of our St. Swithin.

Juli.—Den 19—26:te ar *fruntimmers*—eller *flickveckan*, då regnar vanligen.

July.—The 19th to the 26th, or the women's week which is generally rainy.

Dr. Hildebrandsson in another part of the work refers to this proverb, and explains that it is called women's week, because in the Swedish calendar, six out of the seven saints are women, and although he found that the rainfall of 12th to 19th, 19th to 26th, and 26th to August 2nd, was nearly identical, he admits that it is almost the wettest week in the year.

At the end of the work Dr. Hildebrandsson gives in French a sort of abstract and review of the whole.

"From the most remote antiquity meteorological phenomena have been observed, and attempts made to predict the weather, but as regards the latter three different methods have prevailed, which may be designated, mythological, astrological, and scientific. In the first period, atmospheric changes, and, indeed, all natural phenomena, were attributed to the influence of supernatural spirits and powers; in the second, the weather, and all the events of life, were supposed to be ruled by planetary positions; and in the third we try to de-

termine the laws which regulate natural phenomena, and therefrom future probabilities.

"Weather proverbs are still popular, and the collection in this work contains traces of all three periods. We find a certain, if small, proportion of popular superstitions. There are traces of astrology in the pretended relation between the weather and the heavenly bodies, especially the moon, and lastly there is a collection of observations.

"We find also traces of all three periods in many of the dates. It has been shown in Sweden and in other countries, Italy for example, that certain days celebrated as fêtes in Pagan times have continued to be so after the introduction of Christianity. The saint has displaced the god or the hero, but in popular estimation has not infrequently retained his good or bad characteristics. But very often these dates are really fixed upon solid foundation, as they correspond to periods when, if certain weather occurs, it will exercise an important influence upon the harvest."

The author next gives a list of the principal sources from which he has compiled the collection, and then proceeds with remarks upon the several groups.

"Group I. relates to the days of the week ; there are very few of them, and they are self-evidently of no importance."

"Groups II. to XVII. relates to months and seasons ; their chief foundation is on the fact that *average temperature is that best suited for agriculture*. For instance, the winter ought to be uniformly cold, and the soil covered with snow ; spring ought to be cold and rainy, so that a too precocious warmth may not accelerate vegetation before risks of night frosts are passed, and so that the soil may receive the needed moisture. Summer ought to be hot, especially during harvest. Finally, autumn frosts should not occur till all the crops are gathered, and snow should not fall too early, because early winters are rarely long ones."

"Groups XVIII. to XXX. relate to special days. And we may in the first place dismiss all those based on the *moveable* festivals of the Church, as self-evidently absurd, and besides that they are often contradictory ; for instance rain on Whit Sunday is said to poison the soil, and it is also said to produce plenty at the following Christmas."

Dr. Hildebrandsson then discusses several of the proverbs, and shows their reasonableness ; in fact, this part of the work closely resembles Dr. Clouston's "*Explanations of the Popular Weather Prognostics of Scotland*."

"Groups XXXI. to XXXIII. consist of proverbs based upon the sun, moon, and stars. It is useless to consider the large number of these which relate to the motions and phases of these bodies, for as they do not affect the sun they are entirely without foundation. Science has put it beyond all doubt that lunar positions and phases have not the slightest influence upon the weather."

Dr. Hildebrandsson says nothing about Group XXXIV., which

deals with proverbs as to thunder, but we may quote one which is new to us :—

Åska i vinterqvartal,
Bringar köld utan tal,

and which, we suppose, may be rendered—

Thunder in the winter quarter,
Brings frosts without number.

“ Group XXXV. deals with optical phenomena, and the indications of the clouds and atmosphere, and contains a great many proverbs which are perfectly in accordance with modern meteorology. The study of cyclones and anti-cyclones has shown that in the centre of a cyclone the air has an ascensional movement, and carries up with it vapour, which is condensed into clouds and rain especially on the front or eastern edge of the depression. At a great height this air stretches away from the centre like a fan, and always towards the front, and stretches over the anti-cyclone for sometimes hundreds of miles.* Near the minimum this covering of cirrus is very dense and grey, further off it becomes thin and striated, and finally it becomes mere filaments, like the faintest touches of white on the azure of the sky. Suppose now that we are in a region of fine weather, with a high barometer and a sky either cloudless or partly covered with those low grey clouds which rarely yield any rain. If the sky be clear, we shall have the stars scintillating brightly, the milky way very distinct, the moon's horns sharply defined, and all the details of our satellite clearly visible. If now a minimum with bad weather approaches, generally from the west, cirrus will begin to show itself. If it be night, the moon, stars, and milky way will seem to have a gauzy veil drawn across them, as the result of vapour condensation in the upper regions. As the cyclone approaches, this veil becomes thicker, like a pale grey felt on the side whence it is coming, generally the west. Then we have solar and lunar halos, mock suns and mock moons. Bad weather comes nearer, and the lower rain clouds are formed. As soon as the centre has passed to the east of us, the clouds break up, the rain falls in short, heavy showers, cirrus reappears, but is more scattered, and the clouds go off towards the east. All these indications are perfectly safe, and they often indicate weather one or two days in advance, for so vast is this cirrus veil that sometimes it is visible at Upsala while the centre is over Scotland.”

“ From what has just been said, it will be evident that it is safe to predict bad weather when the sun sets red, and as the Swedes say, ‘ makes its bed in the clouds,’ and when it rises clear and sharp, but soon enters clouds coming from the west. Similarly, a rainbow in the morning indicates rain in the west, that is to say, generally rain which is approaching ; while a rainbow in the evening indicates rain in the east, that is to say, generally rain which is passing away.”

* These facts have been proved by the researches of Dr. Hildebrandsson and Rev. Clement Ley.

"As regards aurora borealis, it seems evident that those grand displays which are seen over half the hemisphere at once, can have no direct connection with local weather. It may be otherwise with smaller, local displays, but I do not know that it has ever been proved."

After a few unimportant remarks on Groups XXXVI. to XL., Dr. Hildebrandsson sums up in the following paragraphs:—

- "1. Every pretended connection between the weather and the days of the week, saints' days, the position of the heavenly bodies, and the phases of the moon is an absurdity."
- "2. In the present state of science it is impossible to make any prediction as to the temperature of a month or of a season, therefore critical days and other signs relating thereto are utterly valueless."
- "3. Vegetation and the harvest are generally favoured when the seasons have their average temperature. This is really what most weather proverbs teach."
- "4. There exists a great number of proverbs relative to the weather, which may be expected to occur within a very short time, and many of these are very trustworthy."

This is slashing criticism, and the first impression which it conveys to our mind is one of wonder at Dr. Hildebrandsson allowing the Antiquarian Society to be at the cost of printing his paper of 118 pages if much of the matter is, as he states in clause No. 1 and No. 2, either absurd or valueless.

HEAVY FLOOD IN THE UNITED STATES, MARCH 28–31, 1886.

Mr. J. E. Clark has been kind enough to send us a copy of the *Atlanta Constitution*, published at Atlanta, Georgia, on March 31st. Making full allowance for the special style of articles prepared for the press in America, there yet remains evidence that the flood of the end of last March was by no means an ordinary one. We do not find the details of the fall of rain for every day, but at Atlanta the fall was, 10 p.m. 29th to 6 a.m. 30th, .09 in. ; 6 a.m. to 2 p.m., .19 in. ; 2 p.m. to 10 p.m., 1.95 in. ; total from 10 p.m. 28th to 10 p.m. 31st, (3 days) 9.64 in. At Taladega, Alabama, the total reached 9 in. in two days. The repair of street paving alone was put at £2,000, the sewers burst in many places, and much damage was done by the flooding of basements. Many of the railways were broken, and telegraphic communication was shut off. At West Point, Georgia, the water was 5 ft. deep in the streets, and a steamer went along them. The towns where the damage seems to have been greatest, Athens, Montgomery, Monroe, &c., are mostly in Central Alabama, or Northern Georgia.

R E V I E W S.

The Rosarian's Year Book, 1886. Edited by the Rev. H. HONYWOOD D'OMBRAIN, Hon. Sec. National Rose Society. Sq. 8vo, 87 pages. London: Bemrose, 1886.

THIS chattily-written work has now a position so thoroughly established that it needs no recommendation from us, but in case any lover of the rose does not yet know of it, we devote a line or two to mentioning it, and especially the very careful paper by Mr. Mawley on "The Weather of the past Rose Year."

Lecture on the Occurrence of Droughts, their causes, and the means whereby their effects might be mitigated, modified, or relieved. Delivered at the Town Hall, Kingston, under the auspices of the Jamaica Society of Agriculture and Commerce by D. MORRIS, M.A., F.L.S., Director of Public Gardens and Plantations, Jamaica. 8vo., 30 pages. Jamaica: Colonial Standard Office, 1885.

MR. MORRIS explains that his lecture arose from the drought which had prevailed in Jamaica during 1880, 1881, 1882, 1883, and 1884. in which the rainfall for the whole island instead of being, as used to be the case, about 70 inches, had been respectively 55, 69, 58, 48, and 50 inches, or an average yearly deficiency of one-fifth. He devotes some attention to, and naturally speaks highly of, the good work done by Mr. Maxwell Hall, in organizing and publishing the observations made in Jamaica. The author points out that as there are no actual data respecting the rainfall of Jamaica at remote periods, the question whether the rainfall is steadily decreasing cannot be properly answered, but he gives extracts from Sir Hans Sloane's publications respecting 1687-88, and quotes other authorities tending to indicate a considerable decrease.

The second part of the lecture much reminds one of the late G. P. Marsh's excellent work *Man and Nature*, and is a really valuable contribution to the literature respecting the influence of forests on rainfall, for Mr. Morris has hunted up reports and blue books, and Foreign and English journals, and thus brought together much valuable evidence. Perhaps the following is the best worth quoting, because of the standing of the speaker:—

Sir Richard Temple speaking on this subject at a recent meeting of the Society of Arts remarked:—"We had before our eyes the most frequent examples of the consequences of deforesting. What was the cause of Palestine, Syria, Asia Minor, and parts of Mesopotamia, being so utterly barren and destitute, compared with what they were in ancient times? People attributed it to invasions and revolutions, but it was owing far more to deforesting.

"Many of the beautiful hills which, long before the Christian era were well clad, are now utterly bare, and thus the climate has become affected, the rivers and harbours are silted up, as was shown at Ephesus and the mouth of the river near Tarsus. Again, the same thing was the cause of the fearful famines in China; for the art of forestry had there been long extinct. He would not stay

to speak in detail of the Indian famines, but having served through them, he could say that *one* of the causes, probably the *main* cause of the droughts, was the destruction of forests in past times."

We should have omitted the last paragraph on page 20, as we believe that the differences found were due rather to mechanical than to hygrometrical causes, but the chapter is so strong that the removal of this paragraph will still leave the arguments amply supported.

In conclusion, the author considers that the rainfall has become smaller and less regular, that this has been synchronous with careless destruction of the woods, especially by forest fires, and that legislation against reckless firing, and excessive clearing, and in favour of reforestation, is indispensable.

Istruzioni per le Osservazioni Meteorologiche e per l'Altimetria Barometrica
del. P. L. DENZA. Two parts sm. 8vo, 315 and 143 pages.
Turin : Collegio Artigianelli, 1882-83.

THESE two volumes have so long been waiting for notice that it seems almost too late to accord it. However, they are so good that it is ungracious not to say so.

But though the books themselves are as a whole very good, there are some parts of Italian practice which we shall continue to condemn as long as we are able to write. We do not like the "finestra esposta al Nord," and do not consider that Italian temperature records will be comparable with those of other countries until it is abandoned. If a Russian pleads for the protection of a house when making his observations, human nature compels one to sympathize with him; but why an Italian is not to go out into a garden, puzzles us completely.

Our great difficulty is, however, with the rain gauges. Here is Padre Denza, one of the foremost meteorologists, not only in Italy, but deservedly respected throughout Europe, giving on page 173 of the Instructions prepared for the powerful *Associazione Meteorologica Italiana*, his design for a meteorological station, and he has put the rain gauge in a position where its records will be not only wrong, but incapable of being made right by any kind of correction. It is on the top of the battlement at the angle of a tower about 12 ft. square, and 35 or 40 ft. high. This position closely resembles, but is worse than, that of the 24 in. gauges on the top of Mr. Dines's tower (Frontispiece to *British Rainfall*, 1877), and, therefore, will collect about *from ten to twenty per cent.* less rain than actually reaches the ground.

We are glad to see that on an earlier page (93), Padre Denza explains how the gauge could be fixed to a dwarf pillar so that it might remain only 3 ft. above the ground, but he immediately follows it by pointing out how much more handy it is to fix the gauge on a terrace and let the water run down a lead pipe.

We do not remember any set of instructions in which so much care has been taken to make every detail perfectly clear, and the engravings are mostly very good—even the Fortin barometer, which for some unaccountable reason is turned upside down, is clearer than any engraving of that instrument which we remember. The instructions for computing heights and for barometric reductions are very carefully worked out, and the second volume, that of Tables, contains several useful ones not generally given.

L'Ouragan de Juin, 1885, dans le Golfe d'Aden. Par le VICE-AMIRAL G. CLOUÉ. 8vo., 68 pages and one chart. Paris, Baudoin & Cie. 1886.

A CAREFUL collection of the reports of vessels which were unfortunate enough to be at the Southern extremity of the Red Sea when the rare and very violent cyclone of June, 1885, passed across. Reference to the same storm will be found on p. 56 of this number, as the captain of one of the vessels sent a full account to the Royal Meteorological Society. That, however, stated only the facts as observed on one ship—Admiral Cloué has collected those from between thirty and forty vessels.

The Naturalist's Diary: a Day-book of Meteorology, Phenology, and Rural Biology. Arranged and edited by C. ROBERTS, F.R.C.S., &c. 8vo, xlviii.—366 pages, 1 coloured map. London: Swan, Sonnenschein & Co. 1886.

WE believe that we saw an advertisement of this work notifying half-a-crown as its price. Cost does not concern reviewers, but when it is exceptional there seems scant justice in ignoring it, and in this case it is so low as to prove one or other of the following alternatives: (1) Author and publisher must have agreed to abandon all idea of profit, and be aiming solely at the development of a taste for phenological work, or (2) Observers and recorders of natural history details must be a much larger body than we imagined. Whatever be the explanation, there is no doubt about the book being very cheap.

We have been wondering what Gilbert White would have said could a friend have sent him a copy, so handy and so tempting. His delight would have been a treat to see, but he would have had some pills to swallow. He was a delightful gossip, but some of the arrangements which in the present advanced state of the work he began are necessary and time-saving, would have been a worry to him—*e.g.*, would not he have preferred "March 30th" to "89th" (day of year) and "May 7th" to "127th" yet the recording of dates of flowering, &c., by the day of the year is an immense improvement over the day of the month. However, no one need make a trouble of that, for this diary gives both, and with a superfluity of desire to be useful, gives also a compact table for converting one into the other.

There are a few trifling errors, chiefly in meteorological matters, but they are unimportant—*e.g.*, on p. vi. of the Preface the author recommends a mode of calculation which on p. v. he seems to have forgotten to adopt; on page xvii. he gives the barometric details as if they were degrees ($29^{\circ}.719$) instead of inches; and on page xxix. he falls into the very common error of mis-matching the work of the Meteorological Office and that of the Royal Meteorological Society. All these are, however, small matters, and lovers of the country, and of its plants, trees, insects, birds and fishes, will do well to procure a copy of the "Naturalist's Diary," both on account of the information it contains and of the conveniences it offers for any one to so record the facts he may himself notice, as to be able in any subsequent year to turn to them in half a minute.

ROYAL METEOROLOGICAL SOCIETY.

The usual Monthly Meeting of this Society was held on Wednesday evening, April 21st, at the Institution of Civil Engineers, 25, Great George Street, Westminster, Mr. W. Ellis, F.R.A.S., President, in the Chair.

Mr. L. J. Petre and Mr. G. B. Wetherall were balloted for and duly elected Fellows of the Society.

The following papers were read:—

(1.) "The Climate of Killarney," by the Ven. Archdeacon Wynne, M.A., F.R.Met.Soc. The climate is determined partly by its geographical position, and it has the benefit of proximity to the South-west coast with all the modifying influence of the Gulf Stream. The temperature, however, is locally modified, and a decided difference is found to exist between that of Valencia and that of Killarney. The author shows that Killarney is colder than many other places in Ireland, and this he attributes to the fact that it is in a large irregular basin surrounded by mountain ranges for about one third, and by hilly plains elevated some hundreds of feet above the lakes on most of the remaining two-thirds of the circle.

(2.) "Note on the Probability of Weather Sequence," by Lieut.-Col. C. K. Brooke, F.R.Met.Soc.

(3.) "Account of the Cyclone of June 3rd, 1885, in the Arabian Sea," by Capt. M. T. Moss. The author who was in command of the "S.S. Inchulva," while on a passage to Bombay, had, when near Aden, the misfortune to encounter a most furious storm on the above date. This storm was exceedingly severe, and was accompanied by an immense wave which caused several fine steamers to founder.

(4.) "Results of Solar Radiation Observations in the neighbourhood of Birmingham, 1875-1884," by Rupert T. Smith, F.R.Met. Soc.

(5.) "Results of Meteorological Observations made in the Malay Native State of Selangor during 1884," by A. W. Sinclair, L.R.C.P. These observations were taken at four stations, viz., Kwala Lumpor, Klang, Kajang and Kwala Langat. The mean temperature of the district is about 80° and the rainfall about 90 inches.

PERIODICAL RECURRENCE OF WARM SUMMERS.

To the Editor of the Meteorological Magazine.

SIR,—With reference to Mr. Brumham's letter in the last number of the *Meteorological Magazine*, I beg to draw attention to the very frequent recurrence of excessive heat in this country after an interval of 17 years.

The following years of this century are notable for warm summers, viz. :—1802, 1808*, 1818*, 1825, 1835*, 1842*, 1852, 1856, 1857*, and 1859*, which heat returned, in each case, 17 years after, viz. :—in the years 1819, 1825, 1835*, 1842*, 1852, 1859*, 1869*, 1873, 1874, and 1876*.

In a few instances, when the hot summer did not return at the expiration of 17 years, it returned at the end of 34 years; thus the warm summers of 1800*, 1822, 1831*, 1834*, and 1847* had their recurrence respectively in 1834*, 1856, 1865*, 1868*, and 1881.

The asterisk signifies that the summer was of long duration.

I am, Sir, yours truly,
Bayswater, May 1st, 1886.

GEO. T. GWILLIAM.

BAROMETRIC WELLS.

To the Editor of the Meteorological Magazine.

SIR,—On looking over the summary of the history of the barometers lately exhibited by the Royal Meteorological Society, which appeared in your last issue, it struck me that the following translation of a notice which appeared in the *Bollettino mensile dell'Osservatorio Meteorologico del R. Istituto nautico di Riposto*, for February last, might interest you, if you had not already seen it :—

BAROMETRIC WELLS.

“In the village of Meyrin (Canton of Geneva, Switzerland), there are some disused wells which serve as barometers to the population. These wells are of considerable depth, and are hermetically closed. An orifice of about an inch in diameter is made in the cover of the well and puts the internal in communication with the external air. When the pressure diminishes, the internal air escapes and blows a whistle in connection with the orifice, and in this way notice of the possible approach of bad weather is given to the inhabitants.

“If, on the contrary, the pressure increases, a different sound is produced by the entry of the air into the well, and the population is made aware of the probability of fine weather.”—Yours faithfully,

Meteorological Office, May, 1886.

J. S. HARDING, Jun.

HEAVY RAIN AT CAPE TOWN, MARCH 8TH, 1886.

An exceptionally heavy rain fell over Cape Town, Cape of Good Hope, on March 8th–9th, washing up the roadway in several streets, bursting a sewer and flooding many basements. The rain fell chiefly between 8.30 and 10 p.m. on 8th; at Sea Point it was $1\frac{1}{2}$ in.; in Kloof Road, 3.00 in.; at the Town House, 2.39 in.; at the South African College, 2.84 in.; at the Royal Observatory, 1.79 in.; and at Wynberg, 2.03 in. (in three quarters of an hour.)

CLIMATOLOGICAL TABLE FOR THE BRITISH EMPIRE, OCT., 1885.

STATIONS. (Those in italics are South of the Equator.)	Absolute.				Average.				Absolute.		Total Rain.		Aver.
	Maximum.		Minimum.		Max.	Min.	Dew Point.	Humidity.	Max. in Sun.	Min. on Grass.	Depth.	Days.	
	Temp.	Date.	Temp.	Date.									
	°		°		°	°	°	0-100	°	°	inches		0-10
England, London	60·9	3	33·4	12	53·1	41·1	40·7	82	104·8	25·8	3·73	17	6·6
Malta.....	88·4	14	55·7	13	76·4	63·7	59·8	76	137·1	49·5	3·18	8	4·4
Cape of Good Hope ...	97·3	26	43·0	8	73·6	54·1	...	...	...	...	1·83	9	4·6
Mauritius.....	79·2	24	61·3		76·5	66·4	60·4	71	130·8	48·8	1·57	13	5·5
Calcutta.....	90·0	6	64·7	29b	87·0	·9	74·9	84	155·1	55·8	5·29	8	4·1
Bombay.....	90·8	16	73·1	3	87·8	76·9	74·9	78	145·3	60·7	3·54	8	4·0
Ceylon, Colombo ...	87·2	12	72·2	6	84·9	74·4	72·0	80	148·8	64·0	16·12	30	7·5
Melbourne.....	96·1	30	36·5	4	67·3	49·1	47·3	69	145·2	28·4	1·99	8	6·3
Adelaide.....	92·7	27	40·5	12	74·4	54·4	48·2	55	150·1	31·0	1·11	11	5·9
Wellington.....	68·9	31	40·0	10c	60·8	47·6	49·7	84	138·0	34·0	5·02	14	3·5
Auckland.....	66·0	25	43·0	4	61·3	50·5	47·4	74	138·0	35·0	2·27	16	7·0
Jamaica, Kingston.....	90·5	5, 15	70·3	21d	88·8	73·0	72·3	78	...	...	·62	...	4·6
Barbados.....	85·0	17a	71·0	3e	83·0	73·0	76·6	87	146·0	...	8·22	14	6·0
Toronto.....	70·2	1	23·4	31	52·8	38·4	41·2	81	...	18·2	3·81	14	6·6
New Brunswick, Fredericton.....	70·3	4	22·9	13	55·7	36·6	40·1	79	...	...	4·08	8	5·3
Manitoba, Winnipeg...	68·8	1	11·8	26	49·1	27·1	31·3	77	...	...	·59	10	6·1
British Columbia, Victoria.....	67·0	5	33·0	11	59·1	41·5	...	...	...	...	2·73	9	...

(a) And 18. (b) And 31. (c) And 13, 15. (d) And 23, 24. (e) And 5, 13.

REMARKS, OCTOBER, 1885.

MALTA.—Mean temp. $68^{\circ}7$; mean hourly velocity of wind 9·2 miles; average velocity 20 miles per hour, from 8 a.m. on the 14th to 8 a.m. on the 15th, and from noon to 4 p.m. on the 25th and 30th; the max. temp. on the 14th was reached after 8 p.m.; sea temp. fell from 78° to 73° ; TSS on 7th, 10th, and 25th. J. SCOLES.

Mauritius.—Rainfall ·02 in. above, and mean temp. $1^{\circ}0$ below average; mean hourly velocity of wind 11·3 miles, extremes 28·1 miles on 12th and 1·7 mile on 7th, prevailing direction E.S.E. C. MELDRUM, F.R.S.

Melbourne.—Mean temp. of air $1^{\circ}2$, of dew point $1^{\circ}0$, pressure 166 in., and mean amount of cloud ·3 above their respective averages; rainfall ·89 in., and mean humidity 1, below their averages; prevailing winds S. and S.W., strong on 4 days from N. and W.; heavy dew on 3 days, hoar frost on 2; H on 11th, T and L on 21st, T on 31st. R. L. J. ELLERY, F.R.S.

Adelaide.—The mean pressure and the mean temp. ($64^{\circ}4$) were far higher than the corresponding figures for the previous 28 years, the former being ·126 in. and the latter $2^{\circ}5$ above the average; the mean amount of cloud was 10 per cent. above, but the rainfall nearly ·70 in. below the average. W. E. COOKE.

Wellington.—From 1st to 5th squally and showery; 6th to 12th generally fine; showery from 13th to 16th; fine from 17th to 23rd, with strong wind at times; from night of 23rd to 25th showery; the remainder of the month fine. Prevailing wind N.W., frequently stormy. H on 1st. Mean temp. ($54^{\circ}2$) $0^{\circ}5$, rainfall ·33 in., and pressure ·068 in. above their respective averages. R. B. GORE.

Auckland.—A cold, cloudy, and windy month; rainfall and mean temp. below the average, pressure above it. T. F. CHEESEMAN.

JAMAICA.—The rainfall of the island was below the average, especially in the N.E. and S. divisions; a severe shock of earthquake on the morning of the 2nd was reported from several stations. MAXWELL HALL.

BARBADOS.—The mean temp. ($77^{\circ}2$) was nearly the average; rainfall 14 per cent. below the average; pressure unsteady; prevailing wind N.E., mean hourly velocity 7·3 miles, 7 per cent. above the average, extremes 13·4 miles and 3·7 miles; 8 days were cloudy and rainy; TSS on 7th, 10th, and 14th. R. BOWIE WALCOTT.

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Malta	76·9	2	51·2	7	68·3	57·0	55·0	83	126·0	46·0	3·80	9	4·8
Cape of Good Hope	85·0	27	50·0	27	76·4	55·8	1·66	5	3·5
<i>Mauritius</i>	84·0	29	60·1	7	80·3	68·4	63·8	73	137·2	47·6	1·59	10	5·4
Calcutta	84·5	6	57·1	27	81·3	64·7	64·2	77	145·9	45·6	·06	2	3·3
Bombay	90·8	4	69·0	25	87·8	74·3	68·4	67	148·2	56·4	·00	0	1·2
Ceylon, Colombo	89·4	27	71·2	26	85·9	74·0	71·8	77	148·0	63·0	12·53	22	6·1
<i>Melbourne</i>	90·5	25	42·1	11	69·4	51·5	48·3	67	146·2	35·1	3·54	11	6·2
<i>Adelaide</i>	94·7	3	45·4	7	77·5	55·5	45·8	46	154·7	35·7	·04	4	4·3
<i>Wellington</i>	73·0	28	43·0	14	62·8	49·6	51·6	84	146·0	39·0	2·22	9	3·6
<i>Auckland</i>	73·0	29 ^a	45·0	5	65·5	52·9	49·7	71	141·0	33·0	2·82	13	6·5
Jamaica, Kingston	95·2	6	68·8	11	88·9	73·4	71·7	77	...	...	·66	...	5·5
Barbados	84·0	21	70·0	11	82·0	73·0	74·5	85	143·0	...	7·67	20	5·0
Toronto	61·8	12	20·6	28	43·9	32·4	34·2	81	...	15·4	2·15	18	8·5
New Brunswick, Fredericton	52·3		5·7	29	39·7	25·7	27·1	79	...	...	4·10	10	5·6
Manitoba, Winnipeg ...	38·3	27	5·8	15	31·2	18·8	23·8	88	...	...	·80	5	7·9
British Columbia, Victoria	57·0	1	31·0	10	51·6	40·8	...	...	...	...	3·47	19	..

^a And 30

REMARKS, NOVEMBER, 1885.

MALTA.—Mean temp. 61°·3; mean hourly velocity of wind 9·7 miles; sea temp. fell from 73°·0 to 66°·0. TSS on 4th, 7th, 21st and 23rd. J. SCOLES.

Mauritius.—Rainfall 17 in. above, and mean temp. 0°·7 below average; mean hourly velocity of wind 10·3 miles; extremes 28·0 miles on 1st, and 1·7 miles on 22nd; prevailing direction E.S.E. C. MELDRUM, F.R.S.

COLOMBO.—TSS on 10 days.

F. C. H. CLARKE, Lt.-Col. R.A.

Melbourne.—Rainfall 1·08 in., pressure 117 in., and mean amount of cloud 2 above the average; mean temp. of air 0°·3, and of dew point 0°·1 below the average; humidity same as average. Prevailing winds S. and S.W., strong on eight days. TSS on 4th and 25th; L on 10th; H on 10th and 28th; heavy dew on 3rd and 14th.

R. L. J. ELLERY, F.R.S.

Adelaide.—The driest November ever experienced here. Rainfall nearly an inch below the average; pressure 133 in. above the average of 29 years; and considerably above any prior record. Mean temp. about the average. W. E. COOKE.

Wellington.—Heavy R fell on 2nd and 3rd, then fine weather prevailed till the middle of the month, when it was showery; the end was fine and bright; prevailing wind N.W. Rainfall 2·05 in., and mean temp. 0°·5 below the average; pressure 1089 in. above average. T and H on 15th. R. B. GORE.

Auckland.—The commencement and middle of the month were rather cold and windy, with occasional showery days, but no heavy R; the end of the month was fine and warm, with light N. and N.E. winds; pressure above, and mean temp. and rainfall both slightly below the average. T. F. CHEESEMAN.

BARBADOS.—Rainfall 5 per cent. below, and mean temp. (77°·2) 1°·0 below the average; pressure steady; wind N.E. on 27 days, S.E. on 3 days, mean hourly velocity 7·3 miles, 10 per cent. below the average; extremes 14·1 miles and 3·2 miles; T and L on five days; eight days were overcast. R. BOWIE WALCOTT.

SUPPLEMENTARY TABLE OF RAINFALL, APRIL, 1886.

[For the Counties, Latitudes, and Longitudes of most of these Stations,
see *Met. Mag.*, Vol. XIV., pp. 10 & 11.]

Div.	STATION.	Total Rain.	Div.	STATION.	Total Rain.
		in.			in.
II.	Dorking, Abinger	2.16	XI.	Castle Malgwyn	2.76
„	Margate, Birchington...	1.16	„	Rhayader, Nantgwillt..	3.26
„	Littlehampton	1.82	„	Carno, Tybrith	2.45
„	Hailsham .....	...	„	Corwen, Rhug	2.73
„	I. of W., St. Lawrence.	1.83	„	Port Madoc	2.61
„	Alton, Ashdell.....	2.23	„	I. of Man, Douglas	2.34
III.	Winslow, Addington ...	2.20	XII.	Stoneykirk, Ardwell Ho.	1.41
„	Oxford, Magdalen Col...	2.13	„	Melrose, Abbey Gate...	1.62
„	Northampton	1.77	XIII.	N. Esk Res. [Penicuik]	1.70
„	Cambridge, Beech Ho...	1.02	XIV.	Ballantrae, Glendrisaig	1.55
„	Wisbech, Bank House..	1.45	„	Glasgow, Queen's Park.	1.38
IV.	Southend	1.62	XV.	Islay, Gruinart School..	2.13
„	Harlow, Sheering	1.65	XVI.	St. Andrews, Pilmour Cot	1.83
„	Rendlesham Hall	1.05	„	Balquhiddel, Stronvar..	5.86
„	Diss	1.47	„	Dunkeld, Inver Braan..	2.17
„	Swaffham	1.76	„	Dalnaspidal H.R.S.	4.38
V.	Salisbury, Alderbury...	1.79	XVII.	Keith H.R.S.	1.19
„	Warminster	3.93	„	Forres H.R.S.	1.10
„	Calne, Compton Bassett	2.42	XVIII.	Strome Ferry H.R.S....	4.45
„	Ashburton, Holne Vic...	3.37	„	Tain, Springfield .....	.98
„	Holsworthy, Clawton...	2.40	„	Loch Shiel, Glenaladale	6.51
„	Hatherleigh, Winsford.	2.32	„	S. Uist, Ardkenneth ...	2.39
„	Lynmouth, Glenthorne.	2.80	„	Invergarry	4.99
„	Probus, Lamellyn	2.40	XIX.	Lairg H.R.S. ....	...
„	Wincanton, Stowell Rec.	2.31	„	Forsinard H.R.S.	1.87
„	Taunton	2.97	„	Watten H.R.S.	1.82
„	Wells, Westbury	2.77	XX.	Dunmanway, Coolkelure	4.30
VI.	Bristol, Clifton	2.35	„	Fermoy, Gas Works ...	2.26
„	Ross	2.72	„	Tralee, Castlemorris ...	3.11
„	Wem, Sansaw Hall .....	.84	„	Tipperary, Henry Street	2.39
„	Cheadle, The Heath Ho.	1.79	„	Newcastle West .....	...
„	Worcester, Diglis Lock	2.05	„	Miltown Malbay	2.40
„	Coventry, Coundon	1.86	XXI.	Gorey, Courtown House	2.07
VII.	Melton, Coston	1.47	„	Navan, Balrath	2.16
„	Ketton Hall [Stamford]	1.45	„	Mullingar, Belvedere ...	1.97
„	Horncastle, Bucknall ...	1.32	„	Athlone, Twyford	2.33
„	Mansfield, St. John's St.	2.22	XXII.	Galway, Queen's Col....	2.03
VIII.	Macclesfield, The Park.	1.80	„	Clifden, Kylemore	4.03
„	Walton-on-the-Hill.....	1.67	„	Crossmolina, Enniscoe..	2.56
„	Lancaster, South Road.	2.88	„	Collooney, Markree Obs.	2.11
„	Broughton-in-Furness ..	3.12	„	Carrick-on-Shannon ...	1.62
IX.	Wakefield, Stanley Vic.	1.66	XXIII.	Rockcorry	1.92
„	Ripon, Mickley	2.92	„	Warrenpoint	2.33
„	Scarborough	2.46	„	Newtownards .....	...
„	East Layton [Darlington]	1.89	„	Belfast, New Barnsley .	1.70
„	Middleton, Mickleton ..	3.14	„	Cushendun	2.46
X.	Haltwhistle, Unthank..	2.43	„	Bushmills .....	...
„	Shap, Copy Hill	4.87	„	Stewartstown	1.19
XI.	Llanfrechfa Grange	2.61	„	Buncrana .....	...
„	Llandovery	2.95			

APRIL, 1886.

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 1870-9	Greatest Fall in 24 hours.		Days on which 101 or more fell.	Max.		Min.		In shade.	On grass.
				Dpth.	Date.		Deg.	Date.	Deg.	Date.		
		inches.	inches.	in.								
I.	London (Camden Square) ...	1.22	— .80	.30	7	15	69.6	24	32.2	11 ^a	0	6
II.	Maidstone (Hunton Court)...	1.50	— .35	.31	7	12	...	...	...	...	...	...
III.	Strathfield Turgiss	1.37	— .54	.44	7	15	72.5	29	28.3	13	4	10
IV.	Hitchin	1.62	— .33	.50	7	14	65.0	28	26.0	30	4	...
V.	Banbury	2.40	+ .39	.45	7	18	67.0	24	28.0	12	4	...
VI.	Bury St. Edmunds (Culford)	1.15	— .64	.31	10	12	71.0	28	24.0	30	6	...
VII.	Norwich (Cossey)	1.28	— .58	.41	7	12	66.5	28	31.0	27	2	6
VIII.	Weymouth (Langton Herring)	1.43	...	.51	7	10	67.0	28	32.0	12 ^b	...	...
IX.	Barnstaple	3.19	+ .81	.76	10	17	75.0	28	32.0	12	1	...
X.	Bodmin	3.40	+ .07	1.42	28	19	68.0	27	4.0	12	...	10
XI.	Stroud (Upfield)	2.22	— .23	.44	24	19	71.0	27	9.0	11	1	...
XII.	Church Stretton (Woolstaston)	1.57	— .75	.27	7	16	69.5	27	29.0	30	5	10
XIII.	Tenbury (Orleton)	2.24	+ .07	.39	2	17	69.7	27	26.0	12	4	9
XIV.	Leicester	2.14	...	.40	2	20	69.6	27	30.0	11	3	8
XV.	Boston	1.42	— .47	.29	10	11	68.0	23	32.0	10	1	...
XVI.	Grimsby (Killingholme)	1.81	+ .05	.40	17	15	59.0	2	33.0	30	0	...
XVII.	Hesley Hall [Tickhill]	1.74	...	.34	17	17	70.0	27	29.0	30	4	...
XVIII.	Manchester (Ardwick)	1.27	— .76	.25	7	15	70.0	27	30.0	11	2	...
XIX.	Wetherby (Ribston Hall) ...	2.41	— .10	.52	29	13	...	...	...	...	...	...
X.	Skipton (Arncliffe) ...	4.70	+ 1.64	.78	5	20	70.0	27	27.0	29	...	...
XI.	North Shields	1.58	— .42	.43	18	17	67.0	27	27.0	30	3	3
XII.	Borrowdale (Seathwaite)	6.82	+ 1.88	1.26	5	15	70.5	27	27.2	30	3	...
XIII.	Cardiff (Ely)	3.00	+ .66	.77	7	17	...	...	...	...	...	...
XIV.	Haverfordwest	2.58	— .24	.41	7 ^c	16	70.0	28	27.0	11	4	14
XV.	Plinlimmon (Cwmsymlog) ...	2.11	...	.36	2	15	...	...	...	...	...	...
XVI.	Llandudno	1.67	— .21	.30	23	14	67.0	27	32.5	30	0	...
XVII.	Cargen [Dumfries]	2.17	— .12	.39	2	11	69.0	27	25.2	30	3	...
XVIII.	Jedburgh (Sunnyside)	1.65	— .05	.25	27	14	69.0	27	29.0	29	4	...
XIX.	Douglas Castle (Newmains)	...	...	...	...	...	...	...	25.0	28	12	...
X.	Lochgilphed (Kilmory)	3.59	+ .96	1.44	7	14	...	...	...	...	...	...
XI.	Oban (Craigvarren)	3.01	...	1.24	7	15	64.4	25	30.2	11	1	...
XII.	Mull (Quinish)	3.48	...	1.06	7	15	...	...	...	...	...	...
XIII.	Loch Leven Sluices	1.70	— .51	.40	3	9	...	...	...	...	...	...
XIV.	Arbroath	1.09	— .82	.17	2	11	53.0	13 ^d	32.0	1 ^e	3	...
XV.	Braemar	1.61	— .47	.50	7	14	59.0	27	23.8	21 ^f	13	23
XVI.	Aberdeen	1.15	...	.19	18	17	61.0	27	30.0	9	4	...
XVII.	Lochbroom	3.05	...	.76	8	15	...	...	...	...	...	...
XVIII.	Culloden .....	.78	— .57	...	...	...	57.0	26	27.0	11	7	19
XIX.	Dunrobin	1.11	...	.36	7	9	56.0	27	29.5	3	5	...
X.	Kirkwall (Swanbister) .....	...	...	...	...	...	...	...	...	...	...	...
XI.	Cork (Blackrock)	2.50	— .60	.66	6	15	71.0	28	30.0	2	4	...
XII.	Dromore Castle	1.72	...	.60	5	8	70.0	27	31.0	29	...	...
XIII.	Waterford (Brook Lodge) ...	2.26	...	.62	23	16	64.0	28	28.5	12	3	17
XIV.	Killaloe	2.23	...	.56	7	14	70.0	27	30.0	12	2	...
XV.	Carlow (Browne's Hill)	2.03	— .54	.44	7	13	...	...	...	...	...	...
XVI.	Dublin (Fitz William Square)	1.52	— .59	.37	4	15	64.8	27	31.8	11	1	12
XVII.	Ballinasloe	3.37	+ 1.11	1.43	27	16	65.0	27	28.0	12	11	...
XVIII.	Waringstown	1.31	— .58	.23	6	12	70.0	27	25.0	29	11	18
XIX.	Londonderry (Creggan Res.) ..	1.91	...	.42	8	14	...	...	...	...	...	...
X.	Omagh (Edenfel)	1.54	— .46	.25	6	17	67.0	27	26.0	29	12	...

a And 12. b And 30. c And 23. d And 15. e And 7, 10. f And 22.

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

METEOROLOGICAL NOTES ON APRIL, 1886.

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.

BANBURY.—Mean temp. ($45^{\circ} \cdot 2$) $0^{\circ} \cdot 5$ below the average; a rapid fall of temp. occurred on 28th, the reading at 11 a.m. being $65^{\circ} \cdot 0$, at 2 p.m. $50^{\circ} \cdot 0$, at 3.45 p.m. $46^{\circ} \cdot 0$, and at 6 p.m. $43^{\circ} \cdot 0$; cold R fell at night, and S at neighbouring places. TS on 24th; T on 11th; L on 27th; H on six days, S on two, high wind on three.

CULFORD.—A very cold month, ending with a severe frost; polar winds prevailed almost throughout. H and T on 9th, T on 10th and 18th also.

COSSEY.—A very cold month; a remarkably sudden fall of temp. took place on 28th, the thermometer reading $62^{\circ} \cdot 0$ at 9 a.m., then rising to $66^{\circ} \cdot 5$ before noon, and falling to $49^{\circ} \cdot 0$ by 3 p.m., and to $40^{\circ} \cdot 0$ by 9 p.m., a fall of $22^{\circ} \cdot 0$ in 12 hours.

LANGTON HERRING.—Rainfall $1 \cdot 10$ in. below the average; mean temp. at 9 a.m. $0^{\circ} \cdot 5$ above the average. The changes of temp. were very sudden and great, the thermometer reading $67^{\circ} \cdot 0$ at 10.30 a.m. on 28th, and $39^{\circ} \cdot 0$ at 10.30 a.m. on 29th, a difference of 28° at the same hour on two consecutive days. The 28th was the hottest day in April since 1875. Solar halos on six days; L, sleet and H on 9th.

STROUD.—TS on 24th from 6 p.m. to 7 p.m.; T on 28th; H on 7th and 9th; sleet on 9th; S on 29th.

WOOLSTASTON.—Cold nights and constant easterly winds kept all vegetation very backward; the cuckoo was heard on 19th, but swallows were not seen till the last week in the month; mean temp. $45^{\circ} \cdot 2$. T and L on 11th; S on 9th and 28th.

ORLETON.—The weather was very stormy, cold and rainy till 18th. On 10th R set in about 5 a.m., changing to S, and covering the ground by noon, when the sky cleared very suddenly. About 2.15 p.m. on 11th a storm of L, T, H and R passed over from N.N.E. to S.S.W., with great darkness, followed by a clear sky and frost at night. After the 18th the weather became fine and warm, and vegetation progressed rapidly; the 27th was fine and warm with L at night, followed by a change of wind to N.E. on the next day, and severe frost on the morning of 30th. Mean temp. $2^{\circ} \cdot 3$ below, and rainfall slightly below the average. The cuckoo was generally heard on 22nd, and swallows appeared on 23rd; plums and damsons came into bloom on 26th, and cherry trees a few days later.

LEICESTER.—The early part of the month was cold and wet, subsequently it was milder, and towards the close changeable. On 28th the dry bulb registered $57^{\circ} \cdot 8$ at 9 a.m., $46^{\circ} \cdot 0$ at noon, and $38^{\circ} \cdot 5$ at 9 p.m.

KILLINGHOLME.—The month was very cold throughout, everything in field and garden suffering and being backward in consequence; high wind prevailed at the beginning; distant T at noon on 8th, T and L at 5.45 a.m. on 28th.

MANCHESTER.—April opened with genial showers and mild temp., which at once gave a start to vegetation, but as the month progressed the cold easterly winds returned,—S fell among the hills—the temperature fell, and the month closed with frost.

WALES.

HAVERFORDWEST.—During the first twelve days there was constant R, but vegetation did not make much progress owing to the low mean temp. S fell all day on 10th, particularly during the afternoon and evening; the Precelly range and all the high lands presented a very wintry appearance, the S being 6 inches deep at Rosebush, Precelly. From 23rd to 28th very fine warm weather prevailed, culminating in a TS of some magnitude; after the storm the weather became suddenly very cold, the temp. falling on the night of 30th to $31^{\circ} \cdot 0$. Owing to the unusual heat of the last fortnight, the mean temp.

(49°·5) was above the average, though the temp. was within two degrees of the freezing point on four nights, besides the four on which it fell below 32°. Blackthorn was in blossom on 26th.

LLANDUDNO.—The month maintained its traditional character for variability, especially as regards temp., which rose to nearly 60°·0 on the 2nd, but fell to 49°·0 on the next day, and continued considerably below the average till the 23rd, when it rather suddenly rose and continued rising till the 27th, but on 29th the max. was only 47°·0 and the min. 37°·0. The mean temp. (46°·4) was one degree below the average, the mean daily range (12°·1) 1°·3 below, and the monthly range (34°·5) 1°·9 above the average. April, though proverbially showery, is yet one of the driest months of the year, and in both these respects it was this year true to its character. The air was exceptionally dry, and, as is usual at this season, polar winds were prevalent, but happily their keenness was much tempered by abundant sunshine (142 hours), especially towards the end of the month; this contributed in no small degree to make the late Easter one of the finest on record. Gale on 3rd, S on 10th, T on 27th, cuckoo heard on 24th.

SCOTLAND.

CARGEN.—The first part of the month was stormy and wet, but easterly winds prevailed continuously from the 16th to the end, and on one or two occasions the temperature varied as much as 30°·0 in 24 hours. Mean temp. 1°·3 below the average, sunshine about the average. H, S and R on 6th.

JEDBURGH.—The weather was cold and ungenial, especially during the latter half of the month; seed was well got in, but vegetation generally was far behind, though there was good promise of all tree and bush fruit. S on 10th and 28th.

QUINISH.—From 1st to 9th, it was very cold and wet, the rest of the month was cold and dry, with frequent frost at night. The cold and late spring following on an unusually severe winter is proving disastrous to hill sheep-farmers.

BRAEMAR. — A very cold ungenial month.

ABERDEEN.—Dry weather was the chief feature of the month, as is shown by the fact that the rainfall was more than an inch below the average.

LOCHBROOM.—The wildness of March continued until the 10th of this month, after which beautiful dry sunshiny weather, though rather cold, prevailed, with occasional showers of H and frequent night frosts; no congenial warmth was experienced, so that vegetation of every kind was very backward at the close, and stock, especially sheep, very lean. S fell on 1st; a hurricane blew on 2nd, 3rd and 4th.

CULLODEN.—The weather during the month was unusually dry, with cold N.E. winds and much frost; all vegetation was exceedingly late.

IRELAND.

BLACKROCK.—The first ten days were showery with H at times, and four frosty nights, thence fine mild weather prevailed to the 18th, after which it was mostly dull to the 24th, from the 25th to 27th was milder; R L and T on 28th, the last two days were bright and cold, with frost on 30th.

DROMORE.—The beginning of the month was very wild, stormy and wet, but after the first week the weather somewhat improved. E. winds prevailed throughout.

WATERFORD.—E. winds prevailed during the month. S in remarkably large flakes fell on 10th, and was seen lying on the Comeragh Mountains. Dense fog on 24th; a double rainbow at 6.15 a.m. on 27th, frost on 30th, H on five days. Swallows were seen on 23rd, cuckoo heard on 25th.

KILLALOE.—Cold and high winds prevailed till 12th, and low temp. till 25th; S on 10th.

DUBLIN.—Opening with unsettled, stormy and showery weather, the month proved finally to be both dry and cold, only ·55 in. of R falling after the 9th,

on six days, and E. to N.W. winds blew almost constantly during the same period, previously strong S. to W. winds had prevailed with higher but unstable temperature and frequent showers. The mean temp. was the lowest recorded in April, with three exceptions in the 20 years 1865-84. Sleet fell on 6th; H on six days; fog on five, high winds on nine, six of which were in the first week; solar halos on 12th and 17th. Mean humidity 80; mean amount of cloud 5.4; prevailing winds N.E., E. and W.

SEVERE HURRICANE IN FIJI.

SYDNEY, March 17. News was received here at a late hour to-night respecting the damage done at Levuka by a hurricane. The house erected on a point beyond Nasova by D. Wilkinson was carried away. From Nasova to the site of the old Commercial Hotel the houses have escaped with superficial damage. Thence along the main line nearly all the houses are down or badly damaged. At the native town, Levuka, the houses were badly blown about, and Palmer's boat-shed was blown down. The houses below seem only to have suffered to a slight extent. Back from the main line the chief damage is Paul's residence unroofed and wrecked, an old building opposite the Wesleyan Church a heap of ruins, a house formerly occupied by Mr. G. A. Woods badly damaged, Mr. F. B. Swann's residence unroofed and badly injured, the Royal Hotel wrecked. Four houses in the rear of it, on the right bank of Tooga Creek, are a heap of ruins. Four of Henning's new cottages are unroofed. Grave's residence, the highest place of all, is lifted off the piles, and set at an angle of 30°. At Parfitt's residence the dining room and its contents are dispersed, only the main building being left standing. At the native gaol the walls only are left standing. The Good Templars' Hall was lifted 10 ft. bodily out of position, and utterly wrecked. Four natives have been killed.—*Melbourne Argus*.

A DUST COLUMN.

Mr. J. B. Muirhead writes, under date May 5th: "An occurrence, which I had the pleasure of witnessing this morning, may perhaps interest your readers. Driving past Aylesford Station I came suddenly on a beautiful dust column standing upright on the road at about 20 yards distance. It was of a uniform diameter of about 4 feet, and rose whirling to a height of 100 feet or more, its summit reaching considerably above a tall poplar, beside which it passed in its slanting progress across the highway. Leaving the road, and advancing into a field, it was gradually dispersed by the gentle easterly breeze, somewhat in the manner in which the train of a rocket vanishes in the sky at night."—*Daily News*.

A COLLECTION OF ———.

In 1303 and 1304 the Rhine, Loire, and Seine ran dry. The heat in several French provinces during the summer of 1705 was equal to that of a glass furnace. Meat could be cooked by merely exposing it to the sun. Not a soul dare venture out between noon and 4 p.m. In 1718 many shops had to close. The theatres never opened their doors for three months. Not a drop of water fell during six months. In 1773 the thermometer rose to 118 degrees. In 1778 the heat at Bologna was so great that a great number of people were stifled. There was not sufficient air for the breath, and people had to take refuge under the ground. In July 1793 the heat again became intolerable. Vegetables were burned up, and fruit dried on the trees. The furniture and woodwork in dwelling-houses cracked and split up; meat went bad in an hour. — *Amateur Photographer*.