

British Rainfall Obituaries - extracted text

British Rainfall 1867	British Rainfall 1868	British Rainfall 1869
British Rainfall 1870	British Rainfall 1871	British Rainfall 1872
British Rainfall 1873	British Rainfall 1874	British Rainfall 1875
British Rainfall 1876	British Rainfall 1877	British Rainfall 1878
British Rainfall 1879	British Rainfall 1880	British Rainfall 1881
British Rainfall 1882	British Rainfall 1883	British Rainfall 1884
British Rainfall 1885	British Rainfall 1886	British Rainfall 1887
British Rainfall 1888	British Rainfall 1889	British Rainfall 1890
British Rainfall 1891	British Rainfall 1892	British Rainfall 1893
British Rainfall 1894	British Rainfall 1895	British Rainfall 1896
British Rainfall 1897	British Rainfall 1898	British Rainfall 1899
British Rainfall 1900	British Rainfall 1901	British Rainfall 1902
British Rainfall 1903	British Rainfall 1904	British Rainfall 1905
British Rainfall 1906	British Rainfall 1907	British Rainfall 1908
British Rainfall 1909	British Rainfall 1910	British Rainfall 1911
British Rainfall 1912	British Rainfall 1913	British Rainfall 1914
British Rainfall 1915	British Rainfall 1916	British Rainfall 1917
British Rainfall 1918	British Rainfall 1919	British Rainfall 1920
British Rainfall 1921	British Rainfall 1922	British Rainfall 1923
British Rainfall 1924	British Rainfall 1925	British Rainfall 1926
British Rainfall 1927	British Rainfall 1928	British Rainfall 1929
British Rainfall 1930	British Rainfall 1931	British Rainfall 1932
British Rainfall 1933	British Rainfall 1934	British Rainfall 1935
British Rainfall 1936	British Rainfall 1937	British Rainfall 1938
British Rainfall 1939	British Rainfall 1940 to 1942	British Rainfall 1943 to 1945
British Rainfall 1946	British Rainfall 1947	British Rainfall 1948
British Rainfall 1949	British Rainfall 1950	British Rainfall 1951
British Rainfall 1952	British Rainfall 1953	British Rainfall 1954
British Rainfall 1955	British Rainfall 1956	British Rainfall 1957
British Rainfall 1958	British Rainfall 1959 to 1960	British Rainfall 1961 to 1965

It is with extreme regret I annex a list of contributors whose assistance we can no longer enjoy-most of them personal friends-all workers, for a longer or shorter period, in that field whereof not even a tithe is published in these pages, and some, like Lord Rosse, men not only of this age, but of all time-not merely rain observers ; but men of mark, known to all connected with, or attached to, the varied branches of physical research :-

Period of Observation.

Brooke, W., Esq., F.R.A.S., F.M.S., Norwich 1836 to 1867

Houghton, W. Esq., M.D., The Grove, Portland 1851 to 1858

Morley, G. Esq., St. Brelade's, Jersey +0 _ .. 1866 and 1867

Purvis, Rev. Canon, Bangor ... a oo - ... 1861 to 1866

Richardson, J. Esq., Oak Bank, Kirn, Greenock _... ... 1865 and 1866

Rosse, Right Hon. Earl of, F.R.S., Birr Castle, Parsonstown 1862 to 1867

Southall, R. P. Esq., Edgbaston, Birmingham ves .. 1855 to 1866

Sugden, J. Esq., Dockroyd, Keighley... aa a ex vse 1866

Treby, Henry Hele, Esq., Goodamoor, Plympton St. Mary.. 1834 to 1867

Wrottesley, Lord, F.R.S., &c., Wrottesley, Wolverhampton 1843 to 1867

It would be invidious to select any one for special mention without strong reason for so doing; but this seems the case with respect to the late Mr. Treby, of Goodamoor, who was not only himself a careful observer for more than thirty years, but who used the influence which his wealth and position gave him for the promotion of additional observations throughout the counties of Cornwall and Devon. I cite, as an illustration of what one person can do if he keeps his object steadily in view, the fact, that there are no less than twenty-five stations, the establishment of which was, directly or indirectly, due to the perseverance of my late friend,

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OBITUARY.

THE following list needs few words of preface or of comment; with so large a corps of observers-nearly 1,600-it is perhaps matter of congratulation that the list is not longer. We have place! in the forefront the distinguished Mayor of Lyons, Professor Fournet, President (nay, life and soul) of the Hydrometric Commission of Lyons, a man, whose death at the age of sixty-eight, in the very act of completing an analysis of the vast treasures of his mind, is not only a loss to France, but to the science of Europe and the world. Mr. Leyland Woods, of Chilgrove, is another serious loss, for, in addition to being a careful observer, it is hardly three months since he called to show us a fragment of a statement he was compiling, from farm registers, extending over nearly two centuries, the entries in which formed a most complete check upon the rain records of bygone years, and, so far as the work had progressed, the confirmation had been unexpectedly complete. Mr. Woods had also for many years paid great attention to the fluctuation of water in the deep chalk wells of his neighbourhood, and especially in reference to their relative promptitude in varying after heavy falls of rain. We must not, however, be tempted into a lengthened notice of one, since all have contributed more or less to the work we have in hand, but must conclude with the hope that those who now occupy their places, will at least equal those whose loss we all regret.

Period of Observation.

Fournet, Professor J. J., &c., &c., Lyons.....see.s00es., 1847-67
 Davy, John, Esq , M.D., F.R.S., Lesketh Howe, Ambleside 1844-67
 Dobell, F., Esq., Maidstone0... cecccsseeeccsseseceese 1856-67
 Evans, Charles, Esq., Norwich0.....cceccccccececececececece, 1865-67
 Farrow, Mr. R., Leek oo ..c.cccesecccecesceeee eueccssseccsee 1856-66
 Gillett, Rev. E., Runham, Yarmouthccecccececece0eee. 1866-67
 Guy, Mark, Esq., Roscarrock, Cornwall0.....eseeee 1856-67
 Howells, T., Esq., Highfield, Shrewsbury.....00...cc:s:s0e-.. 1860-67
 Milner, Rev. W. H., The Vicarage, Horncastle 1863-67
 Milner, W. R., Esq., The Prison, Wakefield 1848-67
 Nickisson, Rev, W., Church Aston, Salopcsscecccseseee - 1866-67
 Peacock, Captain, Greatford Hall, Stamford 1860-66
 Pearce, H. S. R., Esq., Loperwood, Southampton 1866-67
 Woods, W. Leyland, Esq , Chilgrove, Chichester 183467

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OBITUARY.

THE number of observers whose loss we have to regret during the past year, is somewhat less than in previous years, allowance being made for the increased number of names on our list. But six of them had been observing for upwards of twenty years, three for upwards of thirty years, and two for upwards of forty years, and the loss of such experienced observers, and the termination of such long-continued records, is matter of much regret. A brief notice of Mr. Marshall, of Kendal, was given in 1867, among the list of those to whom we were most indebted for the progress of our knowledge of the rainfall in the Lake District. He died on November 3rd, aged 78, respected not only by his townsmen and the Society of Friends to which he belonged, but also by a large circle of meteorologists, whom he was ever ready to assist. Mr. Thompson, the late observer at Chiswick, deserves mention, not as a meteorologist, to which title we believe he laid no claim, but as a patient, careful, and persevering observer.

Period of Observation.

Backhouse, W., Esq., St. John's, Wolsingham, Darlington 1864-68= 5 years

Barham, J. F., Esq., M.D., Exeter and High Week, Newton s

Bushel, Devonceceeececesee cecssteeteesseresesesevesees 1840-68=29 ,,
 Bevins, J., Esq., Thornton, Leicestercsecee0e8 oe =1855~-68=14 ,,
 Bland, W., Usq., Hartlip, Sittingbourne 1848-68=21 ,,
 Box, Rev. H. A., Parker's Well, Exeter 1868 =i,
 Cory, C., Esq., Burgh Castle, and Hopton Hall, Yarmouth 1858-68=11 ,,
 Eley, G., Esq., Tong, Sittingbourne, Kent 1848-68=21 ,,
 Gardner, J., Esq., Greenocksec ce cecccceeeeseeeseeesee 1858-68=16 ,,
 Hassard, M. D., Esq., Glenville, Waterford 1866-68= 3 ,,
 Heap, J., Esq., Royton, Oldham, Lancashire 1836-68=.33 ,,
 Heddle, J. G., Esq., Melsetter, Hoy, Orkney..... 1863-68= 6 ,,
 Majendie, Rev. H. W., Speen, Newbury 1866-68= 3 ,,
 Marshall, S., Esq., Kendal 1. ..cccceee cesessseseee ceveesee 1822-68=47 ,,
 Miller, J., Esq., Isle of Cumbrae, Buteshire 1859-68=10 ,,
 Sidebottom, J., Esq., jun., Stockport00.....000-.. 1866-68= 3 ,,
 Thompson, Mr., Chiswickcc..cseesccecesescese seeesee 1825-68= 44 ,,
 Whiting, Mr., Deepdene, Dorking..... ..c..cccseeeeeee =1851-68=18 ,,

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OBITUARY.

We have endeavoured to render the following sad list yield even a little more information than in previous years, by adding the symbols 0 and T (Commenced and Terminated) to the period of observation in all cases in which we are sure of their correctness.

Although the number of observers is not so great as might have been expected, their loss is, from various reasons, unusually important. To mention some: the death of Captain Brown, of Hay, and the cessation of his register, leaves a large and important district without an observer. A similar remark applies to Mr. Lamont and to Mr. L'Estrange, of Owendoon. Then Mr. Fox, of Morley, has been cut off before fulfilling his promise of sending copy of his observations prior to 1862. Lastly, we sadly fear that, through the decease of Admiral Wilson, the Troutbeck observations (which have been so regular and so good as to serve as a standard of reference for the Southern Lake District) may be terminated. We are indebted to a member of his family for continuing the record up to the end of 1870, although we are cautioned not to rely upon its permanency. In several other cases we are glad to find that the records will probably be uninterrupted.

Period of Observation.

Abel, Rev. J., Manse of Forgue, Aberdeencccecsecssceseneeee 1870 imp
 Bigg, E. 8., Esq., The Hyde, Crawley, Sussexecscscseseeeeeee OG 1856-65 T
 Brown, Captain, Pen-y-maes, Hay, Brecon:sceeeeseeeeeee GO 1860-69 T
 Bunch, Rev. R. J., Emmanuel Rectory, Loughborough @ 1861-67
 Clark, Sir J., Bart., M.D., F.R.S., Bagshot Park, Surrey..... 1864-69
 Colquhoun, J. C., Esq., Chartwell, Westerham, Surrey.. 1862-69
 Devas, W., Esq., Woodside, Old Windsorcccscsessessscoveeseeee OG 1866-69 T
 Dixon, Mrs., Seathwaite, Borrowdale, Keswick06 @ 1845-69
 Fox, Rev. S., Morley, Derbycesseeeeeeee (0 1847-61) 1862-69
 Hambly, F. B., Esq., Treharrook House, Wadebridge, Cornwall 6 1853-69
 Laidlaw, Mr., Auldearn, Nairncc....c000 cesecscsosesecceeseeee 1870 impT
 Lamont, Rev. J., Manse of Waternish, Portree, Skye..... 1866-67 T
 L'Estrange, G. H., Esq., Owendoon, Bawnboy, Ireland..... 1864-69 T
 Rippingale, Mr., Hunstanton, Norfolk0... cc.0 ceseesecseeeee OG 1856-69
 Strangman, T. H., Rathculliheen, Waterfordssese0e0.--e8 0 1859-67 T
 Voss, W., Esq., West Bucknowle, Corfe Castle, Dorset006 1848-69
 Wilson, Admiral, The Howe, Troutbeck, Westmoreland 1842-69

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OBITUARY.

Subjoined is the list of contributors to British Rainfall removed from us by death since our last notice. It will be seen that with few exceptions they had only of late years been observers. Mr. Denny has the longest period assigned to him, but it is not quite certain that the earlier portion of the records was kept by him; if not, then Dr. Fielding's record is the oldest. In addition to the above, who were regular contributors to these pages, all meteorologists must regret the loss in one year of two such able men as Keith Johnston and Robert Russell, of Kilwhiss.

Period of Observation.

Bolton, Jasper, Esq., Ballykistreen, Tipperary00..... G 1865-1869 T
 The Shrubbery, Boxhill, Surrey @ 1864-1870 T
 Boorman, E., Esq., | Char House, Salehurst, Sussex..... 1864-1870 T
 Champion, Rev. J., Edale Vicarage, Derbyshire 0 1871 imp T

Coleman, R. Esq., South Fields, Wandsworth, Surrey..... 1861-1870
 Dalziel, P. Esq., Waterside, New Galloway, N.B.000... 1865-1869 T
 Denny, H. Esq., Philosophical Institution, Leeds.....0... 1823-1863 T
 * Maidstone.....00. OS cocveceseve C 1848-1857 T
 Fielding, G. H., Esq., M.D. }tunbide SUID @ 1861-1870 T

Freeman, D. A., Esq., Upper Tooting, Surreyscccsecsssese O 1867-1871
 Gillett, Rev. G. E., Waltham Rectory, Melton Mowbray G 1860-1870 T

Gresson, W. Esq., Clonbrin, Rathangan, Ireland 1863-cont,
 Hadden, J. A., Esq., Bittacy House, Mill Hill, Hendon..... 1866-1870 T
 Llewellyn, D. M., Esq., West End Terrace, Llanelly 1867-1870 T

Paterson, J. W., Esq., Ballater, Aberdeenshire.....00...e0000. 1861-1871

Spedding, J. J., Esq., Mirehouse, Bassenthwaite, Keswick..... 1854-cont,
 Turner, Rev. E., Maresfield Rectory, Sussex.....cccceseesee00e 1857-1870 T

Walker, Mr. W., Wythburn, Windermere...rccrcrressecrescseeree 0 1866-cont,

The following list is unusually long, and contains the names of an exceptional number of excellent observers. Several of them had kept perfect records for more than a quarter of a century, for instance, Mr. Norris's register extends over 42 years, Miss Molesworth's register (now placed, by her wish, in the library of the Meteorological Society), extends over 41 years, Mr. Thompson's, of Gillingham (with interruptions, however,) also 41 years, Mr. Finlay's 36 years, and Mr. Davis's 29 years. Moreover, many whose records are of less duration have not rendered less services to this branch of science, such as Dr. Barnes, the author of two remarkably able papers on the " Rainfall of Carlisle," published in the Transactions Royal Society, Edinburgh, Mr. Beardmore, whose Manual of Hydrology is his fittest memorial, and one of which anyone might be proud; Mr. Ingram, a frequent contributor to the pages of the Meteorological Magazine ; and Mr. Nunes, who has done so much to improve our means of measuring the amount of Solar radiation. Some of our other losses are also especially to be regretted, from the improbability of important stations being re-established. "We may mention two instances: Mr. Rainey's death has been followed by the sale of the Isle of Raasay to some gentleman, who, I am informed, " does not care for that sort of thing." Possibly in future years, when draining his estate, he may find "that sort of thing" would have stood him in good stead. The second instance is the death of that most genial and hospitable man, Augustus Smith, Esq., of Tresco Abbey, so appropriately designated the King of the Scilly Isles, with whose decease we lose all hope of the realization of the project sketched in British Rainfall, 1869, p. 43.

We cannot close this short note without expressing our deep regret at the loss which science and civilization have experienced, in the death

In the following table 0 before any date denotes the Commencement of observations ; C after a date denotes that the series is continued ; T indicates the termination of observations at the station to which it is appended.

Barnes, Rev. Ismay, Ravenstonedale, Westmoreland 0 1871 imp 1872 T
Barnes, T. Esq., M.D., Bunker's Hill, Carlisle @ 1852-1871 T
Beardmore, N. Esq., C.E., Broxbourne, (Fields Weir)..... @ 1850-1871 C
Boddington, Rev. T. F., Badger, Shifnal, Shropshire @ 1862-1870 T
Bond, J. W., Esq., Bloomsbury, Dundrum, Dublin 1869-1871 T
Bursess. W. Esa. | he Worcesters0-e000 vss seve OG 1854-1869 T
Bess, W- ESO 1 Beechwood, Worcester w.sc.cssseesreee O 1870 -1872 imp T
Carruthers, D. A. Esq., Warmanbie, Annan, Dumfriesshire... 1866-1871 C
Davis, J. Esq., Derby ... c..ccceeecececeeeeeeeeeeeceersesessssseeees O 1843-1871 O
Elliott, A. Esq., M.D., Goldielands, Hawick46ese.esaee 1862-1871 C
Finlay, J. Esq., Deanston House, Perthshires0006... 1837-1872 O
Colquhalzie, Auchterarder..... 1857-1
Hepburn, J. 8. Esq., | Brack Hill, Aberfeldy ccc 6 1863-1872
Hewlett, T. Esq., Harrow-on-the-Hill 1864-1865, 1867-1871 T
Ingram, Rev. Hugh, Steyning, Sussex 0 1866 T, 1868-1871 6
Jackson, R. Esq., Waterend, Loweswater0.0...s.ccess00e8. O 1868-1871 6
Lighton, Mr. W., High Street, Montrose o.c.....seessecee eevee = G 1858-1870 T
Molesworth, Miss, Cobham Lodge, Surrey G@ 1824-1864 T
Norman, A. Esq., Beverley Road, Hullssssseeceess coseee O 1867-1868 T
Norris, T. Esq., | Herc: House, Preston... eecseceeees i845 1871 7
Hayes Common, Kent 1869 imp T
Nunes, F. Esq., M.A., | Beagaa Lodge, Chiselhurst" 6 1869-1872 C
Pile, T. Esq., Tilsden, Cranbrook, Kent 1862 imp-1871 T
Rainey, G. Esq., Raasay, Isleof Skyec.ceee eee 0 1851 -1872 imp T
Scott, D. Esq., Bridge Street, Montrose0 0.0... 6 1864-1871 6
Slate, A. Esq., Chiswell Street, B.C. 0.0... 0... ae... = 1860imp - 1872 6
Smith, A. Esq., Tresco Abbey, Scilly Isles@ 1859-1865, 1866imp, 1867- 1869
Smith, Rev. W., Kirknewton Manse, Edinburgh 1863-1870 T
Stephens, J. P. Esq., Hillside, Bridportccese.c.0ccsee OG 1871 T
Thompson, T. Esq., Gillingham, Dorset G@ 1832 imp-1872 imp T
Voss, W. J. Esq., West Bucknowle, Corfe Castle, Dorset @ 1869-1871 T
Wyllie, J. F. Esq., Bolfracks, Aberfeldy0..... G@ 1861-1871 T

In the following table before any date denotes the Commencement of observations ; 6 after a date denotes that the series is continued ; T indicates the termination of observations at the station to which it is appended.

Anderson, Mr. J. Hamilton Street, Greenockss0008. GO 1869-1872 T
Clare House, Hull @ 1864-1872 T
Atkinson, A. O., Esq., LL.D. { Gas Works, Thirsk @ 1866-1872 0
Ruswarp, Whitby G 1866-1872 0
Berry, R. L., Esq., Chagford, Exeter0cccssecssessseeeveeeee OG 1862-1872 T
Bywater, R. T., Esq., Monk Coniston @1865-1866 TG 1869-1873 0
Campbell, Dr. J., Largs, Ayrshirecccccccssecsecseeeeeeeeeee os 1842-1872 6
Charrington, F., Esq., Brewery, Mile End.....06 5. O 1862-1872
Clay, W. W. P., Esq., Southwell, Notts... 0 1844 imp-1873 imp T
Colquhoun, A. C., Esq., Chartwell, Westerham 1862 imp-1872 T
Stubb House, Winston00.....6. O 1856-1867 T
Dodgson, T., Esq., | Thorp Grange, Greta Bridge... @ 1868--1873 0
Farnie, Mr. P., Lochleven Sluice, Kinrossseseeseeeeeee. 1842-1871 0
Gibson, C. M., Esq., Norwichssccsessessssescsscscsesssescescenee O 1869-1870 T
Marshall, J. G., Esq., Conistoncc.cc00 ccsseessecscseaeaaaaa 1837-1872 0
Mayne, Rev. C., Killaloe, Clare, Ireland . ..sc...cccececeesee =O 1846-1873 0
Overman, R., Esq., Egmore Wellsccscscseeeeeess. GO 1853-1873 imp T
Paget, C., Esq., Ruddington Grange, Nottingham C 1866 imp-1872 6
Paterson, A., Esq., Meadowfield, Costorphine, N.B. 1860-1872 6
Robson, W. R., Esq., Beau Desert, Staffordshire 1869 imp-1872 T
Shipp, W., Esq., Blandford, Dorset. oo... eeeceee senses 2) O 1864-1872
Taylor, J., Esq., Gas Works, Oldham..... sssce005. 1861 imp-1873 0
Thompson, W., Esq., Park End, Workington ssceeees 1867-1872 T
Turner, T., Esq., Plas Brereton, Carnarvon .. 1864 imp-1872 T

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OBITUARY.

In all things there is an average, and in this part of our work that average is very steady-the number of observers whose loss we have to regret scarcely varies from year to year. The influence of these losses on rainfall work, both as regards questions of secular variation and the geographical completeness of the system, has already been stated in the previous article on Changes in the Staff of Observers. Their influence on rainfall finances is referred to subsequently, and here, therefore, it only remains to pay the last tribute of respect to several good observers, some of them, like the Venerable Archdeacon Hony, quite patriarchs in rainfall work.

Blackburn, J. W., Esq., C.E., Burleydam, Whitchurch... 1873 imp,-C
 Boucher, B., Esq., Wiveliscombe, Somerset 1864-1874 imp. 0
 London Road, Leicester.....00 1835-1839 T
 Burgess, T., Esq., Wigston Grange, Leicester ie 1848 imap ise
 Burton, J., Esq., Charlbury, OxON.....c.cscceccssesseceeees 1873 T
 Drummond, Gen., The Boyce Court, Dymock 0 1864-1873 T
 Fletcher J., Esq., Kelton House, Dumfries 1870-1873 T
 Glanvill, Miss, Catchfrench, Cornwallcc0.0.00. 1862, 1867-1869 T
 Harris, R., Esq., Knighton House, Leicester 1872-1873 T
 Hayward, J. C., Esq., Quedgeley, Gloucester 1849-1873
 Hodgson E., Esq., Twyford, Athlone.....00.....:00. GO 1869 imp. -1873 6
 Hony, the Venble. Archdeacon, Baverstock, Salisbury ... G 1829-1869 T
 Horner, Rev. J. Mells, Frome..... 1852-1862 T 1865-1873
 Howman, Rev. E. J., Bexwell, Norfolk....0.....cseecseee. O 1864--1874 imp. T
 Knott, J., Esq., [minsterc00:cccseeseseeeeereeeee G 1868 imp.-1874 imp. T
 Lakin. W.. Esq, \$ Little Driffield, York, E.R. 0 1868-1871 imp. T
 akin, Nes Sd | Beverley, York, E.R.:006++6 @ 1871 imp,-1874 imp, T
 Lighton, Rev. Sir C. R., Bt., Ellastone, Ashbourne..... G 1863-1874 T
 Palmer, R., Esq., Long Sutton, Somerset 1856 imp.-1871 imp.
 Rumney, W., Esq., Watermillock, Ullswater0 1860-1873 T
 Stephens, A., Esq., Bridport:ccceccsseseseteeseeee GO 1855-1874 6
 Westwood, Mr. J., Dollar, Clackmannan ...6 1836 imp. 1858 imp., 6 1862-73 imp,
 Wilson, J. J., Esq., Underfell, Kendal... osc. O 1867-1873 6
 Windeatt, T., Esq., West Street, Tavistock0006 OG 1824-1873T

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OBITUARY.

WE mentioned, casually, in our last volume, that the number of observers whose removal by death it was our duty to chronicle, was very steady from year to year. On looking closely into the figures, the uniformity is striking ; since 1869, the average has been 21 per annum. In 1873 it was exactly that average; in 1874, it was 22; and in 1875, the annexed list gives 23.

There is another fact which we have noticed, but upon which we have not sufficient data to enter fully, viz., the extremely advanced age to which many of the observers live. There are, of course, exceptions, such as the early loss of Dr. Barter, who (as well as Mr. Dixon) was one of the contributors to the first of the series of rainfall publications -the leaflet upon the rainfall of 1860, but they are more than counter-balanced by many cases of extreme longevity-for instance, the other gentleman just mentioned was, we believe, nearly or quite 90.

Perfect yearly

records.

Armstrong, A., Esq., Kylemore, Galway 1875 c.cccsscccccseseessssere =
 Ballingall, R., Esq., Hallabus, Argyll @ 1866-75 i.e. ceeeeeeee, 10
 Axford Bldgs., Bath 1855-61 Ti... cee ae 7
 B C8.E MB Gen. Hospital, , , , , ; 1862-64 To... eecceceesce ceuee 8
 ee IS AON Paragon gs IG 869078 BL 8
 (Gay Street, , , , , 1870-727, 0 1874-5 5
 Benson, Rev. J. P., Witheridge, Devon @ 1855-60, 1862, 1864-740... 18
 Bewley, T., Esq., Black Rock, Dublin 1840-74 Too 8B
 Brown, Rev. H., Pevensey, Sussex @ 1861 imp -67 T, 01868-71T 13
 Dawson, H., Esq., Shu-le-Crow, Keswick G 1872imp-74T oo... 6 2
 Dewar, Mr., Balfour, Fifecccsececeeeeee GO 1857-74 7 oo eee 18
 Dipple, G., Esq., The Ford House, Bromsgrove 1855imp-74T 00.0... 19
 Dixon, H., Esq., Dorward', IIall, Witham G 1847-75cccseccccscceceee
 '29
 Fawcett, E. G., Esq., Ludgershall, Wilts 0 1867 imp-746000.... 7
 Gavin, J., Esq., Wester Elchies, Moray 1872-75... ..csscceesscececsessenee 4
 Gibb, Mr. J., Kettins, Forfar.ccccececees 1856-73 T wees. = 18
 Gorrie, Mr. H., Polmaise, Stirling 0.0... 1852-74... iceccescceesessene 28
 Matthew, H., Esq., Bradninch, Cullompton ... GC 1841-73 T oo oococcecccccececsse B83
 Miller, J., Esq., Upwey, Dorset0.....002 O 1862-73 T oocceccccccse eceee 14
 Rayson, W. A., Esq., Horncastle, VB74 Teese
 Redford, R., Esq., Yapton, Arundel..... @ 1866-75 T.....0c.cc00... . , 10
 Sharland, By North Brook, Fareham, Hants 1860-74T..... 15
 Sigsworth, Mr. F. P., Coney Street, York CG 1864-72T..... 9
 Smith, J., Esq., York Parade, Hull 1857imp-746cccc000. 17
 Ward, Dr., Chobham ..., ecceiswee seceeees OG 1865imp-7470 2g
 Winter, Rev. J. S., Weedon, Northampton ., , 0 1864-75 Toicseecscsssssssseseeee 18

We regret having to insert an unprecedentedly long list of deceased observers. We mentioned last year that the number was usually very nearly constant, and that it averaged 21, this year there are 37. The only consoling features in the table are (1) that several of the most important records are being continued, and (2) that there are few very long records among this numerous list.

Perfect Yeurly '
Dent C 1845-1852 T neers
: __, West Denton.....ccccesececccssoests _

Cator, C. O. F., Esq., M.A. 4 Parkside, Beckenham90 1866-1874imp.T 9
The Hall, > woos (G 1874imp.-1875T 1

Hambly, H. A., Esq. { Park Villas, St. Endellion, - C1873imp-1874impT 0
Barn Park, Boscastle, > CG 1874imp-1876impT 1

Hamilton, Rev. Dr. Bressay Manse, Shetland ... 1849 imp.-1866, 1868-75 25
Hildved, J., Esq., Batley, Yorks ..0... csecsssesseerereeeee O 1874 1
Hunter, J. L., Esq., C.E., Wigan Water Works G@ 1863-1875 13
Ingle, Mr. W., Birch Hall, Colchestersssessecserereee GO 1866-1876 11

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Perfect Yearly

Records,

James, J. W., Esq., Harbour Office, Swansea 1864-1875 12
 Jones, T., Esq., Kensworth, Dunstable...5..... 1864 imp.-1876 6 13
 Leach, J., Esq., Ivy Tower, Tenby, S. Wales 1871-1876 imp. T 5
 Little, J., Hisq., Carlesgill, Westerkirk 1844-1854, 1856-1875 31
 Marx, F., Esq., Arle Bury, New Alresford, Hants..... G 1862-1875 C 14
 'or iman, 'V. "., Esq., Kingsbury Street, Marlborough... 1861-1876 16
 Muriel, J.T. fea, Goolboel SM eeceeee ceceeee O 1875-1876 T 2

* Mylne, W. Ci, Beg. (EB. Sees Hod Lane, Enlieht.l... 1864-1875 6 12

We tinate, Rev. C. d., West dlailam, Derby 8 1865-1875 T 11
 Nicholls, C., Esq., Cheltord, Chesterceseseeeeee - GO 1863-1875 T 13
 Philliskirk, Mr. D., Filey, Yorks.:cccseeceseeeeeeeeeee O 1865-1875 T 11
 Rankin, W., Esq., Chapel Brampton, Northampton 1874-1875 2
 Stephenson, Rev. Nash, Bromyard, Hereford @ 1872 imp.-1876imp.T 3
 Swire, Mrs., Littlethorpe, Ripon..... cesses eeeee oe =O 1868-1875 T 8
 Synions, J., Esq., Mayen Ho., St. Sennen, Cornwall G 1871-1875 5
 Turner, H., Esq., Beech Hill, Bury St. Edmunds..... 6 1860 imp.-1876 imp. T 15
 Walker, Rev. J. T., Ashdon, Linton, Cambridge..... @ 1858-1876 T 19
 Watt, D., Esq., Londonderry 0. ..sses0e00eeee GO 1862 imp.-1876 imp. T 13
 Wilkinson, Rev. J. J., Lanteglos, Camelford, Cornwall...1863-1868, 1873-75T 9
 Winter, T. L. M., Esq., Brookmead, Dorking 1870-1876 7

43

centre of the county would be vacant, and even now there is an area of 1,400 square miles around Loch Naver without a single gauge.
IRELAND.

In 1862 I was able to publish twenty returns of the fall of rain in Ireland during 1861, the largest number ever collected up to that time-the only approach to it being during the year 1851, when, for one year only, Dr. Lloyd had a set of 16 stations at work. It is fair subject for gratification that for 1877 we have ten times that number of stations, and that, with few slight exceptions, they are equably spread over the country.

Gains.-The most important additions in 1877 are two new stations at Valentia, Kilrush, several stations in Wicklow, and several in Down.

Losses.-The following losses are important :-Skibbereen, in 8. W. Cork ; Queen's College, Galway (fortunately, this is only temporary) ; Westport, Mayo; and Carnlough, Antrim.

Wants.-East Kerry ; West Cork; round Thurles, in Tipperary / S.W. of Wicklow; West of Mayo; Lough Corrib; Longford; S.E. of Cavan; around Lough Erne; and West Donegal.

OBITUARY.

WE mentioned last year that the obituary list for 1876 was exceptionally heavy, and we rejoice to find that this year it has returned to its ordinary length. There are, however, two or three well-known names in the list: there is that of Mr. Bravender, the author of an able paper in our last volume, and of Mr. Whitehall Dod, who has, by establishing numerous stations in Denbighshire, rendered the representation of that county very much better than it had ever been before. The death of Mr. Ogilvy, of Corrimony, followed as it has been by the termination of the record at that very important station, leads to a rather depressing thought, viz, why it is that the

relatives of deceased observers do not do that which they must know the deceased would have wished. Almost every observer would like to feel that the record, for the continuity of which he had been | careful during his life, would be continued after his death. This is being done in the cases in the following list where a O (continued) follows the date of termination of the record; but we think that it ought to be more general.

We must not close this note without a word of regret for the great losses which France, not to say the World, has sustained in the ~ deaths of Le Verrier, and of Belgrand-the latter probably the most able hydraulic engineer in Europe.

Perfece

yearly

records.

Barrington, E., Esq., Fassaroe, Bray, Wicklow..... Q 1858-18760 24
 Bathurst, Rev. W. H. Lydney, Gloucester we... GO 1865-1871T .. 0... 7
 Bell, M. J., Esq., St. George's Road, Glasgow G 1865-1869impT ... 4
 Bravender, F., Esq., The Firs, Cirencester @ 1869-18760 8
 Burgess, Mr. G., Broomlands, Kirkpatrick-juxta, Dumfries. 1866-1877 12
 Dod, Whitehall, Esq., Llannerch, St. Asaph 1867-1877 11
 Dymond, W. P., Esq., Penmorva, Falmouth.. 61874imp-1876T... 2
 Ellis, W. Esq., Garrison Hospital, Portsea ...6.. 2.0... . eee 1872-73 imp -1874.. 2
 Fletcher, J. C., Esq., Dale Park, Arundel, Sussex 1846-54, 1860-1875, 25
 Home, Rev. R., Swinton Manse, Coldstream -..... +0000 G 1871 tue 1876 we OT
 Johnson, C. W., Esq., F.R.S., Waldronhurst, Croydon ... 0 1859-1873 T 15
 Lockhart, A. E., Esq., Borthwickbrae, Hawick, N.B..... 1860 imp ~1876C0... 16
 Longman, W., Esq., Ashlyns, Berkhamstead 1874-1876 ... 4... 38
 Lyttleton, The Hon. Mrs, Hagley Rectory, Stourbridge... 1868-18760 9
 Manning, Mr. T. D., Yeovil, Somerset62 seeeseees 1876-1877 T 2

C 1853-1858 T
 Menzies, W., Esq., Parkside, Englefield Green Ee T veosee 16
 1870
 Morgan, A., Esq., C.E., Town Hall, Wolverhampton 0 1873-1876T ..0....., 4
 Ogilvy, T., Ksq., Corrimony, Glen Urquhart..... 0 1863-1876 T 14
 Parrott, E., a Castle Fields, Buckingham @ 1872-1876 T 5
 Rigg, Mr. J.. Measandbecks, Haweswater00c..0. O1866imp-18760 ... 10
 Taylor, J., Esq., Ryde, Isle of Wight see es O 1860-1876 T .2..... 17
 . C 1861 imp -1867 T

Topp, W., Esq., Ashgrove, Elgin este seen ceteeeenens io 1869-1876 14
 Vernon, G. V., Esq., F.R.A.S., Old Trafford, Manchester. s 1867-77 imp Tt 19
 West, F., Esq., Grendon, Widdecombe, Devon O1871imp-1875T ... 4

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OBITUARY.

WE regret to have the longest obituary list 'which it has ever been our duty to print. We have lost fifty observers in one year, which is more than twice the average number ; several are serious losses in many respects ; ten of them were observers of more than: twenty-five years' standing ; others (like Mr. Fletcher) had devoted attention to many branches of observational and experimental work ; in other cases the loss is especially to be regretted because it leaves important places without a representative, g., the Island of Sark, as well as Alderney, is now without an observer. Moreover, many of these observers were liberal subscribers, and their death takes about 25 off the subscription list. -- \

There are, in fact, only two pleasant thoughts which arise fr contemplating this list,-(1) that there is not a single name which | brings back the memory of anything but agreeable intercourse and correspondence, although there is scarcely one observer whose returns

I have not been obliged to send back for correction ; and (2) that all the mass of information indicated by the figures in the last two columns is safe, and cannot share the fate which so often befel observations in byegone years, viz., to be destroyed as waste paper almost immediately after the observer's death.

Perfect
- yearly
, records.

Armstrong, A., Esq., Kylemore House, Galway0 1875-77
.....ccc00000.06... 3
Atkinson, T. K., Esq., Reston Hall, Stavely0 1864 imp -77
T..... 13
Bolckow, H. W. F., Esq., M.P., Marton Hall, Middlesborough..C 1864-77
T.....cc.cccc008 14
Briggs, Rev. W. H., Oakworth, Keighley, Yorkshire0 1876-77
T..... 2
Bubb, A., Esq., Witcomb Court, Gloucester.....0 1856-63, 1865-77 T
..... 21
Cachemaille, Rev. T. L. V., Parsonage, Sark0 1865 imp -76
T..... 11
Campbell, A., Esq., St. James's Place, Fermoy, Ireland 1856-76 T..... . 2
Cathcart, E., Esq., Auchendrane, Ayrshire6 1856-74 To" Jig
Charles, Rev. Dr., Aberdovey, North Wales0 1875 imp -78T..... 3
Clements, Rev. D., Warleggan, Bodmin oo... eeceeeeeeeeeee 1860-77 Tho. 8
Curtis, J., Esq | Roe Trafford, Manchester0 1862-70 imp T
lesteeneene 8
2 us * (Roseleigh, Heaton Chapel, Manchester0 1870 imp -77 T..... 7

'Westall, Dr., Croydonc0ccecceceaceeeenceeceeeseereneee oeeeeO 1860 imp-63,
1864-72imp C 9
'Whitwell, H., Esq., Springfield House, Peterborough 1864-78 G.....e IS
Woods. Rev. G. H West Dean, Chichester6 1834-49 To... 15
? se" (Shopwyke House, Chichester0 1850-78 eee 29

| 55

DECREASE OF RAINFALL WITH ALTITUDE.

Mr. Dives has been making occasional observations with the gauges described in British Rainfall, 1877, page 17, and has on more than one occasion found the fall upon the lee side of the top of the tower greater than that upon the ground. He has not been able to forward the results for publication this year, but we hope to receive them for our next. |

Mr. A.:O. Walker, of Chester, has for some time had two gauges recorded simultaneously—one on the ground, the other above the battlemented' top of the shot tower at Chester Lead Works, 160 ft. above the ground. During the last two years these gauges have given—

AMOUNTS. RATIOS.

Ground. Tower. Ground. Tower.

1878 2938 1691 100 57

1879 3004 1760 evant' 100 59

We suggested that two gauges should be placed upon the tower, which is 17 ft. in diameter, in order to ascertain whether, at that great height, the difference between the windward and leeward side would be found. Mr. Walker has had this done, and finds that it . is the case. He writes, "The rainfall is always greater on the side furthest from the wind, i., on the East side when the wind is from the West." .

OBITUARY.

With the steady increase in the total number of observers, there necessarily comes also an increase in the number of deaths, but we are glad to find that our list this year is shorter than that in our last volume. We regret to find that the continuance of the records by the relatives of deceased observers is not increasing in frequency. Perhaps the expediency of endowing stations in perpetuity might be worthy of the consideration of some of the more wealthy observers, such for instance as the late Mr. Whitbread, whose observations are to be continued it is true, but only for a few years.

The asterisk against certain observers denotes that their observations were among the few contained in the first volume of British Rainfall.

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OBITUARY.

WE are glad to have an exceptionally short list this year of observers removed from us by death. Only two were among the contributors to the 1860 rainfall table, viz. Messrs. Gillett and Moyle. Long as was Mr. Moyle's register, it was surpassed by Mr. Huyshe's, and still more by that of Mr. Brooke, which only required four years more to complete half a century. Six of the deceased observers had each continued his observations without change of locality during upwards of 28 years.

Perfect

yearly

. . records.

Baker, T. D., Esq., Comberton Road, Kidderminster 0 1878 imp ~79... 1
 Bigg, Capt., Swallowfield, Horsham 6. cseceseees cseees GO 1873 imp ~78... 5
 Blyth, H. E., Esq., Burnham Westgate, Norfolk.....1840imp-67 T 1876-78 30
 Bourne, J., Esq., Cleobury Mortimer, Shropshire 0 1862-64 T 1877-79 T..... 6
 Brooke. Rev. J Haughton Vic., Shiffal.....00. cee OG 1835-46 T 46
 POOKE, HEV-e'-> | Haughton Hall, ,, 0 seeeseeessveeeeseeceesersesseeO 1847-80 .. a
 Brown, Mr. J., Rockingham Castle, Northampton... 0 1867-80 14
 Cantrell, C. S., Esq., Riding Court, Datchet 0.....
 1870-80..... 11
 Carter, Rev. J.. Bridekirk, Cockermouth..... 6 1865-69
 T..... 5
 Charlton, W. H., Esq., Hesleyside, Bellingham..... 0 1863-79 17
 Chichester, Capt., Far Town, Huddersfield 0.0..... 1867 imp-70T 3
 a Sir A. B., Arlington Court, Barnstaple 1871-79 9
 Cholmeley, Rev. Dr., Findon, Worthing:00085.-0 1864-65, 72T. 3
 *Cinlett. G.. E | aval House, Taunton 0 0 1855-65 T 14
 etl, t+ US4->) Hovelands Terrace, Taunton 0 1874 imp -79
 Hankey, J. A., Balcombe Place, Cuckfield 0 1862-80
 19
 Holthouse, Rev. C. S., Helidon Vicarage, Daventry 0 1875-80 6
 Hurst, T., Esq., jun., Lauder Grange, Corbridge-on-Tyne 1875-80 0..... 6
 Huyshe, Rev. J., Clyst Hydon, Fo tien epg sonst ss me 1847-80 34
 : Starfield, Liverpool 0 1842-49 T..... 8
 Lassell, W., Hsq., F.R.S., } Ray Lodge, Maidenhead 0 1866-70 T..... 5
 Lloyd, Rev. C. W., Aldham Rectory, Hadleigh..... 0 1851-79 T..... 29
 Marriot, J., Esq., Braybrooke, Rothwell 0.....cceccceseees 1865-78
 14
 J., Esq., Kibworth Harcourt, Leicester 1856-78 T..... 23
 *Moyle, M. P., Esq., Helston 0... eeceeeceeeesecsuseceeeeee/O 184] imp
 -74 T 33
 Robinson, Rev. W. P., D.D., Trinity College, Glen Almond, Perth. 1876T..... 1
 Stanley, Mr. E., Stretham, Ely 2. cc. ce. cece eceeseeeee--O 1848-80 6..... 33
 Stansfeld, Rev. J., Coniston Cold Vicarage, Skipton 1875-79 5
 Vidler, M., Esq., C.E., Walls End Cottage, Pevensy 0 1850-80 0..... 31
 Wynne, B. W., Esq., Garthewin, Abergyle 00000..... 1874-77, 79... 5

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OBITUARY.

Although rather longer than the list in our last volume, the following must be regarded as very short when it is remembered that it represents nearly all the deaths among about 1500 persons. Besides its shortness, the statement is in another respect satisfactory, in that it shows that several of the more important records are being continued.

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED ee

TO JUNE, 1882. 9 Bog

DATE. ESs

Ai

Ainsworth, T. Esq., The Flosch, Cleator 1844-53 1855-69 T} 925
 Berens, Miss, Sidcup, Kent.....0 c.c.c cece eeese eee ene C 1862-81 imp T...../ 19
 Beresford, D. W. P., Esq., Fenagh, Bagnalstown ... C 1866-76, 79-81.....) 14
 Birt, W. R., Esq., F.R.A.S., Walthamstow 1871-75 Ti... 5
 Boyd, Rev. J., West Melton, Rotherham C 1861-80 C.....) 20
 Busfield, Mrs., Morland Hall, Westmoreland..... 1877-78 T....., 2
 Bush, C., Esq., Weston, Bath.....ceceeeeee eee C 1862-80 T...! 19
 Chadwick, R. Esq., Matlock Bath, Derby C 1866 imp -80 C.....; 14
 Cox, S. W., Esq., Market Harborough C 1872 imp -80 T.....) 8
 Curley, T. Esq., C.E., Broomy Hill, Hereford C 1864-70 T.. 7
 Davies, D. R. Esq., Agden Hall, Lymm, Warrington 1880 T oo. 1
 Elliot, Prof., Goldielands, Hawick, N.B. 1862-80 T.....) 19
 Emson, D. K., Esq., Wimbish, Saffron Walden..... C 1864-72 BT... 9
 Kstlin, Captain, Burnham, Somerset.....0..6. C 1865 imp -79 T.....1 14
 Field, Mr., The Cemetery, Hastings.....04.. 1862-78 T...] 17
 Gladstone, T. S., Esq., Capenoch, Dumfries C 1867-81 oe. 15
 Grubb, Miss, Glenam, Clonmel 2 ..ceceeeeee C 1865-80 C.....] 16
 Jardine, A. Esq., Lanrick Castle, Perth C 1851-80 C.....] 30
 Lattey, R. J.. Esq., Cregg Park, Gort, Galway C 1864-81.....1 18
 Morris, Rev. A. J. T. Muthill, Crieff, N.B..... C 1863-69 FP... 67
 Oliver, M., Esq., St. Peter's, Ipswich0..... C 1866-70 T.....) 5
 Oxley, C. C., Esq., Redcar, Yorksc cece 1859-64 2 6
 Rae, L., Esq., Keel Ho., Castlemaine, Kerry..... C 1879-81 Tio} 8
 Reed, W., Esq., Fullands School, Taunton C 1865-80 C.....] 16
 Robinson, Rev. T. R., D.D., F.R.S., Obs, Armagh. C 1836-8t O.....1 46
 Ruston, A. 8., oad House, Chatteris 1874-81 C.....1 8
 - rook House, Cambridge..... C 1866-68 imp T.....) 2
 Warren, G., Esq, (Merton Villa, Cambridge..... C 1868 imp-81 imp Lut 1
 White, J., Esq., Arddarroch, Dumbartonshire C 1848 imp -80 T.....| 32
 Wilson, R. jun., Esq., Wyndham Row, Maryport... C 1876-80 T.....) 5
 Wynne, B. W., Esq., Garthewin, Abergel... C 1874-77 1879-80.. 6
 Yeld, Dr., Sunderland 2.0.0.0... icceceeeeeeee C1880 T we 1
 Nore. -Cindicates commencement of record and alsoits continuation, T its termination
 No records are 'quoted unless they are perfect, and copied in our MS. volumes,

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OBITUARY.

WE are sorry to have to record a rather large number of losses during the past year. Several of our correspondents, however, as seems to be frequent with rainfall observers, passed away at a very advanced age. We know the ages of very few, but among those few were two at 83, one at 88, and one at 91.

As regards continuity, our most serious losses are probably those of Judge Herbert, of Rocklands, Ross, and Dr. Moffat, of Hawarden, Flint-one of whom began his record in 1850, and the other in 1852 -fol both records have ended with the death of the respective observers. The older register of Mr. Brown, of Cirencester, is fortunately continued by his daughter.

Among other important losses we must mention that of Mr. Bosanquet, of Dingestow Court, Monmouth, which leaves a very large district without an old-established station. Dr. Dodgson, of Cockermouth, is also a great loss, as besides his regular observations he made various and useful experiments.

As regards the majority of the other stations we have the great satisfaction of seeing the entry followed by the O, indicative of the continuation of the record.

Only two names have the prefixed *, which denotes that they were among the little band of contributors to English Rainfall, 1860.

Our most serious loss is that of a contributor who scarcely ever took an observation, but who nevertheless rendered great service to our cause. We allude to Mr. Maitland, a Londoner, who loved to spend his leisure in rambling among the Cumberland hills, who, after the death of our friend and helper, Isaac Fletcher, M.P., F.R.S., took upon himself the cost and the care of Mr. Fletcher's mountain gauges, appointed an assistant as observer, paid his salary, procured new gauges, and saw them properly fixed ; in a word, took to Mr. Fletcher's work and did it right well. Mr. Maitland's son has most kindly instructed the assistant to report direct to us until further orders, but it would be far better if some one in the district would take up the care, the cost, and the credit.

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 2

TO JUNE, 1883. DATE. age

ai Di es

Bacon, G.M., Esq., M.D., Fulbourne Asylum, Cambs. 0 1876-81) 6
 Baker, W. B., Esq., Cain's Cross, Stroud 1875-80 a 6
 . Missenden OY csanen ome mesaene cases C 1862 imp - beeen
 Begbie, Mr. J. } Dell Cottage, Gt. Missenden 1871-83 imp 22
 Bingham, Rev. Canon, Bingham Melcombe, Blandford CO 1869-80 T.....) 12
 Bosanquet, S.R., Esq., Dingestow Court, Monmouth CO 1867-81 T..... 1 15
 Brown, T. C., Esq., Further Barton, Cirencester ... C 1844-81 C..... / 38
 Brown, Mr. W., Bretby Hall, Burton on-Trent CO 1860-82 O.....] 23
 Browning, Rev. W. T., Thorpe Mandeville, Banbury 1870-82 imp T..... } 18
 Bumpsted, Rev. Prebendary, Dinder, Wells, Somerset O 1863 imp -77 T..... | 15
 Burleigh, R. W., Esq., Halesworth, Suffolk O 1874 imp -81 G.....) 8
 Thamesfield, Henley 0 1864-72 T.....
 Byles, T.F.A., Esq. White Cliff Glen, Seaton, Devon 1871-81 T.....] 518
 St. Nectan's Glen, Tintagel ... 1881 To ..
 Capell, R., Esq., Weedon Beck, Northamptonshire. O 1874-82 C.....) 9
 *Challis, Prof., F.R.S., Observatory, Cambridge. ... 1860-63 O..... 1 4
 Clark, C., Esq., Westfield Gotiaee, Dundee. eteeeeues C 1867-81 T.....) 15
 ockermouth. CO 1861-72 T.....
 Dodgson, H., Esq., M.D., Derwent House | Q 1873-82 imp C 22
 Douglas, Mr. J., Babworth, Retford..... 0... C 1869-8] T.....] 18
 ABD HBED geneag gong, caxgnensm mere C 1859-67 ee
 olland Road, Kensington 1869-71 T... . :.....
 Doxat, H., Bs.) Clare Lodge, Ealing | 0 1876-80 imp T | ... bn
 Wythegate, Staines C 1880 imp T.....
 Evans, Rev. C. J., Ovington, Watton, Norfolk C 1873 imp -82 imp T. | 10
 Farrar, Mr. J., Burbage Quarries, Sheffield..... 1871-82 T.....] 12
 Goff, 8. D., Esq., Horetown Ho., New Ross, Ireland 1878-81 T.....) 4
 Greg, J., Esq., Escowbeck, Caton, Lancashire 1860-82 C..... 1 23
 Herbert, J. M., Esq., J.P., Rocklands, Ross, Hereford C 1852 imp -81 T... .. 30
 Hinnell, T.C., Esq., Abbeygate-st., Bury St. Edmunds O 1860-82 C.....] 23
 Hope, G., Esq., Fenton Barns, Drem, Haddington.. 1863-72 T..... 10
 James, J., Esq., J.P., eo (fazleon, Monmouth 1874-81 To... 8
 ortwood House, Staines ... C 1866-68 imp T
 Joyner, H.St.J., Esq. Northwick House, Harrow ... CO 1868 imp a imp T 12
 MacDonald, W.R., Esq., Kinloch, Moidart, Inverness CO 1872 imp-81 T..... 1 10
 Maitland, J., Esq., The Park, Loweswater | See previous page ...
 *Moffat, T. Esq., M.D., Hawarden, Flintshire. ..., C 1850-80 T..... 1 31
 Moore, Rev. C. G., pee Chalke, Wiltshire 1881-82 imp T) 2
 INCOIN.....c0..cccsecsecueces sauces 1869-74 T.....
 Norton, J., Esq. | Carholme Villa, Linceln) 1877-81 7... tu
 Nunes, Miss, Langtree Wick, Torrington, Devon ... } 0 1872 imp -78 O..... 7
 Overton, G., Esq., Watton Mount, Brecon.....,.... C 1870 imp -82..... 1 13
 Scott, W., Esq., Barlaston, Stoke, Staffordshire..... C 1865 imp -820.....) 18
 Stirling, J., Esq., Kippenross, Dunblane, Perthshire CG 1852 imp -820C.....] 31
 Taylor, Rev. Hugh, Humshaugh, Northumberland... 1872 imp -82.....) 11
 Thomas, Rev. W. 8., Halse Rectory, Taunton O 1876 imp -82..... 3 7
 Wemyss, Mr.G., The Gardens, Springwood Pk., Kelso 1854-82 C] 29
 Williams, Rev. W. W., Menaifron, Anglesea..... | (01865 imp-74 impT 1879-82) 14
 Nore. -C indicates commencement of record and also its continuation, T its termination.
 No records are quoted unless they are perfect, and copied in our MS. volumes.

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OBITUARY.

It is always depressing to write this page, for it seems like bidding a last farewell to many who have so long worked with us, that even where they have not been personally known, long correspondence has made them seem like old friends.

There are some gleams of comfort even in the following list. There is not one of the band who helped us with our first table-that for 1860-indeed, out of the 168 contributors to the 1860 tables, 27 contribute to the volume for 1883. The deaths this year seem to have been chiefly among those who have observed for only short periods ; half of them have observed for less than a dozen years, and the only ones exceeding 25 years are-

Mathison, Mr. J., Bowhill, Selkirk, N.B., 28 years.
Plant, Mr. T. L., Birmingham, 31 years.
Wyatt, J., Esq., Bryn Gwynant, N. Wales 47 years.
(Mr. Wyatt began observations at Bangor, in 1825).

| PERIOD OF OBSERVATION.

OBSERVERS DECEASED wo

TO JUNE, 1884. | 8 bg

| DATE. 88

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Bere, Rev. J., Skilgate, Wiveliscombe.....0 1876-83 imp T) 8
Bevan, G. I., Esq., Farm Hall, Huntingdon..... . 1873-83] 11
Birchall, Mrs., Whiteholm, Slaidburn C 1867-70, 72-82 C..| 15
Byng. Rev. J., Boxford Rectory, Hadleigh C 1870 imp -83 T.....} 13
Chevalier, Rev. C. C., Heighington, Darlington..... 1870 imp ~83| 13
Cushing, S., Esq., Hindringham, Norfolk 1875-830681 9
Darby, C. E., Esq., Byrmbo, Wrexham C 1863-83 T) 19
Drake, Capt. T. G., R.N., Framfield, Uckfield 1870-77 Too. 8
Drake, Rev. R., Stourmouth, Kent 1870-82 T.....) 18
Elam, Miss, Thorne Hall, Sedbergh 1866-82 C.....] 17
Foulds, J., Esq., Woodside, Kirkbean, Kirkcudbright 1874-82 T..... 9
Frost, J., Esq., Ide Hill, Sevenoaks0.0..... 1877-83 T...0..0....) 7
Gillett, Rev. D., Geldeston Rectory, Beccles 1873-82 T....., 10
Green, J. B., Esq., Tovil House, Maidstone... C 1878 imp -S2C ...) 4
. Churchyard, Boston PSTV482 Dn cceesed 8
Hackford, Mr. E. C. Church Tower, Boston 1880 imp -82 T ... 2

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 PERIOD OF OBSERVATION.

OBSERVERS DECEASED lh .

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TO JUNE, 1884, DATE, & as
 | | am

Hingeston, J. A., Esq., Clifton Terrace, Brighton... 1855-58 imp T..... 3
 Langton, S. Z., Esq., Barrow House, Keswick C 1867-83 C.....1 17
 Liddell, Dr., R.N., Ivybridge, Devon C 1868-83 T1 16
 Mansell, Mrs., Grange Road, Guernsey..... 1879-82 Tio. 4
 Marx, Capt. G. F., Arle Bury, Alvesford..... C 1862-68 imp -S2 C.| 20
 Mathison, Mr. J., Bowhill, Selkirk.0.0000..0... 1856 imp -83.....| 28
 Norris, J. E., Esq., Castle Street, Hereford C 1876 imp -79 T 4
 Ostler, J., Esq., Walrond Park, [lebrewers, Taunton, C 1866-80) 15
 Parkin, Rev. C., Millbrook, Southampton C 1875 imp -82 T ... 7
 The Craig, Windermere... 1847-52 C1865imp T...; 6

Pasley, Ad. Sir T. 8., Bt. ! Dockyard, Pembroke.. ... 1850-54 imp.....) 4
 Moorhil, Smedfield, Botley 1870-83) 14

Camp Hill, Birmingham C 1852-62 T.....) U1

Plant, T. L., Esq. | Moadley Birmingham 1868-75 1882| 14
 Robinson, E., Esq., Solva, Haverfordwest 1862-82 , 21
 Rush, C. G., Esq., Whitehead's Grove, Chelsea..... C 1881 imp -83 imp T| 1
 Siemens, Sir W., F.R.S., Sherwood, Tunbridge Wells C 1880 imp-S2 T ...) 2
 Speed, T., Esq., Chatsworth, Derbyshire..... 1869-82 C.....} 14
 Sturrock, Mr. D., New Pitsligo, Aberdeen C 1862 imp -83 imp C; 20
 Hisclee, "WE. JA... Be Pinner Hill, Middlesex) 1871-830.../ 18
 ooke, \). A., US:) Belhouse, Ramsden, Billericay 1883 C.....1 1
 Tregidgo, Mr., New Quay, Cornwall6.5. C 1862-82) 21
 Harewood, Callington C 1865-67 T....., 3

Trelawny, Col. ; Tamar House, Bere Ferrers... C 1868-69 imp T.....) 1
 Poltair, Penzance008 C 1869 imp -82C ...| 13

WW J. Bangor ce noe seers epee 1825-28 TC 1834-59 T; 30
 yatt, J., Msq. Bryn Gwynant, Beddgelert C 1860 imp -1863-79.| 17
 Nore. -Cindicates commencement of record and alsoits continuation, T its termination

No records are quoted unless they are perfect, and copied in our MS. volumes.

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OBITUARY.

Our list this year is very long, and contains an unusual proportion of our leading helpers. As is shown by the asterisk there are three of the contributors to our first issue. With reference to length of record we feel in some uncertainty as to whether our deceased correspondents had really made all the observations which stand in their names-if they had, the first three names would be Mr. McAuslane, Inveresk, Edinburgh vee vee 47 years. Mr. J. F. Bentley, Foxton, Market Harboro' vo 46 ,, Rev. Dr. Clouston, Sandwick, Orkney wz Le df, but the first two were semi-official records and the earlier years may not have been observed by them. As to Dr. Clouston's record there is no uncertainty ; and from its length, from its position, and from the great care with which the observations were made it was a very valuable register. Another great loss is that of Mr. H. C. Marshall, who was not only a careful observer, but who also rigorously scrutinized the various records kept by his direction, and to whom also we are indebted for a second Seathwaite station, the gauge being placed upon land belonging to himself and observed by one of his agents. He was also a liberal contributor to our funds. We are glad to report that his sons Mr. John and Mr. 8. Marshall will, at any rate for the present, continue nearly all the records.

' PERIOD OF OBSERVATION.

OBSERVERS DECEASED | 2 ps
TO JUNE, 1885. DATE.) eae
| lems

Adamson, Rev. W. R. C., Ashtead Rectory, Epsom	1881-82	00... ee.	2
Baker, G., Esq., Holmfels, Reigate	1881	imp -S4.....	3
*Barham, C., Esq., M.D., Truro	0.....0	| 1869-76imp T....	0 7
Bentley, J. F., Esq., Foxton, Market Harborough...	1838-83	T	46
Bigge, Rev. J. F., Stamfordham Newcastle-on-Tyne (	1854-84	T.....	31
Bland, Rev. R. W., White Abbey, Belfast.....	.....	1875-80 To...	6
Bravender, F., Esq., Cirencester ..	.....	...0008 1869-84 To...	616
Buckman, J. Esq., Bradford Abbas, Sherborne.....	1883	impT	0
Butcher, W. Esq., Gosmere, Selling.....	0.0...	1875-83 T	9
Catchpole, J. T., Esq., Stradbroke, Suffolk.....	.....	1879 imp -83 T.....	4
Clouston, Rev. C., LL.D., Sandwick, Orkney, N.B.	1840	imp -840.....	44
*Clutterbuck, Rev. J. C., Long Wittenham, Berks	OC 1851-840	34
Day, C., Esq., Easton House, Stamford	1867-8400.....	18

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PERIOD OF OBSERVATION,

OBSERVERS DECEASED... sits 3

TO JUNE, 1885. DATE, Hi

Aa Px

Dees, J. W., Esq., Wallsend, North ShieldsJ 0 1859-840{ 26

Dixon, Venble. Archdeacon, Clogherny, Beragh..... 1877-83 T.....) 7

Drewitt, Mr., Denbies, Dorking....., 086) Too... 1

Fison, J. Esq., Barningham, Ixworth, Suffolk; 0 1865 imp -76 0.....; 11

Foster, W., Esq., Queensbury, Bradford.....J @ 1865-84 0] 20

Foster, Miss, Abington Pigotts, Royston..... 1878-83 T , 6

Gamlen, W. H. Esq., Bramford Speke, Exeter.....) 0 1865-84] 20

; . Werrington Vic., Launceston} OC 1873 imp -74 T...

Gibbons, Rev. G. B. } Gamelford, Comal | 1880 imp 83 ri {| 4

Gordon, Rev. F., oe Hom, Congleton... .. 4 1877 imp na imp T 1

' therton Lucas, Chippenham ... 1865 imp -76 im

Gritton, Major { Holt, Trowbridge, Wilts| 1876 imp -84 T... 18

Hainsworth, Mr. J., West Parade, Ilkley) 1877-83 0 ... 0...) 7

Header, H. Esy., Rocombe House, Torquay.....) 1877 imp -84] 7

Hodgson, Dr. R., Northallerton... , 1868-840000.....) 17

Kane, H. J. B., Esq., Tullamore, Ireland.....| 0 1850-83 T] 34

Portland Breakwater; G 1856-65 T.....] 10

*Leather, J. T., Esq. | Leventhorpe Hall, Leeds.....) 1855-84] 30

Middleton Hall, Belford; O 1864~-84.....] 2]

Lindsay, C., Esq., Ridge Park, Lanark..... 1870-84 T.. 0... 15

Weetwood Hall, Leeds.....) 1865-83 C-.....] 19

penciwraltes Cumberland ...| 0 1875 imp-83C.....) 8

. Derwent Island, Keswick ..| 0 1865-830! 19

Marshall, H. C., Esq. (Neer Close, Keswick| 0 1870-830| 14

. Crow Park, Keswick C 1863-71 T) 9

Tunstall, Catterick, Yorks.| C 1865 imp -830C.....| 18

McAuslane, Mr., Inveresk, Musselburgh, N.B..... 1837-83 T) 47

McCullough, Dr., Joint Co. Asylum. Abergavenny...) 0 1863 imp -82C.....| 20

Nelson, Sir T. J., Grove, Hampton Wick| CG 1866-842.....) 19

Peel, J., Esq., Knowlmere Manor, Clitheroe) 1865, 1869-70) 3

Pigou, Col., Beaford, Devon:cccccuee! GO 1884-85 imp T.....] 1

Pymar, J., Esq., Eaton, Norwich @ 1867-83 T) 17

Robinson, Rev. A. E., Wootton, Woodstock 1880-83 T] 4

Scarborough Rt. Hon. Earl of, Sandbeck Park, Tickhill| 1877-840} 8

Selkirk, Rt. Hon. Earl of, St. Mary's Isle 1883-84} 2

Sidebotham, J., Esq., Erlesdene, Bowdon @ 1879 imp ~84.....] 5

Silver, Rev. F., Norton-in-Hales, Market Drayton.; (1866-83 T1 18

Sykes, J., Esq., Hardy Croft, Wakefield..... 1881-83 T....., 3

Tomlinson, H., Esq., Cherryhinton, Cambridge..... C 1871-830) 13

Wainwright, J., Esq., F.L.S., Outwood, Wakefield.| 1882 imp -83.....]

Walker, Mr. W., School Lane, Buckingham 1873-83 T) 11

Walters, Mr., Stretham, Elyccceeeeeeeae 1880-83 C) 4

Whitten, J. S., Esq., Walsgrave, Coventry.....| 0 1877 imp -83.....| 6

Wilson, T., Esq., Thornton-in-Craven , @ 1863-840/ 22

Wolseley, C.B., Esq., M.D., St. Helen's, Dunfanaghy| 01873 imp-78T.....) 5

Young, Rev. R., Teviothe?d Manse, Hawick) 1876 imp - 83 T.. ...| 7

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OBITUARY.

WE have this year one of the longest lists of deceased observers which it has yet been our duty to prepare-it contains no fewer than 54 of our past helpers, and includes (as is shown by the asterisk to their names) three of those who contributed to the first table-that for 1860. The three observers who sent in the longest records were :-

Mr. A. Turnbull, Bothwell Castle, Hamilton N.B. ... 42 years.

W. C. Spooner, Esq., Eling House, Southampton vee 38 C,,

W. Squire, Esq., Berkhamstead ... vee wee wee 37 gs

We believe that we have previously drawn attention to the long age frequently reached by observers of rainfall. The records of the past year fully support this, for although we do not know the age of a third of the deceased observers, yet among the few that we do know, four were between 80 and 85, and one each at 86, 87, 89, 91 and 95, the last being the Rev. H. T. Ellacombe, who when within a year or so of 90, rang one of the bells in the inaugural peal of the new bells in Worcester Cathedral, and whose mental vigour was equal to his physical strength.

No figures appear against Mr. Heathcote's name ; that is not as might be supposed an error, but it is because he was for many years superintendent of the rain gauges established by the Manchester, Sheffield and Lincolnshire Railway Company. It would be absurd to credit him with all the records, and it would, on the other hand, be improper to omit his name.

PERIOD OF OBSERVATION.

OBSERVERS DECEASED ee

TO JUNE, 1886. HATH. SEE

Best, T., Esq., Red Rice, Andover08. 1867-85... { 19
 Birchby, W. G., Esq., Monton, Eccles, Manchester 1880-83 4
 Brougham, Rt. Hon. Lord, Brougham Hall, Penrith 1851-85} 33
 Budden, Mr., Winchelsea, Sussex.....000..., 1874-84 T) 11
 Clarke, A., Esq., Achareidh, Nairn. N.B. 1874-8500-..., 12
 Clode, N., Esq., Rockdale, Sevenoaks... @ 1879 imp -83 imp T; 3
 Cooke, J. H., Esq., Berkeley, Gloucester , @ 1869-85} 17
 Coryton, G. E., Esq., Liss Place, Petersfield, Hants.) 1853-85) 33
 Cutbush, J. Esq., Highgate.....ccececececececece | O 1862-85 Oo... 24
 DeLessert, C.G., Esq., Waterloo Rd., Wolverhampton | 1866-72T.....) 0 7
 Divett, J., Esq., Bovey Tracey, Devon 1 66 imp 28
 Dockeray, J., Esq., Long Lane, Sedbergh, Yorks .. 1876-85 T , 10
 Eacles. Rev. CLL. 3 Longtown Vicarage, Hereford] 1873imp-84impT 10

gies, Kev. ' 4 1 Hafod Ho., Tupsley, Hereford! 1885 imp T
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PERIOD OF OBSERVATION.
OBSERVERS DECEASED Sed
TO JUNE, 1886. AER. ge5
cis oe
Ellacombe, Rev. H. T., Clyst St. George, Topsham.} 1865 imp -84T ... 19
Fawcett, H., Esq., Wainsford, Lymington... ..| G 1866-83 T..... 18
Forrest, S., Esq., Fern Bank, Kenilworth, 1883 imp -84T.....) 1
Garrett, Mrs., Carleton Hall, Saxmundham, 1861 imp -83 T... ..| 22
Gilchrist, Dr., Crichton Inst., Dumfries, 1860-85 CO w..ccee...| 26
Glen, G., Esq., Stratton Audley Park, Bicester ...| 0 1865-85 0 21
Graves, Rev. J., Inisnag, Stoneyford, Kilkenny ...| 0 1865-76 T 0 79-85T 18
Grey, G. A., Esq., Milfield, Wooler, Northumberland C 1864-85 T.....{ 22
Hannam. H. J.. Es Eerie Abingdon..... 1872-85 T) 14
tt. ds, 84-) Northbourne, Deal 1873 85 00. ce eee] 12
Hartland, A. H., Esq., Fern Hill, West Malvern ...| 1861 imp -85_ 24
*Hart JE Liverpool Observatory... ..; OG 1846-66 T 21
DUP, +s PS | Bidston Observatory) 1867-85 19
Heathcote, R. D. Esq., Canal Office, Manchester ...
Hewitt, Rev. T. S., Leysters, Tenbury) 1861-74, 76-77.....| 16
Holloway, Mr. S. P., Vine Cottage, Oundle) 1880 imp -85 C..... 5
Holme, H. P., Esq., Mardale, Haweswater_ C 1881-84 imp T..... 3
Hopkins, Rev. T. H. T., Magdalen College, Oxford... 1867 Towel Ll
Hoskins, T. A., Esq., Higham, Cokermonth..... 1864-85 6) 12
Ingram, J. S., Esq., Williton, Taunton 5 1880-84 T[9
Knollys, E. H., Esq., Fitzhead Court, Taunton..... 1879 imp -84....., 5
Majendie, L. A., Esq., Castle Hedingham, Hssex ... 1864-68 ..,.....0 ..0.f 5
Malcolm, Mr. J., Cholmondeley Castle, Nantwich...) 1866 imp -84 T..... 18
Malden, Rev. C., St. Lawrence, Isle of Wight| 1865 imp -86 imp...| 20
Martin, W. L., Esq., Lee Moor, Plympton, Dartmoor} 1860 imp -84..... 24
Metcalf, Rev. W. R., Buckden, Skipton| 1870-79imp.....] 9
Parkinson, G., Esq., Rye Croft, Crosshills, Skipton.. 1875-84 T.....,....| 10
Phippen, Mr. G., Forbury Gardens, Reading..... 1872-73c.ccece...| 2
Preece, J. H., Esq., Mechanics' Inst., New Swindon 1873 imp -85 C.....|. 12
*Redford, Rev. F., Silloth Rectory, Carlisle] 0 1854imp-84T..... 29
Redmayne, G., Esq., Brathay Hall, Ambleside....., 1873-81 T 9
Robson, Mr. J., Linton Park, Kent| 1855-76 T 22
Sergeantson, Rev. J. J.. St. Michael's, Lichfield... 1873-79, 81-84 T...; Il
Singleton, Miss, Great Givendale, Pocklington 1866-80 imp T.....|. 12
Smith, D., Esq., Bloomsbury, Street Birmingham...| 1861-80, 82-84 T... 23
Spooner, W. C., Esq., Eling House, Southampton... 1848-85| 38
*Squire, W., Esq., Berkhamstead0.0:..{ 1848-84 To... 37
Talmage, C. G., Esq., Von Leyton C ian. ay me T 78-85 ll
ae lwyn Onn, Wrexham... C1867imp-71impT) 3
Tippinge, F. G., Esq., Sansaw Hall, Shrewsbury) C 1871 imp -85 T a 14
Turnbull, Mr. A., Bothwell Castle, Hamilton 1844-850000-| 42
Vibert J. E. Esq., St. Aubin's, Jersey.....606. 1874 imp -85 T.....). Tt
Williams, Rev. S. G. A., Cefn, Llangybi; 0 1864imp -85_..... 21
Yardley, Lady, Hadlow Park, Tunbridge5 1880-83 To...) 4

THE mortality has again been rather high. The total number of observers, including those laid aside by illness or age, can scarcely reach 3,000, yet we have 51 names in the following list-or 17 in the 1,000. It must, however, be remembered that many observers are, as has been pointed out in previous volumes, of very advanced age-c.g., the last death that we have added to the list occurred at the age of 86,

Foremost in importance among our losses is that of Mr. G. Dines, one of the kindest men that ever lived, an accurate observer, and, as several papers in these volumes and in those of the Roy. Meteor. Soc. prove, a deep thinker. As regards length of unbroken record, few persons will surpass Mr. H. H. Watson, F.C.S., of The Folds, Bolton, whose record of 56 years is fortunately being continued by his son. Mr. Gunson's name stands for the long record kept by the Sheffield Water Works Company, at Redmires, because he was the engineer to the Company for many years and forwarded the returns, but we are not sure that the whole record was kept under his direction. We are glad to know that it is being continued by Mr. E. M. Eaton, C.E., the present engineer.

The names of G. Dines and W. Johnson are marked with the asterisk, denoting that they were among the 168 contributors to our first publication, English Rainfall, 1860. Year by year the survivors diminish, but very slowly. In 1883 not one died, in 1884 three, in 1885 also three, and in 1886 two. Out of the 168, 35 are, I believe, still with us, and 21 have sent in returns for 1886.

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 8

TO JULY, 1887. DATE. # A 5

A 2

Tredegaville, Cardiff1 1868 imp -70T.....| 2
 Adams, W., Esq. C.E. ; Crockherbtown, ,, veeseeveel 1871-79 impT) 8
 Park Place 9 wees) 61879 imp-86 imp T) 6
 Ainger Rev. Dr., Whitton Tower, Rothbury, Nthmbrld. | 0 1873 imp -85; 18
 Barbour, G. F., Esq., Bonskeid, Pitlochrie US7IRA79 cissessssce | 9
 (North Broadford 1863-64 imp-66 imp | 1
 Grammar School, Aberdeen .}| C 1864-79 T). 16
 | Ashley Place, Cuparstone....| 1864 imp 66 imp T..| 1
 Beverley, Rev. Dr. { Skene Street, Aberdeen.....) 1866 imp -79 T.....| 13
 Seafeld Cottage, Rubislaw.... 1870 imp-73 imp Tj 2
 | Cuparstone Rd., Hammerfield | C1873 imp-76 imp T; 2
 Bonaccord Street, Aberdeen. | C 1876 imp-79 T.....| 3
 Bircham, W. D., Esq., Hackford, Reephams, Norfolk} 1873-83 impT; 10
 Birkett Mr | Beetle Lod sence eee e ee eeee ee eee see eenenees 1871-78 C Ob dee ewe
 enee
 mom's UCastle Lodge, Rosthwaite, Keswick) 1879 imp-82 imp-86 C; 7
 Bouchier, Major, Felthorpe, Norwich.....4. 1876-86| 11
 Caulfield, Dr., Royal Institution, Cork..... 1864-84 we...) 21
 Chadburn, A. W., Esq., Brincliffe Rise, Sheffield 1872-860) 15
 Cherry, G. C., Esq., Denford Park, Hungerford.... 1874-861 18
 Culley, H., Esq., Cossey Mills, Norwich) 1858-86 imp| 28
 Dart, Mr., Chewton Priory, Bath:0seeee 1867-86| 20
 Davy, Lt.-Col., Rose Ash, South Molton, Devon..... 1870-86| 17
 Deane, W. H., Esq., C.E , Castlemorris, Tralee ...| 0 1877 imp-86 T Q
 St. Ann's Hill, Wandsworth ...| 1858 imp -65.....) 7
 Windlesham, Bagshot) 1864 imp-66 imp T | 1
 *Dines, G., Esq. { Pyports, Cobham , @ 1866 imp --72 imp T | 5
 Ewell Road, Surbiton @1872 imp-76 imp T | 3
 Woodside, Hersham) 1876-86{. L1
 Dunlop, W. H., Esq., Annan Hill, Kilmarnock.....{ 0 1871-80 T] 10
 Elliot, Sir Walter, Bt., F.R.S., Wolfelee, Hawick. 1866, 68-86) 20
 Elliott, Miss, Kirndeane, New Castleton, N.B) 1864-85 0...) 22
 Enniskillen, Rt. Hon. Earlof, Florence Crt. , Enniskillen 1854, 56-860| 32
 Fielden, J.. E Stansfield Hall, Todmorden ... 1864-72, 74-84 T...| 19
 leiden, v-, MSq. Nutfield Priory, Reigate.....| 1873-86) 14
 Gardner, R., Esq., The Bulthy, Middletown I cas a ars ene ce wos 1
 Gibson, Miss, Hurstleigh, Blackwater, Hants.....| 1875 imp -85 T.....}. 10
 Grounds, A., Esq., March, Cambs.....25..) @ 1878-84 To...) 7
 Redmires, Sheffield} 1836-86 01 51
 Gunson, J., Esq. { Rivelin, Sheffield{ @ 1872-860) 15
 Crookes, Sheffield , @ 1872-86 0 , 15
 Hadden, Miss J. P., Guildown, Guildford) 1870 imp -86.....| 16
 Haviland, Rev. Canon, Warbledon, Sussex 96 ump. BO. 5 imp rH
 Hull, Rev. Canon, Eaglescliffe, Yarm..... 1866-80 T) 15
 Johnson, C. W., Esq. Waldronhurst, Croydon 328 ae T LS
 PAGESGED veces ce we sae sata 08 eae: 1853-60 imp T). 7
 *Johnson, W., Esq. | Banbury setesvecsescesseessseeeee! O 1860 imp "66 Liwss. |
 Mann, T., Esq., Thelveton, Norfolk0..... GO 1883-85 0.0.0... 3
 Massie, R., Esq., Pulford Hall, Chester) 1867-86) 20
 Milbank, A. S., Esq., Barningham Park, Barnard Cas.} 1871-791 9

PERIOD OF OBSERVATION,

OBSERVERS DECEASED . : ed

TO JULY, 1887. Sanh. | ane

Ame

Penny, Mr. W. D., The School House, Nairn..... 1870-72, 77-86 cecal 13
Peter, Rev. J., Old Deer Manse, Aberdeen ae kg ee _ 1]
Playfair, Rev. D., Abercorn, Linlithgow....., @ 1872-79 T...{ 8
Power, Rev. J., Altarnum, Launceston..... 1879 -86 C.....{
Purdie, T. S., Esq.,Castle Cliffe, St. Andrews 1876 -81/ 6
Rammell, G., Esq., Old Tree, Hoath, Canterbury... 1879 -86..... 2....) 8
Russell, C. P., Esq., Royal Literary Institute, Bath} C 1865 imp -86 C.....| 2!
Sherbrooke, H., Esq., Oxton, Southwell] 1862 -86.....) 25
Sidgwick, Rev. R. H., Skiptoncceseeeeeeeeee? 1863 -67 Ti... 5
Stent, W. J. Esq., Downside, Warminster..... 1870 -81 imp -86.../ 16
Arboretum,Nottingham| 1867 -73impT.....; 6
Tarbotton,M.O.,Esq., C.E. { The Park, Nottingham.| 1873 imp -86.....| 13
Todd, Rev. J. U., The Priory, Dunster, Somerset... 1874 -82impT.....| 8
Twamley, C., Esq., Ryton-on-Dunsmore, Coventry 1878-866... 9
Watson, H. H., Esq., The Folds, Bolton-le-Moors...| 1831 -860.....) 56
Weston, Mr. W., Eastwood Colliery, Notts) 1880 -86.....1 7
Williams, Mr., R. O., National School, Dolgelly.....| G 1865 -86 imp..... ..} 21
Wilson, C., Esq., Shotley Park, Shotley Bridge 1883, 84imp T.....) 1
Wise, J. F. N., Esq., Rostellan Castle, Cork..... 1880 -85 T..... 6

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OBITUARY.

WE have again a long list of losses, slightly longer than even in 1886 -for t here are 52, including men of high scientific standing, such as Baxe ndell, De Chaumont, and Balfour Stewart, and members of both Houses of Parliament, .g., Lords Clermont and Northwick, and Messrs. Robertson and Schneider.

Two of the observers had made observations more than half a century ago. One of them, Lady Bayning, but for her early records being broken up by being partly in town and partly in the country, and for an interruption prior to 1848, would have had a continuous record of more than 50 years instead of the 39 which stands against her name. Mr. Colin Campbell's Argyllshire record of 48 years (with unhappily one year imperfect) is the longest in the list, and then we may also note the records kept by the Rev. R. B. Cooke which jointly cover 42 years.

Of original contributors to English Rainfall 1860 we have lost only two-Mr. W. H. Richards of Penzance and Prof. Balfour Stewart-these, as usual, being marked with the *.

Rainfall work to be efficient requires two things-(1) good observations, (2) money to pay for workingthemup. This obituary tells year by year the story of our losses in the first respect ; it would not be in good taste to give analogous details as to the financial loss, but there can be no harm in stating its aggregate, which this year reaches the large sum of 26 19s. 6d.-and of course this is not merely a loss for this year, but annually for all time to come.

PERIOD OF OBSERVATION.

OBSERVERS DECEASED Bre

TO JULY, 1888. DATE. 255

amg

Appach, R., Esq., Swattenden, Cranbrook) @ 1875 imp-87}| 12
 Balfour, Col., Balfour Castle, Kirkwall, N.B.....| 1856-87] 32
 Baxendell, J., Esq., F.R.S., Hesketh Park, Southport] C 1872-87 C| 16
 Londonecsseeeeeeeeeeeel O 1836-42 allimp ...
 Bayning, The Lady, | Ramsey, Huntingdon) @ 1836-42 allimp ...
 Honingham, Norfolk 6 1848-87 imp T). 39
 Buddicom, W. B., Esq., Penbeddw, Nannerch 1879-87 woo. 9
 Byron, Rev. J., Killingholme, Ulceby, Lincoln 0 1866-86 imp T.....) 20
 Cadogan, C. H., Esq., Brenckburn Priory, Morpeth) 1864-87| 24
 Campbell,C.G., Esq. Stonefield, Tarbert,Cantire,N.B.! 1839-69 imp-87 ...| 48

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 8 bg

TO JULY, 1888. DATE. | 238

AP

Cattley, W. E., Esq., Edderton, Ross, N.B. 1882-86 | 5
 De Chaumont, Prof. F., F.R.S., Netley, Southampton 1382-87 beneeneeneeras a
 Flurrybridge, Armagh. 1876-86 T-
 Clermont, The Rt. Hon. Lord Ravensdale Pk., Newry 1871-86 T] 16
 Coles, W. C., Esq., M.D., Bourton-on-the-Water... 1880-871 7
 Cooke. Rev. R. B | ene ae York w.....] GO 1844-65 To...) 22
 , coe Bryn Alyn, Mold, Flintshire..| 1866 imp -87 imp T; 20
 Earnshaw-Wall, Rev. S. W., Ellough, Beccles 1880-87 imp T|. 7
 Evans, Mrs., St. Catherine's Close, Norwich| 1865-87] 23
 Fielder, H., Esq., South Street, Dorking..... 1884-86 Tt 8
 Gandy, Capt., Skirsgill Park, Penrith, 1883 imp-87 imp...} 3
 Grant, J., Esq., C.E., Blessington Road, Lee..... C 186 imp -87..... 22
 Hollacombe, Paignton, Devon 1873-85 imp T) 12
 Greenfield, J. Esq. Rosenville 59 C 1885 imp "87 2
 Kidderpore, Res., Hampstd. 1880-87| 8
 Hack, T., Esq., C. E. | Campae Hill, Kensington,| 1882imp_87 | 5
 Harrison, C., Esq., Areley Court, Steurport 1881 imp -87....., 6
 Harvey, H. M., Esq., Hexworthy, Launceston| 1865 imp -68 imp T
 0 69-87| 7
 Hodgetts, A., Esq., Abbot's Court, St. Bees, Carnforth 1874-86 T} 18
 Holland, Rev. E. W., Dunsfold Rectory, Godalming S72 Dow ogee. tig) od
 Jenyus, Rev. F. G., Knebworth Rectory, Stevenage. | C 1876-87 { 12
 Keary, H. W., Esq., Aldenham Park, Bridgnorth...} 1884 imp-87) 3
 McCormack, Mr. J. Braemar Place, Aberdeen 1881-87 .. wc. 7
 Machem, Rev. J.E.J., Llanthwy Vach, Newport, Mon. 1878-864 9
 Madden. Dr | ee ee Jacobstow0.., 1870-73 Tw. 4
 . "" ({Strete, Dartmouth, DevonJ 1875-86 ...0.....] 12
 Melhuish, W. W., Esq., Clawton, Holsworthy| 1866TC1870-87impT| 18
 Neame, E., Esq., Harefield, Selling, Faversham ...; 0 1866 imp -87.....) 11
 North, A., Esq., Salcombe Hill Ho., Sidmth., Devn. . Oar a bet seeeeeeeees 5
 . Burford, Tenbury 1847-81 83-85 T .../ (38
 Northwick, Rt. Hon. Lord Northwick Park, Moreton C 1859 imp -87 C..... 27
 O'Grady, Rev. T., Hognaston Vicarage, Derby) 01885 impT) -
 Perrins, J. D., Esq., Davenham Bank, Malvern.....) 1887.....4 1
 Pinder, Rev. H. S8., Bratton Fleming, Barnstaple ...| 1865-67T(69imp-74T| 8
 Pratt, Rev. E. O'Brien, Kilkeel, Co. Down.....) 1875imp ~87impT.; 11
 *Richards, W. H., Esq., South Parade, Penzance...) 1859-87 T| 29
 Robertson, H., Esq., C.E., M.P., Pale, Corwen.....{| 1873 imp ~-87] 14
 Roper, W., Esq., South Road, Lancaster.....) 1861-87] 27
 Rump, H. R., Esq., Wells-next-the-Sea, Norfolk ...| 0 1866-76 imp 77-86..| 20
 Schneider, H. W., Esq., Belsfield, Bowness{ 1871-73... 8
 Sherwin, W., Esq., Farnborough Grange, Hants ...J 1877-870 0.0.00...) 1
 Smith, Rev. U., Stony Middleton, Derbyshire| 0 1865 imp -87 C.....| 22
 Spedding, H. A., Esq., Mirehouse, Bassenthwaite, Keswick} 1864-8701 24
 Stainforth, Rev. T., Bolton by Bolland, Clitheroe... 1834 wef OL
 *Stewart, Prof. Balfour, F.R.S., Kew Obs., Surrey 1860-70 0{ 11
 Springfield, Tiverton..... 1863 imp ~75_.....). 12
 Stokes, H., Esq. re Parade, Bath 1878-87 T 10
 Taafe, Dr. R. P. B., Brighton.....ccecccccseeee cence 1875 -83 imp -87...| 12
 Tucker, H., Esq., Uplyme, Lyme Regis] @ 1876imp-84impT} 7
 Westley, E. P., Esq., Spring Hill Nailsworth 1868-85 T1 18
 Weston, Rev. G. F., Crosby Ravensworth, Shap ...- 1868 imp -78.....' 10

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OBITUARY.

THIS year we have the shortest list of losses since 1883-not three-quarters of the average-and there is not one of the original contributors to English Rainfall, 1860. But death has removed some of our best supporters, such as Mr. La Trobe Bateman, F.R.S., who has for many years supplied us with returns from many stations on the waterworks of Manchester, Oldham, and other cities and towns of which he had constructed the works, Mr. Clegram, Mr. Coke, and Mr. Muir, were all engineers who helped us by furnishing copies of the records made under their direction. To Dr. Hoskins we were indebted for the longest series of observations ever made in the Channel Islands.

PERIOD OF OBSERVATION.

OBSERVERS DECEASED 8 pd

TO JULY, 1889. DATE. 35

Pa ce

Bartlett, J. E., Esq., Peverel Court, Aylesbury..... 1874imp- 76} 2
 Bateman, J. F., Esq., C.E., F.R.S. [See above] ... 1864-88[25
 B M Corse House, Aberdeen 1869-76| 8
 erry, oi } Cullen House, Banffccccceeeee) GO 1884-88 ec] 5
 Blair, Capt. of Blair, Dalry, Ayr, N.B.; 1863 imp -67 T.....) 4
 Capron, J. R., Esq., F.R.A.S., Guildown, Guildford| C 1880 imp-88| 8
 Gloucester, Twigworth| 1858-62impT.....| 4
 Clegram, W.B., Esq.,C.E. 4 Frampton - on-Severn,
 Saul Lodge| @ 1862 imp -88.....) 26
 Tapton Grove, Chesterfield... 1870-78 T) 9
 Coke, R.G., Esq., CE | Brimington Hall,Chesterfield) (1880-88] 9
 Lindway Res., Chesterfield... 1883-88/ 6
 Coode, J., Esq., Polcarne, St. Austell 1866-87 T1 22
 Crallan, Rev. T. E., Hayward's Heath, Sussex @ 1868-84 T| 17
 Dickson, Mr., Castlemilk, Lockerbie, Dumfries..... 1887-88 , 2
 Hartley, Rev. A. O., Steeple Ashton, Trowbridge...| 1875 imp-88}. 13
 Hopkins, T., Esq., Limber Grange, Ulceby) 1882 imp-88.....| 6
 Hoskins, Dr. S. E., F.R.S, York Place, Guernsey..| 1843-81 T; 39
 Howard, J. Esq., Clapham Park, Bedford 1875-88{ 14
 Hudson, Dr., Glenville, Co. Cork EE eT eAE Te 4 an Tee 16
 Drummany, Belturbet. imp- waist 10
 Jones, H. M. Anketel, Esq } Belle Vue Park,Dalkey| 1877-877
 Kirk, J., Esq., The Watton, BrecknockJ 1866 imp-87 T..... 21
 Law, Frank, Esq., Agnes Road, Northampton 1886-880..00.... 38

PERIOD OF OBSERVATION.

OBSERVERS DECEASED 2 pa

TO JULY, 1889. DATE. : 28

pi

McLaren, Mr. J. B., Cardington, Bedford| @ 1846-87 0] 32
 Male, Rev. A. 8., More Rectory, Bishop's Castle ...; 1869 imp-87 T.....! 18
 Muir, J., Esq., C.E., New River Company's Stations 1875-82 oc... | 8
 Muirhead, Rev. P. J., Kippen, Stirling 1884-87 T | 4
 Bournemouth 1867-68 Tw... 2
 FromeVauchurch, Dorchester} C 1869-72 T 4
 Newnham, Rev. P.H.\ Stonehouse, Devon) 0 1873 wv. 1
 Maker, Cornwall] @ 1876-77,79-86imp T| 9
 The Chaplainery, Exeter 1886 imp-87T.....| 1
 Osborne, Rev. A. Haynes, ae aceeeeeecaeteneaees 1884-86 T) 3
 Low Lights, N. Shields| 1862 imp-88T.....; 26
 Procter, J. R., Esq. Clementhorpe __, veeeet O 1867 imp-88 T.....; 21
 Prout, Mr., Endsleigh, Milton Abbot 1880-88-.....) 9
 Savill, R., Esq., Bushey, Watford0.. 1876-85 T| 10
 Seager, Rev. J..0., Stevenageccceseeeseeee | OG 1864-83 To... 20
 Sherwin, Mrs., Farnborough Grange, Hants.... 1887 Tw ee} 1
 Triplow, Mr. T., Slade Farm, Chatteris) 01879 imp-87T| 8
 Upton, H. Esq., Aldwick, Bognor | @ 1860-68, 70--76.....) 16
 Ward, Capt. J.. R.N., Greenham, Newbury| @ 1865 imp-87T| 22
 Ward, T., Esq., Arnold House, Blackpool 1878-87 T..._____|_ 10
 Welch, E. B. Kemp, Esq. , Westbourne, Bournemouth imp 88 imeT 79) 44
 Westrop, M. H., Esq., Carrigaline, Co. Cork.....J 0 1885-8800...] 4

61

OBITUARY.

Our losses this year, though not numerous, are noteworthy for the very long series of observations made by many of those whom we have lost. Mr. Davis, of Orleton, heads the list in this respect with, if we are not mistaken, the longest record ever kept by one person, except the historic Lyndon register of 64 years ; Mr. Davis's record extended over 59 years, The observers whom we have lost and whose records were perfect for at least a quarter of a century were :- 59 years... Mr. Davis 33 years... Mr. Storie 28 years... Mr. Row

39 ~Ss,,_... Mr. Leslie 30 =, ... Mr. Webster { | 25 ,, ... Mr. Ainslie 5 9, -- Capt. Liddell | 28 ,, ... Mrs. Kaye 95 -. Mr. Hill

35 ~,,... Mr. Tabor 95 + Mr. Nutter

Two of these, Mr. Davis and Captain Liddell, were, as is shown by the * among our original contributors to English Rainfall. 1860, and have contributed observations to every subsequent volume.

We have already stated how much Major Mathew helped us in North Wales ; Captain Liddell was similarly energetic and successful in Cornwall from 1855 to 1870.

PERIOD OF OBSERVATION.

OBSERVERS DECEASED 8 i

TO JULY, 1889. DATE. ae m

28

Ainslie, D., Esq., The Gart, Callander, N.B.....) @ 1864 imp- 89 25
 Baker, J. L., Esq., Hargrave, Kimbolton _.....) @ 1877-88 C....., 12
 Bayne, Mr., The Gardens, Patshull, Wolverhampton 1884-89 imp.....) 5
 Bellingham, J. G , Esq , Saffron Walden..... 1872-89] 18
 Brown, A.J.D., Esq., Balloch Castle, Dumbarton, C 1861 imp-79, 81 imp
 NAB. occ ee cece sce ene cence eee ee teeeeeeeeeenes seeneees ~84impT| 20
 *Davis, T. H., Esq., Orleton, Tenbury, Worcester| C 1831-89 C 59
 Edgar, Rev. Dr., Mauchline, Ayr, N.B.] 1886 imp -88 T.....) 2
 Falls, W. S., Esq., M.D., Bournemouth _....., 1862-661 5
 Farrer, Rev. M. T., Ingleborough, Clapham, Yorks 1882-88 T/ 7
 Good, H. D., Esq., C.E., Dymchurch, Kent; 1873 imp-90 imp T) 16
 Gordon, J., Esq., C.E., Leicester0..., 1885-88 0... 4
 Higgins, H., Esq., Thinghill, Hereford| O 1876 imp -89.....! 13
 Hill. J., Esq., Brithdir, Dolgelly) 1864 -88 C.....] 25
 Hopkins, Rev. Canon, Littleport, Ely, Cambridgeshire 1879-89 Fi sanencemene| LY
 Jackson, Mr. W., Market Place, Mansfield..... | 1882 imp --90 imp T 7
 Johnston, W., Esq., Williamstown, Clonee, Co. Meath 1872-88 FP xtmsnicel PF
 Kaye, Mrs., Tetworth Hall, Huntingdonshire| @ 1860-65 imp -88C) 28
 Leslie, J., Esq., C.E., Fernielaw, Colinton, Edin- 1849 imp -61 imp
 HOPQHSHINE wesessccnwem ec nes Semnemrwtesse oe comunceme -89 ... J eeec.eeeee | 39
 *Liddell, Capt., R.N., Bodmin, Cornwall 1850 -89 imp T.....'. 39
 f

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 2

TO JULY, 1889. DATE. 25

one

Lippincott, R. C. C., Esq., Over Court, Bristol..... 1880-89] 10
 Little, H. J., Esq., Coldham Hall, Wisbeach... .. 1872-76, 78-89.....| 17
 Mathew, Major, Wern, Guildford, Surrey 1880-88 @.....] 9
 Mitchell, Miss, Shu-le-Crow Ho., Keswick..... 1877-89] 18
 Nicholl, G. W., Esq., The Ham, Cowbridge, S. Wales| C 1864 imp -88C.....| 24
 Nicoll, Mr. J., The Cemetery, Arbroath, N.B. 4 1886 ow imp... 3
 Granchester Mill : 1866-88 0] 2
 Nutter, J., Haq,, Beech Ho... { Cambridge 1} ig62-89 | 98
 Parkin, A., Esq., Sharrow Bay, Ullswater, 1867-87 T) | 21
 Perry, Rev.S.J., F.R S., Stonyhurst Ob., Lancashire 1868-88 C] 21
 Pyle, T. T., Esq., M.D., Esplanade, Sunderland ...| 1865-69 T) 5
 Row, W. N., Esq., Cove, Tiverton6....| 0 1862-891 28
 Rushmore, Mr.G. L., Tendring Hall, Stoke,Colchester| 1867-88T} 22
 Shackleton, J., Esq., Withnell Hall, Chorley..... 1875-88-.....) 14
 Stocker, Rev. W. H. B., Ovington Rec , Alresford,

Hants sescnamis ssmesicmincemenmmimnn soos] OC 186 inp-68 U ...;.,| 12
 Storie, Mr. J., Kast Linton, Haddington, N.B.....| 0 1856-88] 33
 Sturdy, D., Esq., Trigon, Wareham, Dorset 1886-87 2
 Sullivan, Adml.SirB.J.,K.C. B., Tregew, Bournemouth 1881-88 T,| 8
 Tabor, S8., Esq., Fennes, Bocking, Braintree, 0 1851-86 impT.....| 35
 waptas L., Esq., Aghalee, Lurgan, Ireland.....) 1868-87| 20
 Varty, Mrs., Manor Road, Holloway, London 1879-87 T) 9

' 4 Arpley, Warrington 1871 -77 0..... 7
 Vawser, R.Esq. } Comnetery, Warrington] 1871 imp -77 0.....| 6
 Vernon, W. F., Esq., Harefield Park, Uxbridge ... ener imp T, 068)
 Wathen, W. D., Esq. Castle Hill, Fishguard, 1881-88T1 8
 Webster, Mr. J., Gordon Castle, Banff, N.B.....| 1880-89| 30
 Wildsmith, Mr., Heckfield Place, Hampshire| 1883-88 T) 6
 Wood, A. H.,Esq.,C.E.,The Hollies, Hastings,Sussex| 1871-88T.....| 18
 Note.-C indicates commencement of record and also its continuation, T its termination.

No records are quoted unless they are perfect, and copied in our MS. volumes,

D4

OBITUARY.

THE list of our losses is shorter than even last year, which was itself much briefer than usual.

We have this year-as the * indicates-lost one of those who contributed to our leaflet. respecting 1860, but twelve out of the original little band are still contributing records.

The contributors whom we have lost in the past year, and each of whose records covered at least a quarter of a century, are :-

Rev. W. Heberden 37 years. D. Milne Home, Esq.... 29 years.

N. Whitley, Esq..... 33 ,, | Sir J. W. Bazalgette... 26 ,,

R. Spence, Esq. 31 ,, , Rev. A. Rawson..... 25 ,,

As bearing upon the longevity of rainfall observers, although in the majority of cases I am not aware of the age at death, I do know that the following exceeded 80 years :-

Rev. W. Heberden..... 86 years.

D. Milne Home, Esq. 00.06 85 4,

Rev. Canon Philpotts 0.0... =84 4,

P. Carmichael, Hq.0.2. sere 82 ,,

N. Whitley, Esq.cccee cesses SL G,

In the volume for 1889 there were eight above 80, five above 85, and two above 90.

Mr. Heberden was a descendant of Dr. W. Heberden, F.R.S., who was the first to prove the decrease of the rainfall collectable at considerable heights above the ground, which he did in 1766 by erecting a gauge on the top of Westminster Abbey, and showing that while gauge on the ground collected 2261 in., the one on the top of the Abbey collected only 12:10 in.

Mr. Milne Home was a warm supporter, if not the founder, of the Scottish Meteorological Society.

Mr. Whitley was well known, especially in the west of England, is the author of several papers upon Meteorology, published in the Journal of the Royal Agricultural Society and elsewhere.

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 2 ed

TO JULY, 1891. DAT See

ans

Alford, Rev. C., Westbury, Wells, Somerset..... 1887 imp -90 T.....| 3
 Ballantine, Mr. J., Old Cumnock, Ayvr..... 1870-90 T) 2]
 Barrington, R., Esq., Beech Ho., Redhill, Surrey...; 1884 imp -90impT| 5
 Bazalgette, Sir J. W., C.E., Metropolitan Board | 1863 -88 G.....{ 26
 Of Worksccc ce cece cee ceeseeeeesneee s ceereeee G | Various.
 Bradley, J., Esq., Fylde Water Co., Kirkham| C 1869 imp -89C.....| 20
 Callender, Rev. H. ., Brathay, Ambleside vin C 1873-85 Tw...) 12
 Carmichael, P., Esq., Arthurstone, Meigle, Perth .. 1872-904 19
 Cheere, Rev. E., Papworth Hall, St. Ives, Hunts .. 1884-90 T .. wo. .00., 7
 Fortescue, Col., Stevenstone, Co. Louth anes 1874-89, 16
 Hayward, W., Esq., Upper Clapton, Middlesex.....| 1881-89 T)
 Heberden, Rev. W., Broadhembury, Honiton | 1837-74 imp T|. 37
 Home, D. Milne, Esq., Milne Graden, Berwick. 1856-89) 29
 Horn, T., Esq., Crimplesham, Downham Market | CG 1884 imp- 89 5
 Horsley, J. J., Esq., Belle Vue, Alnwick, Nrthmbl'd. 1886-90 impT.....| 4
 Howes, Rev. Prebendary, Exford, Somerset vase C 1874 imp -90 T..... 16
 Lauder Grange,Corbdg.-on-Tyne 1874-83 T ...00.0..0 |
 Hurst, T.G., Esq., | Gobo Rd, ,Newcastle-on-Tyne C 1884-89 T core | 16
 Lucas, Rev. R. G., Mulbarton, Norwich 1873-89 imp T....., 14
 May, aay . - i South Petherwin, Launceston ...| 1873 imp-90T.....| 17
 Merrifield, J. Esq., avigationSchool, C 1869-86 T 5,
 LIL.D. q Hobart Terrace, Plymouth) }g97-90 22
 Muirhead, Dr. H., BushyHill,Cambuslang,Lanarkshr.| 1868 imp -89T.....' 21
 Neill, W., Esq., Town Moor, eben tye | 1868-89 C) 22
 rookban . 0 1871-78 imp T ... }
 Ormerod, G. W., Esq., Woodway ... Teignmouth) 4 1878 imp "60 v4 19
 Philpotts, Rev. Canon, Porthgwiddden, Truro... 1882-89 0.08. 8
 Phipps, P., Esq., Toweester, Northampton eceeeee? @ 1875-90 0 1.0} 16
 Bromley Common, Kent| G 1865-82impT ... =
 Rawson, Rev. fu, | Fallbarvow, Windermere 7} 61883-90 |
 Sawyer, F. E., Esq., Buckingham Place, Brighton...| 1869-86impT..... 17
 Smith, Cecil, Esq., Lydeard Ho., Taunton, Somerset} C 1871 imp -90 imp 4) 16
 *Spence, R., Esq., Rosella Place, N. Shields 1860-90 T , 3]
 Stevenson, Rev. H. F., Knockan, Londonderry.....| C 1876-89 T 14
 Strangways, Capt., R.N., Dawlish, Devon| @ 1879-89 T) 11
 os Town Hall, , C 1866-70 imp T ...
 Waring, T., Esq., C.E., | Fact Moors, | Cardiff si 1878-84 T Peo 9
 Whitley, Nicholas, Es?, Penarth, Truro.....) @ 1857 imp -90.....) 33
 Wilbraham, H.,Esq.,OldheadHo., Westport,Co.Mayo| C 1877-89T 13
 Wingfield, Col., Onslow Hall, Shrewsbury| 1879 imp -90.....[. 11
 Woodhouse, Rev. T., Ropley, Alresford, Hants ... 1885-89 T 0.0.0...) 8
 Yeoman, J., Esq., Osmotherley, Northallerton 1870-89 C, 20
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Norr.-C indicates commencement of record and also its continuation, T its termination.
 No records are quoted unless they are perfect, and copied in our MS. volumes.

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OBITUARY.

WE are very sorry to have by far the heaviest obituary since the publication of British Rainfall commenced. The greatest number-of deaths previously reported in any year was 54, in 1885, and the average number is about 43 ; against this we have lost since the issue of our last volume no fewer than 65 of our helpers. A great loss which we regret, as regards our work because it has broken several long and useful records, as regards our funds because it has swept away many subscribers, and as regards ourselves because long co-operation makes the loss of a good correspondent like that of a personal friend. Much of this loss was due to the epidemic of (so-called) influenza, and it did even more harm to rainfall work than is shown by the mortality, for it caused the interruption of many a record, and has rendered many observers unfit to continue their work.

The deceased observers, whose records cover at least a quarter of a century, were- |

Prof. J.C.Adams,F.R.S. 27 years. Mr. J. Garnock 31 years.

Dr. G. F. Burder..... 39 ,, E. S. Lendon, Esq. ... 26 ,,

His Grace the Duke of | Rev. W. A. Paxton..... 29 ,,

Devonshire 42 ,, Rev. Canon Woodruff... 26 ,,

Of the age of 25 of the deceased observers I am not aware ; but of the 40 of which I have particulars, fourteen were 80 or upwards, nine were over 85, and four were over 90, again proving that which I have constantly stated as to the general longevity of meteorologists.

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED Bg

TO JULY, 1892. DATE. 238

tae

Adams, Prof. J. C., F.R.S., Observatory, Cambridge] C 1864-90 C[. 27
 Airy, Sir G.B., F.R.S., Royal Observatory, Greenwich 1874-80) 7
 Ames, E. L., Esq., Lyme Regis, Dorset.....| 1868-90 C} 23
 Back, Rev. J., Horsell Vicarage, Woking, Surrey...| 1880-90TJ) 1]
 Banister, Rev. W., St. James' Mount, Liverpool ...| 1877-90T] 14
 Bayman, Mr. E., Holmbury, Dorking 1876-91 -.....6., 16
 Bell, R., Esq., Chatton Vic., Belford, Northumberland} 0 1890 imp -91 T.....J 1
 Berry. Mr. L., Water Works Offices, Rotherham...) 1874 imp -91] imp] 16
 Bowstead, T., Esq., Edenhall, Penrith| 1864-69 T 6
 Burder, Dr. G. F., Clifton, Bristol] @ 1853-911 39
 Clark, Dr., Blair, Minehead, Somerset.....} 1889-91/ 3
 Clay, J. Travis, Esq., Rastrick, Brighouse, Yorks.. 1887-91085 5
 Coppin, J., Esq., Bingfield Ho. Corbridge-on-Tyne. 1874-91 T[18
 Cowburn, Major T. B., Dannel Hill, Chepstow.....; 1886 imp -91.....) 5
 Crossley, L. J., Esq., Moorside, Halifax) 1871 imp-76 imp Ti 4
 Davidson, Rev. Dr., Logie Coldstone Manse, Aberdeen} C 1870 imp -91.....{ 21
 Davies, Mr., Dinorwic Quarries, Carnarvon| 1882imp -90 T.....! 8
 Devonshire, His Grace the Duke of, Holker, Cartmel} C 1849 imp- 91 C.....| 42
 Draffin, Mr. J., North Shore Pavilion, Bridlington Quay 1885-90 T | 6
 Dugdale, J., Esq., Water Works Office, Chester 1884 imp -90C.....] 6
 Evans, Rev. Canon, The Vicarage, Rhyl, Flint..... 1890 imp-91T.....| 1
 Fortescue, J. C. W., Esq., Stephenstown, Dundalk 1890 T 1.
 *Garnock, Mr. J., North Esk Reservoir, Penicuik 1860-90 C] 31
 . Exe Villa, Tiverton, Devon..... 1873-79 imp T.....| 6
 Gill, H. 8., Esq., | Tey Place, __, ee) 0188091 ae
 Goodhart, Rev. C. J. Wetherden Rec. Stowmrkt. Sufflk} C 1869 imp -91.....) 22
 Gosset, Rev. I. H., Northam Vicarage, Bideford ...| CG 1865-69 T 5
 Hallam, T., Esq., Albert Park, Middlesborough ...| C 1875-9001 16
 Hammond, J., Hsq., Arucliffe, Skipton] 1881-911 1
 Hancock, J. D., Esq., Halse, Taunton) 1883 imp -90|. 7
 Hartnup, J., Esq., Bidston Observatory, Birkenhead 1886-91 6
 Harcourt, E. W., Esq., Nuneham Park, Abingdon...| C 1887-900) 4
 Hathaway, W.H., Esq., Water Works, Banbury, Oxon 1886-90 ... 5
 Hawsworth, W., Esq., Eddington, Herne Bay, Kent| 1884 imp -90.....| 6
 Heathcote, J.M., Esq., Conington Castle, Huntingdon} O 1865-75| 11
 James, Rev. J. B., Knowbury, Ludlow, Salop) 1852-75 T.....| 24

Lansdowne Road,

Kesteven, W.B., Esq., M.D., | Holloway, N.....; 1867-71 T) 5
 Chase Side, Enfield, N.| 1880 imp -81 T.....]
 Knollys, J. E., Esq., Fitzhead Court, Taunton| C 79 imp --84, 86-90...| 10
 | Llangibby Castle, Newport, Mon.| 1875imp-85impT...) 9
 Lawrence, D., Esq., Porthycarne, Usk, Mon.) 1885 imp -89 T..... 4
 Glen hailog, "6 99 ceoveeeeeel OCUSMOT oe. 1
 Acol, Margate.....] 0 1864-8] imp T....., | _ 17
 London, E. 8., Esq., Birchington, Margate| 61881imp_90T.| 9
 Budleigh, Salterton, Devon 1876-90) 15
 Lipscomb, R.H., Esq., ; Stevenstone, Torrington, ,, 1880-90/ LI
 Little Silver, " | 1877-90 , 14
 Lucas, Rev. R. G., Mulbarton, Norfolk 1873-90 imp| 14
 Macguire, J., Esq., Northampton | 0 1875-88 T.....| 14

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PERIOD OF OBSERVATION.

OBSERVERS DECEASED 8 mg

TO JULY, 1892. ATE. 236

Aa

Manning, R_ J., Esq., Wells, Somerset 1880-91 T] 12
 Martin, J., Esq., Wainfleet, Lincolnshire 1888 imp ~90.....) 2
 Mason, T., Esq., Kirkby Stephen, Westmoreland... 1870-90 C, 21
 Miller, Rev. H., Ashbury Vicarage, Shrivenham ...| 1870-91] 22
 Parbury, A., Esq., Bondi, Shanklin, Isle of Wight... 1880-90 T] 11
 Paxton, Rev. W. A., Otterden, Faversham, Kent...) CG 1858-86{ 29
 Peake, R. W.. Esq., Spring Grove, Isleworth 1868 imp -89 T.....) 21
 Rosling, A., Esq., Wray Park, Reigate, Surrey..... 1870-91ce0| 22
 Sanders, R., Esq., Heale House, littleham, Bideford 1876-91| 16
 Shiffner, Miss, Ketches, Newick, Lewes _.....| 1865-78T[14
 Slinn, W. S8., Esq , Ampthill, Beds _.....]. 1865 imp -75 T.....; 10
 Smith, Rt. Hon.W.H ,Greenlands, Henley-on-Thame| C 72imp-76, 81imp90 C} 13
 Stanton, Genl., The Grove, Hillingdon, Middlesex.. 1888-90 imp T.....; 2
 Stanway, J., Esq., Water Works, Huddersfield ...} 1872imp90C| 18
 Thurtell, W., Esq., Grange Road, Sutton, Surrey... 1882-90 T 9
 Tripe, J.W., Esq., M.D., Richmond Road, Hackney|C56imp-66T78-91impT| 23
 Twyman, T. Esq., Renfrew Villa, Margate| 1877 imp -91.....). 14
 Waller, F. A., Esq., Shannon Grove, Banagher.....) C75imp-79, Slimp-91| 14
 Westcott, Mr. R., Raby Castle, Darlington 1875 imp -82 C.....| 7
 Westlake, T., Esq., Fordingbridge, Salisbury| (1875-91[17
 Wilson, Col., Eryl Arran, Balaccceee ee 1887-90 C 4
 Woodruff, Rev. Canon, Wistow, Huntingdon| C 1864-82, 84-90T..| 26
 Young, Col. Grant, Malvern Wells, Worcestershire] C 1883-84 T.....) 2
 Nore.-{ indicates commencement of record and also its continuation, T its termination.

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OBITUARY.

WE are very glad that the extremely long list of deaths which we had to insert last year is followed by a shorter one on the present occasion; but though not long, it contains the names of many excellent observers, of several who have been observing more than a quarter of a century, and of three of the little band of 168 friends who supplied me with returns for the leaflet, English Rainfall, 1860 - their names, in accordance with our usual custom, have a * prefixed. That out of the 168, twenty-six should be surviving 33 years later, seems to me confirmation in another form of what I have long held as to the general long life of rainfall observers. We have it again in the fact that out of the 43 observers recorded in the following list, I have ascertained the age at death of 21, and ten of them were over 72, the oldest three being respectively 85, 88 and 93. As regards length of record, I cannot be sure for how many years Mr. Parfitt sent the Exeter returns (which are continuous back to 1817), but I think for 31 years. If so, we have lost altogether nine observers each of whom had a record exceeding a quarter of a century. Observers Deceased to July, 1893.

PERIOD OF OBSERVATION.

NAMES AND STATIONS. Bes

DATE, 288

Lal

Horninglow, Burton-on-Trent} 1868-80T

Abbotts, R. W., Esq., ~ Shobnall, -" = Bs 1875-92 25

Stapenhill, ee ee C 1881-92...

Ackland, Rev. T.S., Wold Newton, Hunmanby, York] C 1875 imp -91 T.....; 16

*Boyd, Rev. Canon, Arncliffe Vicarage, Yorks| 1853-93 imp) 40

B FJ.E Marlboro' Cottage, Hammersmith 1856-8, 1860-67 T 19

urge, Bd stSq-7 Bromsgrove Villa, 'a C 1869T ~

Cody, Rev. E. G., Fort Augustus06 1889-90 esa geen nay 2

fHolmston, Ayrc eee eee eee 1869-74 imp T ...

Drennan, J., Esq., \ Auchinlee, : hee cesceseesese 0 1874 imp -91 0... 22

Eddy, Rev. C., Bramley, Basingstoke, Hants 1883 imp -91.....| 7

Elliot, J. T. S., Esq., Wolfelee, Hawick 1890-91 ccc00s 2

Elliott, Mr. T. C., Melbury House Gardens, Cerne

Abbas, Dorsetcccsevecsecceccssereeeee| 0 1856-92000....0.) 37

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Observers Deceased to July, 1893- (continued).

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PERIOD OF OBSERVATION.

NAMES AND STATIONS. SEE

DATE. Es

RiP

Faunce de Laune, C. de. L., Esq., Sharsted Court, ;

Sittingbourne.....0:005 6. cesses eeeseeeeeeeeeee| 1884 imp -916.....) 7
 Fraser, Rev. H. G., Beaumont College, Old Windsor 1891-92c000f 2
 Grant, Prof., F.R.S., Observatory, Glasgow| 1856-91 C] 36
 Hodgson, John, Esq., M.D., Northallerton, Yorks. 1884-89 T] 4
 Jackson, Mrs. Rachel, Waterend, Loweswater.....;| (1868 imp -91.....} 23
 Keane, Sir R. F., Cappoquin, Waterford 1887-88 0. 2
 Lawson, Rev. Basil, Wythburn Parsonage, Helvellyn| 0 1866 imp -92imp Tj 25
 Macaulay, Jasper, Esq., Leigh Hill House, Cobham 1882-92 L1
 Mackenzie, J. I., Esq., M.D., Belgrave, Sidmouth.| 1865-73TJ 9
 Mahony, R. J., Esq., Dromore Castle, Kenmare,

Co, Feeney coy aipe.ran imsuesomonsenes co im mmy arog igen 1875 imp -92 T.....] 17
 Massie, Rev. E., Nutwood, Grange, Lancashire ...| 1873 imp -91 T.....; 18
 Mathison, R., Esq., Innerleithen, Peebles| 1884-90 T) 7
 McKelvie, W. R., Esq., Eastern Necropolis, Dundee} C 1866-92] 27
 Mee, E. Dyson, Esq., Bulvan, Romford...| @ 1890-93 impT.....) 3
 Metcalfe, Miss B., Harbledown, Canterbury.....| 1876-92 T] 14
 Marten, H. J., Esq., C.E., Numerous gauges along

the River Severn-cccecsecsessesseesee| 1879 imp -92 C.....] 13
 Nichols, R. C., Esq., Highley Manor, Balcombe,

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 Parfitt, E., Esq., Devon & Exeter Institution, Exeter] ?1862-920) 31
 Potchett, Rev. C., Ryhall, Rutland.| 1865 imp -85 T.....| 19
 Scroggs, Rev. S. M., Bishopsteignton, Teignmouth.| 1864-70T] 7
 Simpson, Martin, Esq., Guisborough Road, Whitby} C 1864-91 T.....] 28
 Stanton, Miss, East Stoke, Newark bee eee aeeeeeseees 1879-86, 88-91 T..| 12
 Stott, S., Esq., Woodfield, Lytham, Lancashire ... 1876-9] T] 16
 Symington, Capt R , Fairlawn, Market Harborough 1881-91{ 1

Wroxton, Banbury| 1876 -86 imp T...
 Tawney, A. R., Esq. St. Giles, Oxford -..| 6 1886 imp -91 0... le
 *Vivian, E., Esq., Woodfield, Torquay 1860-61, 1864) 3
 Wallis, J., Esq., Kettering, Northampton.....| @ 1863 imp -91| 28
 Wesley Villa, Sedbergh, Yorks..| C 1886 imp-88 impT
 Watson, Rev. J. Wesley Ho., Nuneaton, Warwick] 1888 imp-90impT 3
 Redcar Rd., Guisborough, Yorks} 1891 imp -92T...
 Wellesley, Lady C., Conholt Pk , Ludgershall, Wilts 1888~92 5
 Westcott, Mr. R., Raby Castle, Darlington) 1875 imp -89 C.....; 14
 Whipple, G. M., Esq., Kew Observatory, Surrey.. 1876-92 17
 *Whistlecraft, Mr.O., Thwaite, Mendlesham, Suffolk| 1830-68| 39
 Wigram, J. R. Esq., Landford, Wilts.....] 1866-91[26
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OBITUARY.

WE have lost an exceptionally large number of observers during the past year ; in fact 65, exactly as many as in the worst year-1891.

Three of the observers who contributed to English Rainfall, 1860, have passed away-Mr. Dyson, Col. Haywood, and Mr. Ingram.

The Rev. Leonard Blomfield, who (under his former name of the Rev. Leonard Jenyns) began observations in 1832, has passed away at Bath at the age of 94. Had his residence at Bath afforded facilities for observation, his record would have been a very long one, for he retained all his faculties to quite a recent period ; failing that, he adopted a course which may be made to prove even more fruitful, for he presented all his instruments (and the Jenyns library) to the Royal Literary and Philosophical Society of Bath, and, as a society need never die, the observations may go on indefinitely, if the Society be properly managed. ,

There are fifteen deceased observers whose records cover more than a quarter of a century, and the following four had been observing for more than a third of a century, viz. :-Col. Haywood for 36, Mr. Arthur Marshall for 38, Mr. Ingram for 39, and Mr. Dyson for 42 years.

It is sad to look down the list, but, as far as we know, there are but two who were not over 50 years of age; in fact, we have in the following list quite the usual excessive proportion of long-lived observers. We have the age at death of 39 ; of these, three died at the early ages of 31, 41, and 53; the other 36 were all 60 or upwards ; 30 were 70 or upwards, 13 were 80 or upwards, and three reached respectively 90, 93, and 94.

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Observers Deceased to July, 1894- (continued).

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| are

Mackeson, H. B., Esq., Hythe, Kent.....) @ 1865-93 9... ..] 29

Marshall, A., Esq., Hallsteads, Cumberland /0 1853 imp -86 imp -920 | 38

Marson, J. Esq., Hill Cliffe, Warrington 1882 imp -92.....} 10

May, Rev. H. T., South Petherwin, Launceston,

Cornwallcccc cece cc eee seer eeneeeeeesencensenes 1881-90 T | 10

Mitchell, Col., Luscar House, Dunfermline, N.B.... | 1891 imp -92 C.....]

Moffat, J., Esq., J.P., Ballyhyland, Enniscorthy,

Wexfordccccccccccccsseseseseeseeecesseseseseseseet O 1867-92 ...) 26

1870 imp -75, 78 imp

Moore, W. C., Esq., Bamford, Hathersage, Derby | -84 T 85 imp -86

89-93imp T, 15

Mott, Rev. H. 8., Much Hadham, Ware) 1866-81 0 | 16

Pell, Mrs., Hazelbeach, Hall, Northampton | 1884imp-90imp-92C] 7

Pengelly, W., Esq., F.R.S., Lamorna, Torquay ... | 0 1864-88 T.....) 25

Reade, R., Esq., Alma House, Sydenham, Belfast.. o 1875-92 T 007 18

erry Hill, York 1866-80, 82-92C... | 26

Richardson, H., Esq. Cherry Bank, Ilkley, Yorks | C 1880 imp 926... 12

Robie, Mr. D., Western Street, Bedford | 1869-93 T.....] 25

Rust, Mr. J., Eridge Castle, Tunbridge Wells | 1862-64 T 71-3, 77-92C} 22

Shadwell, Rev. A., Little Ilford, Essex 1881-88 T] 8

Smith, H. A., Esq., The Mount, Chepstow 1879-87, 89-920...) 13

Smith, W. R. W., Esq., Rosmor, Holy Loch, Argyll) C 1883imp-92T ... | 9

Soames, Rev. C., Mildenhall, Wilts) 1866-80 imp -93 C | 27

Stuart, Col., Tempsford Hall, Sandy) 1873-92.....{ 20

Swift, Rev. J. S., Thorpe Arnold, Melton Mowbray} C 1875 imp -93 impT) 17

Twining, Dr. A. H., The Knoll, Salcombe, Devon} C 1890-93....., 4

Varty, Miss, Manor Road, Holloway, N. 1879-87 T] 9

Venables, Rev. E. B. W., Red Hills, Belturbet ...) 1864-92 | 29

Watson, C., Esq., Clouds, Dunse, N.B. 1882-90, 92 | 10

Wilkinson, Rev. Dr., Swalcliffe, Banbury | 1888-90 imp..... | 2

Roslyn, Hampstead | 1863-70 imp-73 imp

Woodd, C. H. L., Be ~92 6 wo. ee. 46

Oughtershaw, Yorks .../1858, 1863-76, 77-78 T

C 1880-82 TC 84-92C...

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OBITUARY.

THE little band of survivors among the helpers to the first issue of this series of volumes-that for 1860-is being gradually reduced ; but considering that it is more than 30 years since, it is, perhaps, rather a subject for thankfulness that 22 remain out of the original 168. This year we have only lost one, the Rev. A. R. Lloyd, at_ 78-slightly above the average age at death of rainfall observers, which is about 75. This year the mean age of 42 deceased observers is exactly 75. Out of 42 whose age we knew, 37 were over 60, 29 over 70, 21 over 75, 15 over 80, 7 over 85, and 2 over 90. .

As regards length of observation, Mr. Lawton, of Hull, heads the list with 43 years ; followed by Mr. Collingwood, of Lilburn Tower, and the Rev. A. R. Lloyd, of Oswestry, with 39; Dr. Armstrong, of Appleby, with 38; Mr. Dudgeon, of Cargen, with 36; and Mr. Morgan, of Tegfynydd, with 35 consecutive years of observation.

It is always sad work, the compiling of this list of friends and helpers who can help no more; but there is one gleam of brightness shoots across it in the fact (which is becoming more frequent) of sons and, in some cases, grandsons carrying on the work of previous generations. If we could secure that generally, there would be little doubt as to the accuracy of the knowledge of the secular change of rainfall which our successors would possess.

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Observers Deceased to July, 1895.

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Armstrong, Dr. Fergus, Appleby, Westmoreland...) 1856 imp -94 sree | 38
 Ballingal, J. S. R., Esq., Eallabus, Islay, Argyll, 1866 -94.....; 29
 Bankes, J. Scott, Esq., Soughton Hall, Northop, | |
 Bint. cccscsecsteteteestee eee 1877-94 cee 18
 Bentley, G., Esq., Upton, Slough..... ee, IS74-94 O 21
 Biddell, M., Esq., Playford, Ipswich 0.1 1884-90 To... 7
 Bowles, Rev. F. A., Singleton, Chichester 1878-92 T leeseesee 15
 Bridge, Rev. S., Droxford Rectory0041 1874-85 T; 12
 Clarke, Edwin, Esq., C.E., Cromwell House, Great |
 Marlow cc cee ceeseeseececeeteeesee ce eseeeee 1880-89, 93 T .. 2...) 11
 Collingwood, E.J., Esq., J.P., D.L., Lilburn Tower, |
 Alnwick..... oily Hal 1856-94 vcceceseeeeeel 39
 Shotley Hall0:.ceeeees 1870-79 veces |
 Coulson, Mr. J, } Shotley Bridge, Durham ..| 1882-93 os. 21
 Coupland, R. C. B., Esq., Skellingthorpe Hall, | |
 Lincoln oo. ee eeeee eect eeeeeeee eee e acne eee ce 1874-75, 77-94 20
 Davy, Mrs. Tanner, Rose Ash, South Molton, Devon| 1887-94 .. es
 Devas, Mrs., Colwall, Great Malvern 1876-90 T... .., 18
 De Winton, The Ven. Archdeacon, Llandrindod
 Wells ooccccccccccececeeseeeseeeeeertesseeeecs sereeeee? G 1882 imp -93.....,) 11
 Dudgeon, P., Esq., Cargen, Kirkcudbright; 1859-940 36
 Eagles, Rev. C. I., Longtown Vicarage, Abergavenny, C 1873imp-84impT| 10
 George, Dr. H., Queen Street, Horncastle 1874-93 20
 Grey, The Rt. Hon. Karl, K.G., Howick, Northum-
 berlandccccece cee cee ese cesececsseetssseererees? O 1865-94 Oo. | 382
 Hadden, Miss, The Beeches, Guildown, (:uildford...|. 1870 imp -93..... 28
 Hardy, W. H. Cozens, Esq., Letheringsett Hall,
 Norfolkccccceecceeeetetee ceetteeeeeereneees | 1873-94 oe) 22
 Heathcote, Rev. Canon, Conington Rectory, Hunts 1864-65 Toy 2
 Heygate, Sir F. W., Bart., Bellarena, Londonderry| C 1864 imp -93 C.....) 29
 Holmes, R., Esq., The Parade, Arundel, Sussex, 1879-94 16
 Hussey, E., Esq., Scotney Castle, Lamberhurst. ...| 1862-65, 73-89.....| 17
 Kingston, Mr. R. C., Brantinghamthorpe, E. Yorks) 1874 imp -94.....J 20
 Knowles, G., Esq., Moorhead, Shipley, Yorks 5 ie 80-85, 87-94 | 15
 - Manor House Street, 1849 imp -7limpT |?
 Laawrbon, Way ESQ -y Derringham, Hull g 387] imp -93 T.....1 , as
 Lewis, D. H., Esq., Ystalyfera, Glamorgan _..... 1882-93 T 12
 Littleboy, R., Esq., Newport Pagnell, Bucks... 1864imp --94 G....., 30
 Lloyd, Mrs., Gwernvale, Crickhowell @ 1884 imp -94....., 10
 ,, Rev. A. R., Hengoed, Oswestry, Salop G 1856-94 T 39
 Rev. Canon Kilkishen. Co. Clare..... @ 1883 imp -93 T.....' 10
 McCallum. J.B., Esq., C.E., Waterworks, Blackburn 1884-93 10
 Marshall, John, Esy., Derwent Island, Keswick : eo ve ceaaes 7 lt)
 Khydwen, Llandisillio, }) South 1859-68 T .. 2.0... #
 Morgan, H.S., Esq., lezfynydd, Llanfalteg, (Wales C 1869-93 T (35
 Norman, Rev. R. M , Bottesford, Leicestershire .. , C 1888 imp --Y4..... 6
 Orr, Rev. J. H., D.D., The Manse, Antrim C 1864-74, 76-7, 80, 83-94 26
 Parkes, C. H., Esq., Netherfield, Weybridge ISS6-94 Jo. ee YO

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Observers Deceased to July, 1895 --(continued).

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| ata

Winchmore Hill, Middlesex ... 1866-74 imp T veal

. The Chase, Entield, ,, we 1874 imp -85imp Ti (9

Paulin, T., Esq. Yorty Hill, _,, " ... 1885 imp -89 imp T 26

The Beeches, Keswick 1890-940..0.....,

Phillips, W. H. M., Esy., Edge Hill House,

Mitcheldean, (sloucestershire..... 1877-93 T] 17

Reynolds, J., Esq., Fox Hill, Frodsham, Cheshire... 1871 imp-86,88-93T; 21

Ryan, KE. K., Esq., C.E., Alma, Wexford 1885-94] 10

Sandbach, H. R., Esq., Hafodunos, Abergele, North

0) CT 1882-94, 18

Seccomhe, Dr., Terrington, Lynn, NOOK essed C 1876-94 T) 19

Shaw, Captain, Harbour Office, Ramsyate) @ 1867 cease]

Sidebottom, J., Esq., J.P., Millbrook. Hadfield, Ches.! 1887-94 8

3 > TheBank, Eveshain, Worcester 1880 imp -92 imp

Slatter, T. J., Ea., {The Drift, + 1892imp 94.....4) 14

Smith, Mrs., St. George's Lodge, Weybridge 1886imp-92T.....) 6

f Ordnance Sur. Off. ,S'thamptn. 1883-85

Stouherd;Gen.,C.B. \ Heathcote,Camberley,Surrey. 1887 imp -94..... 0

Tomes, Sir J., F.R.S., Upwood Gorse, Caterham... 1870-72, 75, 4

Vawdrey, W., Esq., C.E., South Staff. W. Works. 1889-934. 5

Wainwright, B.C., Esq., Elmhurst, Kast Finchley..| 1880 imp -94 bese 14

Woodd, Basil T., Esq., Conyngham Hall, Knares- |

borough oo... eeeeeeeeeee cevetesteteseeseese 1885 imp -94.) 9

Woods, Mr. 8. A., Osberton Hall, Worksop 1878-94cce} 16

Workman, Dr., Russell Street, Reading.....J 1866-93 T7] 28

. a Oakfield, . C 1875 imp -91 T...

Yool, H., Esq., Field Place, Weybridge... |} 184) ey tt 20

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OBITUARY.

WE believe that this year we have lost our oldest observer-Mr. Clarkson, of Alverthorpe Hall, Wakefield, who was in his 95th year, -but we know that we still have some over 90 years of age, and though we have lost 'more young observers than usual, the mean age at death has been 68, about 7 years below the average.

We have lost one other (Mr. Beesley, F.C.S.) of the few survivors of the 168 observers who contributed to English Rainfall, 1860, and we have learned that another (Mr. Mackrell) died nearly ten years since, so that the survivors are now reduced to 20,-the majority of whom are still contributing observations to the work which they first helped 36 years ago.

It is always difficult to mention any of our losses individually, because it seems to suggest that others are not important. The contrary is the case, for many observers are personal friends, and besides that, every death involves the obtaining of a substitute to carry on the observations, and, where observers have also been subscribers, it involves also loss of income-30 or 40 per annum.

However, there are three names in the list which cannot be passed without special mention,--the Rev. C. H. Griffith, of Strathfield Turgiss, who, after taking over the care of Colonel Ward's experimental rain gauges, undertook the observation of twenty-one patterns of evaporator, including records of the temperature of the water in them, and in ariver about a quarter of a mile distant-the whole series being, we believe, the most important and the best organized up to the present time. Indeed, as regards the majority of patterns these experiments have rendered unnecessary any further trials,- they were shown to be utterly misleading.

Another loss is that of the Rev. W. Clement Ley, but he was known rather for his studies of clouds than for his rainfall work, or for any experimental researches.

The last is a very serious loss, that of the veteran observer Colonel McInroy, of The Burn, Brechin, leaving the long record of 53 years. Scotch observers are so scarce that we regret to lose one, and & fortiori, such a station as The Burn.

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Observers Deceased to July, 1896.

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gre

Adam, A. M., Esq., M.D., Bargate Lodge, Boston,

Lincolnshiresccccsses scssscsscsessesesoeeee O 1864-72 impT.....) 7
 Amyot, T. E., Esq., Diss, Norfolk 1870 imp -95 T.....}. 25
 Atkinson, Rev. G. W., Culgaith, Penrith 1876-94 T) 19
 Banks, Rev. G. W., Worth Rectory, Crawley, Sussex 1874-94| 21
 Barton, Rev. E. Wigmore, Kingsland, Hereford ... hae eo 7
 *Beesley, T., Esq., F.C.S., Banbury008 0 nO 1880 87 capt | 33
 Black, Capt., of Kailzie, Kailzie, Peebles, N.B. ...| 1889 94. cece! 6
 Bond, George, Esq., C.E., Brimington Hall, Ches- |

terfieldcceceeeeseeeeeeetceeeceeseeeseeesee} O 189] imp -94....., 3
 Bond, W. M., Esq., Derrygally, Moy, Tyrone I872-09 wissivssnszies] 2A
 Bradley, G. M., Esq., The Hollies, Curdridge, Botley 1893-9544 38
 Brett, A. T., Esq., M.D., Watford House, Watford 1851-83 imp -89 8
 Cadogan, A. H., Esq., Brinkburn High House,

Morpethcccccecece ee ecneeeeeeeee sate ensen enon 1888-95) | 8
 Cameron, A., Esq., Highfield, Elgin, N.B..... 1874-94 21
 . NewtownLimavady, Lond'derry 1879-95 T
 Campbell, C. D. H., 'a, corn 7 bad betecenea sige ocae T oe. ab

. t. Leonards Roa imp-8d5imp-89impT
 Clark, Miss M. E. } Tandbueet Road... Exeter)" go) 94 D essionae 2
 Clarkson, H., Esq., Alverthorpe Hall, Wakefield... 1879-94 T... .., 16
 Denison, The Ven. Archdeacon, E. Brent, Somerset 1880-88 comrnsutere 9
 Devon, H. C., Esq., Cruwyshaye, Backenford, Devon 1894 T ee od
 Dodds, Mr. A. B., Abbey Gate, Melrose, N.B..... 187limp -95imp T, 23
 Dore, H. J., Esq., St. Catherine's House, Niton,

Isle of Wight o..... cc cecccceceeeceeeeneeeeeeeene oe 1892-95 imp T.....). 3
 Foord, Rev. R. H., Foxholes, Ganton, York..... c eT eso q, 12
 Frew, Forrest, Esq., Lyleston, Cardross, Dumbarton| C 1870 imp-95.....;) 25
 Gri Mr. P Culford, Bury St. Edmunds.....). 1858 imp -79 26

neve, MY. t+ \ Orchard Street, Bury St. Edmunds 1890-95 imp T ...
 Griffith, Rev. C. H., Strathfield Turgiss, Winchfield} 1862-96 impC.....| 34
 Copy Hill, Shap, Westmoreland) 1874 imp -9limpT; 16
 H th. M Sleddale, 45 5 C 1880 imp -91 imp T} 10
 ogearth, ST.) Swindale, 5 \$3 C 1880 imp -91 imp T| 10
 Tailbert Beck ,, is C 1880 imp-86imp T) 5
 Horsman, Mrs., Kytes, Watford00065-, O 1889 imp -94....., 5
 Huddleston, Col., Llynderw, Welshpool 1893 wc ef 1
 Jones, J. Harvey, Esq., Montpelier, Bristol 1893-95 \$3
 Ley, Rev. W. Clement, Sellack Vic., Ross, Hereford| C 1862-66 T, C 1868-77] 15
 +Mackrell, T., Esq., Barnstaple0.....0000006) 1857-79 2. 28
 Mansel, Col., Smedmore, Corfe Castle, Dorset 1890-94 oo... 5

Margary, P. J., Esq. C.E., Charlton Villa,

Dawlish, Devon.....cees0 ceeeeeeesseseeseeeee? GO 1857-68 T 2.) 12
 Mayo, C. T., Esq., Corsham, Wilts065 72-85 imp -94impT} 21
 McInroy, Col., The Burn, Brechin, N.B.) G 1843-95 2.0... | 58

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Ay 6g

Mills, M. F., Esq., Tapton Grove, Chesterfield..... 1890-95 .. | 6

Monk, Mr., Moor Hall, Harlow, Essex; 1888 imp -94 imp.. o

Munro, Mr. H., Clevelands, Lyme Regis 1891-94 ww 4

Neame, E., Esq., Harefield, Selling, Faversham ...| 1866 imp-94C.....; 28

Neve, A. Curteis, Esq., Hole Park, Rolvenden, Kent 1888-9548 8

Owen, D., Esq., Ash Hall, Cowbridge.....) 1872 imp-95 0...) 23

Parr. Gen j ane Wakes, Selborne, Alton Hants C 1884 imp -91 T... 9

? * (King's Holt, Greatham C 1893-940... ..

Peel, Rev. F. W., Burghwallis, Doncaster... 1882-94 T} 13

Phillott, Rev. Canon, Hereford....., 1888 imp -94 T.....) 6

Robertson, Dr. J. D., The Friarage, Penrith..... 1875, 1877..... 2

Beulah Hill, Upper Norwood...; 1872-74 T

Scott, S. R., Esq. Sherwood " | 1876-82 T, 11

Widmore Road, Bromley, Kent, 1894T

. Ingleby Manor, Middlesboro' 1884-95 oc...

Sidney, The Hon. H. {Pecheret Place, Tunbridge 1886-95 22

Slack, H. J., Esq., Ashdown Cottage, Forest Row; C 1872 imp -92T.....; 20

Stopford, Hon. E. S., Borris, Co. Carlow 1890-93 impT.....| 3

Taylor, T., Esq., Greenside Mine, Patterdale,

Westmorelandccccccce ceeeeeseeeeeseees? 1872 imp -94.....] 22

Thomas, Mr. W., The Park, Wolverhampton 1882-94} 18

Troyte, Col., Huntsham Court, Devon) 1873 imp -95_.....{ 22

' Torquay W.Wks. ,Christow 1887-94 99

Weeks,T.S.,Esq.,C.H. { 7 rduy') Chudleigh) 1881-94 2st]

Wharton, H. T., Esq., Acol Road. West Hamp-

SECA, wise asians sais ses ine AM be nn ene ee ems eens omens means 1892-95 imp

T.....,| 3

Williamson, B., Esq., Old Dromore, Mallow, Cork...) 1890-951 6

Wilson, Rev. W., Stoke Bruerne, Towcester..... 1887-95 imp) 8

Wray, G. W., Esq., Leyburn, Bedale 0 1868 imp e947 27

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OBITUARY.

As the numbers of our correspondents increase, it is necessary that our annual obituary must lengthen, but it does so slowly ; and 64 out of more than 3,000 is but few, though all too many.

Of the 168 contributors to "English Rainfall, 1860," we have lost but one-distinguished as usual by an *-viz., Mr. Crosthwaite ; so that 19 still remain.

Mr. Crosthwaite's record dates back far earlier than that of any observer whom we have lost this year, for he took over Mr. Otley's record in the beginning of 1845, and has kept it personally until within the last year or two, and by deputy to the present time. We have lost not merely a friend, but a careful observer, who was always ready to drive over to Seathwaite, or elsewhere, if occasion required.

Of observers whose records began in the fifties, we have lost Mr. Wheatley Balme and Rev. Canon Cross.

A very important loss is that of Mr. Richard Chrimes of Rotherham, to whom we are indebted for providing and mounting the finest set of gauges for experiments upon the decrease collected by elevated rain gauges ever established, and for defraying all the cost of their observation. Lut all down the list we come upon a succession of names of those who have done good work for 20, 30 and even more years ; and, thanks to our organization, their records are safe, and will be useful for years to come.

It is unpleasant to refer to money matters; but we find that this list represents an annual loss in the future of more than 30 per annum. We notice also that in two instances (we know nothing of others) deceased observers, Mr. Wheatley Balme and Mrs. Overend, have each left more than a quarter-of-a-million sterling, largely for educational and charitable purposes-what a pity they did not follow Miss Nunes' example.

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Observers Deceased to July, 1897.

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Adamson, E. W., Esq., Eastdean, Eastbourne| @ 1883-95 T] 13

Adie, Mrs., Rockville, Linlithgow, N.B. 1870 imp -95_.....]_ 25

Cocking, Midhurst..... 1883-87 T

Ash, Rev. Drummond { goepy. Barton-on-Humber..| GC 1890-93 T 2

Ballard, E., Esq., M.D., Compton Terrace, Islington} C 1867 imp -74T.....) 7

Calder Farm, Mirfield,

Yorks| 1858-68 T

Balme, E. B. Wheatley, Esq. | High Close, Ambleside] 1861-96 C 77

Cote Wall, Mirfield,

Vorks 2.0... ..cceeeeeee 1867-96 C

Barber, J. T., Esq., Spondon, Derby) @ 1872-83, 1885) 13

Battersby, Worsley, Esq., J.P., Knowle, Dunster,

Somersetccsceeeee sce eeeeeeeceeseeeeeeee | 1888 imp -95 T.....) 7

Benyon, R., Esq., Englefield, Reading aaa aaa 1875-96, 22

. Bruntingthorpe, Lutterwort 1873-82 imp T ...

Bridges, Rev. F. H. } piveahall, Witham, Eecex...| 1882 imp -05 T.. ne

Brodie. F.. Es | Penni Gore, Uckfield) 1863-68 T 19

+e "Sd: 7) Fernhill, Wootton Bridge, I. of W.| 1882 imp-95 C...

Doncaster W.W. gauges. 1880-86

Brundell, B.S., Hsq., C-E. { R31 Bramwith, Dosowet'y 1880-96 a8

Buchanan, G., Esq., C.E., Towerfields, Keston, Kent} 1882 imp -96.....| 14

Caldicott, Colonel, Coundon, Coventry 1870-96|. 27

Carr-Dyer, Major, Hazelea, Kenley, Surrey 1894imp-96impC| 1

Caswell, C. J., Esq., Louth Road, Horncastle 1894 imp -95T.....) 1

: Moorgate Grove, Rotherham

Chrimes, R. Esq. {also Bae ous experimental gauges C 1865-96 0.0.0....) 32

Clappison, Mr. T., Mapleton, Hull 1886-93 imp -95 ...| 9

Clinkard, E., Esq., Potlands, Toot Baldon, Oxon.. 1895-96 0....) 2

Compton, T. J., Esq., M.D., Heigham Hall, Norwich 1893-5 oe} 8

Cozens-Hardy, W. H., Esq., J.P., Letheringsett

Hall, Holt, NortOT ooo gai ooo eterna C 1873-94 T, 22

" Appleby Vicarage, Lincoln ...; 1858imp-9limpT

Cross, Rev. Canon Halecote, Grange, Carnforth... 1888-96 imp r. a0

*Crosthwaite, J. F., Esq., F.S.A., The Bank, Keswick 1845-96] 52

Cunningham, D., Esq., Dundee Harbour gauges. var. 1884-95 ... 12

Dashwood, R., Esq., Geldeston, Beccles..... 1880 imp-96 imp T) 15

Dixon, Mr. R., Paddlesworth, Hythe 1877-95{ 19

Doughty, W., Esq., Byreburnfoot, Canobie, N.B... 1876-85 imp -94 ...| 18

Fawcett, T., Esq., Blencowe School, Penrith) 1871-95 T) 25

Fenton, Dr. M. H., M.O.H., Coventry 1892-96 ed 8

Forbes, Duncan, Esq., Culloden House, Inverness.. 1878-95 T, 18

Francis, Mrs. Clement, Quy Hall, Cambridge;) 1880-95 C) 16

Fraser, Dr., Pomeroy House, Totnes 1892-95 T4 4

Melton, Leicester|. 186limp-65 imp T

Greetham, Oakham, Rutland|C 1865 imp -67T -75

Holmes, Rev. C. A. imp -94 imp T ... 30

Asfordby, Melton, Leicester.| 1868-70T.....

Thistleton, Rutland 1871-75 imp T ...

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Observers Deceased to July, 1897 -(continued).

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PERIOD OF OBSERVATION.

NAMES AND STATIONS. 9 bog

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Burwarton, Bridgnorth) 1884-96 T

James, Rev. A. {Brown Clee Hill, Bridgnorth wef 1884 imp -86T... b

St. Michael's Hamlet, Liverpool 1879-83 T

Jevons, G., Esq. 39, Hope Street, ae) 1884.94 T { | 16

Jodrell, Rev. H., Gisleham Rectory, Lowestoft ... 1862-86, 1888-89 T | 27

Kirby, Rev. H. T. M., Mayfield, Hurst Green, Sussex} 1885-96T.....] 12

Lyster, T. Rice, Esq., Bedford Office, Thorney,

Peterboroughccccee ceseeeeeeeseeeneeseeeees 1893-96 Cw...) 4

Macaulay, T., Esq., Kibworth, Leicester) 1875-940) 20

McLellan, D., Esq., Queen's Park, Glasgow 1880-92f 13

Messent, P. J., Esq., C.E., Pier Works, Tynemouth} 1864-96.....] 33

Michel, J., Esq., Forcett Park, Darlington 1877 imp -95 C.....| 18

Monk-Bretton, The Rt. Hon. Lord, Conyborough

Park, Lewes, Sussex ceseececceseeneeseeuss 1886-92, 1894| 8

Muirhead, R., Esq., Joppa, Mid Lothian, N.B. ... 1888-94 T 7

Muir, Mr. A., Manechline, Ayr, ne soap eset] 1892-95 TT... 4

- arrington Ho., Cheshire. ... 1868-96

Newton, J., Esq. C. E. Coldwell, Res. Newton, Lancs] 1886-95 0 2. 39

Olpherts, F. M., Esq., Mount Shannon, Sligo) 1866 imp -95.....| 29

Overend, Mrs., West Retford House, Retford... 1890 imp -95T....., 5

Paget, J., Esq., J.P., Stuffynwood Hall, Mansfield 1876-78 imp -96 ...| 20

Patmore, Coventry, Esq., Heron's Ghyll, Uckfield. | C 1872-74impT} 2

Pearson, C. N., Esq., Portland Place, Reading..... 1888-96 imp T 8

Pochin, Rev. E. N., Barkby, Leicester 1870-96, 27

Poole, Rev., H. J., Stowell, Sherborne, Dorset.....; C 1882 imp-96 T.....| 14

Reynolds, Rev. Dr., Cheshunt College, Waltham Cross 1872-95 imp T] 23

Richards, Westley, Esq. Ashwell Lodge, Oakham 1886-91 db

. ULLAWAS600 cece ence eeeteennes WW73T wn ,

Ryves, Rev. G.T. Tean Vicarage, Stoke-on-Trent 1875-950... aa

Sellick, E., Esq., Alrewas, Lichfield{1880-85, 88-91, 1894-95T| 12

Smith, Mr. A., Castletown, Carlisle.....0... 1866-95 T| 30

Smith, Rev. J. W., Dinsdale, Darlington| 1865-70, 74-85, 88-96| 27

Stone, E. J., Esq., F.R.S., Radcliffe Obs., Oxford. 1879-96 C; 18

Stuart, C. P., Esq., Sandymount House, Woburn.. 1870-951 26

Warriner, Rev. G., Bloxham Grove, Banbury 1877-95| 19

West, Rev. Prebendary, ownhope, Hereford +f GO 1869-80imp-89imp 19

. shby Magna, Lutterworth.. 1872-86 T |

Wiles, Rev: 'Canon Monk Sherborne, Basingstoke C 1887 imp -95 T | 2

Wingfield, Rev. Canon, Welwyn00..0068 6 1872-95 T sssserenenen 24

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Note.-Q indicates commencement of record and also its continuation, T its termination.

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OBITUARY.

AGAIN we have to chronicle many losses-yet not many considering the number whence they are withdrawn, for, as usual, it is but about one in sixty; still, we cannot part with 56 of our fellow-workers without a feeling of thankfulness for their help, and of regret that it is all over. Yes, all over! but not all done with; the records which by daily care they compiled, have not merely been perpetuated as long as modern printing paper will hold together, but their records, both in the original MS. and in our complete record volumes, are as safe from fire and water as we can afford to make them.

The survivors of the 168 contributors to English Rainfall, 1860, have now been reduced to 15 by the deaths of Mr. T. J. Bewick, C.E., formerly of Allenheads, Northumberland,* and by that of Mr. Marth, formerly of Durham, but for many years past director of the observatory at Markree, county Sligo.

The deceased observers who have left records for 30 years or more have been, in the order of length of time,

37 years... Dr. Cruickshank, of Aberdeen.

35 (i, ... Mr. Cooke, of Ormskirk.

33g, ... Mr. Birkbeck, of Norwich.

33s, ... Rev. T. Mackereth, of Eccles and Windermere.

We have heard the age at death of only 29 out of the 56 observers whose loss we have to record, and we find that, as usual, the age was very considerable-the youngest was 51, the oldest 88, the average being 72 years, and more than two-thirds were over 70.

* We should be very glad to have returns from there, or Bywell, or Alston, all now without an observer.

Anderson, The Rev. J. B., Dingle, Tralee, co. Kerry 1884-86, 89-94 T... 9
Anstruther, Sir W. C., Bt., Carmichael House,
Thanlkerton, Ns By..eicciga ascot pansnasnssmemm sae ee 1889-94 oo... 8
Baker, The Rev. R. S., Hargrave Rec., Kimbolton... 1890-97 impT..... 7
1861, 63, C 65 imp |
Barclay, J. G., Esq., Leytonccceeee eee eeeeees Rie D885 / 10
impT
Barne, Col. St. John, Sotterley Hall, Wangford, 1877, 79, 81-93, \. 18

berland onc .ciscncscws eosin wee yt C 1852 imp -66 Gone 14

EET gna tas nan soc as ge owe as ome tas wea ee re sae eet geste 1873-97 wo.) 20
Bridgeman, The Hon. and Rev. J. R. O., Weston, |

ham, Northumberlandcccseeee ees 1894-97 bsvneeeeeeee| 4
Burges, Mrs., The Ridge, Chipping Sodbury..... 1890-96 To 7
Cawdor, The Rt. Hon. the Earl of, Stackpole

Court, Pembroke	cscceeeeeeens|		1873-97 |	25
Christy, R., Esq., Watergate, Emsworth, Hants...		1890-97	2.1	
Cooke, G., Esq., Aughton Springs, Ormskirk	; @	1862 imp -97_.....|		30
Cowburn, Major, Dannel Hill, Chepstow .....	)	1886 inp -94 T.....,	)	8
Cruickshank, Dr. A., Rose Street, Aberdeen.....)	@	1860-96 T		37
Currie, Col. J. R., Grey's Lodge, Torquay.....		1887-97	0.1	11
Davies, E., Esq., Plas Dinam, Llandinam		1894-97 wee		4
Davies, Major-Gen. Sir W. G., K.C.S.L, The |				

Meadows, Claygate, Esher.....:0:000+ 1895 imp -97 T.....) 2
Egmont, The Rt. Hon. the Earl of, Cowdray Park,

Midhurstccccceee cceeeecseeeeeeeeeeeeeenenenes 1893-96 Tw...
 Finlay, Mr. John, Meldon Park, Morpeth @ 1871-96 T sncaoem 26
 Gorton, R., Esq., Cirencester:::ceeeeeeeee | O 1879-96 T we! 18
 Gossett, The Rev. C. H., Langton Herring, Wey- |

MOUTh ce cececececececececece sececeeresesseseeseeeeeet O 1878 imp -97 impT 18
Halliday, W. H., Esq., Glenthorne, Lynmouth, |

Devon ..cccccecvceseceseusseseeeeeesetteeteteeteeesee seve | 1873 imp -97 C..... 0 24
Hames, J., Esq., Rotherby Hall, Leicester| 1884 imp -97C..... 18
Heath, D. D., Esq., Kitlands, Dorking) @ 1852 imp -64T....., 12
Holley, W. H., Esq., J.P., Oaklands, Okehampton,

DeVONccescceeeeeescsecucesetsetssssccssssssensees| 1870-97 C| 28

66

OBITUARY.

WE regret to find that our losses by death this year are numerous, as well as important. As regards numbers, a mortality of 65 out of about 3,000, can hardly be called high-but it is more than the average which we have to record.

It is somewhat invidious to give special reference to some, and not to all,-but some have helped us during only the last few years, whereas others have sent in observations covering more than half a century, and have reported to our volumes from the very first, thirty-eight consecutive years.

Three of the few surviving original contributors to our table for 1860 have passed away this year, marked as usual with a * in the following list. Mr. Prince, F.R.A.S., of Uckfield and Crowborough, whose MS. records, covering 58 consecutive years, and forming one of the best records in the S.E. of England, have happily been left to the Royal Meteorological Society-the best place for all such volumes. The Rev. Canon Slatter, whose records in the vicinity of Reading cover 35 years; and thirdly, Mr. Hale Wortham, of Royston, whose records cover more than half a century. Miss E. Brown, of Cirencester, is credited in the table with only 17 years' observations, because before 1882 the record stood in her father's name, but every one who knew the ability, humility, and liberality of the lady astronomer, would blame us if we refrained from expressing our regret at the loss of one of the kindest women, and the greatest benefactor which the British Astronomical Association ever had.

We have also lost Mr. Coode, of St. Austell, who leaves a record of 34 years, which we are glad to say is being continued by his son.

To the Rev. Canon Du Port we owe much of the development of observations in Norfolk, and to him, and to the proprietors of the Norfolk Chronicle, rainfall students are indebted for a unique series of monthly tables of the daily rainfall of the county. A series which we are very glad to say has been continued by the same paper, thanks to Mr. A. W. Preston, F.R.Met.Soc., having volunteered to carry on the late Canon's portion of the work.

There are many others of whose work we should like to speak, but space forbids; we must, however, call attention to the many records exceeding 30 consecutive years. Besides those already

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mentioned, there is Col. Lewis's, at Hollington, Sussex (continued by Miss Lewis), Mr. Luck's, at Llanfairfechan, and Col. Waring's (M.P.), at Waringstown, Co. Down, continued by his son.

We have frequently referred to the long life of rainfall observers -this year again proves it. We have the age at death of 37 observers, 21 of them were over 70; 13 over 80; and 3 over 90.

Observers Deceased to July, 1899.

PERIOD OF OBSERVATION.

NAMES AND STATIONS. Bes

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Awdry, Rev. W. H., Ludgershall, Andover 1875-97 T 23
 Belk, W., Esq., C.E., Hartlepool.....6668 6. 1870, 72, 74-97 T...| 26
 Bernard, Mrs. Percy, Castle Hacket, Tuam 1888-98 C0... .. 11
 Bostock, Miss, Penmaen, R.S.O., Glamorganshire..| C@ 1890-97 T..... 8
 Bradshaw, Admiral, C.B., The Grange, Steeple
 Aston, Oxfordcceeeceteceeceteeteeereeee?, OG 1883 imp -98 6....., 15
 Brown, Miss E., Further Barton, Cirencester 1882-98 C 17
 Burt, F. A., Esq., Gordon Villas, Swanage 1892imp-97 5
 Clabon J. M., Esq., Clare Bank, Sevenoaks 1880-91 T 12
 Collingwood, F. J., Esq., Glanton Pike, Northum-
 Derland wo... cece cee ece ee een cae eee een eeeteceenen ees 1880-94 T]
 15
 Colman. J. J.. Es f Carrow House, Norwich| 1880-98 C.....{ 19
 ves SSd \ The Cliffe, Corton, Lowestoft] C 1880-980 19
 Coode, W., Esq., Trevarna, St. Austell, Cornwall..| 1864 imp -98C.....} 34
 Cowper, W. J., Esq., Newbury0..0 1877-98 imp T....., 21
 Deedes, Rev. Canon, Heydour Vicarage, Grantham| 1865-75, 77-97 T...| 32
 De Wend-Fenton, W. F., Esq., [Aldenham Park]
 Bridgnorthcceececeeeessesseeeeeeeeseees? GO 1884 imp -970C.....) 13
 Mattishall, Downham)} 1863 inp -84 T...
 Du Port, Rev. Canon, { hater Rectory..... } 1885-98 T ee} 35

. Achumore, Assynt, Sutherland ... 1880, 1882-89 T

Elliot, J. Esq., {The Flatt, New Castleton, Roxbgh. 1866-96 T er 40
 Rye Hill, Newcastle-on-Tyne. 1869-79 T

Foster, R., Esq., { Gliton Road 9 9 C 1880 imp -97 ac} 28
 Fowler, Sir J., Bt., Braemore, Rossshire 1869-98 T| 30
 Goodchild, J. E., Esq., Prospect Hill Lodge, Wal-

thamstowccceccescseseseee ceaeeneeneeseees 1892-97 T | 6
 Goode, W. Esq., Mulgrave Road, Sutton, Surrey... 1877-98 imp T.....; 21
 Gurney, R. H. J., Esq., Northrepps, Cromer 1890 imp -98| 8
 Hall, Col., Osmington Lodge, Weymouth, Dorset..; 1867-90.....) 24
 Haworth, F. E., Esq., Stanley Grange, Wakefield.. 1891-98 8
 Hempson, A., Esq., Hill House, Ramsey, Harwich 1892-97 6
 Henderson, J. M., Esq., Bell Vue, Hamworthy, Poole} C 1890-98 9
 Hilson, G. Esq., Sunnyside, Jedburgh, Roxburgh..| (1864-97 C] 34
 Hutchinson, Rev. Canon, Broad Chalke, Salisbury..| 1883 imp-98impT| 14
 T'Anson, Dr. T. F., Irish Street, Whitehaven 1877-98 C.....] 22
 King, The Rev. S., Fir Hill, Droxford, Bishops

Waltham, Hantscccccccec eee eee ceeeeeee 1874-85 T 1890-98 ; 21
 Kirwan, Rev. J. H., St. Johns, Torpoint, Devonport 1875-98 Tod 24

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George James Symons.

Born 6TH August, 1838. Died 10TH March, 1900.

THE creator of the Rainfall Organization, George James Symons, was born at Queen's Row, Pimlico, on the 6th August, 1838. He was the only child of Joseph and Georgiana Symons (nee Moon), the Symonses being of Cornish extraction.

His father was engaged in business, but the boy shewed early signs of a love of science, and constructed for himself a mercurial barometer and other meteorological instruments, the remains of which the writer has often seen. He was educated at St. Peter's Collegiate School, Eaton Square, and later at Thornton, in Leicestershire, with the sons of the Rev. Samuel Adams, by Mr. R. Smyth and Mr. Macgill, both Irishmen. A fellow student at this time remembers him as a shy lad, always good-tempered and companionable, but not impressing his companions as of remarkable ability. During the rebuilding of Thornton Rectory the party removed to Markfield, and in the house which they there occupied was a crack in the wall attributed to an earthquake. Anyone who knew Symons as well as I did could have no hesitation in tracing to this the interest which seismology always had for him. Subsequently he passed with distinction through the course at the School of Mines, winning the unstinted praise of the professors.

In his eighteenth year, on March 25th, 1856, he was elected a Member of the British Meteorological Society, and from that time onwards he was one of the most regular attendants at the meetings, letting neither business nor pleasure interfere. He was blessed with singularly good health, and we do not remember a single instance of absence on that score.

The first instance of his speaking at a meeting was on March 24th, 1857; he read a paper on the thunderstorms of 1857 in June, 1858, was elected a Member of Council on June 17th 1863, vice-president

in June, 1871, and honorary secretary in June, 1873, on the retirement of Mr. Glaisher. The latter office he held until his death, except during the time that he served as President. During these years he took an active part in all the work of the Society, grudging no time in advancing its interests, organising its observations, inspecting its stations, promoting its exhibitions, searching for new premises, and serving on numerous committees. In January, 1900, he was for the second time elected President, for the celebration of the Jubilee of the Society, and until stopped by his fatal illness he was working heart and soul to make the meetings a success. In 1879, when the Society was anxious to make some recognition of his services, the presentation, at his request, took the form of an album containing the portraits of as many members of the Society as could be obtained.

In 1860 Admiral Fitzroy offered him an appointment in the Meteorological Department of the Board of Trade, and he remained there until 1863, when he resigned in order to devote his whole time to British Rainfall. His reduction of the Anemometrical observations made at Bermuda in 1859-60, was published in the Meteorological Papers of the Board of Trade in 1861. The easy hours of a Government Office did not satisfy his capacity for work, and he began an investigation of thunderstorms in 1857, and the results were given in his first paper read before the Meteorological Society in 1858. The report on the three years, 1857-59, was read before the British Association in 1860, and again before the Royal Meteorological Society in 1888, as a sort of introduction to the thunderstorm observations then commenced by the Society.

This early thunderstorm inquiry suggested to him the collection of general rainfall statistics, and for the year 1860 he published a small quarto leaflet giving the rainfall at 168 stations in England and Wales.

For 1861 he extended the publication to the whole of the British Isles, and was able to obtain about 500 records; with these he printed the 1860 figures to supplement the 4to leaflet for that year, and the work appeared as an 8vo pamphlet.

In 1863, as before mentioned, he resigned his appointment at the Board of Trade, and British Rainfall became his life's work. How it has grown from its small beginning the present volume shows, and on p. 37 will be found some statistics of its growth from time to time. With 1863 he began the issue of a monthly rain circular,

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which in 1866 developed into the Meteorological Magazine. This is still published, and is the only instance of a Magazine in the English language devoted to Meteorology which has reached a mature age.

To refer to all the varied investigations of rainfall phenomena which he promoted, and to his writings on the subject, would be to summarise the 40 volumes of British Rainfall and the 35 years of the Meteorological Magazine. This, of course, is impossible, and would only lead up to the conclusion universally admitted that he was the greatest authority on all branches of British Rainfall and an all-round meteorologist of wide attainments.

In 1857 he commenced to send returns of his meteorological observations to the Registrar-General, and continued to do so up to the time of his death.

He was a member of the General Committee of the British Association from 1859; served on the council from time to time; and was chairman, secretary or member of numerous committees, including The Climate of Tropical Africa Committee, The Committee on Meteorological Photography, The Corresponding Societies Committee, The Rainfall Committee, The Seismological Committee and The Solar Radiation Committee.

In or about 1861 he was elected a member of the Scottish Meteorological Society.

In 1869 he was elected a Fellow of the Royal Botanic Society, and in 1870 became a Member of Council, and was for several years Chairman of the Exhibition Committee, receiving special votes of thanks for his services in connection with the evening fetes and the floral parades. In 1891 he resigned his seat on the Council when it was determined to allow smoking in the gardens, to which he had always been strongly opposed, though himself a smoker.

In 1872 the Societe Meteorologique de France elected him a member, and he twice served on the Council of that Society, and in attending the meetings was a frequent visitor to Paris.

In 1876 he was elected an honorary member of the Watford Natural History Society ; received a Telford Premium of the Institution of Civil Engineers for his paper on "Floods and Water Economy ;" and a certificate of thanks for his assistance in connection with the Loan Collection of Scientific Apparatus at South Kensington.

In 1878 he became a Fellow of the Royal Society and a member of Council of the Social Science Association.

In 1878 he became the secretary of the Conference on Lightning Rods arranged by the Meteorological, Physical and Telegraph Engineers' societies and the Royal Institute of British Architects, and for four years devoted much time to it, editing the Report.

In 1879 he was asked to preside over Section III. of the Sanitary Congress at Croydon ; he joined the Institute, was elected a member of council, and in 1880 became Registrar, resigning the office in 1895, but he retained his interest to the end, attending the Southampton Congress in 1899.

Shortly after the eruption of Krakatoa in August, 1883, he suggested that the Royal Society should appoint a committee to undertake an exhaustive study of the occurrence. He was elected chairman of the committee and edited the report.

In 1884 he was appointed a juror at the Health Exhibition, and Membre correspondant étranger Societe Royale de Medicine Publique de Belgique. Two days after the great earthquake in Essex on April 22nd, the writer spent a long day with him going over the whole district, making notes of the damage, from which he prepared a report for the Mansion House Committee, and also an article for the Meteorological Magazine.

In 1885 the Essex Field Club elected him an honorary member.

In 1886 he became an honorary member of the Meteorological Society of Australasia, and Korrespondirendes Mitglied der Deutschen Meteorologischen Gesellschaft.

In 1887 the Northamptonshire Natural History Society, and the Biarritz Association, elected him honorary member.

In 1888 the Croydon Microscopical Club elected him an honorary member, the Royal Horticultural Society a Fellow, and the Societe Meteorologique de France elected him member of Council.

In 1891 he was created a Chevalier de la Legion d'Honneur.

In 1892 he delivered a Friday evening discourse at the Royal Institution on "Rain, Snow and Hail," and became Socio Coures-pondiente Sociedad Cientifica Antonio Alzate, Mexico.

In 1894 the Societe Meteorologique de France a second time elected him a member of Council.

In 1900 he became a member of Council of the Royal Society, and for the second time President of the Royal Meteorological Society.

He was a great lover of books, and his library comprised nearly 10,000 volumes (including pamphlets), being very rich in early meteorological works. For many years he had compiled a catalogue

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of meteorological books and articles, which reached a total of between 60,000 and 70,000 titles. In 1882, he contributed about 20,000 titles to a bibliography prepared by the U.S. Weather Bureau.

He was ever ready to help others to work, supplying freely assistance, counsel, information or funds as seemed most requisite. He was a man of singularly genial manner, making a friend of almost everyone with whom he came in contact, even those with whom he differed, while I do not think that he made a single enemy. His father died while he was but a youth: to his mother he owed much both for sympathy and encouragement in his work, and for substantial help in it. He married, in 1866, Miss Elizabeth Luke, who also shared his work and attended with him the British Association and other meetings; their only child died in the following year, and Mrs. Symons in 1884, leaving him almost without near relations.

On February 14th he was struck down by paralysis, and although for a time he made progress towards recovery, unfavourable symptoms supervened, and he sank painlessly and peacefully to well-earned rest on March 10th, 1900.

After a memorial service at Trinity Church, St. Marylebone, attended by the President and Secretary of the Royal Society and by many other leading men in the scientific world, his remains were interred in Kensal Green Cemetery, beside those of his father, mother, wife and child.

I had purposed concluding these very imperfect notes with a complete list of my old friend's works ; but though his writings cover thousands of pages, he was not the author of many books. The list of articles would probably have run to 50 pages; it would have been difficult to determine what to include, and it would be impossible to make it complete, for in British Rainfall and the Meteorological Magazine his articles were never signed, and I could not rely on memory to distinguish them. He contributed to the publications of the following Societies:-The British Association, The Colonial Institute, The Institute of Civil Engineers, The Royal, The Royal Agricultural, The Royal Botanic, The Royal Meteorological, The Sanitary Institute, The Social Science Association, The Society of Arts, The Surveyors' Institution ; and also to The Times, Nature, Science Progress, The Colonies and India, &c., &c.

The chief books which he wrote or edited were the 39 volumes of

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British Rainfall, 34 volumes of the Meteorological Magazine, " Rain: How, When, Where and Why it is Measured"; the Report of the Krakatoa Committee ; the Report of the Lightning Rod Conference ; "The Floating Island in Derwentwater"; Cowe's Meteorological Register ; Merle's Manuscript ; and " Theophrastus on Winds and Weather Signs."

Mr. J. G. Wood, of Maida Vale, the translator of the last named work, and one of the few remaining observers whose records were printed in the first volume of British Rainfall, desired, in memory of our late friend, to contribute to the 40th volume the best portrait of him that could be produced. We yielded our claim in favour of that of an older friend, and think that those who knew our late chief will agree that a more lifelike presentation of his genial personality could scarcely have been hoped for.

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THE first name to which reference must be made is that of the Founder of the British Rainfall Organization, an association unequalled in the world, the national importance of which has been publicly acknowledged for many years, and which was officially recognised when H.R.H. the Prince of Wales, as President of the Society of Arts, decorated him with the Albert Medal "for the services he had rendered to the United Kingdom by establishing and carrying on during nearly forty years systematic observations of the rainfall of the British Isles." In addition, he may justly be described as the father of scientific rainfall investigation, for before his time scarcely one of the problems of the subject had been attacked. His work lives, and has demonstrated its value so thoroughly that while England remains a civilized country it will be carried on. His own observations continued over 42 years, under conditions practically constant, and with a completeness such as few records can show. |

The list of deceased observers is this year of average length, and is very typical of the all-embracing character of the organization, including as it does a great writer of fiction in the author of "Lorna Doone" ; Lord Farrer, Permanent Secretary to the Board of Trade ; Rogers Field, one of the leaders in the science of Sanitary Engineering ; T. H. Ismay, founder of the White Star Line, and personification of the mercantile enterprise of the nation ; the Rev. Cathel Kerr, who left his quiet manse in Sutherlandshire to minister to our troops in 8. Africa; E. J. Lowe, a botanical specialist, and one of the original members of the Royal Meteorological Society ; and G. J. Symons, perhaps in the truest sense a public benefactor.

Out of the 52 observers no fewer than eighteen had made observations for more than a quarter of a century, and twelve had records extending over more than 30 years. The longest unbroken records are those of 50 years at Aylesbury, by J. Copcutt, followed by 42 years at Camden Square by G. J. Symons; 38 years at Hampstead by Rogers Field; 38 years at Sevenoaks by J. T. Rogers; 35 years at Ardwick by J. Casartelli, and 35 years at Woolstaston, near Church Stretton, by the Rev. Donald Carr, one of the few men who had spent a night buried in the snow and lived to relate the experience. Sent for to visit a dying parishioner on the Shropshire hills, he lost his way in a snow-storm, and was found in the morning covered by a drift. To two names the * is attached, showing that they were among the original 168 contributors to British Rainfall.

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No fewer than ten of the deceased observers had passed the allotted three score years and ten, and six had reached the fourscore, again supporting our old friend's contention that meteorologists are a long-lived race, but he himself proved an exception to the rule, as will, there is little doubt, the successor to whom he has deputed his labours.

Observers Deceased to July, 1900.

PERIOD OF OBSERVATION.

NAMES AND STATIONS. Bas

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Eng

Loch Vraon, Loch Broom

Loch Drome, "

Baldry, J. D., Esq., Hracinore House, " 1868-87 , 76

9 Lodge, 29 2?

Blackmore, R. D., Esq., Gomer House, Teddington| 1866imp -99| 33

Bowles, Miss, St. Helen's, Northam, Bideford| 1890-99..... 9

[Garren Park, Larbert| 1892 imp -99 T...

Cadell, J. J., Esq., ~ Craighdouftie, Banton by Bonny- 12

| bridge ww... co ccseceescsessee] OC 1894 imp -99 T...

Carr, Rev. E. Donald, Woolstaston, Church Stret-

ton, Salopccceeseeeeeeee{ OG 1865-99 6 2.00.00...) 85

Market Street, Manchester....| 1830-53 impT ...

Casartelli, J., Esq., 4 Ardwick, Manchester) 0 1853imp-89impT 68

Alexandra Park, Manchester. | (1889 imp -99C..

Church, H. P., Esq., The Lawns, Southgate..... 1871-99 imp T| 28

Chute, Mr. A f Castlecote, Donamon, Roscommon 1889-93 T seed 6

ule, wT +>) Tivole Terr., Kingstown, Dublin. | 1898T

Clark, Mr. W., Loch Leven Sluice, Kinross 1880-99] 20

Copcutt, J., Esq., C.E., Aylesbury @ 1838-99 0...) 50

Courtauld, S., Esq., Bocking Place, Braintree 0 1874 imp -99| 25

Ketton Hall, Stamford) 1878 imp -98.....

Coventry, F., Esq., 4 The Holmes, Ketton, Stamford! 1892imp-95impT;| 24

Duddington, Stamford| 1895imp-99imp T

Cox, G. Addison, Esq., Camperdown Works, Dundee 1885-99/ 14

Nant, Prestatyn, Flint..... 1874-89 imp T ...

Dixon, T. G., Esq., 4 Dolben, St. Asaph....., @ 1889imp-98impT}| 22

Plas Elwy, St. Asaph) 1898 impT.....

(Walton Hall, Hawick| 1865-84 imp T ...

Wilton Hill, Bawick @ 1884 imp -86 T...

Elder, Mr. D., | Langholm uttstsusitsteverasy aeeeeeee] @ 1887-96 imp T | ae

Bolton Road, Skipton 1897-98 C

Farrer, The Rt. Hon. Lord, Abinger Hall, Dorking.. 1879-99 wo... 21

Field, Col., Poughill, Trelana, Bude 1889-98 T.....| 10

Squire's Mount, Hampstead | (1862-99 C

Field, Rogers, Esq. C. E. 4 The Pryors, Hampstead ... 1875-994. 95

Sawyer's Hall, Brentwood. | 1868-99

: i New Barnsley, Belfast....., 1875-92 imp T ol

aietH, ds. Esq., { Soringfield, Belfast0..., { 1892 imp -990...f| 74

Gillespie, D., Esq., Mountquhanie Ho., Kilmany... 1872-981 27

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Observers Deceased to July, 1900-(continued).

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Gillespie, Genl., Brynderwen, Usk] 1897 imp -99 ae 2
 Hildyard, H. J., Esq., Cherry Burton House, Hull 1895-99 0...) 5
 Howson, J., Esq., Crow Nest, Austwick, Settle 1894imp-99impT! 4
 Hbert, A., Esq., Westbrook, Upwey, Dorset..... 1898 oy 1
 Ismay, T. H., Esq., Dawpool, Wirral, Cheshire ... 1887-99| 13
 Kennedy, J., Esq., Coleraine.....c.ccccccceeeee oof OG 1884-98 0 | 15
 Kerr, Rev. Cathel, Talmine. Melness, Sutherland...) 1897 imp-99impT| 1

Highfield Ho. ,Nottingham. 1860-81 T
 Lowe, E. J., Esq., F.R.S.4 Shirenewton Hall, Chep- 30
 StOW oo... ceccec ces ee ees 1884-99
 Lowry, Mr. J., Prospect Villa, Merville gta ae ga eeandnags 22
 Town Hall, Bradford... 1877-82 T 9
 McLandsborough, J., Esq., { Thelixchange Bradford 1872-89 C coe | ae
 Maxton, Mr. J.. Homme House, Much Marcle 1887-98{ 12
 Michel, Capt., Forcett Park, Darlington..... 1896-99 4
 Middleton, R., Esq., Fitz Manor, Shrewsbury| 1866-80 T.....) 15
 Milbank, Sir Penistone, Bart., Eartham House,
 Chichesterccccccccececeeeenseeneeeeeeeeeeecs 1871-98} 28
 Parnell, J., Esq., Hadham House, Upper Clapton..} 1864-93 T.....| 30
 Percy, Rev. P. H., Feniton, Farnborough, Kent ...| C 1895imp -980C.....) 3

Leigh, Uttoxeter| 1880 imp -85 T...
 Fernleigh,MarketDrayt'n} (1895 -98T.....
 Piercy, J. Beaumont, Esq.4 The Meir, Longton 1882 -97 C..... 49
 Madeley, Newcastle, Staff. 1887 -94 C.....
 Wall Grange, Leek, 1882 -97 C
 Reynolds, R., Esq., Woodhouse Cliff, Leeds 1878 -98 C.....} 21
 Robinson, Wilson, Esq., Whinfell Hall,Cockermouth| 1856-99) 34
 *Rock, J., Esq., Fairlight, Hastings04, 1857 imp -63T.....) 6
 Rogers, J. T., Esq., River Hill, Sevenoaks| 1861-99.....1 38
 Rutter, J. F., Esq., Dews House, Mere, Wilts..... 1882-99{ 18
 Rylands, T. G., Esq., Highfields, Thelwall,

WarringtOn oo... ccceccccececescceneeeeeeeae eeeeees 1872-99 28
 Severne, J. E., Esq., Wallop, Shrewsbury.....) 1885 imp -99) 14
 Shapley, C., Esq., cary Green, Torquay..... 1892-99 wot | 8

. oonaCastle, Hollymount, Mayo 1872-79 =
 Singon, J. Eads {Kitrush, Hollymount, Mayo -..| 1880 imp ae 25
 Stileman, Miss, The Bua) Vance sea sescececcseeeel GO 1874-98 CO oo... 23

ilkins, Lechlade 1885imp-90imp T
 Sturges, Rev. H. C., {Rodentia Vic., Leominster igl.o 13
 Symons, G. J., F.R.S., Camden Sq., London, N.W.} C 1857 imp -990.....| 42
 Turner, E., Esq., Southam, Warwick 1871-98 T1 26
 Watkins, H., Haq., Heston, Stamford kenevaseeeeeeeenses 1885-94 10
 ways ootle Rectory, Cumberland ...| C 1863-78 imp T ...
 Wilkin, Rev. A.{ Sommerhill Tenterden.....) 1878 imp "99 0} 36
 Notr.-@ indicates commencement of record and also its continuation, T its termination.

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OBITUARY.

WE have to regret the loss during the past year of many friends of the Organization, and among them, naturally, several of those whose observations extend back to the early days, and in two cases to a period even prior to the publication of English Rainfall, 1860, and yet no one of the 168 observers who contributed to that first collection of records appears in the following list.

The names of those who had completed 30 or more years of observation are-

Dr. Tyack..... of Chichester..... 47 years.

Dr. Nicol 5, Llandudno 39 ,,

Mr. R. C. Hankinson... ,, Southampton ... 38 ,, ~

Mr. J. R. Darsie..... ,, Liverpool 37 ,,

Rev. A. Bethune..... ,, Seaham..... 36 -,,

Mr. J. Kirby Hedges... ,, Wallingford..... 36 ,,

Mr. W. Blake ,, South Petherton 35 ,,

Rev. D. Dixon Brown.. ,, Haltwhistle..... 31 ,,

Mr. P. Crowley,, Croydon 30. ,,
while 8 other records extend over 25 years, making in all 17 ubservers who had regularly studied the weather for more than a quarter of a century.

In the list appears the name of only one lady, Miss E. A. Ormerod, whose researches on the subject of insect pests have proved of almost world-wide advantage to agriculturalists. She was, we believe, the first Lady Fellow of the Royal Meteorological Society, and the society was indebted to her for the publication of the Cobham Journals.

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 Observers Decensed to July, 1901.
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 | fee
 a - ETE
 |
 Ames, H. St. V., Esq., Cote Ho., Westbury-upon-Trym @ 1872-78 T 1880-1900; 28
 Barbour, J., Esq., Glendarroch, Dalry+- C 1895-99 C eeeeeeee| 3D
 Beaumont, Kev. Canon, Coleorton, Ashby-de-la-Zouch C 1891-1900 10
 Bell, Major, Thor, Birchington, Kent-. | @ 1892-1900 T cocanenn| 9
 Bethune, Rev. A., Seaham Vicarage . 00... ee C 1865-1900 36
 Biddell, G. A., Esq., C.E., Bishop's Hill, Ipswich. C 1872-1900 T 29
 Blake, W., Esq., Bridge, South Petherton, Nornerseth | C 1864-98 T..... 30
 Brooks, Sir W. C., Bart., Forest of Glen Tana 1873-1900 26
 Brown, Rev. D. Dixon, Unthank Hall, Haltwhistle' 1869 imp-1900....| 31
 Butler, I., Esq., Laurel Bank, King's Langley, Herts! C 1895-99 T..... ' 1
 Cambridge, Colonel, Bloxworth House, Bere Regis. | 1876-99 T| 23
 Glarke, Colonel, Thornbrough, Ryde 1882-99 Tos. 18
 Cropper, J., Esq., Elergreen, Kendal.....-- 1887-1900.....5 14
 Crossmann, General Sir W., Cheswick, Ancroft | 1892-99 ... 8
 Crowley, P., Esq., Waddon House, Croydon: 1871-1900 T..... 30
 Darsie. J. R., Esq., Grove Park, Liverpool; OC 1864-1900 T..... 37
 . 4 f Ballina, Killaloe.....6-55 CG 1877-85impT.. |
 Digan, J., Esq., \ Ross, O'Briensbridge.....-. C 1885 imp "98 T wis ' z
 Eyre, F. H. D., Ksq., Mudeford, Christehurch.....| @ 1879-1900... 22
 Farrer, G. D., Esq., Brayfield House, Olney..... 1898-1900; 3
 Gardiner, W., Esq., Rockshaw, Merstham 1895-1900 6
 Graham, W. B., Esq., The Grove, Bedford 1889-1899 T4 1
 { Seething Wells, Surbiton... 1886-1900 C
 Hack, R., Esq., C.E., West Molesey.....++5 C 1894 imp-1900C ;, 25
 | Putney Heath.....0665 1897-1900 G . J.

 ; Sa aw. Shirley Warren, Southmptn. | Iso imp -71T .. \
 Hankinson, R.C., Esq.-+{ Red Lodge, sey G 1872-1900 ... SJ) 8
 Hare, S., Esq., Cleveland Parade, Darlington; 1873 imp -1900 | 27
 Heberden, Rev. J., Hinton Ampner, Alresford..... 1881-9900./ 19
 Hedges, J. Kirby, Esq., The Castle, Wallingford...|. 1863 imp -1900 1 86
 Henderson, W.H., sq., Nether Parkley, Linlithgow 1893-1900 8
 Hill, J. Hansford, Esq., Waldegrave House. |

 Chewton Mendipcc::000 cccceeeeseseeseees] 1896-1900-+4) 3
 Hoare, t., Esq., Marden Hill, Tewin, Hertford ... 1889-19004 12
 Laurie, J., Esq., Cadland, Southampton...-. 1875-1900 26
 Maclean, General, Rowlands, Wimborne-. C 1893 imp -99T.....| 6
 Montgomery, Colonel, Convoy House, Raphoe! 1872-1900 T a 29
 Morres, Rev. A. P., St. Nicholas, SalisburyJ 1895 -99 T bicsteeee OO
 Murray-Aynsley, Admiral, Hall Court, Botley... 1884imp-1900 ... 16
 Musgrave, Rev. Canon, Hascombe Rectory-5) 1893-1900... 8
 Nicol, Dr., Warwick House, Llandudno.....| 1859 -97 C..... 39

 SpringGrove, Isleworth 1878imp-87 imp T

 Ormerod Mis A. LED. of Torito House, St.' 12
 Albans-- 1887 imp-91 T).

 Peek, Sir C. E., Bart., Rousdon, Lyme Regis @ 1854-1900----+ V7

 Peterkin, J. Grant, Esq., Grange Hall, Forres 1884-99 TT... .. 16
 Grand Sluice, Boston 1893-1900 |

 Phillips, C.G.W., Esq., C.E., 4 Lade Bank Engine, - 16
 Leake 1893-19006... |

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Observers Deceased to July, 1901 -(continued).

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| Ame

Pike, L. W., Esq., Furzebrook, Corfe Castle..... 1878-99 T[22
 Prichard, J. E., Esq., M.B., H.M. Prison, Hortfield| 1896-99 T.....) 4
 Pullar, F. P., Esq., Bridge of Allan... ..00.. 1900 ww. eee} od
 Pym, G. E., Esq., Doods, Reigate0... 1882-1900f 19
 Ridsdale, Rev. T. M., Pyrford Vicarage..... 1894-98 T ow... 8
 Roberts, T. D., Esq., C.E., Sudbrook, Portskewett 1890-97 0 1 8
 Sconce, A., Esq., Holmwood, DorkingJ @ 1871imp-96T ...; 20
 Smith, B. Woodd, Esq., Branch HillLodge, Hampstead 1876-99 T , 22
 Beverley Road, Hull..... .. 1875-87 imp T ...
 " Ingleside, Kenley, Surrey..; 1888-96 impT ... :
 Smith, Harold, Esq., Ingleside, Colwyn Bay, =
 North Wales| @ 1896 imp -99 T...
 Stirling, Colonel J. S., Gargunnoch, Stirling.....) 1892-990) 8
 Stonham, T., Esq., Kemsing, Sevenoaks] 189L imp -1900 ...; 9
 Taylor, T., Esq., Bocking, Braintree 1899 CO .. .eee.]
 Tyacke, Dr., Westgate, Chichester , @ 1854-1900) 0 47
 Wadge, Mr. H., Hingston Down, Callington...../ 1886-1899] 14
 Wakelin, J., Esq., Freebournes, Witham { 1894-1900 7
 ~ f Whitley Vicarage, N. Shields, 1864-1877
 Wheeler, Rev. Canon) Hazelbury Bryan Rectory 1888-1900 imp T f| 7
 Williams, Rev. J., Widecombe Vic., Ashburton... 0 1869imp-91impT) 21
 RR Sh Ss PE SS SSS SS TD

Notr.-C indicates commencement of record and also its continuation, T its termination.

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OBITUARY.

In a body of more than 3,000 persons devoted to any particular pursuit the inevitable hand of death is not long absent, and although the following list is not of unusual length, we feel that we have to regret the loss of an exceptionally large number of old friends of the Organization.

The average period of observation shown in the table is 20 years, while no fewer than nineteen of these Observers had continued their record for more than a quarter of a century, twelve for 30 years or longer, and two for more than 40 years.

The names of those who had completed 30, or more, years of observation are :-

Mr. Hurtley.....	of Old Malton.....	43 years.
Mr. Mansel-Pleydell	Blandford	40 ,,
Mr. Hinxman	Fordingbridge.....	37 ,,
Mrs. Horner.....	5, Mells	37 "
Col. Forde... ay Seaforde	0.00... 84 4,	
Mr. Peake... gy Bull ce.	84 ,,	
Rev. Dr. Davidson.....	Logie Coldstone... 31	,,
Mr. Tyrer	00... 5, Cheltenham.....	31 >
The Hon. G. Dalrymple...	St. Boswells	30 ,,
Sir J. H. Gilbert.....	Rothamsted	30 '4
Dr. Jeans	5, Grantham	30 "
Canon Pinder	4, Greys, Henley ...	30 ,,

It would be out of place here to endeavour to estimate the value to the community of these long records, or to make reference to the services of the deceased observers to their day and generation in other branches of activity, but without undervaluing these, reference may be made to one or two names which are associated with landmarks in the history of British Rainfall, Dr. J. W. Jeans, of Grantham, was one of the original band of 168 observers whose records appeared in the leaflet of 1860, the first publication of the series. The Rev. J. Chadwick Bates in 1862, 1863 and 1864, at Castleton Moor conducted experiments on the elevation and magnitude of rain-gauges and also on the temperature of falling rain. Sir J. H. Gilbert was for many years responsible for the extensive series of records of evaporation and percolation at Rothamsted, and also of the large rain-gauge there with a receiving area of one-

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thousandth of an acre. Mr. Tyrer, of Cheltenham, had for many years published monthly tables of the rainfall of Gloucestershire and stimulated interest in the subject throughout the county.

Referring to the question of longevity, which the late G. J. Symons so often claimed as associated with the pursuit of meteorological observations, we find that we have particulars of the age of 26 of the deceased observers. Of these no fewer than 21 had passed the allotted span of three-score years and ten, while eleven had attained their eightieth year, and six had reached or passed the eighty-fifth year.

Observers Deceased to July, 1902.

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pars

Stoke Bliss, Tenbury| 1873 imp -1894 T
 Alexander, Rev. G. E., ~ Belvedere Terrace, Tun- 25
 bridge Wells..... 0 1897-1900
 Hast Mersea Rectory..... 1888 imp -97 T ..)
 Pall, Bev. F. J. {Ardleigh intuit ceva} @ 1898-1900...) 2?
 Bannerman, Sir G., Bart., East Hill, Brackley 1891-1901) 11
 Bates, Rev. J. Chadwick, Castleton Moor, Rochdale| 1863 imp -66 T 1880-5) 9
 Biddell, W., Esq., Lavenham Hall, Sutfolk) 1878 imp 1880-1900 C} 21
 Sch. MilitaryEngineering,Chatham| C 1869-1874 T
 C Mr. J Mt. Mellick, Tinnahinch, Queen 'sCo 1876 te} 28
 onroy, *'T- +9 Abercarn Road, Londonderry.....|_ 1878 imp-81 T ... ~
 Clooney Terrace, Londonderry ...| 1882 -1901 imp? |
 Cc Rev. R,, { Alconbury Vicarage/@ imp 1883-1900 imp T
 onway, 1VEV~ > Catworthccc00c0seeeeeeeese| imp 1900-1901 ot '
 Crimp, W. Santo, Esq., Raynes Park, Wimbledon.. 1887-890.0000..; 3
 Crooke, Rev. C. H., Sheepstor0:....., imp 1892-1900 ...;) 8
 Dalrymple, Hon. G. G., St. Boswell's, Elliston, N.B.| 1872-1901/ 30
 Davidson, Rev. Dr., Logie Coldstone Manse, 1870 imp--1901 ...| 31
 Dewar, Rev. J., Arrochar:cc::ceeeeeeeeees| GO 1872 -1901 imp ...| 29
 Flower, Major Lamorock, Fieldes Weir, Hoddesdon 1880-95 imp.....). 15
 Forde, Rt. Hon. Col., Seaforde, co. Down 1867 imp-1901 C...; 34
 Fraser, Rev. Dr., Colvend Manse, Dalbeattie 1875-1901) 27
 f Hightfield, Southampton 1878-1891 T yy,
 Garret, Rev. H., | North Thoresby, Louth| 1892-1901f) 7!
 Gilbert, Sir J. H., F.R.S., Rothamsted, St. Albans 1872-1901 C) 30
 Harrowby, Earl of, High Ashursh, Dorking 1886-1901) 16
 Tramore, Waterford 1873-78 imp-
 1879-83 imp ...
 Harvey, T. N., Esq.,. Newtown, Waterford| 1885-88, 1890-91 18
 imp T
 Cove Lodge, Waterford) 1891 imp-1900 ...
 Harwood, Rev. J. T., Beverley Road, Driffield 1881-1901 ,. 21
 Hilder, W., Esq., Little Westwell, Tenterden| 1890-1901| 12

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Observers Deceased to July, 1902-(continued).

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ie

: f Lower Woodford, Salisbury.../C 1862-63, rial

Hinxman, H., Esq.,) Wood Green, Fordingbridge..| 1875-1900J| >!

Horner, Mrs., Mells Rectory, Frome , @ 1865-1901) 37

Hurtley, H., Esq., Old Malton::e000000:/ @ 1859-1901] 48

'Merlewood, Bickley 1880-1893 imp T

Hutton, T. O., Esq., {Southlaund, Chislehurst ...J| imp 1893-1900 - =

Impey, W., Esq., Broomfield, Chelmsford 1888-1900.....] 18

Irvine, Mr. C. S., Lawnswood, Adel)@1887-93 imp 1895-1900) 12

Jeans, J. W., Esq., Grantham:000:::eeeeee} O 1851-1880 T.....) 30

Jones, Rev. John, Abergwesyn Vicarage 1881-1901) 21

King, Rev. F., South Molton..... c..cccseeeeeeeeeees 1894-1900 0... 7

Lewis, Rev. Preb., Llanrhian Vic.0000..., 1893 imp -90..... 7

Lightfoot, Rev. G. H., Pickering Rectory 1886-1901| 16

Lloyd-Philipps, Capt. F., Penty Park, Pembroke...| 1885-1900 imp.....; 12

Longthorns, Blandford, 1867-77 imp

Mansel Pleydell, J C.,Esa-{ Wnsteombe, Blandford 1871-72, 1874-1901 } "

MacGilp, Mr. D., Gruinart School Ho., Islay, 1872-1900 24

McCausland, C. T., Esq., Drenagh, Limavady imp 1872 -1900 C 28

Ommanney, Col., Bloxham, Oxford06] @ 1888-1894 To...) 7

Peak, E., Esq., Pearson Park, Hull.....{ @ 1867-1900 C....., 34

Pinder, Rev. Canon, Greys, Henley-on-Thames ...| C imp 1871-1901.....| 30

, f Minterne Rectory, Cerne Abbas..... @ 1877-87 imp T... \

Pix, Rev. H.5) Swanage cecscscssecsesesssvesesssveseseces,| @ 1887 imp -i901 f| 74

Relton, Rev. A., Brinsop Vicarage0..., imp 1894-1901) 7

Robinson, J., Esq., Westwood Hall, Leek TTS xsnssmmomcmm scene! ob

{ Muswell Hill, O 1872-82 imp T ...

Scott, J. W., Esq., 4 Great Stanmore) imp1882-85impT ;) 28

| Finchley, Etchingham Park..| imp 1885-1901 C

' fGreenhill, Allerton, Liverpool...; C 1873-79T

Sing, Rev. Canon, \ Cromford, Matlock, 1900 tS :

Spence, J. F., Esq., Chirton Cottage, N. Shields ... 1895-1900 T.....; 6

Strachey, Sir E., Bart., Sutton Court, Pensford ...| C 1887 imp -1901C...) 14

Sturt, Col., Llanvihangel Court.....:0008:1 imp 1889-1901 G ..; 12

Thornton, R., Esq., Harrow Pegg ee ene nee 1899-1901] 3

VE: arton Seagrave,

Tibbitts, J. B. Maunsell, Esq.,{ POH omnrav) soo as agro imp | 4

Tighe, Lady Louisa, Inistioge, Woodstock..... 1878-1899] 22

Grove House, Mansfield 1870-76

Tyrer, R., Esq., { Soctham Villa, Cheltenham..... 1878-1901 col 31

Warren, J., Esq., Newton Heath.....{ @ imp 1878-1901 imp} 22

Wheatley, T. E., Esq., West Bank, Ledbury: 1873-1884 T.....) 12

rL: f Mt. Pleasant, Framlingham, 1880-98 imp T ...

Whitehead, R., Esq., Springfield Road, Gorleston 1899-1900 aa 20

Williams, Rev. Preb., Llandefaelog-fach, Brecon ... 1879-1901| 23

Wilson, C. M., Esq., Waldershaigh, Bolsterstone...| imp 1881-1901.....{ 20

Wilson,J.,Esq.,C.E.,Shaw's Water Works, Greenock 1868-93] 26

Witchell, P., Esq., The Acre, Stroud,) 1892-190]) 10

Younger, H. J., Esq., Benmore, Lock Eck 1892-1901] 10

Norr.-C indicates commencement of record and also its continuation, T its termination.

OBITUARY.

The following list is so exceptionally short that we fear that the relatives of several of our correspondents who have been called to their rest have failed to communicate with us, and with the increasing strain of modern life this is perhaps natural, but we much regret our resulting inability to pay a tribute to their memory by putting on record their aid in increasing our knowledge of our supply of the first necessary of life.

The list contains the names of two of the few remaining contributors to the first volume of British Rainfall, James Glaisher and Alfred Haviland. The first the best-known meteorologist of recent times and actively concerned in the revival of interest in the science, which took place in the first half of last century. A tribute to his memory appeared only recently in the Meteorological Magazine. The second a surgeon of wide attainments who advanced his science by masterly investigations of the geographical distribution of disease. Another meteorologist of renown in the early part of last century whose death we have to chronicle is A. Follett Osler, the inventor of the self-recording anemometer and rain gauge which is still in use at Greenwich Observatory.

These deaths reduce the number of original contributors on our list to nine; but several of these ceased to observe many years since, and we fear that in some cases news of their death has never reached us. Of them we may mention-

Mr. B. Barrow.....ceeeeeees Ryde.

Mr. W. Horton Ellis Exeter.

Mr. J. R. Mann00s-00685. Osborne.

Mr. J. Silverc.ccesceseeeeeeee White Waltham.

Mr. W. Vicarysccceeeeeeee Exeter.

We shall be much gratified if any of our correspondents can send us information concerning these pioneers of our Organization.

It would be an ungracious task to make any selection of names from those who have all worked for the increase of our knowledge of nature, but as usual we set out those who have been spared to continue their labours for a longer time than usually falls to the lot

of man, and we find that no fewer than eleven of the deceased

observers had recorded for 30 or more years :-
Mr. F. Dix Of Norwichc:000008 62 years.
Mr. J. Glaisher 5, Croydon.....ccccescsee ceeee 59g,
Rev. A. Christopherson ,, Colton, Ulverston 56 ,,
Mr. E. J. Collingwood. ,, Lilburn Tower 47 5;
Mr. J. B. Hamilton ,, Leny, Callander 40. ,,
Mr. R. A. Iles..... 5, Fairfordcccccseseveeee 40 ,,
Ald. J. F. Roberts..... ,, PlymouthGrove,Manchester 34 ,,
Rev. G. L. Woolcombe ,, Hemerdon, Plympton..... 34 ,,
Rev. 8S. P. Warren..... ,, Laragh, Balbriggan..... 32 ,,
Mr. D. J. Kay..... ,, Drum Park, Irongray..... 31 ,,
Capt. J. Paul ,, Cambus Wallace 31 5,

We have this year unusual evidence of that longevity of scientific observers of which our late chief so often spoke but which to our great regret he himself did not attain. The veteran Follett Osler was 95, followed closely by Glaisher and Dr. Prior, 93; F. Dix, of Norwich, 89; D. J. Kay, of Drum Park, 87; the Rev. E. T. Williams, of Chepstow, 86; Alderman Roberts, late Mayor of Manchester, R. A. Iles, of Fairford, and W. Lane, of Hawkshead, 84; and J. B. Hamilton, of Leny, 82; while at least three of our most valued correspondents still observing have completed their ninetieth year.

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ing

Balfour, Mrs., Balfour Castle, Shapinsay 1888-1902.....) 15
Portland Road, Newcastle-on-Tyne. 1880-85. 1887-88,
Bone, Mr. T., 1890-95 T 20
Claremont Road, Newcastle-on-Tyne| 1896-1902 imp
. Threlkeld Rectory, Keswick. 1882imp-93impT
Brunskill, Rev. J.54 Ormahed, Appleby] 1894-1902 Simp | As
Buchanan, Sir J., Craigend Castle, Strathblane ...| C1888 imp-1902impT} 13
Lancaster) 1849-51 T
Christopherson, Rev. A.,~ Caton, Lancaster) @ 1852-76 imp 56
Colton, Ulverston..... 1874-1902
Clark, Mrs. Bayfield, Wingfield, Trowbridge 1898-1901 T.....) 4
Clarke, Col. M. A., Achareidh, Nairn.....0. 1890-1901| 12
Collingwood, E. J., Lilburn Tower, Ilderton..... 1856-1902] 47
Cowan, Inspr.-Gen., R.N., Leigh Lodge, Worcester.| imp 1894-1902.....| 9
Dalrymple, Hon Mrs.G.G., Elliston,St. Boswell's, NB 1901-1902) 2
Dix. F { Rex Soot' Diss0cseeeeeeeeeee| GO 1839-1874 imp T \ 62
> ".*? \ Essex Street, Norwich , 1874 imp -1901 T

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Observers Deceased to July, 1903-(continued).

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Douglas, W., Inveraray, N.B. oo... eee ee nsec ees 1894 T ol. 1

Evan-Thomas, Commander, R.N., Caerwnon, Builth 1896-1901 imp T.. 5

France, C., Oliver Hill, Horsforth, Leeds 1879-1901 T.....) 23

Gape, Rev. C., Rushall Vicarage, Harleston| GC 1874imp--1898impT| 23

Royal Observatory, Greenwich 1841-1878

Glaisher, J., F.R.S., 4 Blackheath0.008 1876-1893 imp T 59

Heathfield Road, Croydon ...| 1894-1902

Green. T. A {Ferne End, Grasmere 1884-1902} 19

28 PO "| Fairfieldcccccecccecescesceveeeeees 1890-1902 impT...| 11

Hamilton, J. B., Leny, Callander, N.B..... 1852-55 imp, 1860 40

imp-1902 et

Hamond, W., Pensthorpe, Fakenham..... 1885 imp -1902_ ...| 17

Hardwick, W. A., Giggs Hill, Thames Ditton/1893-95 imp T, C 1896) "

imp -1902impT ... f

Harrison, E., Oaklands, Watford.....{01870-94, 1896 & 1897 T) 26

Haviland. A {Bien ichinte Gren ESO is os cee ons ee meas 9

avian, "+> Ridgemount, Frimley Green 1899-1900 imp ...

Iles. B. A | oceeth i Fairford..... | 1863-1889 40

youve"? | Horcott, Fairford0006., O 1890-1962

Kay, Duncan James, Drum Park, Irongray 1872-1902.....4 31

Lane, W., Hawksheadcccececeeeeeesveeeee? O 1873-83 Toowcc.... 1

Mills, W. G., Torfrey, Par Station DQO2 sinveeissccigensenf

Nihill, Miss M. C., Bennington.....008. 1894, 1896-1902 T| 8

*Osler, A. Follett, F.R.S., South Bank, Edgbaston

Paul, Capt. John, Cambus Wallace, Biggar 1872-1902.....1 31

Pease, Sir J. W., Bt., M.P., Hutton Hall, Guisborough} C 1874-1901 0.....{ 28

Pettigrew, A., Cardiff Castle... cece ee eee 1876-1902|. 27

Prior, Dr. R. C. A., Halse House, near Taunton .. |1870-76 all imp 1881 imp

Ramsden, J. E., Bankfield, Golear, Huddersfield .. 1869-76, 1882-1901) 28

Rathbone, S. G., Bassenfell, Bassenthwaite 1898-1902 5

Roberts, Ald. J. F., Plymouth Grove, Manchester] C 1867-1902 impT...| 34

Shiers, B., Amblethorpe, Ilkley} @ 1900 imp -1901 ..]

Taylor, Frank, Ash Lawn, Heaton, Bolton 1890-1902/ 13

Warren, Rev. 8. P., Laragh, Balbriggan 1866 imp-1901 T...| 32

Watkins, J., - Re C 1878 imp -1902 T 24

'Braystones, Ravenglass 1864-86 imp

Watson, J. D., { Trtedde, Helm Root nn] agegon te " } a

Williams, Rev. E. T., Caldicot Hall, Portskewett. 1891-1902} 11

Wood, Rev. J. Cooper, The Clive Vicarage, Wem.; 1887 imp-1902 ...| 15

St. Sennen, Penzance ...| 1865-1870 T

Woolcombe, Rev. G. L., < St. Mewan, St. Austell... 1872-88 T 34

Hemerdon, Plympton ... 1890-1901

* The observations which Mr, Osler maintained appeared under the name of the observers.

Norg.--0 indicates commencement of record and also its continuation, T its termination.

62 BRITISH RAINFALL, 1903.

OBITUARY.

It is a grateful task to place on record the services rendered to our science by the workers whose last return has been sent in, and we endeavour to include in this tribute the name of every departed observer. As many of our correspondents live quietly, in remote villages aloof from public affairs, it too frequently happens that the London newspapers do not contain a notice of their death, so that we may remain for years in ignorance of the fact. We ask the co-operation of all observers in letting us know of any gap in our ranks, and at the same time we hope that they will endeavour to interest survivors in the work and preserve the continuity of old records. The following list of 54 names contains no fewer than 16 who had kept up their records for thirty years or more. These are :--

Records of Thirty Years and upwards.

Mr. J. Davidson..... Holkham, Norfolk..... 49 years.

Captain W. Noble..... Maresfield, Sussex..... 48 -

Mr. J. M. Gale, C.E. ... Glasgow oe 450,

Mr. W. Clinton Baker... Bayfordbury, Hertford... 44 ,,

Rev. H. D. Blanchard... Middleton-on-the-Wolds 38,

Dr. Franklen G. Evans... Llwynarthan, Mon. 38 ay

Rev. Canon Burn Murdoch Riverhead, Sevenoaks ... 38 -

Mr. T. W. Wallis Louth reverssmememeanmercsase OS oy

Mr. J. Watkins Southport... 87,

Mr. H. P. Senhouse Maryport 36 -

Mr. W. H. Tyndall Red Hill 36 Hi

Mr. J. Gray..... South Ronaldshay..... 35 -,,

Rev. J. Wardale Cambridge ou. 85 ,,

Dr. N. C. Hatherley..... South Molton..... 33 9s

Mr. W. Sturdy 2.0.0.0... Thornton... BB,

Mr. E. E. Dymond Aspley Guise... 30 4,

Two of these veterans of the rainfall army-observers before Mr.

Symons-had almost completed half-a-century of continuous work.

The ages in the Obituary, so far as we can ascertain them, are not

on the whole so remarkable as usual; there are only two nona-

genarians in the list, and but three others who had passed the

four-score years. We are happy that it is so, for it shows that many

hale and hearty observers, who were born before 1820, are continuing

OBITUARY. 63

to visit their rain gauges daily. One who recently called at Camden Square remembers the coronation of four British Sovereigns.

Observers in the following list who attained the age of 80 years or more :-

Mr. W. Vicary:600088 93 years.

Mr. W. H. Tyndall..... 91 ,,

Rev. W. H. Purchas 81 ,,

Major-General J. S. Davies ... 80 __,,

Rev. J. Wardale 80. ,,

We should like to refer to interesting facts in the biographies of our late friends and helpers, for many of them lived remarkable lives and have left names that are not writ in water. Fear that we should omit to do deserved honour to all might serve as an excuse for singling out none for special mention, but we take the risk, confident that our readers will recognise that although all are eminently worthy, facts are available only concerning a few.

Mr. W. Curyron Baker, of Bayfordbury, a country gentleman of wide attainments and the possessor of some interesting literary relics, including an original MS. of Milton's ' Paradise Lost,' kept up a rainfall record at his ancestral home for 44 years, and we are happy to know that it is being continued by his heir.

Mr. B. Barrow, though only an observer for 4 years, deserves mention for the fact that his last year's record appeared in the first of Mr. Symons's publications, "' English Rainfall, 1860."

Mr. W. BrrrinCE was an enthusiastic meteorologist, whose careful observations at Loughborough communicated daily for many years to the Meteorological Office made his native town famous as a type of the most: nearly " continental" climate in England. Probably no one in the Obituary List this year was more keenly devoted to his hobby than Mr. Berridge.

Dr. R. Bices, the head master of the Royal School in Ennis-killen, had only recently become an observer, and his melancholy death by drowning has removed a prominent educationalist who fully understood the importance of teaching the study of nature. The record appears in this volume under the name of his coadjutor, Mr. Tetley.

ApmiraL Sir Crecit Domvitie, Bart., C.B., kept up a record for many years, and although he latterly considered it scarcely systematic enough to forward for publication, he quite recently sent some interesting figures regarding heavy falls of rain.

Mr. E. E. Dymonp belonged to one of the "rainfall families," and himself contributed to our records and very generously to our funds for a generation.

Mr. J. M. Gaus, C.E., the Waterworks Engineer to the Corporation of Glasgow, was intimately associated with the splendid enterprise of bringing the water of Loch Katrine into that city. The rain gauges established to determine the amount of available supply from the beautiful and unspoiled natural reservoir greatly increased our knowledge of the rainfall of the Highlands.

Rev. J. Hawett, Vicar of Ingleby Greenhow, in the Cleveland Hills, kept up a continuous record for twenty years in one of the most interesting and, from the rainfall point of view, least known parts of Yorkshire. His gauge was one of the thirty supplied by Mr. Symons out of a bequest left by Miss Nunes in 1882, every one of these gauges being situated more than five miles from any previously existing rainfall station. We believe this was the only legacy ever received for the work of British Rainfall, and the good it did was great and far-reaching.

Mrs. Hucues, a humble worker, was the faithful and valued recorder of rainfall at the historic site of Seathwaite for many years, although as a paid observer her name did not appear in the pages.

Mr. S. A. Marsal, after some years of observations near Leeds, set up a rain gauge at Skelwith Fold, Ambleside, in 1890, and, becoming interested in the rainfall of the Lake District, he devoted an increasing amount of attention to it as the years went on. He was influential in establishing a large number of rain gauges, often in almost inaccessible situations, and he published a valuable monthly report in post-card form of the records at about 25 stations in the district. Amongst these was Dungeon Ghyll, the remarkable records of which for 1903 are dwelt upon in the articles on Rainy Spells and Rainy Days in Part II. of this volume. Deeply as we regret the removal of Mr. Marshall, it is a satisfaction that his rainfall work will be continued by his daughter ; there could be no more appropriate memorial.

Canon Burn Murpocu had a more eventful career than most rainfall observers or clergymen. After studying at the Universities of Edinburgh and Cambridge he entered the army, served as an officer of Hussars in India and the Crimea, exchanged into the Dragoons, and ultimately retired from the army in 1856. He entered the

OBITUARY. 65

Church five years later and became Incumbent of Riverhead, near Sevenoaks, in 1863. Two years afterwards he commenced a record of rainfall there, which he continued until his death ; and a second record was kept up by him at his Highland residence, near Dunkeld.

Dr. Isaac Roperts, F.R.S., was distinguished as a highly successful photographer of celestial objects, but although the nebule received most of his attention, he was a regular observer of rainfall for several years and an occasional correspondent of Symons's Meteorological Magazine.

Mr. W. Vicary was an observer forty years ago and one of the contributors to "English Rainfall, 1860." Although interested in meteorology to the end, his work lay rather in the field of geology, where he made a name for his collection of Devonian fossils.

It will be observed that the Obituary List contains the names of no fewer than eleven clergymen, and we cannot let the occasion pass without a word of gratitude for the great service which the clergy, and in particular those of the Church of England, are rendering to observational meteorology. Without their intelligent and conscientious co-operation we should know comparatively little of the rainfall conditions of vast tracts of England.

66 BRITISH RAINFALL, 1903.

Observers Deccused to July, 1904.

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PERIOD OF OBSERVATION.

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NAMES AND STATIONS. abs

DATE. aa 3

gna

Baker, W. Clinton, Bayfordbury, Hertford] @ 1859-1902) 44

Barnes, R. Hawsworth, Heatherlands, Parkstone. 1882 imp-1903.....) 2)

Barrow, B., Clifton House, Ryde, Isle of Wight ...| 1853 imp-55 imp, |) 4

. 1857-59 imp & 1860 T| f

Bell, J., Park Road, Barry, South Wales{ 1895-1902...) 8

Cazenove Rd. ,StokeNewington,N.| 1896 imp-98 imp,

Bentley, E. J., 1899-1900 imp T | 5

Thyra Villas, Ramsgate] 1900 imp-1903 T...

Berrjdce. W Victoria Street, Loughborough; 1878 imp-91 imp T 93

errs', "+ Forest Road, Loughborough] 1891 imp-1902 T..

Biggs, Dr. R., Portora, Enniskillen, Co. Fermanagh 1902 imp -1903...) 1

Blanchard, Rev. H. D., Middleton on the Wolds, |1864-92imp, 1893-94 imp \ 38

Yorks, E. Riu... cece cecece eee ce teen eeeeeeeceeeenaes 1895-1908],

*Boddington, Rev. T. F., Salhouse. Norfolk..... {1874-75 imp, 1880-81 imp \ oe

1882imp-1902 imp, 1903

Carnegie, W. C., Sarsden, Chipping Norton..... 1892-1902 11

Charlton, J {Denton tig Northumberland..... 1878-1885 T..... \ 25

"*? \ Denton House, Brampton 1886-1902

Davidson, J., Holkham, Norfolk| 1848 imp-86 imp 49

1887-96, 1898-99... }

Davies, Maj.-Gen. J. S., Lowood, Maidenhead..... 1879 imp -1902T..| 23

Dix, J. H., Hampton Lodge, Durdham Down, Bristol 1892-99 imp, 1 9

1901 imp-03.....| f

Domville, Admiral Sir W. Cecil, Bart., Stede Hill,

Harrietshamcceccceeee rece eceenereesnees 1894-96 T.....) 3

Highworth, Wilts.....0.....{ 1865 Too. oy

Dymond, E. B.,{ Aeiey Guise, Beds.....| 1871 imp -1900 T... | 30

Cardington, Church Stretton |1869 imp, 1872 imp -82T

Brinsop, Herefordshire.....| 0 1883-93 T.....

Elliot, Rev. Preb. W. + Bullinghope, C0 1894-98 imp T.....| } 29

Longhills, Church Stretton ...| 1899-1902 imp. T...

Caradoc Lodge, _,, 1903 ooo. e eee eae

. . f Pentyrch, Cardiff] 1866-84 To. 0.0...

Evans, Franklen G.{ Livenarthan Marsh&ela, Mu C 1885-1903 38

Gale, J. M., Glasgow (Numerous yaues)| 1859-19036) 45

Gatty, Dr. C. H., Felbridge Place, East Grinstead] 1895 imp-1900 T... 5

Gray, J., Roeberry, South Ronaldshay 1868-1902 T.....] 35

Hancovk, W. E., Croome Hall, Ross 1885-1902.....[18

Harrison, Gen., West Hay, Wroughton 1888-1903] 16

Hastings, H., The Plann, Kingarth, Bute} 0 1889 imp-1891 imp,

302 95mp 904. 9

1898, 1900-1902 T...

Hatherley, Dr. N. C., South Molton 1870-1902 T.....] 33

Hawell, Rev. J., Ingleby Greenhow, Yorks, N.R.| 1883 imp-1903c...| 20

Hopwood, J. C., Surrey Villa, Colchester 1885-1900, 1902...) 17

Hughes, Mrs., Seathwaite.....ccccceceeeceens 1888-1902] 15

_ _ Returns usually obtained through Norfolk Chronicle.

Note.-C indicates commencement of record ; its continuation, T its termination.

imp. means that the record for that year was imperfect.

OBSERVERS' DECEASED. 67

Observers Deceased to July, 1904-(continued).

PERIOD OF OBSERVATION.

NAMES AND STATIONS. | zes

DATE. | es 8

oo 57e

Low Nook, Ambleside| 1869 imp _lg72T...

Long Lane Vicarage, Derby..... 1873-74 Tw... ..

Borrage House, Ripon.....| 1876-79 imp 1880,

Joy, Rev. Canon, 1883-84 imp T ...! - 23

Benenden, Ripley, Yorks 1884 imp.....46. |

Benenden, Kent.65 1888-1895 T.....

The Vicarage, Maidstone.....| 1899-1903 T.....

. Broadwater Road, Worthing 1881-86 imp T.....

Kelly, Dr. C., { Ellesmere, Worthing. eT 189819083 en \ 16

Lockwood, E., Kingham, Chipping Norton 1882-84 imp, 1885-

WW02T oO

McAndrew, J. C., Grafham Grange, Bramley| 1896 imp -1903.... 7

Weetwood Hall, Leeds..... 1884-86 To... td ye

Marshall, 8. A., { geetwith Fold, Amblesids | 1890-1903 2.2.14

Maude, L. E., Broad Ford House, Horsmonden ... 1960 & 1901c,) 2

Murdoch, Rev. f Riverhead Vicarage, Sevenoaks 1865 imp -1903 T ..|

Canon Burn \ Inverbraan, Dunkeld 1873imp, 1875 imp | 3%

1876 imp, -1892 imp, | |

1893-1903 c me

Newbery, F., Milton Ernest, Bedford..... 1878-1902 T.....1 25

Noble, Capt. W., Forest Lodge, Maresfield] 1856-1903....., 48

Overton, Rev. Canon, Gumley Rectory, Market 4

Harboroughc ccc cceee sees cee eeneenreeeeeneenes 1899-1902 T.....

Poland, Rev. F. \W., Northacre, Northaw.. 1899-1903] 5

Purchas, Rev. W. H., Alstontield Vicarage, Staffs. |1872-84imp, 1885-86imp 98

1887-94 imp, 1895-1902c} ~

Kessingland, Suffolk.....| 1890 imp -1894imp T

Fuxley, Bow. 1. L., { Steep Vicarage, Petersfield... C 1894 imp -1900 T 9

Roberts. Dr. Isaac, F.R.S., Maghull068 C 1881-89 T.....1 9

Senhouse, H. P., Netherhall, Maryport..... C 1868-1903] 36

Smith, J., The Gardens, Mentmore, Bucks/C 1875 imp. -78 imp,

1879-84imp, 1885-86imp | 24

1887-1902 c

, fThornton, Stony Stratford/ 1868 imp -1901 impT

Sturdy, W., { Earlewood, SOTVCY08 0050 ceiwoone eens 1902 oo... eee cece 3B

Turner. E. R., Clare Lodge, Ipswich{ G@ 1890-1903) 14

Tyndall, W. H., Oxford Road, Red Hill] 1866 imp. 1867 imp \ 36

Vicary. W., Albert Terrace, Exeter-65 1860 imp -1864 T... 4

Wallis, T. W., Louth, EA BH nwo a ge otvers Peas ian binant ' 38

: Orcheston St. Mary, Wilts 5imp. -76imp

Wardale, Rev. {euch worth Rectory, Stevenage! C 1877-97) \$35

John, | Benet Place, Cambridge; 1899-1903imp T ...|]

Vale Bank, Bolton | 1863 imp -71 imp...

Watkins, J. ; Hurst Bank, Heaton, Bolton..... 1871 imp -96 imp T| > 37

Park Crescent, Southport] 1896 imp -1902 T...

Wilmot, T. J., [veragh Lodge, Waterville, Co.Kerry; 1893-1903 T....., 11

Wright, Miss Judith, Yeldersley Hall, Derbyshire; 1901 imp -1902 c... 1

Wright, T. H., Marlow Mills, Bucks0.....60 1894-19021 9

we

80 BRITISH RAINFALL, 1904.
OBITUARY.

THE steady growth in the number of rainfall Observers involves, as a sad but necessary consequence, a corresponding increase in the annual list of those, the end of whose work has to be recorded. On the present occasion the number is 59, and it includes many old friends, faithful Observers, and valued supporters of the Rainfall Organization. Large as this number is, we dare not hope that the list is complete, and we should esteem it a particular favour if correspondents, who know of the death of any Observer whose records have ever appeared in British Rainfall, and whose name has not been given in the Obituary, would let us know of the fact. We are sure that all active Observers are in sympathy with us in wishing to place upon permanent record a tribute to the memory of their former comrades.

The place of highest honour must be given to those who have kept the longest records, for their services have been the greatest, and their place is the most difficult to fill, unless, indeed, as sometimes happens, a relative or friend is ready to carry on the work. Some of our most useful helpers of to-day were first led to interest themselves in the work because they could not find it in their heart to let drop the observations in which a father or a husband took pleasure and pride. There can be no fitter memorial than the continuation of such arecord. The following list includes all those in this year's Obituary whose records extend over thirty years or more:-

Records of Thirty Years and upwards.

NAME. LAST PLACE OF OBSERVATION.

Rev. M. A. Smelt	Cheltenham	46 years.
Mr. H. Ward	Penkridge	46 ,,
Rev. R. P. Davies.....	Hatherop	40 ,,
*Rev. G. H. Billington	Wimborne	39 ,,
Rev. T. A. Preston	Thurcaston.....	39 ,,
Mr. J. B. Putt	Fleckney	89 ,,
Rev. F. W. Stow	Aysgarth	0..... 39 ,,
*Mr. T. Fenwick	Leeds	ccccceeeeeeee 88g,
*Miss E. A. Dymond	Exeter... ..	cccc000088 387,
*Capt. Griffith-Boscawen	Rossett	0... 387 5,
*Mr. J. Gulson	Coventry oo...	87 yy
*Mr. R. Bushell	Neston oo...	85g,
*Rev. T. H. Marsh.....	Cawston	0..0008. 384 4,
*Mr. J. H. Arkwright.....	Hope-under-Dinmore	31 ,,
*Miss M. H. Rickman.....	Lewes.....	000000 B14,
* Continuous records in one place.		

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It is gratifying to see that nine of these records were continuous in one place for the whole period.

We have been able to ascertain the age of only 38 persons in the long list, and the average of these is 73. One exceeded ninety and nine others had completed their eightieth year, a fresh confirmation of the often quoted fact that many of those who have the potentiality of long life have a natural bias towards regular meteorological observing.

Observers in the Obituary list who attained the age of 80 years or more : -

Mr. J. Gulson.....	-5 91 years.
Mr. F. Padwick	89 ,,
Sir Lowthian Bell	88 ,,
Mr. S. W. Silver	86 4,
Rev. M. A. Smelt	84 5,
Mr. C. W. Curtis	81 ,,
Rev. R. P. Davies.....	81 ,,
Mr. T. Fenwick	81 4,
Rev. T. H. Marsh.....	80 ,,
Rev. J. T. Tarver	80 ,,

The list as a whole contains the names of twelve clergymen, and of eight members of the military profession, one-third of the total number being thus accounted for. In addition, we may note that nine (or nearly one-sixth) were ladies.

We have not been able to ascertain full particulars of the careers of all our old friends and fellow workers, and some of them led quiet and uneventful lives, which do not need many words to describe. Of those regarding whom we have information, we gladly supply a few notes, but we wish to say with unmistakeable distinctness, that so far as regards the particular service which had entitled anyone to a place in this list, equal credit is due, and equal honour should be paid, to every one of them.

Mr. JOHN HUNGERFORD ARKWRIGHT, Lord-Lieutenant of the County of Hereford, was the type of an English country gentleman, educated at Eton and Oxford, a keen follower of field sports and Master of Fox Hounds, a Volunteer Officer, a Vice-President of the Royal Agricultural Society, holder of most of the offices in which the landed proprietors of a county can be of service to the public,

and keenly interested in the management of his estates. Mr. Arkwright kept up a continuous record of rainfall at Hampton Court, near Leominster, for 31 years, which we hope will be continued.

J

\$2 BRITISH RAINFALL, 1904.

Stir LowrHiANN BELL, Bart., F.R.S., whose fame rests on the improvements in blast-furnaces, and in the metallurgy of iron, was devoted to gardening as a recreation, and in his gardens at Rounton Grange, Northallerton, a record of rainfall has been kept since 1874.

Miss Emma JANE DyMonp, F.R.Met.Soc., was the last representative of a family which has given a number of keenly-interested observers of rainfall. Miss Dymond's own record was complete and unbroken for 37 years, her first complete year's observation having been made in 1868, at Manston Terrace, Exeter. It was only last year that we had to record the death of her brother, whose rainfall record at Aspley Guise was only a few years shorter.

Tue Rev. G. H. Brtuneron, Rector of Chalbury, Wimborne, kept up a continuous record in his parish for 39 years from 1865, and ranked high as an observer even in so admirably equipped a county as Dorset.

Mr. REGINALD BUSHELL, of Hinderton, Neston, was responsible for the oldest record in the Wirral peninsula, he having carried it on from 1869 to 1903, and we are happy to know that it is still being kept up, as Miss Bushell has taken her father's place.

THE Rev. ROBERT PRITCHARD DAVIES was perpetual curate of St. Mary's, Hatfield, from 1849 to 1869, and from 1864 he sent in rainfall observations from Hertfordshire. When he received the appointment of Rector of Hatherop, near Fairford, in Gloucestershire, he took his rain gauge with him, and from 1870 to the date of his death, he kept up a record in that extremely interesting district of the Upper Thames. The long record is, we are happy to say, being continued by a neighbour.

Mr. Witutam Horton ELuis, J.P., of Ottermouth, Budleigh Salterton, was the oldest Fellow of the Royal Meteorological Society, having been elected in 1851 a Member of the British Meteorological Society, which had been founded in the previous year. At that time he resided in Exeter, where he made observations of rainfall in 1855, 1856, and from 1860 to 1878, his record appearing in English Rainfall, 1860, the precursor of our annual volumes.

Mrs. C. H. GRIFFITH was the widow of the Rev. C. H. Griffith, of Strathfield Turgiss, who had been not only a keen observer, but also an indefatigable investigator, whose experiments were of great value in determining the best form of rain gauge and evaporator for

use as standards. On Mr. Griffith's death in 1896, Mrs. Griffith

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kept up the observations which had been started in 1862, and by this work of devotion to her husband's memory, a rainfall record of 34 years has become a record of 43 years.

Mr. JOHN GULSON, the foremost and probably the oldest inhabitant of Coventry, where his ancestors had resided since the sixteenth century, was a perfect type of the English citizen, a hard-working merchant, an untiring servant of his town in every unpaid office up to that of mayor which he held in 1867-69, and an unostentatious benefactor. He was born of the old Quaker stock that has yielded so many prominent men of science, and although his enthusiastic support of the volunteer movement in 1861 led to his withdrawal from the Society of Friends, the best qualities of his upbringing remained to the end tempered by his wider views. From the obituary notice which fills nine columns of the Coventry Herald for December 30th, 1904, we select these lines regarding personal characteristics :-

'* An indefatigable walker, he was out in all weathers: when he was considerably past his eightieth year he would cover twenty miles at a stretch. One of his favourite exercises was quoits ; all through the summer there were quoit parties at Stoke. His monthly article on Local Rainfall, which included personal observations on birds and animals, was read with interest for more than a generation ; the first of the papers appeared in 1870. In January, 1903 Mr. Gulson, on account of increasing infirmities, and being at the time incapacitated by a severe fall, thought of ceasing the contributions, and in the article for that month he took leave of his readers in these words: ' Thirty-six years have now gone since I first established my rain gauge and weather instruments. During those years I have kept a record of the daily rainfall in Coventry. Previous to that time I am not aware that any reliable weather statistics had been kept or attempted here. The daily attention to the phenomena of the weather which my record required has been a source of much pleasure to me, but the inevitable time has now arrived when advancing age and failing eyesight compel me to close the book.'''

Lirut.-COLONEL HENRY SOLLERS G.S, KNIGHT, F.R.Met.Soc., maintained a well-equipped meteorological and astronomical observatory at Harestock near Winchester, where his rainfall record extended over 24 years. One of the features of his observatory was the series of earth thermometers, one being as deep as 70 feet. Col. Knight was particularly careful as to the exactitude of his instruments and his records were kept with scrupulous care.

THE Rev. THOMAS ARTHUR PRESTON, F.R.Met.Soc., was an assistant-master at Marlborough College for 27 years and started rainfall observations there in 1864, which he carried on until 1885.

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Not only this but he was, we believe, the founder of " Wiltshire Rainfall," perhaps the most complete county organization that ever existed, though as too often happens, it did not survive the withdrawal of the founder's hand. In 1885, Mr. Preston became Rector of Thurcaston in Leicestershire, where he continued his personal observations until his death.

Tue Rev. MAURICE ALLEN SMELT, F.R.Met.Soc., commenced to observe rainfall in 1855 at Patricxbourne near Canterbury, and wherever he went subsequently he started a record, keeping up the last at Cheltenham from 1867 for 37 years until his death. His name appeared in "English Rainfall, 1860."

Mr. STEPHEN WILLIAM SILVER, F.R.Met.Soc., well known for his great library of books of travel and for his connection with submarine cable construction (his name survives in Silvertown) was always a keen meteorologist and for many years a generous contributor to the funds of British Rainfall. He never grudged time or thought in his friendship, and both Mr. Symons and the present Editor frequently sought his advice and valued the suggestions he was always ready to give.

THE REV. FENWICK WILLIAM Stow, F.R.Met.Soc., has a remarkable record. He was a rainfall observer in 1864 while still an undergraduate. He was curate at Holy Trinity, Tunbridge Wells, from 1867 to 1869 (and started a record there) and at Hawsker near Whitby from 1869 to 1871, where he started three records and carried on a valuable series of experiments on the exposure of rain gauges (described in British Rainfall, 1871). He was Curate of Harpenden, Herts., from 1871 to 1873 and started a record there, and finally he became Vicar of Aysgarth in Wensleydale in 1873, where he started no less than six records in that thinly-peopled country-side and kept his own going at the Vicarage for 27 years. It is sad, however, to know that not one of the many records started by this enthusiast is being continued ; rainfall observing is rarely contagious in remote districts.

Mr. Henry WARD was an observer for nearly half a century, first at Wolverhampton and afterwards at Rodbaston, Penkridge, where it is a source of satisfaction to know that the record is being continued by Mrs. Ward.

Mr. J. WINFIELD deserves mention as an observer for 16 years, whose services in remote parts of Wales are the more interesting because he was one of the recipients of a gauge from the Nunes

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Bequest, the solitary benefaction left, after death, by any of the large number of wealthy observers.

Lorp WyYnrForD, better known in our pages as Col. George Best, before his succession as fifth Baron in 1903, was an observer for 14 years. His brother, the fourth Baron, had also been a friend of the Rainfall Organization for many years, and his son, the sixth Baron, is now keeping up the old associations as the third of the name.

Observers Deceased to July, 1905.

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PERIOD OF OBSERVATION.

NAMES AND STATIONS. S24

DATE. ae 3

Bre

Arkwright, J. H., Hampton Court, Hope-under-| 1873 imp-1904.....] 31

Dinmore

Baines, L. T., Bawtry Hall, Bawtry 1882-1903 T1 22

Enniskerry00.....00006 1876 imp -87 imp

Barrington, Dr. E. E. 1888-92, 1898 T..| } 20

San Remo, Bray....., 1900-03T

Bateman, Rev. S., The Rectory, Yarborough| 1896 imp-1903 T...) 7

*Bell, Sir Lowthian, F.R.S., Rounton Grange, 1877-81 imp, 1882-

Northallerton 1904 ssvsisesssvasma| BT

Billington, Rev. G. H., Chalbury, Wimborne 1865-1903 T.....} 39

Blunt, Col. A., Dorchester, Oxoncsecccuees 1883-84 imp, 1885-

1903 c....., 20

Branfill, Maj-Gen. B. R., Burghstead Lodge,} C 1888-1903T 16

Billericay

Hinderton, Neston.....| 1869-19036

Bushell, R.{ Gabhill Neston0.-cesccscscseseseeeeee.| 1881-1886 imp T \ 35

Chinnery, W. M., Hatchford, Cobham| 1900-1904) 5

tCurtis, C. W., Kearsney Abbeycecs0ees 1893-1904] 12

Parkgate, Hertford) 1864-1865 T

Davies, Rev. R. P. + St. Mary's, Hatfield] 1866-1868T; } 40

Hatherop Rectory, Fairford. .| 1870-1904

Dymond, Miss E. A., Manston Terrace, Exeter ... 1867 imp -1904 ...| 37

Ellis, W. H., High Street, Exeter68 1855, 1856, 1860-78] 21

Elwick, Q.-M.-Sergeant, Pirbright Camp 1896-1904 9

Evans, A. J. L., C.E., Pumping Station, Luton ... 1895-19044 10

Bay of Small Isles, Jura, N.B. ... 1877-1900 imp T ...

Evans, Henry {Feline Jura, N.B.ccceceneeeeees 1902... eee eee 2

Farrer, O. C., Binnegar Hall, Wareham..... 1887-1903 , 17

Allerton Hill, Leeds0068 1866 imp -1904c...

Fenwick, T. - Hart Reservoir, Durham..... 1870-1904.c| } 38

Hurworth Burn, Durham..... 1870-1904 6

* Returns latterly obtained through Royal Meteorological Society.

Earlier years obtained through Meteorological Council.

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Observers Deceased to July, 1905-(continued).

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Green, J., Radcliffe-on-Trent, Notts68- 1896-1903 T....., 8
 Griffith, Mrs. C. H., Strathfield Turgiss, Hants ... 1896-1904.....]. 9
 Griffith-Boscawen, Capt., Trevalyn Hall, Rossett... 1867-1903 T] 37
 Gulson, J {Sone Row, Coventrys.00006 1867-1903 T
 7W'9 Stoke, Coventry.....cccccesceseeeeeens 1879-80, 1890-98] } 37
 imp 1899-1902 T.
 Tebay, Westmorland..... 1878-1882T
 Holme, Rev. E. {Orton Vicarage, Westmorland...| 1883-1901 : seseneeee } 24
 . North Tamerton, Cornwall 1882-1888 T
 Holt, Major J. {The Grange, Farnborough) | 1889-1902..... }ar
 Holt, Mrs., The Grange, Farnborough..... 1903 T wD
 Hoskins, Miss, Higham, Cockermouth 1891-1904.....] 14
 Jackson, W. F., Litton, Tideswell008+ 1892-1902 T) 11
 Knight, Lt.-Col. H. S. G. S., Harestock, Winchester] C 1879 imp-1903 T...| 24
 Langton, Miss E. G., Barrow House, Keswick SL imp 1887-| 20
 1904
 Lindley, E., Eastwood Colliery, Notts 1886-1904) 19
 Manly, T., Derry Castle, Killaloe....., @ 1877 imp, 1878 imp
 1879-1903T) 25
 Marsh, Rev. T. H., Cawston Rectory, Norfolk.....) 1871-1904.....] 34
 Mold, W. H., Bethersden, Ashford0000+ 1876-1903 T] 28
 Padwick, F., West Thorney, Sussex 1860-72, 1874-85...| 25
 Parish, Rev. W. D., Selmeston Vicarage, Sussex ssa 1896-1900 T.....) 5
 TE The Grange, Woodbridge..... 1880-1885 imp T ...
 Phillips, W. P. T., { Melton Woodbridge...-.....| 1885 imp 96 \ 16
 Poole, Rev. R. B., Ilton Vicarage, Ilminster..... 1879-81 imp, 1882-
 1904 impT| 24
 The College, Marlborough ... 1864 imp -1874 ...
 Preston, Rev. T. A., 4 The Green, Marlborough 1875-1885 T.....1} 39
 Thurcaston Rectory, Leicester} 1887-1904T.....
 Putt, J. B., Fleckney, nr. Market Harborough.....| 1863-79, 1881-86,
 1888-1903.....] 39
 Pye, W., Madeley, Staffs0. ceececececececees 1895-1903 T.....] 9
 Reid, P., The Gardens, Lucan41 O 1891 imp -1903 ...] 12
 Rickman, Miss M. H., Southmall, Lewes.....) 1868-1898T..; 31
 Rowntree, J. W., Silverdale, Scalby| 01900 imp --1904 ..| 4
 Scott, Mrs., Brotherton, Johnshaven, N.B. 1891-1900, 1902-3T| 12
 Shuldham, Col., Coolkelure, Dunmanway{ 01883imp-1902impT| 18
 Silver, S. W., Letcomb Regis, Wantage.....) 1877-83, 1885-1904| 27
 Patribourne, Canterbury ... 1855 imp-56T.....
 Slindon, Arundel 1856 imp -63 T.....
 . Heath Lodge, Petersfield.....) 1857 imp-1863 imp T
 Smelt, Rev. Bl. A-, Medstead, 'Aiton as veg wpe Bs 1863 fat ~1864 t.. 46
 Ockbrook, Derby 1865 imp T
 Heath Lodge, Cheltenham ... 1867-1903 T
 ._, J-, Muiravonside House, Stirlingshire..... 1900-1904 0... 5
 gtitling>

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Observers Deceased to July, 1905-(continued).

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Ripon cc ceceeescsceeceseeeeeee 1864 imp -1869 T...

Garden Villa, Tunbridge 1867-68 T 00...

Wells

Hawsker, Whitby 1869 imp -1870T...

North Lighthouse, Whitby... 1870-77 T...

Hackness, Scarborough C1871 T 0...

Stow, Rev. F. W. < Harpenden, Herts 1871 imp, 1872-73 39

1) fe ere

Hestholme, Wensleydale... | 1873 imp -1876 ...

Nell Bank, Walden, Aysgarth| C 1875-1886 imp T..

Kidstones, Bishopsdale| 1875-1881 T.....

Walden Head, Aysgarth W75T oe.

Aysgarth Vicarage..... 1876-1903 T.....

Swarbreck, C. M., Sowerby, Thirsk 1880-1904 imp T...} 24

Tarver, Rev. J. C., Filgrave Rectory, Olney.....| 1875-78 imp. 1879-

Auch bh C 80, 1882-1901 ...| 25

uchtermuchtys000s 1870-1882 T

Troup, Dr. F., { Gdenside House, Strathmiglo..... 1898-1904 imp T... \ ie

Vane, The Hon. & Rev. G. H. F., The Rectory,| 1900-1904.....) 5

Wen, Salop

Venables, Mrs. Whyte, Red Hills, Belturbet..... 1896-1902.....) 7

Oaklands, Wolverhampton 1858 imp -71T ...

Ward, Henry { Rodbasten, Penkridge0.0....{ 1872-1904 } 46

Llanstephan, Builth{ 1884 -1889 impT...

. Clatterburn, Presteign{ 1889 imp -1891 imp T

Winfield, J. Llanfihangel Crucorney] @ 1892-1896 T..... 16

Llantillio-Pertholey8- 1899-1903 T.....

Wynford, Lord, Charlton House, Donhead St.| 0 1884 imp -1903c...| 19

Mary

Yeatman, Miss, Cliefden, Eltham.....06 1891-1904) 14

Nore.-C indicates commencement of record; its continuation; Tits termination ; imp

means that

the record for that year was imperfect.

s2 BRITISH RAINFALL, 1905.
OBITUARY.

Wir over 4,000 Observers it is reasonable to expect an annual death-roll of between seventy and eighty, for the larger number have passed middle life, and a considerable proportion are well advanced in years. It is our aim to put on record the name of every Observer who has died since the issue of the previous volume, with a note of the services rendered to the Rainfall Organization, and such biographical facts of interest as we are able to ascertain. In this we have been much helped by surviving friends, and we take this opportunity of asking our readers to be good enough to forward any information regarding late Observers which they think likely to interest survivors, and not to assume that someone else has performed this service.

Amongst the 62 names which fill the Obituary list this year, thirteen Observers had kept observations for thirty years or more, either in one place or at various places in different parts of the country.

Records of Thirty Years and upwards.
NAME, LAST PLACE OF OBSERVATION.

*Mr. T. M. Symons Coryton.....ccccceaeae 45 years.

Rev. B.S. Malden Sheldwich.....0.. 88 5 ,,

*Mr. G. B. Buckton Weycombe, Haslemere 37 ,,

Mr. T. Arkell Lechlade08. 36 ,,

*Mr. H. E. Gurney Nutwood, Reigate 36 ,,

*Mr. EB. Chapman wssisvae Oxford cccscscscscssensssssseaces BO gy

*Rev. R. Elmhirst..... Farnham, Knaresborough... 35 ,,

Sir Wilfrid Lawson, Bt. Brayton.....cc0:0008. BB ogy

*Sir Pryse Pryse, Bart... Gogerddan0... 33 ,,

*Mr. J. King Withington000008. 32 5,

Mr. F. Slade..... Beckfordccccccc000e, 82 yy

*Mr. J. A. Hempson..... Erwarton::00006. 380 4,

*Mr. F. H. Plumptre ... Kingsteignton 30. ,,

The ages of just half of those mentioned in the Obituary are known to us, and of these the seven named in the following list exceeded the fourscore years.

* Continuous records in one place.

< OBITUARY. 83

Observers in the Obituary list who attained the age of 80 years or more :-

Mr. T. Arkell00008. 95 years.

Mr. G. B. Buckton..... 88 ,,

Rev. H. H. D'Ombraïn..... 87 ,,

Mr. G. Jevons....ccecccsesseseesee 87 5,

Mr. H. E. Gurney 84 5,

Mr. FB. Slade sccsascassscsvassececcme SL gy

Mr. C. H. Burbidge-Hambly ... 80 ,,

In referring with special detail to a few of our old collaborators, it must not be supposed that we have made a selection of the better known or more distinguished, as on that account more worthy of recognition and gratitude for their service in this small department of science than the many who are passed over without remark. It is often difficult at short notice to obtain the information we would like to give, as it would be inconsiderate in many cases to write to relatives for particulars, which at the time of a death might appear to the survivors of but slight importance.

Mr. G. B. Bucxton, F.R.S., who died in September, 1905, at the age of 88, was a chemist and a distinguished entomologist. He kept up a rainfall record at Weycombe, Haslemere, without intermission from 1867, and it is, we are happy to believe, likely to be continued.

Mr. EpwArD CHAPMAN, of Hill End, Mottram in Longdendale, who died very suddenly in July, 1906, was a University man, a Fellow of Magdalen College, Oxford, and country gentleman interested in every department of public life. He was a director of the South-Eastern Railway Company, the Deputy Chairman of the Great Central Railway Company, and took a leading part in all public affairs in the counties of Lancaster and Chester. From 1900 to 1905 he was Member of Parliament for the Hyde Division of Cheshire. Mr. Chapman was a collector of paintings, and possessed many valuable pictures. His chief recreation was the turning-lathe; but he found time to take a keen personal interest in meteorological observations, and had been a rainfall observer and a good friend of the Rainfall Organization for 35 years. In 1869, Mr. Chapman became Lecturer on Physical Science, and subsequently Tutor at Magdalen College, retaining this appointment till 1894, and doing much for the improvement of physical study in the University of

Oxford. When he took over the charge of the Daubeny Laboratory at Magdalen College in 1869, he became responsible for the meteorological observations, which he much improved, presenting new

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instruments and planning a new book for recording the observations. To the end Mr. Chapman continued to receive and forward for British Rainfall the records kept at Magdalen, and the help and encouragement he gave the Editor will be greatly missed.

PROFESSOR RALPH COPELAND, Astronomer Royal for Scotland, and Professor of Practical Astronomy in the University of Edinburgh, was an Astronomer who had seen much of the world on Eclipse expeditions and as an Arctic explorer. The peculiar circumstances of his appointment were made the occasion of a powerful criticism by Lord Crawford of the treatment of men of science by the Government, and the letter giving expression to the complaint was quoted by Prof. Ray Lankester in his Presidential Address to the British Association at York. Since 1889 he was responsible for the rainfall observations at the Edinburgh Royal Observatory, first on the Calton Hill and afterwards on Blackford Hill. Professor Copeland was always ready to help and advise, and we gratefully remember many kindnesses on his part.

Rev. H. H. D'Ompre RAIN, who completed a rainfall record of a quarter of a century, was one of the many who have been attracted to meteorology by their love of horticulture. He was well known as an enthusiastic rose-grower.

Rev. R. E. Muir, of Farnham, Knaresborough, completed a rainfall record of 35 years, and was a frequent contributor to Symons's Meteorological Magazine as well as to British Rainfall. He was an enthusiastic gardener, and every year we have had the privilege of publishing phenological notes from his pen. Born at Barnsley in 1835, he started life in business in Liverpool ; but his mind turning to study he entered St. Aidan's College, and was ordained Deacon in 1861, and Priest in 1863, and after holding several curacies he lived as Vicar of Brearton, near Knaresborough, for 40 years. He had travelled in the East, and was a keen student of nature in every aspect.

Mr. H. E. Gurney, of Nutwood, Reigate, carried on observations of rainfall for 35 years at the same place, a notable service, the effect of which will be multiplied if it is found possible to continue the record,

Rev. H. B. HEBERDEN was the last representative but one amongst the observers for British Rainfall of the famous Heberden family, whose activity in meteorological investigations for three generations

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was made the subject of a special article in British Rainfall, 1896. His observations extended over a period of 26 years, and included records from three parishes in Hants and Gloucestershire, of which he successively held the livings.

Lapy Victoria Howarp, daughter of the 17th Earl of Suffolk, and one of the bridesmaids of Queen Alexandra, kept up a record of rainfall at Charlton Cottage, near Malmesbury, for 22 years, and took a great personal interest in the work.

Siz WILFRID LAWSON, BaArT., M.P., known equally for his enthusiasm in the cause of temperance and for his genial humour in public and private life, took a strong interest in the work of British fainfall, and maintained a record almost continuously since 1862 in the gardens of his residence at Brayton, in Cumberland. As a specimen of the playful rhymes with which Sir Wilfrid delighted both friends and opponents, and as an illustration of the pleasure with which he associated himself with water in all its forms, we may cite the following, written on the occasion of his return for a Cornish constituency :-

From Cumberland to Cornwall brought,
A kind of miracle was wrought ;
They put aside the man of tin
And let the watery Cumbrian in ;
From pole to pole it thus would seem
The power of water is supreme.

THE Rev. N. MacDovuGaLt contributed some interesting records from various stations in the western islands of Scotland. He was one of the recipients of a gauge from the Nunes' bequest, and it is a pleasure once again to acknowledge our indebtedness to this fund (the solitary token of interest in the work surviving the lifetime of the benefactor) for much information as to the rainfall conditions of the remoter parts of the kingdom.

THE Rev. B.S. MALDEN, after a few years' observation in the neighbourhood of Wolverhampton in the sixties, was appointed to the living of Sheldwich, in Kent, and contributed practically a continuous record from that place since 1871. The station is situated on the northern slope of the Downs and its loss would be a serious one to the representation in that part of the county. It is therefore to be hoped that the new incumbent may continue the record.

Sir Pryse Pryse, Bart., of Gogerddan, near Aberystwyth, kept up for many years a particularly valuable rainfall record in a part of

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the country where there are very few rain gauges. The continuance of this record by his successor will, we trust, be secured, as without it the west of Wales would be poorly represented indeed.

Mr. FREDERICK SLADE died on December 1st, 1905, in his 82nd year. In 1847 he commenced work with a firm of contractors engaged in railway construction and gained his experience during the exciting period of most rapid railway development in this country. He had been a meteorological observer for the greater part of his life, and kept up his interest in the work to the end. Mr. Slade was an exact, methodical, painstaking and trustworthy observer, and took pride in the completeness and perfection of his records, over which he spent much time, expressing the results in beautifully executed diagrams as well as in figures. His rainfall record commenced at Barrow-in-Furness in 1873 and continued there until 1879, at Kenilworth from 1880 to 1883, and subsequently at Beckford, near Tewkesbury, where it was carried on without intermission to the end. Mr. Slade was a singularly healthy man, never knowing ill-health until within a few months of his death. He was keenly interested in local affairs, taking part in the work of the various local councils.

Mr. T. M. SyMONS was one of the very few surviving Observers whose activity spanned the period of the existence of the British Rainfall Organization, and his fine record of 45 years refers to one place, Coryton, in Devon. Although the register for 1905 is imperfect, it is gratifying to hear that there is some probability of the observations being continued by a neighbour interested in the work.

Observers Deceased to July, 1906.

PERIOD OF OBSERVATION.

NAMES AND STATIONS. ied

DATE. Ga 3

sre
Ainsworth, D., The Flosch, Cleator de eeeeneceseeeeesens 1883-1905] 23
Arkell, T {[eehlade wavs senvnnesnecccccne} 1879 imp. 1805 6. 8
Arthur, J., Budeccccccccscsesecesscretssescseseaeel GO 1880 imp-1904T ...} 24
Barlow, Rev. Canon, Lawford Rectory, Manningtree T8GS ewsssnmsnmssa| -
Borrowman, John, Hambledon, Surrey 1890-19051 16
Buckton, G. B., F.R.S., Weycombe, Haslemere ...| 1867 imp-1904c ...| 37
barbie any, , {Hasewong ashy | 9188 big

OBSERVERS DECEASED. 87

Observers Deceased to July, 1906-(continued).

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Buxton, H. E., Fritton, Great Yarmouth| 1892 imp-1904c ...| 12

Neuadd-fawr, Llandovery.....| 1898-1900.....

Campbell-Davys, R.{ Dolecoed Hotel, Llanwrtyd 3

Wellsccccccccceceesee os 1900... cc cec cee ee eee

Chapman, E., Magdalen College, Oxford 1871-19051 35

Christopherson, Mrs. A., Colton House, Ulverston 1902-1905 T.....4 4

Royal Observatory, Edinburgh.. 1889-18956

Copeland, Dr. R. " Blackford | 17

Hill, Edinburgh, 1896-1905

Courtauld, Mrs., Bocking Place, Braintree 1900-19038) 4

Thrybergh, Rotherham 1887-1904

Crabtree, W. H.4 Firsby, Doncaster 1887-1904 c}\$ 18

Doncaster Pumping Station 1887-1904

Crafer, C. A., Warningcamp, Arundel..... 1902-1904 To...) | 3

Crawley, Rev. R. T., North Ockendon, Essex 1879-1904 T) 26

Curtin, W. H., Monks Road, Lincoln..... 1904 T oo... 1

D'Ombraïn, Rev. H. H., Westwell, Ashford 1881-1904 T] 24

Elmhirst, Rev. R., Farnham, Knarborough 1871-1905 T) 35

Foley, R., Ballygally, Lismore, co. Waterford 1901-1904 T) 4

Glanusk, Lord, Glanusk Park, Crickhowell..... 1892-1905] 14

Greenwood, Dr. G. S., Ossett, Wakefield 1893-1904 | 12

Gurney, H. E., won Se CURB UE cic van cameras 1869 imp-1905....| 36

Newland, Colefordcccccees 1887-1891 imp T ...})

Blatt H-{ Grercharn, Gloucestercccccees, 1892-1904 f 7

Litchfield, Hants.....{ 1873 imp-76 imp T

Heberden, Rev. H.+ Stapleton, Bristol.....] @ 1879imp-1890impT| } 26

Oddington, Stow-on-the-Wold| 1891 imp-1906

Hempson, J. A., Erwarton Hall, Suffolk..... 1876-1905.....1 30

Hollingworth, H. G., Minafon, Llanbedr, Merioneth| C 1898-1905.....) 8

Horton, J. W., Brayford Wharf, Lincoln{ @ 1880-1905 T| 26

Howard, Lady Victoria, CharltonCottageMalmesbury 1882-1897, 1899-

1904] 22

Jackson, W., Drove Road, Langholm| 0 1896 imp-1905.....| 9

Jevons. G {fr Michael's Hamlet, Liverpool..... 1879-83 T.....

> "| Hope Street, Liverpool.....006 1884 - 1895 imp,|} 26

1896-1905 T

King, J., Withington, Manchester ws... 1873-1904] 32

Langdon, W., Midland Railway, Derby] 1883-1902} 20

Lawson, Sir Wilfrid, Bart., M.P., Brayton Hall,

Cumberland ou... ccecscsesnecscrcsneeeseseasenseaseeens 1867-70, 1872-86

1890 imp-1902 33

1904-1905 c

Little, J., Thorncot, Hooe, Plymstock..... 1899-1904 TT...) 6

Manse of Coll, N.B. 1882 imp -89 imp,

MacDougall, Rev. N.44,-,_: TOO OE essences 14

; *") Kilerivagh, Benbecula.....) 1898-99 T.....

Ardvasar, SEY Goo ooenn tees 1901-1908 T

Patlingham, Wolverhampton 1855-69 T.....0.....

Malden, Rev. B. 8. { Sheldeich Vicarage, Kent a 1872. Slip, 1882-1905 } 38

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Observers Deceased to July, 1906-(continued).

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| She

Munn, Rev. G. S., Madresfield Rectory, Gt. Malvern 1877-1904 T. = ' 98

: Inch House, Kilkenny0665 1891 imp--93 imp \

O'Connell, J.{ Sion Villa, Kilkenny.....| 1893 imp -1904T... f 13

Orr, Miss K. A., Burlington Place, Eastbourne..... 1895-1903 T 9

Phipps, T., Kingham, Chipping Norton 1900-1904 T..... 5

Plenderleath, Rev. W. C., Mamhead Rec., Dawlish} C1891imp-1905impT 138

Plumptre, F. H., Teignbridge House, Kingsteignton 1875-1904 T..... 30

Foxgrove Road, Beckenham 1876 - 1880, 1888 -'

Pringle, C. S. 1893 imp T ...' > 13

Whitekirk, Southbourne, Hants.....; 1901 imp-1904 T ...'

Gogerddan, Aberystwyth...| 1872 -- 1883 imp,

Pryse, Sir Pryse, Bt 1884-1905 6 .../\ 33

yse, yse, Dt \ Waenbwil, Machynlleth.... 1876 - 1881 imp,

1882-1883.....

Rawlings, E., Richmond House, Wimbledon Common 1894-1905.....) 12

Roxby, Rev. W., Thornford Rectory, Yeovil..... 1898 T wo...)

Sharp, Rev. J. P., Long Stowe Rectory, Cambs.; 1895 imp -1905T...; 10

Cavendish Park, Barrow-in-Furness..... 1873-1879

Slade, F.4 Lynton Villa, Kenilworth, 1880-1883 imp T...! } 32

Beckford, Tewkesbury.....0008: 1884-1905 T

. . The Staithe, Beccles..... 1889-1902.....

Smith, Clifford { Waveney House, Beccles..... 1903-1905 } 7

Sowerby, W., Royal Botanic Gardens, Regents Park} C 1870 imp-1894 c ...| 24

Sparrow, C. B., Preen Manor, Church Stretton..... 1898-1905, 8

Stevenson, Rev. P., Inverarity Manse, Forfar 1891 imp -1904 T...; 13

Stirling, J., Garden House, Kippen, N.B. 1893-1904, 12

Statham Lodge, Lymm, Cheshire ... 1877-1891 T...../)

Stubs, Peter { Blaisdon, Mitcheldean, Glos,) 1892-1905.....\f 29

Symons, T. M., Coryton, Devonccc0c00e: 1860-1904 45

Tanner, Rev. J. Selwood, Ashford, Ludlow 1884-86 imp, 1887) |

-1903 T.....lf

Terrill, F., Boultham, Lincolneee000s 1881-1905 impec ...| 24

Thurgood, H. J., East Budleigh, Devon..... 1902-1904) 3

Watters, D., Bridgend Cottage, Carron, N.B. 1900 imp-1904T...| 4

Whyte, Maj.-Gen. H., Lough Eske Castle, co. Donegal 1903-1905, 3

Wright, J. H., Dalby Grange, Spilsby.....0.. 1898-19041 7

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Norr.-C indicates commencement of record; c its continuation; T its termination ; imp means that

the record for that year was imperfect.

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OBITUARY.

THE list of lost helpers which we have to publish on this occasion is the longest that has ever appeared in British Rainfall. Long as it is we fear that it does not fully represent the gaps in the ranks of Observers, many of which are only discovered when the next year's circular is returned with the laconic endorsement of the Post Office. It is inevitable that as the total number of Observers increases by about 100 every year, the number of deaths should increase by one or two. The rate of mortality is not high considering the great age of many of the Observers, and compared with the mortality of 65, or 31 per 1000 in 1891, which Mr. Symons characterised as his "'worst year," the 89 names recorded below represent a death-rate of only 22 per 1000 Observers at work.

Although we have to recognise the sad necessity of losing an increasing number of old supporters every year, we are not often called upon to see so many of the oldest and most faithful friends of the Rainfall Organization pass away as on the present occasion. The loss of the old records has been referred to in the foregoing section, the loss of financial help has been touched upon in the preliminary Report ; but the loss of the old friends themselves claims a special word. It would be a pleasure to place on record here a brief biography of every Observer named in the following Obituary, but the data are rarely available, and we must confine ourselves to such particulars as can be gleaned from the ordinary sources of information.

One of the small band of contributors to the first issue of British Rainfall in 1861 is included, but there are several who commenced their observations in 1862 or 1863.

The list contains two nonagenarians, and the following twelve amongst those whose ages are known were 80 years old or upwards ; three other Observers died in their eightieth year.

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Mrs. George Clive	s000e000.	92	years.
Dr. Robert Barnes	00006	90	yy
Rev. W. R. M. Waugh.....	88	5,	
Sir Brook Kay, Bart.....	00.0000.	86	5,
Rev. Prebendary Gowing	85	5,	
Rev. Canon Venables	85	455	
Col. D. Ainsworth	ccccceeeeeee	84	5
G. J. Newbery	ccccccssecsescseseeee	82	gy
Rev. C. E. Plater	000:00008	82	5,
W.. Evans.....	ccccscscsececencesssseseeeee	82	45
Dr. W. M. Burman	062 eee	Sl	ogy
Rev. R. F. Follett	c200000	80,	

We have been able to ascertain the ages of 45 out of the 89 Observers in the list, and the mean age of these was 72. The list contains the names of 14 clergymen, of 8 officers of the Navy or Army, and of 9 ladies.

Many of the late Observers had kept records for long periods, and it has been usual to go through the accumulated volumes in which the records are registered and extract the exact duration of the observations at each place of observation. Latterly this has become a very burdensome task, involving nearly a week's steady work, and this year with the extended list before us we estimate that it would involve a fortnight's delay in publishing the volume to complete the list. We do not feel justified in taking the responsibility of this delay for a purpose that does not affect the accuracy or the utility of the rainfall data. Without guaranteeing the completeness of the list of honour we can, however, name the following whose records certainly extended over 30 years or more :-

Records of Thirty Years and upwards.

NAME. LAST PLACE OF OBSERVATION.

*Mr. Ralph Assheton	Downham Hall, Clitheroe ..	52 years.
Dr. W. M. Burman	Grange-over-Sands	48 ,,
*Mr. W. Arkell	Moreton-in-Marsh	41 ,,
Mr. L. W. Reynolds.....	Thelwall, Cheshire	41. ,,
Rev. Preb. Gowring	Uffculme, Devon	35 ,,
*Mr. George Croucher.....	Ochtert tyre, Perthshire	33 ,,
*Mr. A. J. Woodhouse	Child's Hill, N.W.	32 ,,
*Rev. J. G. Hale.....	Therfield, Herts	30 ,,
*Sir Brook Kay	Cheltenham	008. 380 0 5,

Mr. RALPH ASSHETON, of Downham Hall, Clitheroe, born on 20th December, 1830, was educated at Eton and Trinity College, Cambridge, where he was Junior Optime in the Mathematical Tripos. He was a Justice of the Peace since 1854, a Captain at one time in

* Continuous record in one place.

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the 1st Royal Lancashire Militia, and served his country also as Member of Parliament for Clitheroe from 1868 to 1880. He was a generous supporter of the British Rainfall Organization almost from the first, and his record extended for the very exceptional period of 52 years in one place. It is merely by an accident that Mr. Assheton's returns do not appear in the first issue of British Rainfall as he commenced his observations in 1855.

THE Hon. JOHN CHARLES BEST was born in 1842 and was a brother of the fourth and fifth Lords Wynford, all three having been interested for many years in rainfall observations. He was a retired Captain of the Royal Navy, had served as High Sheriff of Denbighshire, and kept his rainfall record at Plas-yn-Vivod, Llangollen.

Mr. J. H. W. Bicas, of Liverpool, was one of our most ardent helpers, although his name does not appear in our pages. He was particularly interested in observations of rainfall and sunshine in the Lake District where he resided for part of every year, and he believed that the high rainfall of that beautiful locality occurred mainly in winter or at night and was not inconsistent with a large proportion of summer sunshine. Scarcely a year passed without Mr. Biggs expressing the opinion that the work of the Rainfall Organization should be recognized and subsidized by Government.

Miss J. E. A. Brown, of Further Barton, Cirencester, carried on a very important rainfall record for several years, the interest of which was considerably enhanced by observations of the level of water in a deep disused well in the kitchen of her house. This record has been worked up by Dr. C. P. Hooker, of Cirencester, whose keen interest in the subject encouraged Miss Brown to continue the observations which were started by her father as long ago as 1844, and had been kept up by her sister, Miss Elizabeth Brown. Miss Brown was more interested in art and literature than in science, and she was known as a writer in prose and verse, appealing to a small circle of cultured readers.

Dr. ALEXANDER BUCHAN, F.R.S., was born in 1829, and was a graduate of the University of Edinburgh and an honorary LL.D. of Glasgow. He was appointed Meteorological Secretary of the Scottish Meteorological Society in 1860 and remained in that position for forty-seven years. His name has appeared in every issue of British Rainfall from the earliest volume for 1860-61 down to 1905. While he devoted attention to all branches of meteorology, Dr. Buchan wrote

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largely on rainfall and was one of the first to construct rainfall maps of the British Isles. When the Symons Memorial Gold Medal was established by the Royal Meteorological Society in 1901, Dr. Buchan was chosen as the first recipient. He paid many visits to 62 Camden Square and we owe much to his counsel and example. A full biographical notice will be found in Symons's Meteorological Magazine for July, 1907.

Dr. W. M. BurMAN kept up rainfall observations for 48 years, first at Wath-upon-Dearne, Yorkshire, where the record is being continued by his son Dr. F. J. Burman, and after retiring from professional work at Grange-over-Sands. He was all his life keenly interested in the study of the weather.

Mrs. GEORGE CLIVE, of Perrystone Court, Hereford, was a lady of remarkable individuality and energy. On the death of her husband, Mr. George Clive, M.P., in 1880, she undertook the management of the estates and continued to look after them to the very end, though she reached the remarkable age of 92. She had the unusual distinction before her death of seeing her nephew Lord Grey Viceroy of Canada, and her niece Lady Minto the wife of the Viceroy of India.

Mr. C. JoRDAN, I.S.O., Superintendent of Royal Parks, worked his way up until he had charge of Hyde Park, Kensington Gardens, St. James's Park and Buckingham Palace Gardens, and he was always careful to see that the rainfall records under his charge were properly kept. He received the Imperial Service Order on the occasion of the official King's Birthday, 1907, when he was already suffering from his fatal illness.

Sir Brook Kay, Bart., born in 1820, saw service in the Indian Army fifteen years before the Mutiny. He took an active part in political and philanthropic work in his own neighbourhood. At his residence, at Battledown, near Cheltenham, he devoted himself largely to horticulture, a pursuit which has drawn more adherents to the observation of rainfall than perhaps any other.

ADMIRAL J. P. MACLEAR was a son of Sir T. Maclear, Astronomer Royal at the Cape of Good Hope, where he was born in 1838. Joining the Royal Navy he served as a midshipman both in the Baltic and the Black Sea, during the Crimean war, and as a lieutenant during the China war of 1860-62, and during the Abyssinian

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campaign of 1866, Subsequently he performed valuable services on surveying ships, and as commander he was on board H.M.S. Challenger during her famous scientific voyage of circumnavigation in 1872-76. As captain he was in command of the Alert and Flying Fish, and on retiring with the rank of Admiral, in 1891, he devoted himself with great interest to the study of meteorology. He had joined the Royal Meteorological Society in 1881, and served on its Council.

| Admiral Maclear married a daughter of the late Sir John Herschel, so that he was doubly allied with famous exponents of observational science. Admiral Maclear died very suddenly at Niagara Falls, on July 17th, 1907, while on a visit to America. He was a frequent correspondent in Symons's Meteorological Magazine, and in his death we mourn the loss of a very faithful friend.

Mr. G. Pau, Borough Meteorologist of Harrogate, was an example of the best type of enthusiastic and hard-working observer. He was proud of the climate of his town, and most anxious to spread a knowledge of meteorology amongst his fellow-citizens. The monthly reports on the climate of Harrogate which he prepared were amongst the fullest and most careful that we know.

Mr. J. M. PHILLPott.-See Report, p. 7.

THE Hon. Mark ROLLE, a son of the 19th Baron Clinton, was born in 1835, and succeeded to the great estates of his uncle, Lord Rolle (whose name he assumed), in Devonshire, where he became extremely popular with all classes. He gave generous support to all movements of public value, and subscribed a large sum to insure the lives of the Devonshire yeomen who went out to the war in South Africa.

LIEUT.-GENERAL JOHN SPROT was born in 1830 and entered the army in 1848. He was appointed on the Public Works Department in India in 1856 and served throughout the Mutiny with distinction. Later he commanded the 91st Highlanders and filled various high military positions. He retired in 1887, and in 1893 he started the interesting series of rainfall and meteorological observations at Lilliesleaf, Riddell, Roxburghshire, which he kept up to the end. His remarks on the weather will be much missed from the Observers' Notes in these volumes. One of General Sprot's most interesting meteorological experiments was made with electric-recording anemometers fixed at various heights on a great steel flagstaff

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130 feet high, which he had erected in the grounds of Lilliesleaf. We frequently had the pleasure of hearing from him on meteorological matters, and our readers can judge of the racy style of his communications from the illustrated account of the flagstaff in Symons's Meteorological Magazine, 39 (1904), p. 204. We learn with great regret that the instruments have been dispersed and that no more returns from them will be available.

Tue Rev. CANON GEORGE VENABLES was born in 1821, studied at Oxford, and became Vicar of St. Paul, Chatham, in 1854, where he remained four years. He was successively Vicar of Friezland, Yorks, 1858-69; St. Matthew, Leicester, 1869-74, and of Great Yarmouth, 1874-86. Since 1888 he had been Rector of Burgh Castle, near Yarmouth, and he was an Honorary Canon of Norwich from 1881. Canon Venables was one of the most keenly interested Observers we have ever had the pleasure of meeting, though his rainfall records are not continuous. His daughter, Mrs. Sanderson, herself a rainfall observer and the mother of a rainfall observer, writes as follows :--'I do not think you will ever have a more interested meteorological observer than my father, for he was one of those people who used his eyes, especially for Nature and her ways. He had a rain gauge as early as 1860, I think, when he lived at Friezland, in Yorkshire, and when he was trying to show people the advantage and interest of keeping one with a record, he would tell with pride how his rain gauge and its record on a certain day of June (I forget the year but it was in the early sixties) had been the means of deciding an important law case. . . . It always pleased him very much to think it had been of practical use. Soon after he came to Burgh Castle, finding that there were most beautiful sunsets over the Norfolk marshes which could not be seen from the Rectory, he cut down trees and bushes so that as he sat at his library desk he could see those gorgeous effects in the distance and reflected in the river surrounded by a beautiful frame of trees, So at the eventide of his life he would frequently call us to see 'the sun's declining rays at eventide descend.' "

OBSERVERS DECEASED. 99

Observers Deceased to July 31st, 1907,
 Small capitals designate Observers with 30 years' records,

*ASSHETON, RALPH Downham Hall, Clitheroe.
 Ainsworth, Col. D..... Backbarrow, Lancashire.
 Ainsworth, D..... The Flosh, Cleator, Cumberland.
 Aitken, Robert Colmonell, Ayrshire.

Alleard, Miss F. E. Wimblehurst, Horsham.
 ARKELL, W. Longborough, Moreton-in-Marsh.
 Arkwright, Miss..... Grange-over-Sands, Lancashire.
 Barber, J. L. P..... Burton-on-Trent,

Barnes, Dr. R. Bernersmede, Eastbourne.
 Barrett, OC.cceccececececececececece) Ture.

*Best, Capt. Hon. J. C., R.N.. Plas-yn-Vivod, Llangollen.

*Biggs, J. H. W..... Storrs Park, Windermere.

Blair, J. BE.seeeee8 Drumpark Mains, Dumfries.
 Bosworth, D. Bedworth Cemetery, Nuneaton.
 Brown, F. F. Eastgate Row, Chester.

*Brown, Miss J. E. A. Further Barton, Cirencester.

Browne-Clayton, W..... Browne's Hill, Carlow.

**Bucuan, Dr. A., F.R.S. Edinburgh.

*BuRMAN, Dr. W. M. Grange-over-Sands, Lancashire.
 Chester, W.....s0es00868 The Gardens, Chatsworth.
 Chichester, Lt.-Col. Gerard... Bonehill House, Tamworth.

*Clive, Mrs. George..... Perrystone Court, Hereford.
 Cochrane, Vernon Glen Lodge, Sligo.

Cooper, G. H..... Hast Dereham, Norfolk.

Crawhall, George, Burton Croft, York.

CROUCHER, GEORGE Ochtertreyre, Crieff, Perthshire.

Daglish, J.ssssee008-5. Rothley Crag, Cambo, Northumberland.
 Durnford, C. Longparish, Whitchurch.

Edwards, Mrs. Dolserau Hall, Dolgelly.

Evans, Rev. J. J. Cantref Rectory, Brecon.

Evans, W.ssceeeesesecececececece Lhe Spring, Kenilworth.

Follett, Rev. R. F. Winscombe Court, Somerset.

Fry, J. Bu... .ceescececececececececece Upton, Didcot, Berks.

Fryer, W. R.0s0s0866. Werwood Manor, Salisbury.

Gibbs, A.sccececececececececece Tyntesfield, Flax Bourton, Bristol.
 GowrinG, Rev. PREBENDARY Uffculme, Devon.

Grant, Rev. Donald Dornoch, Sutherlandshire.
 Gregory, Thomas Eyam, Sheffield.

Guillebaud, Rev. E. W. Yatesbury Rectory, Calne, Wilts.

Haig, G. A.....cccccccccccccccc Pen Ithon, Newtown, Radnor.
HAs, Rev. J. G. Therfield Rectory, Royston, Herts.
Hale, Major-General Robert... Alderley, Wotton-under-Edge, Glos.
Hamond, Washington Pensthorpe, Fakenham, Norfolk.

* See Biographical Note ante. + Name appeared first in British Rainfall, 1860-61.

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OBITUARY.

THOUGH the Obituary List has been kept open for a fortnight longer this year than last we are happy to find it shorter by 20 names, and though the deaths of some Observers who have not kept records in recent years may have escaped our notice, we do not think that there is any reason to suppose that the number is greater than in other years. We have been able to ascertain the ages of 38 out of the 69, a somewhat higher proportion than last year, and the mean age was 69 ; only three of the 39 were under 50.

Those who were over 80 years of age are mentioned below. There is only one nonagenarian, but his age (97) has rarely, if ever, been surpassed by a Rainfall Observer, long-lived as they notoriously are.

Observers deceased in 1907-8, of 80 years of age or more.

Rev. Angus Bethune..... 97 years.

Mr. W. H. Jones.....c.cce eens 86g,

Sir John Evanscccccessceeseneesee 84 4,

Rt. Hon. J. A. Campbell..... 83 ,,

Rev. J. R. Turner.....00000055 83 gy

Dr. Alfred Browncccccsseesee 82 55

Mr. C. O. Eaton.....ccccceeeceee 80 55

Mr. Joshua Sing.....cccccsseesee 80g,

Mr. Joseph Knight..... 80 ,,

Some exceptionally long records appear in the list of the Observers whom we have recently lost, after more than 30 years observing. Curiously enough the Obituary list does not contain the name of any Observer which appeared in the first volume of British Rainfall (that of 1860-61), but the observations of Mr. John Aitken, of Braemar, did appear under the name of Dr. Cameron, who was then responsible for them; and those of Sir John Evans, at Nash Mills, were credited in that volume to Messrs. Dickinson. It is always a little difficult to deal with records which appear sometimes over one signature, and sometimes over another; but to the best of our knowledge every record quoted below was either taken by the observer personally or under his supervision.

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Records of Thirty Years and upwards.

NAME LAST PLACE OF OBSERVATION.

*Mr John Aitken.....:5 Braemar....cccccccccc 52 years.
 *Rev. Angus Bethune..... Seaham Vicarage..... 42 ,,
 *Col. L. M. Buchanan..... Edenfel, Omagh..... 42 5,
 *Mr. P. F. S. Amery..... Druid House, Ashburton.. 39 ,,
 *Mr. Amos Mitchell..... Wolsingham 389 5;
 *Col. Rt. Hon. W. 8S. Kenyon- ;
 Slaney, M.P. Hatton Grange, Shifnal.... 37 ,,
 Mr. Sidney Law..... Kingsthorpe, Northampton 37 ,,
 *Mr. Laurence Dalglish Keavil, Fifeshire..... 36 ,,
 *Mr. C. O. Eaton..... Toilethorpe Hall, Stamford 35 ,,
 *Mr. J. Capel Philips..... Heath House,
 Stoke-on-Trent 35 ,,
 Mr. J. Walker,006066 DfftOwn.....ccceeeeeereeeeees BA gy
 *Mr. T. Hutchings..... Colwyn Bay.....c.cc. 33 4,
 *Mr. A. Johnston..... Stewartstown0: 3d gy
 *Mr. T. Forster Brown..... Glyncorwg, Glam..... 31 5,
 Mr. G. Henderson Gellybank, Kinross..... 30 55
 Mr. W. Elliott Lockhart ... Clegghorn, Lanark..... 30 5,
 *Rev. T. W. Sidebotham..... The Bourne Vicarage,
 Farnham 30

Concerning some Observers we are able to present a few biographical notes, but of many whose names we should like to associate with such a token of respect, we have been able to learn no particulars. How far the lives of those whose one common interest was the measurement of rainfall lay one from another can be guessed from the following notes.

Mr. JOHN AITKEN, whose record of rainfall at Braemar has appeared in our pages since 1865, was Agent of the Union Bank of Scotland at Braemar for many years. He died in April, 1908, at the age of about 70. In 1856 the late Prince Consort equipped a meteorological station at Braemar, 1114 feet above sea-level, and Mr. Aitken was appointed the first observer. He kept up the observations for half-a-century with keen and unvarying interest, and on completing half-a-century of observations in 1905 he received a letter of thanks and appreciation for his meteorological work from the King. Soon afterwards Mr. Aitken retired from active work, and the thermometers were sent to Balmoral, where observations are now being made, but he removed his rain gauge to his own garden, a few hundred yards from its former site, rather than break the long series of observations, and continued to take the record monthly until his death.

* Continuous record in one place.

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I happened to be passing through Braemar on April 22nd, and called at the house to see if the rainfall observations had been continued since he took his last reading on March 1st. The receiver of the gauge was on the point of overflowing, but no one in the house could tell where the measuring glass was to be found. Relying on the methodical habits of the late Observer, I suggested that it was probably in some cupboard close to the door nearest the gauge, and on looking round the hall noticed on the table a model house with a little door bearing a brass plate inscribed " Mr. J. Aitken." I felt sure that this was the resting place of the glass, and on opening the door found it there in a niche evidently made for it.

Mr. Aitken's rainfall work alone should suffice to preserve his memory, for the value of this long record in so remote a situation cannot easily be exaggerated. His successor in the Bank is, we are happy to say, carrying on the observations on the original site.

The Rev. ANGUS Betuung, Vicar of Seaham, died on May 24th, 1908, at the patriarchal age of 97. Though himself a clergyman of the Church of England for 67 years, he was a descendant of four generations of ministers of the Church of Scotland. He was born at Alness, in Ross-shire, and belonged, by descent, to the famous clan Munro. He studied at the University of Aberdeen, and graduated there as M.A. in 1833; was ordained in 1841, and was Curate of South Shields until 1845. He became Curate of Seaham Harbour in 1845, and Vicar of Seaham in 1859. His first rainfall record appears in our issue for 1865, and from his remarkable physique and perfect health, we cherished the hope that he would be the first centenarian Observer. How near he came to this may be judged from the fact that he conducted the services in his church until a fortnight before his death. In the course of his career he had served under seven Bishops of Durham.

REAR ADMIRAL HENRY CHARLES BIGGE, was born in 1847 and served in the Navy from 1860 to 1902, seeing active service off Alexandria in 1882, and in the Red Sea during the war in the Sudan, two years later. On his retirement, in 1902, he settled at Holybourne, Alton, Hampshire, and took much interest in the rainfall observations which he commenced in that year.

Mr. CHARLES JOHN BROMHEAD, of The Close, Lincoln, became a Fellow of the Royal Meteorological Society 20 years ago, and reported the observations at his Climatological station to that Society,

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and his rainfall records have appeared in our pages since 1888. Mr. Bromhead was mainly known to his townsmen by his devotion to philanthropic work, and in particular to the continuous exertions he made in connection with the Lincolnshire Deaf and Dumb Mission, to which he was attracted by the fact of his own deafness. The Lincolnshire Echo, in announcing his death, which occurred on July 13th, 1908, said :-'' The work of the mission is largely educational, and Mr. Bromhead, at his own expense, sent numbers of afflicted children to school, where they have, in many instances, learned useful trades, while he later exerted his influence in the difficult task of endeavouring to secure for them situations after they had left school. Not a few deaf and dumb men and women in Lincolnshire have owed their education, training, and position in life largely to the interest of Mr. Bromhead, in whom they lose a friend indeed."

COLONEL LEWIS MANSERGH BUCHANAN, C.B., was for forty years one of the most enthusiastic and indefatigable of our correspondents, and his notes on the weather of the month at his home Edenfel, Omagh, were a model of terse descriptiveness. They appeared monthly in Symons's Meteorological Magazine, from February, 1873, until April, 1907. Colonel Buchanan was in the habit of cutting out the printed note each month, and pasting it in a book for reference. The tranquil occupations of his later years were, as is so often the case with Rainfall Observers, the sequel to a life of extraordinary interest and variety. Colonel Buchanan was born in 1836, and joined the Royal Tyrone Fusilier Militia in the exciting time of 1855. He volunteered with 80 men of that regiment for service in the Crimea in 1856, and immediately afterwards proceeded to India, where he went through the whole of the Mutiny campaign with the Connaught Rangers, and after his return to Ireland he rejoined his old militia regiment which he commanded as Colonel, from 1887 to 1897. Colonel Buchanan was fond of travelling, and it was quite a usual thing to receive his monthly report of the Edenfel observations at the last moment, bearing a continental postmark, as even when from home he had the instrumental readings sent to him and drafted the '' notes" personally. He was the author of several books of travel, including one on Tibet, and one on Spain, and he also published a paper on the climate of Ulster.

THE RICUT Hon. J. A. CAMPBELL, M.P., whose long and fatal illness, latterly simultaneous with that of his younger brother, Sir

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Henry Campbell-Bannerman, the late Prime Minister, touched the public mind so recently, was Member of Parliament for the Universities of Glasgow and Aberdeen for 26 years, after having spent 30 years as a merchant in the former city. Although not a showy politician he was one of those who habitually carried on a vast amount of public work, especially in connection with University and educational matters, and in the affairs of the Church of Scotland, of which for many years he was a member of the General Assembly. -Mr. Campbell was a generous supporter of our work, and the rainfall record, from his estate at Stracathro, near Brechin, has always been greatly valued. He died on May 9th, 1908, at the age of 83.

Major GENERAL APSLEY CHERRY-GARRARD, son of Mr. G. H. Cherry, of Denford, Berkshire, was born in 1832, joined the Army in 1855, and served through the whole of the Indian Mutiny, taking part in the relief of Lucknow, and he saw much active service in other parts of the world, including the Zulu war. He retired in 1887; but he had commenced to send in rainfall records in 1877 and continued to do so until 1898. After he ceased to observe he retained an interest in our work, and was a frequent correspondent.

Mr. REUBEN Robert Davis, who kept records of rainfall at various residences during nearly 30 years, died at Downlands, Ringmer, at the age of 70, on February 10th, 1908. Anxious that the instruments with which he had observed for so long a time should not cease to be usefully employed, Mr. Davis, only a day or two before his death, made arrangements for presenting them to a new Observer, hoping thus to secure continuity in the observations.

Sir JOHN Evans, K.C.B., F.R.S., was so varied in his interests, and so familiar to different sections of the public-as a man of business, a county magistrate, a geologist, an antiquarian, and an anthropologist, that no one could be surprised to learn that he also took a keen and practical interest in meteorology. He was a Fellow of the Royal Meteorological Society, and had served on its Council. The first return from his gauge at Nash Mills, Hemel Hempstead, appeared in the first volume of British Rainfall (1860-61), and when a few years ago he moved from his old home the record was kept on by Messrs. J. Dickinson & Co., the famous firm of papermakers, to which Sir John Evans belonged. Though born in 1823 his vigour was unimpaired until within a very short time of his death, and when

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I met him last, about a year ago, he was enquiring as to the progress of the Rainfall Organization to which he had been a friend for more than 40 years. Sir John was Treasurer of the Royal Society for many years; he was one of the Trustees of the British Museum, President of the British Association on the occasion of the meeting at Toronto in 1897, and he had been President of the Geological Society, the Numismatic Society, the Society of Antiquaries, the Anthropological Institute, the Society of Chemical Industry, and the Egyptian Exploration Fund, as well as Chairman of the Society of Arts, and of the Lawes Agricultural Trust.

Mr. THOMAS GRAHAM-Foster-PicoTr, died after a very short illness from pneumonia on October 5th, 1907, at the early age of 41. He graduated at St. Peter's College, Cambridge, in 1888, and in the same year succeeded to the estate of Abington Pigotts, to the care of which he devoted himself, and he lived there with his mother. He was a keen cricketer and sportsman, a devoted student of natural history, and a great lover of animals.

Mr. GEORGE Hopson, C.E., of Loughborough, whose death, in April, 1907, was recorded last year, had been a friend of Mr. Symons and of the Rainfall Organization for twenty years, and retained his interest in the work after the death of the founder. As the senior member of the firm of George and F. W. Hodson, he was largely employed in engineering works, relating to water supply, in many parts of England. Mr. Hodson rendered great services to his own town in securing for it, against considerable opposition, both internal and external, the magnificent Blackbrook watershed on the Charnwood Forest, which, when secured over 20 years ago, was too large for the needs of the population at that time, but he had the satisfaction, before his death, of seeing the completion of the large masonry dam which now impounds the water in a reservoir about a mile long for the use of the town and the neighbouring districts. Mr. Hodson was the author of many papers and pamphlets on water supply and a contributor to Humber's Water Supplies of Cities and Towns. To the end his work was his principal hobby, but for many years he was a regular member of the Quorn Hunt, and was also a keen motorist.

COLONEL THE Right Hon. W. 8S. Krnyon-Suaney, M.P., was born in India in 1847, and after being educated at Eton and Christchurch, Oxford, he joined the Grenadier Guards in 1867; after

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reaching the rank of Colonel in 1883, he retired in 1888. He saw active service in the Egyptian campaign of 1882. In his youth Colonel Kenyon-Slaney had won fame as a cricketer and football player ; after his retirement from the Army he entered Parliament and took a prominent part in the debates on the Education Bill of 1902. In spite of his strenuous public career he found time to take a personal interest in the rainfall observations carried on at his seat, Hatton Grange, Shifnal.

Mr. Amos MITCHELL, who died on March 28th, 1908, aged 70, had the distinction of keeping a correct record of rainfall for 40 years at Wolsingham, in Durham, a locality where such a record is peculiarly important on account of the small number of Observers in the neighbourhood. He took much pleasure in the work, which he carried on until his eyesight began to fail, a year before his death. We are happy to know that his niece continues to keep up the observations, which thus form an appropriate monument of his long and valuable services.

SIR FREDERIC SAMUEL PHILIPSON PHILIPSON-STOW, Bart., of Blackdown, Fernhurst, who died on May 27th, 1908, at the age of 58, was the eldest son of Mr. F. Stow, of the Orange Free State, and he practised as a solicitor in South Africa. In 1869 he became connected with the beginning of diamond mining, and was the joint founder, with Mr. Cecil Rhodes, of the De Beers Diamond Company. He is said to have originated the idea of consolidating the South African Diamond Mines, and although we have no certain information on the subject, it may have been his interest in meteorology which led the De Beers Company to equip the meteorological observatory at Kenilworth, Kimberley, which, under the charge of Dr. J. R. Sutton, has so notably advanced our knowledge of the climate of South Africa. Sir Frederic, who was created a baronet in 1907, had been an Observer and supporter of the Rainfall Organization since 1896, and he was a Life Fellow of the Royal Meteorological Society.

Mr. JAMES JULIAN ALLAN RILEY, youngest son of the late Mr. Thomas Riley, Lord of the Manor of Midgley, graduated at Cambridge, and lived at Ewood Hall, Mytholmroyd, with his mother. He occupied himself with the usual pursuits of a country gentleman, and in his tastes, as well as in age and education, his life was curiously parallel to that of Mr. Graham-Foster-Pigott. He died on November 19th, 1906, aged 42. ,

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Mr. J. WALKER, commenced to observe rainfall at Old Deer, Aberdeenshire, in 1871, and continued to do so there until 1898, afterwards resuming observations at Dufftown, Banffshire, in 1900, and continuing to make meteorological observations there until his death in 1905. His daughters were associated with him in his work and so thoroughly were they identified with it that there was no indication beyond a change of initial in the signature of the return to call our attention to the transition, and it was several years before we learned of the death of our old and much valued correspondent.

Mr. JAMES WILSON, of Currygrane, Co. Longford, died in August, 1907, at the age of 75. He was an able agriculturist and was deeply interested in the problems of Irish land, and in the affairs of the Irish Church. He was a strong Unionist in politics, and took an active part in the press and on the platform, and was a leading member of the Irish Landowners' Convention. Though a strong and consistent party man his personal qualities were such that he was always popular with all classes of his neighbours.

Dr. WILLIAM EpwarpD WILSON, F.R.S., of Daramona, Streete, Co. Westmeath, died on March 6th, 1908, at the age of 57. On account of delicate health he was educated at home, but although he had never been at a university his attainments in Physics and Astronomy were of a high order, and were recognized by the degree of D.Sc., honoris causa, from the University of Dublin. At the age of 20 he equipped an astronomical observatory, and later he replaced this by another specially fitted for celestial photography in which art he excelled. He carried out several very important researches on the temperature of the sun and solar radiation, and he designed a new meteorological instrument, the radio-integrator, which was put on the market only a few months before his death, and the capabilities of which have not yet been fully tested.

OBSERVERS DECEASED. 99

Observers Deceased to August 15th, 1908.

Small capitals designate Observers with 30 years' records,

* AITKEN, JOHN Braemar, Aberdeenshire.
AMERY, P. FABYANS. Druid House, Ashburton.
Awdry, Thomas..... Fowler's Hill, Salisbury.
Becker, Rev. Anton Leopold Ravenscar, Yorks.

Bendall, O. Lawford, Essex.

*BETHUNE, REY. ANGUS..... Seaham Vicarage, Durham.

*Bigge, Rear Admiral H.C... Holybourne, Alton, Hants.

*Bromhead, Charles John..... The Close, Lincoln.

Brown, Dr. Alfred..... Summerlands, Heathfield, Sussex.

Brown, T. Forster, C.E..... Glyncorrwg, Glam.

*BUCHANAN, CoL. LEWIS

MANSENGH, C.B. Edenfel, Omagh, Co. Tyrone.

*Campbell, Rt. Hon. James

A., LL.D. Stracathro, Brechin.

*Cherry-Garrard, Maj.-Gen.

Apsley, C.B. Lamer Park, Wheathampstead.

Cresswell, Oswald Ernest,

J.P., DL. Morney Cross, Hereford.

Crewdson, W. Howard Beathwaite, Levens, Westmorland.

Cufaude, F..... Acle, Norfolk.

Culley, Edward Hugh Monmouth.

DALGLEISH, LAURENCE Keavil, Fife.

Davis, Col. Howell Greys Green, Henley-on-Thames.

*Davis, Reuben Robert..... Ringmer, Lewes.

*EVANS, SIR JOHN, K.C.B.

D.C.1., FLRS. Nash Mills, Hemel Hempstead.

EATON, C. ORMSYON Tolethorpe Hall, Stamford

Falwasser, Ernest Bateman Liss, Hants.

Farrah, John Harrogate.

Giffen, Andrew Campbeltown.

*Graham-Foster-Pigott,

Thomas Abington Pigotts, Cambs

Greaves, CharlesHenry,M.D. Stafford.

Hay, Major J. F. Dalrymple Dunlop, Ayrshire.

HENDERSON, G..... Gellybank, Kinross.

Hogarth, William... Upton Bishop, Herefordshire.

HUTCHINGS, THOMAS Colwyn Bay.

Jackson, Dowayer Lady Brynderi, Abergavenny.

Johnston, A.0.. Ancrum Bridge, Jedburgh.

JOHNSTON, A. wsseeeee. Stewartstown, Co. Tyrone.

Jones, William Henry Hooton Grange, Cheshire.

*KENYON-SLANEY, CoOL. RT.

Hon. W.S., M.P. Hatton Grange, Shifnal.

* See Biographical Note ante.

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Kewley, Rev. William Natland Vicarage, Kendal.

Knight, Joseph..... Hartshill, Stoke-on-Trent.

LAW, SIDNEY Kingsthorp, Northampton.

Lister, W. Venning, J.P. Great Walton, Eastry, Kent,

LockHART, W. ELIOTT..... Cleghorn, Lanark.

Macleod, Dr. Murdoch

Donald.....:0:0. Beverley, Yorks.

Marsden, Rev. D. L. Llandefaelog-fach Rectory, Brecon.
*MITCHELL, AMO6..... Wolsingham, Co. Durham.

Morris, F. J., C.E. Grantham,

Orr, Miss K. A. Palermo, Killiney.

Owen, Rev. Philip Henry ... Bickington Vicarage, Newton Abott.

Paget, Rt. Hon. Sir Richard

Hormersssseeeeeee. Cranmore Hall, Somerset.

Perkins, F. Heineken..... Sellindge, Kent.

Puiuiprs, J. CAPEL Heath House, Stoke-on-Trent.
*Philipson-Stow, Sir Frederic

S. P., Bart. Blackdown House, Sussex.

Power, Dr. J. Byrne Kingstown, Dublin.

Puxley, Rev. Herbert Boyne

Lavallin Lletherllestry, Carmarthenshire.

Rashleigh, Rev. Stanhope.... Wickham, Hants.

Rees, Togarmah, C.E..... Newport, Mon.

*Riley, James Julian Allan... Ewood Hall, Mytholmroyd, Yorks.

SIDEBOTHAM, REV. THOMAS

WILLIAM..... The Bourne Vicarage, Farnham.

Sing, Joshua, J.P. Kelton, Aigburth, Liverpool.

Sparkes, John Charles Lewis Ewhurst, Surrey.

Spire, Joseph Glastonbury.

Steward, W. C. Great Yarmouth.

Stileman, Major R. C..... The Friars, Winchelsea.

Turner, Rev. J. R. Wroughton, Swindon.

Venables, Mrs. Lister Llys dinam, Breconshire.

*WALKER, J.cccc0008 ees =D fftown, Banffshire.

White, R. H., C.E. Leeds and Liverpool Canal, Liverpool.

*Wilson, James, D.L..... Currygrane, Co. Longford.

*Wilson, W. E., D.Se., F.R.S. Daramona, Co. Westmeath.

Wood, T. Travers..... Swansea.

* See Biographical Note ante.

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OBITUARY.

IN any association of more than 4,000 people the annual losses by death must amount to a serious number ; but this year, though the list is closed a fortnight earlier than last year, the number is greater than past experience led us to expect. The list which follows includes 74 names, but considering the high average age of the Observers the death-rate of 16 per 1,000 is a very moderate one. We have to record the death of two of the small remnant of the +72 Observers whose names appeared in the first issue of British Rainfall, forty-eight years ago, and the list includes many friends, the withdrawal of whose help and encouragement will leave a blank that cannot soon be filled.

We have been able to find the age of 40 out of the 74, and the average of these is 73 years, a remarkably high figure.

The following is a list of the nonagenarians and octogenarians amongst the Observers whose death is recorded.

Observers deceased in 1908-9, of 80 years of age or more.

Mr. Henry Trethewy 94 years.
Rev. William Andson.....006. 92 4,
Mr. James Batten.....000002 90,
Rev. George Ridout.....55 88 5,
Dr. Samuel Hopkins Steel..... 87 55
Dr. Alexander Ramsay 86 ,,
Mr. George Washington Moon..... 85 ,,
Mr. J. Bartlettcccccececececece 84 55
Surg.-Maj. William Galt Black ... 84 ,,
Mr. William Henry Holmes..... 84 ,i,
Mr. Robert Stewart.....0c0000 S455
Mr. Joseph Pollard:c0086 83 455
Mr. R. Drapercccccececececece 81,
Mr. John Wornham Penfold..... 80 ,,

So far as can be ascertained the following roll of honour includes all those who had kept up observations for 30 years or more, those who kept the record continuously in one place being distinguished by a star, and it is interesting to notice that fifteen out of the seventeen are so marked.

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Records of Thirty Years and upwards.

NAME. LAST PLACE OF OBSERVATION.

*Mr. Robert Draper..... Seaham Hall Gardens..... 46 years.
 *Miss R. E. Stanton Upfield, Stroud00..... 42 5,
 *The Earl of Rosse..... Birr Castle:0008 41 5,
 *Rev. F. J. Young South Milford Rectory..... 41 ;,
 *Lady Chichester..... Arlington Court..... 38 ,,
 *Mr. Henry Trethewy..... Silsoe, Beds.....ccceeeeeeeee 87 55
 *Mr. J. W. Penfold..... Haslemerec.ccse000e 36g,
 *Mr. J. L. Bland..... Blandsfort, Abbeyleix..... 35 ,,
 *Mr. R. H. Swindlehurst Belmont, Bolton 34 9 ;,
 *Mr. T. Mellard Reade..... Blundellsands..... 33 ,,
 *Mr. David Gillespie Mountquhanie, Fife..... 33 4,
 *Dr. T. H. Hayle..... Rochdale... cere 33s,
 Rev. Cecil Mills..... Bisterne, Ringwood..... 33 ,,

Rev. Francis Smith Hardwicke,

Stratford-on-Avon 32 ,,

*Mr. James Batten..... The High Field, Bickley..... 31 ,,
 *Mr. Joseph Pollard High Down, Hitchin 31 ,,
 *Rev. George Ridout..... Sandhurst, Kent 31 ,,

I am sorry that it has not been found possible to give more biographical notes, but it is difficult to ascertain particulars in most cases except of those who were sufficiently prominent in the view of the public, to be included in works of reference or to be the subjects of notice in the press.

The list contains the names of 9 clergymen, 3 medical men, 7 officers in the Navy or Army, and 6 ladies.

Rev. WILLIAM ANDSON was one of the last of the pre-Disruption ministers of the Free Church of Scotland, a statement which tells every native of Scotland that he had reached manhood before 1843. He was indeed born in 1817, in Arbroath, licensed to preach in 1841, and ordained in 1844 to the Free Church of Kirkmahoe, Dumfries, of which charge he was senior minister at his death, 55 years later, though for the last twenty-five years his health had prevented him from performing active duties. He had many scientific interests, and I knew him as an active meteorologist for more than twenty

ears, having met him first in 1887, when I was engaged on a y ving Bes research into the temperature of rivers, in which he co-operated enthusiastically by observations on the river Nith. His interest in meteorology was then that of a beginner, as he had only recently undertaken the care of a station at the request of the proprietor of the Dumfries Standard, in which journal the records have been published weekly ever since ; but the activity of his mind never flagged

*Continuous record in one place.

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and his enthusiasm was as keen at the last as it had been at first. Indeed, many of his friends thought it was too much for his strength to prepare the numerous reports he undertook, for in addition to the regular publication in the local paper, he corresponded with the Scottish Meteorological Society, the Royal Meteorological Society, and British Rainfall. But his daughter thinks that the sustained interest really served to prolong his life. He kept up the observations to the last, for he had just come from reading the instruments in the garden when he was attacked by a slight shock which marked the beginning of an illness that proved fatal in ten days. He died on March 17th, 1909, within six weeks of completing his ninety-second year.

Mr. ALBERT JAMES BeaAvAn, J.P., of Holt, Trowbridge, died on December. 8th, aged 66. He was a native of Holt, and in his early days he followed the sea, his service in the Hon. East India Company's ships having impressed him with a sense of the value of discipline and the claims of duty, which remained a leading characteristic. He was subsequently engaged as a leather manufacturer in Holt, was an Alderman of the County Council, Chairman of the Bradford Board of Guardians, and of the Rural District Council, and was connected with almost every public movement in his neighbourhood. His genial disposition and cheerful humour made him a universal favourite. Whatever he undertook he carried out, no matter how great the inconvenience to himself, and his last illness was brought on by a long bicycle ride to attend a public meeting in bad weather. He took up rainfall observations on the death of his friend, Major Gritton, in 1885, continuing the record which the Major had established, and he stuck to the observations to the last, insisting, until within a few days of his death, on having the readings brought to him in bed, and himself entering them in the book. The latest entries are almost illegible, the will to keep them up outlasting the power to use a pencil.

SURGEON-MASOR WILLIAM GALT BLACK, a native of Bolton, studied at the University of Edinburgh, and joining the medical service of the Army went through the Crimean war with what is now the Devonshire regiment, then known as the 11th Foot. Subsequently he spent ten years in Africa, and wrote an account of his experiences there. His frequent voyages, at a time when steam navigation was hardly known on the ocean, turned his attention to meteorology, and he retained to the end of his life a special interest

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in marine observations. He devised a marine anemometer on the principle of measuring the pressure of the wind on a model sail, and a marine rain gauge swung on gimbals; and he made an important study of the little known subject of ocean rainfall. Dr. Black settled in Edinburgh when he left the Army, and for many years he frequented the meetings of the British Association, and often took part in the Meteorological Breakfasts.

Mr. Joun Lortus BLAND, of Blandsfort, Abbey Leix, Queen's County, was born in 1841, the son of Mr. Loftus Henry Bland, Q.C., at one time M.P. for King's County. Mr. J. L. Bland was an officer of the 6th Inniskillings, but left the Army on the death of his father in 1872, and settled at Blandsfort, the family mansion, which had been built by an ancestor in 1715. Much interested in field sports, he entered fully into the life of a country gentleman, but a serious hunting accident in 1875 compelled him to relinquish the more active pursuits, and he turned his attention to farming. Later horticulture attracted him, and he did much to improve the famous gardens at Blandsfort. He was no less interested in literature, and added many modern historical works to the fine library he had inherited. Mr. Bland had been particularly interested in the study of the weather from boyhood, and kept a continuous meteorological record from 1874 to November 19th, 1908, nineteen days before his death. He took the observations personally each morning, and on the very rare occasions when he was from home the gardener was instructed to post the records to him daily. He was a man of quiet and unassuming manners, a friend of rich and poor alike. Mr. Bland was twice married, and the record of rainfall which was continued by his widow, is, I hope, now being kept up by his son.

LADY CHICHESTER, widow of Sir Arthur Chichester, Bart., of Raleigh, and formerly of Sir Alexander Chichester, Bart., of Arlington Court, took a keen personal interest in meteorological observations, and frequently reported interesting facts as to the weather to The Times and other publications. These records have appeared in British Rainfall since 1875, and we are happy to know that they are being continued at Arlington Court by Miss Chichester.

Mr. WILLIAM CLOUGH, of the Knowle, Keighley, who died at the age of 74, on April 26th, 1908, retired from the business of a worsted spinner about 20 years ago, and devoted himself to the public affairs of the town as Magistrate, Alderman and Guardian of the Poor. He had been connected with the Town Council for more than 40

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years, and had had a great deal to do with the construction of the Waterworks. He was always interested in the weather, but his experience as a practical Observer began in 1881, when he started a rain gauge, though his records did not appear in British Rainfall until 1896. Mr. Clough took a keen interest in the publications of the Organization, and always responded cheerfully to any requests for special information on points of interest. The record, I am happy to say, is being continued by his son.

Mr. GEORGE FREDERICK Deacon, LL.D., one of the leading Waterworks engineers practising at Westminster, was a life-long friend to the Rainfall Organization, although by a curious chance his name as an authority for the records under his charge has only appeared in British Rainfall since 1907. Mr. Deacon was born at Bridgwater in 1843, but no one who saw his alert and active figure

| would have suspected that he was in his sixty-sixth year at the time of his death. On the morning of March 17th, 1909, he was in his usual health, and at 1 o'clock was sitting in his office discussing some plans with his assistant, when he suddenly fell dead from heart disease. I had known Mr. Deacon for twenty years, meeting him annually at the gatherings of the British Association, where I was introduced to him by Mr. Symons; and when in 1896 he was President of the Engineering Section at the Toronto meeting of the Association, we travelled to Canada and back in the same ship. On many occasions afterwards I have been with him inspecting or laying down rain gauges in connection with waterworks, in the construction of which he was engaged, and I was attracted by the scientific as well as the professional interest which he took in his work. While sacrificing nothing required for security or utility, he took a pride in making a great reservoir a thing of beauty and an enhancement of the natural charm of the valley in which it lay.

Mr. Deacon was the author of an important article on Water Supply in the Encyclopedia Britannica. He was a Member of the Council of the Institution of Civil Engineers, and but for the fact that he had ceased to reside in London, he would a few years ago have joined the Council of the Royal Meteorological Society also.

He studied at the University of Glasgow, which gave him the honorary degree of Doctor of Laws a few years ago, and soon after he left it he accompanied the Atlantic Telegraph Expedition on board the Great Eastern, in 1865, as assistant to Professor William Thomson, afterwards Lord Kelvin. He was for a time Engineer to

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the City of Liverpool, and the work by which he will be best remembered was the creation of Lake Vyrnwy, in the upper waters of the Severn (commenced in conjunction with the late Mr. Thomas Hawksley) for the water supply of Liverpool. His last important work was the design of a great system of reservoirs in the valley of the Alwen, a tributary of the Dee, for the supply of Birkenhead.

Throughout his strenuous life, Mr. Deacon seemed never to feel the need of recreation, and it was only last year, when he went to reside at Coombe Wood, Addington, that the charms of the magnificent rock-garden attached to his house began to draw his mind towards gardening as a relaxation.

Mr. Ropert Draper, the veteran gardener at Seaham Hall, kept a record of rainfall there for 46 years; for 42 years it was concurrent with the record kept by the late Rev. A. Bethune, at Seaham Vicarage. Mr. Draper sent in his record for 1908 with characteristic promptitude on January 2nd, 1909, with a letter in which he said that he had had a long illness, but was now fairly well considering his age; but he died at the age of 81, within two months of writing. I much regret that the record will not be continued.

Mr. Henry Storks EATON, who died on February 7th, 1909, at the age of 75, was a Cambridge graduate, and as a young man he assisted Mr. Nathaniel Beardmore in compiling tables of rainfall and evaporation for his well-known "Manual of Hydrology," published in 1862. He had commenced making meteorological observations of a kind as a boy of 15, in 1849, and he was one of the Observers whose record (at Little Bridy, Dorset) was quoted in British Rainfall 1860-61, indeed, it had appeared in the quarto pamphlet, "English Rainfall 1860." He was for many years one of the officers of the Institution of Civil Engineers; he had been a Fellow of the Royal Meteorological Society for more than 50 years, and served as President during the years 1876-77. It was during his term of office that the Fellowship of the Society was first extended to ladies. He lived for some time at Croydon, and organized the meteorological work of the very active Croydon Natural History Society, starting the elaborate monthly Tables of Rainfall now compiled by Mr. F. Campbell Bayard. He subsequently made Dorchester his principal residence, though he travelled and lived much abroad, and he carried on the work of organizing the rainfall statistics of Dorset, as he had done those of the Croydon district, preparing the Tables for the

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Dorset Natural History Field Club, which are now brought out by Mr. H. Stilwell. Mr. Eaton used to pay an annual visit to Camden Square to compare the Dorset records with those sent in for British Rainfall, and his scrupulous care in checking and verifying the returns was always of the greatest value. I have the pleasantest recollection of these visits, for Mr. Eaton was a man of kindly and genial temperament, his wide experience and extensive travels making him a most interesting companion. He was the author of many papers on meteorological subjects, and though not observing in recent years, he was always one of the staunchest friends of the Rainfall Organization, to which his death is a serious loss.

Mr. H. C. Hart, of Carrablagh, Co. Donegal, died on August 7th, 1908. He was a man of high attainments, and although more inclined to scholarship than science, no one was more keenly interested in meteorological observations. He kept a record at Carrablagh for 20 years, a summary of which he sent me a few months before his death, expressing the wish that it would be published in British Rainfall, where he thought it would be more likely to attract the attention of those interested than in any other publication. I am happy now to carry out his wishes (see p. 35), and it is satisfactory to know that his friend and neighbour, the Rev. A. C. Digby French, has undertaken to superintend the Carrablagh record and see that it is continued.

GENERAL THE Hon. WILLIAM HENRY HERBERT, son of the second Earl of Powis, was born in 1834, educated at Eton, and entering the Army in 1852, served in the Crimean war. He resided latterly at Winsley Hall, near Shrewsbury, where he interested himself in local affairs, serving as Mayor of Shrewsbury in 1889-90 ; his rainfall record appeared first in British Rainfall, 1906.

Mr. Henry Heywoop, J.P., of Witla Court, Glamorgan, died on July 11th, 1909, at the age of 67. He was a native of Worksop. In his youth he was engaged in the engineering department of Messrs. John Brown & Co., of Sheffield, but came to Cardiff in 1870, and carried on business there. He was an earnest student of nature, and took special interest in meteorology, not only keeping up observations at his own residence, but collecting a number of other records from South Wales, which he discussed and published in the Transactions of the Cardiff Natural History Society; his annual reports being an important feature of that publication.

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Mr. W. H. Hotmes, who died on July 3rd, 1908, in his 84th year, was a native of Newcastle-on-Tyne, where he carried on the business of glass merchant, and later, in partnership with his five sons, that of paint and colour manufacturers and electrical engineers. He retired from active business work in 1899. For over 50 years he was closely identified with the management of the Newcastle Royal Infirmary, the Newcastle Dispensary, the Industrial Schools, and many philanthropic movements for the benefit of his native city. He laid out and took a lively interest in the garden surrounding his residence, Wellburn, which he built in 1879, and here a sundial was erected by his children to commemorate his golden wedding. He was a keen observer of rainfall, and his records cover a period of 28 years. The record at Wellburn, started in 1880, is being continued by his son.

THE MACLAINE OF LOCHBUIE, the twenty-first chief of the Clan Maclean, was born in the island of Java in 1845, and after education at the Edinburgh Academy, he entered the 6th Dragoons Guards, from which he retired as Captain in 1870. He acted as correspondent for The Times during the Franco-Prussian war, and in this capacity was present at the battles of Gravelotte, Strasburg, Metz and Thionville. He took great pride in his estate of Lochbuie, in the Isle of Mull, and was for many years keenly interested in the development of the local fisheries. He had a meteorological station at Lochbuie, in connection with the Scottish Meteorological Society, and he also established a rain gauge at Kinlochspelve. The MacLaine died on April 5th, 1909, aged 63 years.

Mr. GEORGE WASHINGTON MOON was a close personal friend and relative by marriage of Mr. Symons, and he was one of the very few survivors of the group of rainfall Observers whose names appeared in the first volume of British Rainfall, that for 1860-61. He assisted Mr. Symons with a great deal of his literary work, and in particular spent much time in the British Museum, ransacking old serials for records of rainfall, many of the earliest records preserved at Camden Square being in his handwriting. He also helped Mr. Symons in his investigation of the floating island in Derwentwater. Mr. Moon was a lover of literature and art. He wrote two volumes of poems and several books on scriptural subjects, and he was a collector of pictures and an art critic, whose opinions were received with respect. He resided latterly at Brighton, and died on March 11th, 1909, in his 86th year.

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Mr. JOHN WORNHAM PENFOLD, of Haslemere, died on July 5th, 1909, at the age of 80. He was an architect and surveyor, and to him is largely due the good architectural taste which has preserved Haslemere in developing from a rural village into a residential district, almost a suburb of London, from being vulgarised and spoilt. Mr. Penfold built and endowed a cottage hospital in Haslemere, and he kept up a rainfall record there for the long period of 36 years.

Mr. JOSEPH POLLARD, of High Down, Hitchin, died on May 29th, 1909, at the age of 83. He was a scholar, and devoted much attention to Biblical Archeology, his large library being particularly rich in works on this subject. His house was a finely preserved Elizabethan mansion on the summit of a spur of the Chiltern hills. When I was visiting him on one occasion, Mr. Pollard pointed in the direction of Cambridge, where the horizon was occupied by distant trees which had grown up in his life-time, so as to shut out the view of Cambridge, which although 26 miles distant was formerly so distinct that from his library window at High Down he could see the roof of his old college. Mr. Pollard had observed rainfall for 31 years.

THE Rev. WILLIAM QUENNELL, honorary Canon of St. Albans, who died at his Rectory on October 24th, 1908, aged 69, after a prolonged illness, had for upwards of 35 years been an enthusiastic observer of rainfall. He began to keep a record at the time when he was Headmaster of Brentwood School, a post which he resigned in 1879, and continued to do so both at Tring, Herts, where he was Vicar from 1881 to 1892, and at Shenfield, Essex, of which place he was Rector from 1892, until his death. When at home, and until failing health prevented it, he always checked and entered the daily measurement himself, and several of his friends became Observers at his suggestion, and exchanged notes of their records with him for comparison. Canon Quennell graduated at Worcester College, Oxford, with a 2nd class in Lit.Hum. in 1861; he was also a good mathematician, and had some considerable knowledge of astronomy. Among his many interests it may be noted that he was an active Freemason, being a Past Grand Chaplain of England. He had been a Proctor in Convocation for the diocese of St. Albans; for 10 years he had been Rural Dean of Barstable (or Brentwood), and had previously held the like office at Berkhamsted; he was a member of the local Board of Guardians, and had for many years been Chairinan of the Governors of Brentwood School. Canon Quennell was twice

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married, but had been a widower since 1881; he had one child, a daughter, who survives him. I am indebted for these particulars to Mr. H. B. Vaizey, who has kindly arranged to continue the valuable record at Shenfield.

Mr. THOMAS MELLARD READE, of Blundellsands, near Liverpool, died on 26th May, 1969, at the age of 77. He was an architect by profession, but he is best known as an enthusiastic geologist, the author of very numerous scientific papers, and of an important book in which he developed a new theory of the origin of mountains. Mr. Reade kept up observations of rainfall at Blundellsands for 33 years. He bequeathed his geological collections to the University of Liverpool.

THE Rev. GEORGE Ripout, who had been rector of Sandhurst, near Hawkhurst, Kent, for fifty-one years, died on October 25th, 1908, at the great age of 88. He had always been much interested in meteorology, and kept full records of the weather for many years, his rainfall record extending back to 1878 without a break. Mr. Ridout's daughter most considerately arranged for the observations to be continued to the end of 1908, thus completing thirty-one years. Mr. Ridout spent much time in analysing his records and getting out means for various seasons and _ periods, and, as is often the case with Observers, he was gifted with a remarkable memory for figures. His interesting way of putting the variations of rainfall, and the comparison of present conditions with the past before his friends, was the means of starting many other Observers.

THE EARL OF ROSSE, K.P., F.R.S., though mainly devoted to astronomy was always interested in meteorology, and when he attended the meetings of the British Association he was usually present at the Meteorological Breakfast. He kept up the famous observatory at Birr Castle founded by his father, the third earl, who built the great reflecting telescope and started the rainfall record in 1862, which, from the time of his succession, was continued by Lord Rosse who was warmly interested in the Rainfall Organization. He was one of the leaders of scientific life in Ireland, and served as president of the Royal Dublin Society and of the Royal Irish Academy.. He died on August 29th, 1908, aged 68.

Miss ROSA EMILY STANTON, of Upfield, Stroud, was one of a family of Observers of the weather. Her brother, the Rev. A. H. Stanton, of St. Alban's, Holborn, shared this interest, and her elder

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sisters, the late Mrs. Devas, of Colwell, Malvern, and the late Miss Stanton, of Stoke, Newark-on-Trent, used to send records for British Rainfall. The observations at Upfield are being carried on by Miss Emily Rose Stanton, the twin sister of Miss Rose Emily Stanton.

Mr. WILLIAM ROBERT MAVuRICE WYNNE, of Peniarth, died on February 5th, 1909, at the age of 68. He had been Member of Parliament for Merionethshire, Lord-lieutenant of the county and Constable of Harlech Castle. He was greatly interested in Welsh archzology and had the largest and most valuable collection of ancient Welsh manuscripts that has ever been brought together, including many of the Arthurian romances and the oldest and only perfect copy of the Holy Grail.

Observers Deceased to July 31st, 1909.

Small capitals designate Observers with 30 years' records,
Anderson, Rev. Prebendary

Wm. Paley Winsford, Dulverton.

*Andson, Rev. William..... Ivy Bank, Dumfries.

Ashton, Charles H. Ellesmere, Salop.

Bartlett, J. Bramley, Guildford.

Bathe, J. Innes..... Clonmore, Northam.

Batt, Col. T. E. 2... Rathmullan, Co. Donegal.

BATTEN, JAMES, J.P..... The High Field, Bickley.

Beattie, A. Colmonell, Ayrshire.

*Beaven, Albert James, J.P. Holt, Trowbridge.

Bell, Richard Castle O'er, Langholm.

*Black, Surgeon-Maj. Wm.

Galt eee George Square, Edinburgh.

*BLAND, JOHN LOFTUS, J.P.,

D.L. oe ceeeeeeeeeeeeee Blandsfort, Abbey Leix, Queens Co.

Brown, Miss Bella Gruinart, Islay.

*CHICHESTER, LADY... Arlington Court, Barnstaple.

Cleasby, Richard Digby, J.P. Penoyre, Brecon.

*Clough, William..... The Knowle, Keighley.

Cole, Hon. Arthur Edward

Casamajor Keswick Lodge, Norwich.

Cousland, A. S. Craigandaraich, Tighnabruaich.

*Deacon, George Frederick,

L.L.D., C.E. 16, Gt. George Street, S.W.

*DRAPER, ROBERT..... Seaham Hall Gardens, Seaham.

Drought, Rev. Canon George

Meares.....:0000... Newtownmountkennedy, Co. Wicklow.

*Eaton, Henry Storks..... Whitehall Gardens, 8S. W.

Forbes, J.2..... Cauldhame, Doune.

Foster, Col. William Henry Hornby Castle, Lancs.

Galton, Lady Himbleton Manor, Droitwich. .

GILLESPIE, DAVID..... Mountquhanie, Fife.

Hamersley, Edward Samuel Pyrton Manor, Watlington, Oxon.

*Hart, H.C. ee. Carrablagh, Co. Donegal.

+ See Biographical Notes ante.

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Hawarden, Viscount..... White Hill Chase, Liphook.

HAYLE, DR. THOMAS

HAHNEMANN..... Drake Street, Rochdale.

Helps, Arthur Spry vssceee The Knap, Gt. Witcombe, Glos.

*Herbert, Major Gen. Hon.

Wm. Henry Winsley Hall, Shrewsbury.

*Heywood, H , J.P. Witla Court, Cardiff.

"Holmes, William Henry..... Wellburn, Newcastle-on-Tyne.

Honeyman, W. Dunkeld, Inverbraan, Perthshire.

Jack, Prof. Alexander..... Queen's College, Cork.

Jacomb-Hood, Francis..... Redlands, Emsworth, Hants.

Judson, H.22. Cowley, Uxbridge.

Lewis, Charles..... Kibbys, Staplegrove, Taunton.

*Maclaine of Lochbuie..... Lochbuie Castle, I. of Mull.

Maitland, Mrs. W. J..... Witley Manor, Witley, Surrey.

Marston, Arthur Dover.

Metcalf, Rev. Robert

Weston Ravenstonedale, Westmorland.

MILLS. REV. CECIL..... Bisterne, Ringwood.

*Moon, Geo. Washington..... Sussex Square, Brighton.

Moore, H. Cecil... .. Broad Street, Hereford.

Packe, Hussey Prestwold Hall, Loughborough.

*PENFOLD, JOHN WORNHAM Courts Hill, Haslemere.

*POLLARD, JOSEPH High Down, Hitchin.

Potter, H. T. Letehworth, Hitchin.

Priestman, John P. Bradford, Yorks.

*Quennell, Rev. Canon Wm. Shentfield Rectory, Essex.

Ramsay, Alexander, LL.D. Earhill, Banff.

*READE, THOMAS MELLARD Blundellsands, Liverpool.

Reynolds, Capt. Arthur

Sutherland Cadenham, Hants.

*RIDOUT, REV. GEORGE..... Sandhurst, Kent.

Roberts, Arthur... .. Oakleigh, Court Road, Eltham.

Roper, William Oliver..... Yealand Conyers, Carnforth.

*RosSE, THE EARL OF, K.P.,

F.R.S. w.....0... .. Birr Castle, Kings County.

Shoults, George Barrett North Finchley, N.

SMITH, REV. FRANCIS..... Hardwicke, Stratford-on-Avon.

Smith, F. Abel Cole Orton Hall, Ashby-de-la-Zouch.

*STANTON, Miss Rose EMILY Upfield, Stroud.

Steel, Samuel Hopkins, M.B. Dyne House, Abergavenny.

Stewart, Robert Kinlochmoidart, Inverness.

Swindells, R., F.R.G.S Oxford Road, Birkdale, Southport.

SWINDLEHURST, ROBERT

HENRY, C.E... Town Hall, Bolton.

Thompson George Arthur .. Register House, Beverley.

TRETHEWY, HENRY Silsoe, Bedfordshire.

Turner, Joseph N. Level Engine, Crowle, Doncaster.

*Williams, Griffith..... Beddgelert

Wilson, Mrs. C. Macro Waldershaigh, Bolsterstone, Yorks.

*Wynne, William Robert

Maurice..... Peniarth, Towyn.

YOUNG, REV. FREDERICK

JOHNccseeeeeeeeeee SOuth Milford Rectory, Yorks.

* See Biographical Notes ante.

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As the number of Observers increases the number of names in this section must unfortunately increase in a higher ratio; for there are not only more people subject to the certain risks of mortality, but the average age of the Observers has not yet assumed a limiting value. We have to deplore the death of another of those whose records appeared in the first volume of British Rainfall, and we now only know of ten survivors of the 472 who were reading their rain gauges half a century ago.

The total number of names in the following list is 83, and we fear many others, whom it has been impossible to trace, have fallen out of the ranks during the year. It is difficult to pick up the names of Observers who have long ceased to send in records, or of those in humble life, notices of whose death do not appear in the London newspapers, yet we know that many of the circulars we send out next Christmas will be returned with the laconic endorsement "dead" and we will hear no more.

Whenever it is possible we give a notice of the life of the late Observers, and for this purpose it is often possible to utilize only a sentence in a letter from some surviving relative or a personal reminiscence of the Director. In the case of public men the facts of whose life are accessible in books of reference or newspaper notices we have been careful to include only those whom we know to have taken a personal interest in their records; but even so it must not be supposed that each of those to whom we refer held rainfall observing as one of the chief ends or pleasures of his life. We cannot help regarding the obituary notices less in the light of the past than of the present; for those who died since the last issue of British Rainfall was published, were the type of many whose observations are inserted this year. Despite the variety of the circumstances of their life from the King through peers, members of Parliament, representatives of every form of public, professional, business and private life down to the watcher over the water works on Dartmoor, all gave some portion of their thoughts, very small in some cases, very large in others, to the ways of the rain in the British

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Isles, which occupy the whole working lives of the half-dozen specialists at Camden Square. It is, perhaps, not too much to say that outside religion, politics and sport, there is no other bond which brings so great a diversity of names into a single list.

The following amongst the number reached an age exceeding four score years, and several amongst them kept up their observations to the last.

Observers deceased in 1909-10, of 80 years of age or more.

Major George H. Courtenay..... 95 years.

Rev. Prebendary Charles Holland..... 94 ,,

Mr. Thomas Turner00000008 2 gy

Lady Baillie of Polkemmett..... 89 ,,

Sir John Clark of Tillypronie..... 89 ,,

Dr. E. Picton Phillips... eee 88 55

Mr. Charles Thomas .. .cc.cccceceeeeteeeeee SS,

Rev. George F. Tamplin..... 86 ,,

Mr. Frederick Crowley:::0008 85 5,

Alderman George Baker.....c.:0:00068 89 55

Mr. Frederick B. Marson.....cc.ccceeee SE,

sir Archibald H. Dunhar..... 83g,

Mr. Wy. Evans o...0....ccccccccceeeceeeeee eee SZ g,

Miss Hannah Southall0.0.0.. 82 4,

Mr. R. R. Verrall..... cc cccee ceceescceeeeee 82 gy

Mr. R.A. Burrell... eee B81,

My. John Murray.....cccceeeeee 81 ,,

Lord Calthorpe.....c.cccceccceceeeeee 81 ,,

Colonel J. Allardyce wo. 804,

We were able to ascertain the age of 50 out of the 83, and of these, 19 as stated above exceeded the age of eighty, 17 were between seventy and eighty, 11 between sixty and seventy, and only 3 below sixty. The average age of the 50 was no less than seventy-six years.

We have not been able to resume the elaborate analysis formerly given of the dates and durations of the records of all Observers whose deaths we have to announce, because to make it complete requires a great deal of search amongst the registers which are filed under place of observation and not under the Observers' names, but we think the following is a fairly complete list of those who kept up a continuous record for 30 years or more, those marked with an asterisk being in the same place all that time. The record of Dr. Phillips has, we believe, never been surpassed for duration.

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Records of 80 years and upwards.

NAME. LAST PLACE OF OBSERVATION,

*Dr. E. P. Phillips..... Haverfordwest..... 61 years.
 *Mr. R. R. Verrall.....0..... Falmer ccc... 48 ,,
 *Rt. Hon. J. G. Talbot..... Edenbridge... 46 ,,
 Rev. C. Holland..... Lynehmere.. 45 4,
 *Rev. R. W. Rogers..... Cookham 2.0... 45 4,
 *Mr. J. Coxon Poeklington 48 ,,
 *Mr. F. Crowley Alton ee eee 48g,
 *Sir J. F. Clark, Bart. Tillypronie.....00.0..... 40 ,,
 Rev. G. F. Tamplin Newport, Essex 39 ,,
 *Rev. W. Besant Buglawton 2.0.0.0... 87 4,
 *Mr. T. Cozens-Hardy Sprowston0.... 387 4,
 *Col. R. B. Ingram.....0..... Steyning... BB ,,
 *Mr C. Thomas Stoke Bishop..... 36 ,,
 *Mr. A. B. H. Story Douglas ww... 85g,
 *Rev. B. W. Spilsbury Findern 384 ,,
 Mr. A. Greg oo... Caton cee B82,
 Mr. J. Phimister..... Watten oo... B20 ,,
 *Mr. F. B. Falkiner Ballybrack 2.0.0.0... 32 0 ,,
 *Monsignor J. Corbishley..... Ushaw.....0.....0. 31 ,,
 *Mr. P. Dodds..... Biddleston Hall..... 30. ,,
 Mr. As We MoOre@iis.csecsessass DOWGIWS ciscisienvsecesmimms BO gy

His Masesry Kina Epwarp VIL, the calamity of whose death on May Sth, 1910, roused regret in all the people of the civilized world, and arrested the keenest political agitation in the United Kingdom in an unprecedented truce, found time, in his short and glorious reign, to look with favour on our work, and to further it both by observations from Buckingham Palace, Windsor, Sandringham, and Balmoral, and by an annual subscription. Brief as was the time he could have spent in considering the work of the Organization, his encouragement was so well-timed and so happily expressed that in no department of public life could the spirit of Kipling's fine thought be more fully attained than in this unobtrusive private co-operation in scientific knowledge :

'* Hot from the press of their battles they told him their story, They revealed him a life in an hour, and saluting, departed, Joyful to labour afresh ; he had made them new-hearted."

I shall never forget when the late King visited the Discovery before she left for her great voyage to the Antarctic regions in 1901, how fervently he exclaimed, in addressing the officers and men of the Royal Navy who took part in it, "Thank God, this is no warlike expedition." The blessings and triumphs of peace were always near his heart, and the keen interest he took in country pursuits, especially in agriculture and horticulture, enabled him to appreciate

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to the full the value of the work of the Rainfall Organization. On several occasions the permission which the King gave to mention that he took a personal interest in the work was influential in securing records that were previously inaccessible. It may be mentioned that before His Majesty gave this permission he caused a thorough investigation to be made of the work and aims of the British Rainfall Organization and the sources of its income, so that his good-will was based on complete knowledge of the facts and sympathy with the objects, and was not, as the patronage of the great too often is, an expression of easy good-nature.

ALDERMAN GEORGE BAKER, of Beaucastle, Bewdley, died on January 15th, 1910, in his 85th year. He was, like so many rainfall Observers, a member of the Society of Friends. He was born in Birmingham, educated at Ackworth School, in Yorkshire, and when only 15 was taken in to assist his father in business. At a very early age he realized the importance of education, and, largely self-taught himself, he always strove to increase the facilities of education for others. He joined the Town Council of Birmingham in 1857, and took a leading part in the municipal enterprise of that progressive city. He had much to do with the provision of the sewage system, and as a member of the Water Committee, and Chairman of the Works Sub-Committee, he was influential in securing the great development of the water supply. In 1874 he became Alderman, and in 1876 he succeeded Mr. Joseph Chamberlain as Mayor of Birmingham. Almost his last public duty was the presentation of an address of welcome to King Edward and (Queen Alexandra, on the occasion of their visit to Birmingham, in July, 1909, an honour he received as the senior member of the City Council. Mr. Baker's rainfall record was kept at his country house, Beaucastle, near Bewdley.

Lorp CALTHORPE, who died on July 22nd, 1910, at the age of *1, succeeded his brother, the fifth baron, in 1893, and was greatly interested in the estate of Elvetham Park, near Winchfield, in Hampshire, where a rain gauge had been established a few years before it came into his possession. Lord Calthorpe was for many years a generous supporter of the Rainfall Organization. He made Elvetham Park famous for farm stock of the highest quality, his shorthorn cattle and Berkshire pigs in particular winning numerous prizes at the Agricultural shows; but he will probably be best

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remembered for his munificence to the young University of Birmingham, to which at various times he presented the site and recreation grounds, extending to nearly 50 acres of land, valued at 35,000. The late peer is succeeded by his brother, who is the third of the sons of the fourth baron to hold the title.

Sir JOHN ForsBes CLark, second baronet of Tillypronie, Aberdeenshire, was born in 1821, and died on April 19th, 1910, at the age of 89. After education at Eton and Cambridge he entered the diplomatic service in 1844, and during the next ten years he saw much of the exciting political life of Europe at Vienna, Paris, Brussels, and Turin. Shortly after his retirement from the diplomatic service he set up a meteorological station on his father's estate of Tillypronie, to which he succeeded in 1870, and there he kept up observations for more than 40 years, sometimes surprising his meteorological visitors by the extent of his knowledge of weather lore, and the keenness of his interest in his own records.

MonsiGNor JuSEPH CORBISHLEY, Professor of Science for many years, and subsequently President of Ushaw College, the great, Roman Catholic seminary near Durham, with which he had been associated practically all his life, had kept meteorological records there for 31 years.

MaJor GEORGE HENRY COURTENAY died at Southtown House, Kenton, near Exeter, on January 2nd, 1910, at the great age of 95. The family of the Earl of Devon, of which he was a member, are famous for longevity ; two surviving brothers are within a few years of 90. Major Courtenay saw service in the 60th Rifles, and in the course of his active life travelled much by land and sea before the days of railways or ocean steamers. In his later years he was greatly interested in meteorology, and I have never been visited at Camden Square by a more keenly interested Observer than he was when he inspected all the arrangements of the British Rainfall Organization, at the age of 92. Major Courtenay was a frequent correspondent of Symons's Meteorological Magazine, and delighted in drawing on the stores of his singularly retentive memory for instances with which to compare the weather of the day.

Mr. JAMES Coxon, of Warter, near Pocklington, in the East Riding of Yorkshire, kept up observations of rainfall from 1866 to the time of his death on May 29th, 1909, having thus completed an

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unbroken record of forty three years' duration. As a farmer, Mr. Coxon early realized the importance of keeping a record of the rainfall, and this with other meteorological observations, was a constant source of interest to him throughout his life, and as the record was carried out with quite unusual conscientiousness and accuracy, it furnishes a memorial to his name, the value of which will be recognized in the future.

Mr. FREDERICK Crowley died at Ashdell, Alton, on February 26th, 1910, in his 85th year, after an illness which confined him to his room for more than two years. He was a member of the Society of Friends, and a man who delighted in good works. A partner in an old brewery firm, he spent his life in Alton and identified himself with local affairs. He became a member of the Alton Local Board in 1865, and was Chairman for 27 years before it was merged in the Alton Urban District Council, over which he presided until 1904. He was interested in education, and especially in Mechanics' Institutes when these were the only means of popular scientific instruction. As a rainfall Observer he kept two records, one in his garden, the other at a height of 52 feet above ground, and he was always interested in the work of the Organization. He attended the British Association in 1903, at Southport, and took particular pleasure in the Meteorological Breakfast held on that occasion.

Mr, ALBERT GREG, of Escowbeck, Caton, Lancashire, a prosperous cotton spinner, died on March 31st, 1910, in his 75th year. His interest in meteorology and cognate sciences was prominently shown in his gift of the Greg Observatory, in the park at Lancaster, to that town; but the regular appearance of his observations in these pages from 1878 to the current issue, is a no less certain proof.

Miss MARGARET F. A. HusBAnpb, who for some years had been observing rainfall at Levenhall, Musselburgh, died there early in January, 1910. She was born in Wigtown, studied for four years at University College, London, and graduated as B.A. of the University of London in 1891. After some experience as a teacher in London she went to South Africa in 1898 as Vice-Principal of the Good Hope Seminary in Cape Town; but ill-health compelled her to abandon her educational career and she returned to Scotland in 1901. She devoted the remainder of her life to literary work and was the author of several books, the last being a dictionary of the characters in the Waverley novels.

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COLONEL ROBERT BETHUNE INGRAM died at the age of 78, on October 28th, 1909. He was born and educated at Steyning and obtained his commission as ensign in the 97th regiment, in 1850, at the age of 18, becoming lieutenant in 1854, and captain in 1855, the quick promotion bearing testimony to his services in the Crimea, whence he went to India to aid in suppressing the Mutiny in Bengal. He exchanged into the 100th regiment and received his majority in 1861. In the following year he was placed on half-pay, and promoted to lieutenant-colonel in 1872. About 1868 he began to be interested in rainfall observations, taking over the record at Steyning from his uncle, the late Mr. Hugh Ingram, and following the work with keen enjoyment. At his death he passed it on to his eldest son, Mr. Hugh Ingram. After his retirement Colonel Ingram was greatly interested in the turf and was associated with the celebrated race-horse, Don Juan, which won the Cesarewitch in 1883.

Mr. W. Lee, who died early in 1909, was a humble Observer whose heart was very much in the record he kept in the garden of his cottage at Princetown, on Dartmoor. He was one of the employees of the Plymouth Waterworks, and set up his own record in order to compare the rainfall in Princetown with that on the more distant parts of the Moor, where the water is collected. As he walked with me one day along the curious leat or open water-course dug by Sir Francis Drake, to bring a water supply to Plymouth in the sixteenth century, he told me how, one morning in February, 1903, he had seen the water running muddy, and tramped along the stream mile after mile looking for the Jandslip that caused it until he reached the source. That there was no sign of any slip or break on the banks, yet mud enough had entered to make the whole stream turbid, distressed his mind for years, and he was vastly relieved to know that the muddiness was caused by the great fall of Sahara dust in England. He was sure that the pinky mud had not come from the moor, and as he very truly said, if he had guessed that it came from Africa nobody would have believed him.

Mr. Mites MacInnes, of Rickerby, died very suddenly on September 28th, 1909, in his 80th year. Educated at Rugby and Balliol College, Oxford, Mr. MacInnes spent the greater part of his life in business in Carlisle and London. In his college days he was a notable athlete, and so powerful a swimmer that on a moonlight night during one vacation he swam across Rydal Water with all his

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clothes on and without even taking off his boots. The love of the open air was with him to the end, and only a few days before his death he spent a day on the fells on a shooting expedition which would have tired many a younger man. From 1885 to 1895 he was a Member of Parliament for the Hexham Division of North-umberland, sitting as a Liberal, though actuated in his parliamentary career less by rules of party than by principle. As an evangelical Churchman, Mr. MacInnes took a leading place in religious matters, and he was a Vice-President of the Church Missionary Society.

Mr. ArTHUR WinitaAmM Moore, C.V.O., Speaker of the House of Keys, the Home Rule Parliament of the Isle of Man, died on November 12th, 1909, at his residence, Woodbourne House, Douglas, at the age of 56. Mr. Moore was born in the Isle of Man, and educated at Rugby and Trinity College, Cambridge, where he took first class honours in the historical tripos in 1875. He devoted great attention to the history of the Isle of Man, its place-names, surnames, and folk-lore, and on these subjects he wrote several books of permanent value. He was interested also in the actual conditions of the island, and made its climate his special study. In 1882 we published for the first time the records of half a dozen gauges which Mr. Moore had succeeded in establishing or discovering in various parts of the island, and ever since he never failed to send in year by year a worthy group of records.

Dr. EDWARD Picron PHILLIPS, one of the few survivors of those whose records appeared in Dvitish tvinfall, 1861, was born on January 4th, 1822, and practised for sixty years as a medical man in Haverfordwest. His early recollections went back to the launch of H.M.S. Clurence by the Duke of Clarence, afterwards King William IV. His medical education began in Bristol, where he was apprenticed to a surgeon in the old way, and afterwards he studied at Guy's Hospital and in Paris. Amongst the many interests which thronged his life meteorology held a leading place. In his last letter to me, dated July 19th, 1909, Dr. Phillips said--'T enclose you my crossed cheque for 1 ls. towards British Puinfull and should have sent it long ago but my age and the cruel spring and summer of this cruel year have nearly wiped me out and I much fear this will be the last cheque I shall be spared to send you. The 1st January this year, 60 years ago, I commenced my meteorological observations, a long hark-back, and they are without a break as I have, although

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lately it has pressed me hard, had to pay others for what, for so many years, was to me a labour of love." On September 2nd, 1909, he died in his eighty-ninth year; but he had made all arrangements beforehand for his nephew to carry on the unique rainfall record of which he was so justly proud.

REAR-ADMIRAL UVEDALE CORBET SINGLETON, C.B., who died on February 14th, 1910, aged 71, had a distinguished career in the Navy, which he entered in 1851, and saw active service in the Baltic during the Russian war, in 1854-55, on the coast of China in 1857 and again in 1866-67, and in the Eastern Sudan in 1881. He attained the rank of Rear-Admiral in 1893. On his retirement he went to reside at his family estate of Aclare, and had a rainfall record also at Corstown House. During the last few years he carried out a series of comparisons with rain gauges of different patterns.

Tue Rev. BENJAMIN WARD SPILSBURY died at the Longlands, Findern, Derbyshire (where he had lived for fifty-one years), on March 26th, 1909, in his 79th year. He was a Master of Arts of Trinity College, Cambridge, and was appointed Curate of Findern in 1862, becoming Vicar in 1872. He resigned the living in 1908. Mr. Spilsbury took a keen interest in rainfall observations. His own record was commenced in 1875, and he has been the means of enlisting several other Observers in the neighbourhood. It is a satisfaction to know that the 35 years' record at Findern is being continued by Mrs. Spilsbury.

THE Rev. CHARLES JOHN STEWARD, who died on November 28th, 1909, at the age of 71, was for many years Rector of Somerleyton, in Suffolk, and afterwards resided in Ipswich. He was a man of many interests, but as a rule one or other ruled supreme for the time. He was a keen fisherman and used to visit the early salmon rivers in the north of Scotland at the opening of the season, regardless of snow or storm, and I first made his acquaintance when on such a mission, he was blocked in Edinburgh by a blizzard that stopped the railways. For a time he carried on researches into the temperature of sea-water at the lightships and on board fishing boats off the Suffolk coast; but latterly his activity ran chiefly in education and other public work. Varied as his interests were he never slackened in his love for the study of the weather, and many years of his observations appear in these volumes.

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Mr. ANrHoNyY browne HerbBerr Story, Secretary to Government, Clerk of the Council, Treasurer and Registrar General of the Isle of Man, died at his residence, Woodville, Douglas, on April 22nd, 1910, aged 42. Mr. Story was born at St. Albans, and in 1857 he emigrated to Australia, where for more than ten years he was a squatter on the Burnett River, Queensland. On returning to England he was called to the Bar, at the Middle Temple, in 1873, and in 1874 he went to the Isle of Man as Private Secretary to the Governor, arriving soon after the institution of the House of Keys, and thus acquiring a thorough knowledge of the Isle of Man as a self-governing unit of the British Empire. Mr. Story, in the words of his daughter, " was a lover of the sun and the spring and flowers and birds and the beautiful rain (in season)." He was devoted to horticulture, and had the best-kept garden in the island, and his knowledge of shrubs and plants was unrivalled. His interest in meteorology began long before he went to the Isle of Man, and his keenness as an Observer may be seen in the Notes he contributed monthly to Symuns's Meteorological Magazine, and in the unfailing accuracy of his rainfall returns which appeared in British Mainfall unbroken since 1877. Miss Story says "he took the rain until a week before he left us, and any days of late he had to stay in bed, the rain glass was always brought to him at 9 o'clock with his breakfast."

THE Right Hon. JOHN GILBERT TALBOT, M.P., who represented the University of Oxford in Parliament for thirty-one years, and served in the House of Commons for forty-one years continuously, died on February 1st, 1910, at the age of 75 years. He was educated at Charterhouse and Christ Church, Oxford. A strong Tory in politics, and a devoted Churchman, his long public career was marked by absolute consistency and loyalty to principle. He was a leader in all good works in the county of Kent, where his place will not readily be filled. He took a keen interest in architecture and archeology as a recreation. His rainfall record at Falconhurst, near Edenbridge, was, as might be expected, a model of carefulness and accuracy, and he supported the Rainfall Organization by his observations and subscriptions for 46 years.

THE Rev. GEORGE FREDERICK TAMPLIN, Vicar of Newport, Essex, died on October 24th, 1909, at the age of 86. He was educated at Tonbridge, and was M.A. of St. John's College, Oxford, in 1849.

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He was curate of Purleigh, Essex, from 1852 to 1876 and while there commenced systematic observations of rainfall in 1871. From 1876 to the time of his death he was Vicar of Newport, and during all these years kept up the regular daily observations. Mr. Tamplin was well known as a cricketer in his youth and remained to the end remarkable for his fine physique, great energy, and broad-minded views. The loss of the record has, fortunately, been averted, as it is being continued by a neighbour.

THE Ricut Hon. JAMES Tomkinson, M.P., died on April 10th, 1910, as the result of an accident while he was competing in the House of Commons Point-to-Point Race at Epping on the previous day. Mr. Tomkinson, who was in his 70th year, was, as the manner of his death showed, a lifelong enthusiast in field sports. He was educated at Rugby and Balliol College, Oxford, and was a Director of Lloyd's Bank. He entered Parliament in 1900 as Liberal member for the Crewe division of Cheshire and had only recently become a Privy Councillor. Mr. Tomkinson kept a rainfall record at his house, Willington Hall, Tarporley, Cheshire.

Mr. WILLIAM WARWICK WaAGSTAFFE, consulting surgeon to the Sevenoaks Hospital, died at Sevenoaks, on 22nd January, 1910, aged 67. He had a distinguished career as a student at St. Thomas's Hospital, where he became senior assistant surgeon and lecturer on Anatomy. He was a graduate in Arts and Medicine of the University of London, and a Fellow of the Royal College of Surgeons. He took a keen interest in meteorology and contributed notes on the climate of Sevenoaks to the local newspapers.

Observers deceased to July 31st, 1910.

Small capitals designate Observers with 30 years records.

*HIS MAJESTY KING EDWARD VII.

Agar, William Talbot..... Brockfield, York.

Allardyce, Col. James, LL.D. Culquoich, Aberdeenshire.

Althorpe, Rev. George Mid-

dletons.00822. Dinnington Hall, Yorks.

Appach, Miss Emily Swattenden, Cranbrook.

*Baker, George Beaucastle, Bewdley.

Baillie, Lady Polkemmet House, Whitburn.

Beech, William..... North Ockenden, Romford.

Besant, REY. WILLIAM Buglawton, Congleton.

-_ * See Biveraphical Note ante.

*Calthorpe, Lord..... Elvetham Park, Winchfield.

BART. ...cccccececeeeeeeeeeeeeee Tillypronie, Aberdeenshire.

*CORBISHLEY, MONSIGNOR

*Courtenay, Major George

*COXON, JAMES Warter, Pocklington.

Craven, Matthew Lewis..... Horsham.

Curtis, Captain Constable... Berkhamsted.

Duke, Robert A. Ballymote, Sligo.

Bart.....ccccceeeeeeeeeeeeeeee Dutfus House, Morayshire.

Evans, William..... The Spring, Kenilworth

Fleming, M. J., C.E. Portlaw

Godfrey, Willliain..... Bedford.

Hacker, G. H. Henstridge, Somerset.

Hayden, Rev. John Alderson Dent, Yorks.

Hodgkinson, Thomas Ays-

HOLLAND, REV. CHARLES... Watchers, Lynchmere.

*Husband, Miss Margaret

*INGRAM, COLONEL ROBERT

Jones, William Ednol, Kington.

King, Ovcceceeeececeeseesee Maidenhead.

*Lee, W.ccccccccccccccccccs Princetown.
Lethbridge, Christopher..... Chester Square, London.
Lethbridge, William Okehampton. -
Leverett, Stebbing, J.P..... Saffron Walden
Liddell, Dr. Henry John
Sheppeard Yelverton.
* See Biographical Note ante.

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*"MacInnes, Miles Riekerby, Carlisle.
 Marriott, Sir Charles Hayes
 M.D. ow. eeeeeeeeeee Kibworth Harcourt.
 Marson, Frederick Boyd..... Highfield Park, Heckfield.
 Martin, Robert..... Watton, Norfolk.
 *Moorrk, ARTHUR WILLIAM
 C.V.O. o.eeeeeeees Woodbourne House, Douglas.
 Morgan, Frederick, J.P..... Glengorm, Argyll.
 Murray, John, W.S. Wooplaw, Roxburgh.
 *PHILLIPS, EDWARD PicTON Haverfordwest.
 Phillips, Joseph Edward
 John, J.P. Royston.
 PHIMISTER, JOHN..... Watten, Caithness.
 Purchas, Henry Maurice ... Ross, Herefordshire.
 Robertson-Durham, J. A. Boghead, Bathgate.
 RoGeErS, Rry. REGINALD
 WELLFORD Cookham.
 Roscoe, William Cecil..... Tilstock Lodge, Whitchurch,
 *Singleton, Rear - Admiral
 Uvedale C., C.B. Aclare House, Co. Meath.
 Southall, Miss Hannah Leominster.
 *SPILSBURY, REV. BENJAMIN
 WARD0:0e00eeeeee ~-Findern, Derby.
 *Steward, Rev. Charles John Ipswich.
 "STORY, ANTHONY BROWNE
 HERBERT Woodville, Douglas.
 *TALBOT, RIGHT HON. JOHN
 GILBERT, M.P..... Edenbridge.
 *TAMPLIN, REV. GEORGE
 FREDERICK..... Newport, Essex.
 THOMAS, CHARLES Stoke Bishop.
 *Tomkinson, Right Hon.
 James, M.P. Willington Hall, Tarporley.
 Turner, Thomas, J.P..... Cullompton.
 VERRALL, RICHARD RELFE Falmer Court.
 *Wagstaffe, William Warwick Sevenoaks.
 Walker, George Willis Bulwell, Nottingham.
 Waring, Lieut.-Col. Henry Beenham House, Reading.
 Warren, F. R. Slough.
 Wesson, J. ..cceeccesseereeeeeeee Royston.
 West, W. H..... Holbeach, Lines.
 Wheeler, Rev. Canon Thomas
 Littleton Worcester.
 Wilson, D. D., C.E. Middlesbrough.
 Woods, Edward Hamilton... Milverton Hall, Skerries.
 * See Biovraphical Note ante.

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So far as we have been able to ascertain the following list gives an account of the losses by death during the year from August 1st, 1910, to July 31st, 1911. Doubtless some losses have not been reported to us, and some have not been chronicled in the London papers, and in a few cases of doubt we prefer to hope that the Observer is still alive, so that although the list contains as many as 85 names, we fear that it is by no means complete. There are many amongst the number to whose memory we would like to devote a few words of appreciation ; but it often happens that we know least of the lives of those of our correspondents who are most interested in the subject, and we cannot very well invite Observers to furnish in advance their own obituary notices, so that all we can say is, in many cases, very little. There is about the usual proportion of those who attained a great age, and the average age of the 59 whose ages we could ascertain is 73. Of the 59 there were 13 whose age exceeded 80, and in deference to the custom of Mr. Symons we give a special list of these, noting that four were above 90. Observers deceased in 1910-11, of 80 years of age or more.

Mrs. Ellice of Invergarry "m ... 93 years,

Lady Caroline Duncombe wes www G2 ay

Rev. Canon R. 8. Hutchings... san . OL ,,

Mr. Thomas Gibbs avi ves ve .. 90. ,,

Miss Sedgwicke eee wee .. 89 ,,

Lord Wrottesley wee vee wee os S87 ay

Rev. Prebendary Hedgeland ... wes we BE 55

Dr. John Beddoe, F.R.S. ves - wi BO g;

Right Hon. Sir Francis Macnaghten, Bart. 84 ,,

Rev. Alan Cheales Jw. . 83 ,,

Mr. Hugh Hamilton ... , bee ees .. 83 ,,

Mr. B. E. C. Chambers = oe au Gl ,,

Mr. A. McNeill... wee _ sea . 81 ,,

It is perhaps more important to draw attention to the share which our former helpers took in the work, and care has been taken to make the roll of honour complete of those who carried on observations or sent in records for 30 years or more. Those records which were taken in the same place for the whole period are designated by an asterisk, as

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their value is usually the greatest, but in this list the asterisk is only wanting in one case, and in that there were 39 years at the last address, in itself a splendid record.

Records of Thirty years and upwards.

NAME. LAST PLACE OF OBSERVATION.

*Rt. Hon. Earl Spencer, K.G. .. Althorp... .. 54 years.
*Mr. W. E. Pain sas is ... Cambridge... .. 45 4,
Mr. P. P. Pennant ... vee ... St. Asaph ... wv 45,4,
*Lord Wrottesley ves vee ... Wolverhampton ... 44 ,,
*Mr. F. F. Pearson... ws ... Arkholme ... w 44 4,
*Mr. H. Hamilton _... so ... Pinmore... . 41 ,,
*Rev. Canon R. 8S. Hutchings ... Alderbury 41 ,,
*Mr. J. Martineau... se ... Heckfield 40. ,,
*Rev. Preb. P. Hedgeland Penzance 88 4;
*Lord Dynevor... wee wee .. Llandilo -... se BO 1455
*Mr. T. W. Field vee wee ... Marazion 38l oy,
*Rt. Hon. Sir F. E. Maenaghten ... Dundarave... . oly;

Dr. Joun Beppog, F.R.S., although resting his scientific reputation on his well-known researches as an anthropologist, had in the course of his long and varied career many interests outside his special subject. He was born in Bewdley, in 1826, educated at Bridgnorth School, University College, London, and the University of Edinburgh. As a young man he served in the Civil Hospital during the Crimean war, and on his return settled down to medical practice in Clifton, where he remained from 1857 to 1891. He married a niece of Sir Robert Christison, of Edinburgh, whose researches on poisons made him famous, and left the world at large ignorant of the quite substantial work he did in the investigation of lakes and other departments of physical geography. Dr. Beddoe commenced to send observations of rainfall to Britesh Rainfall in 1894, after his retirement to Bradford-on-Avon.

Dr. G. A. Brown, J.P., of The Willows, Tredegar, who died at the age of 67, had practised as a medical man in Tredegar for 42 years, devoting himself to professional and public work with an assiduity that gained him a high place in the esteem of all members of the community ; the regard in which he was held being strikingly shown by the warmth of the notices of his life in the local press. Busy as he was professionally, and in his voluntary duties as a magistrate, a churchwarden, and a freemason, Dr. Brown found time to study astronomy and meteorology, and he was also devoted to his garden, excelling in growing chrysanthemums. A keen observer of nature he acquired great proficiency in predicting the weather, and

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nothing was allowed to interfere with the punctuality of his rainfall observations. He measured the rainfall on the morning of the last day of his life, November 17th, 1910, and his sudden death while visiting a patient was no unsuitable ending to a career spent in the service of others.

Earl Cawnor, representative of the ancient Thanes of Cawdor, whose strenuous public career in Parliament, as a member of Mr. Balfour's government in which he was First Lord of the Admiralty in 1905, as a Director and Chairman of the Great Western Railway, as an Ecclesiastical Commissioner and as a member of the Council of the Royal Agricultural Society, is too well known to require more than a reference, was a supporter of the British Rainfall Organization and sent records regularly from his seats, Cawdor Castle near Nairn, Stackpole Court, Pembrokeshire and Golden Grove, Llandilo.

Mr. B. E. C. CHampers, of Grayswood Hill, Haslemere, was famous all over the world for the unique collection of hardy shrubs which he had collected in his splendid garden. I can never forget visiting this garden on a bleak day early in March when little colour was to be seen in most gardens, and being confronted with a profusion of blossom on hundreds of trees and shrubs so skilfully grouped that at every season of the year there were enough in bloom or in fruit to fill the garden with colour. It was a striking example of what wealth, leisure and taste could accomplish, and the rain gauge was a very humble and inconspicuous implement in such surroundings, though it may very well be that its readings, preserved in our pages, will retain their usefulness and recall the Observer's name when the garden is forgotten.

Tue Rev. T. W. Farr dated his interest in natural phenomena from a voyage which he made in his youth to Australia in a sailing ship, and his interest in meteorology was encouraged by his brother-in-law, the Rev. S. Y. B. Bradshaw, who carried on observations for many years at Blackpool. Mr. Fair graduated from Jesus College, Cambridge, and after his ordination was for ten years a curate in the Isle of Wight. He was Rector of Freemantle, Southampton, from

1892 to 1902 ; but it was not until he returned to his native county of Cumberland in 1904 as Vicar of Eskdale that he commenced to take regular observations. He did so then because his predecessor, the Rev. W. Sykes, had been an Observer, and, as is usually the case, the interest did not slacken.

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Mr. J. Garrett, gardener to the Right Hon. Arthur J. Balfour, at Whittinghame, kept the rainfall records with great assiduity up to the time of his retirement in ill-health at the end of 1909, and we much regret to hear of his death which occurred at Glasgow, in December, 1910.

Rey. Partie HepeGziexp was born in Exeter in 1825, and graduated from Pembroke College, Oxford, in 1849; and in 1854, after having acted for some time as a curate in a Dartmoor parish, he came to Penzance where, at first as Curate at Madron, and afterwards as Vicar of St. Mary, he remained ever since. He was made a Prebendary of Exeter Cathedral in 1868, and retired from active work in 1894, continuing to reside in Penzance. He was famous as a chess player, and was president of the Cornwall County Chess Association. His interest in rainfall was of long standing, and his records never failed to appear in British Rainfall since 1874. He persevered with the observations though his health was failing, and, writing in January, 1910, he said, 'I can hardly see, and my figures give me great difficulty. I have had some forms prepared which will give me less trouble this year, and I will try to go on.' On January 4th, 1911, he wrote again, sending the record which appears in this volume, and calling attention to several instances where he was uncertain as to the figures he had put down, concluding, "I have done it as well as I can, and shall continue to do so." I well remember the friendly welcome which Prebendary Hedgeland gave me when I visited Penzance some years ago.

Rey. B. C. LirrtEwoop, in sending in his record for 1910, mentioned that failing eyesight would compel him to discontinue the observations which he had kept up for twenty-five years, greatly regretting that he had to sever his connection with the British Rainfall Organization, and wishing it all success in the future. On May 11th, 1911, he died suddenly, at the age of 57. Mr. Littlewood, who graduated from Brazenose College, Oxford, in 1877, was curate of two different parishes in Staffordshire, and afterwards a preacher in the diocese of Gloucester and Bristol, settling as Vicar of Warfield, Bracknell, Berkshire, of which parish he was patron, in 1888.

CotoneL Tue Ricut Hon. Sim Francis MacnaGHTEN, a member of the Privy Council of Ireland, was chief of the Clan Macnaghten, and his residence in Co. Antrim was named after Dunderave Castle, the

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ancient seat of the Macnaghtens on the shore of Loch Fyne, made famous as Doom Castle in Neil Munro's story. Colonel Macnaghten, who was born in 1828, entered the Army in 1846, and served in the Crimea as Captain in the 8th Hussars. He retired as Lieutenant-Colonel in 1871, and was much occupied with public affairs in Ireland and the care of his estate in Co. Antrim.

Mr. W. E. Parn, the well-known pharmacist and scientific instrument dealer of Sidney Street, Cambridge, was very enthusiastic as a rainfall observer, and carried on the record at Sidney Street from January, 1865, until his death on Christmas Day, 1910. He interested his sons in the work, and the record will be carried on by the next generation in the same place. Mr. Pain's record is one of those which illustrates the difficulty of laying down definite rules as to what exposures are inimical to accuracy in rain gauges. As a rule a rain gauge high above the ground catches very much less than the true rainfall, but his, fixed on a chimney stack 53 feet above the street, records just as much as the other Cambridge gauges at | ft. There is, probably, some compensating interplay of air currents due to the surrounding buildings, which brings about so anomalous a result.

Mr. P. P. Pennant, of Nantlys, Bodfari, near St. Asaph, who died at the age of 77, was an example of a large class of rainfall observers to whom much of the success of the system of observing is due. A son of the Rev. G. Pearson he assumed the surname of Pennant on falling heir to the Bodfari estate in North Wales, and devoted himself to the multifarious employments of a country gentleman. He was a magistrate and chairman of Quarter Sessions of Flintshire, and a Deputy Lieutenant for the County, and a member of numberless Boards and Committees, to which he gave up practically the whole of his time in unpaid services to the public. A few years ago Mr. Pennant became a Fellow of the Royal Meteorological Society and he was much interested in its work as well as that of the British Rainfall Organization. It is worth mentioning that Mr. Pennant married a daughter and sister of a rainfall observer, and that his son, who continues to carry on the record at Nantlys, has done the same.

Magor-GENERAL W. E. Warranp, R.E., was born in 1831, and educated at Southwell School and the Honorable East India Company's Military College at Addiscombe. From the College he obtained a

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commission in the Royal Engineers in 1849, and served through the excitement of the Indian mutiny where, at the siege of Delhi, he lost an arm and acquitted himself with such distinction as to receive the thanks of the Government. Until his retirement in 1884 he filled various important appointments in connection with engineering in India, and wrote a good deal on the subject. Side by side with his professional work he carried on observations in various departments of science, especially natural history, and after he settled down at Westhorpe Hall, Nottinghamshire, he became much interested in rainfall observations. General Warrand was a man of fine physique, and in spite of the loss of his arm he continued to find his chief recreation in hunting.

Miss Jutta Lucy Woopwarp kept a most useful record of rainfall at the Knoll Clevedon, but her heart was mainly in charitable work. She will be remembered by her aid in transferring Barrington Court near Ilminster, to the National Trust for places of historic interest, and by her munificent legacies and benefactions to universities, schools, hospitals, orphanages, missions, libraries and the Society for Prevention of Cruelty to Animals. We received an intimation last December stating that she "died in June, 1910, so her subscription cannot be renewed."

Observers deceased to July 31st, 1910.

Small capitals designate Observers with 30 years' records.

Ashworth, Alfred _ ... Horsley Hall, Gresford.

Anderson, William, C.E. ... Rimswell, Stockton-on-Tees.

Backhouse, Mrs. J. E. ... Hurworth Grange, Darlington.

Baker, C. BR. ... ves ... Hungerdowns, Ardleigh.

Baker, Frederick wee ... Manor Farm, Frindsbury.

Barnes, Mrs. ... kes ... Heatherlands House, Parkstone.

Bateman, John ss .. The Hall, Brightlingsea.

Bazley, Gardner Sebastian ... Hatherop Castle, Fairfield.

*Beddoe, Dr. John, F.R.S. The Chantry, Bradford-on-Avon.

Boyd, Colin Edward Webbery, Bideford.

Bradshaw, Mrs. RR. The Grange, Steeple Aston.

*Brown, Dr. George Arthur ... Tredegar.

Burkitt, Rev. William Esdaile Buttermere Rectory, Hungerford.

*Cawdor, Right Hon. Earl... Stackpole Court, Pembroke.

*Chambers, Benjamin Ellis

Coates... vee ... Grayswood Hill, Haslemere.

Cheales, Rev. Alan... ... Hagworthingham.

* See Biographical Note ante.

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Clutterbuck, Rev. Francis

Capper... ni ... Culham, Abingdon.

Collins, Rev. John Argyle

Welsh ves = its ... Newton St. Cyres.

Courthorpe, George John Whiligh.

Drummond, Admiral Edmund

Charles, R.N. Eskhill, Kirriemuir.

Duncombe, Lady Caroline ... Waresley Park, Hunts.

DYNEVOR, LORD sn Dynevor Castle, Llandilo.

Elgar, James Edward ... Crockshard, Wingham.

Ellice, Mrs. Eliza Stuart ... Invergarry.

Fair, Rev. Thomas William .. Eskdale Vicarage, Cumberland.

FIELD, THOMAS WILLIS... Marazion.

Forster, William Stewart ... Rumwood, Maidstone.

Foster, Bernard C. _... Duncote Hall, Towcester.

Freeman, Rev. Richard ... Whitwell Vicarage, Norfolk.

Freuer, William bee ... West Rudham.

*Garrett, Mr. J. wes ... Whittinghame Gardens.

Gibbs, Thomas... ves ... Bridge House, Wirksworth.

Graham-Foster- Pigott,

Mrs. W.... wee ... Abington-Pigotts.

Grant, Edward ves ... Lichborough Hall, Northants.

Gcreaves, J. A. R. bee Morton Hall, Gainsborough.

Griffith, Rev. William

Stewart... veeArdnadrean, Donegal.

Hall, Rev. Humphrey Farran The Elms, Monmouth.

Hall, William ... ves Mardon, Hereford.

HAMILTON, HUGH Pinmore.

Harris, W. J. ... eee ... Halwill Manor, Beaworthy.

Harrison, Miss Mary Beatrice West Hay, Wroughton.

*HEDGE LAND, REV.

PREBENDARY PHILIP... St. Clare, Penzance.

Holmes, Mrs. T. B. Hornsea.

HuTCHINGS, REY. CANON

KOBERT SPARKE... .. Alderbury.

Jervoise, Sir Harry Clarke,Bt. Idsworth, Hants.

Jones-Bateman, Mrs. J. B. Sheldon, Birmingham.

Knapton, Rev. Henry P. Spreyton, Devon.

Lakeman, Thomas... ... Lindthorpe, Brixham.

Lee, Rev. John Bond... ... Barnet.

*Littlewood, Rev. Benjamin

Campbell ... a ... Warfield Vicarage, Bracknell.

Macaulay, Rev. D.... ... Sandside, Reay.

Mackessack, John... Kinloss House, Kinloss.

*MACNAGHTEN, RIGHT HON.

Sir FRANCIS EDMUND ... Dundarave, Co. Antrim.

McNeill, Alexander Gardenvale, Co. Antrim.

* See Biographical Note ante.

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MARTINEAU, JOHN Park Corner, Heckfield.

Nichol, W. _... vee ... Hengrave, Bury St. Edmunds.

*PAIN, WALTER EDWARD... Cambridge.

Pearse, Charles Samuel ... Thornham, Ivybridge.

PEARSON, F. FENWICK ... Storrs Hall, Arkholme.

Peniston, Henry bee .. De Vaux Lodge, Salisbury.

*PENNANT, PHILIP PENNANT Nantlys, St. Asaph.

Philbrick, Judge, K.C. ... Bournemouth.

Phipps, Richard vee .. Buckenhill, Bromyard.

Pretor, Mrs.S. A... .. Belfield House, Weymouth.

Price, Mrs. W. E. _... .. Tibberton Court, Gloucester.

Priestman, Alfred _... .. Thornton-le-Dale, Pickering.

Rymer, Thomas Harrison ... Calder Abbey, Cumberland.

Sedgwick, Miss Margaret

Isabella... ee ... Thorns Hill, Sedbergh.

Simpson, Thomas _ Fennymere, Ealing.

Smith, Edwin ... vee ... Lovermead House, Torquay.

Spelman, William Waters ... South Dene Lodge, Yarmouth.

SPENCER, RIGHT Hon. Ear,

K.G, bes vee ... Althorp Park.

Steel, William Strang ... Philiphaugh, Selkirk.

Stopford, Vice-Admiral Robert

Wilbraham, R.N. Shroton House, Dorset.

Thomas, J. Lewes... . Cae-glas, Liandilo.

Thurgood, Mrs. H. J.... .. West Hill Lodge, Budleigh Salterton.

Trinder, Henry William ... Northbrook House, Bishop's Waltham.

Twemlow-Cooke, Rev. Daniel

John we ves ... South Petherton.

Vaughan, Cedric, C.E. ... Leyfield, Millom.

*Warrand, Maj.-Gen. William

Edmund _... bee ... Westhorpe Hall, Southwell.

Washington, Rev. Adam... Boyton, Suffolk.

Watson, W.... bes ... The Gardens, Harefield Place.

"Woodward, Miss Julia Lucy.. The Knoll, Clevedon.

WROTTESELEY, LORD... .. Wrottesley, Wolverhampton.

Young, E. A. ..., ee ... Penrhyn, Bethesda.

eo : a ae

* See Biographical Note ante.

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OBITUARY.

We have included in this list the names of those Observers of whose deaths we have been informed between August 1st, 1911, and July 1st, 1912. They number 75, but though we have made every effort to secure completeness in the list, we cannot hope that it is attained ; but as just the same efforts were made last year, when the list included 85 names, we hope that we can congratulate ourselves on profiting considerably by the reduced death-rate of the country which has been the theme of many newspaper comments. We have ascertained the ages of 5 out of the 75, and the average comes out as 77, an extraordinarily high figure, which is accounted for by the fact that only 2 out of the 45, were under 60 years of age, and no less than 16 were 80 or over, and five 90 or over. Observers deceased in 1911-12, of 80 years of age or more.

Mr. Edward Beanes... wna asa wna 95 years.

Sir J. G. N. Alleyne, Bart. bes bee 92 ,,

Miss Grubb ... ei eas Be se 92 ,,

Mr. W. B. Pugh ... _ ves wes 92. ~=C

Mr. Benjamin Carver sari irs sik 90 ,,

Sir W. J. Farrer... ves ves bee 89 Cs,

Mr. George Neville ... 15 "i ue 89

Rev. H. E. B. Ffolkes oon ss vm By

Miss Elizabeth Southall... bes ies 88,

Sir J. A. Woolfryes, K.C.B. vee wes 88 ,,

Miss J. C. Edlmann... wef wee bee 86s,

Mr. William Garnett ves me sn 86g,

Capt. W. A. Dobie ... vee Wai ves 84,

Mrs. Pemberton-Barnes _... ss bel 84,

Rt. Hon. Lady Northwick a ves 80 ,,

Rev. D. E. Norton ... axa a si 80s,

It is still more remarkable to find that 19 of the late Observers had records of 30 years or more to their credit, six of them had more than 40 years, and two had completed half a century of rainfall observing, | one of them having the unique record of 65 years. The list of the long records, several of which we are happy to say have not come to

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an end, is given below, an asterisk being placed before the names of those whose records were taken continuously in one place.

Records of Thirty years and upwards.

*Mr. W.B. Pugh Nt erat ontgomeryshize 65 years.

*Mr. G. Nevile _ ... Stubton, Newark 50. ,,

*Rev. H. E. B. Ffolkes Hillington... T . 47 ,,

*Mr. 8S. W. Jenkin Liskeard i wee we AT 5s

*Miss Grubb ... ves ... Clonmel wn ss . 46 ,,

Mr. F. M. T. Jones-Balme Ambleside... ves .. 46 ,,

Mr. W. Miller... .. Cork ... ves wes we BD 455

*Miss Jones ... nee Kensworth, Dunstable... 36 ,,

*Rev. W. H. Fox... .. Thixendale ... ves we BO 455

Rev. Dr. J. Dunne Parker Bennington ... on se BO gy

*Mr. J. Alexander Sudbury vee vee we OF y,

Mr. P. Bicknell... .. Burnham ____ ws . 34 ,,

*Rt. Hon. Lord Rendlesham Rendlesham Hall ... w 33 5,

Mr. J. C. Little... .. Ewes, Langholm 33 5,

*Rev. C. Wigan Harvey Throcking ... "38 we BS 53

*Mr. A. C. Bamlett... .. Sowerby, Thirsk... . 31,,

*Sir W. J. Farrer... .. Sandhurst Lodge Oly,

*Prof. W. A. Barnes .. Moynalty ... ~ ie vex ony

*Mr. T. Coulthard Malham Tarn, Settle .. 80 4,

While we are happy to know that the rainfall records are being continued in many cases there are some old friends in the Obituary list this year who have been for many years generous supporters of the General Fund and their financial help dies with them. Mr. Symons had a group of old supporters who used each to contribute 10 per annum to the funds of the Rainfall Organization ; one of these disappears this year, leaving an estate which paid over 14,000 in death duties, but nothing to the Endowment Fund of the British Rainfall Organization. There can be very few Observers so wealthy as this ; but some, even if less wealthy, may care to make provision for a bequest which would perpetuate their annual subscriptions. We regret the inadequacy of the notes which follow, but they represent no little labour in endeavouring to get at sources of information. Occasionally all we know regarding the death of an Observer is the laconic endorsement "dead" on a returned letter. Mason Witurlam Towers Ancock-Breck, who died on October 22nd, 1911, was one of the keenest rainfall observers in the Lake District. He was educated at Rugby and Trinity College, Cambridge.

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The elder son of the late William Towers, of Tower Bank, Sawrey, he succeeded, at the age of 21, to the estates of Thomas Alcock-Beck of Esthwaite Lodge, whose name he assumed and whose rainfall record he took over, and he resided at Esthwaite Lodge until ten or twelve years ago when he re-purchased the ancestral estate of Tower Bank and returned there. He was an officer of Volunteers from 1860 to 1876, when he retired as Honorary Major. From his twenty-fifth year he had held a number of public offices, and kept up an active interest in local affairs to the end. Without professing to be in any sense of the term a scientific man, Major Alcock-Beck was a lover of Nature, keenly interested in the habits of animals, especially of birds, and a watcher of the weather.

The Rev. Wittlam Henry Fox, Vicar of Thixendale, in the East Riding of Yorkshire, was one of the most systematic rainfall observers. He was educated at Sidney Sussex College, Cambridge, and received the living of Thixendale in 1872. Five years later he began to keep a rainfall record and added the readings of other meteorological instruments. He was a regular correspondent of Mr. Symons, Mr. Wallis and myself, and frequently contributed letters to Symons's Meteorological Magazine. He took great trouble in keeping notes of his observations, and the first notice we received of his death was a letter from Mr. H. Sowerby Wallis stating that Mr. Fox had left him his meteorological records, which he presented to the British Rainfall Organization, believing that to have been the intention of the testator. The records were kept in 'one-year' Meteorological Registers, beginning in 1878, and the first 22 years were bound in a substantial volume, bearing on its last page the inscription :-

'*This volume contains the Meteorological Register, a
observations, made during the last twenty-two years of the
Nineteenth Century.-W.H.F.

FINIS

hujus Libri, et XIX. centum Annorum''

But, as we have noted in the case of many people to whom the change of the century was an impressive period, Mr. Fox closed his century with the year 1899. The remaining twelve yearly books were loose, but we have bound them to match the first volume. The last entry is of the 10 a.m. observations on September 16th, 1911, and his death must have occurred very soon afterwards, as the books were in our hands on October 10th. We also received a set of

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diagrams for each month since January, 1881, each year mounted in a continuous strip and bound in a leather portfolio, the appearance suggesting that it was done by the Observer himself, and if so it does credit to his neatness of manipulation. Mr. Fox must have been about eighty years of age.

Miss Susannan Gruss, of Glenam, Clonmel, died on September 23rd, 1911, at the great age of 93. She or her sister sent in returns of rainfall since 1864, and the record appeared regularly up to 1911. Unfortunately this fine old record has come to an end.

Mr. Sinvanus Wintiam JENKIN, who died in August, 1911, was a member of the Institution of Civil Engineers, in practice at Liskeard, and, like so many of his profession, much interested in meteorology. His record of rainfall dates back to 1864, and we are glad to know that in this, as in many other instances, the interest has proved to be hereditary, for his son, Mr. W. A. Jenkin, is continuing the record.

Miss S. Grace Jones, of Kensworth, Dunstable, who died in February, 1912, had the unusual distinction of being, for many years, Churchwarden of her parish. She was keenly interested in the observations, and her station occupied a very important position on the Chiltern Hills, where it is invaluable for drawing the lines on the monthly rainfall maps, and we are glad to say that it is being kept up, for the present at least, I may quote a passage from a characteristic letter from Miss Jones, written four years ago :-

''' More than forty years have passed since Professor Charles Tomlinson presented me with a rain gauge and requested me to send a yearly report to Mr. Symons, and hitherto I have not failed, but years pass very rapidly as age increases and strength diminishes. I hope to continue the most interesting observations as long as I am able to do so, but if you should fail to receive them you may conclude my work is ended."'

Rev. Peter Nein Mackichan, Parish Minister of Inveraray, died in December, 1911, at the age of 74. The Parish Church of Inveraray is perhaps unique in consisting of two churches under one roof, with separate entrances and separate ministers, one preaching in English, the other in Gaelic. Mr. Mackichan was the Gaelic minister, and had a rare knowledge of the ancient language and a love for the Highlanders and their legends. He had an insatiable curiosity in many branches of literature and in some fields of Nature,

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and nearly thirty years ago he used frequently to accompany me on the steam yacht Jfedusa when I was engaged in oceanographical researches on Loch Fyne. From the interest he took in that work I felt, sure that he would be a good observer of rainfall, and when he went to occupy the new manse at Stronshira, a mile across the bay from Inveraray, I induced him to start a record there. He also enlisted the services of a farmer living six miles up Glen Shira, the picturesque valley associated in old days with the more exciting investigations of Rob Roy, where the rainfall record has proved very valuable.

Rey. Wituiam M. MacpHerson, D.D., was a son of the late Dr. Macpherson, Professor of Divinity at the University of Aberdeen. After graduating at Aberdeen (where he afterwards received the honorary degree of Doctor of Divinity) Mr. Macpherson became a minister of the Church of Scotland, and after two years at Kennethmont, Aberdeenshire, he was inducted in 1868 to the charge of Monymusk in the same county, where he remained until his death in September, 1911, at the age of 69. He was a remarkably careful observer of rainfall, and his record at Monymusk was of the utmost service in a part of the country where rainfall records are few.

Mr. WitiramM Muinuer, who died on March 13th, 1912, kept up a record of rainfall in Cork for 39 years, and did much to encourage an interest in meteorology in the south of Ireland. Mr. Miller carried on an unpretentious business in Cork for many years, but retired some time ago, and devoted increased attention to his two great sources of interest, meteorology and a detailed study of the English Bible, which supplied him with materials for many papers and pamphlets ; these, if works of faith rather than learning, were, at least devoid of the fads and fancies which so often obsess simple students whose opportunities for critical study are few. I had the pleasure of meeting Mr. Miller a few years ago, and was much impressed by the earnestness of his character.

Mr. Grtorce NEvILLe, of Stubton, near Newark, died on June 21st, 1912, at the age of 89, leaving behind him a record of fifty years of rainfall observations taken at the same place. The yearly total has appeared in its place in every volume of British Rainfall except the first, but of Mr. Nevile we know nothing. He has never been unpunctual in sending in his return, and we believe that his records have never been found in error. However important or obscure his life nay have been in other respects, this long persistence in faithful

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recording has added a solid fact to knowledge the value of which time can never diminish.

The Richt Hoy. Lapy Norruwick always signed the rainfall record from Northwick Park, Blockley, her usual residence ; but I fear that this was a mark rather of her characteristically conscientious attention to detail, than of any particular interest in the scientific aspects of our work, for in the apportionment of her ample fortune the Rainfall Organization found no place. Nevertheless, the opening paragraph of her will, as quoted in the press, is one which may be commended to those who are equally wealthy and more interested. It runs :-'' With regard to this world's goods, I am deeply sensible that I have ten talents to account for. I earnestly hope I have (with no feeling of merit and often with failure of success, but as a positive duty and responsibility) tried not to misuse them, and I trust that I am now about to make a just disposal of what I have to leave to others."

The Rey. James Dunne Parker was born on January 10th, 1835, at Ballyvally, Co. Down, and educated at Trinity College, Dublin, and University College, Galway, at both of which he had a brilliant career. He was interested in scientific studies, and pursued several branches effectively. He was first a curate in Newcastle, then Vicar of Bowes in Durham from 1867 to 1870, Vicar of Hawes from 1870 to 1878, and of St. Mary Abbey Church, Nuneaton, from 1878 to 1883. He took first the LL.B., and then the LL.D., degree of Queen's University, Ireland, and received the honorary D.C.L. from Durham University. He was a keen politician, and took an active part on the Unionist side. On retiring, he settled at Bennington House, near Stevenage, where he equipped a very complete meteorological and astronomical observatory. He was a Fellow of the Royal Meteorological, the Royal Astronomical and the Geological Societies, and he was a frequent attendant at meetings of the British Association. Dr. Parker's meteorological observations began at Hawes about 35 years ago, but the fuller and more detailed observations began when he moved to Bennington in 1883, and we rejoice to learn that his two daughters, who had latterly assisted in the observations, are continuing the record. Amongst the very large number of the clergy who assist in the collection of rainfall statistics, Dr. Parker was perhaps the owner of the most perfect meteorological equipment, and he took a great pride in keeping his records with scrupulous exactness. He died on October 12th, 1911.

Mr. Wititam Buckiey Puen, one of the small number of those whose rain records have appeared in each of the fifty-one volumes of British Rainfall, died at his home at Patrington early in June, 1912, in the 93rd year of his age. Mr. Pugh was an old friend of Mr. Symons, and like him a collector of meteorological books, and for years, we believe, it was a grim jest between them that each would endeavour to survive long enough to purchase the other's library. Mr. Pugh came of a Montgomeryshire family, and was educated at Rugby under Dr. Arnold, passing on to the University of Caen in France. In 1845 he became Manager of a flax mill at Patrington, in the East Riding of Yorkshire, and resided there until his death, retiring from active work in 1881. He was a Justice of the Peace, both in Yorkshire and Montgomeryshire, where he had property, and where he kept up a second rain record. Mr. Pugh was much interested in old churches, and was active in promoting the restoration of churches both in Yorkshire and in Wales. I never met Mr. Pugh, but for ten years I have looked forward to his annual letter, which always contained some characteristic note. On January 10th, 1908, he wrote from Patrington: "I enclose a return for rainfall here and at Dolfor. I feel I must give up soon these returns. I am 88, too old, and have to employ others. It costs me --" (the amount was illegible). In September, 1910, he said: 'Would you like to have an annual return of rainfall from the first? At the end of this year I shall be 91, and I don't think I can make out many observations, my eyesight deficient, and my hand too.' My last letter from him was much more cheerful, and it was, I think, the only one in which he did not refer to his age and his failing powers. It was dated 25th January, 1912, when he was over 92, and ran: '" Was it in the year 1812 that the Thames was frozen over, and bonfires lighted on it? and that Napoleon crossed the Elbe? If you can give me this information I shall feel obliged." The old record at Patrington, which began in 1847, should not be allowed to lapse, and as it was impossible to ascertain whether Mr. Pugh had any surviving relatives, the British Rainfall Organization has provisionally undertaken to pay the assistant who helped Mr. Pugh in his later years to keep up the observations for the present.

Lorp RENDLESHAM, the fifth baron, who died at Rendlesham Hall on November 9th, 1911, was much interested in the rainfall returns, which he always sent in in his own handwriting, and he was a generous contributor to our funds. An Irish peer, Lord Rendlesham was a

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Member of Parliament for East Suffolk from 1874 to 1885, and in his own county he filled all the honorary offices which are part of the responsibilities of a great landowner, having been chairman of the Suffolk Quarter Sessions for 30 years, and also of the Suffolk County Council. He was an old member of the Jockey Club, and one of the stewards of that typically British institution, and he was also a member of the Royal Yacht Squadron.

Miss EVIZABETH SouthALL died at Leominster on October 17th, 1911, aged 88, two years after the death of her sister Miss Hannah Southall, who was only four years her junior. The venerable ladies were the most charming embodiment of the old Quaker type, and it was a great happiness to me to have met them both, and seen with what interest they followed all that that was going on around them, whether in weather, or in works of philanthropy. Old as they were, they kept abreast of the age, and were delighting in the acquisition of a new motor car, when I saw them, with the freshness of appreciation that we are accustomed to associate only with youth. To meet such people on the common ground of mutual interests, is one of the great privileges of our work.

Masor-GENERAL THOMAS Eaton SWETTENHAM was born in 1834, and on joining the army he was sent to the Crimea, where he was present at the siege and fall of Sebastopol. He also saw active service in the China war of 1860. When, some time after his retirement from the army, he settled at Calcot House, Reading, he commenced to keep records of rainfall and other meteorological conditions, keeping up the record almost to the last. He sent in a carefully plotted barometer curve of December, 1911, showing the extraordinary fluctuations of pressure as the continuous procession of cyclones swept in from the Atlantic during that remarkably rainy month ; this must have been almost the last work he did as he was seriously ill early in January and died before the end of that month,

THE VEN. GEORGE Ropert Wynnz, Archdeacon of Aghadoe and Canon of St. Patrick's, Dublin and of St. Mary's, Limerick, was born in Co. Wicklow, in 1838, and studied at the Royal Agricultural College, Cirencester, and Trinity College, Dublin. He was successively Incumbent of churches in Dublin, Holywood, Co. Down, Killarney, and Limerick. He took an active part in promoting emigration to Canada, and he was the author of several devotional works and tales for the young. Dr. Wynne was versatile and catholic in his tastes; his recreations, as classified by himself, began

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with meteorology and botany and extended to Esperanto. For many years he kept up two rain gauges in the neighbourhood of Killarney, one at Gearahameen, at the beautiful landing-place on the upper lake, the other on a mountain at Mangerton, nearly 1,800 feet above sea-level, the only rain gauge in Ireland above the level of 1,000 feet. The Mangerton record, where the highest values for Ireland were obtained, was stopped in 1904 when Archdeacon Wynne moved to Limerick, but the Gearahameen record is being carried on at the expense of the Organization.

Observers deceased to June 30th, 1912.

Small capitals designate Observers with 30 years' records.

* Aleock-Beeck, W. ... + we Sawrey, Ambleside.

ALEXANDER, JOSEPH ..., .. Sudbury.

Alleyne, Sir John G. N., Bart. ... Chevin, Belper.

BAMLETT, ADAM CARLISLE... Sowerby, Thirsk.

BARNES, PROFESSOR WILLIAM A. Westland, Moynalty, Co. Meath.

Beanes, Edward ... ves .. Moatlands, Paddock Wood, Kent.

BICKNELL, PERCY z ... Lincoln Hatch, Burnham, Bucks.

Bracher, Edwin ... ves .. The Limes, Mere, Wilts.

Browne, 8. ... bes en ... Glencoe, Roche, Cornwall.

Bruce, Thomas Rae Lee ... Old Garroch, Dalry, Kirkeudbright.

Burney, W.... cans a ... Mickleton, Middleton-in-Teesdale.

Campbell, Major-Gen. William

Maxwell (late R.E.) ... Henmead Hall, Cuckfield.

Carver, Benjamin ... wes ... Polefield House, Prestwich.

Cole, Rev. Edward Maule .. Wetwang, York.

COULTHARD, T..... ves ... Malham Tarn, Settle.

Craik, J. Watson ... we .. Littlecauseway, Forfar.

Cure, Rev. Laurence George Capel Abbess Roding, Essex.

Dickinson, Mrs. John _____. Broomhill, Tiverton.

Dobie, Capt. William Alexander St. John's Park, Ryde.

Edlmann, Miss Josephine C. Hawkwood, Chislehurst.

Edwards, H. bee bes ... Rutland Terrace, Stamford.

Elliot, George Stanley... .. Metropolitan Asyluin, Caterham.

FARRER, SIR WILLIAM JAMES... Sandhurst Lodge, Berks.

Festing, Major-General Edward

Robert, C.B., F.R.S.... .. Science Museum, South Kensington.

*FFOLKES. REV. HENRY E. B. ... Hillington, Norfolk.

Foster, Rev. Ambrose Millett Sampford Brett, Somerset.

*Fox, Rev. WILLIAM HENRY ... Thixendale, York.

Gardhouse, Miss Barbara ... Denton House, Carlisle.

Garnett, William ... we ... Low Moor, Clitheroe.

*GRUBB, MISS SUSANNAH ... Glenam, Clonmel.

*HARVEY, REV. CHARLES WIGAN Throcking Rectory, Herts.

Heberden, Rev. Charles Lewis Desborough, Market Harborough

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Observers deceased to June 80th, 1912-(continued).

Hill, George M. Wansbeck ... Foxrock, Dublin.

Holcroft, Rev. Thomas Austen... Bolney Vicarage, Sussex.

Inglefield, G. A. ... ves ... Tidworth House Gardens, Andover.

Ingram, Mrs. Fanny ves .. Steyning, Sussex.

Jarrett, Miss Emily Elizabeth .. Camerton Court, Bath.

*JENKIN, SILVANUS W., .E. Dean Terrace, Liskeard.

*JONES, Miss S. GRACE... ... Kensworth, Dunstable.

JONES-BALME, FRANK M. T. High Close, Ambleside.

Last, William Isaac, A.M.1.C.E.... Victoria and Albert Museum, South
Kensington.

Lee, Anthony vee 1 ... Bendamph Gardens, Ross-shire.

Leonard, Rev. Arthur Allen Beaminster, Dorset.

Linton, John, J.P., D.L. Stirtloe House, Buckden, Hunts.

LITTLE, J. C. Le ves ... Burnfoot, Ewes, Langholm.

Lloyd, Rev. John Augustus Knowle, Godalming.

*Mackichan, Rev. P. N. ..., ... Stronshira, Inveraray.

*MaePherson, Rey. Dr. W. M. Monymusk, Aberdeenshire.

Marriott, Rev. Charles... ... Cherington.

*MILLER, WILLIAM we ... Fernhurst Avenue, Cork.

*NEVILLE, GEORGE ... ees ... Stubton, Newark.

Nice, A. S. bes vee ... Carlton Hall, Newmarket.

*Northwick, Rt. Hon. Lady .. Northwick Park, Blockley.

Norton, Rev. David Evans Maperton Rectory, Somerset.

*PARKER, REV. JAMES DUNNE,

LL.D... bee _ ... Bennington House, Herts.

Pemberton-Barnes, Mrs. Havering-atte-Bower, Essex.

Pennington, Col. William A. Lake House, Netley Abbey.

Phipps, H. ... _ vee ... Heath End, Milford, Surrey.

Pigott, Rev. Edmund Vincent Welborne, Norfolk.

*PUGH, WILLIAM BUCKLEY ... Patrington, Hull.

*"RENDLESHAM, Rt. Hon. Lord... Rendlesham Hall, Woodbridge.

Rice, Mrs. st ves ... Danetield, Eastry.

St. John of Bletso, Rt. Hon. Lord Melchbourne Park, Bedx.

Sanger, Charles... ve ... Bureote, Weybridge.

Sinith, Andrew Scott, M.B. .. Chagford Sanatorium, Devon.

*Southall, Miss Elizabeth ... Farm, Leominster.

Summers, Rev. William Stoke-on-Trent.

Sutcliffe, Arthur, J.P. ... The Royd, Todmorden.
*Swettenham, Major-Gen. Thomas

Eaton ... vee an ... Calcot Place, Reading.

Tiarks, Henry Frederick ... Foxbury, Chislehurst.

Willson, Major-Gen. Sir Mildmay

Willson, K.C.B. Lee ... Rauceby Hall, Sleaford.
Woolfryes, Sir John Andrews,

K.C.B., C.M.G., M.D. ... Woodbury House, Wells.

*Wynne, Ven. Arcliffeacon G. R. Limerick.

Wynne, Wyndham H._... Glendalough, Co. Wicklow.

Yorke, John Reginald... Forthampton Court, Tewkesbury.

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DuRING the year ended on July 31st, 1913, we have heard of the death of 89 Observers, a larger number than usual though, considering how many of these had ceased to observe before their death and that the names of the Observers now fill two large volumes in manuscript, we cannot consider that the proportion is excessive. We have been fortunate this year in ascertaining the ages of a larger number of the Observers than on previous occasions, and the average age of the 61, the year of whose birth we were able to discover, reaches the high figure of 73 years; in fact there were only seven whose ages were less than 60. As usual we give a list of those who had reached the age of 80 or over, and this includes three who were over 90.

Observers deceased in 1912-1913, of 80 years of age or more.

Rev. R. Conway ___... wes sw wa 95 years.

Mr. E. Turton ves wes vee wes 93 =,

Mr. H. I. Dixon " in ma ss 92 ,,

Mr. James Barton, C.E. ... bee wes 87,

Mr. Peter Campbell... any ive vee 87,

Rev. Canon R. 8S. C. Blacker wes m8 86 SCs,

Mr. Alfred Brothers pay 2 ri bee 86S,

Mrs. Cope _... ees bee be we 85 Cs,

Rev. H. A. Daniel ... sea bee bee 84 ,,

Dr. T. F. Jamieson ... ves we . =6 84 -O="="=

Rev. Canon W. Tate, D.D. bee eee 84 a,

Lord Macnaghten ... bes we ied 83S,

Rev. J. T. Pearse... bes eee vee 83 SC,

Dr. J. W. Walker... ves as wee 83g,

Rev. T. W. Carr... ves bes _ 82. ,,

Mr. J. H. Lancashire ves bee bes 82. ,,

Surgeon-Gen. S. B. Roe, C.B. ... vee 82 ,,

The Marquis of Sligo sti eee bee 82. ,;

Mr. William Becher vee a 00 bes 81 ,,

Rt. Rev. W. E. Meade, D.D., Bishop of

Cork vee ves ves vee fou 81,

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Observers deceased in 1912-1913, of 80 years of age or more-(continued).

Mrs. Dix + ii ek 88 a5 81 years.

Mr. Thomas Hodgkin, D.C.L., Litt. D. ... 81_ , , ;

Mr. L. M. Jackson ... ves ves ai 81 , ,

Mr. James Whitaker ees vee wee 81_ , ,

Rev. F. T. W. Wintle wee Les oF 81 , ,

Mr. John Nicholl... aes ves bes 80,

Mr. H. J. Younger ... vee bes bes 80,

Considering the great age of the Observers it is a little surprising to find that only 13 had records which had continued for 30 years or more, although there is certainly no cause for regret in the fact that only a dozen of the long records existing last year have been imperilled by the death of the Observers. We are happy to know that some, including the longest, will still be continued.

Tecords of Thirty years and upwards.

*Mr. John Nicholl... ... The Hemnalls, Epping ... 44 years.

*Mr. H. J. King... ... Wrestlingworth, Beds. ... 39 , ,

Rev. C. W. Hony Woodborough, Wilts. we 88g,

*Mrs. John Tayleur Buntingsdale Hall, Market

Drayton vee we OO ogg

*Mr. Michael Molohan ... Ballyvaskin, Miltown

Malbay ... ves we OS '5g

*My. James Barton, C.E. Farndreg, Dundalk an OO 4s

*Mr. Frederick Taylor ... Fir Tor, Dorking... ve os

*Rev. F. T. W. Wintle Bere Ferrers, Devon wk OE ogg

*\Ir. Wm. Holbrow Derreen, Kenmare ... es ee

*Dr. J. W. Walker Spilsby, Lines. eee .. of oy,

Rt. Rev. W. E. Meade, D.D. The Palace, Cork ly,

Mr. Alfred Tate... ... Downside, Leatherhead ... 31 _ , ,

Mr. J. J. Myres, C.E. ... Flookburgh, Cark-in-Cartmel 30 _ , ,

With so great a loss by death, the funds of the Organization have necessarily suffered, and, although new Observers have in many cases also become subscribers, the average amount of the subscriptions continues to fall, and as yet the infant Endowment Fund has failed to attract sufficient notice to enable it to redress the balance.

In compiling the notices of a few of the Observers whom we have lost, we are confronted as usual by the curious paradox that we know most of the lives of those of them who were least interested in the subject of our studies. This arises from the fact that the names of many persons, distinguished in public life, have been given to us

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as authorities for the rain records kept on their estates, although they may not personally have paid much attention to the matter. We have resisted the temptation of giving notices of such persons, and have confined our attention to those whom we knew to have had some personal interest in rainfall observing, and regarding whom it was possible to obtain biographical particulars.

Mr. ALFRED BROTHERS of Handforth, near Manchester, who died in August, 1912, at the age of 86, was much interested in the natural sciences, and was a Fellow of the Royal Astronomical Society. He kept his rainfall observations personally, until within three days of his death, and we are happy to learn that the record which he maintained so resolutely, is being continued at Handforth by another observer.

THE Rev. THOMAS WILLIAM CARKR, rector for 46 years of Barming, Kent, died at Long Rede, Barming, on December 26th, 1912, in his 83rd year. He was a frequent correspondent, and a few years ago he suggested a plan for increasing the popularity of rainfall observing by instituting a badge or medal to be awarded to Observers of 30 years' standing. The idea has much to commend it, but as in so many other cases it had to be dropped on account of financial considerations.

Mr. CHARLES PRATT CHAMBERS died suddenly, and apparently painlessly, on June 18th, 1913, when engaged in pleasant conversation at the house of a relative at Whitehaven. He observed the rainfall for several years at his residence, Orchard Head, near Broughton-in-Furness, and was one of the most regular and careful contributors of Observers' Notes to British Rainfall, and frequently sent letters which appeared in Symons's Meteorological Magazine. He followed the profession of an Architect and Estate Agent in Barrow, and also taught Science Classes. He was a great lover of Nature and natural phenomena, and his companionship was much appreciated by other Observers in the district.

COLONEL GEORGE AUGUSTUS CURZON, a veteran of the Indian Mutiny, died on November 27th, 1912, in his 77th year. He was much interested in the rainfall record which he kept at his residence, Westwood, Windlesham, and was a frequent correspondent upon meteorological matters. He served throughout the Mutiny campaign

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in the Rifle Brigade, and subsequently became Colonel commanding the 2nd Life Guards.

Mrs. M. H. Dix, who died at Hampton Lodge, Durdham Down, in March, 1913, in her 82nd year, had supplied the rainfall record since the death of her son in 1904. Her niece, Mrs. Clough, has kindly supplied us with the following appreciation :-

"Mrs. Dix had been crippled by rheumatism for eight years. Although unable to move in bed or lift her hands to her head, she always managed to write the Observations every morning for the Western Daily Press, and was eager to compare the rainfall of different places and different seasons. Mr. and Mrs. Dix would have celebrated their golden wedding had they lived until August. Mr. Dix was taken seriously ill two days after his wife's death, and died within an hour of her funeral. Their only son, John Hardcastle Dix, died in 1904. He had supplied the Observations for many years previously, and it was in loving memory of him that Mrs. Dix first took up the work, which grew to be so great a pleasure. Mrs. Dix was a fine specimen of Victorian womanhood at its best, tall and dignified with gracious manners, she was widely read and keenly interested in all the leading questions of the day. Her patient cheerfulness and interest in the affairs of others was a constant marvel to those who were privileged to know her."

Mr. Henry Isaac Dixon died at Stumperlow Hall, Sheffield, on November 24th, 1912, at the age of 92. He had purchased this fine old mansion in 1854, and observed the rainfall there from 1898. When his health failed towards the end of his long life, his son, Mr. James Dixon, of Fulwood House, who now succeeds him at Stumperlow Hall, charged himself with the care of the record. Mr. Dixon was for nearly seventy years a partner in the great silver and electroplate firm of James Dixon & Sons in Sheffield, and he devoted himself to the development of the business with a single hearted intensity which left little time for public work ; although he always interested himself in a number of charitable institutions. The following fine summary of his character appeared in the Sheffield Daily Telegraph :-

' 'Mr. Dixon was one of those men in whom old age and a sunny temperament are linked together. The cheerful optimism of his youth never left him. At school it won him abiding friendships ; in the rush and stress of a long business career it often lifted him

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above the anxieties of the passing hour, and it went with him into the evening of his days. His was one of those kindly natures which exercise an irresistible charm on all who come under their influence, and from whatever standpoint his life is viewed it is beyond dispute that his passing hence leaves the city distinctly poorer."

Mr. RoBERT GODFREY, who died at Alne, near York, aged 72, had filled several positions as a municipal official in Sedbergh, Kendal and Birmingham, and had taken up rainfall observing as part of his official duties, and continued the habit after his retirement. Mr. Godfrey is better remembered in the North of England for his keenness as a politician on the Conservative side and for his devotion to Church music.

Mr. F. W. Henxet, B.A., F.R.A.S., died in May, 1913, at the age of 42. He was for four years in charge of Markree Observatory, Co. Sligo, where he carried on astronomical and meteorological observations. When the Observatory was closed in 1901 Mr. Henkel came to London, where he was engaged in literary work, and his name is very familiar to readers of Symons's Meteorological Magazine. Amongst other works he compiled a treatise on Weather Science, which was well received in the Press. How highly he was appreciated in astronomical circles is shown by the fact that very shortly before his death he was one of the three selected candidates for the Gresham Professorship in London. Mr. Henkel, however, experienced to the full the difficulties which beset a man of science in the effort to make a living without a definite appointment, and his later years were full of anxiety and disappointment.

Mr. THomas Hopexin, D.C.L., Litt.D., whose eminence as a historian has made his name famous, has for us a more intimate interest in his parentage and in his carrying out of a family tradition. He was born at Tottenham in 1831, his mother being a daughter of the celebrated Luke Howard, the inventor of the Howard pattern rain gauge and author of "' The Climate of London." We should be interested if some member of the Society of Friends would trace out for us the descendants of Luke Howard who are still carrying on observations on the lines laid down by their distinguished ancestor. It would certainly include a considerable number of the contributors to British Rainfall. The rainfall observations at his residence, Barmoor Castle, Northumberland, claimed, no doubt, a very minute

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share of the attention of Mr. Hodgkin, but they at least reveal one of the facets of his singularly versatile personality which we are pretty sure has escaped the attention of the writers who have dealt with his life in more ambitious pages than these. Mr. Hodgkin was one of the founders of a famous banking house in Newcastle-on-Tyne, and his philanthropic activities would have enshrined him in grateful memory had he never written a line. His historical studies were devoted principally to the period of the decline of the Roman Empire, and they have been characterised as literary rather than scientific in the choice and treatment of evidence, but the attractiveness of his work and the appeal made to the general educated reader are all the greater on this account. The local history of Northumbria and the history of the Society of Friends form the subject of many of his writings. He was devoted to foreign travel, especially in Italy and Greece, and an interesting episode in his life was his setting out at the age of 78 to visit the communities of the Society of Friends in Australia and New Zealand, and as The Times obituary notice says "to inspect and confirm and strengthen them."

Mr. OWEN JONES who died at Blaenau Festiniog, in October 1912, was manager of the great Oakley Slate Quarries which dominate the quaint little town, and his record kept at the Quarries was of great importance as giving a fixed point in a very bare place on the rainfall map of North Wales. Mr. Jones possessed to the full the enthusiasm and eloquence of his race, and I was much impressed when after a lecture on "Rain" which I gave at Blaenau Festiniog, he proposed a vote of thanks, and after a few quiet words in English, broke into a torrent of Welsh which roused his hearers to shouts of laughter and thunders of applause, and left the lecturer wondering what he had really said.

Mr. JOSTA⁴N HENRY LANCASHIRE of Deeplish Hill, Rochdale, died on May 2nd, at the age of 82. He was a member of the firm of J. H. Lancashire and Co., and was known as the "Father" of the Manchester Stock Exchange. Mr. Lancashire took a kindly interest in our work, and latterly not a year passed without a letter expressing his goodwill and commenting on his increasing age. In his last letter he says "My age of over 80 please accept as a reason for now resigning a task which for many years past has been also a pleasure. I enclose my usual contribution of 1 lls. Od. for expenses etc. of the year. Wishing you for the valued organization increasing support."

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Mr. J. E. Lonefietsp, of Kilcoleman, Enniskean, died on June 12th, 1913, as the result of a motor accident, the circumstances of which as narrated in a local newspaper were peculiar. Mr. Longfield was an enthusiastic angler, and was motoring home after a fishing expedition, when he diverted his attention from the steering to seize a fishing-rod which was slipping from the car. The motor swerved, cleared the fence at the side of the road and threw Mr. Longfield into a tree, to a branch of which, 25 feet above the ground, he clung unhurt for a time, but dropping thence received fatal injuries. Mr. Longfield served with distinction as a Magistrate for many years, and was extremely popular with all sections of the community, a circumstance of great significance in Ireland, where party and religious divisions cut deeper than elsewhere.

The Right Rev. William Epworth Meapz, D.D., Church of Ireland Bishop of Cork, died at the Palace, Cork, at the age of 81. He was educated at Trinity College, Dublin, where he had a distinguished career. He was successively Rector of Ardara, Co. Tyrone; Prebendary, Treasurer and Archdeacon of Armagh, and was appointed Bishop of Cork, Cloyne and Ross in 1894. His rainfall records were for more than 30 years a source of interest to him, and that at Cork was the most trustworthy and best kept record in the City. I have a very pleasant recollection of the kindly reception which the Bishop gave me when he presided at a Lecture on " Rain," in the City Hall, Cork, a few years ago.

Mr. Michael Moran, of Miltown Malbay, Co. Clare, who died in September, 1912, will be much missed by the compilers of British Rainfall because of his long and accurate record, now unhappily terminated, and the unvarying punctuality of his monthly returns. No record exists in the west of Ireland to take its place, and our readers will miss the regular appearance of the Observer's Notes from Miltown Malbay, which, notwithstanding a certain gloominess of outlook pardonable in a West of Ireland farmer, showed a living interest and a profound knowledge of the weather of his district.

Mr. John J. Myres, Assoc.M.Inst.C.E., of Flookburgh Lodge, Cark-in-Carmel, died on May 5th, 1913, at the age of 72. He was born in Preston where he was educated, and spent the greater part of his life as a member of the well known firm of Myres, Veevers and

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Myres, consulting engineers. His interest in rainfall arose from the importance of rainfall data in connection with waterworks engineering. Mr. Myres retired from business in 1904, and for the last few months of his life Mrs. Myres assisted him with the rainfall records, which she has most kindly promised to continue.

Deputy SURGEON-GENERAL SAMUEL BLACK Rog, C.B., died in July, 1912, at Ballyconnell House, Co. Cavan, aged 82. He graduated in Medicine at Trinity College, Dublin, and joined the Gordon Highlanders in 1855 as Assistant Surgeon, being sent out at once to the Crimea, whence he proceeded to India after the Mutiny. He took part in the Second Afghan War, and was decorated for his services on the march from Kabul to Kandahar. After serving at several stations in India, he again saw active service in the first Boer War. Subsequent to his retirement he filled the office of High Sheriff of Co. Cavan.

THE Firth MARQUESS OF SLIGO, who died on February 24th, 1913, at the age of 82, had a long career in the Indian Civil Service, from which he retired in 1886. He succeeded to the title in 1903, and kept two rainfall records on his great estates in the West of Ireland. His eldest son, the Earl of Altamont, now Sixth Marquess of Sligo, is much interested in rainfall observations.

Mr. Henry STILWELL, of Steepleton Manor, Dorchester, died on April 2nd, 1913, at the age of 79, after a very short illness. Mr. Stilwell, who was a typical country gentleman, much interested in all that concerned the welfare of Dorset, had been a rainfall Observer since 1890, and took over the charge of the collection of meteorological data for the Dorset Field Club when Mr. H. 8. Eaton relinquished it in 1906. He carried on the tradition of scrupulous accuracy which Mr. Eaton had established, and continued either to bring or send the Dorset records to Camden Square for comparison and criticism every year. Mr. Stilwell had made all arrangements for the work of the Dorset Field Club being continued by Mr. Henshaw, C.E., who took it over in 1912; but he continued his personal interest in the work to the very end, being engaged in the preparation of the copy of his own record for British Rainfall a day or two before his death. We shall greatly miss his friendly and courteous co-operation, for he had done much to maintain and extend the interest in rainfall which has made Dorset a model county in

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that respect, and we never applied to him in vain for help with regard to a late return or information as to new Observers.

Mr. CHARLES Upton Tripp, M.A., who died on August 28th, 1912, at Penleat, Altarnon, in his 71st year, was one of the most enthusiastic Observers who survived from the very early days of the British Rainfall Organization. Although in later years he did not himself observe the rainfall, he always took steps to see that his neighbours who did so sent in their records, and he never failed to write on the publication of each successive volume of British Rainfall expressing his pleasure in the progress of the work. We may be excused for quoting some of his recent remarks. He wrote in 1909, "I wish you and your splendid work, which I have never ceased to back up all I could since December, 1863, when my late father started the Altarnon Vicarage Climatological Station. Then we got Kew tested thermometers, and merited the approval of G. J. Symons when he paid his visit. Such is life!!" In 1910 he wrote, "I send the rainfall for what may be my last time. May God give power, etc., to others in the future to aid you in your noble work at 62, Camden Square, N.W. I so approve of all you are doing re Trustees, etc., etc. A capital plan! May you be guided to even greater success."

Observers deceased to July 31st, 1918.

Small capitals designate Observers with 30 years' records.

Andrews, J. ves wee .. Fleet Street, Beaminster.

Bain, Col. James Robert ... Bolton Hall, Gosforth.

Baines, George Henry, J.P. ... Bradgate, West Hartlepool.

Barratt, James William Henry... Holywath, Coniston.

BARTON, JAMES, C.E.... ... Farndreg, Dundalk.

Battiscombe, Major W. W. -.... Dolbear, Ashburton.

Beale, Charles Gabriel... ... Maple Bank, Edgbaston.

Beauchamp, Sir Reginald William

Proctor, Bart. ... va ... Langley Park, Norwich.

Becher, William ... wee ... Castle Hyde, Fermoy.

Blacker, Rev. Canon Robert

Shapland Carew a ... Woodbrook, Enniscorthy.

Blathwayt, Rev. Calvert... ... Braddon Rectory, Towcester.

Bott, Miss Caroline aan ... Hanbury Hall, Staffs.

Brand, Hon. Charles sina ... Littledene, Glynde, Sussex.

*Brothers, Alfred... wes ... Clare Cottage, Handforth.

Burke, Miss Rachel Edith ... Bulmer Lodge, Sudbury.

Cameron, Ewen... 4 of ... Rutherford House, West Linton.

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Observers deceased to July 31st, 1913-(continued).

Campbell, Peter ... aa ... Lignwood, Scone.

*Carr, Rev. Thomas William ... Long Rede, Barming, Maidstone.

*Chambers, Charles P.... ... Orchard Head, Broughton-in-Furness.

Conway, Rev. R. ... Les ... Catworth, Hunts.

Cope, Mrs. Cecilia Philippa The Manor House, Loughgall.

*Curzon, Col. George Augustus ... Westwood, Windlesham.

Daniel, Rev. Henry Arthur... Manor House, Stockland, Bridgewater.

*Dix, Mrs. M. H. ... wes vee Hampton Lodge, Durdham Down,

liftton.

*Dixon, Henry Isaac, J.P. ... Stumperlow Hall, Sheffield.

Doxon, Mr. S. H. ... wats ... Millbrook, Hollingworth, Manchester.

Drummond, Andrew Cecil ... Cadland, Hants.

*Godfrey, Robert, C.E.... ... Alne, York.

Harrowby, Dowager Countess of High Ashurst, Dorking.

*Henkel, F. W. att ... Walthamstow, London.

*Hodgkin, Dr. Thomas, D.C.L. ... Barmoor Castle, Beal.

HOLBROW, WILLIAM _... Derreen, Kenmare.

Hony, Rev. CHARLES WILLIAM,

M.A. a2 a awe ... Woodborough Rectory, Wilts.

Jackson, Laurence Morris .. South Park, Bodiam.

Jacques, Rev. William Baldwin.. Orlingbury Hall, Wellingborough.

Jamieson, Dr. T. F. ves Avonbank, Ellon.

*Jones, Owen Bis ves ... Blaenau Festiniog, Merioneth.

Karslake, Lewis, J.P. Redlap House, Dartmouth.

Kinc, H. J. _ ves ... Wrestlingworth, Potton, Beds.

Kitchin, William Henry, J.P. ... Ellerslie, Gosforth.

*Lancashire, Josiah Henry ... Deeplish Hill, Rochdale.

Leven and Melville, The Earl of Glenferness, Inverness.

Lewis, Miss Judith Elizabeth The High Beech, Hollington, Sussex.

*Longfield, J. E., J.P. bee Kileoleman, Enniskean.

Longworth, Dr. Stephen George.. Melton Asylum, Woodbridge.

MacBeath, D. wes ves ... Netherswell Manor Gardens, Stow-on-

the- Wold.

Melilriach, Duncan bes ... Bunawe, Tarbert, Loch Fyne.

Mackay, Rev. George S. .. U. F. Manse, Doune.

Macnaghten, The Lord Dundarave, Bushmills.

*MEADE, Rr. REV. WILLIAM

EDWARD, D.D., Bishop of Cork The Palace, Cork.

Meikle, Dr. Thomas Henry ... Strathearn Hydro, Crieff.
*MOLOHAN, MICHAEL _... . Ballyvaskin, Miltown Malbay.
*MYRES, JOHN J., C.E.... ... Flookburgh Lodge, Cark-in-Cartmel.

Newbitt, Thomas ... bes Crescent Avenue, Whitby.

NICHOLL, JOHN... = ... The Hemnalls, Epping.

Owen, H. G. bee bee ... Land Wick, Southminster.

Pearse, Rev. John Thomas, M.A. Edells, Markbeach.

Pole, Edwin bes .. Neath, Glamorgan.

Priestley, William wa .. Offord D'Arcy, Huntingdon.

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Observers deceased to July 81st, 1913-(continued).

Ramsay, Capt. John, late R.E.... Cams Hall, Fareham.

Rathbone, Mrs. Augusta Acheson Bassenfell, Cockermouth.

Richardson, Mrs. Henry Cherry Hill, York.

*Roe, Surgeon-Gen. Samuel Black Ballyconnell House, Cavan.

Sanderson, Samuel ves ... Cloverhill, Co. Cavan.

Schofield, J. W. ... bes ... Waterworks, Huddersfield.

*Slieo, The Marquis of _ Westport House, Co. Mayo.

Smart, Francis Gray, J.P., M.A. Bredbury, Tunbridge Wells.

Smith, Lady Cunliffe -... .. Suttons, Romford.

Soame, G. B. H. ... bes ... Staffordshire Potteries W.W.

Stileman, Frank, C.E.... Eastbourne Waterworks Co.

*Stilwell, Henry, J.P. ms ... Steepleton Manor, Dorchester.

Stott, John... ats vee .. Springfield Lodge, Haslingden.

TATE, ALFRED... sini .. Downside, Leatherhead.

Tate, Rev. Canon William, D.D. Stradbroke Vicarage, Suffolk.

TAYLEUR, Mrs. JOHN... .. Buntingsdale, Market Drayton.

TAYLOR, FREDERICK _... .. Fir Tor, Dorking.

Thorp, H. B. ves ~38 ... Mapledewell, Hants.

Todd, Rev. James Utten Aleombe, Somerset.

*Tripp, Charles Upton, M.A. -.... Altarnon, Launceston.

Turton, E. ... ves sas .. Collingham, Newark.

WALKER, Dr. JOHN WEST Spilsby, Lines.

Watters, James... ai ... Gearhameen, Co. Kerry.

Whitaker, James ... bes ... Hampton Hall, Salop.

Williams, Louis H. vee ... Edenderry, Kings County.

WINTLE, REV. FREDERICK

THOMAS WILLIAM, M.A. Bere Ferrers Rectory, Dorset.

Woakes, Dr. Edward _... Belvoir House, Fareham.

Woodward, J. bes bes .. Ardgillan Gardens, Balbriggan.

Wright, Mrs. wes ed ... Bolton Hall, Clitheroe.

Younger, Henry Johnston, J.P.,

D.L. ae ves vet ... Benmore, Argyll.

* See Biographical Note ante.

St) BRITISH RAINFALL, 1913.

OBITUARY.

By Dr. H. R. MILL.

On account of the earlier completion of the annual volume this year, this section on the present occasion deals with eleven months instead of twelve, and the number of losses to record is naturally less in proportion to the whole body of Observers than is usually the case, though, unhappily, the total number for the eleven months exceeds that ever previously recorded in twelve. It is many years since so serious a succession of losses has fallen upon the Organization and this not among the Observers only, but also amongst those whose assistance was given in other ways. The last but one has disappeared of the small band of wealthy friends of Mr. Symons, whose yearly subscription of ten guineas used formerly to be the kernel of our annual finances, and many other old supporters have ceased their help with their lives. With no desire to cast any reflections on the hearty good will of our old friends and supporters, we cannot, with the uncertainty of life so prominently before us, restrain a feeling of regret that more of them have not taken advantage of the Endowment Fund vested in Trustees to make the benefits of their good will permanent. The first of the body of Trustees to be called away, to whose memory a tribute appears in the first special article in this volume, has been Sir John Murray, who had in his life time made a handsome donation to the Endowment Fund. The object of that Fund is to furnish a compensation reservoir, as it were, for insuring the even flow of income at a rate equalling the necessary expenditure of the Organization, and eventually to permit of the increase of expenditure in many desirable directions. We know of several Observers who have made provision for bequests which will insure an annual income not less than their present subscriptions, and we are certain that several in the list which follows had as clear intention to do likewise as had those who promptly dismissed the matter from their minds by a timely codicil.

The following list contains the names of 95 Observers who died during the eleven months. We have obtained the ages of 55, which

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yield the high average of 74 years. Following precedent, we give below a special list of those Observers whose age we know to have exceeded 80, and it includes 20 names, one being a nonagenarian.

Observers deceased in 1913-1914, of 80 years of age or more.

Rev. John Richardson, M.A. sms 90 years.

Mr. F. J. Mitchell, F.G.S., F.S.A. bee 89,

Mr. M. B. Williams, D.L., C.E. - 89,

Rev. Prebendary T. H. R. Shand, M.A... 87,

Mr. T. E. Ravenshaw, J.P. i . 86,

Mr. Charles Ashby ... bee ves _ 85g,

Major-General G. W. Hanson _... bee 83 Cs,

Mr. Charles Jones, C.E., F.S.I. ... ves oS

Colonel C. H. France-Hayhurst ... oo 82 ,,

Mr. William Lucas ... wee vee bes 82. a,

Mr. E. B. Marten ... bee ves bes 82. ,, :

Mr. Frederick Turner _ _ vee 82. ,,

Mr. W. D. Howard bee bes wee 81 ,,

Mr. Thomas Lester ... bee kes bes 81,

Mr. R. D. Marshall ve bee bee 81 ,,

Mr. John Dale bes bes bes wee 80 ,,

Mr. Henry Kirwan, J.P. ... bes ves 80 ,,

Mrs. James Kitson ... vee ves vee 80. -,,

Mr. H. S. Poole ves bee _ a 80,

Colonel John Stewart, R.A., C.LE. ... 80. y,

Amongst these veterans, one, Mr. W. Lucas, of Hitchin, left a rainfall record of the astonishing duration of 62 years, he having begun

to observe in 1850, though it chanced that his record was not known

to Mr. Symons when the earliest volume of British Rainfall was

published. There are indeed, longer records in existence, but not

many and not by the same Observer throughout. Mr. Hayward also

left a record of 58 years and there was one other which just fell short

of a half century. The list of records of thirty years' duration and

Ite cords of Thirty years and upwards.

Mr. William Lucas The Firs, Hitchin .. 62 years.

Mr. Richard Hayward ... Chitterne House, Wilts... 58 _,,

Mr. F. J. Mitchell Llanfrechfa Grange, Mon. 49 ,,

Mr. S. Ford ... at ... Cowfold, Horsham . 47 ,,

Mr. Henry Kirwan Tuam, Co. Galway wx AP ay

Col. C. H. France-Hayhurst Bostock Hall, Cheshire ... 43 ,,

Mr. R. N. Hooper... .. StanshawsCourt, Chipping

Sodbury ses w. 42) ,,

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Records of Thirty years and upwards-(continued).

Mr. Thomas Colquhoun ..._ Rockfort, Buncrana ... 39 years.

Mr. Charles Jones _... ... Ealing, Middlesex .. 38,4,

Mr. J. Milne ... bes ... Archiestown, Morayshire.. 36 ,,

Rev. Robert Thomas ... Cabourne, Lincs. 86 ,,

Rev. Preb. J. J. G. Every Castle Hill, Bodmin . 8b 4,

Mr. John Dale re ... The Park, Macclesfield ... 34 ,,

Mr. Thomas Lester Firbank, Penrith 3& 4;

Mr. E. B. Marten _.... ... Pedmore, Stourbridge ... 34 ,,

Mr. T. H. Baker _... Brown Street, Salisbury... 33 ,,

Mr. George Galpin Clarendon Court, Bourne-
mouth ... bes wee OS 55

The Lady Knightley of

Fawsley ... mas ... Fawsley Park, Daventry... 33 ,,

longer kept by Observers whose deaths we have to record this year

includes the large number of 18 entries, and this, it must be

remembered, refers to the losses sustained in eleven months instead
of twelve as is usual.

The notes which follow are reminiscent rather than biographical,
and aim merely at recalling some trait of character which has struck
us in the course of personal acquaintance or in correspondence.

In a few instances we have to thank surviving friends for notes of
the careers of Observers who were not personally known to us.

Tue DuKe or Arey, K.G., K.T., who died on May 2nd, 1914,
at the age of 69, filled many public positions of the highest impor-
tance, and inherited much of the wide interest in intellectual and
artistic pursuits of his father, the Highth Duke. As the husband
of H.R.H. Princess Louise his tenure of the Governor-Generalship
of Canada was the first precedent for the Association of a member
of the Royal Family with the Vice-Regal power in the Overseas
Dominions. Both as a highland chief and as a Governor his personal
interest in the people for whose welfare he was responsible found
expression in the mnumerable ways instinctive to a generous,
sympathetic and unassuming nature. His love of nature, which
found expression in his many writings, was rather for the poetic than
the scientific aspect of things, but as the President of the Royal
Geographical Society he helped to promote geographical research,
and on his Inveraray estate he maintained a series of rain gauges in
an exceptionally interesting locality. He was much interested in
the introduction of plants and animals from other countries. The

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late Duke frequently referred appreciatingly to the work of the British Rainfall Organization, and the kindly interest he showed in my work during the last quarter of a century makes this tribute to his memory more than a formal duty.

Mr. T. H. Baker, who died at Salisbury on the 16th January, 1914, had been a rainfall Observer for 33 years. His interest in weather study was derived, as in so many cases, from his occupation as a farmer. He occupied Mere Down Farm, near Salisbury, for 42, years, and during that time he took an enlightened interest in the science of agriculture and was a frequent correspondent of The Times, regarding the state of the crops in his district. He wrote a work entitled ' ' The Records of the Seasons ' ' and had acquired a considerable reputation as an antiquary.

Sir Robert Stawell Ball, F.R.S., at one time Royal Astronomer of Ireland, later Lowndean Professor of Astronomy and Geometry in the University of Cambridge, and always the prince of popular lecturers, was so much associated with the story of the Heavens, that it seems almost an act of presumption to claim him as a meteorologist. Astronomers, however, have traditionally been saddled in this country with observations on the state of the atmosphere, and Sir Robert Ball supplied us for many years with the rainfall observations from Dunswick Observatory and for a time with those from Cambridge Observatory, before the latter were taken over by the Botanical Department of the University. His permanent reputation rests mainly upon his mathematical work, though he will be remembered by the present generation as a singularly successful exponent of astronomical discovery in popular language. He died on the 25th November, 1918 at the age of 73.

Mr. Harry Bevir, who died at Wootton Bassett, on the 18th January, 1914, was born at Cirencester in 1831, and after undergoing a legal training in the office founded by his father in his native city, he took up a practice in Wootton Bassett in 1874. He enjoyed a high reputation as a lawyer, as Clerk to several local councils, and for the last 18 years as Official Receiver in Bankruptcy for the Swindon district. He was a strong Conservative, a devoted Churchman and Churchwarden, and he had a long and distinguished Masonic career, commemorated in 1907 by the presentation of his

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portrait painted by Mr. Herman G. Herkomer. Since 1881 Mr. Bevir took regular daily observations of rainfall which were supplied to our pages in earlier years through the Wiltshire Rainfall Association, a body which performed excellent services in its time.

Mr. Joun Date, who died in February, 1914, at Macclesfield, aged 80, was a perfect type of the meteorological enthusiast, who without the advantages of means, social position, or scientific education, was able, by the strenuous following out of a true instinct for weather study, to confer substantial benefits on his own community, and establish a claim to remembrance in the scientific world. Mr. Dale was Secretary to the Useful Knowledge Society at Macclesfield in 1880, and as such was then in charge of meteorological observations which had been carried on since 1850 on the Society's premises. The erection of the School of Art, in 1880, rendered the former site unsuitable for continued observations, and Mr. Dale induced the Corporation to provide a site in the Public Park, Mr. Brocklehurst, Chairman of the Parks Committee, generously providing a set of instruments at his own expense. For 84 years Mr. Dale continued to give friendly supervision to the observations kept by the Park keeper, Mr. Roscoe, and made out the full returns each month for transmission to Camden Square and the Royal Meteorological Society. I had the pleasure of seeing Mr. Dale in Macclesfield some years ago and was struck by the affectionate solicitude with which he watched over the observations. It is a satisfaction to know that though never remunerated for his services Mr. Dale received from the Macclesfield Town Council a formal vote of thanks for his services, and the Corporation recognized with pride that he had secured for them the continuance of a record which gave to that town the almost unique distinction of possessing an unbroken series of observations extending over 65 years.

CoLoneL CHarites Hosken France-Hayvuurst, of Bostock Hall, Cheshire, who died on April 7th, 1914, was one of the many Crimean veterans who have rendered service by the patient accumulation of a long and careful series of rainfall observations, in this instance extending over 43 years. He was the eldest son of Canon T. France-Hayhurst, of Bostock Hall: he served in the Crimea, being present at the battles of Alma and the siege of Sevastopol. From 1888 to 1892 he commanded the 1st Cheshire Militia, and had been honorary

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colonel of the battalion since 1892. He was Sheriff for Cheshire in 1879, took an active part in local affairs, and was the oldest member of the Tarporley Hunt.

Mr. Ricuarp Haywarp, who died at his residence, Chitterne House, Salisbury Plain, on October 17th, 1918, at the age of 76, carried on a rainfall record from 1855, although the earlier years were not recorded in British Rainfall. The great age of this record and the attention bestowed upon it should have resulted in a most valuable series of observations, but, unfortunately, the rain gauge employed was a roughly constructed and ill exposed instrument, and { found it impossible to induce the late Observer to supplement it by one of an approved type. Length of observation, the keenest interest in observing, and the most careful compilation of records are all, we need hardly say, of little avail when the instruments employed are untrustworthy.

Mr. Cuartes Ginpert Heatucots, for many years Stipendiary Magistrate of Brighton, died on the 15th November, 1913, at the age of 72. He was the third son of the late John Moyer Heathcote, of Conington Castle, Peterborough, and was born at Conington. He was educated at Eton, and at Trinity College, Cambridge, of which he was a scholar. He obtained a first-class Classical Tripos in 1862. He was called to the Bar at the Inner Temple, and practised on the Norfolk Circuit. He was keenly interested in various forms of sport, particularly mountaineering and lawn tennis. He had been a member of the Alpine Club from 1864, and kept up his interest in the club all his life, attending its meetings every year. He was one of the Founders of the All-England Lawn Tennis Club, and acted frequently as judge at the earlier Wimbledon tournaments. After leaving Brighton in 1902 he lived at Kilmeston Manor, Alresford, Hampshire, was a J.P. for that county, and took a part in its judicial and educational work. Here also he commenced rainfall observations, and we are glad to learn that the record he established is being continued by his son.

Mr. Wiuutam DittworthH Howarp, who died in London, at the age of 81, on 9th December, 1913, was one of the numerous descendants of the famous climatologist of London, Luke Howard, whose names have figured in the annals of British Rainfall. Like so many

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members of the Society of Friends, Mr. Howard took up the observation of rainfall at an early age, and his observations at Tottenham, in continuation of those of his illustrious grandfather, appeared in the first volume of British Rainfall, 1860-61. Mr. Howard, who followed chemistry as a profession, was a life-long friend and generous supporter of successive Directors of the British Rainfall Organization, though he did not himself conduct observations during the last fifty years of his life.

Mr. Henry Kirwan, J.P., of Gardenfield, Tuam, Co. Galway, who died on 18th November, 1913, at the age of 80, was a resident Trish landlord, who devoted his life to the improvement of his estate and the welfare of his neighbours. He took a leading part in all schemes of public utility in his neighbourhood, and had the reputation of being a courageous and independent magistrate, while remaining an extremely popular man with all classes and creeds. Mr. Kirwan took a keen interest in rainfall observing and kept his record at Gardenfield for 47 years, a very remarkable period, and we believe that the record has never failed to appear in British Rainfall since 1869. Mr. Kirwan took the observations personally until within two months of his death, and we are happy to say that his son, Mr. Robert J. Kirwan, County Surveyor of Sligo, has made arrangements for continuing the Tuam record.

Lady KNIGHTLEY OF Fawsley, widow of the late Lord Knightley of Fawsley, commenced to record rainfall at Fawsley Park, near Daventry, in 1880, and for thirty years was one of our most interested correspondents. Although her activities lay mainly in other spheres, Lady Knightley took a large and enlightened interest in various branches of science, and she was one of the many rainfall Observers who took part in the South African meeting of the British Association in 1905. In her own county she filled all the public positions open to a woman, having been a district councillor, a churchwarden, and chairman of her parish council. A strong Conservative and Imperialist in politics, she was equally convinced of the justice of the demand for the enfranchisement for women, and of the uselessness and wickedness of the method of militancy. She was interested in all schemes for the welfare of women, and took a prominent part in the Emigration movement, having been President of the British

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Women's Emigration Association and Editor of The Imperial Colonist. Lady Knightley died on the 2nd October, 1918.

Mr. Witalam Lucas, The Firs, Hitchin, who died on the 5th of May, 1914, at the age of 82, was by no means the oldest man amongst the thousands of Observers of rainfall in our books, but he had, we believe, the distinction of having kept up personal observations for a longer period than any other. Mr. Lucas was a constant correspondent, and his annual letters accompanying his returns were always sure to contain something fresh and tersely expressed about his views on weather and the world's progress. As an illustration of his style and an indication of his readiness to revise his point of view, I cannot do better than quote *im extenso* the last we received from him. A quaint characteristic of Mr. Lucas was that he did not use a cheque book, but always sent his subscription in the form of an order on his banker written on a torn half sheet of note paper.

1st January, 1911.

'T send you my Annual Subscription and return for the year, but I shall not send any more returns. Ever since 1849 have I been keeping them, and learn less of the prospects of weather each year. I feel sure that this cursed Marconi telegraphy has undone our weather permanently. As a farmer, a fox-hunter, and as a fisherman, no one has longed more to get into the secret of the weather, but after 60 years I am more at sea than ever."

, 31st December, 1911.

'T am ashamed to write to you after my cursed folly in believing in the "' Marconi Scare," and that summers were abolished, and here we have had the most tropical period ever dreamed of, but, alas, another record I was going to establish, I hoped-the wettest December-has just missed fire ; however, our springs will be secured by a month of over 5 inches.

Again expressing my shame that I should be the victim of old wives' tales."

Mr. Frank JOHNSTONE MITCHELL died at his residence, Llan-frechfa Grange, near Newport, (Mon.) on the 11th of October, 1913. He had the longest personal record of rainfall in Wales, having kept up observations continuously for 49 years. Mr. Mitchell was an ardent meteorologist and frequently wrote to the Press on weather topics.

Mr. Mitchell, who was in his 90th year, was born in London and educated at St. John's College, Cambridge. He went to live at Newport in 1853, when he became one of the partners of the Dos

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Nail Works. Afterwards he was Chairman of Messrs. J. J. Cordes and Co. (Limited), but he retired from business ten years ago. Mr. Mitchell actively interested himself in Church work in Newport. In 1876 he founded the Mission Church of St. John the Baptist, and in 1898 he secured the formation of the parish of St. John the Baptist by providing an endowment and a vicarage. He also rebuilt, at a cost of several thousand pounds, the parish church of Llanfrechfa Lower, near Newport. He was Deputy-Lieutenant for Monmouthshire, High Sheriff in 1868, and a county magistrate. He was greatly interested in antiquarian research. Mr. and Mrs. Mitchell celebrated their golden wedding in January, 1910.

Dr. Rospert TRamLL Omonp, who died in Edinburgh on the 27th January, 1914, at the age of 56, built his own monument in the Meteorological Records of the Ben Nevis Observatory, of which institution he was the Superintendent from its foundation in 1883 to 1895. Long residence in the terrible climate of that mountain top undoubtedly aggravated, if it did not induce, the illness from which Dr. Omond suffered and of which he eventually died. There never was a more devoted Observer, nor a more painstaking student of meteorology, and the concentration of his efforts to the aim first of directing the Observatory and second of elaborating and publishing the results, have ensured the coupling together to all time of the names of the man and the mountain. He was one of the pioneers of upper air observations, and by devoting himself to what, at that time, appeared a circumscribed and unattractive field of work, he lost the opportunity of an easier life and a wider appreciation of his personal gifts. Close as my association with Omond's scientific work was in the early days of the Ben Nevis Observatory and of the Scottish Marine Station, the lasting memory that remains with me is of his invincible cheerfulness. He was the most humorous man I ever knew and in conversation it used to be a peculiar joy with him to lead strangers to suppose that the stammer which he could never overcome was assumed as a joke. His letters were always delightful, although latterly the crippling of his hands by chronic arthritis must have made writing very painful. Dr. Omond was honorary secretary of the Scottish Meteorological Society from 1903, and last year received the honorary degree of Doctor of Laws from the University of Edinburgh.

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Dr. Henry FRANKLIN Parsons died on October 29th, 1913, at his residence, Oakhyrst, Park Hill Rise, Croydon, where he had kept rainfall records for 17 years. He was 67 years of age and had retired from his position in the Medical Department of the Local Government Board on reaching the age limit in 1911. Dr. Parsons had had a distinguished career as a Medical Officer of Health in Yorkshire before joining the Local Government Board. He was President of the Croydon Natural History and Scientific Society, the services of which to the study of rainfall in Surrey and surrounding districts are well known.

Sir Wintiam Henry Preece, K.C.B., F.R.S., although he only commenced the personal observation of rainfall in his 79th year, had long been interested in the work of the Organization, and never failed to enquire about it at the Meetings of the British Association of which he was a constant frequenter.

Sir William, who died at Penrhos, Carnarvon, on 6th November, 1913, in his 80th year, had served the Telegraph Department of the Post Office as Electrical Engineer for many years. He will be remembered as one of the greatest pioneers of wireless telegraphy, having utilized this method for communicating between Mull and the mainland during the breakdown of a cable, some years before Mr. Marconi's application of Hertzian waves, and he was the first to assist Mr. Marconi with the opportunity of making experiments in Great Britain.

Colonel John Stewart, C.I.E., of Ardvorlich, Perthshire, died on the 8th January, 1914, in his 81st year. He entered the Bengal Artillery in 1851, and was employed during the Indian Mutiny in forwarding supplies to Sir Henry Havelock's field force for the relief of Lucknow garrison, receiving the Mutiny Medal 50 years later. After the restoration of peace he founded the great Government Harness Factory at Cawnpore, which furnishes the whole Indian Army with leather equipments. On succeeding to the Ardvorlich estate he retired from India in 1888, and settled down at his ancestral seat. He was an ardent Unionist and an excellent landlord.

Miss L. A. Suter, who died on the 10th December, 1918, at the age of 78, continued the rainfall record at Hunmanby in the East Riding of Yorkshire, on the death of her brother-in-law, Rev. T. 8.

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Ackland, who died at the age of 75 in 1893. Though distressed at the want of interest in these observations locally, Miss Suter kept them up most perseveringly, in spite of failing health, almost to the end of her life, and it is gratifying to know that the work will henceforth be carried on by a member of the late Mr. Ackland's family.

Mr. Martin JOHN Sutton was born at Reading in 1850, and, at the age of 16, he entered the famous seed business founded by his father and uncles. Five years later he was made a partner and since 1887 he had been the head of the firm of Sutton and Sons. He was one of the most prominent agriculturists of his time, and devoted no less attention to the welfare of agricultural science than to the improvement of agricultural produce through the researches and investigations carried out on his seed farm at Reading. He was one of the leading supporters of the Royal Agricultural Society, and a strong upholder of the practice of holding the Annual Shows in different parts of the country. Mr. Sutton took a large part in Church work and gave much attention to the problem of religious education. He served as Mayor of Reading in 1904, and presented the town with a statue of King Edward. Mr. Sutton died suddenly in London on the 14th December, 1918.

Observers deceased to June 80th, 1914.

Small capitals designate Observers with 30 years' records.

Ainslie, Charles Alexander, J.P. Swinton Bank, Peebles.

Alford, T. ... vee bee ... Hagley Park Gardens, Hereford.

Anderson, Rev. J. vee ... Alvie Manse, Aviemore.

Anstruther, Misx L. 8. ... Hope Lodge, Moffat.

*Argyll, The Duke of, K.G., K.'.,

G.C.V.O., G.C.M.G. ... Inveraray Castle, Argyll.

Ashby, Charles _... Cambria House, Staines.

*BAKER, T. H. wi tee ... Brown Street, Salisbury.

*Ball, Sir Robert Stawell, D.sc.,

LL.D., F.R.S. ... vee ... Cambridge.

Barwell, Rev. Canon Arthur

Henry Sanxay ves ... Bletchingley House, Surrey.

Bennett, W. sina ava Rangemore Gardens, Burton-on-Trent.

*Bevir, Harry bes ve ... Wootton Bassett, Swindon.

Bigg-Wither, Col. A. C. ... Tilthams, Godalming.

Bloomfield, Rev. Edwin Newson Guestling Rectory, Hastings.

* See Biographical Note ante.

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Observers deceased to June 30th, 1914-(continued).

Bosanquet, Adm. George Stanley Bitchet Wood, Sevenoaks.

Bradshaw, Lieut.-Col. Oswald

Mosley Le vee Lansdown House, Merrow, Guildford.

Brunton, James... a ... Broomlands, Kelso.

Cameron, Miss _... a ... Rutherford House, West Linton.

Cawdor, Rt. Hon. Earl, P.C., b.L. Stackpole Court, Pembroke.

COLQUHOUN, THOMAS, J.P. ... Rockfort, Bunerana.

Crawley, Francis ... ves Stockwood, Luton.

*DALE, JOHN ves - The Park, Macclesfield.

Daubeney, Major Walter Augustus Hill Place, Bishops Waltham.

De Freyne, The Lord _... ... French Park, Co. Roscommon.

Dixon, Caleb S., C.E. Birstwith, Leeds.

Dowding, H. vee vee Farnham Castle Gardens, Surrey.

Dunlop, William Hamilton ... Doonside, Ayr.

Dyne, Rev. William Tylden, M.A. LEverereech Vicarage, Bath.

EVERY, REV. PREB. JOHN JAMES

GLENCROSS ... a ... Castle Hill, Bodmin.

Field, Miss Grace ... eae Hampstead, London.

Filgate, T. F. ves _ ... Lissrenny, Ardee.

Ford, Alfred bee bee Gawthorpe Hall, Burnley.

ForD, 8S. _... bes ve ... Cowfold, Horsham.

Fowler, Rev. James ves Templeton Rectory, Tiverton.

*FRANCE-HAYHURST, COL.

CHARLES HOSKEN Bostock Hall, Cheshire.

GALPIN, GEORGE ... be Clarendon Court, Bournemouth.

Glanville, Miss Mary Agneta ... Langham Hill, Ivybridge.

Gray, Rev. Robert Daniel Horace Selham Rectory, Sussex.

Hanson, Major-General George

William : vee ... High Field, Tiverton.

Harrison, Capt. Jasper Nicolls,

late R.M.LI. . . a ... Saling Grove, Essex.

*HAYWARD, RICHARD Chilterne House, Wilts.

*Heathcote, Charles Gilbert ... Kilmeston House, Alresford.

Holmes, Thomas Barton, J.P. ... Hornsea, Hull.

Hooper, ROBERT NATHANIEL... Stanshaws Court, Chipping Sodbury.

*Howard, William Dillworth ... Regent's Park, London.

Inman, Rev. Simon, M.A. ... Finsthwaite Vicarage, Lancs.

JONES, CHARLES, C.E., F.S.I. Ealing, Middlesex.

Kennard, J. vee ve ... Courts Hill, Haslemere, Surrey.

Kidston, Capt. Archibald Glen... Gwernyfed, Breconshire.

*KIRWAN, HENRY, J.P. Tuam, Co. Galway.

Kitson, Mrs. James bee May Lodge, Scarborough.

*KNIGHTLEY OF FAWSLEY, THE

LADY ... vee ves ... Fawsley Park, Daventry.

LESTER, THOMAS ... ae ... Fir Bank, Penrith.

Lloyd, Herbert... won .. Pontardawe, Glamorgan.

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Observers deceased to June 30th, 1914-(continued).

Lovejoy, H. F. ____ ve ... Northgate House, 'Totnes.

*LuUCAS, WILLIAM ... ves ... The Firs, Hitchin.

Lyon, 8S. ... bes vee ... Cricket St. Thomas, Chard.

Malcolm, George ... pes ... Fernie-knowe, Fort William.

Marshall, Reginald Dykes ... Castlerigg Manor, Keswick.

MARTEN, EDWARD BINDON ____ Pedmore, Stourbridge.

Martin, Thomas ... bes ... Lee Moor, Devon.

Mellor, W. M. F. ves ... Rooklands, Torquay.

MILNE, J. ... _ are ... Archiestown, Morayshire.

*MITCHELL, FRANK JOHNSTONE Llanfrechfa Grange, Monmouth.

Morton, Alex. vee we Cullen House Gardens, Banffshire.

Moss, John Snow .. a ... Wintershill Hall, Bishops Waltham.

"Newbery, Henry Christian, M.A. Haverhill Vicarage, Suffolk.

*Omond, Robert Traill, LL.D.,

F.R.S.E. _ ss ... Church Hill, Edinburgh.

Otter, Robert Henry, M.A., J.P. Queenwood, Chertsey.

*Parsons, Dr. Henry Franklin Park Hill Rise, Croydon.

Perkins, Joseph ... ve ... Westbury Gardens, Peterstield.

Poole, Henry Sanderson ... Fairfield, Cobham.

*Preece, Sir William Henry, K.C.B.,

F.R.S., LL.D. Penrhos, Carnarvon.

Ravenshaw, Thomas Edward, J.P. South Hill, Worth, Sussex.

Richardson, Rev. John, M.A. Sandy Rectory, Bedfordshire.

Roberts, Rev. Robert Jones, M.A. Hopesay Rectory, Salop.

Shand, Rev. Prebendary Thomas

Henry Rodie, M.A. ... Clayton Rectory, Hassocks.

Smith, Miss Janet C. ____ ... The Mount, Halse, Taunton.

Smyth-Osbourne, John Smyth Ash, Idedesleigh, Devon.

Southey, Rev. Henry Willes, M.A. Bengoe, Hertford.

*Stewart, Colonel John, R.A., C.I.E. Ardvorlich, Perthshire.

Strange, John Thomas... Firlands, Sulhamstead, Berks.

*Suter, Miss L. A. ... bee ... Hunmanby, Yorks.

*Sutton, Martin John, J.P. ... Earley, Reading.

THOMAS, REV. ROBERT ... Cabourne Vicarage, Lines.

Turner, Frederick - ... Parkside, Ipswich.

Vincent, H. B. ... ve ... Royal Victoria Hotel, Swanage.

Vincent, Sir William, Bart, M.A. D'Abernon Chase, Surrey.

Ward, Mrs. Henry wn ... Rodbaston, Penkridge.

Warwick, G. - ves ... Faccombe Manor Gardens, Andover.

Whish, George Henry Martin ..._ Kensington, London.

Whiting, Richard M. ____ .. Credenhill, Hereford.

Williams, Morgan Branshy, D.L. Killay House, Swansea.

Wilson, John bee bes ... Thornton Hall Gardens, Lanarkshire.

Winn, Rev. William Henry, M.A. Dunsfold Rectory, Godalming.

Wyndham, Henry, C.F. ... Thornton Heath, Surrey.

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THE number of Observers, past or present, reporting to the British Rainfall Organization grows steadily larger. It is inevitable that every year should bring the loss by death of many old friends and co-workers who have taken their part in building up and maintaining what has now become a great national undertaking. The number of names in the Obituary list for the twelve months ending on June 30th, 1915, is, we are happy to say, scarcely larger than that for the 11 months reported in our last volume, but it contains the names of 99 Observers, many of whom were among the earliest of Mr. Symons's contributors. We would gladly, were it possible, pay a last tribute to every one by giving a biographical notice, but in many instances, apart from a common interest, our acquaintance has not extended beyond correspondence, and we have therefore been obliged to confine personal notes to a few.

Of the 99 Observers whose names appear in the list we have been able to learn the age of 66, and of these the average age was 71 years. One only, the veteran Earl of Courtown, was a nonagenarian.

Observers deceased in 1914-1915 of 80 years of age or more.

Rt. Hon. the Earl of Courtown 91 years Mr. Edward Sharman, J.P. 85 years
Miss A. J. Edlmann .. 87 5, Mr. John Smyth, M.A.,C.E. 84 ,,
Rev. John Hart . . . 87 ,, Sir Walter Gilbey, Bart. . . 83 ,,
Mr. F. C. Pawle _ . . 87 ,, Rev. W. H. Freeman os BE ss
Rev. John Dickinson .. 85 ,, Mr. R. F. Birch oe .. 80 ,,
Mr. A. T. Miller ws .. 85 ,,

No fewer than 23 of the records of deceased Observers had reached the length of 30 years, and of these 11 exceeded 40 years and two extended to the great duration of 54 years, a remarkable achievement for an individual Observer. The following are the records of 30 years or more.

Record of Thirty years and upwards.

Mr. J. Smyth.. ea .. 54 years Mr. R. F. Sturge... .. 45 years
Mr. E. Sharman . es OE x Sir James Rankin, Bart. . . 42 ,,
Rt. Hon. Lord Courtown .. 49 ,, Mr. 8. Alexander... . 41 ,,
Mr. E. T. Dowson . . . 49 ,, Col. W. B. Bryan . . . 4) ,,
Rev. W. L. W. Eyre .. 48 ,, Mr. Peter Murdoch . . . 41 i,,
Mr. D. Doncaster... .. 45 ,, Rt. Hon. Lord Jersey . 39 .,
g

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Record of Thirty years and upwards-(continued).

Mr. W. Fisher ee .. 38 years Mr. Philip Wright 32 years

Mr. E. Simpson... .. 38) ;; Mr. C. W. Lane... .. 31 ,,

Mr. F. Griffith a .. 35 4, Rev. W. T. Tyrwhitt-Drake 31 ,,

Rt. Hon. Lord Merthyr .. 35 ,, Mr. W. Piffe Brown .. 30 ,,

Mr. E. Rosling - .. 334 ,, Miss D. Prater we .. 30 ,,

Rev. Preb. W. Selwyn .. 34 ,,

Mr. Henry Betz, of Greenfield, West Kirby, Cheshire, died on the 4th July, 1914. He was appointed a Justice of the Peace for Wirral, in 1900, and was for many years a Governor of the Caldy Grange Grammar School. Mr. Bell was also one of the Foundation-Managers of the West Kirby Church of England School, and a staunch Churchman. He retired from business many years ago, and devoted himself to local affairs. His rainfall record at Greenfield commenced in 1890. Mr. Bell personally inspected the rain gauge each morning, until two years before his death, when owing to declining health, he was compelled to intrust the reading of the instrument to the head gardener.

Mr. Joun Bisset, J.P., Thornhill, Insch, Aberdeenshire, after an illness extending over three years, died in his 71st year, on the 24th March, 1915. Mr. Bisset was a native of the town, and got his early education at the village school, Insch, whence he passed on to the Grammar School and University of Aberdeen. He returned to his native town to assist his father, who was a bank agent, and succeeded to the agency on his father's death. Mr. Bisset retired from business in 1900. He took a keen interest in public affairs, and held a seat on most of the Local Boards; he also filled the Provost's chair for three years. He was much interested in mechanics, and possessed a high-class turning-lathe with many accessories, including geometrical chucks. He was also interested in many branches of science, and had a good reflecting astronomical telescope with spectroscope and other attachments. He was, besides, an expert photographer, and had a fine collection of photographs of his many journeys in the East and elsewhere. He had a finely equipped private meteorological station provided with a barograph, a thermograph, a Campbell-Stokes' Sunshine Recorder, and a Hyetograph, the record from which was the first from north of the Tweed to appear in British Rainfall.

Mr. WittlaM PirreE Brown, who was born in Gloucester seventy-eight years ago, spent his life in that city, where he practised as a

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solicitor, and he died there on July 14th, 1914. He never married and took little part in public affairs, but he devoted his leisure to scientific studies, especially in geology, astronomy and meteorology, and his holidays for many years to walking tours in Wales. One of his most interesting contributions to meteorology was the exposure of a minimum thermometer on the summit of Glyder Fach, one of the highest peaks of the Snowdon group of mountains, which, read on the occasions of his various visits, supplied the first data as to the lowest temperature at that altitude, and he read more than one valuable paper on the subject to the Royal Meteorological Society.

Coronet Wiluiam Boots Bryan, V.D., Chief Engineer of the Metropolitan Water Board from the creation of that body in 1904, died suddenly on October 27th, 1914. He was a native of Nottingham and after training as a civil engineer was Borough Engineer of Burnley, 1873-1876, then Borough and Water Engineer at Blackburn from 1876 to 1882, when he was appointed Chief Engineer to the East London Water Company. In all these positions Mr. Bryan realized the importance to the Water Engineer of accurate records of rainfall and for a time kept a rain gauge at his own residence. He was an ardent volunteer having been Lieut.-Colonel of the 2nd Tower Hamlet Rifle Corps from 1889 to 1908, and Honorary Colonel of the 17th Battalion of the County of London Regiment. He was always much interested in our work.

Carprain Joun Canper, of The Clett, Castletown, Caithness, died on December 24th, 1914. His career was one of interest and variety such as rarely falls to the lot of a member of the British merchant service. He came of a sea-going family ; his father was a famous skipper in the Baltic trade and his grandfather was in the Royal Navy in the great days of the Napoleonic wars. John Calder served his apprenticeship on his father's ship, but when a young man he shipped as quartermaster on a new gunboat, built at Aberdeen for the Chinese Government, for the suppression of piracy in the Chinese seas, and in this service he remained until he reached the rank of Captain. He was then engaged in harbour work in China and for a time before the Japanese war he was in charge of Port Arthur. On leaving China he acted for the Chinese Government as a superintendent of ship-building in England and Germany, and at length quitted active service and settled

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in his native village, where he busied himself with scientific pursuits, including the study of meteorology and the enthusiastic recording of rainfall. He was a member of many local boards, including the County Council of Caithness, for which county he was a Justice of the Peace. He was an elder of the Church of Scotland and on several occasions a member of the General Assembly. He was universally beloved for his kindly and unobtrusive nature and he took as real a pleasure in helping the good works of his quiet parish as he had done in fighting the pirates of the China Seas or regulating the troublesome traffic of Eastern ports.

Mr. CHartes Epwarp Curimes, of Selwood, Rotherham, who died on the 28th November, 1914, was the surviving Principal of the firm of Guest and Chrimes, Rotherham. He was 75 years of age, and for over 60 years had been associated with the firm of which he eventually became the head, and it was generally due to his efforts that the reputation of Messrs. Guest and Chrimes became as famous as it now is. He was naturally of a retiring disposition, taking no active part in public matters, and what services he rendered in this direction were given in @ quiet way, as were his benefactions to local institutions, which were considerable. The greater part of his time was devoted to business and care for his workers, the fact that many men have been employed by the firm during the whole of their working career being a testimonial to his management, kindness and generosity. The late Mr. Chrimes continued the interest in rainfall work shown by his father, Mr. R. Chrimes, who in co-operation with Mr. Symons, carried on the historic experiments at Rotherham on the influence of the height and exposure of rain gauges on the catch of rain. For many years he was a generous contributor to our funds.

The fifth Eart or Courtown died at his ancestral seat, Courtown House, Co. Wexford, on the 28th November, 1914, at the age of 91. He was educated at Eton and subsequently at Geneva, under the charge of the Rev. Merle d'Aubigny, the well-known historian of the Reformation. He served for five years in the Grenadier Guards, but returned to Ireland to assist his father in relieving the distress consequent on the great famine. He succeeded to the title in 1858 and resided on his estates to the end of his long life. He took a keen personal interest in the record of rainfall from the year 1869, when it first appeared in

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British Rainfall, and signed every annual return down to 1918. Lord Courtown was a frequent correspondent of the successive Directors of the Rainfall Organization, and he was one of the few Observers whose life sufficed to fix the true average rainfall of his station.

Mr. Epwarp THEODORE Dowson, J.P., of the Old House, Geldeston, near Beccles, died on October 4th, 1914, at the age of 68. He was the only son of the late Mr. Edward Utting Dowson, of Geldeston, and his life was devoted to good works in connection with local philanthropic agencies. He was best known as the honorary Diocesan Secretary for the Norwich Diocese of the Church of England Society for providing homes for waifs and strays. His interest in meteorology dated from a very early period, and his record commenced to appear in British Rainfall, 1866, and has never been absent since. It was kept with remarkable care and accuracy and serves as a standard for the rainfall of the coast district of East Anglia. We are happy to know that his sister has undertaken to continue it. Mr. Dowson was always keenly interested in the trial of automatic meteorological instruments, and contributed several papers to the Royal Meteorological Society, of which he was a fellow for 85 years. Some of the most important of these dealt with the indications of the Redier mercurial barograph.

Tue Rev. Wittiam LeicH Wititiamson Eyre, Rector of Swarraton, Alresford, who died on October 25th, 1914, at the age of 78, was a life-long student of natural science, devoting himself principally to botany, conchology, and meteorology. He was a fellow of the Royal Meteorological Society for 44 years, and was one of the original members of the British Mycological Society, being President in 1903. Mr. Eyre contributed meteorological observations to the Royal Meteorological Society from 1880 to 1911, and had supplied rainfall records to the British Rainfall Organization since 1869. His observations at Swarraton were continued without a break from 1875 till his death.

Mr. Witttam Fisuer, of Wentworth Castle Estate Office, Barnsley, Yorks, died on November 1st, 1914, at the age of 73. He had been estate agent to the Wentworth family for 33 years, and retired 10 years ago. He was born at Strathbraan, Dunkeld, Perthshire. After completing his education he went to Edinburgh to qualify for estate management.

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Having served some time on the Belvoir Castle Hstate he received the appointment at Wentworth Castle. He was a staunch Unionist and a devoted Churchman. The Barnsley Agricultural Society, as well as the Barnsley and Stainborough Literary Society found in him a warm friend. He was much interested in the Barnsley branch of the Burns Club, and was one of the oldest members of the Scottish Arboricultural Society. He took great interest in education, and was entrusted with the plans and carried out the work of the new schools at Hood Green, as well as the Parsonage House. He was recognized locally as an authority on meteorology and was a frequent contributor to the press. He had an unbroken record in British Rainfall since 1877, and this record, we are happy to say, is being continued by his son.

Mr. Erasmus Gower, J.P., of Castle Malgwyn, Pembrokeshire, died in June, 1914, at the age of 81. He was the eldest son of Mr. R. F. Gower, of Glandovan, Pembrokeshire, and as a young man he served in the 12th Lancers, retiring as Captain. The rainfall record at Castle Malgwyn which was kept by the gardener, was peculiarly valuable on account of its length; it first appeared in British Rainfall in 1872, and to our great regret it has now come to an end, the late Mr. Gower's son, who succeeded him, being a prisoner of war in Germany.

Tue Rev. Joun Hart died on May 81st, 1914, at Aberlady, at the age of 87. He was born at Aberuthven, Auchterarder, in 1827, and was educated there and at Edinburgh University, where he studied for the ministry of the Church of Scotland. His first charge was at Methel, in Fifeshire, whence he moved to Dundee in 1859, where he attracted an immense congregation. He was presented to the Parish of Aberlady in 1878, by the father of the late Earl of Wemyss, who is said to have described him as "the Spurgeon of Scotland." With the late Earl he was always on terms of closest intimacy and it was often said that the earl and the minister ruled the parish between them. Mr. Hart was a typical specimen of the old Scottish parish minister. He was a tall handsome picturesque figure, with the swinging stride of a man in the habit of walking over hills. His chief recreation was gardening, and he was a famous fruit grower. Shortly before his death Mr. Hart secured the establishment of a new rainfall record in the Earl of Wemyss's garden at Gosford House, with the express object of insuring the continuance

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of observations at Aberlady in the event of his successor failing to keep up his old record at the manse.

Mr. Antour Francis Jonss, of Homefield Cottage, Cranleigh Common, who died on 24th December, 1914, aged 78, was a meteorologist almost from infancy. His niece, Miss Pauline Jones, has most kindly sent to us for preservation in the Library at Camden Square, the last '' Weather Book ''' kept by Mr. Jones, a small octavo volume strongly bound and containing a singularly clearly kept record of eight instruments read daily from January, 1907 to 22nd December, 1914, he having kept it up to within two days of his death, when he had already ruled the columns for January, 1915. The book contains innumerable notes on garden phenomena, summaries of the months, and placed in the book are letters and cuttings about the weather in other districts. Miss Jones also sent for our inspection Mr. Jones's first '' Weather Book''' for the period September, 1849 to December, 1850, when he was only twelve years of age, a most interesting forerunner of the careful records of his mature years. Miss Jones supplies the following interesting particulars which make us regret keenly that the retiring modesty of Mr. Jones's nature deprived us of the pleasure of making his personal acquaintance. She says, '' He had travelled much on the continent, generally with two or three chosen friends, by whom he was called '' the colonel,'' as he took the lead, having the artist's eye for beautiful places. If possible he always went on the rivers from place to place. The Danube had a great fascination for him. For the last thirty years after he left Mincing Lane his chief hobbies were photography, reading, gardening, and last, but by no means least, his keen interest in the }British Rainfall Organization."

Mr. Cuartes Winiiam Lane died at Kettermg on November 24th, aged 76. He was born in Tewkesbury and after preparing for the Civil Service reasons of health led him to take up the study of law. After some time at Pershore and later in London he came to Kettering in 1882, where he established himself as a solicitor, and soon became clerk to many public Boards. He was an authority on Local Government matters generally and on the Poor Law in particular, and his high character and amiable personality made him one of the most popular citizens of Kettering. In private life he devoted himself to the ambulance movement; he was a musician and was highly proficient in private

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theatricals. His ardent Shakespearian studies once led to his arrest as a spy during a visit to the scenes of '"" Romeo and Juliet "" in Italy during the war with Austria fifty years ago. Mr. Lane found time to be an enthusiastic meteorological Observer and kept his rainfall record with his own hand up to the last week of his life.

Lorp Mertuyr, K.C.V.O., died on August, 1914, at the age of 77, after a remarkable career. William Thomas Lewis was born in Merthyr Tydvil in 1837, where his father was engineer of the Plymouth Iron Works. He left school before he was thirteen and commenced work as an apprentice in the Iron Works. At the age of eighteen he became an assistant to the Chief Engineer of the Bute Estate, whom he succeeded in 1867. He joined the Institution of Civil Engineers at an early age and made himself master of the complicated system of mining engineering practised in South Wales, and took a leading place amongst the coal-owners of the country. He had more to do than any other man with the development of the South Wales coal-field, and his interest in the condition of the miners led him to work for the amelioration of the conditions of labour as strenuously as for the increase of production. He succeeded in establishing the sliding scale of wages by which remuneration was adjusted to the price of coal. Apart from this he devoted a great part of his time to philanthropic work. Mr. Lewis was knighted in 1885, created a baronet in 1896 and a peer under the title of Lord Merthyr in 1911. As Lord Bute's agent he established rain gauges at various points and was a generous supporter of the work of the Rainfall Organization in which he took a personal interest.

Sir James Rankin, Bart., of Bryngwyn, Herefordshire, died on April 17th, 1915, at the age of 72. He was educated at Trinity College, Cambridge, where he took a first-class in the Natural Science Tripos in 1865. He was the Conservative Member of Parliament for Leominster from 1880 to 1885, and North Herefordshire from 1886 to 1906 and from 1910 to 1912. He devoted special attention to educational questions and published several papers on social and scientific subjects, including state emigration, old age pensions, and the housing of the poor. Sir James took great pleasure in his fine estate, and I always remember the affectionate pride he took in the fine trees to whose beauties he introduced me when inspecting the rain gauge on one occasion. He was

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created a baronet in 1898 and filled all the local public positions which a conscientious landowner makes it his duty to occupy.

Mr. A. M. Ropcggr, Curator of the Perthshire Naturalists' Society's museum in Perth, died in January, 1915. He was a man of unbounded energy and enthusiasm in the study of all branches of natural science, though primarily a biologist, and after a training in the Zoological Department of University College, Dundee, he was appointed to the Perth Museum about 20 years ago and did much to build up the reputation which that museum has acquired as one of the most perfect collections of local scientific interest in the United Kingdom.

Mr. Henry Rors, senior partner of the firm of Henry Rofe and Son, consulting engineers of Westminster, died on March 2nd, 1915, at the age of 76. Mr. Rofe, though not himself a rainfall Observer, had, throughout his long professional career as a water engineer, done much to promote the establishment of rainfall records in remote districts of the country where water is collected for the supply of towns. He had a profound knowledge not only of the scientific but also of the legal aspects of water engineering, and during a long association with him in visits to gathering grounds and in Parliamentary Committee Rooms, I was greatly struck with the genius he showed for getting hold of the simplest and most direct solution of complicated questions, and with the straightforward honesty of his presentation of facts. He was a man of the rare type who inspires confidence and whose advice is sought for and found of use in any difficulty. His death is felt by many beyond the immediate circle of his friends as a personal loss.

Tue Rev. PreBENDARY WILLIAM SELWYN, born in 1840, was the son of Bishop Selwyn, the first Bishop of New Zealand, with whom he sailed to that far-off dominion in 1841. Returning to England after nine years he passed through Eton and entered at St. John's College, Cambridge, and in 1864 became curate of Chaddesley Corbet, near Kidderminster. He received the vicarage of Bromfield, Salop, in 1866, and continued in this parish for forty years. He became a Prebendary of Hereford Cathedral in 1901, and on his retirement from Bromfield in 1907 he took up his residence at Quarry House, Hereford, where he died on December 24th, 1914, at the age of 74. A life of steadfast devotion to parochial

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duties was varied by a keen interest in the foreign missions of the Church, and he identified himself in particular with the Melanesian Mission. Prebendary Selwyn took up the observation of rainfall at Bromfield, and did much to extend an interest in the work amongst his friends, being responsible for the establishment of several valuable records. He had been for 34 years one of our most valued correspondents.

Mr. Epwarp Suarman, J.P., of Croyland Abbey, Wellingborough, who died on July 28th, 1914, at the age of 85, was the son of Mr. Mark Sharman, of Swanspool, from whom he and his brother, Mr. N. P. Sharman, still happily with us, inherited an interest in the measurement of rainfall which bore fruit in a remarkable series of observations commenced in 1860 and terminated only by his death. But for the accident that his early rainfall records did not appear in British Rainfall until 1865, Mr. E. Sharman's name would have been included among the survivors if British Rainfall, 1860, to whom we annually pay tribute, with the added and-almost unique distinction of an admirably kept daily rainfall record read personally throughout the long period of 54 years.

Mr. Joun Smytu, M.A., died at his residence, Milltown House, Banbridge, Co. Down, on December 16th, 1914, at the age of 84. He was the doyen of the Irish rainfall Observers, and his frequent contributions to Symons's Meteorological Magazine have made his name very familiar to our readers. Mr. Smyth was a student at Trinity College, Dublin, where he took the degree of Master of Arts in 1854 and the diploma of engineering in 1850. As a civil engineer he was engaged on railways and waterworks in Ireland, but he devoted most attention to the business of the Lenaderg Bleach Works, in connection with which he travelled extensively on the continent. He was one of the oldest Fellows of the Royal Meteorological Society which he joined in 1863, and he attended the meetings of the British Association with great regularity. There, I had occasion to make his acquaintance nearly thirty years ago and ever since I maintained relations of the most cordial friendship with him. Mr. Smyth was a quiet retiring man, whose good works were little known beyond his own district, but there he was held in honour and his death was felt as an irreparable loss.

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Observers Deceased to June 30th, 1915.

Small Capitals designate Observers with 30 years records.

ALEXANDER, SAMUEL .. a .. The Shrubbery, Felixstowe.

Barclay, Frederick John ad .- Surbiton, Surrey.

Bell, Mrs. Charles Lothian Linthorpe, Middlesbrough.

*Bell, Henry... vi ss .. West Kirby, Cheshire.

Bell, William, M.R.C.S., J.P... .. Rutland House, New Brighton.

Bell, W., c.E. .. a a .. Aberfeldy.

Belper, Lord... a ea .. Kingston Hall, Derby.

Billiter, Miss Mary _.... os .. Dunsfold, Godalming.

Birch, Richard Frederick ee .. Maes Elwy, St. Asaph.

*Bisset, John, J.P. - a4 .. Thornhill, Insch.

Bloomfield, Col. Alfred we .. Glemham Grove, Saxmundham.

Bradford, Rt. Hon. Earl of Weston Park, Staffs.

*Brown, WILLIAM PIFFE as .. Belgrave Road, Gloucester.

Bruce, Miss Isabella .. ee .. The Old Garroch, Dalry.

*BrYAN, Cot. W. Boots, v.D., c.E. .. Elmstead Wood, Chislehurst.

Burn-Murdoch, John George Grey .. Gartincaber, Doune.

Byng, Major the Hon. Lionel .. Avening House, Gloucester.

*Calder, Capt. John, J.P. . . . The Clett, Castletown.

Campbell, J... w ws .. Sutton, Surrey.

Chambers, Harcourt Augustine F. .. Herongate House, Brentwood.

*Chrimes, Charles Edward . . . Selwood, Rotherham.

Coats, John... an l .- Kildonan, Eigg.

Cooke-Yarborough, George Bryon .. Campsmount, Doncaster.

Coombes, J... T ve .. Englefield Gardens, Reading.

*Courtown, Rt. Hon. EAR OF .. Courtown House, Gorey.

Croft, Charles .. wn es .. Long Lee, Keighley.

Dane, Harold, M.R.c.S., L.R.C.P. .. Northwood, Middlesex.

Daubuz, John Claude, J.P., D.L. .. Killiow, Truro.

De Freyne, Lord .. es .. French Park, Co. Roscommon.

Dickinson, Rev. John .. - .- Broomhill, Tiverton.

DoNCASTER, D. es .e .. Broomhall Park, Sheffield.

*Dowson, EDWARD THEODORE, J.P. .. The Old House, Geldeston.

Edlmann, Miss Adine Josephine .. Chislehurst.

*Eyre, Rev. W. Leich W... .. Swarraton Rectory, Alresford.

Farrington, Thomas Booth, c.z. .. Plas Madoc, Llandudno.

Fisher, Rev. Canon Frederic H. .. Church Croft, Hemel Hempstead.

*FISHER, WILLIAM. .. ee .. Wentworth Castle, Barnsley.

Foster, Bernard Le Neve, J.P. .. Dormans Park, Surrey.

Freear, H. M. .. na a4 .. Crawley Mill Farm, Woburn.

Freeman, Rev. William Henry .. Whitwell House, High Wycombe.

Gilbey, Sir Walter, Bart. et .. Elsenham Hall, Essex.

Gordon, Alexander Duncan Woodlands, Chalfont St. Giles.

*Gower, Erasmus, J.P. .. es .. Castle Malgwyn, Pembroke.

GRIFFITH, FREDERICK, C.E. . . . Leicester Corporation Waterworks.

Hall, B. C. ae .. ef .. Southchurch Road, Southend-on-Sea.

Harington, The Dowager Lady .. Whitbourne Court, Herefordshire.

Harman, Lt.-Col. Ramsay Wootton Hill, Milton.

Harrison, Frederic James ay .. Maer Hall, Staffordshire.

*Hart, Rev. John .e we .. Aberlady Manse, Haddington.

Heygate, Dowager Lady as .. Bellarena, Londonderry.

Hill, William, F.R.G.s. .. as .. The Maples, Hitchin.

Jacques, Rev. Canon Kinton Brindle Rectory, Lancs.

* See Biographical Note ante.

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Observers deceased to June 30th, 1915-(continued).

JERSEY, EARL OF, G.C.B., G.C.M.G. .. Middleton Park, Bicester.

Johnson, J. ws a 7 .. Lama House, Hayling Island.

*Jones, Arthur Francis Cranleigh Common, Guildford.

Kershaw, Prof. Milton we .. Royal Agricultural College, Cirencester.

Knight, F. A. .. as 7 .. Wintrath, Winscombe.

*LANE, CHARLES WILLIAM George Street, Kettering.

Lanyon, Alfred .. a .. Tolvean, Redruth.

Leachman, Albert Warren, M.D. .. Fairley, Petersfield.

Lillingston, Capt. William George .. Ulverscroft, Leicester.

Marshall, George _ - .. dJunipers, Hardres, Kent.

*MERTHYR, LORD .. ou .. Aberdare.

Metcalf, Miss Harbledown, Canterbury.

Miles, Sir Henry, Bart. ss .. Leigh Court, Bristol.

Miller, Arthur Thomas. Emlyn House, Leatherhead.

Miller, Capt. Ernest Cyril Merlewood, Grange-over-Sands.

Mvropcu, PETER - ws .. Glendrishaig, Ayr.

Pawle, Frederick Charles + .. Northcote, Reigate.

PRATER, Miss DorotueEa J. G. .. Farnborough, Banbury.

*FRANKIN, Six JAMES, BT., J.P., D.L. .. Bryngwyn, Hereford.

Robertson, W. P. . ve .. Sewardstone Lodge, Chingford.

*Rodger, A.M. we .. The Museum, Perth.

*Rofe, Henry, C.. ee oe .. London.

Rosiinc, EDWARD oe .e .. Melbourne, Chelmsford.

Schuster, Rev. William Percy .. West Lulworth Vicarage, Dorset.

Scott, Miss Albinia Louisa Coppid Hall, Stifford.

Searle, Alfred Henry The White House, Christchurch.

Seawell, Mrs. Arthur .. .e .. Marelands, Bentley, Hants.

*SELWYN, REV. Pres. WILLIAM. .. Quarry House, Hereford.

*SHARMAN, EDWARD, J.P. Croyland Abbey, Wellingborough.

Simpson, Epwarp Walton, Wakefield.

*SMYTH, JOHN, M.A., C.E. we .. Milltown, Banbridge.

Spry, John Samuel... 7 .. St. Mawes, Falmouth.

Squire, W. W., c.E... ee .. Bristol.

Strong, Col. Charles Isham Thorpe Hall, Peterborough.

STURGE, ROBERT FOWLER Pembroke Road, Clifton, Bristol.

Sumner, Frank, c.z. .. 1 .. London.

Sykes, M. H. .. _ " .. Stockton-on-Tees.

Tempest, John Hicks .. ae .. Bradenham House, High Wycombe.

Thomas, Robert Edmund Skeyring Wormington Grange, Glos.

Thompson, George Rodie, J.p., D.L. .. Jiynwood, Ascot.

Townshend, Rev. Canon H. W., M.A. Skibbereen Rectory, Co. Cork.
Travers, Major John Amory, J.P. .. Tortington House, Arundel.
Travers, P. ee .. we .. Fofanny Reservoir, Newry.

TYRWHITT-DRAKE, Rev. W. T. .. Great Gaddesden Vicarage, Herts.
Vachell, Charles Tanfield, m.p. .. Park Place, Cardiff.

WRIGHT, PHILIP, J.P. .. wa .. Mellington Hall, Montgomery.
Yourdi, George Nicholas, c.x. .. Birmingham Corporation Waterworks

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OBITUARY,

At first sight an Obituary list of no more than the average length may be a Surprise to our readers this year. But the fact is that the great majority of Observers are beyond military age ; had it been otherwise the dislocation of the system of observations could not have been so trivial as it is. Of the 92 Observers in the following list who died in the year ending June 30th, 1916, we have been able to find the age of 67, and the average age of these is 72, only 3 being less than 40 years of age. Nineteen whose names are given below were 80 years of age or over, and four of these (including two brothers) were 90 years old or more. Observers deceased in 1915-1916 of 80 years of age or more.

Mr. John T. Southall .. Q94years | Sir A. Noble, Bt. K.C.B. ... 84 years.
 Mr. Henry Southall 90 ,, Mr. Thomas Garnett .. 83> ,,
 Mr. Thomas Wainwright ... 90 ,, Rev. G. A. Robins... .. \$3. ,,
 Col. M. F. Ward Lee .. 90 ,, Rt. Hon. Sir H. E. Roscoe,
 Mr. Henry Padwick, J.P. ... 87. ,, F.R.S. wee i .. 83. ,,
 Mrs. Susanna Wilson sa Tog Dr. R. H. Scott, F.R.S. ... 83,
 Mr. S. Robinson, J.P., D.L... 86 ,, Mr. W. H. Wheeler 83 ,,
 Col. S. Malthus, C.B. .. 85 ,, Capt. W. Enderby, J.P. ... 82 ,,
 Mrs. F. A. Seott ves .. 85 ,, Mr. Henry Haes bes _ Be wn
 Rev. Canon J. H. Carr .. 84 ,, Rev. Canon A. Atkinson ... 81 ,,

The number of long records is worthy of notice, and the names of the late Observers who left a personal record of 30 years or more is as follows :-

Records of Thirty years and upwards.

Mr. Henry Southall S8years | Mr. T. Edwards ves ... 39 years
 Mr. Stephen Robinson . 50 ,, Mr. R. M. Barrington .. 388 ,,
 Col. J. A. Macdonald .. 46 ,, Rev. H. M. Langdale . 35) ,,
 Mr. W. C. Punnett 45 ,, Mr. J. Metson .. bes ww. 8D og, .
 Miss H. E. G. Winefield ... 45. ,, Mr. Henry Padwick 35 ,,
 Mr. R. Lewis Lloyd ... we 44, Rev. C. T. Salusbury . 35 ,,
 Mr. E. E. Glyde _ .. *43 ,, Mr. W. W. Kettlewell . dt ,,
 Mr. Wm. TAnson _... . 43 ,, Mr. T. P. Newman ... a
 Mr. G. G. Phillips... .. 43 ,, | Mr. R. J. W. Purdy 82. ,,
 Mr. W. H. Wheeler 4 > ,, | Mr. J. C. Gill ... vee .. 31,,
 Mr. G. 8S. Wilson... w 42 ,, Rev. W. F. Rose ____ . 381 4,
 Mr. Henry Horncastle .. 40 ,, |

* Mr. E. E Glyde observed for 5 more years in Canada

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It is with real regret that we are obliged from considerations of space _ and economy to depart from the custom of giving a few words of personal tribute to the memory of those of our old fellow-workers regarding whom we have some biographical information; but we must acknowledge the | very exceptional services of seven amongst them.

Mr. RicHarp MaAnuiFrFE BARRINGTON, of Fassaroe, Co. Wicklow, was one of the trustees of the British Rainfall Organization and had kept up for thirty-eight years one of the oldest rainfall records in Ireland. He was a man of wide interests and a fine enthusiast in the study of the natural history and botany of Ireland. He was the author of many papers on the subjects of his study. Of these, we need only mention here his admirable discussion entitled, 'On the Drought of 1887, and some of its Effects on Irish Agriculture.' This was a long and thorough study of the rainfall of an unprecedentedly dry summer and autumn on the harvests of each of the leading products, and is illustrated by two maps showing the proportional dearth of rainfall in different parts of the country.

In a letter, written in the summer of 1914, Mr. Barrington said :-

' ' My father and myself have been very successful farmers. He began general weather descriptions (not rainfall) in 1811-and rainfall in the forties. The earlier years, 1840-1850, have been lost. We have found these records very useful.

' 'The texture of every soil differs, and the degree of wetness and dryness-when sowing is of vital importance-so much so that before starting the men to work in the morning at certain seasons we always look at the rain gauge first. Then at haymaking and harvest to know the quantity of rain which has fallen in the night, often alters the entire working programme for the day. How any intelligent Observer can doubt the value of a rain gauge to a farmer is beyond my comprehension." ,

. Mr. Freprrick Gastser, for many years in the Meteorological Office, was an early friend of Mr.G.J. Symons, and contributed several important papers to the early volumes of British Rainfall. In his later years, after

. retiring, he settled at. Whitstable, and, as an Observer, resumed relations with the Rainfall Organization. For a fuller notice see Symons's Meteorological: Magazine for January, 1916. |

Mr. James Brown Jorpan, whose name is best known in connection with his photographic sunshine recorder, and whose most important work "was the modelling of relief maps, in which he was very highly skilled, was

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always an enthusiastic meteorological Observer.. He was an occasional contributor to Symons's Meteorological Magazine, and. his records have appeared in these pages for 28 years.

Dr. Rospert HENRY Scott, F.R.S., the head of the Meteorological Office from 1867 to 1900, was an organizer of much experience and a successful weather forecaster. His keen and almost life-long interest in the affairs of the Royal Meteorological Society made him a familiar-figure to all the Fellows, and the successive directors of the British Rainfall Organization received through him the assistance which the Meteorological Office has always rendered. A full biographical notice, with a characteristic portrait, appears in Symons's Meteorological Magazine for July, 1916.

Mr. Henry SourHatt, of The Graig, Ross, Herefordshire, was one of a remarkably long-lived family of West-of-England Quakers whose wide interests embraced rainfall observing. He died at the age of 90, and our Obituary list this year also contains the name of his elder brother. who was 94, while his sisters, the Misses Southall, who kept a long record of rainfall at Leominster, died only a few years ago at the ages of 88 and 84. Mr. Henry Southall not only kept a meteorological record for 58 years, but his singularly retentive memory enabled him to record the conditions of every year and almost every month since it began. He had the custom of paying an annual visit to Camden Square, and this he kept up almost to the last. J remember well on one occasion when he was referring to the weather conditions of past years and I expressed surprise at his powers of memory, that he asked me to take down any volume of British Rainfall at random and check his recollection of the Ross rainfall for. the year. I did this in half a dozen cases and he was right each time to the last decimal.

Mr. THomas Watnwricut, of Barnstaple was for many years the Secretary of the North Devon Atheneum and the centre of the scientific and antiquarian activities of that important institution. He undertook the supervision of the rainfall observations in North Devon, and his kindly enthusiasm greatly extended the numbers of Observers in that district, and kept up the standard of the records. For the last ten years he was much concerned to find a successor to continue the work when the time came for him to cease his active part in it; but year by year he wrote

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announcing one more year of personal activity. In one of his last letters written only two months before his death he said :-

"I have myself taken the observations daily, except on a very few occasions when my efficient deputy has done it for me. I am very wishful to be all right and able to take them on April 7th, as if I am then living I shall have completed ninety years of 'the consumption of the fruits of the Earth, and other enormities, a feat which few of your Observers are permitted to perform."

We believe that this wish was gratified.

Cotonet MicuarL Foster Warp was one of the few whose interest in the study of rainfall went back to the days before Mr. Symons commenced the publication of British Rainfall. Colonel Ward, then resident at Calne, undertook, in 1868, a series of very elaborate comparisons of rain gauges of diameters varying from one inch to two feet, and at elevations above the ground varying from nothing to 20 feet. These experiments were made in conjunction with Mr. Symons, who discussed the results in successive volumes of British Rainfall, and was largely guided by them in introducing the rules as to diameter and elevation which have done so much to bring uniformity into a study which at first threatened to be too uncontrolled even to become scientific. Colonel Ward said that Mr. Symons first saw the pattern of rain gauge now known as the Snowdon in his garden at Calne. It had been devised by a local chemist named Rowden who had assisted Colonel Ward in making the experimental instruments, and it was adopted for the series of observations on the slopes of Snowdon, from which the pattern received its distinctive name.

From these early days onward, Colonel Ward never ceased to show a warm interest in the work of the Rainfall Organization, the last kindly messages coming after his release from Germany, where he had been staying at the outbreak of the war, and whence he returned only a few months before his death.

Observers Deceased to June 30th, 1916.

Small Capitals designate Observers with 30 years records.

Anstruther-Ritchie, Mrs. Jane Hope Lodge, Moffat.

Arkell, W., Cobbett ... vee .. The Close, Fairford.

Atkinson, Rev. Canon Arthur ... Northop, Flints.

Bache, Rev. Kentish ... atk ... Walford Vicarage, Herefordshire.

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Observers Deceased to June 80th, 1916-(continued).

"BARRINGTON, RICHARD MANLIFFE Fassaroe, Bray.

Bartley, Capt. Stanhope Cole ... Shovelstrode, Sussex.

Benzie, Simpson vee bes ... Cowes, I. of Wight.

Bower, Thomas, C.E. ... bee ... West Hartlepool.

Bowstead, Charles James... ... Hyde Grange, Chalford.

Calvert, Frank bes ees ... Ashton Park, Preston.

Carr, Rev. Canon James Haslewood Canterbury.

Casella, Charles Frederick London.

Chambers, G. F. vee vee ... Lethen Grange, Sydenham.

Ching, Capt. Lawrence, R.N. ... Launceston.

Clive, General Edward Henry ... Perrystone Court.

Croft, Capt. Sir Herbert Archer, Bt. Lugwardine Court.

Duncan, J. W. ... bee ves ... Hendon.

Dyack, William, c.k. wes ... Aberdeen.

EDWARDS, T. ... wee at ... Royal Gardens, Windsor.

Enderby, Capt. William, D.L., J.p. Munderfield Harold.

Esdaile, Rev. William sa ... Burley, Ringwood.

Farmiloe, Edgar wes ves ... Arkwright Road, Hampstead.

Fletcher, Ralph, J.P. ... wes ... Crow Howe, Ambleside.

Gale, Thomas ... ves wee ... Teddington.

Garnett, Thomas 9 nits ... Oakwood, Bingley.

Garnons- Williams, Lt.-Col. Richard D. Waunderwen, Hay.

*Gaster, Frederick wes "ng ... Whitstable.

GILL, JOHN CHARLES, C.E. Peterborough.

Gillett, Rev. Hugh Hodgson... Thornbury House, Glos.

GLYDE, EDWIN EDSALL ____... ... Tavistock.

Hadow, Rev. George Randolph Wylie Rectory, Wilts.

Haes, Henry ... wee bee ... Caterham Valley.

Harper, Peter ... we sen ... Duthie Park, Aberdeen.

Henn, Francis Blackburne Paradise, Co. Clare.

Hickman, Major Stopford Cosby ... Fenloe, Newmarket-on-Fergus.

Hill, Rev. Thomas Prince... Abinger Rectory, Dorking.

HORNCastle, HENRY ved Horsell, Woking.

I' ANSON, WILLIAM, C.E._... ... Saltburn by-the-Sea.

* Jordan, James Brown... owt ... Hayfield, Hythe.

Ker, Ronald Scott... se ... Glenreasdell Mains, Argyll.

KETTLEWELL, WILLIAM WILDMAN Harptree Court, Somerset.

LANGDALE, REV. H. MARMADUKE... Compton House, Veteransfield.

LuLoyD, ROBERT LEWIS, J.P., D.L..... Somerset Place, Bath.

MACDONALD, CoL. J. ANDREW, C.B. Betley Hall, Crewe.

McHardy, David, J.P. bee ... Cranford House, Aberdeen.

Malthus, Col. Sydenham, c.B. ... Dalton Hill, Albury.

Meade, Thomas de Courcy, C.E. ... City Surveyor, Manchester.

METSON, J... wes ves ... Anchor Brewery, Mile End.

Miller, Thomas Horrocks _... ... Singleton Park, Lanes.

* See Biographical Note ante.

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Observers Deceased to June 30th, 1916--(continued).

Mitchell, George T sm .. East Grinstead.
Mitchell-Dawson, Alexander _... Shu-le-crow House, Keswick.
NEWMAN, THOMAS PRICHARD... Haslemere.
Noble, Sir Andrew, Bt., K.C.B., F.R.S. Ardkinglas, Argyll.
Oliver, George, M.D. ... _ .. Riversleigh, Farnham.
PADWICK, HENRY, J.P. _ Manor House, Horsham,
Patterson, T. M. cue. ome Littlebourne House, Dover.
PHILLIPS, GEORGE GRIFFITH ... Tickhill, Yorkshire.
Pritchard, J. B. _ bes ... Galltfaenan, Trefnant.
PUNNET?, WILLIAM CORNWALL ... Beech Hurst, Tonbridge.
Purpy, Ropert JoHN Woops... Aylsham, Norfolk.
Rice, Lieut. Gerald Spring Mell Fell House, Cumberland.
Robins, Rev. George Augustus ... Southborough, Kent.
ROBINSON, STEPHEN, J.P., D.L. Lynhales, Kington.
Roden, Right Hon. Earl of Tullymore Park, County Down.
Roscoe, Rt. Hon. Sir Henry E., F.R.S. West Horsley, Leatherhead.
Rosk, REV. WILLIAM FRANCIS, M.A. Hutton, Weston-Super- Mare.
SALUSBURY, REV. CHAS. THELWAL... Tredunnoc, Mon.
Sandwich, The Ear] of ves ... Hinchinbrooke, Hunts.
Saville, Robert William Smith, c.E. Darwen, Lancs.
Scott, Col. Charles E. Southouse Draycott House, Worcester.
Scott, Mrs. Frances Augusta ... Pembroke Lodge, Bray.
Scott, Mason T. wes ves ... Brunstock, Carlisle.

*ScOTT, ROBERT HENRY, D.SC., F.R.S. London.

Sedgewick, Roger B. ... aH .. Froyle, Hants.

Severne, Mrs. Florence . 4. Wallop, Shrewsbury.
Shepherd-Cross, Major Herbert ... Hamels Park, Buntingford.
Simeon, Sir Edmund Charles, rt. Swainston, Isle of Wight.
Simpson, Mrs. Florence Thomasina .. Harrogate.

*SOUTHALL, HENRY... vn ... The Graig, Ross-on-Wye.
Southall, John Tertius vee ... Parkfields, Ross-on-Wye.
Stanton, Mixs Emily R. ams ... Upfield, Stroud.

Thomas, Robert Edmund Skyring... Wormington Grange, Glos.

*Wainwright, Thomas... en ... Barnstaple.

Walker, W. A.... wee Highsm, Kent.

*Ward, Col. Michael Foster Upton Park, Slough.

WHEELER, WILLIAM HENRY, C.E..... Boston, Lines.

Wilson, Countenay Freeman ... Bitterne, Hants.

Wilson, Mrs. Susanna was ... Calder Mount, Garstang.
WILSON, G. S. ... ns ves ... Broughton Grange, Cockermouth.
WINGFIELD, Miss H. E. GRACE Market Overton.

Woodhouse, Rev. Thomas Edward... Whitwell, Oakham.

Woodrow, John i ve ... Coats Observatory, Paisley.

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OBITUARY.

By a series of coincidences the number of Observers whose names have to be included in the list of deaths for the twelve months ending June 30th, 1917, is 92, the same as last year, and we have been able to ascertain the ages of 67 of these, also the same number as last year. The average age was 72, the same as last year, and 19 had attained the age of 80 or over, again the same as last year, while 3 of these, as against 4 last year, were '90 years old or more. The final coincidence is that only 3, as last year, were less than 40. So far as we have been able to ascertain only 4 Observers were killed in action during the year, the small number being accounted for by the fact that very few of the rainfall Observers reporting to us are under military age, and a comparatively large proportion of those few are unfit for military service. We omit this year the list of octogenarians amongst the Observers who died during the year, but we add the age where it has been ascertained to the names in the general list, in which those who have fallen in the war are indicated by a special mark. The following list includes the names of those Observers whose records extended over 30 years or more. It is much shorter than last year's list, but it is remarkable in containing no less than five, with a record of half a century or upwards, and one, Mr. J. W. Robson, of Dalton, Huddersfield, whose record extends to 60 years, although it did not appear in Records of thirty years and upwards.

Mr. J. W. Robson .e .. 60 years Mr. E. Mawley (75) 44 years
 Mr. W. R. Nash (82) .. 57 ,, Mr. Baldwin Latham (SI) .. 41 ~=
 Rev. Preb. Dimond-Church- Mr. W. Marriott (68) 39. ,,

ward (80) .. +. .. 82 ,, Rev. 8. G. Gillum (81) .. 36...

Mr.G. Pile 51 ,, Rev. J. C. Ross (74)... 36,

Rev. C. B. Mount (90) .. 50 ,, Dr. H. M. Page +e ee ee

Mr. H. E. Hippisley (78) .. 48 ,, Rev. O. Pickard-Cambridge

Mr. J. Joss ea ee .. 47 ,, (88) we .e .. 32 ,,

Mr. R. Gordon ee . 45 ,, Mr. W. B. Butler (60) .. 31 ,,

British Rainfall until 1865. The necessity for reducing the size of this volume compels us with much regret to restrict the biographical notices, and we are obliged to confine ourselves to the following brief epitome of the more notable services rendered by our old friends and colleagues.

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A full notice, accompanied by a portrait, of Sir ALEXANDER BINNIE, a Trustee of the British Rainfall Organization, appears as the first article in this volume, and we refer to Symons's Meteorological Magazine for particulars regarding three past Presidents of the Royal Meteorological Society, all of them old Observers and life-long friends of the Organization. They are :--Mr. W. Euuis, F.R.S. (Met. Mag., January, 1917), Mr. Batpwin Latuam (Met. Mag., June, 1917), and Mr. Epwarp Maw ey | (Met. Mag., October, 1916), and to these we must add Mr. WiniaM Marriotr (Met. Mag., January, 1917), so well known as the Assistant Secretary of the Royal Meteorological Society, whose services in training Observers were unsurpassed.

CapTaIn Rex W. Brirp, who was killed in action at the age of 28, ceased observing when he joined the Army in October, 1914, as a private in the Bristol Battalion. He received a commission in the Wilts Regiment in January, 1915, and after seeing much service at the Front, during which he was wounded, was promoted in December, 1916. Though trained as an architect he developed a genius for leading men, and nobly upheld the finest traditions of the Army.

Mr. W. B. Butter, of Old Southgate, was one of the most enthusiastic meteorological Observers who ever contributed to our pages. He not only kept continuous records at his residence for 31 years, but he equipped himself with a series of traveller's instruments, including a 3-inch Snowdon-Howard rain gauge and a miniature 1-inch copper Snowdon rain gauge, with a measuring glass to match. These and other interesting instruments, together with a legacy of 100, were left by Mr. Butler to the British Rainfall Organization, and the instruments will be preserved at 62, Camden Square, where they may perhaps form the nucleus of a rainfall museum.

Lizutenant H. 8. Haworrs, Yorkshire Light Infantry, was killed in action ten days after going to the front. From his boyhood he had been a keen Observer, and his records of rainfall and evaporation at Wakefield appeared in British Rainfall for many years.

Mr. Cozin Livinestong, J.P., was a fine example of the old class of cultured and broad-minded parish schoolmasters in Scotland, and when he retired in 1894, he continued to devote himself to the scientific studies which he had pursued from his student days. He resided at Fort William for fifty years, and his meteorological record was established long before the idea of an Observatory on Ben Nevis took shape. Mr. Livingstone

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assisted in the preliminary work of establishing the Observatory in 1888, and his exact local knowledge enabled him to plan the bridle path to the summit, which was traversed by many a meteorological pilgrim during the next twenty years.

Mr. W. R. Nasa, J.P., of The Mount, Carke-in-Cartmel, was an Observer of rainfall for 57 years, although, as in the case of the late Mr. J. W. Robson, his record did not happen to appear in the first volume of British Rainfall. Mr. Nash, like so many other members of the Society of Friends, had a remarkable antitude for weather lore, and he made a life-long study of the southern margin of the Lake District. He was one of the founders of the Furness and South Cumberland Building Society, in 1865, and was, we believe, the Secretary of the Society from that time until his death. This gave him an extraordinarily detailed knowledge of his district, and he was ever foremost in every work of public utility.

Tur Rev. O. Prckarp-CaMBRiIpDGE, F.R.S., of Bloxworth, Wareham, was the leading authority on spiders, on which group he published several monographs of high value. He was also a devoted student of entomology, and he was a rainfall Observer for 32 years.

Tue Rev. J. (. Ross, of Wadworth Hall, Doncaster, kept a continuous record of rainfall for 86 years, and probably derived his interest in this study from his father, the famous Arctic and Antarctic explorer, Sir James Clark Ross; the latter, it may be noted, when describing a heavy fall of rain at Sydney. N.S.W., mentioned that on August 1st, 1846, above 4 inches of rain fell between 3.80 p.m. and 6.30 p.m. in London, 4 record of which we have found no other trace.

Mr. Grorce Sxarte, of Edith Road, West Kensington, was the most scrupulous rainfall Observer we ever met, and devoted an extraordinary amount of care and attention to his instruments and their records. He took a great interest in the affairs of the Organization, and frequently presented books to the library, and on his death he bequeathed a legacy of 200 to the Endowment Fund.

Mr. H. W. Watrank, of Usworth Central Council School, Co. Durham, employed the rain gauge as a means of education with remarkable originality and success. Having visited his school and seen the interest which the pupils took in the records we persuaded Mr. Walbank to write a short description of his methods, which was published in S%,mons's Meteorolcgical Magazine for 1909, Vol. 44, pp. 127-128.

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Mr. W. W. Wittmorr, of Cleveland Parade, Darlington, came of a Quaker stock, and acquired from his father, Dr. A. T. Willmott, of Ross, Herefordshire, a love of nature, which he developed, especially in the direction of botany and conchology. For some time he kept a private school in Darlington, but for the greater part of his life he was in business continuing at work to the last to fill the place of those called to the war. His fatal illness was induced by patriotic over-exertion in his garden, and the day before his death he was eagerly discussing that morning's rainfall.

Observers deceased to June 30th, 1917.

Small Capitals designate Observers with records of 30 years and upwards.

Bailey, Richard Crawshay .. Bodenham, Hereford.

Bates, Gilbert Thompson (70)... .. Mells Park, Frome.

Battersby, Maj-Gen. John Prevost (90) Lyncroft, Weybridge.

Bertram, William . we .. Cragside, Rothbury.

*Binnie, Sir Alexander Richardson (78) London.

*+ Bird, Lieut. Rex W. (23) '4 .. Midsomer Norton.

Bowman, Sir William Paget, Bt. (71) Joldwynds, Holmbury St. Mary.

Bullock, P. Clouston (54) a .. Pendean, Midhurst.

Burne, Col. Sambrooke T. H., v.p. (63) Loynton Hall, Staffs.

*BUTLER, WILLIAM Bowron (60) .. Old Southgate.

Cann-Lippincott, Robert Cann (76) .. Over Court, Bristol.

Carson, David Simpson ee .. Kilmalcolm, Renfrewshire.

Cherrill, Nelson King (71)... .. Haslemere.

Cobb, Miss Charlotte Elizabeth (84) .. Hamilton Terrace, N.W.

Cook, Miss Fanny oe 5 .. The Hall, Nutley.

Cooper, Rev. Robert Jermyn (86) .. Robin Hood's Bay, Yorks.

Cresswell, A... a .e .. Edgbaston, Birmingham.

Cruddas, Rev. William Sandwith .. Withiel Rectory, Cornwall.

David, Martin Sinclair 4 .. Manor House, Tonbridge.

Davis, Henry (64) Castle Hill House, Duffield.

DiMOND-CHURCHWARD, Rev. M.D. (80) Northam Vicarage, Devon.

Duncombe, Col. Walter H. O. (71) .. Waresley Park, Sandy.

Eden, Hon. Robert Henley Shaw (76) -Llandrillo, Bala.

Edimann, Charles Clement (79) .. Bognor.

*Ellis, William, F.R.s. (89) '5 .. Blackheath.

Eves, W. J. an en . . . Aberdovey, Merioneth.

Fryar, J.W... a wa .. Eastwood, Notts.

Gee, John (83) . . .e .e .. Salford House, Welford.

Gittum, Rev. SipNEY GEORGE (81) ... Vernham Dean, Exmouth.

Goodall-Copestake, Walter, m.R.c.s. (80) Duffield Road, Derby.

Gorpon, R., C.E.' .. e .. Lower Pitkerrie, Ross-shire.

Gundry, Sir William (72) - .. North Lodge, Potters Bar.

Guy, J. W. . . . ae .. Prestbury, Cheltenham

Harrington, J. P. a. ve .. Broadfield, Port Glasgow.

*+Haworth, 2nd-Lt. Harold Stanley (36) Stanley Grange, Wakefield.

Henderson, J. . . . +i ..- Loan, Inverness-shire.

HrerisLey, Henry Epwarp (78) .. Ston Easton, Somerset.

* See Biographical Note, ante. + Killed in action,

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Observers Deceased to June 30th, 1917-(continued).

Izat, Capt. George, r.N. (69) .. Halberton, Tiverton.

Jeffrey, J. a .. - .. The Gardens, St. Mary's Isle.

Joad, Mrs. Laura Catherine Patching, Sussex.

Jones, Oliver Henry (70) ais .. Fonmon Castle, Glam.

Joss, J. .. . ve .. Cruchie, Huntly.

Kemm, Dr. Frederick St. John (64) Worle, Somerset.

'*LaTHAM, BALDWIN, C.E. (81) Park Hill House, Croydon.

*Livingstone, Colin (89).. Ls .. Ardtraigh, Fort William.

MacDougall. Allan a a .. Sotterley Hall Gardens, Beccles.

*Marriots, WILLIAM (68) i: .. Dulwich.

Marten, Edward Dimmack, c.t. .. Cheltenham.

Martin, N. H., F.n.s.5. (69)... .. Newcastle-on-Tyne.

*MAWLEY, EDWARD, V.M.H. (75) .. Rosebank, Berkhamsted.

Merivale, John Herman (67) Acklington, Northumberland.

Miller, Lt.-Col. J. F.,ls.c. Pershore, Worcs.

Miller, Dr. N. H. J. e .. Rothamsted, Herts.

Moore, J. W. .. 1 Sidlesham, Sussex.

Mount, Rev. CHARLES BRIDGES (90) Bath.

*NasH, WILLIAM RICHARDSON (82) .. The Mount. Carke-in-Cartmel.

Name. Sidney (50)... ws .. Harefield, Selling.

Nelson. Thomas Arthur (40) Achnacloich, Argyll.

+Nicholson, Lawrence J. "ss .. Gateshead, Newcastlc-on-Tyne.

Pacr, Dr. HERBERT MARKANT .. Langport, Somerset.

Paget, Miss A. Camlot, Barnet.

Paget. Commr. Claude Paget, R.N. (65) Fairhaven, Weybridge.

Pell, Maj. Albert Julian (52) Wilburton Manor, Ely.

Pennethorne, Deane Parker (82) .. Lindfield, Sussex.

Philpott, Rev. Thomas Henry (77) .. Botley, Hants.

*PICKARD-CAMBRIDGE, REv. O.,F.R.S. (88) Bloxworth, Dorset.

PILE, GEORGE e we .. Hartley, Cranbrook.

Pope, Mrs. Emily Frances (79) .. Edwins Hall, Woodham Ferrers,

Roberts, Dr. F. E. Hayling Island.

Robins, Mrs... ws " .. West Hill, Leamington.

Rosson, J. W. - Dalton, Huddersfield.

Rogers, Henry (87)... os .. Preston, Brighton.

*Ross, Rev. JAMES CoulMAN (74) .. Wadhurst Hall, Doncaster,

Rudd, Charles Dunell (72)... .. Ardnamurchan, Argyll.

Scott, D. MM... Saltcoats, Ayr.

Scott, Mason Thompson wd .. Brunstock House, Carlisle.

*Searle, George (56) Edith Road, West Kensington.

Simpson, David Goudie (78) .. Bromley, Kent.

Smyth, Capt. W. H. .. 22 .. Milltown, Banbridge.

Spencer, Rev. Abraham (72) Accrington.

Sykes, Frank (60) oe e .. Borrobol, Kinbrace.

Tapp, Arthur March (90) ws .. Shortlands, Kent.

Taylor, Frederick James (83) .. Newport Pagnell

Teignmouth, Lord (73) 5 .. Ballyduff, Co. Kilkenny.

Thompson, George Stafford (85) .. New Building, Thirsk.

*Walbank, H. W. 'x .s .. Usworth, Co. Durham.

Weaver, J. . a Christleton Hall Gardens, Chester.

White, John Newsom (73)... .. Rocklands, Waterford.

Wiggin, Sir Henry Arthur, Bart. (65) Walton Hall, Eccleshall.

*Willmott, Walter Wade (81) Cleveland Parade, Darlington.

Willson, Rev. Vere Francis (63) .. Rauceby Hall, Lincs.

Woodhams, F. .. oe Meopham, Kent.

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uns shrinkage in the number of Observers on account of the war is reflected in the slight reduction of the list of deaths in the year ending June 30th, 1918, which includes 85 names as against 92 in each of the two preceding years. When the ave of the Observer has been ascertained this is added in brackets after the name in the list, and the average of the 56 whose age was found comes out at 71 years, as compared with 72 m recent years. Sixteen were more than 80 years of age, and no less than five of these were more than 90. Seven of the 84 were killed in action.

Fifteen of those who have gone had rainfall records of more than 30 years' duration to their credit, and four of them had records of half a century or more, as shown in the following list.

Records of Tiarty Years and upwards.

Mr. A. E. Graves	53 years	Rev. J. Ashburner	40 years
Miss M. C. Martineau	51 , ,	Miss E. Harrison	40 ; ,
Mr. F. Chancellor.....	50. , ,	Mr. F. Ames	39 + ,
Mr. J. W. Woods	50 , ,	Mr. S. H. Miller	39 , ,
Mr. J. Drewitt	47 , ,	Mrs. M. J. Hare	38. , ,
Rev. J. Gill	47 , ,	Mr. S. H. Stephens	34 , ,
Mr. C. E. Harris-St. John ..	45 , ,	Rev. Sir Emilius Laurie, Bt.,	30 ,
Mr. J. Wilson	43 , ,		

Did space permit we should like to devote several pages to personal notes on many old friends and faithful helpers. A notice of our late assistant, Donald . Salter, has appeared in Symons's Meteorological Magazine for April, 1918, and a tribute to his memory appears in the Director's report to the Trustees, on p. 9 of this volume.

Amongst the others to whom reference must be made are :-

Mr. FREDERICK CHANCELLOR, who lived to the age of 98, and was a rainfall Observer in Chelmsford for 50 years, was a well-known architect and a leading citizen of Chelmsford, having filled the office of Mayor ou seven occasions. He was a lieutenant-colonel of the 2nd Volunteer Battalion of the Essex Regiment, and received the volunteer decoration. His rainfall record, in which he took a keen interest and a justifiable pride, was one of the best in the country both for accuracy and continuity.

Mr. Joun Epwarp Cuttum was for forty years the Superimtentend of the Valencia Observatory of the Meteorological Office, first on Valencia Island and later at Cahirciveen, on the coast of Kerry, and was responsible for the important series of records kept at that First Order station. On

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his retirement, in 1915, he went to Oxford, where he resided until his death, at the age of 67, on January 11th, 1918.

Mr. CuHartes Hawxstey, the eminent water engincer, although not personally an Observer, was responsible for the initiation of a great number of records of rainfall in connection with the schemes for water supply which he carried out in many parts of the country. Like his father, Thomas Hawksley, he had a natural instinct for divining the rainfall of a locality, and his vast experience and quiet humour made him a pleasant companion on moorland inspections.

The Rev. Sir Enitrus Laurie, Bant., died at the great age of 94 on 11th December, 1917. He was the son of Sir John Bayley, Bart, who named him Emilius after a once-famous racehorse. He succeeded his father in 1871. and in 1886 he inherited Maxwellton House (the home of the Bonnie Annie Laurie immortalized by Burns) from his great uncle, Sir Robert Laurie, whose name he assumed. He was educated at Eton and Trinity College, Cambridge, took orders in 1846, and held in turn many benefices in England, retiring from parochial work in 1889. In his youth he was a famous cricketer, in middle life a notable London preacher, and in his later years a keen rainfall Observer and a valued supporter of the British Rainfall Organization.

Mr Samus, Henry Minumr, who died at the age of 94, on April 14th, 1918, was one of the oldest of Mr. Symons's collaborators and an early and frequent contributor to the publications of the British Rainfall Organization, and it is little more than an accident that his name is not included in our list of Observers in the first volume of British Rainfall. From 1861 to 1876 he kept up a meteorological station at Wisbech, continued his records at Lowestoft until 1900, and in his subsequent residence at Deal he continued to foster the interest in local meteorology long after, as he said in one of his last letters to us, he had done his part in a public way and did not wish to appear again as an Observer. He was the oldest Fellow of the Royal Meteorological Society, which he joined in 1870, and he had a very well based knowledge of meteorology. In an essay competition arranged by the Royal Society of Arts and Sciences of Utrecht, open to the world, he gained a gold medal for his work on the measurement of evaporation. He took a keen interest in all natural phenomena and studied the district in which he lived with a thoroughness which can only be judged by reference to the standard work on the Fen district, 'The Fenland, Past and Present,' which he wrote in collabora-

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tion with Mr, Skertchly. He made other contributions to literature, and was a very frequent contributor to magazines and newspapers.

Dr. W. H. Symons, Medical Officer of Health for Bath, who died on 25th August, 1917, at the age of 62, was not a relative of the founder of the British Rainfall Organization, although for many years he was in constant communication with him, as later with his successors, on matters relating to meteorology. Dr. Symons had a well-equipped meteorological station in his garden at Combe Park, Bath, and was exceptionally critical of the accuracy of his observations. He was in the front of all modern advances in Public Health, and devoted much attention to fly-borne diseases.

Mr. Epwin WATERHOUSE, the eminent accountant, who was concerned in the auditing of accounts of many of the largest commercial undertakings of the world. and in the investigation of the accounting in various Government departinents, pursued in his home at Feldemore, Holmbury St. Mary, the rural pursuits which naturally lead to an mterest in weather, aud his. records have for many years had a place in our tables.

Observers deceused to June 30th, 1918.

Small Capitals designate Observers with records of 30 years and upwards.

AMES, FREDERICK (81) + os .. Hawford Lodge, Worcester.

Ames, Mrs. Charlotte Henrietta Westbury-on-Trim, Bristol.

Armstrong, John H.M. .. 7 .. Greystones, Co. Wicklow.

ASHBURNER, Rey. JOHN (71) on .. Blawith, Ulverston.

Atkinson, Rev. G. B. ee Swanington, Norfolk.

Bailie, Maj.-Gen. Thomas Maubourg (73) Caldecott House, Abingdon.

{tBarne, Major Miles, p.s.o. (45). .. Sotterley Hall, Beccles.

Bayne, Dr. Wm. Thirlwall (79)... .. Broadclyst, Exeter.

Beadle, Clayton (49) . - .. Sidcup, Kent.

Bear, William Edwin (77) 1 .. Magham Down, Hailsham.

Blackburn, William, c.z. .. an .. Metropolitan W. Board, London.

Blake, Col. A. M., c.B. (66) .e .. East Close, Christchurch.

Blanchard, G. W.e ee .. Tortworth, Glos.

Bowles, Arthur H. .. 2. ae .. Woodbridge.

Brassey, Albert (73) Heythrop, Chipping Norton.

Bridgeman, Brig.-Gen. Hon. Francis C. (71) Beech Hill, Reading.

Brooke, Maj. William John, kK.s.L.l. (42) ... Haughton Hall, Shifnal.

Brown, George, M.R.C.S. (72) Mount Lodge, Callington.

*CHANCELLOR, FREDERICK, V.D. (93) .. Bellefield, Chelmsford.

Clarke, Robert A... .. Kirkby Lonsdale.

Clonbrock, Lord (84) ee ve .. Clonbrock, co. Galway.

Cottesloe, Lord (88) .. es s% .. Swanbourne House, Winslow.

Crace-Calvert, George Alfred. M.B. (47) .. Lilanbedr Hall, Ruthin.

Creswick, Sir Nathaniel, K.c.B., v.D. (86)... Norton, Sheffield.

Cullum, John Edward (67) .. ve .. Valencia Observatory, co. Kerry.

tDavey, A. H. P., c.&. .. ve .. Water Works, Guernsey.

Davis, Miss Mary (68) vs i .. Greys Green, Henley.

Dixon, Mrs. Agnes Margaret . .. Great Roke, Witley.

Drewitlt, JOHN (82) a ae .. Patching, Worthing.

Duckworth, Rev. William Arthur (89) .. Orchardleigh, Frome.

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Observers Deceased to June 30th, 1918-(continued).

Dymond, Mrs. Harriet Susanna (85) .. Oaklands, Apsley Guise.

Emerson, Dr. John James (71)... .. Easby Hall, Yorks.

Eversley, W. I'. a ay Coltishall, Norfolk.

Torester, Lord (75) .. ws .. Willey Park, Salop.

Furlong, Robert O'Brien, c.B. (74).. .. Bournemouth.

Gitt, Rev. J. a .. Holne. Ashburton.

Gill, T. C. . we Silverdale, Ilkley.

Glen, Dr. James Henry ss cs .. Wychwood House, Charlbury.

Gravus, A. E. e .. .e .. Rockenham, Waterford.

Hare, Mrs. Matinpa JANE a .. Court Grange, Newton Abbot.

Harrison, Miss E. . oe .. Mickley, Ripon.

Harris-St. Joun, CHas. Epwarp (7+) .. West Court, Finchampstead.

*Hawksley, Charles, .u. (78) rr .. London.

Hinde, George Jennings, F.R.S. (79) .. Avondale Road, Croydon.

Hodgson, Thomas Hesketh (76)... .. Newby Grange, Cumberland.

Hogben, William Nicholas (61)... .. Glyn Neath, South Wales.

Kerr, W. a as _ Zs .. Little Richorn, Dalbeattie.

Knight, Rev. John Geo. Bury (77) .. Boldon, co. Durham.

*LauRIE, Rev. Sir J. R. L. Emrmius, Br. (94) Maxwelton House, Dumfries-shire.

Macalister, Daniel, c.5. (62) i .. Greenock.

McMillan, J. .. . ve .. QGlenhead of Trool, Kirkcudbright.

MacVarish, D. a 5 _ .. Rhu, Arisaig, Inverness-shire.

MartTINEAU, Miss M. C. (87) .. Letchworth, Herts.

*MILLER, SAMUEL Henry, (94) + .. Deal.

Moffat, Mrs. H. E. .. zi Be .. Ballyhyland, Enniscorthy.

Money, Rev. Granville Erskine (73) .. Byfleet, Surrey.

Naylor, Miss Frances (60) .. - .. Leighton Hall, Welshpool.

Pilsworth, W. T. .e Thomastown, co. Kilkenny.

Powell, Miss Joan... .. Munslow, Salop.

Prothero, Francis Egerton .. a .. The Hall, Dunster, Somerset.

TtRoper, Capt. William Edward (25) .. Yealand Conyers, Lancs.

Rothera, Dr. F. a ee we .. Beeston, Notts.

*+Salter, Sec.-Lieut. Donald Sowerby (28) .. 62, Camden Square, London.

Shorter, Arthur (91) + os .. Park House, Hampton Wick.

Singleton, Rev. Canon J. .. Southwell, Notts.

Smith, Bertram (41) we Broomlands, Beattock.

Smith, Urban Armstrong, c.z. (72) .. Hatfield, Herts.

Spillet, J. a as wa ey .. St. Thomas Hill, Canterbury.

StePpHENs, SamMugnt Hannam (77) .. Gillingham, Dorset.

Stewart, Charles Frederick, p.u. (72) .. Horn Head, Dunfanaghy.

Suffield, T. .. ss es .. Terrington, Yorks.

*Symons, William Henry, M.D., D.P.H. (62) Combe Park, Bath.

Tighe, Capt. Edward Kenrick Bunbury (55) Woodstock, co. Kilkenny.

fTroyte, Lt.-Col. Hugh Acland (48).. .. Huntsham Court, Bampton.

Turner, Henry, c.z. (76)... as .. Folkestone.

fWallace, Lt. James Hope Featherstone Castle,Northumberl'd.

*Waterhouse, Edwin (77)... .. Feldemore, Dorking.

Wedderburn-Maxwell, Maj. J. A. C. (68) .. Glenlair, Dalbeattie.

Whitworth, Dr. W. C. l we .. St. Agnes, Cornwall.

Wildy, Arthur (66) .. " - .. Shord Hill, Kenley.

Williams, D. P. e St. David's, Pembrokeshire.

WILson, JoHN (94) Lorton, Cockermouth.

Woops, JoHn WiLLiAM (80) .e .. Chilgrove, Chichester.

Worthington, Albert Octavius (74) .. Maple Hayes, Lichfield.

Wrigley, Oswald Osmond (81) ne .. Wansfell, Windermere.

* See Biographical Note, axze. + Killed in action.

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OBITUARY,

THE number of Observers whose death we have to put on record for the twelve months ending June 30th, 1919, is only slightly greater than has been the case for two or three years past, in spite of the fact that during the war years a certain number of deaths failed to come to our notice, so that the present list includes a few names which should properly have appeared earlier. The total number now reported is 95. The age of the Observer when this is known has been added, and it is not without mterest to note that the average of the 59 whose age has been ascertained was 76 years, including the very remarkable proportion of 25 octogenarians, of whom 8 were nonogenarians.

The wonderful perseverance in rainfall observing of which the British Rainfall Organization has given so many examples, is borne out by the following list of Observers who have passed away during the year after having carried on records for thirty years or more.

Records of Thirty Years and upwards.

Mr. G. H. Hill	70 years	Mr. D. O'Connell	40 years
Rev. W. Sidgreaves, s.J. ..	53 ,,	Mr. C. H. Berners	39 ,,
Mr. A. S. Leslie-Melville ...	49 ,,	Mr. E. W. Winton	39 ,,
Mr. T. A. Dorrien-Smith ...	48 ,,	Mr. N. P. Sharman.....	38 ,,
Rev. Canon M. B. Cowell...	46 ,,	Rev. O. H. Cary	33 ,,
Dr. F. Fawcett	46 ,,	Mr. F. Garrett	33 ,,
Mr. B. P. Selby	46. .,	Lt.-Col. D. Rintoul	33 ,,
Mr. C. F. Bailey	45 ,,	Mr. T.S. Smithson	33 .,
Mr. J. Watson	43 ,,	Mr. C. T. Maw	30. ,,
Mr. E. Button	40 ,		

It is a melancholy pleasure year by year to pay a last tribute to those of our helpers who have died since our last volume was published, though for obvious reasons biographical notes can be given only for a few. The list on pages [67] and [68] includes no fewer than three veterans of the Indian Mutiny, three highly distinguished consulting water engineers, and a large number of old friends of the Organization whose names had become "' familiar in our mouths as household words." There are, as far as we know, no instances in the list this year of death on active service, but probably no man who sacrificed his life for his country during the Great War did so more devotedly than the late Lord Rhondda, who, as

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Mr, D. A. Thomas, was among the Observers reporting to the Organization until more urgent calls upon his time made this no longer possible.

Mr. Gsorce Bunyarp whose firm under the name of G. Bunyard and Co. carried on observations of rainfall since 1900 at Maidstone, was a notable personality in the world of horticulture. Born in 1841, and becoming a member of the firm in 1863 his remarkable ability and vigour soon led not only to the building up of a business of almost world-wide fame, but also to the development of scientific methods which have benefited fruit growing generally. In 1896 Mr. Bunyard became Master of the Fruiterer's Company and he was one of the first recipients of the Victoria Medal of Horticulture. He was a prominent member of the Royal Horticultural Society and was the author of a number of works on the subject to which his long life was devoted.

Rev. Canon M. B. Cowen, who died in January, 1919, at the great age of 85 years, had been vicar of Ash Bocking, near Ipswich, since 1862, and though his association with the British Rainfall Organization did not commence until ten years later, he sent observations regularly for close upon half a century, and maintained a keen interest in them until the last.

Mr. R. H. Curtis was for 51 years on the staff of the Government Meteorological Service from which he retired in 1912. In his official capacity as Superintendent of Instruments and Observations to the Meteorological Office, Mr. Curtis carried out important experiments with a view to devising and improving instruments, and his name will always be specially remembered in connection with improvements in the Campbell-Stokes sunshine recorder. For the last fifteen years or so of his life, Mr. Curtis lived at Warlingham, where he made a valuable series of meteorological observations until compelled by ill-health to give them up a few weeks before his death.

Dr. Watter DE WATTEVILLE, whose rainfall records, although published under the name of the Scottish Meteorological Society, have

" appeared in British Rainfall since 1896, was a native of Berne, Switzerland. He was one of the earliest supporters of the open-air treatment of tuberculosis and was director of a sanatorium, where much valuable work was done. Keenly interested in scientific work, Dr. de Watteville maintained

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a meteorological station at Kingussie, which gave climatological records of peculiar interest and importance and established the reputation of the somewhat rigorous climate of the upper Spey Valley, as favourable for the treatment of consumptives.

Mr. Gorce Henry Hite, M. Inst., C.E., was one of the most eminent of the group of great water engineers who took part in the extraordinary developments of the latter half of the nineteenth century. A pupil of the famous Bateman, Mr. Hill was put in charge of the Manchester Waterworks in Longdendale in 1849, and for seventy years maintained his connection with the Corporation Water Services. During this period he designed and carried out the world-renowned Thirlmere scheme, by means of which at the present time about 80 million gallons of water, the bulk of the supply to the city, is conveyed daily from the Lake District and meets the needs of a population of about one and a half millions. He was up to the time of his death greatly interested in the new scheme for the utilization of Haweswater as a source of future supply to Manchester. Mr. Hill had a wide consulting practice in connection with Water Supply, and was, until a few years ago, a familiar figure in the Committee rooms of Parliament. Some of the most valuable rainfall records in the north of England, particularly in the Lake District, were commenced and maintained under his direction, and probably few men have done more in the practical application of rainfall data to economic purposes.

Lt-Col. Sir J. Hirs-Jounxes, V.C., one, and quite the most distinguished, of the few veteran survivors of the Indian Mutiny, died at his home at Dolaucothy, in Carnarvonshire in January, 1919. As Captain Hills, he served throughout the historic period of Indian and frontier wars and was present at the siege and storming of Delhi, the relief of Lucknow, and innumerable other engagements, being awarded the V.C., medal and clasps. He later took part in the Abyssinian and Lushai campaigns, and accompanied Lord Roberts in the march to Kabul. For his brilliant services in the Afghanistan campaign of 1880-81, he was created a K.C.B., and was the recipient of a special vote of thanks from Parliament. On his marriage to Miss Johnes, in 1882, General Hills assumed the additional name of Johnes, and retired from active service to take up his residence at Dolaucothy. He took great interest in the rainfall observations and read the gauge personally to the time of his death.

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Mr. A. . Leste Metvintz, of Branston Hall, Lincoln, was a typical example of the volunteer rainfall Observer in whose unswerving and loyal support lies the great strength of the British Rainfall Organization. Ag an instance, one of many, of the unassuming avowal of what is in reality a remarkable achievement, and a purely gratuitous service to science, we may quote from a letter which Mr. Leslie Melville wrote to us some four years ago :-

' 'T think I have kept the Rainfall with one exception for nearly 50 years past at Branston, or part at Longhills, but that is in the Parish of Branston, so I suppose it all counts as one."

Cot. Cuartes McIlwroy, C.B., Indian Mutiny veteran, had a distinguished military career, including service in the Abyssinian and Egyptian campaigns, and the Burmah Expedition of 1885-6. He carried on regular observations of rainfall at his seat, The Burn, near Edzell, in Kincardineshire for twenty-one years, and his annual letters, accompanying his returns in January, never failed to enliven the otherwise somewhat monotonous work of that month in the office at 62, Camden Square.

Mr. DanreEt O'ConnELL, grandson of the " Liberator " whose name he bore, was the head of the old Roman Catholic family of O'Connell, whose chief seat was Darrynane Abbey, in Co. Kerry. Mr. O'Connell took up the observation of rainfall in 1870, and never lost his enthusiasm till his death at the ripe age of 84. It is only a few years since that he wrote to us that for long he had made a practice of a daily swim in the Atlantic during the summer half-year and this enabled him to form an accurate judgment of the coming weather from the temperature of the water, a fact which he connected with the varying quantity of Arctic ice in the Atlantic. We learn with pleasure that the extremely valuable rainfall observations at Darrynane Abbey will be continued.

SURGEON-GENERAL CHARLES PLancK, who died on August 28rd, 1918, was born in 1831. He served for thirty-two years in the Bengal Medical Service, including the Mutiny year, and marched to the relief of ('awnpore and Lucknow, officiating as a field-surgeon. He was later Inspector-General of Prisons in Burma and Sanitary Commissioner and Superintendent-General in the North-west Provinces and Oudh. He was

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66 BRITISH RAINFALL, 1918.

a keen sportsman and an excellent swimmer and is said to have played tennis up to the age of 78. His observations of rainfall at Lyden Croft, near Edenbridge, were carried on for nineteen years, from 1900.

Lorp Ruonpp., more familiar in our pages as Mr. J). A. Thomas, of Llanwern, became famous as one of the leading colliery proprietors in South Wales. His great business acumen, and unfailing insight, marked him out as one likely to solve some of the most difficult and harassing problems which confronted the Government when the war had reached its most critical stage, and he was appointed President of the Local Government Board in December, 1916, and six months later charged with the onerous duties of Food Controller. How well he carried out the unenviable task few will fail to remember without gratitude, and that he gave his life for his country in the time of her greatest need is the least which can be said of his death from over-work at an age which to a man of his powers was but the prime of life.

FATHER WALtTER SiIDGREAVES, 8.J., director of the Stonyhurst College Observatory, was better known for his work on astronomy, solar physics and magnetism than as a meteorologist, but it is to his great interest in scientific pursuits that we owe the equipment in' 1866 of a complete installation of meteorological instruments at Stonyhurst and their regular observation since that time. Father Sidgreaves took part in four scientific expeditions in company with the late Father Parry, and was the author of a large number of valuable papers on the subjects to which his scientific life was devoted, more especially stellar and solar spectroscopy. His kindly and retiring disposition endeared him to all who came into contact with him and during his long life he set an example of devotion to duty, which kept him at his post until his death at the advanced age of 82. His career exemplifies the great debt which students of natural science all the world over owe to the zeal of the numerous members of the Society of Jesus who have devoted so much ability to its pursuit.

MR. JAMES Watson, waterworks engineer to the Corporation of Bradford, was a native of Douglas, in Lanarkshire, where he was born in 1844, LHe enjoyed an extensive practice as a consulting engineer, particularly in the north of England, and was one of the leading men of his profession. His work in connection with the Bradford water supply

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was of a peculiarly difficult nature owing to the requirements of the special industries of the town and his services were highly valued by the Corporation. Myr. Watson was, we believe, responsible for a greater number of rainfall records appearing in British Rainfall than any other individual, as a glance through the general tables for Yorkshire since 1891 will readily show.

Observers deceased to June 80th, 1919.

Small Capitals designate Observers with records of 30 years and upwards.

Acland, Sir C. T. Dyke Acland, Bt. (76) Killerton, Devon.

Antrim, Rt. Hon. the Earl of (68) .. Glenarm Castle, Co. Antrim.

Addams- Williams, Rev. Alfred (86) .. Panteg Rectory, Mon.

Bailey, CHARLES FREDERICK, J.P., D.L. (82) Lee Abbey, Lynton.

Baker-Gabb, Richard (79) 8 .. The Chain, Abergavenny.

Balston. W. FE... - bl .. Barvin Park, Potters Bar.

Basing, Lord (59) Hoddington House, Hants.

Bazley, Sir Thomas Sebastian, Bt. (90) Kilmore, Torquay.

BERNERS, CHARLES HUGH (77) .. Woolverstone Park, Ipswich.

Berry, Miss a - Keymer, Sussex.

Briggs, W. - . - .. Tordarroch, Pitlochrie.

*Bunyard, George, v.M.H. (78) Maidstone.

Burgess, J. F. B. .. i 84 .. Tenby.

Button, Eustace, J.p. (90)... .. Clevedon, Somerset.

Buxton, Mrs. Mary Rosalind... .. Fritton Hall, Suffolk.

Caldicott, R. B. .. 6 as .. Kingswood, Coventry.

Calvert, Dr. George Alfred Crace (48) .. Llanbedr Hall, Ruthin.

Campbell, R. 8S... Achnashie, Rosneath.

Cane, Rev. Alfred Grainger (74)... .. Great Paxton, St. Neots.

Carr, Mrs. Elizabeth (90) 1 .. Wolstaston Rectory, Shrewsbury.

Carr-Gomm, Francis Culling, g.P., p.L. (85) Farnham Royal, Bucks.

Carter, Mrs. (90) wa si .. Mangersbury, Stow-on-the-Wold.

Cary, Rev. Orrtey Henry (83) .. Trusham Rectory, South Devon.

Clark, Godfrey L. - Tal-y-garn, Glamorgan.

Clark-Neill, James + * .. Curling Hall, Largs.

Collen, Daniel (80) es te .. Rowden Hill, Chippenham.

*CoWELL, Rev. Can. Maurice Byues (85) Ash Bocking, Suffolk.

*Curtis, Richard Henry (73) "8 .. Warlingham.

Davies, C. =i . oe .. Gwern-y-Arglwyd, Radnorshire.

Day, Dr. F. W. Langston Baldock, Herts.

*de Watteville, Walter, M.p. (60) . . Kingussie.

Dixon, N. E. Ze Oundle, Northants.

Dorrien-Smitu, THos. ALGERNON (73) . Tresco Abbey, Scilly.

Dowson, Miss Sarah Susanna (75) . . Geldeston, Beccles.

Duncan, Rev. J. B. + Lynturk Manse, Alford.

Durrant, Rev. Charles Aubrey (67) . . Wetherby, Yorks.

Ebury, Lord (85) Moor Park, Rickmansworth.

Fawkes, Major Francis (82) . . . Elmfield, Cheltenham.

FawsseEtT, FREDERICK, M.D. (83) . . Louth, Lincs.

Finch, John Edward Montague, M.D. (77) Stoneygate, Leicester.

GARRETT, FRANK, C.E. (74)... . Aldringham House, Suffolk.

Gibbs, Thomas . . 54 ak . . Lindfield, Sussex.

Hall, William oe we ee -. Swerford, Oxon.

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Observers deceased to June 30th, 1919-(continued).

Hamilton-Buchanan, John (58) .. Leny, Callander.

Hibbert, Mrs. .e we .. Landcross, Bideford.

*HitL, Grorce Henry, C.x. (92) .. Manchester.

*Hills-Johnes, Lt.-Gen. Sir James,

V.C., G.C.B. (85) we . .. Dolaucothy, Carmarthenshire.

Hobhouse, Alfred Henry (68) .. Crowthorne, Berks.

Hollond, Mrs. Nina (73) Wonham, Bampton.

Holley, Maj.-Gen. Edmund Hunt (77) ... Oaklands, Okehampton.

Hollins, William (56) -.. . .. Berry Hill, Mansfield.

Holt, John ai a a .. The Thorne, Bacup.

Hume, Rev. Francis Glynne (74) .. Oakley Rectory, Basingstoke.

Innes, John _ we we .. Charlwood, Surrey.

Jepson, A. J. ws wa as .. Fringford, Oxon.

Johnson, John we . we .. Scarisbrick, Ormskirk.

King-Harman, Col. Wentworth Henry(79) Ballymahon, Co. Longford.

Laurie, Cecil Emilius (57) Jarbruck, Moniave.

*LESLIE-MELVILLE, ALEX. SAMUEL (90) Branston Hall, Lincoln.

Lloyd, Maj. Henry John Greame (56) .. Byams, Marchwood, Hants.

Lynes, Col. Samuel Parr (80)... .. Garthmeilio, Corwen.

Macdonald, J. Inshriach, Aviemore.

Macdonald, Rev. John A. - .. Buchlyvie, Stirlingshire.

*McInroy Col. Charles, c.B. (81) .. The Burn, Kincardineshire.

Marshall, Reginald Dykes, p.L., J.P. .. Castlerigg Manor, Keswick.

Martin, John Byng (75) .. wie .. Culmore, Myroe, Co. Derry.

Maw, CuarLes TRENTHAM (54) .. Limpsfield, Surrey.

Mulligan, J. W., M.p os . .. Millbank, Banbridge.

Nicholson, C. 8S. .. we - .. Avenue Road, Highgate, N. 6.

*O'CoNNELL, DANIEL J.P., D.u. (84) .. Darrynane Abbey, Co. Kerry.

Osborne, Rev. Geo. Edward Caulfield .. Botley, Hants.

Owen, Henry, J.P., D.L., D.C.L. (76) .. Poyston, Haverfordwest.

Paterson, John... a Tillicoultry, Clackmannanshire.

Penfold, Miss Susannah Poole Haslemere.

*Planck, Surg.-Gen. Charles, J.P. (88) .. Lyden Croft, Edenbridge.

Ramsden, Miss Louisa Elizabeth (88) .. Oxton Hall, Tadcaster.

Restler, Sir James William, K.B.E., C.E. Metropolitan Water Board.

*Rhondda, Lord, P.c. (63) Llanwern, Newport, Mon.

Rintoun, Lr. Cou. Davin, v.p. (56) .. Clifton College, Bristol.

Rust, Robert .. .e a .. Wearhead, Co. Durham.

Sainty, Chritsopher, c.5. Slough.

Scriven, Miss Emma K. (77) Combe Down, Bath.

SELBY, BeavcHAMP PRIDEAUX J.P. (77) Pawston, Northumberland.

SHARMAN, NATHANIEL PEARCE (91) .. Swanspool, Wellingborough.

*SIDGREAVES, REV. WALTER, S.J. .. Stonyhurst College, Lancs.

Smith, W. ns - i .. Bessbrook, Co. Armagh.
Smituson, T. SPENCER Leicester.

Spencer, Frederick, J.p., p.u. (81) .. Oakhill, Bath.
Tremlett, James Dyer (82) we .. Dalethorpe, Dedham.

*WaTSON, JAMES, C.E. (75) . .. Bradford, Yorks.

Watson, T. Carrick .. ey .. Plumtree Hall, Milnthorpe.
White, Edgar (41) e es .. Gortmore, Waterford.

White, Ernest Albert (66) _ .. Coolleagrean, Waterford.
Williams, G. J... .. .e .. Burnham, Bucks.

Winton, EDwin WixtlaM (90) .. Speldhurst, Tunbridge Wells.

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OBITUARY.

WE have this year to record the deaths of 93 Observers, a complete list of whose names is given on pages xxvii- xxviii. Included in it are many whose work for the Organization had been exceptionally valuable, and we may mention in particular two of the now very small band of original Observers whose records appeared in English Rainfall, 1860, the first volume of the series, of which the present is the fifty-ninth. These were Lord Peckover of Wisbech, who commenced rainfall observations in 1859, and Dr. W. C. Lake, who, though he commenced in 1854, failed to beat Lord Peckover's record of sixty-one years owing to certain interruptions in his series of records at Teignmouth. Special mention should also be made of Mr. T. W. Backhouse, whose records, although not printed in 1860, also extended back to 1859; Mr. John Hopkinson, the energetic Secretary of the Hertfordshire Natural History Society ; Mr. J. R. Gethin Jones, and Dr. J. G. Bartholomew of the Edinburgh Geographical Institute. The last mentioned, although not actually an Observer of rainfall, was so intimately associated in the work of the Organization that we include his name. No fewer than 16 of the Observers whose loss we have to deplore had rainfall records of as much as thirty years to their credit; seven of these exceeded forty years, and the two already mentioned sixty years.

Records of Thirty years and upwards.

Mr. T. W. Backhouse.....	61 years	Prof. A. J. Brown	38years
Lord Peckover of Wisbech.	61 _,,	Mr. H. Colborne.....	38 _,
Mr. G. Corden.....	46. _,	Mr. W.H. Dobson	38 _,
Mr. G. Roper	45. _,	Sir E. G. Loder	36. _,
Mr. J. Hopkinson.....	44 _,	Rt. Hon. Sir J. T. Brunner	35 _,,
Mr. J. Bodenham	43. _,	The Marquess of Ormonde	35 _,,
Dr. W.C. Lake	43 _,	Mr. A. Grant.....	34 _,
Mr. W. H. Bartholomew...	38 _,,	Mr. M. R. Pryor	31. _,

In every case in which we know it the age is added in the main list. Of the 64 persons whose ages we have been able to ascertain, the average was 74; as many as 16 were 80 or more, and two more than 90, whilst only one was less than 59 years of age. One Observer, Captain J. H. Cuthbert, whose name should, properly speaking, have appeared in a previous list, was killed on Active Service.

We are able to add short biographical notices of a few of our helpers who have passed away In many cases fuller accounts of their lives

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are published elsewhere, and we therefore confine attention principally to the scientific interests which in most cases probably played a great part in bringing them into contact with the British Rainfall Organization.

Mr. JOHN AITKIN, F.R.S., of Falkirk, who died on November 13th, 1919, at the age of 80, was trained as a marine engineer, but devoted his long life almost entirely to scientific pursuits and left meteorology deeply in his debt. His name will always be associated especially with the discovery of the part played by dust in the functions of the atmosphere, and the ingenious apparatus which he devised for counting dust particles was used in various parts of the world and gave results of extraordinary interest and scientific value. Dr. Aitken wrote numerous important papers dealing with the physics of the atmosphere, and his researches on the formation of dew will for long stand as classical meteorological work.

Mr. T. W. BACKHOUSE was an example of the best type of non-professional men of science. Like so many of the members of the Society of Friends, he took a keen interest in meteorological and astronomical work, and carried on for more than sixty years an unbroken series of observations at his home, West Hendon House, Sunderland. A great part of the results of these observations he condensed into a book published in 1915, containing summaries of the records for fifty years. Amongst his original investigations was a discussion of the amount of rain falling with wind blowing from the various points of the compass, an investigation to which the situation of Sunderland gave peculiar interest. At the time of his death he had in the press an atlas of star maps. Mr. Backhouse was a Fellow of the Royal Meteorological Society for twenty-eight years and served as Vice-President in 1918 and 1919.

Dr. J. G. BARTHOLOMEW was probably the greatest modern exponent of map-making the world has seen, and as such contributed very materially to the advance of natural science, whilst the artistic merit of his work raised the standard of British cartography to a high level. To meteorologists his memory will always be enshrined in the 'Atlas of Meteorology,' by far the most comprehensive and carefully compiled compendium of meteorological facts ever published in this form. His invention of the 'layer' system of contouring on orographical maps is of the greatest value in the study of rainfall distribution and all other natural phenomena connected with the configuration of the land. Dr. Bartholomew was primarily the founder of the Royal Scottish Geographical Society, and was a member of numerous other scientific societies both at home and abroad. He was a consistent supporter of the British Rainfall Organization, and prepared most of the working maps required for the extensive cartographical studies of Dr. Mill.

XXIV. BRITISH RAINFALL, 1919.

Mr. J. MackKAY BERNARD was an ardent student of science and devoted much time and money to the cause of meteorology, particularly in Scotland. He served for many years as a Member of the Council of the Scottish Meteorological Society, was Vice-President from 1910, and President from 1912 to 1915. It was largely owing to his efforts and munificence that the regrettable closing of the Ben Nevis Observatory did not occur even earlier than it did, since it is on record that during the last few years of its existence his personal contributions towards its upkeep amounted to no less than 2,000.

Mr. GEORGE CORDEN carried on records of rainfall at Croydon without intermission for forty-six years. Commencing in the capacity of dispenser to a firm of physicians, and acting later for the Croydon Rural District Council, his general meteorological observations extended over more than fifty years and form one of the most valuable summaries in existence of the climate of North Surrey. Among Mr. Corden's other interests may be mentioned photography and music, to which he was greatly devoted.

Mr. ANGUS GRANT, for thirty years schoolmaster of Urquhart, Inverness-shire, and later Inspector of the Poor and Registrar for the Parish, was a noted lover of Nature in all her aspects, an ardent geologist and botanist, and an active member of the Inverness-shire Field Club. No one was better versed than he in the folk-lore and ancient history of the Highlands. A member of the Antiquarian Society of Scotland, he wrote several monograms on old Celtic stones, implements, Druidical circles, and other matters of local interest, and as one of the Presidents of the Mycological Society of Great Britain he was regarded as an authority on the fungi of the Highlands. Mr. Grant took up rainfall observing in 1886 and carried on till his death a conscientious and extremely valuable record of the rainfall at Drumnadrochit, on Loch Ness.

Mr. JOHN HopxKinson, of Watford, who died on July 5th, 1919, at the age of 74, was a familiar figure to all who were in the habit of attending scientific meetings, and his interests were extraordinarily wide. He edited for more than forty years the Transactions of the Hertfordshire Natural History Sockety, including rainfall and other meteorological records for the County, and was Secretary from 1875-91 and President in 1891-93. He was for many years a member of the Council and was a past Vice-President of the Royal Meteorological Society, and he established a well-equipped meteorological observatory at St. Albans, taking much trouble in arranging for its continuance after his death. In 1899 Mr. Hopkinson became Treasurer of the Rae Society, and his later years were devoted largely to work on their publications, dealing with natural history in its widest sense. He wrote numerous papers on scientific subjects, being specially interested in natural history and geology. He was a recognized authority on the underground water in

OBITUARY. RXV.

the chalk. As an Observer for the long term of forty-four years to the British Rainfall Organization, and especially in his capacity as collector of local rainfall records for Hertfordshire, Mr. Hopkinson was always ready to extend courteous help to us in our work, and the loss of his genial co-operation will be severely felt. |

Mr. J. R. GETHIN Jones was born at Penmachno, near Bettws-y-Coed, and was the son of Mr. Owen Jones, a well-known architect and contractor, who in private life gained a reputation as a Welsh Bard, in respect of which he received the name Gethin (ability) retained by his son. An inborn lover of Nature, and especially of the then hardly explored mountains of his native Snowdonia, the younger Gethin Jones early devoted himself to their study, and interested himself especially in turning to account his engineering training in developing the potential water powers of the district, which have since become so famous. In this connection he set up a large number of rain gauges in remote spots in the higher valleys of Snowdon and obtained records which not only convinced him of the commercial soundness of his views but at the same time were of very great scientific value in throwing light on the control of rainfall exercised by the configuration of the land. Mainly owing to his enterprise a company was formed for the exploitation of the almost inexhaustible stores of energy then running to waste; and from this modest beginning has sprung the great Aluminium Corporation, which now includes the North Wales Power Company, of which Mr. Gethin Jones was also the originator. In the near future the Corporation will supply electricity to the whole of North Wales, and their current is at present, among numerous other uses, supplied to the great Marconi station at Waenfawr and transmitted to the other side of the Atlantic. In 1910, at the suggestion of Dr. Mill, Mr. Gethin Jones undertook the arduous task of measuring the daily rainfall and stream flow in the Black Mountains in Breconshire, and it is mainly owing to the ability and devotion with which he carried out this piece of work during seven years that one of the most complete series of hydrological data in existence for the British Isles was obtained. Mr. Gethin Jones was a keen student of meteorology; his occasional contributions to its literature, among which may be mentioned his article on the Snowfall of the Snowdonian Range, in British Rainfall, 1909, betrayed a wide knowledge and a keen insight into natural phenomena. His devotion to Nature, intense and poetical love for his native country and language, and his keen sense of humour, made him an inspiring companion and one whose memory will long be cherished among those with whom he came into contact. |

Dr. W. C. Lake, of Teignmouth, who died in February, 1920, at the great age of 94, was, after the death of Lord Peckover of Wisbech, in October, 1919, one of the only two Observers of rainfall whose records appeared in English Rainfall, 1860, and who were still sending in their

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XXVi. BRITISH RAINFALL, 1919.

returns. So far as we are able to ascertain, Dr. Lake commenced recording rainfall at Teignmouth in 1854, and continued with some breaks throughout the remaining sixty-six years of his long life.

SIR EDMUND GILES LODER, BartT., of Leonardslee, Horsham, was better known as a naturalist and sportsman than as a meteorologist, but found time in an exceptionally busy life to contribute records of rainfall for a period covering in all thirty-six years. He was a noted rifle-shot, and his museum, said to be the second best of its kind in the kingdom, contained a wonderful collection of horns and heads from all parts of the world. He had also brought together a unique collection of conifers and of rhododendrons, on which he was a great authority.

LorD PECKOVER OF WISBECH, a well-known member of the Society of Friends, passed his life in the quiet country town of Wisbech, where he was for many years a partner in the old banking firm of Gurney, Birkbeck, Peckover & Co., whose business was later taken over by Messrs. Barclay & Co. He was a great collector of books, manuscripts and maps, and made a large collection of early and rare atlases, many of which he presented to the Royal Geographical Society. He also had a remarkable collection of Greek MSS. of the Bible. His record of rainfall at Wisbech was commenced in 1859, and maintained throughout the whole of the subsequent sixty-one years without a break. We believe that it is still being kept up by his family.

Mr. M. R. Pryor, of Weston, Stevenage, in early life showed promise of a very unusual ability in the pursuit of science, gaining the first Natural Science Scholarship and first Natural Science Fellowship at Trinity College, Cambridge, besides ranking as seventh Senior Optime in the Mathematical Tripos of 1870. He devoted himself for a short time to these pursuits, but later, to the great loss of the scientific world, applied his powers to business, in which he was remarkably successful. He, however, took every opportunity of participating in and aiding scientific work and was a keen ornithologist and a student of architecture. He inherited Weston Park from his uncle, and in 1890 commenced observations of rainfall, which he continued to carry on personally till his death in April, 1920.

Mr. MAGNUS SPENCE, one of the few rainfall Observers who contributed records from the remote Orkney Islands, took up the task of official meteorological recorder at Deerness in 1891. His work was of the highest quality, and during the strenuous years of war, in addition to his professional duties as a schoolmaster, he found it possible to act as telegraphic reporter to the Meteorological Office, taking observations five times each day. Mr. Spence was an antiquarian of distinction and a great authority on the flora of the Orkneys. His paper on the Climate of Orkney, published in the Journal of the Scottish Meteorological Society (No. 25, pp. 238-255) is of permanent value.

; OBITUARY, XXVil.

Observers deceased to June 30th, 1920.

Small Capitals designate Observers with Records of Thirty years and upwards.

*Aitken, John, LL.D., F.R.S. (80) Ardenlea, Falkirk

Anderson, Col. J. W. Macclesfield (82) The Thirlings, Wooler

*BackHoussE, THOMAS WILLIAM (78) . West Hendon House, Sunderland

Bailey, Major George James..... Invergloy, Inverness-shire

*Bartholomew, John George (60)..... Edinburgh

man WILLIAM HAMMOND Leeds

89)

Beacom, J.-.-.- Belleek, co. Fermanagh

*Bernard, John Mackay, B.SC., F.R.S.E. Dunsinnan, Perth

(63)

Bibby, Col. Alfred Selborne, Hants.

Birch-Reynardson, Col. Charles (73).. Holywell Hall, Lincs.

Birkbeck, Morris (81) Shortheath, Farnham

Blathwayt, Lieut.-Col. Linley (80) .. Batheaston, Som.

BoDENHAM, JOHN (87) Edgmond, Newport, Salop.

Bradshaw, Miss Emma Luisa..... Steeple Aston, Oxon.

Bridgeman-Simpson, William Park Hill, Wetherby

Brown, Pror. ADRIAN JOHN, F.R.S. Northfield, Birmingham

(68

Brown, Miss Clara (59) Esthwaite Lodge, Hawkshead

BRUNNER, Rt. Hon. Sir Joun T., BT., Chertsey

P.C., M.P., DL. (78)

Bull, Arthur (72)..... Cottenham, Cambs.

Carter, Mrs..... Maugersbury, Stow-on-the-Wold

Carver, Hugh Ruscombe, J.P. (60) .. Chilton Polden, Som.

COLBORNE, HENRY, M.R.C.S. St. Leonards-on-Sea

Colville, Ed. Leigh Mansel (63)..... Kempsey, Bournemouth '

Copland, Montague Bigg (74)..... Preston

*CORDEN, GEORGE (80)..... Croydon

Crewdson, Rev. Canon George (80).. Cambridge

fCuthbert, Capt. J. H. Beaufront Castle, Hexham

Dartrey, Rt. Hon. The Earl of (78)... Dartrey, co. Monaghan

Dell, J.C.....-%...2.+.. Kennington, Ashford, Kent

Deverell, William Henry (84) Bossington House, Stockbridge

Dosson, W. H. Stapleton Park Gardens, Pontefract

Driberg, John James Street (79).... Uckfield Lodge, Crowborough

Duffus, George, M.B. (64) Normanhurst, Woking

Evans, Wilfred J.O. Ashburton, Devon

Estridge, Edward, M.A. (76) Abingdon

*GRANT, ANGUS.....-e+++ee+-+ Drumnadrochit, Inverness-shire

Grant, Robert, J.P. (86) Birchington, Kent

Grey, Joseph-.- Low Fell, Gateshead

Hamersley, Cecil Shafto (67) Broadstairs

Hansell, Francis Robert (65) Sutton, Thirsk

Harbord, Rev. Henry, M.A. (76) Colwood Park, Sussex

Harvey, Henry S. Evesham

Haswell, F. W.....+.+---+- Shifnal, Salop.

Hodgson, Rev. Canon FrancisGreaves Aldwincle, Northants.

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Hollis, James (74)-...+... Waldegrave House, Chewton Mendip

*HOPKINSON, JOHN, F.L.S., F.G.S. (74) Weetwood, Watford

Hughes, T.L.,C.E.....0---.. Wigan

*Jones, John Robert Gethin (59) Llandudno

* See Biographical Note ante. { Killed in actiong

XXVII.1. BRITISH RAINFALL, 1919.

Observers deceased to June 30th, 1920.-con.

Kempthorne, Rev. Philip Henry (79) Wyck Risington, Glos.

King, Robert William (74) Brinkley Hall, Cambs.

Knox, G. Murray Nuthill, Lochgoilhead

*LAKE, WILLIAM CHARLES, M.D. (94).. Benton, Teignmouth

Langford, Lord, K.c.v.o. (72) Summerhill House, co, Meath

Larkin, William Waugh (81)..... Scarborough =

Lassell, Miss Jane (88) Winkton Lodge, Christchurch

Lea, George Henry Clarke (61)..... Clay Hill, Enfield ;

Leatham, Samuel Gurney (78)..... Hemsworth Hall, Yorks..

*LoDER, SIR EDMUND GILES, BT. (70) Leonardslee, Horsham

Machin, H. V., M.a., J.P. (61) Gateford Hill, Worksop

Mainwaring, Col. Chas. Salusbury (75) Galltfaenan, Denbighshire

Marling, Sir William Henry, Br. (84)... Stanley Park, Stroud |.

Meek, Henry Edgar (63) ,..... The Warren, Gullane

Moate, R. F..... Littlemoor Terrace, Doncaster

Morgan, Rev, Daniel Llantrisant, Anglesey

Morrish, James Jeffrey (79) Oxshott, Surrey -

Mylne, Henry Charles (67) Wokingham

Norton, Arthur Mangles (67) Tyspane, Braunton

ORMONDE, THE MARQUESS OF, K.P.(75) Kilkenny

Palmer, Greville Horsley (74) Dagnam Priory, Essex

*PECKOVER OF WISBECH, LORD, LL.D. Bank House, Wisbech

(90)

Pepys, Capt. Arthur (73) Knowle House, Budleigh Salterton

Picot, W. J. ...-..5..-2e++0..-2+- Alderney, Channel Islands

Pocklington-Senhouse, Mrs. F. C. (63) Netherhall, Maryport

Pritchard-Rayner, John Henry (47) . Trescawen, Anglesey

*PRYOR, MARLBOROUGH ROBERT (72) Weston, Stevenage

Raikes, Robert Taunton (76) Treberfydd, Breconshire

Rigden, William Gardener (75)..... Englefield Green, Surrey

Rooke, John (82) Weldon Grange, Corby

ROPER, GEORGE, J.P, (79)+..... Gilling West, Yorks. .

Rose, Sir Philip Frederick, Br., D.t., Rayners, Penn, Bucks.

J.P..(77

Selkirk, Rt. 'ton, the Countess of.... Balmae, Kirkcudbright

_ Smith, Dr. J. F.,..... Whithorn, Kirkcudbright

'Smith, Miss Susan Halse, Taunton

*Spence, Magnus.....%.... Deerness, Orkney

Straker, Joseph Henry, D.L., J.P. (70) Corbridge-on-Tyne . .

Tate, FE. ene pee eeeeeeee- Carlton, Upper Largo, Fifeshire

Thompson, Rev. John Edward Childswyckham, Glos..

Trelawney, John Salusbury Harewood, Buckfastleigh

Tucker, A.,....ee000.20+--+--+-- Brampford Speke, Exeter

Wallroth, Frederick Anthony (73).... Sunbury Lodge, Sunbury

Waring, Arthur Thomas (69) Woodlands, Chelsfield

White, Ernest Albert (66) Cooleagreen, Waterford

Wills, Dr. Charles Farnsfield, Notts.

* See Biographical Note ante,

XXIV BRITISH RAINFALL, 1920.
OBITUARY.

The Obituary list this year is the shortest we have recorded since 1911. It contains 77 names which are given in full on pp. xxvii-xxviii. It is, of course, possible that the death of some Observers has not yet been intimated to us, and it is certain that in the case of correspondents who have not been in touch with the Organization for many years a good many deaths must pass unnoticed, but even allowing for these contingencies the losses this year among the observing staff are remarkably small.

The number of Observers of long enough standing to have reported for thirty years or more whose names appear in the list is only 10, the smallest number since 1906, and with that exception the smallest since 1900. They include, however, no fewer than three veterans with 58, 56, and 50 years' observations respectively, in Mr. James Weston, of Eastbourne, Mr. Henry Clay, of Piercefield Park, Chepstow, and Miss Rouse-Boughton, of Shrewsbury.

Records of Thirty Years and upwards.

Mr. James Weston.....	58 years	Mr. J. H. Taylor.....	38 years
Mr. Henry Clay.....	56. ,,	Mr. W. R. Innes Hopkins	36 __,
Miss F. Rouse-Boughton..	50 ,,	Mrs. Jay Jones.....	32. ,,
Rev. R. E.G. Cole.....	38 -,,	Dr. Henry Clarke.....	30 ,,
Mr. C. Grover.....	38 ,,	Mr. G. Harrison	30 ,,

Of the 77 Observers we have been able to ascertain the ages of 45, and these are appended in the list. It is not without interest to note that they include thirteen octogenarians and four nonagenarians, among whom Mr. J. D. Allen, of Shepton Mallet, stands first at the remarkable age of 97.

It has been necessary on account of exigencies of space to keep the following biographical notes to a minimum. We feel sure that it is fully understood that if any name is passed over no want of appreciation of the service rendered to the Organization and to meteorology is implied.

Dr. HENRY CLARKE spent the greater part of his professional life as Medical Officer of Health to H.M. Prison at Wakefield, and whilst serving in that capacity carried out a valuable series of climatological records for about 30 years. The first 20 years of the observations were embodied in a valuable summary published soon after their compilation by the Royal Meteorological Society. Dr. Clarke was the author of many articles on medical subjects, and was a fellow of numerous scientific societies.

OBITUARY. XXV

Mr. HENRY Cray, of Piercefield Park, Chepstow, appears to have commenced observing rainfall in 1865, and from that date to the time of his death-a period of 56 years-continued the record without a break, an achievement of rare distinction even in comparison with the remarkable instances put on record from time to time in this section of British Rainfall. The last letter we received from Mr. Clay was not uncharacteristic of the modest view which he himself took of his magnificent contribution to meteorology.

Piercefield Park, Chepstow. Jan. 1, 1921.

Dear Sir,-I enclose my rainfall register for 1920, and feel sure that it will be my last. I am 95 years of age, and have kept the rainfall for more than 50 years, measuring it myself for quite 11 months out of the 12. I have always sent it on to Headquarters.-Yours very truly, HENRY CLAY.

Mr. CHARLES GROVER, who died on February 16th, 1921, at the age of 79, was for nearly 40 years astronomical and meteorological observer at Rousdon Observatory, near Lyme Regis, under the direction of the late Sir Cuthbert Peek, and latterly of Lady Peek. Whilst Mr. Grover's contributions to meteorology in this fine series of records was a very great one, his principal interests were probably centred in astronomy, and he was regarded as one of the leading authorities in this country on variable stars. Shortly after he came to Rousdon he went on a world tour with Sir Cuthbert Peek, during which much attention was devoted to astronomical work.

Mr. C. J. J. V. HAWKSRORP, of St. Saviour's, Jersey, began his association with 'the British Rainfall Organization in 1914 when he commenced observing rainfall at his home near St. Helier. His interest in the subject led him to effect a great improvement in the representation of the island of Jersey by inducing residents to start observations, and within a short time he had organized a local rainfall association for collecting and publishing the data obtained. We are glad to hear that this very useful work is being continued by Mrs. Hawksford.

Major HENRY KING carried on for the last twenty years of his life a valuable series of meteorological observations at Isfield Place, Sussex. These observations included, besides the usual readings of temperature and rainfall, records of rainfall duration and of evaporation, this being one of the very few stations with an evaporation tank in operation. Major King bequeathed the whole of his scientific instruments and books and pamphlets on Meteorology to the Royal Meteorological Society, and it is hoped that evaporation records may be established with the tank at another station not far distant.

Dr. G. B. LONGSTAFF was born in 1849, and educated at Rugby, at New College, Oxford-where he won a scholarship and took a first

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class in Natural Science-and at St. Thomas's Hospital, where he was Mead Medallist. He devoted much time to municipal and philanthropic work, and while on the County Council, as chairman of the Building Act Committee, took a principal part in drafting and getting through Parliament the London Building Act of 1894. He was a fellow of a number of learned societies and had been Vice-President of the Royal Statistical and Entomological Societies. He published several books on scientific and other subjects. Dr. Longstaff commenced an excellent series of rainfall observations at his Devonshire residence near Mortehoe, in 1910, and these are being continued by his son Col. Ralph Longstaff.

Dr. EpMuND JAMES MiLtis, F.R.S., Professor of Technical Chemistry at Glasgow University, was not actually a rainfall observer, but ranks among those who have contributed to the work of the British Rainfall Organization in virtue of the fact that in 1865, in collaboration with Mr. Symons, he organized and put into operation a scheme for the study of the salt-content of rain on lines not dissimilar to those described in a special article in Part IV of the present volume, from the pen of Mr. Wilfred Irwin. He was the author of numerous scientific papers, chiefly on chemical subjects, and was from 1904-07 Vice-President of the Institute of Chemistry, to which body he served also as Examiner for several years.

Mrs. HANNAH EDITH PuRcHAS, who died on February 17th, 1921, after a long and painful illness, began an active meteorological career only at the advanced age of 72, when, after the death of the late Mr. Henry Southall, of Koss-on-Wye, the climatological record maintained by that veteran enthusiast for over half a century was threatened with extinction. In order to avert this calamity Mrs. Purchas readily consented to allow the use of her house and grounds for the establishment of an official station. When the war broke out two months later the interest in the science which she had already manifested was still more intensely fired, and in spite of her advanced age she formed and carried out the resolution to study meteorology, and to maintain the full series of observations during the absence on war duty of the observer, Mr. F. J. Parsons. During the years 1914-19 she never faltered in her purpose, never being absent from her post, and taking most of the observations personally three times a day, even in the worst weather. She also bore the whole cost of the work, including the daily telegrams to the Meteorological Office, and carried out the compilation of the full weekly and monthly reports with commendable promptitude and accuracy. Mrs. Purchas combined with the high sense of duty exemplified by the above a charming personality and benevolent disposition. Besides generous gifts for charitable and local purposes she made provision in her will for the permanent maintenance of the climatological work.

OBITUARY. XXVil

Miss FRANCES Rouse-BOUGHTON was one of the most devoted supporters of the work of the British Rainfall Organization, and, indeed, of meteorological work in general. She was keenly interested in the instrumental aspects of the science and lavished great personal care on her equipment. Besides the invaluable contribution of fifty years' continuous rainfall records, first at Larden Hall, near Much Wenlock, and later at The Abbey House, Shrewsbury, Miss Rouse-Boughton made generous gifts in money for the support of the work, and it was by her action in anticipating a contemplated legacy to the Organization, in 1909, that the necessary stimulus for the formation of the British Rainfall Organization Trust was given.

Miss Rouse-Boughton continued her active interest by carrying on her rainfall record until her death at the advanced age of 90, and gave instructions in her will that all her papers containing meteorological statistics, and her complete set of 'British Rainfall' from 1865 to 1919 should be transferred to 62, Camden Square, for safe custody.

Mr. JAMES WESTON, of Eastbourne, during his lifetime of 80 years, contributed rainfall records to the Organization for no less than 58 years, a feat surpassed by very few even among the wonderful band of long-lived and persevering enthusiasts brought together by the common bond of the work. Although during the last few years sadly failing in health and almost blind, Mr. Weston invariably retained the keenest interest in the scientific aspects of the observations to which he had given so much of his life.

Observers deceased to June 30th, 1921.

Small Capitals designate Observers with Records of Thirty Years and upwards.

Adams, A. J.....e+++++ Skelwith Bridge, Ambleside

Addams-Williams, Rev. A. W. (57)..... Panteg Rectory, Mon.

Allen, James Dredge (97)..... Pilton, Shepton Mallet

Bere, Charles (62).....2+++. Old Halls, Milverton.

Boddington, Rev. Edward Henry..... Honington, Shipton-on-Stour

Boyd, JObGssasacucensneseanaceteeee Bord, Argyll

Bradshaw, William (84)..... Carisbrook House, Nottingham

Burman, Dr. Frederick James Wath-upon-Dearne, Yorks

Burton, W. C. V.--+.++2-+++. Carrigaholt Castle, Co. Clare

*CLARKE, DR. HENRY (72).....-.. Wakefield

*Cray, HENRY (95)....-...-2+-+++++ Piercefield Park, Chepstow

Cleverley, Charles Frederick Moore Ripley, Surrey

CoLE Rev. RoBERT EDEN GEORGE (89).. Pottergate, Lincoln

Cookson, Henry Theodore (71) Sturford Mead, Warminster

Curwen, E.-e-e+++++++s Calder Bridge, Garstang

Dean, Edmund (66) Markbeech, Kent

Du Pre, Francis Baring (72) Oakwood, Chichester

Fawssett, Leonard Alston Warwick Avenue, Bedford

Finch, Rev. Thomas Ross (82) Penwortham Hall, Preston

Fisher, Joseph (71)+-+---- Higham, Cockermouth

Gaskill, Rev. Joseph Edward..... Muker Vicarage, Richmond, Yorks

Gott, Frank (61)-...+++.+++-+ Weetwood Garth, Leeds

* See Biographical Note ante.

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Observers deceased to June 30th, 1921-(con.).

Grant, Mrs. Sarah Jane (80) Ninnage Lodge, Westbury-on-Severn
 Grant-Dalton, Seymour (56) Laugharne, Carmarthenshire
 Greg, Thomas Tyiston (62) Coles Park, Buntingford
 *GROVER, CHARLES (79).....--...+--+... Rousdon, Lyme Regis
 Gunner, William Ainge Redhill
 Hardy, W. J.--2eeeeeeceeeeee Crowlands, Peterborough
 HARRISON, G.eeeeeeceeeeee Swinefleet, Goole
 *Hawksford, Cyril John Joseph Vyvyan (53) St. Saviour's, Jersey
 Hawkshaw, John Clarke (79) Hollycombe, Sussex
 Heywood-Jones, Miss Catherine Badsworth Grange, Yorks
 Hillyard, Rev. Arthur Upton Pyne, Exeter
 Hodgson, Rev. John Netherwasdale, Cumberland
 Hopkins, William Randolph Innes (93).. Leat House, Malton
 Howell, David+-----+ Rose Hill, Penzance
 Hubbard, E. Isle Sleights, Yorks
 Hulkes, Cecil James Gladdish..... Hadlow Place, near Tonbridge
 Jekyll, Edward Joseph (81)..... Higham Bury, Ampthill
 Jex-Blake, Mrs. Henrietta (85) The Deanery, Wells
 Johnston, Sir George, Bart. (76) Ewhurst, Surrey
 Jones, Mrs. Emiry Jay (84)..... Holmhurst, St. Albans
 *King, Major Henry (64) Isfield Place, Uckfield .
 Lee, Edward Arthur (70)..... Fowley, Liphook
 Lloyd, Francis Zachary, C.B.E. (51).... Areley Hall, Stourport
 *Longstaff, Dr.G. Blundell, M.A., M.D.(72) Twitchen, Morthoe
 Lough, A. S.00eeeeeeeeee-- Killeshandra, Co. Cavan
 Mainwaring, Col. Charles Salusbury (75) Bwlchybeudy, Cerrig-y-Druidion
 Mair-Rumley, John George Valentine (77) Udimore, Sussex
 Mays, Miss F. E.-.. East Rudham, King's Lynn
 *Mills, Prof. Edmund James, F.R.S. (79) London
 Oliver, Mrs. M.2.-...--.. Tilford, Farnham
 Pember, George Herbert (75) Fair Oak Park, Eastleigh
 Pike, Prof. William Herbert, D.Sc. (69).. Sandhills, Salcombe, Devon
 Prevost, E. W., Ph.D..... Weston, Ross, Herefordshire
 Prichard, Thomas (74) Llwydiarth Esgob, Anglesey
 *Purchas, Mrs. Hannah Edith (79) Chasedale, Ross-on-Wye
 Richardson, William Ryder Sandwich, Kent
 *ROUSE-BouGutTon, Miss FRANCES (90).. The Abbey House, Shrewsbury
 Rutson, Henry (89) Newby Wiske, Northallerton
 Shepherd, Sherringham Alfred Grafham Grange, Bramley
 Southall, H. John Leominster
 Stanford, Herbert S. K. Halesworth, Suffolk
 Stewart, Lieut.-Gen. John McKie (79).. Carruchan, Dumfries
 TAYLoR, JoHN Henry, M.I.C.E..... Barnsley
 Thurgood, E.C. Exmouth, Devon
 Vaughan, Rev. Prebendary Henry Wraxhall Rectory, Som.
 Vicars, Sir Arthur, K.C.V.O. (57) Kilmorna, Co. Kerry
 Walker, George Booth (78) Wainfleet, Lincs.
 Walker, Rev. Richard (79) East Ayton Lodge, Yorks.
 *WESTON, JAMES (80)..... Staveley Cross, Eastbourne
 White, W. T.....+6+..... Aishott, Bridgwater, Som.
 Woodhouse, Alfred Edward Clayton (62) Kilve, Somerset
 Woods, Miss Lucy Katherine Chilgrove, near Chichester
 Woollcombe, Rev. Arthur Augustus.... Leusdon, Ashburton
 Wright, John George (52) Halton Park, Lancaster
 Wynne, Sur.-Gen.W.ArnoldSmith,M.D.(85) St. Olave's Priory, Suffolk
 * See Biographical Note ante.

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OBITUARY.

The Obituary list for the twelve months ended on June 30th, 1922, is, we regret to say, the longest ever printed in British Rainfall, containing as it does no fewer than 121 names. Among the losses which the ranks of present Observers and the roll of past Observers have sustained are many men of great distinction, not only in meteorology, but in other walks of life. Among these may be mentioned the great statesman Viscount Bryce and the veteran Earl of Ducie, the "father" both of the House of Lords and of the Royal Society. The deaths of two physiographers of high standing, Dr. W. S. Bruce and Dr. H. N. Dickson, of Dr. G. W. Walker and of the late Astronomer Royal are losses which the scientific world has deplored. Among those more closely associated with the work of the Organization were three Observers of over 50 years' standing, Mr. J. J. Dalglish, Mr. W. C. Stunt, and Mr. Walter Morrison ; three of the devoted band of men who took part in the arduous meteorological work at Ben Nevis Observatory ; and the oldest member of the office staff, Mr. R. Lamport, who faithfully served the late Mr. Symons and his successors for a period of 34 years, until his retirement in 1919.

The following list of Observers who have died during the year, having records of over 30 years to their credit, is noteworthy :-

Records of Thirty Years and upwards.

Mr. J. J. Dalglish.....	57 years	Miss E. S. Lomer.....	37 years
Mr. W.C. Stunt.....	35 ,,	Mr. R. Lamport.....	36 "
Mr. W. Morrison.....	52 ,,	Mr. E. B. Beauchamp....	34
Mr. R. Osmond.....	44. ,,	Rev. P. R. Worsley.....	34
Mr. B. I. Whitaker.....	44 ,,	Rev. G. E. Aspinall.....	32 "
Mr. J. A. H. Caird.....	43 ,,	Rev. T. M. B. Paterson....	32
Dr. F. E. Carey.....	42. ,,	Mr. W. H. Whitaker.....	32 ,,
Mr. A. Collenette.....	42. ,,	Lord Ducie.....	31
Mr. D. Jones.....	Al ,,	Sir W. H. M. Christie.....	30
Rev. J. H. Thompson....	38 __,	Rev. H.C. V. Snowden....	30 __,
Mr. J. Thomson.....	38 ,,	Mr. W. Welch	30
Mr. A. H. Leslie Melville...	37 __,		

Of the 121 persons whose names appear in the list we have been able to ascertain the age of 81; of these as many as 59 were over 70 years old, 27 were over 80, and 4 over 90, the list being headed by Lord Ducie.

The following brief biographical notes give attention, as far as possible, to the points in which the lives of our friends were most definitely in contact with the work of the British Rainfall Organization.

Rev. JOHN SMITH BEGG, M.A., Rector of St. Olaf's Church, Kirkwall Orkney, who died on December 14th, 1921, at the age of 46, had

rendered considerable services to meteorology in Scotland. A native
B

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of Perth, he was educated mainly at Edinburgh, where he entered the University with the high distinction of First Bursar, and graduated with honours in mathematics and natural philosophy. From his student days onwards he took a keen interest in meteorology, and on many vacations he acted as a voluntary observer on Ben Nevis.

Mr. Begg's career as a clergyman of the Episcopal Church in Scotland took him successively to West Linton (1907-13) and to Kirkcaldy (1913-18) ; at each place he established a climatological station and secured its continuance, whilst at West Linton a small research grant enabled him to carry out an investigation into the question of temperature gradients with different types of weather. He resigned his charge at Kirkcaldy in order to accept a commission in the Royal Air Force in 1918, and after a period of training was posted as meteorological officer at Longside Airship Station, Aberdeenshire. On demobilization in September, 1919, and election to his charge at Kirkwall, he took over the duties of climatological Observer at that place.

Mr. Begg was not a physically robust man; but his eager spirit was never daunted, and he will be remembered as representing the highest type of the voluntary worker to whom this country owes so much.

Dr. WILLIAM SPIERS BRUCE at the outset of his career took up the study of medicine, but an opportunity of joining the Balaena in 1892 on her voyage to the Antarctic seems to have been the factor which determined the trend of his life, which was thenceforward devoted to oceanography and meteorology, more particularly in their relation to polar exploration. In 1896 he was appointed as naturalist on the Jackson-Harmsworth expedition to Franz-Josef Land, and he spent much time on similar work until, in 1902, he was able to carry out his cherished project of himself organizing an expedition. Bruce's work on the Scotia in the Weddell Sea is well known to all interested in Antarctic exploration, not least for the splendid meteorological work, in which he was fortunate in having the co-operation of Mr. R. C. Mossman.

For the purpose of studying his collections, Bruce founded the Scottish Oceanographical Laboratory, and spent the greater part of his remaining years in this work, which was published from time to time. His claim to a place among the great naturalists of the day is well established, and his periodical spells as observer at the Ben Nevis Observatory entitle his name to be enrolled among the Observers of the British Rainfall Organization.

Viscount Bryce, whose name will probably never be forgotten as statesman, diplomatist, and historian, added to his great achievements in these spheres distinction as a geographer and _ traveller and a widespread interest in all natural phenomena. During a lifetime

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of exceptional activity he found time to carry on for more than 20 years a careful record of rainfall at his home in Sussex, and to give numerous evidences of a keen appreciation of the work of the British Rainfall Organization.

Dr. FRANCIS EDWARD Carey, of Villa Carey, Guernsey, who died on October 1st at the great age of 86, was a remarkable figure among the many quietly unobtrusive meteorological Observers who have made the standard of voluntary recording in this country so high. Dr. Carey came from a distinguished Guernsey family, and would undoubtedly have made a great name as a medical man but for his devotion to the island of his birth which he 'could never be brought to leave for any length of time. He commenced meteorological observations in St. Peter Port in 1880, and for more than 40 years maintained a daily register of sunshine, temperature, and rainfall, taking the readings personally to the last in spite of his great age.

Sir WILLIAM CHRISTIE, K.C.B., F.R.S., was appointed chief assistant at the Royal Observatory, Greenwich, in 1870, at the age of 25; and in 1881, whilst still a young man, rose to the high rank of Astronomer Royal, then vacated by Airy. Much of his most brilliant work in this capacity was in connection with photo-heliography and the equipment of the Observatory for solar observation was greatly improved during his term of office. The meteorological work of the Observatory also came under his charge, and during the 30 years over which his responsibility extended, an elaborate tabular statement of the rainfall records at various heights above the ground was regularly prepared and contributed to the pages of British Rainfall.

Mr. ADOLPHUS COLLENETTE. The death of Mr. Collenette, in his eighty-first year, following closely upon that of his veteran friend, Dr. Francis Carey, robbed the island of Guernsey of another distinguished meteorologist. Mr. Collenette, whose scientific interests were extremely diverse, spent the whole of his long life in his native island, where he was very widely known and respected. Trained originally to the medical profession, he early adopted the career of a chemist, but from 1880, when he collaborated with the late Dr. Hoskins in studying the climate of Guernsey, meteorology made ever increasing demands on his attention. After the death of Dr. Hoskins in 1888, Mr. Collenette greatly extended the scope of this work. He was appointed director of the States Meteorological Department, and, as well as framing local weather forecasts, published an annual report containing rainfall records from all parts of the island and summaries of his own excellent observations. In the last year of his life he was engaged on the organization of an official observatory designed in order that his work might be carried on after his death, a result which there is every reason to hope will be achieved.

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Mr. ALEXANDER Cross, of Langbank, Renfrewshire, who died at Knockdon, Maybole, in October, 1921, at the age of 71, was a strong believer in the utility of scientific methods, including rainfall observing, as applied to agriculture. He maintained records at several estates in Scotland and England, and sent regular returns to British Rainfall. He was a prominent exhibitor at the principal Agricultural Shows, and was for many years a member of the Scottish Meteorological Society.

Mr. JOHN JAMES DALGLEISH, of Brankston Grange, Alloa, appears to have commenced observations of rainfall at West Grange, Culross, Perthshire, as long ago as 1865, and since that date annual returns have never failed to be regularly received, his unbroken record thus covering the remarkable period of 57 years.

Dr. HENRY NEWTON Dickson was born at Edinburgh in 1866, and, like many prominent meteorologists, began his work rather as a physiographer, oceanographer, and geographer than entirely as a student of the weather. He spent a considerable period as an observer at Ben Nevis Observatory, and carried out an immense amount of work in connection with the Challenger expedition, the Scottish Marine station, and the Marine Biological station at Plymouth. He was the author of two extremely lucid text-books, Elementary Meteorology and Climate and Weather, and in co-operation with the Meteorological Office compiled an important treatise on the Circulation of the Surface Water of the North Atlantic Ocean. In 1906 Dickson was appointed professor of geography at University College, Reading, and did much to encourage meteorological research among his students. At Reading he set up a self-recording evaporimeter of his own design, and was obtaining some extremely promising results, when, at the outset of the war, he was called away to assist the Intelligence Division of the Naval Staff in the formation of a geographical section. The greater part of his remaining years were given to the organization of this work for which his experience gave him a special aptitude. After the close of the war he was appointed principal assistant to the Editor of the Encyclopaedia Britannica.

Dickson was assiduous in his attendance at the meetings of the Royal Meteorological Society. He was a member of the Council, with a few short breaks, from 1896 to 1916, and was re-elected in 1921. He occupied the Presidential Chair in 1911 and 1912. In this capacity he carried out the difficult task of transferring the collection of records of voluntary climatological stations from the Society to the Meteorological Office, a policy which has had a profound effect on meteorological organization in this country, cementing as it undoubtedly did the recognition of the voluntary observer as an integral part of the official meteorological machinery of the British Isles. This made possible the

. OBITUARY. Xxi

conception of an officially conducted organization largely on voluntary lines such as now exists within the Office. The policy has been logically followed in the absorption by the Office of the British Rainfall Organization, for which its adoption did much to smooth the way.

Mr. Jos-Eph HENRY GRUBB, of Clonmel, Co. Tipperary, was, like so many of the members of the Society of Friends, an almost life-long student and recorder of the weather, and a faithful supporter of the rainfall work. His observations were of unique value, not only on account of his meticulous care, but also because they constituted one of the comparatively few long and unbroken records from the south of Ireland. We are glad to know that arrangements have now been made for the rainfall records at least to be carried on. The whole of Mr. Grubb's original record books and meteorological papers, dating back to 1864, when the observations were commenced by his aunt, Miss Grubb, were passed over to the Meteorological Office on his death.

Mr. Davip JONES, of Rhosyferfedd, Montgomeryshire, was chosen by Mr. Symons in 1881 to make an important series of rainfall observations at the remote station known as Bwlch Tomlyd among the Welsh hills, in connection with a water-supply enquiry in which he was consulted. Mr. Jones continued the readings for the remainder of his life, a period of 41 years, and we have the satisfaction of knowing that his son has undertaken to carry on this valuable piece of work.

Mr. RICHARD LAMPoRT, whose death occurred on August 25th, 1921, at the age of 79, entered the service of the late Mr. G. J. Symons in 1885, and retired from the staff of the British Rainfall Organization in October, 1919, shortly after the transfer to Government control of the institution to whose history he had contributed during so long a period. After the death of Mr. Symons in 1900, and the retirement of Mr. Sowerby Wallis in 1903, Mr. Lamport's association with the office work had been considerably longer than that of any other member of the staff, and his experience was thus of great value in ensuring the continuity of the routine during the various changes through which the Organization has passed during the last twenty years. Previous experience in legal work fitted him in an especial degree for the place which he filled in the office, and his wonderful accuracy as a computer and copyist enabled him to carry out, with high efficiency, the whole of the work of filling in the permanent files of rainfall records. He was also responsible for the bulk of the checking of the ever increasing number of rainfall returns, and for the compilation of the rainfall and climatological tables appearing each month in Symons's Meteorological Magazine. Mr. Lamport's strong sense of duty and loyalty gave him a high place in the affection and esteem of his colleagues.

Mr. WALTER Morrison, who died on December 18th, 1921, at the age of 85, carried on rainfall observations for 52 years at his residence,

Mr. WALTER CHARLES STUNT, of Lorenden, Ospringe, near Faversham, was one of the comparatively few Observers whose personal records cover more than half a century. Commencing at Brogdale, near Faversham, in 1866, and removing a short distance in 1878 to Ospringe, Mr. Stunt in all sent records for a period of 55 years, and was one of the most faithful of the many thousands of friends who have helped forward the rainfall work.

Observers deceased to June 30th, 1922.
Small Capitals denote Observers with Records of Thirty Years and upwards.
Acocks, Herbert Francis, C.E. (59)..... Ashtead, Surrey.
ASPINALL, REV. GEORGE EDWARD, J.P. (79) South Oram, Halifax.
Bagshawe, Rev. Wm. A. E. Vale (75).... Quarndon, Derby.
Baker, Hugh Meredyth (64) Ealing, W.
Balkwill, William (77)..... South Huish, Kingsbridge.
Bankes, Ralph Vincent, H.C. St. George's Square, S.W.
BEAUCHAMP, EDMUND BEAUCHAMP (89)... Trevince, Redruth.
*Beck, Frank Reginald, M.V.O..... Sandringham.
{Begg, Rev. John Smith (46) Kirkwall.
Bell, Reginald (73) The Hall, Thirsk.
Bennett, W. O.....+... Bawdsey, Woodbridge.
Bonny, J. A. cescwssassecaneceseass Southport,
Bridger, F.+-.+.+++++... Penhurst Place, Tonbridge.
{ Bruce, Dr. William Spiers, LL.D., F.R.S.E. Edinburgh,
* Killed in Action, t+ Se2 Biographical Note ante.

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Observers deceased to June 30th, 1922.-(con.).

+Bryce, Viscount, O.M., P.C., F .R.S. (84) Hindleap Lodge, Forest Row.

Brydson, Arthur Paul (62) Water Park, Coniston.

Burd, Rev. Preb. Frederick Hookfield House, Bridgnorth.

CAIRD, JAMES ALEXANDER HENRYSON (74) Creetown, Kirkcudbrightshire.

Campbell, R. B.+---+----- Poolewe, Ross-shire.

Canning, T.-.-+----- Aldenham Park, Bridgnorth.

+CarEy, Dr. Francis Epwarp (85)..... Villa Carey, Guernsey.

+CHRISTIE, StR WittiaM H. M., K.C.B., Royal Observatory, Greenwich.

D.Sc., F.R.S, (77).

Cleeve, Major-General W. F., C.B. (69).. Llanfrechfa Grange, Mon.

Cochrane, Vice-Admiral Basil Ed. (80) .. Windlesham, Camberley.

Coghill, Sir Egerton Bushe, Bart. (69) ... Castletownshend, Skibbereen.

+COLLENETTE, ADOLPHUS (80) Brooklyn, Guernsey.

Coote, Charles Harold (57) Houghton Grange, Huntingdon.

+Cross, Alexander (70)-. Langbank, Renfrewshire.

Cuffe, Thomas Withy (66)..... Fiddington, Bridgwater.

+DALGLEISH, JOHN JAMES, D.L. (85) Brankston Grange, Alloa.

Day, Frederick eee eee eee eee South Molton.

Deverell, John Croft (81)..... Pixham Firs, Dorking.

Deverell, Miss Frances Anne (87) Cosham, Hants.

Dick, Rev. Robert (78) Upper Largo, Fifeshire.

+Dickson, Henry Newton, C.B.E., D.Sc. (55) University College, Reading.

Dods, Rev. George-...+.+... Barr, Girvan.

DuciE, Earu of, F.R.S. (94) Tortworth Court, Glos.

Dunlop, Charles Walter (76).....+-. Whitmuir Hall, Selkirkshire.

Dyke, Lt.-Col. George Hart (75) Shillingford Hill, Wallingford.

Eld, Rev. Francis John (91) Polstead, Suffolk.

Farrer, Lt.-Col. Phillip (67)..... Binnegar Hall, Wareham.

Ferard, Charles Agace (70) Bracknell, Berks.

Foster, Charles Finch (80) Pinehurst, Cambridge.

Foster, Mrs. J. H.+.-+-. Witley, Godalming.

Fox, Sir Charles Douglas, J.. (81) Kippington Grange, Sevenoaks.

Frith, Jo... 0... eee eee eee eee eee eee Huddersfield.

Gosling, Robert Cunliffe, J.P. (53) Hassobury, Bishops Stortford.

Grieve, Miss Marion Fisher (90) Skelfhill, Hawick.

+Grubb, Joseph Henry (82)..... Bruce Villa, Clonmel.

Hall, Josiah (71) .. 0... 0. eee eee eee ee Cockermouth.

Harmsworth, J.....-....+.-+++++ Durford, Petersfield.

Hooker, Lady+----- Pendock, Tewkesbury.

Hose, Rt. Rev. George Frederick (83).... Normandy, Guildford.

Huddleston, Denys Lawlor (76) Sawston Hall, Cambs.

Hudson, H.+2++e++-++ Cragside Gardens, Rothbury.

Hutton, John (74)..... 0.62. eee eee eee Sowber Gate, Northallerton.

Inglis, D.-+--+2+++++++ Drumlarig, Dumfries.

Invine, Alexander Forbes (41) Drum Castle, Aberdeenshire.

Johnson, Mrs. E. A.2.+++++- Scarisbrick, Ormskirk.

+ JONES, DAVID-----+ Bwich Tomlyd, Montgomeryshire.

Jones, Rev. David Secretan (87) Mumbles, Glamorganshire.

Karslake, Walter.....-...-. Bovey Tracey, Devon.

Kirkby, W. Horseman..... West Kirby, Cheshire.

LAMPORT, RICHARD (79)-.....+.- Willesden Green, N.W.

Lanyon, Sydney Howard..... Tolvean, Redruth.

Latham, Percy Holland..... Haileybury College, Hertford.

LEsLiz-MELVILLE, ARTHUR HENRY,O.B.E. D'Isney Place, Lincoln.

(80).

t See Biographical Note ante.

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Observers deceased to June 30th, 1922.-(con.).

Lidbetter, R. M. (77)-.- Cockermouth.
 Lloyd, Col. R. O., C.B., D.L., J.P. (72).. Treffgarne Hall, Pembrokeshire.
 Lomer, Miss ELLEN SARAH (78) Merrow, Guildford.
 M'Connell, John Wanklyn (67)..... Colmonell, Ayrshire.
 MacIntosh, Charles (83)..... Inver, Dunkeld.
 MacMahon, J.-++-+e++++e-++ Pallasgreen, Co. Limerick.
 Martin, John G.+++.+ Cutroach, Wigtownshire.
 Middleton, Lord (78) Birdsall House, Malton.

 {Morrison, WALTER (85) Malham Tarn, Yorks.
 Napier of Magdala, Lord (76) Lyndale, Isle of Skye.
 OSMOND, RICHARD-+.- Reading.
 Palmer, George, C.E..... Suirvale, Cahir.
 PaTERSON, Rev. T.M.B. Laighstone Hall, Hamilton.
 Paul, George (79)+....-.. Cheshunt, Hertfordshire.
 Peckham, Rev. Harry John (80) Summersdale, Chichester.
 Peckitt, Lt.-Col. Reginald William (79)... Thornton-le-Moor, Northallerton.
 Penfold, Dr. Frederick Wm. Hy. (62) ... Rainham, Kent.
 Pringle, A. L..... 2... cee eee ee ees Stow, Midlothian.
 Reade, William M.....+.. Knotty Ash, Liverpool.
 Richards, W. J.....-...+e++++e8+++.. Stamford, Lincolnshire.
 Roberts, T. J. S.-....2-++..+++ Drygrange, Melrose.
 Robinson, Mrs. Frances Jane Coombe Head House, Chard.
 Rolleston, Colonel William Vilett (79) ... Saltford House, Bristol.
 Roper, Mrs. Elizabeth (73) Gilling West, Richmond, Yorks.
 Rosling, Alfred (90)..... Wray Lodge, Reigate.
 Rosse, Countess of (71) Womersley Park, Doncaster.

 : St. John, Rev. John Seymour (74) Pencombe Rectory, Worcester.
 St. Maur, Lord Ernest (75) Burton Hall, Loughborough.
 Salmon, H.C.-....++2+-+.+-.-+ Northfield, Bridgwater.

 Sanders, John Drysdale (61)..... Gate Burton Hall, Gainsborough.
 Sanderson, Frederick William..... Oundle School, Northamptonshire.
 Smith, Peter+....++-....+ Duns Castle Gardens, Berwickshire.
 Smith, William Arthur (89)..... Colebrooke Park, Tonbridge.
 SNOWDON, REV. Harcourt CHARLES St. Peters, Broadstairs.
 VAUSE (77).
 Soames, Rev. Henry Aldwin (64)..... Bromley, Kent.
 Steventon, P. C. (29) Torquay.
 +STUNT, WALTER CHARLES (80) Ospringe, Faversham.
 Sturge, Dr. Caroline (61) Winscombe, Somerset.
 Tuompson, REV. JOSEPH HUGILL Warkleigh, Devon.
 THOMSON, JOHN (87)-- Woodperry, Oxon.
 Thomson, William, C.F. (46) Ramsgate.
 Travers, Mrs. Amory (70) Tortington House, Arundel.
 Trench, John Alfred (84) Winscales House, Workington.
 Waithman, Charles (74) Gomshall, Surrey.
 + Walker, Dr. George Walker, F.R.S. (47)... Eskdalemuir Observatory.
 WELCH, WILLIAM (76) Cranleigh, Surrey.
 Welsh, William (70) Owslebury House, Winchester.
 Wenn, T. H.-+++++e0-++++-++ Downham Market, Norfolk.
 WHITAKER, BENJAMIN INGHAM, J.P. (84). Hesley Hall, Nottinghamshire.
 WHITAKER, WILLIAM HENRY, D.L., J.P.(88) Totterton Hall, Shropshire.
 Whitehead, Miss M. L..... Deighton Grove, York.
 Widnell, Edward Herbert (62) Royston, Wimborne.
 Wilson, John (74) Hillesdon, Leek.
 WoORSLEY, REV. PENNYMAN RALPH..... Little Ponton Rectory, Grantham.
 ft See Biographical Note ante,

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INQUIRIES.

In addition to these professional reports, 369 inquiries, an increase of 64 on the previous year, were received for information connected with rainfall over the British Isles.

SPECIAL WORK.

A good deal of the time has been devoted of late to a general investigation of the variations of rainfall in the British Isles during the last fifty years. A paper by Mr. Glasspoole on the mean and extreme range of annual rainfall was published in British Rainfall, 1921, a preliminary paper on the fluctuations in amount and distribution of annual rainfall from 1868 to 1921 was contributed to the Royal Meteorological Society, and two papers on cognate subjects are included in Part IV. of the present volume. An investigation on similar lines into the variations of the 35 years' average of annual rainfall has been commenced as a preliminary to the extension of the rainfall survey map of the British Isles on the scale two miles to the inch, about one-half of which is now drawn. The survey map has been extended or revised in parts of the counties of Ross and Cromarty, Perthshire, Westmorland, Durham, Yorkshire, Lancashire, Denbighshire, and Devonshire.

The standard rainfall normals for the period 1881-1915 have been revised and extended. A complete series has been prepared for publication in due course by the Meteorological Office as a Section of the Book of Normals.

As much of the time of the staff as could be spared for the purpose has been devoted to re-arranging the rainfall records in the possession of the Organization, which date back to 1677, with a view to making the order uniform throughout. The records so far dealt with are those for Ireland back to the year 1880, and those for Scotland since 1900. Opportunity is being taken to improve the map index showing the positions of the stations.

OBITUARY.

Mr. MORRTYN DE CARLE SOWERBY SALTER.-The following obituary notice was written by Dr. H. R. Mill for the Meteorological Magazine*:-

Readers of this Magazine will learn with a sense of personal loss that Mr. Carle Salter died after a very short illness on May 21st. For nearly a quarter of a century no issue of the Meteorological Magazine appeared without his collaboration in its production, and latterly it was upon him that the difficult task devolved of adapting the old traditions which had been growing up for sixty years to the new conditions of the post-war world.

"_ * Reprinted from The Meteorological Magazine, Vol. LVIII, June, 1923, No. 689...

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Mr. Salter was the son of Mr. M. J. Salter, who was well known as a scientific chemist in London, and his ancestors included several whose names remain familiar in the scientific world, notable amongst them the famous botanist, Dr. Sowerby. After an education at Bancroft's School, Mr. Saiter joined the staff of the British Rainfall Organization, at 62, Camden Square, in 1897, and thus had for three years the advantage of working under Mr. G. J. Symons, F.R.S., the founder of the voluntary system of rainfall observing in this country. When I joined Mr. Sowerby Wallis as joint director of the British Rainfall Organization, on the first day of the present century, I found Mr. Salter very competent in the handling of statistics, and later, when I had the sole responsibility, his eagerness to co-operate in the new style of discussion and calculation based on cartometry was extremely helpful to me in gradually introducing more rigidly scientific methods. He was in many ways an ideal assistant, quick in his intelligent grasp of new ideas, unflagging in his patient mastery of depressing routine, and always a student of the scientific principles underlying the operations he was carrying out. He soon became my principal assistant, and year by year I delegated to him more and more of the statistical work required for the annual volumes of British Rainfall, From 1912 he became personally responsible for the great General Table of Rainfall, and he took a substantial share in the various discussions.

An important part of the work at Camden Square was the preparation of reports on the rainfall of gathering grounds for projected water-works, which had to be prepared often from scanty data and supported by evidence before Parliamentary Committees. In the inspection of the ground and rain-gauges and the testing of the value of particular rainfall records and computing average values, he developed his natural aptitude by diligent and unremitting study. Latterly, we adopted the system of working out the probable rainfall of an area, separately, from the same data, one trying to establish the highest, the other the lowest, possible value consistent with the data, and then arguing the matter out until by mutual criticism we arrived at the most probable figure. By this means, when it came to giving evidence, one was prepared for the cross-examination of the most pertinacious counsel.

Thus also I acquired that confidence in his judgment and skill which enabled me, when the time arrived, to hand over to him the work I was not destined to carry on with perfect confidence in his powers, and hence to me his death was a double sorrow.

On the breakdown of my health, in 1913, Mr. Salter became joint director of the British Rainfall Organization, and in effect joint director of this Magazine also. When the trained assistants left to take part in the war, Mr. Salter remained at his post, only because the state

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of his health was such that no medical board would pass him for active service. Thus it was that the work of the Rainfall Organization was kept together and the publications kept going by the temporary assistants whom he trained. This involved a very heavy strain on Mr. Salter, which he could never have stood but for the constant care with which his wife—a daughter of the late Dr. E. F. Willoughby—watched over his health. The close of the War, unfortunately, brought no relief, as the period of transition immediately preceding and following my retirement, in 1919, involved an even heavier tax on his strength ; but he lived to see the great body of 5,000 voluntary observers of rainfall transferred in full working order, without loss or discontinuity, from the informal conditions of a private institution to the less flexible, if more dignified, control of a Government Department.

Considering the close and continuous application to routine work which his position entailed, it would have been no discredit to Mr. Salter if he had failed to find time for independent work; but he was able to contribute many important papers* to the Royal Meteorological Society, on the Council of which he served for many years, and to the Institution of Water Engineers. In these he materially advanced our knowledge of the relation of rainfall to the configuration of the land, and also of the fluctuations of general rainfall from year to year. In *The Rainfall of the British Isles*, he gave a clear and interesting summary of up-to-date material which should be studied by every rainfall observer. This book shows how thoroughly Mr. Salter had mastered the facts of rainfall distribution, and gave promise of works of wider usefulness in a future which, alas, he was never to see.

Mr. Salter's personal qualities won for him many friends, and he was always a cheerful and entertaining companion and a most loyal colleague. The sympathy of a large number will turn to the widow and only son, who formed with him a family circle of rare devotion and affection.

Mr. WALTER WILLIAM BRYANT, whose death occurred after a very short illness on January 31st, 1923, had been in charge of the Meteorological and Magnetic Department of the Royal Observatory, Greenwich, since 1904. From that date the supervision of the meteorological observations made at the Observatory and their preparation for publication was his care. Though primarily an astronomer, Bryant entered on his meteorological work with great keenness, and frequently astonished his meteorological friends by his intimate acquaintance with the Greenwich records. He seemed to carry the whole mass of figures in his head, and could quote from memory the remarkable temperatures, heavy rainfall, or other particulars appropriate to
-_-_-_-_* fide Bibliography, page xxi, i i stsi'isSCS

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almost any meteorological discussion. Bryant took an active part in the work of the Royal Meteorological Society. Though he was not so much in the public eye as his predecessors, Glaisher and Ellis, he was equally assiduous in maintaining the high standard of the meteorological work of the Royal Observatory.

Mr. Robert T. Cross, of Worstead, Norwich, who died in June, 1923, took a keen interest in rainfall observations. His record covered 35 years. In 1913 he installed a hyetograph, and thereafter he regularly contributed the results of the records for inclusion in the section of British Rainfall dealing with the duration of rainfall.

Rev. JOHN DENE, Rector of Horwood and Newton Tracey, Devon, had the distinction, of which he was pardonably proud, of having maintained an unbroken series of rainfall observations in one place for half a century. He commenced observing at Horwood in 1872, and continued the record to within a month of his death in September, 1922. We know of only one living observer, Sir John Moore, who has such a long record of observation at one place. It may be recalled, however, that Mr. J. J. Dalgleish, who died in 1921, had kept a rainfall record at West Grange, Culross, for the remarkable period of 57 years.

THE Rev. THE Hon. WILLIAM CHARLES ELLIS, who died on June 20th, 1923, was Rector of Bothal, Northumberland, for 62 years. He commenced rainfall observations there in 1877, and maintained an unbroken record up to his death. He was a regular subscriber to British Rainfall and the Meteorological Magazine for nearly half a century, and contributed valuable notes on meteorological phenomena from time to time.

Mr. HENRY JOHN ELWES, F.R.S., a former President of the Royal English Arboricultural Society and of the Royal Entomological Society, who died on November 26th, aged 76, had maintained rainfall observations for several years at his house, Colesborne Park, Gloucester.

Mr. CHARLES E. J. ESDAILE, who was killed in a hunting accident on October 21st, 1922, commenced a rainfall record at his residence, Cothelstone House, Taunton, in 1875, and sent copies of his records with unfailing regularity to successive directors of the British Rainfall Organization for publication in the annual volumes of British Rainfall.

Mr. Victor HERBERT GATTY, whose death from heart failure, whilst shooting on the moors, occurred on August 12th, 1922, was an enthusiastic amateur meteorologist. He had been for many years a rainfall observer, and had occasionally contributed to the Meteorological Magazine. Mr. Gatty was keenly interested in British snowbeds and moraines. The Rev. R. P. Dansey, with whom he had made several expeditions to mountain districts, writes (Met. Mag., Oct., 1922, p. 255): " He once expressed a wish to die on a glacier when

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his time should come ; but, failing this, he could hardly have wished anything better than to pass away amid the peaceful heather-covered solitudes of a Scottish grouse moor."

Mr. JOHN GUINDRY had kept up an unbroken rainfall record at Staines for 37 years, and not infrequently contributed interesting notes on meteorological phenomena. Before his death he made arrangements for his daughter, who had assisted him for several years, to continue the rainfall record.

Mr. WILLIAM BULLER HEBERDEN, C.B., could claim that five generations of his family had been interested in meteorological observations. The tradition had been established by his great grandfather, a doctor well known in the eighteenth century, and continued by his grandfather and his father ; moreover, a niece, Miss Evelyn Heberden, is also a rainfall observer. Mr. W. B. Heberden commenced making rainfall observations in London in 1890. He moved to Exeter in 1898, where he maintained a continuous record until his death at the age of 84, on November 30th, 1922.

Mr. CLEMENT LINDLEY WRAGGE.—One of the most romantic chapters in a history of meteorology in the British Isles would be devoted to the Ben Nevis Observatory. Clement Wragge was the pioneer of the group of enthusiastic observers who shared the work on the mountain top. During the summers of 1881 and 1882 he ascended the mountain daily and took regular observations. Wragge was Government Meteorologist for Queensland from 1887 to 1902, and he established the Weather Bureau at Brisbane, as well as high-level meteorological stations on Mount Wellington and Mount Kosciusko (7,336 ft.). His unconventional methods are typified by his practice* of giving cyclones and anti-cyclones Christian names in his official reports.

Observers deceased to June 30th, 1923.

Small Capitals denote Observers with Records of Thirty Years and upwards.

Bailey, Henry James (78) Rowden Abbey, Bromyard.
 Baird, Alexander, J.P. The Willows, Wickham Breaux.
 Byles, Walter John Barnard (54)..... Harefield, Middlesex.
 Beauford, William Frederick (81) Horeham Grange, Sussex.
 Blyth, John+6.....+++.--+ Wictoria Place, Dunfermline.
 Bray, The Hon. Sir Reginald More (80)... Manor House, Shere, Guildford.
 Breadalbane, The Most Hon. the Marquess Taymouth Castle, Aberfeldy.
 Bromhead, Col. Charles James, C.B. (82) .. Plas Draw, Ruthin.
 Brooke, Rev. William Ingham Barford Rectory, Warwick.
 +Bryant, Walter William (57) Royal Observatory, Greenwich.
 Burney-Young, E.-- Gaywood, West Chiltonington.
 Busby, J.....----0e+eeee+ee+++++ Rotherfield Park Gardens, Hants.
 Campbell, Rev. James A. Manse of Fetlar, Shetland.
 Coghill, C. P.4+++++---+--- Frankville, Athboy, Co. Meath.

* Nature, Jan. 6th, 1923, p. 24. ft See Biographical Note ante.

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Observers deceased to June 30th, 1923.-(con.).

Coombs, Dr. Carey P. Castle Carey, Bath.

tCross, ROBERT T.- Lyngate Cottage, Worstead,
Norwich.

Davis, Mrs.-20eeee+***** Castle Connell Rectory, Co.
Limerick.

+DENE, REV. JOHN (76).....- Horwood House, Bideford.

DE L'IsLE AND DuDLEY, LorD (70) Ingleby Manor, Middlesbrough.

Dyson, S. R.+2+-22++2+++++ Lawns Wood Cemetery, Adel,
Leeds.

Edmonds, C. W.....---.-++ Draycott, Fairford, Glos.

+E Luis, REV. THE Hon. Wo. Cuas. (88) ... Bothalhaugh, Morpeth.

tElwes, Henry John, F.R.S. (76) Colesborne Park, Gloucester.

Elmslie, Leslie Cruickshank (70) Eltermere, Elterwater, Ambleside.

tEspAILE, CHARLES E. J..... Cothelstone House, Taunton.

Forde, Major W. G., D.L. (64) Seaforde, Co. Down.

Fordyce, Alexander Dingwall, M.P. Brucklay Castle, Aberdeenshire.

Foster, Lewis Charles, D.L., J.P. (79) Trevillis, Liskeard.

+Gatty, Victor Herbert Whiteholme, nr. Preston, Lancs.

Glennie, Col. Farquhar Clammer Hill, Haslemere.

Glyn, Col. A. St. Leger Holbrook Hall, Suffolk.

Goddard, Henry H. St. Vincent, Andover, Hants.

Gordon-Duff, Thomas Duff (75) Drummuir Castle, Keith.

Green, J. Singleton, C.E. Hythe, Kent.

Grimsey, John Robert, M.B.E. (63) Leiston, Suffolk.

TGUNDRY, JOHN2...-++- St. Ann's Cottage, Staines.

Hartley, R. J. C.B. ..cacveeeessseses Gibbet Hill, Halifax.

HARVEY, PREBENDARY F. CLYDE (78) Hailsham Vicarage, Sussex.

tHEBERDEN, WILLIAM BULLER, C.B. (84) .. Elmfield House, Exeter.

Henderson, H. M.- Lynhales, Kington.

HONEYBALL, Col. JAMES FREDERICK, V.D., Newgardens, Teynham, Kent.
(74).

Hood, William Walker (65)..... Tredean, Chepstow, Monmouth.

Hooper, John Kinnersley (72) Little Tangle, Womersley.

Hosegood, T.+2.++++.2+.++-- Warden Road, Minehead.

Johnston, J., C.E.....+.. Waterworks Office, Brighton.

KENNEDY, JAMES (78) Doonholm, Ayr.

Knight, William Duncan (77) Rapkyns, Horsham.

Lowes, John Burkill Allan's Green, Bardon Mill.

Lucas, Herbert (80) Bosworth House, Huntingdon.

Macdonald, J. R. Moreton Largie Castle, Argyll.

Mackenzie, Alexander (66) Fasnakyle, Kingussie.

Mulock, Henry Pilkington (77)..... Moorock Lodge, Ballycumber.

Nicholas, Michael L..... Merok, Jennings Road, St. Albans.

PALAIRET, HENRY HAMILTON (79) Cattistock Lodge, Dorchester.

Percival, John Andrew (76) Ashfield, Peterborough.

Power, Rev. Canon Manley (65)..... Elmfield, Worcester.

Rogers, Reginald Nankivell (69) Carwinion, Falmouth.

tSalter, Mortyn de Carle Sowerby (42) Mill Hill, Middlesex.

Simpson, Stephen (36) Low Abbey, nr. Lancaster.

Soames, Captain Robert (86) Scaldwell, Northampton.

Speed, Col. H.S. Andrews Enmore, Bridgwater.

Spencer, Rev. Canon Arthur John..... Drayton Rectory, Norwich.

Stanton, Henry (71) Snelston Hall, Ashbourne, Derby.

Steen, Dr. William C..... Broadway, Letchworth.

ft See Biographical Note ante.

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Observers deceased to June 30th, 1923.-(con.).

Stonham, Harry0-.22.+ Old Soar, Plaxtol, Sevenoaks.

Stubington, Col. Frank, V.D.,D.L., J.P.(70) Oaklands, Rowlands Castle,Hants.

Swann, Robert Rhyber Lodge, Lanark.

TAYLOR, HENRY Morse, J.P. (77) The Rookery, Dilham, Norfolk.

Thomson, J. R.-...-. Cliff House, Millport, Bute.

Tomasson, William Hugh (64) Woodthorpe, Nottingham.

Townsend, R. J.....-.-.-. Critchells, Lockerley, Romsey.

Walpole, Sir Horatio George, K.C.B. (79). Eridge Green, Sussex.

Walter, Major Godfrey Malshanger, Basingstoke.

Watson, T. W.M.....- Cambus Wallace, Biggar.

Williams, Mrs. Morgan B. Killay House, Sketty, Glam.

Willson, Arthur Bruce (65) Rauceby Hall, Sleaford.

Woop, MILzEs AstMANN, F.R.C.S..... Orchardleigh, Ledbury, Hereford.

tWragge, Clement Lindley, F.R.G.S. Ben Nevis Observatory.

Wright, Major W., R.G.A. Hidcote, Campden, Glos.

Yorke, Thomas Edward, D.L. (91) Bewerley Hall, Pateley Bridge.

ft See Biographical Note ante.

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Works BY M. DE CARLE S. SALTER.

The Rainfall of the British Isles. 8vo., pp. xiv. and 296. Illus. University of

London Press, Ltd. 1921. Price 8s. 6d.

PAPERS.

The Wettest Summer in England and Wales. 1912. British Rainfall, pp. 48-55:

The Measurement of Rainfall Duration. 1917. Q.J. R. Met. Soc., Vol. XLITI,
No. 181. (Abstract in British Rainfall, 1916).

The Relation of Rainfall to Configuration. 1918. Proc. Inst. W.E., Vol. XXIII,
pp. 45-91. (For this paper Mr. Salter was awarded the President's Premium
by the Institution of Water Engineers. An abstract appeared in British
Rainfall, 1918).

The Exposure of Rain Gauges. 1919. Read at Conference of Delegates of
Corresponding Societies of the British Association, Bournemouth. (Abstract
in British Rainfall, 1919.)

The Average Monthly Rainfall of the British Isles, 1881-1915. 1920. British
Rainfall, pp. 254-271.

A New Method of Constructing Average Monthly Rainfall Maps. 1921. @Q./.
R. Met. Soc., Vol. XLVII, No. 198.

The Volumetric Determination of Rainfall. 1923. International Navigation
Congress.

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Frequency and Grouping of "Wet Days" in London. 1911. Q.J. R. Met. Soc., Vol. XXXVII, No. 160.

Isomeric Rainfall Maps of the British Isles. 1915. Q.J. R. Met. Soc., Vol. XLI, No. 173.

Rk. C. Mossman and Carle Salter.

Great Rainstorm at Doncaster on September 17th, 1913. 1914. Q.J. R. Met. Soc., Vol. XL, No. 169.

Carle Salter and J. Glasspoole.

Fluctuations of Annual Rainfall Considered Cartographically. 1923. Q./R. Met. Soc., Vol. XLIX, No. 208.

OBITUARY. Xvii

OBITUARY.

Mr. JOHN ANDERSON, of Portlaw, County Waterford, who died in February, 1924, commenced observations at Curraghmore in 1870. In 1880 he took over the old record commenced at Portlaw in 1841 by the late S. B. Pinn, and kept on the readings there until a few months before his death. It is to be deplored that with the passing of Mr. Anderson the longest continuous rainfall record in Ireland comes to an end.

Mr. T. BirKETT BARKER, who died in France in February, 1924, kept a useful rainfall record at Lapworth, Warwickshire, for many years. He was a frequent correspondent of the British Rainfall Organization and a painstaking observer. Mr. Barker was a Justice of the Peace for Warwickshire.

Mr. C. PERCEVAL BOLTON, C.E., commenced a rainfall record at Brook Lodge, Co. Waterford, in 1875, and continued it until his death in August, 1924. His records have been published monthly in the Meteorological Magazine since March, 1881, and are still appearing through the courtesy of his sister, Miss Bolton, who is continuing the observations.

The Rev. PERCY BURPD, who died on February 24th, 1924, at the advanced age of 92 years, was an enthusiastic rainfall observer for 40 years. His first observations were made at Tiddenham (Glos.) in 1880. He became rector of Little Wittenham in 1884, where he kept records until 1899. After an interval of four years he set up a rain-gauge at Kemerton Lodge, Cheltenham, which he read with unfailing regularity until the end of 1923.

Mr. RICHARD BURLINGHAM commenced to make rainfall observations in Evesham in 1865, and continued until his death in 1923, a period of 58 years. It is gratifying to note that this long record is being continued by his sister, Miss E. M. Burlingham.

Mr. ROBERT BURRELL, of Westley Hail, Bury St. Edmunds, was one of the observers whose names appeared in the first volume of rainfall records produced by the late G. J. Symons, English Rainfall, 1860. Of that original observing corps only two members now remain, viz., Mr. W. S. Clark, of Street, Somerset, whose record still appears in these pages, and Mr. J. G. Wood, collaborator with Mr. Symons in much interesting literary work. Mr. Burrell was pardonably proud of his long record which he gave up as a result of failing health at the end of 1919, having completed 64 years' observations. He died on November 15th, 1923, in his ninetieth year.

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XVili BRITISH RAINFALL, 1923.

Mr. James CAMPBELL, of Arbroath, was a keen student of the weather. As an active member of the Arbroath Natural History Association, and as Convenor of the Meteorological Section of the Association, he for 31 years recorded the observations at the Arbroath Meteorological Station. He was headmaster of Parkhouse School from 1876 to 1911, and afterwards headmaster of Keptie School for nine years. He was amember of the Educational Institute for Scotland, and for 13 years was secretary of the Arbroath branch.

The REVEREND Marc DECHEVRENS, S.J., whose death occurred on December 6th, 1923, had been Director of the St. Louis Observatory, Jersey, since 1894. Before this he was Director of the Zi-Ka-Wei Observatory (China) between 1875 and 1887, and it was during this period that he published his main meteorological work which dealt with the typhoons of the China Sea. He also devoted much energy to the study of atmospheric electricity and of the zodiacal light.

Lt.-Col. StR GEORGE Dixon, Bart., served with the King's Own Borderers in the campaign against the Fenians in Canada in 1866. He left the Borderers in 1873, and thereafter devoted himself largely to the volunteer movement. He was a J.P. of Cheshire and High Sheriff in 1881, and took a prominent interest in local affairs, being chairman of the Cheshire County Council since 1893. He was created a baronet in 1919. He set up a rain-gauge at his residence, Astle Hall, Chelford, in 1875, adding a second gauge a few years later. He attended to both gauges personally, and regularly furnished records up to the time of his death.

Mr. JOHN McEwan, J.P., F.R.Met.Soc., who died in March, 1924, after a prolonged illness, did much to stimulate local interest in meteorology by the institution of prizes for scholars of Enfield School for the best essays on the weather of the year. He made observations of rainfall over a long period, and the regret with which he abandoned the pursuit is evident from his last letter to the Office in June, 1923: "'T give up a work of nearly 30 years with deep regret." He took much interest in educational work, and was a governor of Birkbeck College from 1918 and chairman of the governors from 1921 to 1923.

Mr. JOHN MARSHALL, who lived on the picturesque Derwent Island in Derwentwater, kept records of rainfall there continuously from 1884, when as a lad of 15 he took them over from his father, who had set up a gauge in 1865. Mr. Marshall belonged to a family who have all been students of the weather, and his sister, Miss Cordelia Marshall, of Skelwith Fold, has done much to maintain interest in the subject by the monthly publication of rainfall statistics for the Lake District. The long record at Derwent Island is being continued by Mr. C. E. Marshall.

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CoL. GEORGE FALCONER PEARSON was much interested in the variations in the rainfall from place to place in the west of England. In 1884 he established four rain-gauges in the neighbourhood of New Radnor, which were maintained for many years and from which he made interesting deductions. The record at his residence, Gravel Hill, Kington, was commenced in 1896, and it is hoped that arrangements will be made to continue the observations.

Dr. ARTHUR A. RAMBAUT, F.R.S., who had been Radcliffe Observer at Oxford since 1897, died on October 14th, 1923. His chief work was in connection with stellar parallax, and a volume of the Radcliffe observations, containing the parallaxes of 2,400 stars, was published about a month before his death. The meteorological work of the Radcliffe Observatory received much of his attention however ; his chief personal contribution to meteorology was in connection with earth thermometry.

SIR ALEXANDER WILLIAM SHAW was a valued correspondent of the British Rainfall Organization, and kept rainfall records at Limerick from 1889 until his death. He was head of the firm of W. J. Shaw and Sons, and the author of works on Irish Trade and Irish Canals and Waterways. Though holding strongly the opinion that the work of the British Rainfall Organization should be undertaken by the Government, he subscribed to the funds of the organization for many years.

Str Mark JOHN M'TAGGART STEWART, Bart., the venerable laird of the picturesque estates of Southwick House, Kirkcudbright, and Ardwell, Wigtownshire, was a prominent agriculturist and widely known for his great philanthropic work and zealous labours in the interests of the Church of Scotland. The family record goes back to ancient days, Sir Mark being descended from Allan, son of Flaald, a Norman (from whom also descended the Earls of Arundel and Kilmar-nock, now represented by the Duke of Norfolk and the Earl of Erroll). Sir Mark was Conservative M.P. for Wigtown Burghs from 1874 to 1880 and for Kirkcudbrightshire from 1885 to 1906 and again in 1910. In all he was elected to eight Parliaments and attended 31 sessions. He was a regular subscriber to British Rainfall and the Meteorological Magazine for more than 40 years, and throughout that time maintained rainfall records on his estate at Ardwell.

CAPT. GEORGE HERBERT TAYLOR SWINTON, of Swinton, was born on Christmas Day, 1852, in a ship on the River Ganges, and died on September 16th, 1923. From 1895 to 1913 he kept the rainfall record for Upminster Hall, Essex. He was proud to remember that Upminster had been the home of Dr. Derham, whose observations of rainfall made there from 1697 to 1716 are recorded in the Philosophical Transactions of the Royal Society. There is only one earlier record in the archives

XX BRITISH RAINFALL, 1923.

of the British Rainfall Organization, that of Richard Townley, whose observations at Townley, near Burnley, covered (with two breaks) the years 1677 to 1704. In 1913 Captain Swinton achieved his life's ambition by repurchasing at great sacrifice the lands of his ancestors which had been sold about 30 years before. A rainfall record was started at Swinton, Berwickshire, in the name of his son, who took the observations when at home, but Capt. Swinton continued to be interested in the rainfall figures, and often took the observations himself when his son was away. In fact, he did so on the day of his death.

Mr. HENRY SAMUEL TABOR, F.R.Met.Soc., was always interested in meteorology, and kept weather records while he lived at Notting Hill, London, from 1865 to 1901. In the latter year he moved to Bocking (Essex), where he maintained records of rainfall and weather until 1917. He also contributed phenological observations for use in the Phenological Reports of the Royal Meteorological Society. He was elected a Fellow of the Society as long ago as November, 1866, and served on the Council from 1878 to 1880.

Mr. JOSEPH HERBERT TRITTON was one of the most prominent of the few remaining representatives of the old type of private banker. He was educated at Rugby, and afterwards joined the family banking firm of Barclay, Bevan, Tritton & Co., which is now merged in the great institution known as Barclay's Bank, of which he was for some years a director. In his younger days he took a keen interest in banking, currency, and economic questions, on which he spoke and wrote freely and authoritatively. As a president of the Institute of Bankers he delivered many addresses on these subjects. He had numerous activities, and was one of the founders and served as president of the London Chamber of Commerce. He was one of His Majesty's Lieutenants for the City of London, and he was decorated with the Persian Order of the Lion and the Sun. He kept a rainfall record for 25 years at his residence, Lyons Hall, Great Leighs, near Chelmsford.

Observers deceased to September 30th, 1924.

Small Capitals denote Observers with Records of Thirty Years and upwards.
 Adams, Miss Louisa (84) Skelwith Bridge, Ambleside.
 Ailwyn, Lord (68) Honingham Hall, Norwich.
 Aitken, W. Murray Invergarry, Inverness-shire.
 ALLHUSEN, HENRY CHRISTIAN Stoke Poges, Bucks.

Anderson, Rev. Irvine Kempt Marytavy Rectory.
 +ANDERSON, JOHN-...-...+...+ Portlaw, Co. Waterford.
 Argles, Thomas Atkinson, D.L. (64).... Eversley, Milnthorpe.
 +Barker, T. Birkett (72) Lapworth Croft, Warwickshire.
 Baron, H. W.....2... Hylands, Kendal.
 Barratt, Mrs. James..... Holywath, Coniston.
 Bates, Sydney Eggers, J.P. (72)..... Manydown Park, Basingstoke.
 t See Biographical note ante. OE

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Bendixon, Mrs. Harold (54)..... Willian, Hertfordshire.

Benton, Philip (73) Sutton Veny, Warminster.

{ Botton, C. PERcEvAL, C.E.,..... Brook Lodge, Waterford.

Boyson, Miss Annie Heisch (74)..... Clapham Common, London.

Bridge, T.-.....5+-22+2+-+. Mayfield, Ashbourne.

Brook, Edward J. Hoddam Castle, Dumfriesshire.

+Burp, Rev. Percy (92) Kemerton Lodge, Cheltenham.

7 BURLINGHAM, RICHARD Lansdowne, Evesham.}

Burney, Arthur George (73) Shelsley Grange, Worcestershire.

Burnett, J. Edward (52)..... Percy Park, Tynemouth.

{ BURRELL, ROBERT (89) Westley Hall, Suffolk

Cameron, A.D.+ Druimchinaidh, Perthshire.

CAMPION, CoL. WILLIAM HENRY, C.B. (87) Danny Park, Sussex.

tCAMPBELL, JAMES (71) Arbroath.

Chalmers, Lawrence Edlmann Farrants, Bickley, Kent.

CLUTTERBUCK, REAR-ADMIRAL Wm. Long Wittenham, Berks.

ROBERT, R.N. (78).

Cook, John, C.E. Garstang, Lancashire.

Crump, Ernest Radcliffe (63) Chorlton Hall, Cheshire.

Cunningham, William Martin (76) Cheshunt, Hertfordshire.

Daniell, Henry Averell (74)..... Chelsham, Surrey.

tDechevrens, Rev. R. P. Marc, S.J. (79) . St. Louis Observatory, Jersey.

tDixon, CoL. SIR GEORGE, Bart. (81).... Astle Hall, Chelford.

Dochray, J. A., C.E.-..... Heswall, Cheshire.

Dowell, J. E.+-. Pyrford, Woking, Surrey.

Downe, Rt. Hon. Viscount, K.C.V.O., Dingley Hall, Market Harborough.

C.B., C.I.E. (79).

Dyson, Robert, J.P. (83) Moorgate, Rotherham.

Eliot, Col. Jeffery Laurence (75) Charmouth, Dorset.

Embrey, George, F.I.C., F.C.S. Gloucester.

FAUNTHORPE, REV. JOHN PINCHER Bromley Common, Kent.

FELLowS, GEORGE (78) Barrow-on-Soar, Loughborough.

Fox, Thomas (65) Wellington, Somerset.

Garnett, Charles.....-... Chippenham, Wilts.

Gatty, Albert Augustus (65) Bannister Hall, Preston.

Gee, Col. Thomas, J.P. (75) Hafodunos, Denbighshire,

Gordon-Duff, Thomas Duff, C.B.E. (74) Drummuir Castle, Banff.

Hadden, Major-Gen. Sir C. F., K.C.B. (70) Berkhamsted, Herts.

Harrison, Mrs. Frederic J..... Maer Hall, Staffordshire.

Hatchas, Mrs. Frank S. (82)..... Pontefract, Yorks.

Hayward, Lt.-Col. J. F. Curtis, J.P. (81). Quedgley, Glos.

Hereford, The Viscountess (80) Ashford Hall, Ludlow.

Hodgson, John R..... Southwiche Cemetery, Co. Durham.

Hollist, Edward Ommanney, D.L., (85) Lodsworth, Sussex.

HONEYBALL, Col. JAMES F., V.D., J.P. (74) Teynham, Kent.

Hoyle, P.W.0+-+e0++02+-+. Birkdale, Southport.

Jackson, J.....+++++e++++- Haslemere, Surrey.

Johnston, Henry W. Dunrobin, Strathclyde, Perthshire.

Jones, Rev. Herbert Lynne (59)..... Morwenstow, Cornwall.

Jukes, Alexander Henry (46) Croydon.

Lawford, Miss E. C.....+.+.+.+. Fulbeck, nr. Leeds.

Lloyd, Rev. Charles Bennett (65) Stoke Charity, Hants.

Loder-Symonds, Capt. Frederick C. (77) Faringdon, Berks.

+McEwan, John, J.P. (68)..... Carisbrooke, Enfield.

Machin, Arthur Vessey (61)..... Filey, Yorks.

{MARSHALL, JOHN (54)..... Derwent Island, Keswick.

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Mead-Briggs, T. H.+.+. Dawlish, Devon.
Miller-Stirling, Commr. G. H., O.B.E., Campsie Glen, Stirlingshire.

R.N. (71).

Mills, Joseph Truman (88)..... Stockgrove, Leighton Buzzard.

Montgomery, Col. Cas Rathmullan, Co. Donegal.

OVENS, WALTER (80)2.-++ Castle Douglas, Kirkcudbright.

Pawle, Mrs. Frederick Chas. (95) Northcote, Reigate.
+PEARSON, COL. GEORGE FALCONER Gravel Hill, Kington.

Phillips, Rev. George Thorne..... Wadebridge, Cornwall.

Phipps, Brig.-Gen. Ramsay Weston, R.A. Chalfont St. Giles.

Rae, H. M..... 2... cee ee ee ee eee eee eee = Crarae, Argyllshire.
+Rambaut, Dr. Arthur Alcock, F.R.S. (64) Radcliffe Observatory, Oxford.

Read, A. W. cece eee eee eee eee es =Stockland, Honiton.

Robinson, Arthur Eliot (56) Lowfield Heath, Surrey.

Robson, Oliver Claude, C.E. (75) Willesden, London.

Rogers, Reginald Nankivell Mawnan, Cornwall.

Scott, Archibald Edward, J.P. (72) Rotherfield Park, Hants.
+SHAaw, Sir ALEXANDER WILLIAM (76)... Derravoher, Limerick.

Shorrocks, James Cheetham..... King's Langley, Hertfordshire.

Somerset, The Duke of (77) Maiden Bradley, Bath.

Spilsbury, Mrs. Benjamin Ward Findern, Derbyshire.

Steen, P. T.....20ee0e022eeeee+ Foxrock, Co. Dublin.

{STEWART, SIR M. J. M'TaGGart, Bart. (89) Ardwell, Wigtownshire.
Strachan, Richard (89)..... London.

Sutherland, Rev. Alexander..... Nethy Bridge, Inverness-shire.
+Swinton, Capt. George Herbert T. (70) Swinton House, Duns.

Synge, Alexander Millington, J.P. (68) . Dawstone, Windermere.

Tennant, Lt.-Col. Edmund Wm., J.P. (64) Upton-upon-Severn.

TaBpor, HENRY SAMUEL (86)..... Fennes, Bocking, Essex.
Tidswell, Robert Ingham (77) Haresfield Court, Glos.
Tompsett, John (89)..... Merefield House, Crewkerne.
Trew, John Philip (70)..... Hindhead, Surrey.

Tritton, Joseph Herbert (79) Great Leighs, Chelmsford.
Tupper, Frank Gerard St. George (79)... Boskenwyn, Penzance.
Turner, Miss Maude M. Faringdon, Berks.

Vian, Alsager Richard (60) Edenbridge, Kent.
Waldron, Rt. Hon. Lawrence A; (65) Killiney, Dublin.
Walker, Alfred Roden Lapworth, Warwickshire.
Walpole, Sir Horace George, K.C.B. (79) Eridge Green, Sussex.

Warde, Rev. Sidney Brougham Wittering, Northants.
 WEBBER, W. DOWNES Mitchelstown Castle, Co. Cork.
 Welch, Joseph (79) Laglands, Reigate.
 Whitehurst, Rev. John Baron Howes... Farnborough, Berks.
 Whittuck, Edward Arthur (79) Claverton Manor, Bath.
 WILLIAMS, MRS. OWEN Great Marlow.
 Wills, William Alfred, M.D. Stedham, Midhurst.
 Wood, E. J. W.....026.2.2-22+-. Stone, Staffs.
 Wynford, The Dowager Lady (77)..... Donhead St. Marys, Wilts.
 Wynne, Edward N., C.E. Wentworth House, Wicklow.
 Yeoman, Thomas Osmotherley, Yorks.
 Yorke, Thomas Edward D.L., J.P. (90).. Pateley Bridge, Yorks.

t See Biographical note ante.

OBITUARY, XV
OBITUARY.

Intimation has been received of the death during the period October 1st, 1924, to July 31st, 1925, of 69 rainfall observers in the British Isles who have in the past contributed observations which have been published in British Rainfall. Of these the following kept rainfall records which have a duration of at least 30 years :--

. No. of

Name. Last Place of Years
Observation.

Record.

Stephen W. Bennett.....	Wareham, Dorset	44
Father Aloysius Laurence Cortie, S.J.	Stonyhurst College, Lancs.	44
Alfred Lawson Ford	Lynmouth, Devon	43
Thomas Egerton Tatton	Wythenshawe, Cheshire ..	43
Frederick Coryton	Greatham, Liss, Hants ...	41
Robert John Foster.....	Stockeld Park, Wetherby..	40
Charles James Cropper	Kendal	37
Sir Thos. Cope, Bart., J.P., D.L.	Osbaston Hall, Leics.	36

Dr. Robert Hellon	Seascale, Cumberland	35
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Philip H. Palmer, C.E.	Hastings	35
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Mrs. Anne Sanderson	Cloverhill, Co. Cavan	35
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Rev. Donald D. MacKinnon, M.A...	Speldhurst, Kent	34
William H. Symes	Parkstone, Dorset	33
Thomas Latham	Tilehurst, Oxon	32
John Frederick Starkey	Bodicote House, Oxon ...	32
John Harris Walker	Wigton	32
Lt.-Col. Henry Kemble	Runwell Hall, Essex	30

Chas. Edward Taylor, J.P.....	Sedbergh, Yorks	30
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FATHER ALOYSIUS LAURENCE CORTIE, S.J.-Father Cortie was born on April 22nd, 1859, and died on May 16th, 1925, at Stonyhurst College. He was educated at Stonyhurst, and in 1881 he joined the Staff of the College. In 1919 he became Director of the College Observatory, in which position he was responsible for the meteorological, magnetic and astronomical work for which the observatory is well known. He was actively interested in the relation between sunspots and terrestrial magnetism, and contributed many papers to scientific journals. He was a Fellow of the Royal Meteorological Society and of the Royal Astronomical Society.

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the joints in the outer cylinder. The latter test is specially necessary in the case of the Glaisher gauge, because one of the three joints referred to above can only be tested in this way. The outer shell of the gauge should also be water-tight, for if that part is kept sound, leaks in the inner can be readily detected as soon as they develop.

OBITUARY.

Intimation has been received of the death during the period 1st August, 1925, to 31st July, 1926, of 99 rainfall observers in the British Isles who have in the past contributed observations which have been published in British Rainfall. Of these, the following kept rainfall records which have a duration of at least 30 years :-

No. of

Name. Last place of Years'

Observation. Record.

William Stephens Clark, F.R.Met.Soc. Street, Somerset	69
Alfred Clay, J.P., F.R.Met.Soc..... Matlock, Derby	67
Sir Robert Andrew Allison	Scaleby Hall, Carlisle 63
J. Ellis Mace	Tenterden, Kent..... 62
Rev. Herbert Arnold Boys, M.A., St. Mary Bourne, Hants ..	58
F.R.Met.Soc.	
Miss Francis J. Sparks, F.R.Met.Soc. Crewkerne, Somerset	57
Miss Mary E. Gill	Tiverton, Devon
G. F. Lyndon, J.P.	Moseley, Warwick
Col. Richard Henry Ainsworth, D.L. Smithills Hall, Bolton	51
Alfred Osten Walker	Ulcombe, Maidstone
Mrs. Mary Wilkin, F.R.Met.Soc.	Tenterden, Kent..... 46
John Coster Chillingworth	Southminster, Essex
Rev. Thomas Stamford Raffles.....	Lexden, Colchester..... 39
Edward Maltby Wakeman	Coton Hall, Bridgenorth .. 37
Frederick J. Brodie	Wandsworth, London..... 34
Frederick Parker Dixon	Harolds Cross, Dublin 34
Sir John Robert Gladstone, Bart....	Fasque, Kincardineshire .. 34
William Tod.....+	North Esk Res., Midlothian 34
Rev. James Charles Fox, F.R.Met.Soc. Parkstone, Dorset	32
J. Rutherford	Jardington, Dumfries 32
James Williams	Ystalyfera, Glamorgan ... 32
J. Carnegie	-+----- Balquhiddy, Perthshire... 30
Reginald Gervis Hargreaves	Lyndhurst, Hampshire.... 30

The list is a very remarkable one. It contains the names of four observers who have made rainfall observations regularly for more than 60 years. 'The late Mr. W. S. CLARK's record of 69 years must surely be unique; he started observations before the publication of British Rainfall was commenced in 1860, and a summary of his observations has appeared regularly every year since that date in each volume of the series (see Meteorological Magazine, April, 1924, and December, 1925). Mr. ALFRED Cray kept a rainfall record for 67 years, first at Rastrick, Yorks, and latterly at Darley Hall, Matlock. Sir ROBERT ANDREW ALLISON maintained a complete climatological station at Scaleby Hall near Carlisle, the earliest records dating back to 1863. Mr. J. Evtis Mace had more than 62 years' observations to his credit (66/10) B

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and found the study of the weather a subject of absorbing interest throughout his long life. The list contains six names with observations of 50 to 60 years' duration, but in two of these cases the observations were initially taken by a near relative. In many cases, arrangements have been made for the continuation without a break of these long series of observations.

The Reverend HERBERT ARNOLD Boys, who died on 31st July, 1926, in his 82nd year, recalled that his interest in meteorology began with the great floods in the valley of the River Chater during November, 1852. He commenced to take rainfall observations in 1868 and continued the practice until a few weeks before his death. About 20 years' observations were taken while holding chaplaincies at Patras and Algiers. In 1906, when rector of North Cadbury in Somerset, he started the Mid-Wessex Rainfall Association for the collection and publication of local rainfall records, and he voluntarily continued this useful work after his removal to St. Mary Bourne in Hampshire until the end of 1924. The work has since been undertaken by the Rev. F. P. Synge. Mr. Boys was a Fellow of the Royal Meteorological Society, and frequently contributed to the pages of the Society's Journal and to the Meteorological Magazine.

Mr. FREDERICK J. BRODIE was known to many as one of the professional weather forecasters of the earlier school at the Meteorological Office, and as the author of numerous papers on meteorological subjects which appeared chiefly in the Quarterly Journal of the Royal Meteorological Society. He made a special study of the distribution of fogs, gales and thunderstorms over the British Isles. He retired from the staff of the Office in 1919 after 50 years' service, and died on 29th August, 1925. His rainfall record is being continued by a neighbour in Wandsworth.

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Areas of the different Rainfall Zones over the British Isles.

Less Greater

than In. In. In. In. In. In. In. In. than Total

20 in. 20-25 25-30 30-40 40-50 50-60 60-80 80-100 100-150 150 in. area

. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi. Sq. mi.

England..... 53 5,610 21,970 14,670 4,840 1,970 880 190 120 7 50,310

Wales

(& Monmouth) . . . 230 1,705 2,590 1,740 1,270 340 121 4 8,000

Isle of Man si 105 110 15 .. et Be oF 230

Scotland..... . 220 1,940 8,860 7,540 5,180 4,280 1,370 739 11 30,140

Ireland +. + 500 13,680 12,510 3,210 2,110 423 7... 32,440

British Isles 53 5,830 24,640 39,020 27,590 12,115 8540 2,323 987 22 121,120

OBITUARY.

Intimation has been received during the period 1st August, 1926, to 30th June, 1927, of the death of 40 rainfall observers who have contributed observations, summaries of which have been printed in British Rainfall. Of these, the following kept records which have a duration of at least 30 years :-

No. of

Name. Last place of Years'

Observation. Record.

Lieut.-Col. Henry Mellish, D.L., C.B., Hodsock Priory, Worksop 52

J.P. :

R. W. Clutton+---+ Reigate, Surrey 46

C. Wright++++.. Stretham Ferry, Cambs... 43

Francis Campbell Bayard, LL.M..... Wallington, Surrey 41

; Charles J. T. Lynes, J.P. Blakeney, Norfolk 34

C. B. Mercer+--..... East Malling, Kent..... 31

Miss E. D. Woodhouse Burghill Court, Hereford.. 30

- Lieut.-Col: Henry ME Ltisu, C.B., J.P., who died on 2nd

February, 1927, in his 71st year was well-known to readers of British

Rainfall as one of the ten trustees in whom the endowment fund

and the property of the British Rainfall Organization, including

the rainfall records, were vested in 1910. In conjunction with

Dr. H. R. Mill, Director of the Organization, the trustees carried

on the work of the Organization until 1919 when it was taken over by

the Meteorological Office, Air Ministry. Colonel Mellish took a keen

interest in the welfare of the Organization to the end of his life, and

it was largely owing to his initiative that the publication in 1926

of the Rainfall Atlas of the British Isles was carried through, by the

Royal Meteorological Society, out of the endowment fund which

was presented to the Society by the Trustees, after the transfer to

the Air Ministry mentioned above. Colonel Mellish served on the

Council of the Royal Meteorological Society from 1902 to 1925 and

followed Dr. Mill as president of the Society in 1909-10. He attended

the meetings of the Society with great regularity, usually travelling

OBITUARY. XV

specially to London from Nottingham for the purpose. He maintained at Worksop a full climatological station and published a summary of his observations every year in pamphlet form. Only a few months before his death he issued a reswme of the results of his 50 years' observations.

Colonel Mellish's interests were by no means confined to meteorology. He was Deputy Lieutenant of the county of Nottingham and a county magistrate, and as such was greatly occupied in public work of many kinds. He was an ardent cyclist, and his proficiency with the rifle was such that he shot for England in the match for the Elcho shield on over twenty occasions.

Mr. FRANCIS CAMPBELL-BAYARD, LL.M., died on 22nd January, 1927, at the age of 75. Mr. Bayard was a barrister-at-law of the Inner Temple, and was keenly interested in meteorology. He was president of the Royal Meteorological Society in 1898 and 1899, and honorary secretary in 1892, and from 1900 to 1915. He contributed a number of papers on climatological subjects to the Society's journal. He organized the collection of rainfall data in the Croydon area on behalf of the Croydon Natural History and Scientific Society for a period of 37 years, and handed over the work to the British Rainfall Organization so lately as 1925.

OBITUARY. XV

Year. 1820} 1830 | 1840| 1850) 1860} 1870| 1880 | 1890; 1900 | 1910} 1920
 % | % | % . | % | %1 % | % . | % | % | % . | 9%

0 81} (21) '80) "2! {82} 'Bil {25} 80! i80| {231 185

1 112) 114; 124| 88) 93] 97] 110! 111 87 93 69

2 98 98; 95; 137} 106) 144} 127 95 84; 126}; 106

3 114; 105} 109) 100; 91} 89) 108; 83); 128; 96, 112

4 117; 90} 86) 77 78| 93] 86; 108; 88] 108} 120

5 96| 99) 97; 87] 107} 116} 102) 96; 86) 112} 107

6 84); 114) 106; 94) 114| 118] 117| 94; 101; 115) 102

7 103} 88) 96} 97] 100) 125; 74}; 100; 99) 99; 124

8 118; 91} 129) 81) 99; 111) 98] 86} 90) 106| -

9 102} 115; 98); 102) 104} 110) 95) 94} 106) 105; -

Total --| 10351 1025! 1029] 955! 1014! 1084! 1032] 957] 978 1073 -

OBITUARY.—Reports have been received during the twelve months, 1st July, 1927, to 30th June, 1928, of the death of 65 observers who have contributed to various volumes of British Rainfall. As usual a considerable number of these observers have forwarded their observations for long periods, and it is this pronounced characteristic which renders relatively easy the task of collecting rainfall data from voluntary observers all over the country. It is broadly true to say that once he has set up a rain-gauge and commenced regular observations, an observer finds a peculiar fascination in the daily measurements which ensures their maintenance unimpaired.

Of the 65 observers referred to, no fewer than 19 have kept records which have a complete duration of more than 30 years. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

No. of

Name. Last place of observation. years' record.

A. B. Collingwood, J.P. .. | Ilderton, Northumberland .e 70

Mrs. J. Coxon... .. | Pocklington, Yorks. ... 61

John Campbell .. os .. | Micklegate, Derby . os 57

C. Atkinson, C. E. e .. | Brigg, Lincs... .. a 55

W. H. Plowright | Swaffham, Norfolk oe . 49

W. OD. W. Griffith an .. | Trefnant, Denbigh 24 a 45

Sir J. T. Dillwyn-Llewelyn, Bart. | Gorseinon, Glam. .e es 44

H. Neale .. a .e .. | Bognor, Sussex .. . 44

G. P. Hope 18 -2 .. | Torquay, S. Devon a <n 41

Alex. Crossman | Harrow Weald, Middlesex 25 40

Rev. J. B. Orme | Arundel, Sussex.. . . 39

W.8. Parsons... .. | Cambridge .e we .s 39

E. H. Cannon a oe .. | Rathmines, Co. Dublin oe 37

Mrs. Heywood Thompson .. | Penrith, Cumberland .. oe 37

J. G. Winning... si .. | Hawick, Roxburgh .. we 37

J. Ernest Grubb .. ia .. | Carrick-on-Suir, Co. Waterford 34

G. E. Wilson oe | Kidderminster, Worcestershire 34

Col. H. Jones Williams | Tal-y-bont, Brecon .. . 33

J. E. Townsend .. oe .. | Bury St. Edmunds, Suffolk .. 31

eel

xvi BRITISH RAINFALL, 1927.

Mr. WILLIAM HENRY DINES, F.R.S., died on 24th December, 1927, aged 72, at his residence at Benson, Oxfordshire. He was educated at Cambridge, and his name appeared in the Mathematical Tripos list of 1881 as a wrangler. Shortly afterwards he became a Fellow of the Royal Meteorological Society, and thereafter he devoted himself almost entirely to the prosecution of meteorological research. The success which he obtained is remarkable, and is such that his reputation in meteorological science is world-wide.

At first he applied himself to the subject of anemometry, and became the most active member of the Wind Force Committee of the Royal Meteorological Society. Three of the most important results of this investigation were: (1) to show that the accepted "factor" of the Robinson Cup anemometer was too high by about 25 percent.; (2) to show that the formula for computing wind pressures on buildings gave results which were too high by about 40 percent. ; and (3) the invention of the instrument known as the Dines pressure-tube anemometer, now the standard type of anemometer used in this

~ country. :

In 1901 he became President of the Royal Meteorological Society and shortly afterwards he commenced his work on the investigation of the upper air by which he is probably best known. In this work he had to commence at the very beginning. He designed the instruments which were required, used them to obtain the necessary observations, and, later on, he discussed the observations and correlated them with conditions at the surface. In these varied departments of activity he worked for the most part on his own initiative and he was uniformly successful in all of them. Recognizing the great value of his work, the Meteorological Office from time to time gave grants in aid of his investigations, and after 1905 the "honorary" from the Office became an annual one. Mr. Dines was, however, left free to pursue the work in his own way. In recent years, after the headquarters of the investigation of the upper air were transferred from Benson to Kew, Mr. Dines interested himself in problems of radiation, in which domain he again exercised in combination his remarkable powers of instrument designing, observation and discussion of results. os

Among the numerous instruments which he designed in addition to those already referred to, was a remarkable self-recording rain-gauge, which overcame the difficulties connected with the failure of automatic syphons in a characteristically ingenious way. An example of the instrument is in use at one of the observatories of the Meteorological Office, and the instrument deserves to receive more general recognition than has hitherto been accorded to it. -

Mr. Dines became a Fellow of the Royal Society in 1905. In spite of the claims of his important research work, Mr. Dines took care to maintain a continuous daily record of rainfall and temperature and was a regular contributor to the General Table of British Rainfall.

OBITUARY. xvii

Mr. HENRY ELLIS died at Boat Close, Lyme Regis, on 26th September, 1927. His rainfall record began at Potters Bar in 1899. On his removal to Lyme Regis, in 1914, he became much interested in anemometry, and erected at his house a recording anemometer, summaries of the records of which were published for many years in the Monthly Weather Report.

Mr. WILFRED IRWIN, of Cockermouth, died in Palestine on 11th April, 1928, where he had gone in connection with the scheme for the utilisation of the salts of the Dead Sea. He contributed an article on " The Presence and Distribution of Salt in the Air of this Country " in British Rainfall, 1920. Of recent years he was interested in the effect of the colour of a rain-gauge on the catch. It appears now to be established that a white rain-gauge will retain rather more rain than a black gauge, especially in summer. The effect is small and difficult to disentangle from other effects. It is apparently the result of the difference in the absorbing powers for solar radiation of black and white bodies. He was a member of the Society of Friends. |

Mr. JAMES GEORGE WOOD, Barrister-at-law, and Bencher of Lincoln's Inn, died on 11th January, 1928, aged eighty-four. Mr. Wood was, so far as is known, the last remaining survivor of those rainfall observers who became associated with Mr. G. J. Symons, the founder of the British Rainfall Organisation, in the first volume of British Rainfall for 1860-61. In that volume his name appears as observer at Chepstow. He was a great friend of Mr. Symons, and after Symons's death in 1900, he maintained close touch with the Organization up to recent times. In 1910 he became one of the Trustees of the Organization, and assisted in drawing up the Trust Deed, under which the Trustees held for the common good, the Endowment Fund, the house at 62, Camden Square, which contained the Office of the Organization and the collection of rainfall records which had been accumulated. Later in 1919 he helped to prepare the legal instrument by which the work and records of the Organization were transferred to the Government, and in 1922 he again advised in regard to the winding up of the Trusteeship, when the house at Camden Square and the residue of the funds were handed over to the Royal Meteorological Society.

Mr. Wood had a distinguished career at Cambridge, where he was Chancellor's medallist for legal studies in 1868. He was also a member of the university boat. |

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. INQUIRIES-OBITUARY, XV

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

(1) Evidence was given before a Committee of the House of Lords in connexion with the Bury and District Joint Water Board Bill. ~ |

(2) A report was prepared on the average annual rainfall over the : gathering ground of the Birkenhead Corporation in connexion with a Parliamentary Bill.

(3) Data were furnished to the Windermere Gas and Water Co. in connexion with a Parliamentary Bill.

(4) Values of average annual rainfall over a number of gathering grounds, and values of rainfall during specified years, were supplied to the Ministry of Health in connexion with a report on, Compensation Water. |

(5) Statistics of the duration of various intensities of rainfall in _ different parts of the country were supplied to the Ministry of Health, in connexion with the preparation of local regulations governing the dimensions of sewers to carry flood waters.

OBITUARY.-During the twelve months 1st July, 1928, to 30th June, 1929, reports have been received of the deaths of 53 observers who have contributed to volumes of British Rainfall. Of these fifteen have kept rainfall records, or been associated with relatives who have kept records for more than 30 years. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

No. of
Name. Last place of observation. years'
. records.

_ Hon. A. J. Peckover vee ... | Wisbech, Cambs. ru8 eae 69
Miss Dowson sa san .-. | Geldeston, Norfolk woe aes 62
Canon J.T. Harding... --- | Rochfield, Monmouth ... _ 49
Miss Foster wee wee ... | Lostwithiel, Cornwall ... _ 46
Miss Pasley eee --- |. | Botley, Hants. ... wae see 45
C. R. Rivington ... was ... | Appleby, Westmorland ion 38
W. C. Welch aes eae ... | Hampson-in-Ellel, Lancs. wee 37.
Lt.-Col. J. H. Hamersley ... | Budleigh Salterton, Devon _.... 36
Dr. J. W. Smith ... ese ... | Ryton-on-Tyne, Durham va 35
j. Sandercock wa ... | Devonport, Cornwall ... _ 34
Mrs. T. Mason _... sas ... | Kirkby Stephen, Westmorland . 34
W. Haynes wee eee ... | Reading, Berks.... _ sak 32
P. Smith ... se me ... | Great Clacton, Essex ... wer 30
W. L. Horn eee eee ... | North Walsham, Norfolk hie 30
W. E. Austen nes 'm8 ... | Reading, Berks.... eee wes 30
ea a

XViii BRITISH RAINFALL, 1929.

Aberdeen, Banff, Moray, Nairn, Sutherland, Caithness and the islands of Mull, Islay and Arran, while substantial progress has been made with data for stations in Gloucester, Leicester, Rutland, Derby, Yorkshire W.R., Cumberland and Westmorland. The Survey has now been completed for the whole of Wales and about half of England and Scotland. When the work now in hand is completed the whole of England and Wales will have been covered either by the present Survey or by Dr. Mill's earlier series of county maps published by the Geological Survey. In addition it may be mentioned that considerable portions of Scotland and Ireland are covered by maps prepared as evidence in parliamentary proceedings connected with water supply. During the | current year the Survey has made good progress and we are within a measurable distance of attaining its object, vzz., the mapping of the whole of the British Isles on the scale of two miles to the inch.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

Reports on the rainfall of certain gathering grounds were prepared in connexion with Water Bills, etc., concerned with the water supply for Portsmouth, Rochdale, Dewsbury and Heckmond-wicke, Stockport and Kingsbridge and Salcombe.

A report was supplied to the Ministry of Transport as to the rainfall of various parts of the area bordering on the Caledonian Canal.

A report was supplied to the Under Secretary of State for Scotland regarding the distribution and incidence of the rainfall in the Western Isles of Scotland.

Data were supplied to the Middlesex County Council in connexion with flooding.

A map of the average annual rainfall over the county was supplied to the Dumbartonshire Council.

Further rainfall data were supplied to the Ministry of Health in connexion with a report on Compensation Water and in connexion with the preparation of local regulations governing the dimensions of sewers to carry flood water.

OBITUARY .-During the twelve months 1st July, 1929, to 30th June, 1930, reports have been received of the deaths of 61 observers who have contributed to volumes of British Rainfall. Of these nineteen have kept rainfall records, or been associated with relatives who have kept records for more than 30 years. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

OBITUARY. xix

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No. of

Name. Last place of observation. years'
records.

J. S. Amery 20 ws .. | Ashburton, Devon ia a4 60
 A. H. Buston a es .. | Chatteris, Cambs. oe oe 56
 J. Moffatt es 5 .. | Nutfield Priory Gardens, Surrey 50
 J. Riley... we oe .. | Ledbury, Hereford .. ee 47
 F. Wilkine .. | Wadhurst, Sussex a oF 47
 J. Horsley .. oe .- | Stretham, Cambs. bs as 46
 Dr. T. Cambert Hall... .. | Dilwyn, Hereford 7 =: 42
 Lt.-Col. M. Morgan is .. | Mountain Ash, Glam. .. .- 4]
 A. Malden.. _ oe .. | Burgess Hill, Sussex 38
 G. Weller .. .e a .. | Amersham, Bucks. oe _ 37
 H. A. Wadworth os .. | Brinton Court, Hereford oe 37
 Miss Arkwright .. a .. | Grange-over-Sand, Lancashire 35
 C. Barran .. ae oe .. | Totnes, Devon .. be oe 35
 Canon J. A. Lawrence | Dilham, Norfolk we oe 35
 Very Rev. R.S. Craig | Tullamore, King's County _ 33
 N. W. Wortley | Uppingham, Rutland .. sk 3]
 J. A.Campbell .. 7 .- | Kilmelfort, Argyll dt es 30
 Miss Hames ie .. .- | Crowborough, Sussex .. oe 30
 Capt. F. J. Mackenzie-Grieve .. | Bishop's Waltham, Hants. .. 30
 a a a a a a

XVili BRITISH RAINFALL, 1930.

Peters (Cardiff) and Mr. F. J. Dixon (S. Staffordshire). The number of gauges which can be seen in a day is materially increased by the assistance of someone familiar with the district, and this co-operation is consequently especially worthy of acknowledgment.

The inspection of the rainfall stations reporting to this Office is regarded as one of the most important aspects of our work and it is hoped to increase the number of stations inspected in future years.

SURVEY MAPS.-The work on the detailed average annual rainfall map of the British Isles on the scale of two miles to the inch, for the period 1881-1915, has been continued. The map has been extended to cover the counties of Wiltshire, Devon, Somerset, Warwick, Yorkshire N.R., Durham, Northumberland, Wigtown, Kirkcudbright, Roxburgh, Selkirk, Berwick, Haddington, Ayr, Fife, Angus, Kincardine, Aberdeen, Banff, Moray, Nairn, Sutherland, Caithness and the islands of Mull, Islay and Arran, while substantial progress has been made with data for stations in many of the remaining counties. The Survey has now been completed for the whole of Wales and about half of England and Scotland. When the work now in hand is completed the whole of England and Wales will have been covered either by the present Survey or by Dr. Mill's earlier series of county maps published by the Geological Survey.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

Reports were prepared on the rainfall and on the siting of rain-gauges in the catchments areas of the Sheffield W.W., the Swansea W.W. and the Cardiff W.W.

Reports on the rainfall of certain areas were supplied to the Ministry of Agriculture, the Government of Northern Ireland and to the Borough Engineer, Newport.

Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

Details of intense falls were supplied in connexion with the flooding of sewers in a number of areas.

OBITUARY.-During the twelve months 1st July, 1930, to 30th June, 1931, reports have been received of the deaths of 45 observers who have contributed to volumes of British Rainfall. Of these fourteen have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

OBITUARY. xix

No. of

Name. Last place of observation. years'
records.

G. W. Everard .. oe .. | Stratford-on-Avon, Warwick .. 54

H. F. Hills oe we .. | Earls Colne, Essex a8 38 52

H. F. Fryer + i .. | Chatteris, Cambs ws . 49

A. W. Preston... we .. | Norwich, Norfolk we oe 48

B. S. Ogle ws a .. | Steeple Aston, Oxon. .. +8 46

Miss C. A. Prater es .. | Farnborough, Warwick . 46

Miss E. E. Duncombe | St. Neots, Hunts +. .. 43

T. A. Hill .. .e oe .. | Plumtree, Notts. ae os 40

R. C. Coode | Launceston, Devon .. - 38

J. S. Ineson c: oe .. | Ventnor, Isle of Wight "m 38

Rev. J. B. Plumptre... .. | Danbury Rectory, Essex ' 35

J. Masson _ a8 .. | Heathfield, Sussex oe .. 34

Rev. J. Peck .- | Virginia Water, Surrey .. 34

W.H. Rogers... a .. | Goldington, Beds. ws _ 30

The list includes Mr. A. W. Preston who rendered many services to the science of meteorology. Mr. Preston was Secretary of the Norfolk Rainfall Organization and collected rainfall records from the district each month for publication in the local press and for subsequent inclusion in British Rainfall. He started a climatological station at Eaton (Norwich) on October 1st, 1905, and forwarded returns regularly to the Meteorological Office. His rainfall observations extend back to 1883 and were made at Thorpe Hamlet, Blofield and Brundall prior to those at Eaton. We are glad to be able to report that the rainfall record is being continued by Mr. R. J. Preston, while Col. H. C. Copeman has become Secretary of the Norfolk Rainfall Organization.

XX BRITISH RAINFALL, 1931.

various times without the inspector getting wet! Additional rainfall stations have also been inspected in the Thames Valley, including those near Devizes, Swindon and Cirencester.

Among the many observers who have facilitated the inspections of rain-gauges in their areas, special reference should be made to Mr. C. Clemesha Smith (Wakefield), Mr. H. A. Braddock (Rochdale), Mr. C. H. Harden (Maidstone), Mr. W. F. H. Creber (Manchester W.W.), Mr. F. Hudleston (Hutton John, Penrith) and Mr. W. T. Halcrow (of Messrs. C. S. Meik and Halcrow). The number of gauges which can be seen in a day is materially increased by the assistance of someone familiar with the district, and this co-operation is consequently especially worthy of acknowledgment.

SURVEY MAPS.-The work on the detailed average annual rainfall map of the British Isles on the scale of two miles to the inch, for the period 1881-1915, has been continued. During the year isohyetal lines have been drawn over Leicestershire and over parts of Inverness-shire and the West Riding of Yorkshire. Substantial progress has been made in working up the data for other counties. It is hoped to be able to complete the lines over a number of counties shortly and to include the averages for individual stations in British Rainfall, 1932.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

Reports were prepared on the rainfall of certain areas in connection with Stockport Water Bill (Goyt Valley), Cardiff W.W. (Taff Fawr catchment area), Rhyl U.D.C. Water Bill, River Avon (Bristol) catchment area and the Tony Valley.

Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

OBITUARY.-During the twelve months 1st July, 1931, to 30th June, 1932, reports have been received of the deaths of 54 observers who have contributed to volumes of British Rainfall. Of these twelve have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

OBITUARY. xxi

No. of

Name. Last place of observation. years'
| records.

Major T. L.K.Edge | Strelley Hall, Notts. ... 51

The Hon. F. G. Wynn .. | Llanwrda, Carnarvon .. se 50

Dr. J. S. Cowley .. .e .. | Upton-on-Severn, Worcester .. 47

A. G. Copeman, Esq. | Little Dunham, Norfolk 3% 42

Miss M. A. Burke 23 .. | Sudbury, Suffolk we . 41

Major W. J. Hamilton ; Castle Hamilton, Co. Cavan .. 39

Rev. J. Cross oe ae .. | Sturminster Newton, Dorset .. 35

J. C. Yorke, Esq. ae .. | Langton, Dwrbach, Pembroke 35

A. Young, Esq. ne .. | Loughborough, Leicester ws 33

F. Morgan, Esq. ws .. | Talgarth, Brecon a ee 32

G. F. Slade, Esq... 7 .. | Wallingford, Berks. .. oe 30

W. L. Stanton, Esq. oe .. | Maisey Hampton, Glos. oe 30

The Hon. F. G. Wynn forwarded seven records from the neighbourhood of Glynllivon Park and Bodfean Hall in western Carnarvonshire. The record maintained by Mr. J. C. Yorke is being continued by his daughter, Mrs. Johns, at Trenewydd to the west of Fishguard Bay.

XVili BRITISH RAINFALL, 1932.

- Pa se a

| | No. of

Name. Last place of observation. | years'

' records.

G. Eames, Esq. .. s3 .. | Midhurst, Sussex a: a! 64

S. H. Bickham, Esq. | Ledbury, Herefordshire wet 53

Rev. W. A. H. Thorold | West Liss, Hampshire .. Le | 44

T. Woodham Mott, Esq., .. | Much Hadham, Hertfordshire. . 43

Col. W. Sidebottom | Harewood Lodge, Cheshire .. 40

Capt. J. E. Acland 'es .. | Dorchester, Dorset . . . 36

Rev. A. G. Jones . . . } Burton House, Hereford _ 36

Rt. Hon. L. Hardy _ .. | Hythe, Kent... we . 34

Rev. J. S. Pratt .. bs .. | Bury St. Edmund's, Suffolk .. 34

W. A. Milner, Esq., . . . | Totley Hall, Yorkshire | 33

E. G. B. Lethbridge, Esq., .. | Egloskerry, Cornwall .. . 32

Rev. T. Wolseley Lewis .. | Malvern, Worcestershire sx 30

J. D. Pearson, Esq., | Lowdham, Nottinghamshire .. ! 30

We have also to record the death of Mr. M. J. Salter of Mickleton, the father of the late Mr. M. de Carle S. Salter, Superintendent of the British Rainfall Organization from 1919 to 1923. When Mr.

M. J. Salter retired to Mickleton in 1905 he set up a rain-gauge, which he read, until at an age of well over 80, he found the daily recording during the winter months too severe a tax on his failing health. Mr.

Salter devoted considerable attention to the precise recording of small quantities, so as to define the number of rain-days with precision.

He communicated many of his results to the Meteorological Magazine

(e.g., 1926 pp. 9-10). Mr. Salter was also interested in wet-days

for which he thought different observers could obtain greater accord than in the case of rain-days. Before the record terminated Mr.

Salter endeavoured to arrange for another observer in Mickleton but

was unsuccessful. Mr. Salter rendered additional assistance to the

British Rainfall Organization by undertaking computing work. This

included the conversion of inches to millimetres for Section V, Book

of Normals and liberal help in connexion with many articles appearing

in Part IV of recent volumes of British Rainfall.

BRITISH RAINFALL, 1932
PART II
RAINFALL and METEOROLOGY
1932

OBITUARY. Xvii

amplification of the lines there may prove necessary. Moreover, additional records are always being accumulated so that slight modifications in the lines may subsequently prove necessary.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

Reports were prepared on the rainfall of certain areas in connexion with the Cardiff Corporation Water Bill, over the catchment area of the Derwent Valley Water Board and in connection with flooding in certain localities in South Wales. Information has been supplied to a number of catchment boards, including copies month by month of daily records representative of the area and copies of maps prepared each month showing the distribution of the rainfall over the area in question.

Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

OBITUARY.-During the twelve months Ist July, 1933, to 30th June, 1934, reports have been received of the deaths of 59 observers who have contributed to volumes of British Rainfall. Of these fifteen have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer. Mr. Freshfield, a Past President of the Royal Geographical Society, was for many years a Trustee of the British Rainfall Organization.

No. of

Name. Last place of observation. years'

records.

W. H. Myers, Esq. e ..	| Bishops Waltham, Hants.	3 50
S. Nutter, Esq. .. .. .	| Cambridge .. i ..	44
Rev. W. E. Stewart +4 ..	| Scalby, Yorkshire T -	44
Rev. B. P. Oakes es ..	| Bury St. Edmunds, Suffolk ..	43
W. Deedes, Esq. - ..	| Shrewsbury, Salop te ae	40
H. W. Green, Esq. . . .	| Devizes, Wilts. . . ws	8 40
Rev. Canon E. Hill .. ..	| Bury St. Edmunds, Suffolk ..	38
E. J. Turton, Esq. _ ..	| Horkstow, Yorkshire .. .-	38
J. R. Picard, Esq. we ..	| Kirby Lonsdale, Westmorland'	36
Major C. G. Brodie, M.C. ..	| Fernhill, Isle of Wight .-	33
Miss M. Greenwood we ..	| Bedale, Yorkshire .. oe	33
G. A. Tyacke, Esq. os ..	| Chichester, Sussex	33
Archdeacon T. N. Leeke ..	| Exeter, Devon	32
D. W. Freshfield, Esq., D.C.L.	Forest Row, Sussex .. ao	30
F. Smallpiece, Esq. .- ..	Guildford, Surrey - 'i	30

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xvi BRITISH RAINFALL, 1934.

The averages so computed are included in Part III of British Rainfall. Reduced copies of specimen maps and a description of the method used in their preparation are given in articles published in Part IV of British Rainfall 1928 and 1929.

In drawing these maps the isohyetal lines are naturally somewhat generalised, and if attention is directed to any small area some amplification of the lines there may prove necessary. Moreover, additional records are always being accumulated so that slight modifications in the lines may subsequently prove necessary.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Among the more important of these, the following may be mentioned :-

Reports were prepared on the rainfall of certain areas in connexion with enquiries by the British Waterworks Association, Dublin Electricity Supply Board (Shannon Hydrometric Survey), the River Medway Catchment Board, Bristol Waterworks and the South Essex Water Company. Rainfall data were supplied to the Commissioners of Police for the Metropolis in connexion with an enquiry into the relation between weather conditions and the number of street accidents.

Information has been supplied to a number of catchment boards, including copies month by month of daily records representative of the area and copies of maps prepared each month showing the distribution of the rainfall over the area in question.

Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

OBITUARY.-During the twelve months 1st July, 1934, to 30th June, 1935, reports have been received of the deaths of 57 observers who have contributed to volumes of British Rainfall. Of these nine have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

No. of

Name. Last place of observation. years'

records.

Miss E. C. Abraham as .. | Garston, Liverpool s .. 44
W. Evans, Esq., C.E. | Beverley, Yorkshire .. .e 41
C. Smyth, Esq. tite Houghton, Northampton- 40

snire.

Rk. de M. Pratt, Esq... .. | Lyneham, Oxfordshire " 37
J. H. Spackman, Esq., J.P... | Newbury, Berkshire .. es 36
F. Walkinshaw, Esq. | Basingstoke, Hampshire 34
H. D. Foster, Esq. wa .. | Bodmin, Cornwall as - 33
Rev. W. Farrer .. es .. | Maidenhead, Berkshire. . . . 32
E. E. Moore, Esq., M.D. .. | Teignmouth, Devon .. ae 32

Xvi BRITISH RAINFALL, 1935.

rainfall for specified places or over certain areas, and advice as to the most suitable instruments and the best exposures for the rain-gauges. Amongst the reports supplied reference may be made to those for the Advisory Committee of the Ministry of Health on Compensation Water, the Hydrological Committee of the Institution of Water Engineers and the Dublin Electricity Supply Board (Shannon Hydrometric Survey).

Information has been supplied monthly to the following catchment boards :-Rivers Mersey and Irwell, the River Avon (Bristol), the Cheshire Rivers and the Humber Conservancy. Information has also been supplied monthly to the Lincolnshire Sugar Co., Ltd., the Community Council of Kent (Sevenoaks), and the Referees of the Stockport Water Bill.

Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

OBITUARY.-During the twelve months 1st July, 1935, to 30th June, 1936, reports have been received of the deaths of 76 observers who have contributed to volumes of British Rainfall. Of these 24 have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

No. of

Name. Last place of observation. years'

records.

Ven. Archdeacon Hornby...	| St. Michael's-on-Wye, Lancashire..	59
Rev. W. Brewster .s ..	| Shrewsbury, Shropshire ..	we 56
J. M. Sturgess me ..	| Penshurst, Kent ..	- "a 45
Lady Jenkyns.. i i ..	| Botley, Hampshire es .	45
F. Ranson a oe ..	| Hitchin, Hertfordshire ..	.e 44
R. Rhodes .. we ..	| Kendal, Westmorland ..	.. 44
Rev. H. I. Kilner .. ..	| Bury St. Edmunds, Suffolk	8 38
E. H. Perkins, F.R. Met. Soc...	| Llandyssul, Cardiganshire ..	38
Dr. L. M. Bowen- Jones ..	| Carmarthen, Carmarthenshire ..	37
A. C. G. Heygate <a ..	| Milford-on-Sea, Hampshire	we 36
R. Bentley... - ..	| Slough, Berkshire ..	se - 36
T. S. Matthews .. ..	| Sporle, Norfolk... ..	oe 35
P. T. Gardener a* ..	| Conington, Cambridgeshire .	35
G. G. Wordsworth .. ..	| Rydal, Westmorland .e ..	34
Rev. Canon W. Morgan ..	| Bethesda, Carnarvonshire ..	34
F. J. Kitson .. a ..	| Leeds, Yorkshire ..	i .. 34
A. Mackenzie .. oe ..	| Ardclach, Nairn ..	a .. 33
P. D. Williams we ..	| St. Keverne, Cornwall ..	.. 32
H. D. Badcock es ..	| Ottery St. Mary, Devonshire...	32
W. J. Griffith .. . ..	| Nantlle, Carnarvonshire ..	8 32
H. W. Clinton Baker ..	| Hertford, Hertfordshire ..	. 31
G. B. Kershaw ge ..	| Wrotham Heath, Kent ..	.. 31
R. Long e .. ..	| Sheffield, Bedfordshire ..	7" 31
J. Walker Tyacke 4 ..	| Helston, Cornwall .s ..	30

XVili BRITISH RAINFALL, 1936.

connection with Water Bills of Hastings, North Devon, North Cots-
wolds R.D.C. and Wadebridge R.D.C. .

Information has been supplied monthly to the Bristol W.W.,
the Humber Conservancy Board, the Lincolnshire Sugar Co., Ltd.,
the Community Council of Kent (Sevenoaks), and the Referees of
the Stockport Water Bill. Reports were supplied monthly to the
Metropolitan Water Board and to the Thames Conservancy.

Data have been supplied monthly to the Catchment Boards of the
Rivers Mersey and Irwell, River Avon (Bristol), Cheshire Rivers and
River Nene. Advice has also been given on the distribution of
recording stations in the case of a number of Catchment Boards.

Advice has also been given as to the selection of suitable sites
for rain-gauges in certain exposed moorlands. These include parts
of the Wicklow Mountains, the southern Pennines, and Plynlimon.

OBITUARY.-During the twelve months Ist July, 1936, to
30th June, 1937, reports have been received of the deaths of 72
observers who have contributed to volumes of British Rainfall. Of
these 16 have kept rainfall records, or been associated with
relatives who have kept records for 30 years or more. A list of these
is given below. In most cases the records have been maintained
throughout by the same observer.

No. of

Name. Last place of observation. years'
records.

Major C. A. Markham ..	| Flore, Northamptonshire .-	61
J. Hunter, Esq. sa ..	| Belper (Quarry Bank), Derbyshire	60
Lt.-Col. W. A. Bentley ..	| Broadford (Hurdlestown), Clare .	51
Lord Strachie .. . .	| Pensford (Sutton Court), Somerset-	49
shire.		
J. Brocklebank, Esq. .. ..	| Carlton-le-Moorland, Lincolnshire	43
Dr. A. Palmer .. - ..	| Mortimer (Wokefield Park) Berk-	41
shire.		
E. W. Knatchbull, Esq. ..	| Bradford-on-Avon (Winsley Manor, 39	
Wiltshire.		
A. R. White, Esq... ..	| Mere (Charnage), Wiltshire as	39
Miss H.M. Hutton .. ..	| Dursley (The Manor), Gloucester-	37
shire.		
C. W. Nix, Esq. <i ..	| Worth (Worth Lodge), Sussex ..	35
H. Lee Dykes, Esq. .. ..	| Strathaven (East Overton House), 32	
Lanark.		
E. H. Thornhill, Esq. ..	| Boxworth (Manor House), Cam-	32
bridgeshire.		
Miss E. Hedges . _ ..	| Wallingford Castle, Berkshire ..	31
F. W. Clark, Esq. oe -.	| Mull (Ulva), Argyll	30
W. Roberts Ovens, Esq. ..	| Galashiels (The Peel, Clovenfords), 30	
Selkirk.		
Sir George Shedden .. ..	| East Cowes (Spring Hill), Hamp-	30
shire.		

RAINFALL RECORDS, 1936. XIX

Major Christopher Alexander Markham, who died at his home at Flore, Northampton in April 1937 had maintained rainfall records at Pitsford (Sedgebrook) since 1875 and also at Flore since 1927. For nearly 50 years he was Secretary of the Northamptonshire Archeological and Architectural Society and a member of the Council of the Northamptonshire Record Society. Major Markham did much to stimulate the recording of rainfall in his own county and as early as British Rainfall, 1889, six records were received from him. In the following years, and up to 1924, Major Markham acted as a local collector of rainfall records. These records were made available for inclusion in the annual volumes of British Rainfall. Since then the work has been carried on by the Northamptonshire Natural History Society.

Mr. John Hunter, who died on March 12th, 1937, at Quarry Bank, Belper in his 84th year, established a meteorological station at Field Head House, Belper in 1876. He transferred his station to Northfield in 1883 and to Quarry Bank in 1899. From 1880 to 1911 summaries of his observations were published in the Meteorological Record of the Royal Meteorological Society, and from 1912 to 1934 in the Monthly Weather Report. In February, 1935, on the death of his wife, who had assisted him for many years in his climatological work, Mr. Hunter was obliged to discontinue the greater part of his observations. The rainfall record was continued to complete 1936 and thus covers the long period of 60 years.

RAINFALL RECORDS, 1937. XIX

with evaluations of the corresponding general monthly rainfall over the area and the average amounts, where that information is available. The publication of rainfall and run-off data together is likely to prove of particular value to those concerned with the use of water.

Information has been supplied monthly to the Bristol W.W., the Humber Conservancy Board, the Lincolnshire Sugar Co., Ltd., and the Community Council of Kent (Sevenoaks). Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

_ Data have been supplied monthly to the Catchment Boards of the Rivers Mersey and Irwell, River Avon (Bristol), River Severn, Cheshire Rivers and River Nene. Advice has also been given on the distribution of stations in the case of a number of Catchment Boards.

OBITUARY.-During the twelve months 1st July, 1937, to 30th June, 1938, reports have been received of the deaths of 60 observers who have contributed to volumes of British Rainfall. Of these, 19 have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

No. of

Name. Last place of observation. Years' records.

Sir J. W. Moore, M.D., D.Sc. Dublin City (FitzWilliam Square) 73
 E. Howarth, Esq., F.R.A.S. .. | Sheffield (Weston Park) 55
 F. E. Harding, Esq. ... | Market Drayton (Old Springs),
 Staffordshire... a - 51
 Mr. G. J. Warren | Balcombe (The Gables), Sussex 47
 J. McDougal Field, Esq. .. | Edinburgh (City Observatory) .. 40
 E. Pirie-Gordon, Esq... - | Crickhowell (Gwernvale), Brecon-
 shire e es 39
 R. Matheson, Esq. | Kinlochewe (Greenhill), Ross and
 Cromarty ss a a 38
 Sir C. G. E. Welby, Bt., C.B... | Denton Manor, Lincolnshire .. 38
 Jas. McMillan, Esq. | Lanarkshire County W.W. 7" 37
 J. A. Gardiner, Esq. | Campbeltown (South Park) = 35
 Major R. B. Turton | Kildale Hall, Yorkshire .. a 35
 Rev. Canon A. Wilson .. | Dunmanway (The Rectory),
 Co. Cork .. e a 34
 W. Hales, Esq. oo .. | Chelsea (Physic Garden) .. 33
 Ix. H. Power, Esq... .. | Chobham (Sandpit), Surrey a i 33
 G. Forrester Scott | Ardingley (Lywood House), Sussex 33
 W. Watson, Esq., C.E. .. | St. Andrews, Fifeshire.. - 33
 Rev. R. P. Dansey | Kentchurch Rectory, Herefordshire 32
 R. Cross, Esq... .. | Edinburgh (Gogar Park) .. . 30
 H.C. Millican, Esq. | Rothbury (Waterleap), Northum-
 berland e . . 30

XX BRITISH RAINFALL, 1937.

Sir John William Moore, who died on October 12th, 1937, within a few days of his ninety-second birthday, was author of numerous papers, dealing mainly with the climatology of Dublin, and of "Meteorology, Practical and Applied," first published in 1894, and republished in a revised and enlarged form in 1910. The book contained in particular, a valuable section on "' The Influence of season and of weather on disease,' much of which was the result of his own research work. He was among the most distinguished of Irish physicians, and received the honour of knighthood in 1900 at the completion of two years as President of the Royal College of Physicians in Ireland. He was an Honorary Physician-in-Ordinary to H.M. the King in Ireland. He was personally associated with the meteorological work of the Dublin City Climatological Station, Fitzwilliam Square, from the date of its commencement, about 1868. Actually his services as a co-operating observer began even earlier, for British Rainfall, 1865, contains readings from Dublin, St. Anne's Street, contributed by J. W. Moore, Esq. Sir John Moore was thus a regular meteorological observer for a period of more than 71 years, a truly remarkable record and one that has never been equalled in our annals.

Mr. Elijah Howarth, F.R.A.S., F.Z.S., who died in April, 1938, commenced rainfall records in 1882. He was for some time the Curator of Sheffield Museums and Mappin Art Gallery and maintained a climatological station at Weston Park until the latter half of 1936.

Mr. F. E. Harding, of Market Drayton, Shropshire, commenced rainfall records in 1887 and continued until the end of February, 1938, thus completing over 50 years of continuous records from this station.

RAINFALL RECORDS, 1938. xix

a wide range. They include the supply of records defining the rainfall experienced in some locality for a specified period, the supply of estimates of the average annual or monthly rainfall for specified places or over certain areas, and advice as to the most suitable instruments and the best exposures for the rain-gauges. Amongst the reports supplied reference may be made to those for the Nottingham Corporation Water Department, Messrs. Binnie, Deacon and Gourley in connection with the rainfall over part of the River Severn Catchment area, Messrs. Lemon and Blizzard for the years 1932 to 1938 over the Aled area (Rhyl U.D.C.), the County Council of Southampton on the drought of 1938, and Messrs. Spence, Sales and Bland on the general problem of drought in rural districts.

Information has also been supplied for use in The Surface Water Year-Book of Great Britain, 1936-37, published by the Ministry of Health and Scottish Office (H.M.S.O.). In the case of each area for which run-off data are available, monthly totals October, 1936, to September, 1937, are given for selected rainfall stations, together with evaluations of the corresponding general monthly rainfall over the area and the average amounts, where that information is available. Monthly totals were included for stations representative of 71 areas. In 24 of these areas the monthly and annual average value of general rainfall were computed, and in 16 cases the monthly values for the seasonal year 1936-37 were also given. In addition values for the year 1935-36 were worked up for 5 areas. The methods use in the computations were defined in the report on " The Determination of the General Rainfall over any area" published by the Institution of Water Engineers in 1937. The publication of rainfall and run-off data together is likely to prove of particular value to those concerned with the use of water.

Information has been supplied monthly to the Bristol W.W., the Humber Conservancy Board, the British Sugar Corporation, Ltd., the Lee Conservancy and the I.C.I. (Alkali), Ltd. Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

Data have been supplied monthly to the Catchment Boards of the Rivers Mersey and Irwell, River Avon (Bristol), River Severn, Cheshire Rivers and River Nene. Advice has been given on the distribution of stations in the case of certain Catchment Boards.

OBITUARY.-During the twelve months 1st July, 1938, to 30th June, 1939, reports have been received of the deaths of 71 observers who have contributed to volumes of British Rainfall. Of these, 15 have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

XX BRITISH RAINFALL, 1938.

No. of

Name. Last place of observation. Years' records.

F. D. Wise, Esq. ..._... | Ripon (The Red House), Yorks. 68
 R. H. Major, Esq. | Slough (Langley), Bucks. wee 67
 C. L. Brook, Esq. ves ... | Meltham (Harewood Lo.), Yorks. 58
 Capt. E. R. Taylor | Balbriggan (Ardgillan) Co. Dublin 47
 B. T. Rowswell, Esq. ... | Channel Islands... vee wee 45
 J. Laughton, Esq., J.P. ... | Edinburgh (Corstorphine), Mid-lothian ... ine vee wee 42
 A. Hoare, Esq. we ... | Forest Row (Charlwood Farm), Sussex... bis ies - 40
 H. W. Peal, Esq. oe ... | Ealing (Carlton Rd.), Middlesex ... 38
 E. W. Reynolds, Esq. ... | Thelwall (The Clough), Cheshire ... 35
 J. H. Scrutton, Esq. | Daglingworth Manor, Glos. Be 34
 Rev. E. C. Bennett | Lazonby Rectory, Cumberland ... 31
 T. N. Christie, Esq. | Whanbryde (Blackhill Ho.), Moray 31
 W. Liddell, Esq. ans ... | Shapinsay (Balfour Castle), Orkney 31
 J. J. Fairbairn, Esq. | St. Boswells (The Fens), Roxburghshire ves a win ba 30
 H. J. Hewett, Esq. | Long Wittenham (Willington) ... 30

Mr. C. L. Brook, who died on May 9th 1939 in his 84th year, commenced a rainfall record at Harewood Lodge, Meltham, Yorkshire, in 1881 and a second record on the moors at Royd Edge in 1891. His rainfall record at Harewood Lodge covers therefore over 58 years. In addition earth thermometer records were forwarded for publishing in the Meteorological Record of the Royal Meteorological Society from 1899 to 1911 and general meteorological observations were published in the Monthly Weather Report from 1912 up to date.

Mr. Brook was one of the Trustees of the British Rainfall Organization from 1910 until it was taken over by the Government in 1919. The following comments are quoted from Dr. Mill's article in British Rainfall, 1909, p. 36, 'It appeared to me that the first Trustees of the British Rainfall Organization should be chosen from amongst the rainfall observers, especially from those who were intimately acquainted with the work of the organization The nine Observers who have joined me as Trustees are known to most of my readers

Mr. C. L. Brook was an old friend of Mr. Symons, and one of the most liberal supporters of the Rainfall Organization ; he represents in a special sense the north of England.' With the death of Mr. Brook we lose one of our few remaining links with G. J. Symons and the pioneers in the study of British Rainfall.

Mr. John Laughton, J.P., died on February 25th 1939. In 1897, when factor on the Eallabus Estate in Islay, Mr. Laughton continued the rainfall observations which had already been maintained there for some years. Later at Logan House, Wigtownshire, and from 1930 at Corstorphine, Edinburgh, he also maintained records, thus being responsible for observations covering a period of 42 years.

Mr. B. T. Rowswell commenced rainfall records in 1894 at St. Martin's, Guernsey, and for many years collected records from the Channel Islands for transmission to the Meteorological Office.

RAINFALL RECORDS, 1939. xi

INSPECTIONS.-Some progress was made during the year with the inspection of the stations included in the General Table. It was possible to inspect about 40 stations, exclusive of a few Climatological stations and other stations reporting general meteorological observations. The inspections were mainly confined to additional stations set up by the River Wye Catchment Board. Some 10 stations were inspected by the staff in Edinburgh as well.

SURVEY MAPS.- The work on the detailed average annual rainfall map of the British Isles on the scale of two miles to the inch, for the period 1881-1915, has been continued... The averages so computed are included in Part III of British Rainfall. The isohyetal lines have been extended to cover Bedfordshire and parts of Sussex, Northamptonshire and Oxfordshire.

INQUIRIES.-A large number of inquiries regarding the rainfall of various parts of the country was dealt with. Amongst the reports supplied reference may be made to that in connection with the Birmingham Corporation Water Bill, 1940. Values of average rainfall were supplied to Messrs. Meik and Halcrow, in connection with the Lochaber Water Power Scheme, and to the Llanelly R.D.C. in connection with the Llyn-y-fan Fach area. Information and data were supplied to the County Medical Officers of Argyll and Wigtown ; to the Forestry Commission (Scotland) ; to the Special Areas Housing Scheme; to the Department of Zoology, Oxford, for a research on voles and to the Natural History Department of Aberdeen University in connection with a physico-chemical and faunistic survey of the Rivers Dee and Don.

Information has been prepared for inclusion in The Surface Water Year-Book of Great Britain, 1937-38, at the request of the Inland Water Survey Committee of the Ministry of Health and Scottish Office, but this work was suspended at the outbreak of war. A report on the rainfall over the Northampton to Oxford region has been supplied for inclusion in a memoir of the Geological Survey.

Information, has been supplied monthly to the Bristol W.W., the Humber Conservancy Board, the British Sugar Corporation, Ltd., and the Lee Conservancy. Reports were supplied monthly to the Metropolitan Water Board and to the Thames Conservancy.

Data have been supplied monthly to the Catchment Boards of the Rivers Mersey and Irwell, River Avon (Bristol), River Severn, Cheshire Rivers and River Nene. Advice has been given on the distribution of stations. in the case of certain Catchment Boards.

OBITUARY.-During the twelve months Ist July, 1939, to 30th June, 1940, reports have been received of the deaths of 78 observers who have contributed to volumes of British Rainfall. Of

xii BRITISH RAINFALL, 1939.

these, 25 have kept rainfall records, or been associated with relatives who have kept records for 30 years or more. A list of these is given below. In most cases the records have been maintained throughout by the same observer.

| No. of

Name Last place of observation. Years' records.

J. Baxendell, Esq... - | Southport, Lancs. es ws 66
 A. Pearse Jenkin, Esq. .. | Redruth (Trewirgie), Cornwall .. 60
 Mr. C. Webster | Fochabers (Gordon Castle), Moray 59
 T. J. Waddington, Esq. .. | Hafod, Cardigan .. en ss 47
 Miss M. R. Macmillan .. | Moniawe, Dumfries ee a 45
 C. E. M. Pinney, Esq. .. | Kinson (Elmbrook), Hants. _ 45
 Dr. A. Thomas an .. | Aberystwyth, Cardigan .. ws 44
 W.M. Christy, Esq. | Watergate House, Sussex oe 42
 W. Vaux Graham, Esq., C.E. |.Westminster, 5.W.1 e ee 4}
 Col. G. Chrystie " .. | Farnham (Short Heath Lo.),
 Surrey... 7 we . 40
 J. W. Melles, Esq., D.L., J.P. | Gruline, Isle of Mull ee oe 40
 A. W. Shadick, Esq. | Clacton-on-Sea... Bs 5 39
 E. Knight, Esq. #5 | Keswick Old Hall, Norfolk ws 39
 Hon. L. de Yarburgh Bateson | York (Heslington) a #* 38
 T. E. Clough, Esq... .. | Earlestown, Lancs. _ _ 37
 Walter Phillips, Esq. | Earnieside, Kinross oe . 36
 Dr. C. C. Vigurs | Newquay, Cornwall 7 ou 36
 Professor Sir Thomas Hudson
 Beare, D.L. ws | Edinburgh University .. oe 35
 A. Macintosh, Esq., J.P. .. | Melvich, Sutherland a cs 35
 J. Marsh, Esq. | Winterbourne (Kendleshire), Glos. 34
 G. Cresswell, Esq. as | (Ocle Court), Hereford .. os 33
 John Hart, Esq. 84 | Mains of Cowie, Kincardine a 32
 E. Armitage, Esq., J.P. | Stroud (Berrimans), Glos. as 31
 Gen. Sir Robert Gordon
 Gilmour, Bart. a | Liberton, Edinburgh ee oe 31
 G. O. Nicholson, Esq. | Market Harborough, Leics. - 31

Mr. Joseph Baxendell, who died on January 14th, 1940 was Borough Meteorologist to the Corporation of Southport for nearly 50 years. He succeeded his father, who was the first superintendent of the Fernley Observatory, in 1887. Despite physical infirmity, Mr. Baxendell made many important contributions to the study of meteorology ; an account of his work is given in the Meteorological Magazine for February, 1937. Before his retirement in 1936, Mr. Baxendell was able to secure the establishment of a new and more satisfactory observing site in Bedford Park Road, Birkdale.

Mr. A. Pearse Jenkin, J.P., died on January 14th, 1940, at the age of 76. He maintained a climatological station at Trewirgie, Redruth. The rainfall record for Trewirgie has been continued since 1880. Since 1928 an additional record was forwarded from the Lizard for inclusion in British Rainfall. Mr. Jenkin also acted as

RAINFALL RECORDS, 1939. xili

Secretary of the Cornwall Rainfall Association, which stimulated local interest in the recording of rainfall and resulted in the collection of a number of valuable records.

Mr. Charles Webster, who died on May 9th, 1940, was formerly head gardener to the Duke of Richmond and Gordon, and maintained full climatological observations from 1891 until his retirement in 1937. His meteorological observations covered the long period of '58 years, as he assisted his father, who had charge of the station from 1879.

Miss M. R. MacmiJJan, who died in November 1939, had for more than 45 years regularly forwarded copies of the rainfaJl observations made at Glencrosh, Dumfriesshire.

_ Mr. W. M. Christy died on August 20th, 1939. Mr. Christy was keenly interested in meteorology and contributed records of rainfall and sunshine to this office from 1898.

Colonel G. Chrystie, who died on June 14th, 1939, in his 98th year had for 40 years maintained a rainfall record at Short Heath Lodge, Farnham, Surrey.

Dr. C. C. Vigurs died on January 24th, 1940. He was for many years Medical Officer of Health at Newquay and was responsible for the Meteorological Station from 1903. He took a keen interest in meteorology and local climatology and published annual reports on the weather of Newquay.

The death occurred on June 10th, 1940, of Professor Sir Thomas Hudson Beare, LI.D., M.Inst.C.E., F.R.S.E., D.L., who had for 35 years supervised the climatological station maintained by the University. He was at one time Vice-President of the Scottish Meteorological Society and a member of the Advisory Committee for the Meteorological Office, Edinburgh.

Mr. A. W. Shadick 'died on October 25th, 1939, having been responsible for the meteorological station maintained by the Clacton U.D.C. from 1901 until his death,

2 BRITISH RAINFALL 1940-42

especially the authorities of water under- of a few days in Great Britain," by Mr. takings. These Observers forward copies of E. L. Hawke. their observations voluntarily for preservation New averages for many stations were com- by the British Rainfall Organization of the puted, including several in Surrey and Sussex

Meteorological Office as national records, and by the late Mr. H. P. Cornish of Keswick, for use not only in the preparation of the and these are included in the General Table annual volumes of British Rainfall but also (Part II). Statistics showing the General for purposes of study and research. To these Monthly and Annual rainfall over Northern voluntary observers the Organization desires Ireland have been prepared back to 1930 for to acknowledge its indebtedness for their comparison with the values included in this assistance and goodwill. volume. A comparison has been made of rainfall 1906-40 with that for the standard

INVESTIGATIONS, Limitations of space period 1881-1915. Consideration has been permit of a notice only of some of the more given to the frequency of occurrence of days important investigations carried out during with specified amounts of rainfall.

the three years. The following papers have

been published in the Quarterly Journal of the INQUIRIES. A large number of inquiries Royal Meteorological Society : (a) ' ' Varia- regarding rainfall in various parts of the tions in Annual, Seasonal and Monthly country has been dealt with.

Rainfall over the British Isles, 1870-1939,"

and (6) " ' Rainfall over the British Isles during INSPECTIONS. Owing to war conditions the Decade 1930-1939," by Dr. J. Glasspoole. prevailing during these three years, it was not

(This latter paper brings up to date an article possible to carry out many inspections. by the same author on ' ' The Rainfall over

the British Isles of each of the 11 Decades OBITUARY. During the three years during the period 1820-1929," published in ending June 30, 1943, reports were received the above Journal in July, 1933) ; (c) ' ' Snow- of the deaths of 177 observers who have cover in the British Isles in January and _ contributed to volumes of British Rainfall. February of the Severe Winters 1940, 1941 Of this number, 56 kept records for 30 years and 1942," by Miss L. F. Lewis, and (d) or more-Mr. E. Griffiths of Bishop's Castle, ** Notable Falls of Rain during the intervals Shropshire, for 62 years.

2 BRITISH RAINFALL 1943-45

entirely on the returns contributed by private down Lodge for 1913-1942. Mr. L. C. W. persons, by public local authorities and Bonacina prepared an article on '' Snowfall in especially the authorities of water under- the British Isles during the decade 1936-1945."

takings. These observers forward copies of | New averages for many stations have been their observations voluntarily for preservation gmputed, including several for Cumberland

by the British Rainfall Organization of the and Westmorland by Mr. H. P. Cornish of Meteorological Office as national records, and Keswick. In connexion with the Inland for use not only in the preparation of the Water Survey, work was carried out involving annual volumes of British Rainfall but also the revision of average values and existing for purposes of study and research. To these jsohyets over many parts of the country. voluntary observers the Organization desires

to acknowledge its indebtedness for their INQUIRIES. An unusually large number assistance and goodwill. of inquiries regarding rainfall of different parts of the country was dealt with.

INVESTIGATIONS. Limitations of space

permit of a notice only of some of the more INSPECTIONS. These remained virtually important investigations carried out during the suspended, but a few stations were visited by

three years. The following papers have been staff from the Meteorological Offices of published in the Journal of the Royal Meteor- London and Edinburgh to clear up matters logical Society : (a) "Water Resources of which could not be settled by correspondence. Loch Quoich'' by Capt. W. N. McClean,

and (b) '' The Rainfall of the Wrexham OBITUARY. During the three years

District > by S. E. Ashmore. For the Water ending June 30, 1946, reports were received Engineer's Handbook and Directory for 1945 of the deaths of 180 observers who have

Dr. J. Glasspoole contributed an article contributed to the volumes of British Rainfall. '** Rainfall over Britain and Northern Ireland, Of this number 42 kept records for 30 years

1940-1944". Mr. J. H. Willis published or more; Mr. C. Browett of Ryton on

'* Weatherwise '' which includes monthly and Dunsmore, Warwick, maintained a_ record annual totals of rainfall recorded at South- for 50 years.

2 BRITISH RAINFALL 1946

the compilation of this volume would not Town and Country Planning ; rainfall maps be possible. covering Wiltshire, Somerset, Gloucester and the Cotswolds for the Ministry of Health ; INVESTIGATIONS. Work upon 4a data for the Ministry of Supply in connection with radar research ; to the Ministry of completed. It is proposed to publish the atlas Food regarding loss of food stocks by storm in seven sections-one of which will deal with damage; the Ministry of Works for an rainfall, snow and thunder-and also in a investigation into loss of building time single bound volume. A paper " Orographic through rain and frost , statistics, maps and Rain in the British Isles" by C. K. M. reports to numerous County and Borough Douglas and J, Glasspoole was presented to Councils, Water authorities and River Catch-the Royal Meteorological Society. Dr. ment Boards. Glasspo 2 le also prepared a paper on. The Information has been supplied monthly for Reliability of Rainfall" for the Institution ea & . ; wr ; . publication in Water and Water Engineering of Water Engineers. Investigations involving . ; : wr ; and the Meteorological Magazine while the determination of general average rainfall . . a monthly reports on the rainfall of Great in many parts of Great Britain were carried op out in connection with proposed improve- Britain and Northern Ireland have been . Prop mp furnished to the British Waterworks Associa-ments in water supply, the provision of |. : . : tion and to certain Government Departments. supplies to new satellite towns and for Detai . : . etailed reports were supplied monthly to various other projects. Dr. C. E. P. Brooks ; the Metropolitan Water Board and the and Dr. J. Glasspoole were elected members Th . oe ames Conservancy and a comprehensive of the Hydrological Commission of the . ; ve annual report to the former body. The International Meteorological Organization. 2 ; regular monthly issue of rainfall maps and INSPECTIONS. Inspections remained dat numero atime, and Conser-virtually suspended but several stations were y ee. visited by staff from the Meteorological The Meteorological Office in Edinburgh Offices in London and Edinburgh to clear up provided information in connection with matters which could not be settled by corres- various projects of the North of Scotland pondence. A few stations in districts inac- Hydro-Electric Board and also dealt with cessible to the staffs of these offices were inquiries from a large number of public inspected by meteorological personnel from authorities and water engineers. Information R.A.F. stations. was furnished monthly, inter alia, to the oe Registrar General for Scotland, the Scottish INQUIRIES. Many inquiries regarding Departments of Agriculture and Health, the rainfall in various parts of the country were Scottish Seaweed Research Association and dealt with. These inquiries covered a wide the Galloway Water Power Company. range. They included the supply of records defining the rainfall experienced during OBITUARY. During the twelve months specified periods in particular localities, the ending 30th June, 1947, reports were received supply of estimates of average annual and_ of the deaths of 52 observers who had con-monthly rainfall over specified areas, advice tributed to volumes of British Rainfall. Of on the provision of equipment and the best these, 17 kept rainfall records, or were exposure for the Tain-gauges. Among the associated with relatives who kept records, information supplied, reference may be made for 30 years or more. A list of these is given to the provision of maps of average annual below. In most cases records were main-rainfall for publication by the Ministry of tained throughout by the same observer.

OBITUARY 3

Name Last place of observation No. of years'
records

Sir John Eldon Bankes ee .. | Northop, Flintshire 70
The Mackinnon of Mackinnon .. | Drumduan, Morayshire .. we 70
E. Ranson, Esq. | Sudbury, Suffolk 2 a4 ws 56
Sir Nicholas Bacon 4 +e .. | Raveningham Hall, Norfolk .. - 49
S. B. Rake, Esq. . Le .. | Fordingbridge, Hampshire .. .e 42
A. Lander, Esq. .. .e .. | Canterbury, Kent e e .. 41
Miss C.S. Fry | Upton, Berkshire . . . 38
F. K. Hawes, Esq. | Lowthorpe, Yorkshire 38
Dr. G. F. Barbour e es .. | Bonskeid, Perthshire .. .e .e 36
Rev. Canon H. Milnes-Walker .. | Malmesbury, Wiltshire. . . . 35
J. A. Devenish, Esq... . . . | Totnes, Devon .. oe we .. 35
Rev. B. W. Bradford .. e .. | West Adderbury, Oxon we ok 34
D. Campbell Hardie, Esq. we .. | Coldstream, Berwickshire .. oe 34
D. McMichael, Esq., J.P. . . . | Alvechurch, Worcester .e oe 34
F. E. Whiting, Esq. e we .. | Credenhill, Hereford .. e ze 34
Miss E. Brooke | Ewhurst, Surrey Le . . 31
Miss L. M. Brown es .e .. | Torquay, Devon e .. . 31

Sir John Eldon Bankes, a former Lord whenever possible, took the measurements
Justice of Appeal, who died on the last day personally. The 1946 return, received
shortly

of 1946, had taken a personal interest in the before his death, was made out in his own
rainfall record at Soughton Hall, Northop, hand.

for 70 years. The record actually began 83

years ago, in 1865. These two outstanding examples of 70

years' continuous observation have only been

The Mackinnon of Mackinnon died early exceeded in our annals by the record of the
in 1947 in his 99th year. He had maintained late Sir John Moore who died in 1937. Sir
a rainfall record at his seat Drumduan, near John was a regular meteorological observer
Forres, in Morayshire for 70 years and, in Dublin over a period of more than 72 years.
17385 A*

OBITUARY 3

Name Last place of observation No. of years

John D. Walker, Esq. | Ruddington, Nottingham . . ee 75
 A. T. Iles, Esq. . . . a . . | Fairford, Gloucestershire - . . 57
 E. W. Arkell, Esq. . . - . . | Chipping Norton, Oxfordshire . 52
 A. A. Howard, Esq. | Meldreth, Cambridgeshire... Le 43
 Alfred T. Loram, Esq. . . ve . . | Aylesbeare, Devon... si 'i 43
 W. B. Yates, Esq. | Cilcen Hall, Flintshire . . ee . 43
 G. Berry Hamlin, Esq. | Patcham, Sussex . we ws 40
 A. Ashford, Esq. oe | Chiseldon, Wiltshire . . 'a a 40
 A. A. H. Wykeham, Esq. os . . | Brighstone, Hampshire e 1 39
 Mrs. M. Mackenzie... ; . . | Dunvegan, Isle of Skye e . . 38
 Miss V. J. Martineau | Heckfield, Hampshire . . es 2s 38
 H. Satchell, Esq. | Hoarwithy, Herefordshire . . e 38
 H. W. Hart, Esq. = is . . | Bishop's Stortford, Hertfordshire... 37
 Dr. George Davidson | Torphins, Aberdeenshire . . . 32
 Rev. Dr. S. P. Duval | Lyminster, Sussex oe oe . 31
 Major C. F. Randolph . . we . . | Curdridge, Hampshire. . ee e 30
 John Tracey, Esq. . . .e . . | Bicknoller, Somerset . . .e e 30

General for Scotland, the Galloway Water Thus father and son between them kept an Power Company and the Scottish Tourist unbroken record for 84 years.

Board. Mr. E. W. Arkell who died on 18th January, 1948 kept a record for 52 years. He made

OBITUARY. During the twelve months his first rainfall observations at Upton Wold ending 30th June, 1948, reports were received in 1896 and continued at Chipping Norton of the deaths of 56 observers who had con- until shortly before his death. tributed to volumes of British Rainfall. Of Mr. A. A. Howard maintained a rainfall these, 17 kept rainfall records, or were record at Meldreth in Cambridgeshire from associated with relatives who kept records, 1904 until his death in November 1947. The for 30 years or more. A list of these is given record is being continued by his son, Mr. above. In most cases records were main- A. T. Howard.

tained throughout by the same observer. Mr. Alfred T. Loram kept a rainfall record at Aylesbeare near Exeter for 43 years. The

Ruth death or Not tiagham, at Walker or record has been continued since his death in 9 1 on, on ' m oie sane of eiafall November 1947 by Mr. W. T. Slader.

by rene nihi 'ast who broke all previous Mr. W. B. Yates kept a record at Cilcen 0 ards be > om a 'ag continuous v beerva. Hall, Flintshire, from 1904 until shortly before

records by maintaining his death in April 1947. The record is being

tions over no less than three quarters of a tinued by Mrs. Yat

tu Mr. Walker personally wrote out CONTE BY NMS. PB Ales.

Century. . . Mr. G. Berry Hamlin commenced observa-

his rainfall return for 1947 and sent it to the ,. ; ;

; trons in Sussex in 1906. Apart from a lapse

Meteorological Office less than a fortnight q . .

ue to ill-health in 1932-33 the records were

before his death. His records from 1873 to , 1 4.3 ;

1919 t to the British Rainfall Organ- continued until his death in January 1948.

Pak? WETS SEE MO Ene From 1941 he maintained full climatological

ization, and from 1920 onwards to the . . :

a logical Offi > that the 75 years reports, summaries of which were published

Sheed 4 ce, ve d for vosterit y in the Monthly Weather Report.

observations are preserve Pp y- Mrs. M. Mackenzie personally carried on

Mr. A. T. Iles had kept a rainfall record the record at Dunvegan, Isle of Skye, for 38 for 57 years when he died at the age of 83 years until October 1946 when, owing to ill- on 21st July, 1947. The record at Fairford health, she was no longer able to take the was started by his father in January 1863. readings. She died on 24th August 1947,

OBITUARY 3

furnished to the British Waterworks Association - good deal of information was also supplied to certain Government Departments. through Edinburgh to the Scottish Department - Detailed reports were supplied each month to the Ministry of Agriculture and Health, the Registrar

the Metropolitan Water Board and the General for Scotland and to a large number of Thames and Lea Conservancies. A comprehensive annual report was also prepared for

the Metropolitan Water Board. The regular OBITUARY. During the twelve months monthly issue of rainfall maps and data to ending 30th June 1949 reports were received consulting engineers, local authorities and of the deaths of 61 observers who had contributed numerous Catchment and Conservancy tributed to volumes of British Rainfall. Of Boards was continued and extended. these, 23 kept rainfall records, or were

The Office in Edinburgh reported that there associated with relatives who kept records, was no diminution in the demand by planning for 30 years or more. A list of these is given

and development bodies for rainfall data in below. In most cases the records have been connexion with water supply problems. A maintained throughout by the same observer.

Name Last place of observation No. of years'
Pp records

John Dover, Esq., M.A., F.R.Met.S... | Totland Bay, Isle of Wight 60
Samuel F. Hurnard, Esq. ... | Lexden, Essex .. Le ve i 60
Oswald H. Latter, Esq. ... | Godalming, Surrey ~ 8 a6 58
Albert Wilson, Esq., F.R.Met.S. ... | Carnforth, Lancashire se 57
Dr. G. Ainsley Johnston ... | Ambleside, Westmorland 54
Dr. W. R. Grove oe a .. | St. Ives, Huntingdonshire .. oe 47
J. Woodhead, Esq. ... | Slaithwaite, Yorkshire e 45
William Garnett, Esq. ... e .. | Backwell, Somerset 43
The Dowager Mrs. Maclachlan of

Maclachlan .. - T .. | Castle Lachlan, Argyll .. .- . 41
M. A. Bolton, Esq. ... | Oakamoor, Staffordshire Le . 38
R. Elmhirst, Esq. Le ... | Millport, Bute .. . Le . 38
Right Hon. Viscount Ullswater, G.C.B. | Campsea Ashe, Suffolk 37
Mr. H. G. Harrison... .. | Edinburgh, Midlothian Le .. 37
Egerton Macdona, Esq. ... | West Kirby, Cheshire 36
Miss B. G. Rogers - ae .. | Buckland Brewer, Devon 35
Miss G. E. Price-Davies ... | Horsted Keynes, Sussex .. . 34
G. M. Mathews, Esq., C.B.E. ... | Winchester, Hampshire we .e 34
B. E. Dunbar Kilburn, Esq., F.R.Met.S. | Woodstock, Oxfordshire .. 34
H. Constantine, Esq. ... | Bournemouth, Hampshire... ast 33
Harold Taylor, Esq., M.A... .. | Hassocks, Sussex 32
Sir Reginald Hobhouse, Bart. ... | Shepton Mallet, Somerset 30
Rev. Father J. P. Rowland, S.J. .. | Stonyhurst College, Lancashire .. 30
Lady Wilson _.... .e ... | Kippen House, Perthshire .. . 30

Mr. John Dover kept rainfall records at meteorological work owing to advancing his home, Totland Bay, Isle of Wight, for 60 years only a few months before his death in years. Since 1904 he had maintained a full November 1948.

climatological station and summaries of these Mr. Samuel F. Hurnard, who died on 13th observations were regularly published in the January 1949, made a noteworthy contribution to British meteorology by maintaining Monthly Weather Report. For many years' tion to British meteorology by maintaining Mr. Dover produced valuable annual reports an unbroken record of rainfall at Lexden, containing comprehensive summaries of his near Colchester, over a period of 60 years. observations with descriptive matter and long- Mr. Hurnard was a valued correspondent of period averages. He decided to give up his the Meteorological Office and a contributor 17866 A*

4 BRITISH RAINFALL 1948

to the press. Sometime ago he wrote: "The recording. Since 1912 he had caused an observations have been an interesting pastime, annual return of the observations at Campsea

the value and enjoyment of which deepen Ashe, near Woodbridge, Suffolk, to be sent with the passing of decades of years. There for use in compiling the annual volumes of are always surprises in store for the rainfall British Rainfall.

recorder." Mr. B. E. Dunbar-Kilburn was a valued

Mr. Oswald Hawkins Latter died on 11th correspondent and observer for 34 years.

October 1948 in his 85th year. He had been His records of rainfall duration at Sandford senior science master at Charterhouse from St. Martin, near Woodstock, have, for many 1890 to 1926. On going to Charterhouse he years, provided useful data for the preparation

set up a rain-gauge and other instruments in of Section 6 of British Rainfall.

his garden and personally maintained these Rev. Father James Peter Rowland, who records up to the day of his death, a period was Director of Stonyhurst College, near of 58 years. In addition to a keen interest Blackburn from 1932 to 1947, died on Boxing in meteorology, Mr. Latter was regarded as Day 1948 at the age of 73. Before becoming an expert in entomology and biology. Director he worked in the observatory for Mr. Albert Wilson became interested in many years under his predecessor, Father weather recording in 1872 when, at the age O'Connor. Besides making detailed clima- of 9, he started to measure rainfall under the tological observations over a period of 30

supervision of his father. He sent records years, he had been actively engaged in for publication in British Rainfall from 1892 meteorological research and had specialized

until his death at the age of 86 in May 1949; in seismology.

the observations were made first at Bradford Mr. William Dunbar died on 19th Decem- and subsequently at Ilkley, Garstang, Sed- ber 1948 at the age of 59. He had been Burgh bergh, Tyngroes (Caernarvon) and finally at Surveyor and Water Engineer of Kilmarnock Carnforth. With his brother, Mr. Sydney which appointment he resigned on account Wilson, he set up several monthly gauges on of ill health a year before his death. Mr. mountain sites at the turn of the century and Dunbar was deeply interested in meteorology

maintained some of these records for 25 and maintained a climatological station at years. Mr. Wilson, a fellow of the Royal his home in Kilmarnock. He also rendered Meteorological Society and of the Linnean valuable help in the collection of rainfall Society, was a keen botanist and author of records in Ayrshire. From 1937 until his The Flora of Westmorland, The Altitudinal death he was a member of the Advisory Range of British Plants, and a number of Committee of the Meteorological Office, papers on botanical and meteorological Edinburgh and in 1938-39 he served as subjects. President of the Scottish Section of the Dr. G. Ainslie Johnston set up a rain- Institution of Water Engineers. He was also gauge at Ambleside in February 1895 and a past Vice-President of the Scottish Branch made regular daily readings there until his of the Royal Meteorological Society. death on 4th June 1949. He thus maintained Mr. G. M. Mathews commenced recording a homogeneous series of observations over a__ rainfall at Foulis Court, Hampshire, in 1915.

period of 54 years. The records have been In 1929 he moved to Winchester and resumed incorporated in the annual volumes of British observations there. During the second world

Rainfall. war, Mr. Mathews was away on work for the

The Right Hon. Viscount Ullswater, G.C.B., Australian Government. In his absence the one of the outstanding Speakers of the House rainfall record was kept going by his neigh-

of Commons, who died-on 27th March 1949, bour, the late Major-General Sir Edward aged 93, was much interested in rainfall Broadbent.

OBITUARY 5

and the Institute of Brewing for a paper on annual report was also prepared for the the season's barley crop. Metropolitan Water Board. The regular

Reports with maps on the rainfall of various Monthly issue of rainfall maps and data areas were prepared for the Ministry of Health to consulting engineers, local authorities and Water Supply Survey, and the probable annual numerous Catchment and Conservancy rainfall over a catchment area in Pembroke- Boards was continued and extended. shire was computed for the Welsh Board of The Office in Edinburgh dealt with numerous Health for use in promoting a Parliamentary 'quiries from Water Supply authorities and Bill. their consultants, emphasis being on the

Other inquiries were dealt with from the intensity and duration of rainfall. Advice Ministries of Food and of Fuel and Power, "S, 8!ven to the Scottish Departments of the Meteorological Service of the Irish '8ticulture and Health, county planning Republic, many County and Borough Coun- authorities, the Hydro-Electric Board and the cils, various Water authorities and River '8ticultural Research departments of the Catchment Boards, the Universities of Dur- Scottish Universities. Data were also supplied ham, Reading and London, the Inland Water the Registrar-General for Scotland and to Survey, the Geological Survey, the War V4rious industrial inquirers.

Damage Commission, etc.

; ; OBITUARY. During the twelve months

Evidence was given in Courts of Law in a ending 30th June, 1950 reports were received variety of cases involving weather conditions of the deaths of 46 observers who had con- and much information furnished inconnexion tributed to volumes of British Rainfall. Of with rainfall insurance policies. these, 12 kept rainfall records, or were

Information was supplied monthly for associated with relatives who kept records, publication in Water and Water Engineering for 30 years or more. A list of these is given and the Meteorological Magazine while below. In most cases the records have been monthly reports on the rainfall of Great maintained throughout by the same observer. Britain and Northern Ireland were furnished The death of Dr. H. R. Mill, one time Direc- to the British Waterworks Association and to _ tor of the British Rainfall] Organization, was a certain Government Departments. Detailed severe loss to geographical and meteorological reports were supplied each month to the science. An appreciation of Dr. Mill appears Metropolitan Water Board and the Thames' on page | of this volume. and Lea Conservancies. A comprehensive Mr. William Melvill Coode, who died on

. No. of years'

Name Last place of observation r ect ds

William M. Coode, Esq. . . .	| St. Austell, Cornwall	; 51
Arthur Eastwood, Esq. . . .	| Trull, Somerset	49
Sir Henry Hoare, Bart. . . .	| Stourhead, Wiltshire. -	46
Chas. T. Musgrave, Esq. . . .	| Hascombe Place, Surrey . .	44
Dr. H. R. Mill, F.R.Met.S... .	| Dormans Park, Surrey a .	43
Rev. C. D. Ash . . . .	| Pulborough. Sussex... . .	43
Sir Henry B. Robertson . . . .	| Llandderfel, Merionethshire . . .	42
R. W. Pretor-Pinney. Esq. . . .	Somerton, Somerset... ;	41
R. W. Langford, Esq. . . .	| Frilford Heath, Berkshire a	40
A. B. Sinclair, Esq. . . .	| Penrith, Cumberland . . .	36
A. C. Marsh, Esq., F.R.Met.S. .	| Bournemouth, Hampshire . . .	33
Sir Norman Lamont, Bart. . .	| Knockdow, Argyll e . . .	30

6 BRITISH RAINFALL 1949

October 26, 1949, in his eighty-fourth year, now sends records from Crogen, about a mile was one of the few rainfall observers whose and a half north-east of Pale. interest in weather recording extended over Mr. R. W. Pretor-Pinney sent his first more than half a century. From 1898 Mr. rainfall return from Somerton in 1908. He Cooode carried on without a break the rainfall continued to send each year until 1949. He record which his father commenced at died on May 29, 1950, in his eighty-third year. Trevarna, St. Austell, in 1864. The records Mr. R. W. Langford, who also died on have been included in the annual volumes of May 29, 1950, began his long record of rain-British Rainfall for more than eighty years. fall at Abingdon in 1910. He moved a mile-This long homogenous record was selected and-a-half north-west to Frilford Heath in for use in many investigations, e.g. the per- 1935 and continued to send returns of his centage of average annual rainfall falling inthe observations until his death.

Continuity is

driest and wettest groups of consecutive being maintained by Mr. R. A. Langford who months of varying length. keeps a record in the adjoining garden.

Mr. Arthur Eastwood, who died on October Mr. A. B. Sinclair was a keen observer and 7, 1949, was in his ninetieth year. In 1901 kept detailed notes of the weather at Penrith

Mr. Eastwood set up a rain-gauge at Leigh fora period of 36 years. The rainfall record is

Court, Angersleigh, and maintained records being continued by Mrs. Sinclair.

there continuously until June, 1946, when he Mr. Arthur Charles Marsh died at Bourne-moved to Trull, two miles nearer Taunton. mouth on April 22, 1950. He was a Fellow He continued to record daily rainfall measure- ofthe Royal Meteorological Society from 1920

ments and personally wrote out and sent and Meteorologist to the Bournemouth copies of the observations to the Meteoro- Corporation from 1937. After his return logical Office to within a month of his death. from the 1914-18 war he was appointed as Sir Henry Hoare sent an annual return of deputy to his father-in-law, the late Charles his rainfall observations at Stourhead, Wilt- Dales, who was Bournemouth's first official

shire, for inclusion in British Rainfall from observer. With the passing of the years they

1903 to 1948. The record is being continued - reversed positions and from 1937 Mr. Marsh by Mr. H. P. R. Hoare. became observer and Mr. Dales his deputy.

Mr. Charles T. Musgrave maintained a A summary of the Bournemouth climatologi-rainfall record for 44 years up to his death in cal observations is regularly published -in the

1949, continuing an earlier record commenced Monthly Weather Report.

at Hascombe Rectory by the Rev. Cannon Sir Norman Lamont of Knockdow, Argyll, Musgrave in 1893. Miss F.C. Musgrave who - sent returns for publication in British Rain-is continuing to record the rainfall at her fall from 1920. He was the authority for home, Olivers, Hascombe, nearby wrote: records both at Toward and Invercholain in '* My brother Charles was a very keen obser- which he took a keen interest. By his death ver of the weather. It was a great hobby in on September 4, 1949 (following goring by his old age-he was 86." a bull on his estate of Palmiste, Trinidad),

The Reverend C. D. Ash sent rainfall Argyll has lost one of its most distinguished returns from Saxton, Yorkshire, from 1906to Jairs. Sir Norman was a member of 1926 when he moved to Pulborough, Sussex, various historical and kindred societies and where he kept a record until shortly before some of his speeches and writings on colonial

his death on December 20, 1949, affairs were published as '' Problems of the Sir Henry Robertson set up a rain-gauge at Antilles' and '' Problems of Trinidad ''. his home at Pale, near Llandderfel, Merioneth, He was joint-author of a catalogue of Trinidad

in 1906 and continued the observations for moths, the outcome of a life-long interest in 42 years. His son, Mr. Henry Robertson, entomology.

OBITUARY 3

Mr. C. H. Archer of Wootton Courtenay, and numerous River and Conservancy Boards in the neighbourhood of Blanchland for use was continued and extended. by the Sunderland and South Shields Water The Office in Edinburgh dealt with numerous Company. inquiries from legal and insurance firms and water supply authorities. Advice was given

INQUIRIES. Inquiries regarding rainfall to the Scottish Departments of Agriculture in various parts of the country covered a very and Health, County Planning Authorities and

wide field. As in previous years they included the Hydro-Electric Board. Data were also many requests for records defining the rainfall supplied to the Registrar-General for Scot-

experienced during specified periods in par- land and to various industrial concerns. ticular localities, the supply of estimates of the average annual and monthly rainfall over OBITUARY. During the twelve months specified areas, advice on the provision of ending 30th June, 1951, reports were received

equipment and the best exposure for rain- of the deaths of 55 observers who had con- gauges. tributed to volumes of British Rainfall. Of

Information was supplied monthly for these, 15 kept rainfall records for 30 years or publication in Water and Water Engineering more. A list of these is given below. and the Meteorological Magazine while

monthly reports on the rainfall of Great Miss P. C. Harrison maintained a record Britain and Northern Ireland were furnished for close on 50 years, from 1901 to September

to the British Waterworks Association and to 1912 at Horeham Manor, between Eastbourne certain Government Departments. Detailed and Tunbridge Wells, and from October 1912 reports were supplied each month to the' to June 1950 nearby at Horam (Coxlow).

Metropolitan Water Board and the Thames

and Lee Conservancies. A comprehensive Major J. Shipley Ellis forwarded returns of annual report was also prepared for the his daily observations from January 1903 until Metropolitan Water Board. The regular December 1949 when failing eyesight brought monthly issue of rainfall maps and data the long record maintained at Abbeyfields, to industrial firms, Government Departments, Peterborough, to an end. He reported at the consulting engineers, local authorities and end of 1949 that he had '*' derived very much

Name Last place of observation No. of years' records

Miss P. C. Harrison... .. | Horam, Sussex .. ve ve e 49

Major J. Shipley Ellis, J.P.... .. | Peterborough, Northamptonshire... 47

C. J. P. Cave, Esq., M.A., J.P. ... | Petersfield, Hampshire . . a . 45

C. T. Musgrave, Esq. | Hascombe Place, Surrey . . 44

E. H. Cubberley, Esq. | Bidford-on-Avon, Warwickshire . 43

A. Hampton Brown, Esq. | Farnham, Surrey . . . 43

Col. H. C. Lloyd Howard, C.B.,

C.M.G., D.S.O._... .. | St. Asaph, Flintshire .. .e oe 40

R. J. Cragghill, Esq... .. | Kendal, Westmorlande 39

Rev. Canon H. J. E. Burrell | Trumpington Road, Cambridge .e 36

B. A. Bray, Esq... .. | Shere, Surrey... .. .e 36

C. G. D. Hoare, Esq., M.A. | Uckfield, Sussex .. . e 35

F. Hudleston, Esq., M.Inst.C.E. .. | Penrith, Cumberland .. Le .. 35

Alban Coore, Esq. ve | Scruton Hall, Yorkshire .. . | 31

Major W. H. Shoolbred-Wilkin .. | Membury, Devonshire l. .. 30

G. Coleman, Esq. a s .. | Ystradgynlais, Brecknockshire . | 30

4 BRITISH RAINFALL 1950

pleasure from the practice ' ' and had supplied maintained at Kendal by various observers details of the rainfall frequently to the local certainly back to 1800. press.

The Rev. Canon H. J. E. Burrell forwarded

Capt. C. J. P. Cave, M.A., maintained a teturns from Balsham Rectory, Cambridge, rainfall record at Petersfield from May 1905 from 1912 to 1933 and from Trumpington until he died in December 1950, and also Road, Cambridge, from 1934 to 1948. contributed evaporation and duration of Mr. C. G. D. Hoare, M.A.. made returns of rainfall records to British Rainfall. He was ,o:ntall from 1914 from Lawrence House, the last surviving Trustee of the British s+ Anne's-on-Sea, until he took up residence Rainfall Organization (see British Rainfall, in Lawrence House, Uckfield, in 1933. After 1918, p.21). He had wide interests in 4 Janse of a few months, records for Uckfield meteorology, including upper air research, Were received regularly until he died at the thunderstorm research and cloud studies (see 444 of 1949. The latter record is being Quart. J. R. Met. Soc., April, 1931, p.334). continued by the gardener.

Mr. Charles T. Musgrave forwarded records Mr. Ferdinand Hudleston, M.Inst.C.E., from Hascombe, near Godalming, from 1906 sent in a complete series of monthly totals to 1948 in continuation of observations made for 1916 to 1923 from Hutton John, Penrith, at the Rectory since 1893 by the Reverend thereafter contributing daily values regularly Canon Musgrave. The record has been each year until he died at the beginning of continued by Miss F. C. Musgrave. 1951. Of recent years the records were

actually made by his son, Mr. N. Hudleston

Mr. E. H. Cubberley sent rainfall records of the River Eden Catchment Board. Mr. F. from Moor Hall, Bidford-on-Avon from 1907 udileston carried out experiments on the until 1949. He was interested in many exposures of rain-gauges from 1926 to 1932, aspects of meteorology. the complete summary being included in

British Rainfall, 1933, pp. 274-293, together

Mr. A. Hampton Brown was on the staff of with a diagram of the turf-wall he introduced. the Royal Meteorological Society from 1896 We interested himself in local affairs and until he retired from his post as Assistant wrote a treatise on ' " The Floods of the Lake

Secretary at the end of 1935. He maintained)ijstrict in 1935" published by the River rainfall records at his home at Chelsea from Derwent Catchment Board. It is interesting 1907 to 1935 and climatological observations to know that the rainfall record is still being

at Farnham until his death in November 1950. continued at Hutton John, with its famous

Peel-Tower and clipped yews.

Mr. R. J. Cragghill commenced observing

at Cartmel Fell Schoolhouse in 1909 in con- Mr. Alban Coore forwarded returns from tinuation of a record previously kept at the 1929 to 1949 from Scruton Hall, near Vicarage. When he retired and moved to' Northallerton, in continuation of the record Kendal in 1931 records were continued there maintained there by his father, the Rev. until 1947. Rainfall records have now been Alfred T. Coore, since 1903.

OBITUARY 3

and Mr. A. Bleasdale on the Hydrological equipment and the best exposure for rain-Research Group of the Institution of Water gauges.

Engineers. Information was supplied monthly for The Hugh Robert Mill Medal and prize for publication in Water and Water Engineering 1952 of the Royal Meteorological Society and the Meteorological Magazine while was awarded to Dr. J. Glasspoole for his out- monthly reports on the rainfall of Great standing contributions to the science of Britain and Northern Ireland were furnished meteorology with particular reference to to the British Waterworks Association and to rainfall. certain Government Departments. Detailed reports were supplied each month to the

INSPECTIONS. During the year rain-gauges Metropolitan Water Board and the Thames were included in the inspection of about 165 and Lee Conservancies. A comprehensive climatological stations. In addition about 140 annual report was also prepared for the rainfall stations were inspected. The main Metropolitan Water Board. The regular groups were those of the Edinburgh Water monthly issue of rainfall maps and data Works, Fannich Orrin (Hydro-Electric Board), to industrial firms, Government Departments,

Daer Water Scheme (Lanarkshire), Bradford consulting engineers, local authorities and Waterworks, Bristol Waterworks, Sunderland numerous River and Conservancy Boards and South Shields Waterworks and a number' was continued and extended.

of gauges in which the Yorkshire Ouse River The Office in Edinburgh dealt with numerous Board has a special interest. inquiries from legal and insurance firms and Additional sites for rain-gauges were also water supply authorities. Advice was given selected in the area of the Yorkshire Ouse to the Scottish Departments of Agriculture River Board and in the Upper Tees under and Health, County Planning Authorities and Great Dun Fell for the Nature Conservancy. the Hydro-Electric Board. Data were also supplied to the Registrar-General for Scot-

INQUIRIES. Inquiries regarding rainfall land and to various industrial concerns. in various parts of the country covered a very

wide field. As in previous years they included OBITUARY. During the twelve months many requests for records defining the rainfall ending June 30, 1952, reports were received

experienced during specified periods in par- of the deaths of 37 observers who had con- ticular localities, the supply of estimates of the tributed to volumes of British Rainfall. Of

average annual and monthly rainfall over these, 10 kept rainfall records for 30 years or specified areas, advice on the provision of more. A list of these is given below.

Name | Last place of observation No. of years'

| records

Capt. W. Elwin Napier . . . | Worth, near Sandwich, Kent... oe 50

Mr. John Taylor we .e .. | Guildford, Surrey we 49

Mr. John A. Druce | Goudhurst, Kent . . . e es 45

Sir Charles Leyshon Dilwyn-Venables-

Llewelyn, Bt., C.B. .e .. | Llysddinam, Brecknockshire e .. 43

Dr. A. Bulleid . e .. | Midsomer Norton, Somerset... a 41

Mr. F. E. T. Jones Balme . . . | Rydal, Westmorland 39

Miss L. Sibley... . . . | St. Neots, Huntingdonshire a .. 38

Dr. W. C. Whitworth .. .e .. | St. Agnes, Cornwall we .. we 34

Mr. E. W. Finch a | Purley, Surrey e e .. . 33

Mr. P. M. Horsfall .. e .. | Sleights, Yorkshire .. .e .. 30

4 BRITISH RAINFALL 1951

Capt. W. Elwin Napier contributed annual Mr. F. E. T. Jones Balme kept a record returns from Worth, near Sandwich, com- at Rydal (High Close) from 1912 to 1950. mencing in 1901. Initially the record was This record was commenced in 1859 by Mr. credited in British Rainfall to Sandwich(Word). E. B. W. Balme and forwarded later by Mr.

It is being continued by Mrs. M. Napier. F. M. T. Jones Balme. It is being continued by Mrs. Jones Balme.

Mr. John Taylor forwarded returns from

West Hill House, Dartford, from 1902 until Miss L. Sibley commenced observing at 1933, when on the death of the owner he t, Neots in 1914 and supplied in 1931 the moved to Guildford, continuing a record there earlier records. From then until her death until his death in July 1951. in December 1951 regular monthly returns were forwarded to the Meteorological Office.

Mr. John A. Druce commenced rainfall A record at St. Neots is being continued by readings at Gore Court, Goudhurst, in 1904 Mr. W. P. Bond-Smith.

and these were continued, with a short break

in 1916 and 1917, until his death im April Dr. W. C. Whitworth supplied returns from 1951 at the age of 93. St. Agnes from 1917 to 1950, initially through

, ; the Cornwall Rainfall Association. The

Sir Charles Leyshon Dilwyn-Venables- record is being continued by his son Dr.

Llewelyn, Bart., C.B., arranged for records to Henry Whitworth, M.B., B.S

be forwarded from Llysdimam, Newbridge- 7 eee

on-Wye, from 1908, the late Mrs. Lester ;

Venables having forwarded earlier returns Mr. E. W. Finch forwarded returns from from there for the years 1882 to 1907. The Purley from 1915 to 1938, from Yeovil in record is being continued by Lady Venables- 1940 and from Purley from 1943 to 1950. Llewelyn.

Mr. P. M. Horsfall sent records from The

Dr. A. Bulleid sent returns from Midsomer Hall, Sleights, near Whitby, from 1921 to Norton from 1911 until he died in his 89th 1950. The record is being continued by Mr. year in December, 1951, and '' quite at the George Gibson at the Hall Cottage, the gauge last he arranged for the record, in which he having been left to him. For the 30 years, was so keen, to be continued '', reading the gauge had been part of his duties.

OBITUARY 3

of (1) Hydrological Measurements, (2) Esti- included many requests for records defining mation of Yield (Overground), (3) Estimation the rainfall experienced during specified of Yield (Underground) and (4) Some Obser- __ periods in particular localities, the supply of

vations on Pumping Tests carried out on estimates of the average annual and monthly Chalk Wells. rainfall over specified areas, advice on the

A start was made with the preparation of provision of equipment and the best exposure rainfall averages for the period 1916-50. for rain-gauges.

RIVER BOARDS. A study has been made of Information was supplied monthly for the representative distribution of rainfall publication in Water and Water Engineering stations, which might be expected to remain and the Meteorological Magazine while permanent, for each of the 32 River Boards monthly reports on the rainfall of Great covering England and Wales. Recommenda- Britain and Northern Ireland were furnished tions have been prepared for some 20 areas to the British Waterworks Association and to and communicated to a number of the certain Government Departments. Detailed engineers concerned. Mention should be reports were supplied each month to the made of the Yorkshire Ouse River Board Metropolitan Water Board and the Thames area where substantial progress has been made and Lee Conservancies. A comprehensive in securing representative readings for locali- annual report was also prepared for the ties hitherto but poorly covered. About Metropolitan Water Board. The regular half the River Boards have been supplied monthly issue of rainfall maps and data with rainfall maps and data month by month. to industrial firms, Government Departments, INSPECTIONS. During the year rain-gauges consulting engineers, local authorities and were included in the inspection of about 150 numerous River and Conservancy Boards climatological stations. In addition it was was extended.

only possipe to ee ai ato a a rainvar The Office in Edinburgh dealt with numerous Bee M eae Sof me me chine aie inquiries from legal and insurance firms and L ac k Ne o fri 'shi HOS d Ire, d water supply authorities. Advice was given Kinic, al ire and WVumiriesshire ane aroune to the Scottish Departments of Agriculture inlocnleven. . and Health, County Planning Authorities and

INQUIRIES. As in previous years in- the Hydro-Electric Board. Data were also quiries regarding rainfall in various parts of supplied to the Registrar-General for Scot-

the country covered a very wide field. They land and to various industrial concerns.

Name Last place of observation No. of years' records

Mr. H. H. Harding .. ..	| Frampton Cotterell, Gloucestershire ..	58
Mr. E. W. Hussey a .. ..	| Scotney Castle, Kent .. e ..	55
Sir Frederick Berryman .. ..	| Shepton Mallet, Somerset	Sl
Mr. J. Arnold Whitchurch .. ..	| Great Barford, Bedfordshire - a	50
Dr. T. Edmondston Saxby, O.B.E. ..	| Baltasound, Shetland Islands Le ..	45
Mr. M. J. Lipscomb .. a3 ..	| Bath, Somerset e e	45
Mr. V. B. Longhurst .. . .	| Guildford, Surrey teas	44
Rev. T. R. Price, M.A. .. ..	| Lewisham, London	42
Mr. Theodore Gibbins .. ..	| Neath, Glamorgan	41
Mr. A. Y. Barker .. 6 ..	| Pateley Bridge, Yorkshire	38
Mr. A. Pettipher os _ ..	| Buckinghamshire .. ra we ae |	36
Mr. A. T. Miller .. . .	| Swanley, Kent .. . . |	31

i

4 BRITISH RAINFALL 1952

OBITUARY. During the twelve months of so continuous a record by one engaged in ending June 30, 1953, reports were received medical practice must have been difficult. of the deaths of 53 observers who had con- ___In spite of failing health Dr. Saxby contributed tributed to volumes of British Rainfall. Of full climatological observations until the these, 12 kept rainfall records for 30 years or middle of 1950 and some of them up to a more. A list of these is given on page 3. few months before his death in October 1952.

Mr. H. H. Harding contributed rainfall Mr. M. J. Lipscombe who died in February returns from 1892 to 1906 from Fishponds, 1953, sent returns from Bath, from Monkton Bristol, and from Frampton Cotterell from Combe for the years 1907 to 1936, and from 1907 until his death at the age of 83 in March Bathwick Hill for the years 1937 to 1951. 1953. Climatological returns were forwarded Mr. Vernon B. Longhurst forwarded re- from 1942. Mr. Harding stopped observing turns from Woking from 1908 to 1940 and in 1950, but the observations have been con- from Guildford from 1941 to 1951. He died tinued by his son Mr. A. G. Harding. Mr. suddenly in January 1952.

H. H. Harding was senior Fellow of the The Rev. T. R. Price forwarded returns Royal Meteorological Society. from Lilbourne Vicarage, to the east of

Mr. E. W. Hussey assisted his father, Mr. Rugby, 1907 to 1913; from Westcombe Park, Edward Hussey, in rainfall observing at near Greenwich, 1917 to 1934, and then Scotney Castle (to the east of Tunbridge from Catford Hill, Lewisham, until 1952, Wells) from 1873 until 1897, and then took apart from a break in 1944 owing to war over responsibility until failing health forced damage when the record was also destroyed.

him to discontinue. Until his death in The record is being continued at Lewisham October 1952 he maintained his interest in by Miss D. Norton.

the record which it is hoped will be continued Mr. Theodore Gibbins commenced rain- by Mr. Christopher Hussey. fall records at Glynfelin, Neath, in 1911,

Sir Frederick Berryman, who died in and forwarded returns regularly until 1951. December 1952, had forwarded rainfall Mr. A. Y. Barker sent returns regularly records from Shepton Mallet from 1901 to from Kettleshulme, near Whaley Bridge, 1951. The record has been continued by from 1915 to 1935; from Ravensgill Lodge, his daughter Miss F. A. Berryman, who Pateley Bridge until 1939 and then from Low states that the exposure of the gauge has not ___Laithe, also near Pateley Bridge, until October

been altered since it was inspected by the 1952. | Meteorological Office in 1917. Mr. A. Pettipher supplied records for

Mr. J. Arnold Whitchurch commenced Abingdon for the years 1903 to 1909 and for forwarding rainfall records from Great Bar- Buckingham from 1924 until his death in ford House, St. Neots, in 1903 and continued November 1952. The return is being con- until shortly before his death in February - tinued by Mr. Ralph Davis at Sandpit Farm, 1953. Buckingham.

Dr. T. Edmondston Saxby commenced to Mr. A. T. Miller commenced records at take climatological observations at Balta- Wested Farm in 1921 and in 1927 forwarded sound in 1904, sending returns first to the a return also from Keston Court Farm. The Scottish Meteorological Society and then to returns since 1951 have been received from the Meteorological Office. The maintenance A. T. Miller (Swanley) Ltd.

4 BRITISH RAINFALL 1953

INSPECTIONS. During the year rain- annual report was also prepared for the gauges were included in the inspection of Metropolitan Water Board. The regular about 150 climatological stations. In addition monthly issue of rainfall maps and data it was possible to inspect about 200 rainfall to industrial firms, Government Departments, stations (of which the Meteorological Office, consulting engineers, local authorities and Edinburgh, inspected about 50) distributed numerous River and Conservancy Boards was in the neighbourhood of London; over the continued. gathering grounds providing water supply to The Meteorological Office, Edinburgh, dealt Blackburn, Blackpool, Bolton, Harrogate, with numerous inquiries from legal and Keighley, Wakefield and the Staffordshire insurance firms and from the North of Scotland Potteries: as well as in Lanarkshire, Renfrew- Hydro-Electric Board, Forestry Commission shire and the Loch Turret and Dee (Aberdeen- and the Departments of Health and Agri- shire) Valleys. culture. Regular reports were supplied to the

oa. Registrar-General for Scotland, the North of

amURTES: As in previous years InqUITIES - Scotland Hydro-Electric Board, South-east regarding rainfall in various parts of the Scotland Electricity Board, the Jnverness country covered a very wide field. They M- Courier and other authorities interested in cluded many requests for records defining the rainfall. rainfall experienced during specified periods in particular localities, the supply of estimates OBITUARY. During the twelve months of the average annual and monthly rainfall ending June 30, 1954, reports were received over specified areas, advice on the provision of the deaths of 44 observers who had con- of equipment and the best exposure for rain- tributed to volumes of British Rainfall. Of gauges. these, 1] kept rainfall records for 30 years or

Information was supplied monthly for more. A list of these is given below. publication in Water and Water Engineering Mr. Joseph H. Welch sent returns regularly and the Meteorological Magazine while from Londonderry, starting in 1903 and monthly reports on the rainfall of Great continuing up to the time of his death early Britain and Northern Ireland were furnished in 1953. to the British Waterworks Association and to Mr. C. H. Scott, who died in July 1953, certain Government Departments. Detailed commenced forwarding rainfall records from reports were supplied each month to the MHollanden House, Hildenborough, in 1905 Metropolitan Water Board and the Thames and continued until 1952. and Lee Conservancies. A comprehensive The death of Major R. M. Ker in October

Name	Last place of observation	No. of years'
|	: records	

Mr. Joseph H. Welch	.. .. .	| Dunruadh, Londonderry	es nw	3 50
Mr. C. H. Scott	.. e .	| Hildenborough, Kent	.. e .	48
Major R. M. Ker	.. . . .	Milngavie, Stirlingshire	.. .e .	45
Mr. A. O. Scrivener...	.. . . .	| Boston, Lincolnshire	.. . Le	44
Mr. W. A. Roberts	.. - ..	| Bridport, Dorset	.. . . .	43
Mr. N.C. Armitage...	.. . . .	| Claygate, Surrey	.. . . .	we 43
Mr. H. I. Bond	.. . . .	| Dorchester, Dorset	.. i an	40
Sir Harold Clayton, Bart.	Le	| Brixham, Devonshire	.. . a	35
Major W.S.R Cox	.. - .	' Bridstow, Herefordshire	.. . |	34
Miss D. P. Foster	.. , ..	| Liskeard, Cornwall	a Ke	| 31
Mr. E. R. Sykes	te Le 1	| Dorchester, Dorset	.. . . .	| 30

a

OBITUARY 5

1953, ended a very long family association in November 1953. The record is being continued by Miss M. H. G. Bond, whose family began his records in 1853 at Auchindraith, contributed returns from Corfe Castle, Dorset, Hamilton, and was one of the contributors to from 1914 to 1942.

British Rainfall 1860. There was a break in Sir Harold Clayton, Bart., forwarded the recordings in 1877 until the late Major Ker returns from Brixham from 1917 until his resumed the returns-at Dougalston, Miln- death in 1951, and also from Harleyford gavia-in 1907. In 1928 the late Major Ker Manor, near Marlow, from 1934 to 1945. acquired Eastertoun whence he sent records Major W. S. R. Cox, who died in February until his death in 1953. His statistics of 1954, had forwarded returns from Bridstow, the rainfall at Dougalston and Eastertoun near Ross-on-Wye, from 1920 until shortly were kept with meticulous care, and he was' before his death. He was keenly interested always ready to discuss his findings with in the Boy Scout movement from its start, in others and to pass on his data to anyone' the Ross Golf Club, in the South Herefordshire Lawn Tennis Club, and was the vicar's

Mr. A. O. Scrivener contributed returns warden at Bridstow for 43 years. from Boston, taken at Bargate End 1908 to Miss D. P. Foster sent returns from 1938 and then at Sibsey Road until 1951. He Liskeard, Cornwall, from 1922 until her death

had recorded the large fall of 4.98 inches for in April 1953, when her sister, Miss W. P.

August 8, 1931. Foster, who had shared the interest in rainfall

Mr. W. A. Roberts supplied records for observing, continued the record. Records for Great Bromley, Essex, from 1910 to 1946, and__ earlier years were credited to their father, then from Bridport until his death in March Col. L. C. Foster, and it is interesting to note

1953. The record is being continued by that in 1933 Miss D. P. Foster stated that she Mr. H. G. T. Morrison. had "kept the record continuously since

Mr. N. C. Armitage sent returns regularly August 1895". Miss Foster had recorded the from Claygate, Surrey, from 1910 until 1952. only entry exceeding 4 inches in a day for Mr. H. I. Bond sent records from Wey- Cornwall-4.53 inches on October 5, 1929. bridge, 1914 to 1939, from Windsor, 1939 to Mr. E. R. Sykes, who died in 1954, sent 1949, and from Dorchester until his death in returns from Dorchester from 1924 to 1953.

4 BRITISH RAINFALL 1954

available. The number of river-gauging stations has continued to increase and for the fourth volume estimates of the general monthly rain-gauges rainfall for some 80 areas were prepared. RIVER BOARDS. Work has continued in climatological stations in Great Britain and collaboration with the River Boards in Northern Ireland. obtaining a representative distribution of rainfall stations, which might be expected to remain permanent and also serve in estimating the general rainfall for areas where run-off data are likely to become available. Most of the 32 River Boards covering England and Wales are already co-operating. The nature and scope of the work done for river boards varies a good deal, but in many cases daily rainfall amounts or maps showing the distribution of monthly rainfall are supplied regularly. INSPECTIONS. The inspection of the rain-electric schemes, including that for areas in the fall stations published in British Rainfall has always been considered of great importance. During the war few inspections were possible for the Corporation Waterworks of Cardiff and, with the object of inspecting all reporting stations at least once in 10 years, a member of the staff was allocated during the year for this work. This enabled some 150 stations to be inspected, mainly in the neighbourhood of London, e.g. those maintained by the Surrey Engineering County Council, Middlesex County Council, while monthly reports on the rainfall of Great Southend Waterworks, Lee Conservancy, Britain and Northern Ireland were furnished East Surrey Water Company, Woking U.D.C., to the British Waterworks Association and to and Middle Level Commissioners. In addition, certain Government Departments. Detailed 9 stations were inspected in the area of the reports were supplied each month to the N.W. Sussex Joint Water Board, and 8 sites Metropolitan Water Board and the Thames selected for additional rain-gauges to be maintained by the Staffordshire Potteries annual report was also prepared for the Water Board. Metropolitan Water Board. The regular

N	: No. of years'	ame Last place of observation y'	records
Mr. H.R. Coventry...	Le ..	Chippenham, Wiltshire	oe , . 50
Mr. W. G. Rutter	Pulham St. Mary, Norfolk	.. .. a 49
Mr. William Berry be ve	Newport, Fifeshire	.. .. a . 49
Earl of Mar and Kellie.	Alloa House, Clackmannanshire	.. .. 47
Mr. F. C. Hornsey	Wood Green, Middlesex	.. . an 43
Mr. J. E. Gladstone... ve	Braunton, Devon...	Le J. | 42

Mr. H.R. Coventry... Le .. | Chippenham, Wiltshire oe , . 50

Mr. W. G. Rutter | Pulham St. Mary, Norfolk a 49

Mr. William Berry be ve .. | Newport, Fifeshire a . 49

Earl of Mar and Kellie. . . . | Alloa House, Clackmannanshire 47

Mr. F. C. Hornsey | Wood Green, Middlesex .. . an 43

Mr. J. E. Gladstone... ve .. | Braunton, Devon... -_ Le J. | 42

Major A. A. Dorrien-Smith, D.S.O. .. | Tresco Abbey, Scilly . Le a 37

Rev. M. de Courcy-Ireland.. .. | Cambridge .. . 1 we | 35

I

OBITUARY 5

monthly issue of rainfall maps and data to John Berry of the Edinburgh Office of the industrial firms, Government Departments, Nature Conservancy. consulting engineers, local authorities and The Earl of Mar and Kellie, who died on numerous River Boards was continued. June 3, 1955, began recordings at Alloa House

The Meteorological Office, Edinburgh, dealt in 1908. The Earl took a personal interest in with numerous inquiries from legal and _ the returns and raised with the Meteorological insurance firms and from the Press. The less Office several points concerning the rainfall of routine inquiries covered a wide variety of the Alloa district. subjects such as water supply, drainage, Mr. F. C. Hornsey observed at Wood Green agriculture, location of industries, road repair from 1907 until he retired in 1951 at the age of and building work. 82 years, having worked with Messrs. Negretti

and Zambra, Instrument Makers, for over 50

OBITUARY. During the twelve months years.

ending June 30, 1955, reports were received Mr. J. E. Gladstone forwarded readings of the deaths of 42 observers who had con- from Llandaff, near Cardiff, from 1908 to 1934

tributed to volumes of British Rainfall. Of and the record was continued there until 1947.

these, 8 kept rainfall records for 35 years or Mr. Gladstone moved to Braunton, Devon, more. A list of these is given on page 4. where readings were made from 1937 until

Mr. H. R. Coventry contributed returns for 1952.

half a century from 1903 until a month before Major A. A. Dorrien-Smith, D.S.O., who his death in June, 1953. died in May, 1955, at the age of 79, had sent

Mr. W. G. Rutter also commenced record- readings from Tresco Abbey since 1918, ing in 1903 and in 1913 he set up a second _ records from his family having been received

station at Ditchingham, which was later con- since 1870 and published in British Rainfall

tinued by his son. since 1885.

Mr. William Berry sent records from Tay- The Rev. M. de Courcy-Ireland contributed field, Newport, in the north of Fifeshire from returns from Abington Pigotts Hall, to the

May 1905. Until his death on April 18, 1954, south of Cambridge, from 1920 to 1947 and Mr. Berry attended personally to all corre- from the nearby Litlington Vicarage from 1927

spondence about the records. The readings to 1946. He also forwarded records from are being continued at Tayfield by his son, Dr. Cambridge from 1948 to 1954.

4 BRITISH RAINFALL 1955

Lee. The rain-gauges were included in the and the Thames and Lee Conservancies. A inspection of about 120 climatological stations comprehensive annual report was also pre-

in Great Britain and Northern Ireland. pared for the Metropolitan Water Board.

The regular monthly issue of rainfall maps and

data to industrial firms, Government Depart-

INQUIRIES. As in previous years inquiries ents, consulting engineers, local authorities regarding rainfall in various parts of the and numerous River Boards was continued.

country covered a very wide field. They in- 'The Meteorological Office, Edinburgh, dealt cluded many requests for records defining the With numerous inquiries from legal and rainfall experienced during specified periods insurance firms and from the Press. The less

in specified localities, the supply of estimates OUTine inquiries covered a wide variety of

of the average annual and monthly rainfall Subjects such as water supply, drainage, for given areas, advice on the provision of fosion, agriculture, forestry, horticulture, equipment and the best exposure for rain- road construction and industrial problems.

gauges. Information was supplied in connec-

tion with water supply, drainage and hydro-

electric schemes, including estimates of average OBITUARY. During the twelve months

annual rainfall in connection with additional ending June 30, 1956, reports were received

water-supply schemes for the County Councils of the deaths of 42 observers who had con-

of Dumfriesshire, West Lothian, Inverness- tributed to volumes of British Rainfall. Of

shire, Sutherland, Renfrewshire, Angus and __ these, 8 kept rainfall records for 35 years or

Montgomeryshire; for Newport (Mon), more. A list of these is given below.

Cardiff, Bridgwater, Liverpool, Chesterfield, Mr. Percy Clough supplied rainfall returns Oldham, Barnoldswick and Kilmarnock; and from Keighley (The Knowle) from 1910.

for the Stirlingshire and Falkirk Water Board, Mr. W. V. Bloom maintained a rainfall

the Tees Valley Water Board, and the Bolsover station at Fordham from 1903 until his death

and Clowne Water Board. in May 1955 at the age of 87. The returns

As in previous years, information was are being continued by the family.

supplied monthly for publication in Water and Mr. David H. Owen maintained records of

Water Engineering and the Meteorological the weather at Birmingham (Sparkhill) from

Magazine while monthly reports on the rain- 1892; he forwarded rainfall returns to the

fall of Great Britain and Northern Ireland Meteorological Office from 1905 and climato-

were furnished to the British Waterworks logical returns from 1907. His death in

Association and to certain Government De- November 1955, at the age of 84, brought to

partments. Detailed reports were supplied a sudden close a long and enthusiastic devo-

each month to the Metropolitan Water Board tion to meteorology.

Name Last place of observation No. col years

Mr. Percy Clough .e .e ..| Keighley, Yorkshire . . ve .. . 56

Mr. W. V. Bloom . ee ..| Fordham, Cambridgeshire .. Le .. 52

Mr. David H. Owen . .e ..| Sparkhill, Birmingham .. Le .. 51

Rev. Sir Paget Bowman, Bt... ..| Colehill, Dorsete 48

Mr. Roger C. Mallock .. as ..| Hook, Hampshire... .. . 47

Mr. J. A. Jones .. es .- ..| Cray, Brecknockshire .. . ve 46

Mr. R. Roberts| Llanafan, Cardiganshire .. as . 45

Mr. H. W. Apperley___... ..| Morecambe, Lancashire... i | 36

OBITUARY 5

Rev. Sir Paget Bowman, Bt., was vicar of 1910 to 1955 and forwarded readings to the

Newington, near Sittingbourne, Kent, 1907- Meteorological Office.

11, and of Woodside, South Norwood, 1911- Mr. R. Roberts read a rain-gauge monthly 19, and Rector of Shere, Surrey, from 1919 at isolated farms to the east of Aberystwyth- until 1950, when he resigned. A continuous at Towy-Fechan, near Strata-Florida, from rainfall record was maintained at these places 1911 to 1923, at Ysphyty Ystwyth from 1923

and continued at Joldwynds, Colehill, from to 1933 and from Blaenddol, near Llanafan, 1950-55. from 1933 to 1955.

Mr. Roger C. Mallock forwarded returns Mr. Harry William Apperley, F.R.Met.S., from Cockington Court, Torquay, 1901 to commenced observing in Wilpshire, near 1913, and from Nately Hatch, near Basing- Blackburn, in 1920 and continued sending in stoke from 1923 to February 1956. returns when he moved to Bare, north of

Mr. J. A. Jones read a rain-gauge monthly Morecambe, in 1939. He became known to at Cray, between the Carmarthenshire Black a wide public through his contributions to Mountain and the Brecon Beacons, from various local newspapers.

4 BRITISH RAINFALL 1956

different parts of the country to provide the rainfall experienced during specified information relevant to water-supply inquiries. periods in specified localities, the supply of

RIVER BOARDS. Liaison with river monthly and annual average rainfall for given boards in establishing a representative dis- areas, and advice on the provision of equip- tribution of rain-gauges in each of the 32 ment and the best exposure for rain-gauges. areas has been maintained, while the regular Information was supplied in connection with monthly supply of rainfall maps and data to water supply, drainage and hydro-electric many boards continues. In a few cases data schemes, including estimates of average have been supplied for special investigations, annual rainfall in connection with additional some of which have been discussed, in corres- | water-supply schemes for the County Councils pondence or through personal visits, with river of Dumfriesshire, Caithness, Caernarvonshire board engineers. and Northumberland, and for Liverpool, Oldham, Torquay, Londonderry, Birkenhead,

INSPECTIONS. During the twelve months _ Bristol, Sunderland and South Shields, Wrex- ending June 30, 1957, the rainfall inspector ham and East Denbighshire, South Essex and visited about 150 stations. This is a much the Tees Valley. smaller number than had been planned, As in previous years, information was because of the absence of the rainfall inspector supplied monthly for publication in Water and for about six of the twelve months on other Water Engineering and the Meteorological duties or on sick leave, which meant the Magazine, while monthly reports on the rain- cancellation of a large number of provisionally fall of Great Britain and Northern Ireland arranged inspections. Stations visited were were furnished to the British Waterworks mainly in north-west England, including the Association and to certain Government Lake District, and in central and South Wales, Departments. Detailed reports were supplied the west Midlands and southern England. each month to the Metropolitan Water Board Arrangements for inspections were made by and the Thames and Lee Conservancies. A a number of engineers serving water-supply comprehensive annual report was also pre- undertakings including the Manchester Cor- pared for the Metropolitan Water Board. poration Waterworks, the Metropolitan Water The regular monthly issue of rainfall maps and Board, the Irwell Valley Water Board, and the data to industrial firms, Government Depart- Herts and Essex Water Company; similar ments, consulting engineers and local authori- valuable assistance was rendered by the _ ties was continued. engineers of the Mersey and Wye River The Meteorological Office, Edinburgh, Boards. dealt with numerous inquiries from legal and

The Meteorological Office in Edinburgh insurance firms and from the Press. The carried out inspections of some 106 stations non-routine inquiries covered a wide variety in Scotland. Many of those inspected were of subjects such as water supply, drainage, in the northern and north-western counties erosion, agriculture, forestry, horticulture, and fairly large groups inspected were around road and bridge construction and industrial Loch Sloy, Glen Lochay and Glen Moriston. problems. | Rain-gauges were included in the inspection of The exchange of information with the about 121 climatological stations in Great Director of the Meteorological Service of the Britain and Northern Ireland. Irish Republic was continued.

INQUIRIES. As in previous years inquiries OBITUARY. During the twelve months regarding rainfall in various parts of the ending June 30, 1957, reports were received country covered a very wide field. They of the deaths of 22 observers who had con- included many requests for information about tributed to volumes of British Rainfall.

OBITUARY 5

Of these, 6 kept rainfall records for 35 years Mr. W. Maurice Wright, M.A., J.P., sent
ormore. A list of these is given below. records from Wold Newton Manor for 40

Sir John Stirling-Maxwell, Bt., sent rainfall years from 1917 until his death on October
records from his home at Pollock, Renfrew- 17, 1957. Throughout this period he con-
shire, for 45 years, his observations having tributed monthly weather notes to the local
commenced in 1912. Hedied on May 30, 1956. press. His brother, Mr. Parsons Wright, is

The Rev. I. F. Carr-Gregg, M.A., forwarded continuing this valuable, long rainfall
record.

returns from Hurstpierpoint from 1891 to Mr. A. Cozens-Hardy, who died in 1957,
1898, and from Astley Vicarage, Nuneaton, maintained for 40 years, from 1915 until 1954,
for most of the period from 1917 until his the rainfall record started by his family at
death early in 1956. Oak Lodge, Sprowston, in 1872.

Mr. E. W. Poore maintained a rainfall Captain M. Murray Buchanan began rain-
record at his home, Dockens, near Fording- fall observations at Leny, near Callander,
bridge, Hampshire, for 41 years, from 1916 Perthshire, in 1919, and kept them for 37
until 1956. He died on January 30, 1957. years. He died in December, 1956.

DR. J. GLASSPOOLE 5

Dr. J. GLasspoote. At the end of 1957 ment in the Meteorological Magazine for Dr. J. Glasspoole retired from his post in the April, 1958.

Meteorological Office after nearly 38 years'

service. Dr. Glasspoole started his career in OBITUARY. During the twelve months the British Rainfall Organization under Dr. ending June 30, 1958, reports were received H. R. Mill in 1916, before the organization of the deaths of 23 observers who had con- was taken over by the Meteorological Office. tributed to volumes of British Rainfall. He had thus been closely associated with rain- Of these, the following four kept rainfall fall work for more than 40 years, and his records for 35 years or more.

retirement brought to an end the last remain- Miss E. S. Dunlop contributed rainfall ing personal link with the British Rainfall records from Shieldhill, Biggar, from 1908 to Organization in its earlier form, when it was a 1940 and from Huntfield, Biggar, from 1941 private body. until her death early in 1958.

Towards the end of his career, Dr. Glass- Major A. C. F. Luttrell maintained a rain- poole was awarded two significant honours: fall record at Edington Manor, Bridgwater, in March 1957 he was elected an Honorary from 1920 until his death in January, 1957. Member of the Institution of Water Engineers, Mr. G. A. Goodchild sent rainfall records as reported, with an account of his work, in from Great Yeldham, Essex, for 46 years, the Journal of the Institution for May 1957; from 1912 to 1957. He died in February, and in June 1957 he was appointed a Com- 1958, but his daughter is continuing this long panion of the Imperial Service Order for long and valuable record. and meritorious service in the Meteorological Mrs. E. L. Burt began rainfall observations Office. A further appreciation of Dr. Glass- at Braintree, Essex, in 1923 and kept them for poole's work was published after his retire- 35 years. She died in April, 1958.

SNOW SURVEY OF GREAT BRITAIN 3

SNOW SURVEY OF GREAT BRITAIN. A _ and in the valleys of the Shin, Tay, Forth, report on the Snow Survey of Great Britain Neath and Colne.

appeared in British Rainfall for the first time Information was supplied for publication in

in the volume for 1957. A similar report for Water and Water Engineering and in the the season 1957-1958 is published in Part III Meteorological Magazine while monthly re- of the present volume. The basic information _ ports of rainfall in Great Britain and Northern

from which the Survey is prepared is obtained Ireland were supplied to the British Water-

from Monthly reports made throughout the works Association and to various Government season, voluntary observers giving daily Departments. Detailed reports were supplied records of snowfall and snow cover within each month to the Metropolitan Water Board sight of their observing stations. Advance and to the Lee Conservancy and tables of copies of this Survey were sent to these data were supplied to the Thames Conser- contributing observers at the end of 1958. vancy. A comprehensive annual report was Additional snow data are also obtained from also prepared for the Metropolitan Water returns made by voluntary climatological Board. The regular monthly issue of rainfall stations and official Meteorological office maps and data to industrial firms, Government

stations. Departments, consulting engineers and local authorities continued.

SURFACE WATER YEAR BOOK. The ihe swshange of information with, the Meteorological Office has continued to make Irish Republi ti its contributions to the Surface Water Year "80 Publle contunued. Book, prepared by the Surface Water Survey ;

of the Ministry of Housing and Local Govern- OBITUARY. During the twelve months ment. The Year Book contains flow data for ending 30th June, 1959 reports were Fecelves a steadily increasing number of river-gauging of the death of 48 observers who had -" stations, a number approaching 200 in the late buted to British Rainfe all over many years. O

1950's and planned to reach about 400 within these the following five observers kept a few years. Estimates of monthly and annual rainfall records for 35 years Or more. areal rainfall are prepared for as many as R aon ree maintainea a ra possible of the corresponding drainage areas, 1651. aa Ay a lGRE an omind Tom though there are still some areas for which the carrying on this tocar d " IS son-in-law ls

rai ata are IHRE EAS OL therestinAtion Mrs. R. B. Turton of Kildale Hall, York- " shire contributed records to British Rainfall for

48 years from 1910. G. L. Horton, Esq. is

INQUIRIES. Inquiries regarding rainfallin continuing the record.

various parts of the country, dealt with by E. W. Darby, Esq. sent rainfall records from Headquarters or by the Meteorological Office, the Croft, Carhampton, Somerset for 50 years

Edinburgh, followed the customary pattern from 1907 to 1957. He died in 1959.

and covered the very wide fields indicated in Cecil Holman, Esq. began rainfall observa- earlier volumes of British Rainfall. In tions at Hatfield Longdon, Exeter, in 1921 particular, in connection with schemes for and kept them until 1958.

new or augmented sources of water supply Hugh P. Youngman, Esq. recorded the information about rainfall was supplied to the rainfall at Red House, Charsfield, Suffolk for

responsible authorities for parts of the Mersey 52 years from 1906. This long record is being

Basin, Derbyshire, and Ross and Cromarty, maintained.

SNOW SURVEYS OF GREAT BRITAIN 3

increasingly on a river basin or drainage area by the Meteorological Office Belfast, largely basis, in harmony with other general develop- followed the customary pattern and covered ments in the hydrological field. the very wide fields indicated in previous volumes of British Rainfall. It was natural,

SNOW SURVEY OF GREAT BRITAIN. A _ however, in view of the remarkable juxta-report on the Snow Survey of Great Britain position of weather contrasts, especially for appeared in British Rainfall for the first time England and Wales, in 1959 and 1960, that in the volume for 1957. A similar report for with regard to data for 1959 there was an the seasons 1958-59, and 1959-60 is published unusual preponderance of inquiries concerned in Part III of the present volume. The basic in some way with water deficiencies, including information from which the Survey is prepared _soil-moisture deficits, in various parts of the is obtained from monthly reports, made country; whilst for 1960, the emphasis was on throughout the season, by voluntary observers _ the disposal of surplus water and, from the end who record daily the snowfall and snow-cover of September onwards, on very serious flood seen from their observing stations. All problems in some areas. Enhanced interest co-operating observers receive copies of this both in water conservation and in river flood-survey. Additional snow data are also ob- warning systems has continued since this tained from returns made by voluntary - two-year period. climatological stations and official Meteoro- The Belfast Office has been responsible, logical Office stations. since its inception in June 1960, for dealing

with all climatological and hydrological

SURFACE WATER YEAR BOOK. The __ inquiries in respect of Northern Ireland. Meteorological Office has continued to make Information was supplied for publication in its contributions to the Surface Water Year Water and Water Engineering while monthly Book, prepared by the Surface Water Survey of reports of rainfall in Great Britain and the Ministry of Housing and Local Govern- Northern Ireland were supplied to the British ment. The Year Book for 1959-60 contains Waterworks Association, and to various flow data for 205 areas; rainfall estimates were Government Departments. Information was supplied for 169 of these areas. Estimates of also supplied for publication in the Meteoro-monthly and annual areal rainfall were also Jlogical Magazine up to the end of 1959. The supplied for the 1960-61 Year Book. Metropolitan Water Board and the Thames

In addition, comprehensive reports on rain- Conservancy were supplied with detailed fall and evaporation were supplied for a reports every month while a comprehensive number of hydrometric areas for which the annual report was prepared for the Metro-Surface Water Survey are preparing special politan Water Board. The regular monthly hydrological surveys. issue of rainfall maps and data to industrial

firms, Government Departments, consulting

INQUIRIES. Inquiries regarding rainfall engineers and local authorities continued. in various parts of the country dealt with by The exchange of information with the the Meteorological Headquarters at Bracknell, Director of Meteorological Services of the by the Meteorological Office Edinburgh and Irish Republic continued.

OBITUARY. During the two years ending June 30, 1961, notification was received of the deaths of 60 observers who had contributed to volumes of British Rainfall. Of these the following observers kept records for 35 years or more.

Miss I. Bentall Leigh (Brick House) Essex 1916-59

J. C. P. White, Esq. Abbotsbury (East Cottage) Dorset 1898-1959

4 BRITISH RAINFALL 1959-60

T. Robinson, Esq. West Town Somerset 1919-59
W. Fletcher, Esq. Salisbury (Atherton House) Wiltshire 1911-59
C. E. Burnell, Esq., J.P. | Shepton Mallet (Charlton) Somerset 1902-50
Lt.-Col. H. E. du C.

Norris West Adderbury (Crosshill) Oxfordshire 1921-60
Miss C. E. Cooper Bushey Heath (California Lane) Herts. 1919-60
Major E. Harrison Horam (Coxlow) Sussex 1901-60
Major W. F. Wormald Ganton (Willerby Wold) Yorkshire, E.R. 1920-60
E. A. Lee, Esq. Hadleigh (Linden Lea) Suffolk 1921-60
R. Martin, Esq. Lee Moor House Devon 1910-60
Col. M. F. Grant Bredon (Bredon House) Worcestershire 1917-60
W. S. Corbett Lowe Overton (Sodylt Hall) Shropshire 1913-60
Capt. J. D. D. Evans Brecon (Ffrwdgrech) Brecon 1911-60
E. W. Smith, Esq. Havering-Atte-Bower (Fernside) Essex 1920-61
Maj. Gen. McConnell Colmonell (Knockdolian) Ayrshire 1910-61
W. A. Sibly Stonehouse (Wycliffe College) Gloucestershire 1912-59
Col. N. Kennedy, C.B.E.,

D.S.O. Doonholm Ayrshire 1923-60
A. R. MacGregor, Esq. Cardney Dunkeld Perthshire 1923-60
Dr. N. D. McKay Tigh'n Eilean Aberfeldy Perthshire 1908-61

RAINFALL OBSERVERS

The Meteorological Office welcomes the opportunity about 6,000 in 1961 to rather more than 6,500 in 1965.

in this first supplement to British Rainfall of acknowledg- In most areas of the British Isles the records gained

ing Once again its indebtedness to the many private exceeded those lost and there were notable net gains in

observers and other authorities who voluntarily make Northern Ireland, the Midlands and eastern Scotland.

their rainfall records available to the Office. Without Small net losses occurred in west Scotland and south-

this co-operation the work of the hydrometeorological east England. Inevitably some records were lost because

branch would not continue on the present scale. of the deaths of observers, and it is with regret that the

The number of rainfall records received by the Office deaths are announced of the following observers who

showed a gratifying increase during the five years, from had contributed to British Rainfall for 35 years or more.

Observers Name Station County Period Years

England and Wales

Miss B. F. Spedding Mirehouse Cumberland 1903-60 58

E. H. Colman Peterborough, Northants 1906-61 56

Westbourne House

G. Mannering Buckland Kent 1910-65 56

A. J. Walker Thirby Yorks, N. Riding 1913-63 51

Miss M. D. de Winton Llanfrynach Brecon 1910-60 51

B. T. Brooks Highley Manor Sussex 1911-61 51

T. Barber Cookhill Worcester 1913-61 49

A. B. Tinn Nottingham, Burford Road Notts 1916-34 47

'3 Woodthorpe 1934-62

Miss B. Spillett Canterbury, London Road' Kent 1919-64 46

Maj. W. H. B. Whitaker Totterton Hall Shropshire 1919-63 45

C. H. Beauchamp Trevince Cornwall 1921-64 44

Maj. R. P. Main Udimore Sussex 1921-64 44

J. H. Massey Limpsfield Surrey 1920-61 42

Col. J. B. Scott Rotherfield Park Hants 1926-65 40

F. M. Curtis Leyburn, Spennithorne Yorks, N. Riding 1925-61 37

D. Leigh Pemberton Sittingbourne, Tory Hill Kent 1927-57

vs Kippen 3 1957-64 38

E. A. Sparks Langton Herring Dorset 1927-46

3 Dorchester, South Court > 1946-61

Avenue | 37

9 Langton Herring " 1961-63

Scotland

The Marquis of Aberdeen Braehead Aberdeen 1908-64 57

Sir J. H. Milne Home Elibank Peebles 1909-63 55

Rev. Canon A. E. Swinton Swinton Berwick 1913-65 53

James Barr Carluke Lanark 1911-63 53

G. W. Duncan Oakbank, Auchnacraig Argyll 1924-64 51

G. M. Taylor Ballendrick Perth 1924-63 40

Miss J. A. Walker Pitlair Fife 1926-64 39

Sir J. McEwen, Bart. Marchmont Berwick 1926-63 38

Lt. Col. J. W. Turnbull Arglamont, Camp Cottage Argyll 1928-62 35

Northern Ireland

Capt. J. C. Herdman Sion Mills Co. Tyrone 1919-64 46

Earl of Enniskillen Florence Court Co. Fermanagh 1924-63 40

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BRITISH RAINFALL SUPPLEMENT 1961-1965

Mr. C. A. Archer

Mr. C. A. Archer of Torre, Washford, Somerset, who died on 28th May 1966 was one of the most enthusiastic observers and, although his death occurred just outside the five-year period of this supplement, it seems fitting to mention his work here rather than wait until the next British Rainfall Supplement.

Retired from the consular service in 1949 because of ill-health, Mr. Archer sought some interest which would take him out of doors and at the same time tax his undoubted ability for analysis of figures. Accordingly, he agreed to set up monthly and daily rain-gauges on Exmoor, an area previously without gauges on its higher regions. From that time names such as Chains Barrow, Longstone Barrow and Dunkery Beacon became familiar to the hydrometeorological staff of the Meteorological Office. Mr. Archer had an early reward for so much hard work in the summer of 1952 when, for 15 August, he measured 9.00 inches of rain at Longstone Barrow-the day of the Lynmouth flood disaster. At that time it was the third highest daily measurement ever made in Great Britain and he still remains one of the six observers who have yet measured 9 inches or more for one day. A more formal reward was that of the Hugh Robert Mill Medal given to Mr. Archer by the Royal Meteorological Society.

Mr. Archer visited this Office several times and was always ready to enter into spirited discussions about the rainfall of Exmoor, but perhaps it was not until he was seriously injured by a fall whilst rock-climbing that we realized fully the immense amount of time and energy that he had used on behalf of the Office. During his long rest in hospital Miss E. Shaw and other members of the staff of the Devon River Authority undertook to keep the observations going and found that after long car drives there were still exhausting moorland walks to the more isolated gauges-this, at least once a month in all weathers and throughout the year.