

British Rainfall Obituaries - page images

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
British Rainfall 1982		

OBITUARY.

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 1866 and 1867
Purvis, Rev. Canon, Bangor 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 1855 to 1866
Sugden, J. Esq., Dockroyd, Keighley...	... 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,

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 placed 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.....	1847—67
Davy, John, Esq., M.D., F.R.S., Lesketh Howe, Ambleside	1844—67
Dobell, F., Esq., Maidstone	1856—67
Evans, Charles, Esq., Norwich	1865—67
Farrow, Mr. R., Leek	1856—66
Gillett, Rev. E., Runham, Yarmouth	1866—67
Guy, Mark, Esq., Roscarrock, Cornwall	1856—67
Howells, T., Esq., Highfield, Shrewsbury.....	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, Salop	1866—67
Peacock, Captain, Greatford Hall, Stamford	1860—66
Pearce, H. S. R., Esq., Loperwood, Southampton	1866—67
Woods, W. Leyland, Esq., Chilgrove, Chichester	1834—67

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 Bushel, Devon	1840—68 = 29 ,,
Bevins, J., Esq., Thornton, Leicester	1855—68 = 14 ,,
Bland, W., Esq., Hartlip, Sittingbourne	1848—68 = 21 ,,
Box, Rev. H. A., Parker's Well, Exeter	1868 = 1 ,,
Cory, C., Esq., Burgh Castle, and Hopton Hall, Yarmouth	1858—68 = 11 ,,
Eley, G., Esq., Tong, Sittingbourne, Kent	1848—68 = 21 ,,
Gardner, J., Esq., Greenock	1853—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	1822—68 = 47 ,,
Miller, J., Esq., Isle of Cumbrae, Buteshire	1859—68 = 10 ,,
Sidebottom, J., Esq., jun., Stockport	1866—68 = 3 ,,
Thompson, Mr., Chiswick	1825—68 = 44 ,,
Whiting, Mr., Deepdene, Dorking	1851—68 = 18 ,,

O B I T U A R Y.

WE have endeavoured to render the following sad list yield even a little more information than in previous years, by adding the symbols C 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, Aberdeen	C 1870 imp
Bigg, E. S., Esq., The Hyde, Crawley, Sussex	C 1856—65 T
Brown, Captain, Pen-y-maes, Hay, Brecon	C 1860—69 T
Bunch, Rev. R. J., Emmanuel Rectory, Loughborough	C 1861—67
Clark, Sir J., Bart., M.D., F.R.S., Bagshot Park, Surrey.....	C 1864—69
Colquhoun, J. C., Esq., Chartwell, Westerham, Surrey..	C 1862—69
Devas, W., Esq., Woodside, Old Windsor	C 1866—69 T
Dixon, Mrs., Seathwaite, Borrowdale, Keswick	C 1845—69
Fox, Rev. S., Morley, Derby	(C 1847—61) 1862—69
Hambly, F. B., Esq., Trebarrock House, Wadebridge, Cornwall	C 1853—69
Laidlaw, Mr., Auldearn, Nairn	C 1870 imp T
Lamont, Rev. J., Manse of Waternish, Portree, Skye.....	C 1866—67 T
L'Estrange, G. H., Esq., Owendoon, Bawnboy, Ireland.....	C 1864—69 T
Rippingale, Mr., Hunstanton, Norfolk	C 1856—69
Strangman, T. H., Rathculliheen, Waterford	C 1859—67 T
Voss, W., Esq., West Bucknowle, Corfe Castle, Dorset	C 1848—69
Wilson, Admiral, The Howe, Troutbeck, Westmoreland	C 1842—69

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, Tipperary	C 1865—1869 T
Boorman, E., Esq., { The Shrubbery, Boxhill, Surrey	C 1864—1870 T
{ Church House, Salehurst, Sussex.....	C 1864—1870 T
Champion, Rev. J., Edale Vicarage, Derbyshire	C 1871 imp T
Coleman, R. Esq., South Fields, Wandsworth, Surrey.....	C 1861—1870
Dalziel, P. Esq., Waterside, New Galloway, N.B.	C 1865—1869 T
Denny, H. Esq., Philosophical Institution, Leeds.....	C 1823—1863 T
Fielding, G. H., Esq., M.D. { Maidstone.....	C 1848—1857 T
{ Tunbridge.....	C 1861—1870 T
Freeman, D. A., Esq., Upper Tooting, Surrey	C 1867—1871
Gillett, Rev. G. E., Waltham Rectory, Melton Mowbray ..	C 1860—1870 T
Gresson, W. Esq., Clonbrin, Rathangan, Ireland	C 1863—cont.
Hadden, J. A., Esq., Bittacy House, Mill Hill, Hendon.....	C 1866—1870 T
Llewellyn, D. M., Esq., West End Terrace, Llanelly	C 1867—1870 T
Paterson, J. W., Esq., Ballater, Aberdeenshire.....	C 1861—1871
Spedding, J. J., Esq., Mirehouse, Bassenthwaite, Keswick.....	C 1854—cont.
Turner, Rev. E., Maresfield Rectory, Sussex.....	C 1857—1870 T
Walker, Mr. W., Wythburn, Windermere.....	C 1866—cont.

O B I T U A R Y .

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

of one whose services have been so great that posterity will alone do justice to his work. The amiable, zealous, and indefatigable M. F. Maury is no more. We add no titles, for such a name as his needs none.

In the following table C 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.

	Period of Observations.
Barnes, Rev. Ismay, Ravenstonedale, Westmoreland	C 1871 imp 1872 T
Barnes, T. Esq., M.D., Bunker's Hill, Carlisle	C 1852—1871 T
Beardmore, N. Esq., C.E., Broxbourne, (Fields Weir).....	C 1850—1871 C
Boddington, Rev. T. F., Badger, Shifnal, Shropshire	C 1862—1870 T
Bond, J. W., Esq., Bloomsbury, Dundrum, Dublin	1869—1871 T
Burgess, W. Esq., { Larkhill, Worcester	C 1854—1869 T
	Beechwood, Worcester
	C 1870—1872 imp T
Carruthers, D. A. Esq., Warmanbie, Annan, Dumfriesshire...	C 1866—1871 C
Davis, J. Esq., Derby	C 1843—1871 C
Elliott, A. Esq., M.D., Goldielands, Hawick	1862—1871 C
Finlay, J. Esq., Deanston House, Perthshire	C 1837—1872 C
Hepburn, J. S. Esq., { Colquhalzie, Auchterarder	C 1857—1872 C
	Black Hill, Aberfeldy
	C 1863—1872 C
Hewlett, T. Esq., Harrow-on-the-Hill	1864—1865, 1867—1871 T
Ingram, Rev. Hugh, Steyning, Sussex	C 1866 T, C 1868—1871 C
Jackson, R. Esq., Waterend, Loweswater	C 1868—1871 C
Lighton, Mr. W., High Street, Montrose	C 1858—1870 T
Molesworth, Miss, Cobham Lodge, Surrey	C 1824—1864 T
Norman, A. Esq., Beverley Road, Hull	C 1867—1868 T
Norris, T. Esq., { Bury	C 1830—1845 T
	Howick House, Preston
	C 1845—1871 T
Nunes, F. Esq., M.A., { Hayes Common, Kent	C 1869 imp T
	Heathfield Lodge, Chiselhurst
	C 1869—1872 C
Pile, T. Esq., Tiltsden, Cranbrook, Kent	C 1862 imp—1871 T
Rainey, G. Esq., Raasay, Isle of Skye	C 1851—1872 imp T
Scott, D. Esq., Bridge Street, Montrose	C 1864—1871 C
Slate, A. Esq., Chiswell Street, E.C.	C 1860 imp — 1872 C
Smith, A. Esq., Treseco Abbey, Scilly Isles C 1859—1865, 1866 imp, 1867—1869	
Smith, Rev. W., Kirknewton Manse, Edinburgh	C 1863—1870 T
Stephens, J. P. Esq., Hillside, Bridport	C 1871 T
Thompson, T. Esq., Gillingham, Dorset	C 1832 imp—1872 imp T
Voss, W. J. Esq., West Bucknowle, Corfe Castle, Dorset	C 1869—1871 T
Wyllie, J. F. Esq., Bolfracks, Aberfeldy	C 1861—1871 T

O B I T U A R Y.

We regret that the following list, although considerably shorter than that which it was our duty to give last year, is still a long one, and includes the names of several very careful observers, five of whom have been observers for more than a quarter of a century. We are, however, very glad to be able to say that, with the single exception of Chagford, the stations of which the records are terminated are of far less importance than those which will be continued, mostly by relatives or friends of the deceased.

In the following table C 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.

	Period of Observations.
Anderson, Mr. J. Hamilton Street, Greenock	C 1869—1872 T
Atkinson, A. O., Esq., LL.D. { Clare House, Hull	C 1864—1872 T
Atkinson, A. O., Esq., LL.D. { Gas Works, Thirsk	C 1866—1872 C
Atkinson, A. O., Esq., LL.D. { Ruswarp, Whitby	C 1866—1872 C
Berry, R. L., Esq., Chagford, Exeter	C 1862—1872 T
Bywater, R. T., Esq., Monk Coniston	C 1865—1866 T C 1869—1873 C
Campbell, Dr. J., Largs, Ayrshire	1842—1872 C
Charrington, F., Esq., Brewery, Mile End	C 1862—1872
Clay, W. W. P., Esq., Southwell, Notts	C 1844 imp—1873 imp T
Colquhoun, A. C., Esq., Chartwell, Westerham	C 1862 imp—1872 T
Dodgson, T., Esq., { Stubb House, Winston	C 1856—1867 T
Dodgson, T., Esq., { Thorp Grange, Greta Bridge	C 1868—1873 C
Farnie, Mr. P., Lochleven Sluice, Kinross	C 1842—1871 C
Gibson, C. M., Esq., Norwich	C 1869—1870 T
Marshall, J. G., Esq., Coniston	C 1837—1872 C
Mayne, Rev. C., Killaloe, Clare, Ireland	C 1846—1873 C
Overman, R., Esq., Egmore Wells	C 1853—1873 imp T
Paget, C., Esq., Ruddington Grange, Nottingham	C 1866 imp—1872 C
Paterson, A., Esq., Meadowfield, Costorphine, N.B.	1860—1872 C
Robson, W. R., Esq., Beau Desert, Staffordshire	C 1869 imp—1872 T
Shipp, W., Esq., Blandford, Dorset	C 1864—1872
Taylor, J., Esq., Gas Works, Oldham.....	C 1861 imp—1873 C
Thompson, W., Esq., Park End, Workington	1867—1872 T
Turner, T., Esq., Plas Brereton, Carnarvon	C 1864 imp—1872 T

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...	C 1873 imp.—C	
Boucher, B., Esq., Wiveliscombe, Somerset	C 1864—1874 imp. C	
Burgess, T., Esq., { London Road, Leicester.....	C 1835—1839 T	
	{ Wigston Grange, Leicester	{ C 1840—1843 imp. T
		{ C 1845 imp.—1873 T
Burton, J., Esq., Charlbury, Oxon	1873 T	
Drummond, Gen., The Boyce Court, Dymock	O 1864—1873 T	
Fletcher J., Esq., Kelton House, Dumfries	C 1870—1873 T	
Glanvill, Miss, Catchfrench, Cornwall	1862, 1867—1869 T	
Harris, R., Esq., Knighton House, Leicester	1872—1873 T	
Hayward, J. C., Esq., Quedgeley, Gloucester	C 1849—1873 C	
Hodgson E., Esq., Twyford, Athlone.....	C 1869 imp.—1873 O	
Hony, the Venble. Archdeacon, Baverstock, Salisbury ...	C 1829—1869 T	
Horner, Rev. J. Mells, Frome.....	C 1852—1862 T C 1865—1873 C	
Howman, Rev. E. J., Bexwell, Norfolk.....	O 1864—1874 imp. T	
Knott, J., Esq., Ilminster	C 1868 imp.—1874 imp. T	
Lakin, W., Esq. { Little Driffield, York, E.R.	C 1868—1871 imp. T	
	{ Beverley, York, E.R.	{ C 1871 imp.—1874 imp. T
Lighton, Rev. Sir C. R., Bt., Ellastone, Ashbourne.....	C 1868—1874 T	
Palmer, R., Esq., Long Sutton, Somerset	C 1856 imp.—1871 imp. C	
Rumney, W., Esq., Watermillock, Ullswater	1860—1873 T	
Stephens, A., Esq., Bridport	C 1855—1874 C	
Westwood, Mr. J., Dollar, Clackmannan ...	C 1836 imp. 1858 imp., C 1862-73 imp,	
Wilson, J. J., Esq., Underfell, Kendal	C 1867—1873 C	
Windeatt, T., Esq., West Street, Tavistock	C 1824—1873 T	

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 counterbalanced 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	C 1875 C 1
Ballingall, R., Esq., Eallabus, Argyll	C 1866-75 10
	Axford Bldgs., Bath
	C 1855-61 T 7
	Gen. Hospital, ,,,
	C 1862-64 T 3
Barter, C. S., Esq., M.B. {	C 1865-69 T 5
	Paragon ,,, {
	C 1869-73 T 5
	Gay Street, ,,, {
	C 1870-72 T, C 1874-5 5
Benson, Rev. J. P., Witheridge, Devon	C 1855-60, 1862, 1864-74 C ... 18
Bewley, T., Esq., Black Rock, Dublin	1840-74 T 35
Brown, Rev. H., Pevensey, Sussex	C 1861 imp-67 T, C 1868-74 T 13
Dawson, H., Esq., Shu-le-Crow, Keswick	C 1872 imp-74 T 2
Dewar, Mr., Balfour, Fife	C 1857-74 T 18
Dipple, G., Esq., The Ford House, Bromsgrove	C 1855 imp-74 T 19
Dixon, H., Esq., Dorward', Hall, Witham	C 1847-75 29
Fawcett, E. G., Esq., Ludgershall, Wilts	C 1867 imp-74 C 7
Gavin, J., Esq., Wester Elchies, Moray	1872-75 4
Gibb, Mr. J., Kettins, Forfar	1856-73 T 18
Gorrie, Mr. H., Polmaise, Stirling	1852-74 23
Matthew, H., Esq., Bradninch, Cullompton ...	C 1841-73 T 33
Miller, J., Esq., Upwey, Dorset	C 1862-73 T 14
Rayson, W. A., Esq., Horncastle	1874 T 1
Redford, R., Esq., Yapton, Arundel	C 1866-75 T 10
Sharland, H., Esq., North Brook, Fareham, Hants	C 1860-74 T 15
Sigsworth, Mr. F. P., Coney Street, York	C 1864-72 T 9
Smith, J., Esq., York Parade, Hull	C 1857 imp-74 C 17
Ward, Dr., Chobham	C 1865 imp-74 T 9
Winter, Rev. J. S., Weedon, Northampton ...	C 1864-75 T 12

OBITUARY.

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.

Meteorology has sustained a severe loss during the past year in the death of three meteorologists of high qualifications, Dr. Jelineck, of Vienna; M. Charles St. Claire Deville, of Paris; and Mr. Cator, of Beckenham. We ought also to mention the first death among the little band of county superintendents, viz., that of the Rev. Nash Stephenson. Perhaps, however, as respects the mere measurement of rain, the greatest loss is that of Mr. Little, of Carles-gill, as there seems to be considerable doubt if all his stations will not be allowed to be abandoned.

	Perfect Yearly Records.
Atkinson, G. C., Esq. { West Denton.....{ C 1845—1852 T 8	
Wylam Hall, Newcastle-on-Tyne. { C 1854—1874 imp. T 20	
Bourne, J. W., Esq., Ilchester C 1863—1875 T 13	
Bruce, W., Esq., Bogside, Leochel Cushnie, Aberdeen ... C 1866—1876 imp. T 10	
Bryanstone Square, London { C 1858 imp.—1865 T 7	
Cator, C. O. F., Esq., M.A. { Parkside, Beckenham C 1866—1874 imp. T 9	
The Hall, " C 1874 imp.—1875 T 1	
Cawley, C. E., Esq., M.P., Nayden Dane, Rochdale C 1848—1876 C 29	
Crewdson, G. B., Esq., The Wood, Windermere C 1865—1875 C 11	
Dodds, Mr. A., Abbeygate, Melrose C 1871 imp.—1876 C 5	
Eller, Rev. J. Irvin, Faldingworth, Market Rasen 1872—1875 T 4	
Ellis, J., Esq., The Mount, Worksop 1872—1875 T 4	
Forbes, Rev. G. H., Burntisland, Fife, N.B. 1870—1875 T 6	
Garnett, W., Esq., Churchtown, Crosthwaite, Kendal ... 1869—1875 T 7	
Grieve, J., Esq., Dalbeattie, Kirkeudbright, N.B. C 1865—1876 C 12	
Treharrock, Wadebridge, Cornwall { C 1870—1873 imp. T 3	
Hambly, H. A., Esq. { Park Villas, St. Endellion, " { C 1873 imp.—1874 imp. T 0	
Barn Park, Boscastle, " { C 1874 imp.—1876 imp. T 1	
Hamilton, Rev. Dr. Bressay Manse, Shetland ... C 1849 imp.—1866, 1868—75 25	
Hildred, J., Esq., Batley, Yorks C 1874 1	
Hunter, J. L., Esq., C.E., Wigan Water Works C 1863—1875 13	
Ingle, Mr. W., Birch Hall, Colchester C 1866—1876 11	

	Perfect Yearly Records.
James, J. W., Esq., Harbour Office, Swansea	1864—1875 12
Jones, T., Esq., Kensworth, Dunstable	C 1864 imp.—1876 C 13
Leach, J., Esq., Ivy Tower, Tenby, S. Wales	1871—1876 imp. T 5
Little, J., Esq., Carlesgill, Westerkirk	1844—1854, 1856—1875 31
Marx, F., Esq., Arle Bury, New Alresford, Hants.....	C 1862—1875 C 14
Veriman, W. C., Esq., Kingsbury Street, Marlborough...	C 1861—1876 16
Muriel, J. T., Esq., Hollingdon, Suffolk	C 1875—1876 T 2
Mylne, W. C., Esq., 1, E. Nag's Head Lane, Enfield.....	1864—1875 C 12
Sandigate, Rev. C. J., West Hallam, Derby	C 1865—1875 T 11
Nicholls, C., Esq., Chelford, Chester	C 1863—1875 T 13
Philliskirk, Mr. D., Filey, Yorks.	C 1865—1875 T 11
Rankin, W., Esq., Chapel Brampton, Northampton	1874—1875 2
Stephenson, Rev. Nash, Bromyard, Hereford	C 1872 imp.—1876 imp. T 3
Swire, Mrs., Littlethorpe, Ripon..... ..	C 1868—1875 T 8
Symons, J., Esq., Mayen Ho., St. Sennen, Cornwall	C 1871—1875 5
Turner, H., Esq., Beech Hill, Bury St. Edmunds	C 1860 imp.—1876 imp. T 15
Walker, Rev. J. T., Ashdon, Linton, Cambridge	C 1858—1876 T 19
Watt, D., Esq., Londonderry	C 1862 imp.—1876 imp. T 13
Wilkinson, Rev. J. J., Lanteglos, Camelford, Cornwall...1863—1868, 1873—75 T	9
Winter, T. L. M., Esq., Brookmead, Dorking	1870—1876 7

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 S.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 C (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.

	Perfect yearly records.
Barrington, E., Esq., Fassaroe, Bray, Wicklow.....	24
Bathurst, Rev. W. H. Lydney, Gloucester	7
Bell, M. J., Esq., St. George's Road, Glasgow	4
Bravender, F., Esq., The Firs, Cirencester	8
Burgess, Mr. G., Broomlands, Kirkpatrick-juxta, Dumfries.	12
Dod, Whitehall, Esq., Llannerch, St. Asaph	11
Dymond, W. P., Esq., Penmorva, Falmouth..	2
Ellis, W. Esq., Garrison Hospital, Portsea	2
Fletcher, J. C., Esq., Dale Park, Arundel, Sussex	25
Home, Rev. R., Swinton Manse, Coldstream	7
Johnson, C. W., Esq., F.R.S., Waldronhurst, Croydon ...	15
Lockhart, A. E., Esq., Borthwickbrae, Hawick, N.B.	16
Longman, W., Esq., Ashlyns, Berkhamstead	3
Lyttleton, The Hon. Mrs., Hagley Rectory, Stourbridge ...	9
Manning, Mr. T. D., Yeovil, Somerset	2
Menzies, W., Esq., Parkside, Englefield Green	16
Morgan, A., Esq., C.E., Town Hall, Wolverhampton	4
Ogilvy, T., Esq., Corrimony, Glen Urquhart.....	14
Parrott, E., Esq., Castle Fields, Buckingham	5
Rigg, Mr. J., Measandbecks, Haweswater	10
Taylor, J., Esq., Ryde, Isle of Wight ...	17
Topp, W., Esq., Ashgrove, Elgin	14
Vernon, G. V., Esq., F.R.A.S., Old Trafford, Manchester.	19
West, F., Esq., Grendon, Widdecombe, Devon	4

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, *e.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 from 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 bygone years, *viz.*, to be destroyed as waste paper almost immediately after the observer's death.

	Perfect yearly records.
Armstrong, A., Esq., Kylemore House, Galway	C 1875-77 C 3
Atkinson, T. K., Esq., Reston Hall, Stavely	C 1864 imp -77 T 13
Bolckow, H. W. F., Esq., M.P., Marton Hall, Middlesborough..	C 1864-77 T 14
Briggs, Rev. W. H., Oakworth, Keighley, Yorkshire	C 1876-77 T 2
Bubb, A., Esq., Witcomb Court, Gloucester.....	C 1856-63, 1865-77 T 21
Cachemaille, Rev. T. L. V., Parsonage, Sark	C 1865 imp -76 T 11
Campbell, A., Esq., St. James's Place, Fermoy, Ireland	1856-76 T 21
Cathcart, E., Esq., Auchendrane, Ayrshire	C 1856-74 T 19
Charles, Rev. Dr., Aberdovey, North Wales	C 1875 imp -78 T 3
Clements, Rev. D., Warleggan, Bodmin	1860-77 T 18
Curtis, J., Esq. { Old Trafford, Manchester	C 1862-70 imp T 8
{ Roseleigh, Heaton Chapel, Manchester	C 1870 imp -77 T 7

Perfect
yearly
records.

Dartnell, G. R., Esq., Henley-in-Arden, Warwick	C 1865-75 T.....	11
Dods, Mr. T., Millfield, Haddington	C 1835-77 C.....	43
Dryden, T. J., Esq., Renwick, Kirkoswald	C 1876 imp -77 T.....	1
Dunlop, J. M., Esq., Holehird, Windermere	C 1874 imp -75, 1877-78 T... ..	3
Fletcher, Isaac, Esq., M.P., F.R.S., Tarnbank, Cockermouth.C	1863-67, 1869-70.....	7
Forbes, A., Esq., Culloden House, Inverness	C 1841 imp -78 C.....	28
Gelding, Rev. S., Martindale, Penrith	1868-75 T.....	8
Gillet, G., Esq., Eaton, Grantham.....	C 1876-77 T.....	2
Grey, Adm'l. the Hon. Sir F.W., Lynnwood, Sunningdale, StainesC	1868-77 T.....	10
Hare, Capt., R.N., Court Grange, Newton Abbott	C 1875-77 C.....	3
Hayes, Mr. W., Tickencote, Stamford	C 1870 imp -78 C.....	8
Heelis, W. H., Esq., Highfield, Hawkshead, Windermere ..	C 1873 imp -74.. ..	1
Humphries, D. J., Esq., Keynsham Bank, Cheltenham.....	C 1866-77 T.....	12
Jakeman, W. F., Esq., Althorpe House, Northampton	1837-77 C.....	41
Karslake, Rev. W. H., Meshaw, South Molton	C 1861 imp -77 T.....	16
King, Mr. E. L., Austin Street, Lynn	C 1874 imp -77 T.....	3
Kitching, Dr., Heworth, York.....	C 1876 imp -77 C.....	1
Lockhart, A. E., Esq., Borthwickbrae, Hawick	C 1860 imp -78 C.....	18
Main, Rev. R., F.R.S., Radcliffe Observatory, Oxford	1870-77 C.....	8
Makgill, G., Esq., Prestbury, Cheltenham	1869-78 T.....	10
Matheson, Sir J., Bart., M.P., Lewis Castle, Stornoway	1853-1863 imp -78	25
Orde, Sir J. P., Bart., Kilmory, Loch Gilphead, N.B.	C 1835-37, 1849 imp -77 C... ..	31
Paxton, H., Esq., West Dean, Chichester.....	C 1845-78 T.....	34
Pigott, G. G. G. F., Esq., Abington Pigotts, Royston	C 1863-77 C.....	15
Plumer, H., Esq., Great Strickland, Penrith	C 1864 imp -78	14
Raikes, Rev. F., Barnham Broom, Norfolk	C 1874-77 T.....	4
Ramage, Dr. C. T., Wallace Hall, Closeburn, Dumfries.....	1854 imp -78 T.....	14
Rose, Mr., The Cemetery, Bromsgrove	1878 T	1
Southall, E. P., Esq., West Lodge, Leominster	C 1857 imp -78 C.....	21
Stowe, H. J. D., Esq., Castle House, Petersfield.....	C 1876 imp -78 C.....	2
Taylor, J., Esq., Earsdon, Newcastle-on-Tyne.....	1869-78.....	10
Tighe, Right Hon. W. F., Woodstock, Inistiogue, Kilkenny.	1843-77 C.....	35
Tillery, Mr. W., Welbeck Abbey, Worksop	C 1840-76 T.....	37
Tottenham, Col. { Plasberwyn, Llangollen	C 1874 imp -77.....	3
Vallentine, J., Esq., Arnhall, Brechin, N.B.	1877	1
Waterhouse, J., Esq., F.R.S., Well Head, Halifax	C 1829-74 T.....	46
Westall, Dr., Croydon	C 1860 imp -63, 1864-72 imp C ..	9
Whitwell, H., Esq., Springfield House, Peterborough	1864-78 C.....	15
Woods, Rev. G. H. { West Dean, Chichester	C 1834-49 T.....	15
Woods, Rev. G. H. { Shopwyke House, Chichester	C 1850-78.....	29

DECREASE OF RAINFALL WITH ALTITUDE.

MR. DINES 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. in.	Tower. in.	Ground.	Tower.
1878	29.58	16.91	100 57
1879	30.04	17.60	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.e.*, 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*.

List of Deceased Observers.

Perfect
yearly
records.

Atkinson, A., Esq., Gainford, Darlington	C 1868-79 T	12
*Bell, T., Esq., F.R.S., The Wakes, Selborne, Hants.....	1850-79 imp T	29
Bell, T., Mr., The Cemetery, Carlisle	C 1860-78 C	20
Browne, J. H., Esq., Nairn	C 1874 imp -79 imp T.	4
*Caie, J., Mr., Inverary Gardens, Argyll	1860.....	20
Case, J., Esq., Boxley Road, Maidstone	C 1869 imp -73 imp T.	3
Chute, W. L. De W., Esq., The Vyne, Basingstoke	C 1866-78 T.....	13
Clark, Mrs., Landscore, Teignmouth.....	C 1866-79.....	14
*Cockayne, H. E., Esq., Dunmow	C 1851 imp -79.....	28
Eames, J., Esq., Lynch, Midhurst, Sussex	C 1866-79 C	14
Farrer, J., Esq., Ingleborough House, Yorks	1852-78 T.....	23
Fenton, J., Esq., Woodlawn, Castlewellan, Down.....	C 1875-78 T.....	4
Fortune, J., Esq., Ingliston, Ratho	C 1875 imp -78 T.....	3
Getling, G. B., Esq., Newport, Monmouth	C 1873-79 C.....	7
Gwynn, W. E., Esq., Plas-cwrt-hyr, Caermarthen	C 1864-70 T.....	7
Harcourt, Col., Buxted Park, Sussex	1847-68, 72-79 ...	29
*Harrison, W. F., Esq., Bartropps, Weybridge Heath... .	C 1856-79 C	24
Harward, J., Esq., Winterfold, Kidderminster	C 1871-78 T.....	8
Homan, P., Mr., Ballymore Eustace, Naas.....	C 1875-78 imp T	3
Jarvis, R. F., Esq., The Downs, Dartford, Kent	C 1868-79 C	12
Jowers, F. W. E., Esq., The Halls, Cookham, Berks.	C 1867-78 T.....	12
Key, Rev. H. C., Stretton, Hereford	C 1860 imp -78 T.....	18
Litt, C., Esq., Stainburn, Workington	C 1865-78.....	14
Lockwood, Rev. J. W., Kingham, Chipping Norton.....	C 1865 imp -78 T.....	13
Mansell, Dr., Grange Road, Guernsey	C 1866-79 C	14
Matheson, Mrs., Ardross Castle, Alness, N.B.	C 1862-79 C	18
Matthews, J. H., Esq., Ulverston.....	C 1864-78	15
Moore, Dr., Glasnevin, Dublin	C 1871-79 C	9
Morrell, E. C., Esq., Broughton Lodge, Banbury	C 1867 imp -79.....	12
Palliser, C. W., Esq., Reclaimed Lands, Wexford.....	C 1860 imp -77 T	17
Peake, H. B., Esq., Cambridge Road, Brighton.....	C 1862-78 T.....	12
Porter, Rev. T. H., D.D., Ballymully Glebe, Cookstown.	C 1875-78 T.....	4
Richardson, Rev. G., Kilburn, Easingwold	1878 T	1
Scott, Russell, Esq., Manor House, Eastbourne	C 1875 imp -79 imp C.	4
Tasker, R. T., Esq., Melbourne, Derby	1873-74, 1876-78... .	5
Tripp, Rev. R. H., Altarnum, Launceston	C 1864-79 C	16
*Tyas, Rev. Dr., { Kingsley, Frodsham	C 1861-68 imp T	7
{ East Tilbury, Essex	1872, 1876	2
Ward, Rev. W. C., Honingham, Norfolk.....	1868-79 imp T	11
Whitbread, S. C., Esq., F.R.S., Cardington, Bedford ..	C 1846-79 C	34
Williams, J., Esq., Maes-y-dre, Holywell	C 1843 imp -78 T	35

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	C 1878 imp -79... 1
Bigg, Capt., Swallowfield, Horsham	C 1873 imp -78... 5
Blyth, H. E., Esq., Burnham Westgate, Norfolk.....	1840 imp-67 T 1876-78 30
Bourne, J., Esq., Cleobury Mortimer, Shropshire	C 1862-64 T 1877-79 T..... 6
Brooke, Rev. J., { Haughton Vic., Shifnal.....	C 1835-46 T { ... 46
Brooke, Rev. J., { Haughton Hall, "	C 1847-80 .. } ... 46
Brown, Mr. J., Rockingham Castle, Northampton	C 1867-80 C..... 14
Cantrell, C. S., Esq., Riding Court, Datchet	1870-80..... 11
Carter, Rev. J., Bridekirk, Cockermouth.....	C 1865-69 T..... 5
Charlton, W. H., Esq., Hesleyside, Bellingham.....	C 1863-79 C..... 17
Chichester, Capt., Far Town, Huddersfield	1867 imp -70 T 3
", Sir A. B., Arlington Court, Barnstaple	1871-79 9
Cholmeley, Rev. Dr., Findon, Worthing	C 1864-65, 72 T. 3
*Gillett, G., Esq., { Paul's House, Taunton	C 1855-65 T } 14
Hoveland's Terrace, Taunton	C 1874 imp -79 } 14
Hankey, J. A., Balcombe Place, Cuckfield	C 1862-80 C..... 19
Holthouse, Rev. C. S., Helidon Vicarage, Daventry	C 1875-80 6
Hurst, T., Esq., jun., Lauder Grange, Corbridge-on-Tyne	1875-80 C..... 6
Huyshe, Rev. J., Clyst Hydon, Devon	C 1847-80 34
Lassell, W., Esq., F.R.S., { Starfield, Liverpool	C 1842-49 T..... 8
Ray Lodge, Maidenhead	C 1866-70 T..... 5
Lloyd, Rev. C. W., Aldham Rectory, Hadleigh	C 1851-79 T..... 29
Marriot, J., Esq., Braybrooke, Rothwell	1865-78 14
J., Esq., Kibworth Harcourt, Leicester	1856-78 T..... 23
*Moyle, M. P., Esq., Helston	C 1841 imp -74 T 33
Robinson, Rev. W. P., D.D., Trinity College, Glen Almond, Perth.	1876 T..... 1
Stanley, Mr. E., Stretham, Ely	C 1848-80 C..... 33
Stansfeld, Rev. J., Coniston Cold Vicarage, Skipton	1875-79 5
Vidler, M., Esq., C.E., Walls End Cottage, Pevensey	C 1850-80 C..... 31
Wynne, B. W., Esq., Garthewin, Abergale	1874-77, 79 ... 5

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.

OBSERVERS DECEASED TO JUNE, 1882.	PERIOD OF OBSERVATION.		
	DATE.		Perfect Yearly Records.
Ainsworth, T. Esq., The Flossh, Cleator	1844-53	1855-69 T	25
Berens, Miss, Sidcup, Kent.....	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	C 1871-75	T.....	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.....	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.....	1
Elliot, Prof., Goldielands, Hawick, N.B.	1862-80	T.....	19
Emson, D. K., Esq., Wimbish, Saffron Walden.....	C 1864-72	T.....	9
Estlin, Captain, Burnham, Somerset.....	C 1865	imp -79 T.....	14
Field, Mr., The Cemetery, Hastings.....	C 1862-78	T.....	17
Gladstone, T. S., Esq., Capenoch, Dumfries	C 1867-81	15
Grubb, Miss, Glenam, Clonmel	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	18
Morris, Rev. A. J. T. Muthill, Crieff, N.B.	C 1863-69	T.....	7
Oliver, M., Esq., St. Peter's, Ipswich	C 1866-70	T.....	5
Oxley, C. C., Esq., Redcar, Yorks	1859-64	6
Rae, L., Esq., Keel Ho., Castlemaine, Kerry	C 1879-81	T.....	3
Reed, W., Esq., Fullands School, Taunton	C 1865-80	C.....	16
Robinson, Rev. T. R., D.D., F.R.S., Obs., Armagh.	C 1836-81	C.....	46
Ruston, A. S., Esq., Aylesby House, Chatteris	1874-81	C.....	8
Warren, G., Esq. { Brook House, Cambridge.....	C 1866-68	imp T.....	2
{ Merton Villa, Cambridge.....	C 1868	imp-81 imp T ..	12
White, J., Esq., Arddaroch, Dumbartonshire	C 1848	imp -80 T.....	32
Wilson, R. jun., Esq., Wyndham Row, Maryport...	C 1876-80	T.....	5
Wynne, B. W., Esq., Garthewin, Abergale.....	C 1874-77	1879-80 ..	6
Yeld, Dr., Sunderland	C 1880	T	1

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.

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—for 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 C, 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.

OBSERVERS DECEASED TO JUNE, 1883.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Bacon, G. M., Esq., M.D., Fulbourne Asylum, Cambs.	C 1876-81 C.....	6
Baker, W. B., Esq., Cain's Cross, Stroud	1875-80	6
Begbie, Mr. J. { Missenden Abbey	C 1862 imp -70 T.....	22
{ Dell Cottage, Gt. Missenden	C 1871-83 imp	
Bingham, Rev. Canon, Bingham Melcombe, Blandford	C 1869-80 T.....	12
Bosanquet, S. R., Esq., Dingestow Court, Monmouth	C 1867-81 T.....	15
Brown, T. C., Esq., Further Barton, Cirencester	C 1844-81 C.....	38
Brown, Mr. W., Bretby Hall, Burton-on-Trent	C 1860-82 C.....	23
Browning, Rev. W. T., Thorpe Mandeville, Banbury	C 1870-82 imp T.....	13
Bumpsted, Rev. Prebendary, Dinder, Wells, Somerset	C 1863 imp -77 T.....	15
Burleigh, R. W., Esq., Halesworth, Suffolk	C 1874 imp -81 C.....	8
Byles, T. F. A., Esq. { Thamesfield, Henley	C 1864-72 T.....	18
{ White Cliff Glen, Seaton, Devon	C 1871-81 T.....	
St. Nectan's Glen, Tintagel	C 1881 T.....	
Capell, R., Esq., Weedon Beck, Northamptonshire.	C 1874-82 C.....	9
*Challis, Prof., F.R.S., Observatory, Cambridge.	1860-63 C.....	4
Clark, C., Esq., Westfield Cottage, Dundee.	C 1867-81 T.....	15
Dodgson, H., Esq., M.D. { Cockermouth.	C 1861-72 T.....	22
{ Derwent House	C 1873-82 imp C	
Douglas, Mr. J., Babworth, Retford.	C 1869-81 T.....	13
Clapham	C 1859-67 T.....	17
Doxat, H., Esq. { Holland Road, Kensington	C 1869-71 T.....	
{ Clare Lodge, Ealing	C 1876-80 imp T	
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.....	C 1871-82 T.....	12
Goff, S. D., Esq., Horetown Ho., New Ross, Ireland	1878-81 T.....	4
Greg, J., Esq., Escowbeck, Caton, Lancashire	1860-82 C.....	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	C 1860-82 C.....	23
Hope, G., Esq., Fenton Barns, Drem, Haddington..	1863-72 T.....	10
James, J., Esq., J.P., Llansoar, Caerleon, Monmouth	1874-81 T.....	8
Joyner, H. St. J., Esq. { Shortwood House, Staines	C 1866-68 imp T	12
{ Northwick House, Harrow	C 1868 imp -77 imp T	
MacDonald, W. R., Esq., Kinloch, Moidart, Inverness	C 1872 imp -81 T.....	
Maitland, J., Esq., The Park, Loweswater	See previous page	
*Moffat, T. Esq., M.D., Hawarden, Flintshire	C 1850-80 T.....	31
Moore, Rev. C. G., Broad Chalke, Wiltshire	1881-82 imp T	2
Norton, J., Esq. { Lincoln	1869-74 T	11
{ Carholme Villa, Lincoln	C 1877-81 T	
Nunes, Miss, Langtree Wick, Torrington, Devon ...	C 1872 imp -78 C.....	7
Overton, G., Esq., Watton Mount, Brecon.....	C 1870 imp -82	13
Scott, W., Esq., Barlaston, Stoke, Staffordshire.....	C 1865 imp -82 C	18
Stirling, J., Esq., Kippenross, Dunblane, Perthshire	C 1852 imp -82 C	31
Taylor, Rev. Hugh, Humshaugh, Northumberland...	C 1872 imp -82	11
Thomas, Rev. W. S., Halse Rectory, Taunton	C 1876 imp -82	7
Wemyss, Mr. G., The Gardens, Springwood Pk., Kelso	C 1854-82 C	29
Williams, Rev. W. W., Menaifron, Anglesea.....	C 1865 imp -74 imp T 1879-82	14

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.

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).	

OBSERVERS DECEASED TO JUNE, 1884.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Bere, Rev. J., Skilgate, Wiveliscombe.....	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	1875-83	9
Darby, C. E., Esq., Byrmbro, Wrexham	C 1863-83 T	19
Drake, Capt. T. G., R.N., Framfield, Uckfield	1870-77 T.....	8
Drake, Rev. R., Stourmouth, Kent	1870-82 T.....	13
Elam, Miss, Thorne Hall, Sedbergh	1866-82 C.....	17
Foulds, J., Esq., Woodside, Kirkbean, Kirkeudbright	1874-82 T.....	9
Frost, J., Esq., Ide Hill, Sevenoaks	1877-83 T.....	7
Gillet, Rev. D., Geldeston Rectory, Beccles	1873-82 T.....	10
Green, J. B., Esq., Tovil House, Maidstone....	C 1878 imp -82 C ...	4
Hackford, Mr. E. C. { Churchyard, Boston	1875-82 T	8
	1880 imp -82 T ...	2

OBSERVERS DECEASED TO JUNE, 1884,	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Hingeston, J. A., Esq., Clifton Terrace, Brighton...	1855-58 imp T	3
Langton, S. Z., Esq., Barrow House, Keswick	C 1867-83 C.....	17
Liddell, Dr., R.N., Ivybridge, Devon	C 1868-83 T	16
Mansell, Mrs., Grange Road, Guernsey.....	1879-82 T.....	4
Marx, Capt. G. F., Arle Bury, Alresford.....	C 1862-68 imp -82 C.	20
Mathison, Mr. J., Bowhill, Selkirk.	1856 imp -83	28
Norris, J. E., Esq., Castle Street, Hereford	C 1876 imp -79 T ...	4
Ostler, J., Esq., Walron Park, Illebrewers, Taunton	C 1866-80	15
Parkin, Rev. C., Millbrook, Southampton	C 1875 imp -82 T	7
Pasley, Ad. Sir T. S., Bt. { The Craig, Windermere...	1847-52 C 1865 imp T	6
Pasley, Ad. Sir T. S., Bt. { Dockyard, Pembroke..	1850-54 imp	4
Pasley, Ad. Sir T. S., Bt. { Moorhill, Shedfield, Botley	1870-83	14
Plant, T. L., Esq. { Camp Hill, Birmingham	C 1852-62 T.....	11
Plant, T. L., Esq. { Moseley, Birmingham	C 1863-75 1882	14
Robinson, E., Esq., Solva, Haverfordwest	1862-82 C.....	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 -82 T ...	2
Speed, T., Esq., Chatsworth, Derbyshire.....	C 1869-82 C.....	14
Sturrock, Mr. D., New Pitsligo, Aberdeen	C 1862 imp -83 imp C	20
Tooke, W. A., Esq. { Pinner Hill, Middlesex	C 1871-83	13
Tooke, W. A., Esq. { Belhouse, Ramsden, Billericay	1883 C	1
Tregidgo, Mr., New Quay, Cornwall	C 1862-82	21
Trelawny, Col. { Harewood, Callington	C 1865-67 T.....	3
Trelawny, Col. { Tamar House, Bere Ferrers	C 1868-69 imp T.....	1
Trelawny, Col. { Poltair, Penzance	C 1869 imp -82 C ...	13
Wyatt, J., Esq. { Bangor	C 1825-28 T C 1834-59 T	30
Wyatt, J., Esq. { Bryn Gwynant, Beddgelert	C 1860 imp -1863-79.	17

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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	47 years.
Mr. J. F. Bentley, Foxton, Market Harboro'	...	46	„
Rev. Dr. Clouston, Sandwick, Orkney	...	44	„

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. S. Marshall will, at any rate for the present, continue nearly all the records.

OBSERVERS DECEASED TO JUNE, 1885.	DATE.	PERIOD OF OBSERVATION.	
		Perfect Yearly Records.	
Adamson, Rev. W. R. C., Ashtead Rectory, Epsom	1881-82	2	
Baker, G., Esq., Holmfels, Reigate	C 1881 imp -84.....	3	
*Barham, C., Esq., M.D., Truro	1869-76 imp T . . .	7	
Bentley, J. F., Esq., Foxton, Market Harborough...	1838-83 T	46	
Bigge, Rev. J. F., Stamfordham Newcastle-on-Tyne	C 1854-84 T	31	
Bland, Rev. R. W., White Abbey, Belfast.....	1875-80 T	6	
Bravender, F., Esq., Cirencester	1869-84 T	16	
Buckman, J. Esq., Bradford Abbas, Sherborne... .	C 1883 imp T	0	
Butcher, W. Esq., Gosmere, Selling.....	1875-83 T	9	
Catchpole, J. T., Esq., Stradbroke, Suffolk.....	C 1879 imp -83 T	4	
Clouston, Rev. C., LL.D., Sandwick, Orkney, N. B.	C 1840 imp -84 O	44	
*Clutterbuck, Rev. J. C., Long Wittenham, Berks	C 1851-84 C	34	
Day, C., Esq., Easton House, Stamford	C 1867-84	18	

OBSERVERS DECEASED TO JUNE, 1885.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Dees, J. W., Esq., Wallsend, North Shields .. .	C 1859-84 0	26
Dixon, Venble. Archdeacon, Clogherny, Beragh.....	1877-83 T	7
Drewitt, Mr., Denbies, Dorking.....	C 1861 T	1
Fison, J. Esq., Barningham, Ixworth, Suffolk .. .	C 1865 imp -76 0.....	11
Foster, W., Esq., Queensbury, Bradford.....	C 1865-84 0	20
Foster, Miss, Abington Pigotts, Royston.....	1878-83 T	6
Gamlen, W. H. Esq., Bramford Speke, Exeter .. .	C 1865-84	20
Gibbons, Rev. G. B. { Werrington Vic., Launceston	C 1873 imp -74 T... {	4
Gordon, Rev. F., Camelford, Cornwall.....	C 1880 imp -83 T... {	
Gordon, Rev. F., Biddulph Moor, Congleton.....	C 1877 imp -79 imp T	1
Gritton, Major { Tytherton Lucas, Chippenham ..	C 1865 imp -76 impT {	
Hainsworth, Mr. J., Holt, Trowbridge, Wilts .. .	C 1876 imp -84 T... {	18
Hainsworth, Mr. J., West Parade, Ilkley .. .	C 1877-83 0	7
Hearder, H. Esq., Roccombe House, Torquay.....	C 1877 imp -84 C	7
Hodgson, Dr. R., Northallerton.....	C 1868 -84 C	17
Kane, H. J. B., Esq., Tullamore, Ireland.....	C 1850-83 T	34
*Leather, J. T., Esq. { Portland Breakwater .. .	C 1856-65 T	10
Leather, J. T., Esq. { Leventhorpe Hall, Leeds .. .	C 1855-84	30
Middleton Hall, Belford .. .	C 1864-84...	21
Lindsay, C., Esq., Ridge Park, Lanark.....	1870-84 T	15
Weetwood Hall, Leeds .. .	C 1865-83 C	19
Seathwaite, Cumberland .. .	C 1875 imp -83 C	8
Marshall, H. C., Esq. { Derwent Island, Keswick ..	C 1865-83 C	19
Deer Close, Keswick .. .	C 1870-83 C	14
Crow Park, Keswick .. .	C 1863-71 T	9
Tunstall, Catterick, Yorks.	C 1865 imp -83 C	18
McAuslane, Mr., Inveresk, Musselburgh, N.B.....	1837-83 T	47
McCullough, Dr., Joint Co. Asylum. Abergavenny...	C 1863 imp -82 C	20
Nelson, Sir T. J., Grove, Hampton Wick .. .	C 1866-84	19
Peel, J., Esq., Knowlmere Manor, Clitheroe .. .	C 1865, 1869-70	3
Pigou, Col., Beaford, Devon .. .	C 1884-85 imp T	1
Pymar, J., Esq., Eaton, Norwich .. .	C 1867-83 T	17
Robinson, Rev. A. E., Wootton, Woodstock .. .	1880-83 T	4
Scarborough Rt. Hon. Earl of, Sandbeck Park, Tickhill	C 1877-84 C	8
Selkirk, Rt. Hon. Earl of, St. Mary's Isle .. .	1883-84	2
Sidebotham, J., Esq., Erlesdene, Bowdon .. .	C 1879 imp -84	5
Silver, Rev. F., Norton-in-Hales, Market Drayton.	C 1866-83 T	18
Sykes, J., Esq., Hardy Croft, Wakefield .. .	1881-83 T	3
Tomlinson, H., Esq., Cherryhinton, Cambridge.....	C 1871-83 C	13
Wainwright, J., Esq., F.L.S., Outwood, Wakefield.	C 1882 imp -83	1
Walker, Mr. W., School Lane, Buckingham .. .	1873-83 T	11
Walters, Mr., Stretham, Ely .. .	1880-83 C	4
Whitten, J. S., Esq., Walsgrave, Coventry.....	C 1877 imp -83	6
Wilson, T., Esq., Thornton-in-Craven .. .	C 1863-84 C	22
Wolseley, C. B., Esq., M.D., St. Helen's, Dunfanaghy	C 1873 imp -78 T	5
Young, Rev. R., Teviothead Manse, Hawick .. .	C 1876 imp -83 T.. ...	7

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	...	38 "
W. Squire, Esq., Berkhamstead	...	37 "

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.

OBSERVERS DECEASED TO JUNE, 1886.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Best, T., Esq., Red Rice, Andover	1867-85	19
Birchby, W. G., Esq., Motton, Eccles, Manchester	1880-83	4
Brougham, Rt. Hon. Lord, Brougham Hall, Penrith	1851-85 C	33
Budden, Mr., Winchelsea, Sussex.....	C 1874-84 T	11
Clarke, A., Esq., Achareidh, Nairn. N.B.	1874-85	12
Clode, N., Esq., Rockdale, Sevenoaks	C 1879 imp -83 imp T	3
Cooke, J. H., Esq., Berkeley, Gloucester	C 1869-85 C	17
Coryton, G. E., Esq., Liss Place, Petersfield, Hants.	C 1853-85	33
Cutbush, J. Esq., Highgate.....	C 1862-85 C	24
De Lessert, C. G., Esq., Waterloo Rd., Wolverhampton	C 1866-72 T	7
Divett, J., Esq., Bovey Tracey, Devon	{ 1852-3 imp 56 imp }	28
Dockeray, J., Esq., Long Lane, Sedbergh, Yorks ..	-84 T	{ 10
Eagles, Rev. C. L. } Longtown Vicarage, Hereford	C 1873imp-84impT	{ 10
Hafod Ho., Tupsley, Hereford	C 1885 imp T	{ 10

OBSERVERS DECEASED TO JUNE, 1886.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Ellacombe, Rev. H. T., Clyst St. George, Topsham.	C 1865 imp -84 T ...	19
Fawcett, H., Esq., Wainsford, Lymington	C 1866-83 T	18
Forrest, S., Esq., Fern Bank, Kenilworth	C 1883 imp -84 T.....	1
Garrett, Mrs., Carleton Hall, Saxmundham	C 1861 imp -83 T... .	22
Gilchrist, Dr., Crichton Inst., Dumfries	C 1860-85 C	26
Glen, G., Esq., Stratton Audley Park, Bicester ...	C 1865-85 C	21
Graves, Rev. J., Inisnag, Stoneyford, Kilkenny ...	C 1865-76 T C 79-85 T	18
Grey, G. A., Esq., Milfield, Wooler, Northumberland	C 1864-85 T	22
Hannam, H. J., Esq. { Burcote, Abingdon.....	1872-85 T	14
Hannam, H. J., Esq. { Northbourne, Deal	1873 85	12
Hartland, A. H., Esq., Fern Hill, West Malvern ...	C 1861 imp -85	24
*Hartnup, J., Esq., { Liverpool Observatory...	C 1846-66 T	21
*Hartnup, J., Esq., { Bidston Observatory	C 1867-85 C	19
Heathcote, R. D. Esq., Canal Office, Manchester ..	C 1861-74, 76-77	16
Hewitt, Rev. T. S., Leysters, Tenbury	C 1880 imp -85 C	5
Holloway, Mr. S. P., Vine Cottage, Oundle	C 1881-84 imp T	3
Holme, H. P., Esq., Mardale, Haweswater	C 1867 T	1
Hopkins, Rev. T. H. T., Magdalen College, Oxford...	1864-85 C	12
Hoskins, T. A., Esq., Higham, Cockermouth	1880-84 T	5
Ingram, J. S., Esq., Williton, Taunton	1879 imp -84	5
Knollys, E. H., Esq., Fitzhead Court, Taunton....	1864-68	5
Majendie, L. A., Esq., Castle Hedingham, Essex ...	C 1866 imp -84 T.....	18
Malcolm, Mr. J., Cholmondeley Castle, Nantwich...	C 1865 imp -86 imp ..	20
Malden, Rev. C., St. Lawrence, Isle of Wight	C 1860 imp -84.....	24
Martin, W. L., Esq., Lee Moor, Plympton, Dartmoor	C 1870-79 imp	9
Metcalfe, Rev. W. R., Buckden, Skipton	1875-84 T	10
Parkinson, G., Esq., Rye Croft, Crosshills, Skipton..	1872-73	2
Phippen, Mr. G., Forbury Gardens, Reading	1873 imp -85 C	12
Preece, J. H., Esq., Mechanics' Inst., New Swindon	C 1854imp-84T.....	29
*Redford, Rev. F., Silloth Rectory, Carlisle	C 1873-81 T	9
Redmayne, G., Esq., Brathay Hall, Ambleside	C 1855-76 T	22
Robson, Mr. J., Linton Park, Kent	1873-79, 81-84 T...	11
Sergeantson, Rev. J. J., St. Michael's, Lichfield...	1866-80 imp T	12
Singleton, Miss, Great Givendale, Pocklington	C 1861-80, 82-84 T ..	23
Smith, D., Esq., Bloomsbury, Street Birmingham...	1848-85	38
Spooner, W. C., Esq., Eling House, Southampton...	C 1848-84 T	37
*Squire, W., Esq., Berkhamstead	C 1861 T C 63 T C 65	11
Talmage, C. G., Esq., Observatory, Leyton	imp. 67 imp T 78-85	
Tippinge, F. G., Esq., { Llwyn Onn, Wrexham...	C 1867 imp -71 imp T	3
Turnbull, Mr. A., Bothwell Castle, Hamilton	C 1871 imp -85 T	14
Vibert J. E. Esq., St. Aubin's, Jersey.....	1844-85	42
Williams, Rev. S. G. A., Cefn, Llangybi	1874 imp -85 T.....	11
Yardley, Lady, Hadlow Park, Tunbridge	C 1864 imp -85	21
	1880-83 T	4

OBITUARY.

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—*e.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.

OBSERVERS DECEASED TO JULY, 1887.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Adams, W., Esq. C.E. { Tredegarville, Cardiff	C 1868 imp -70 T.....	2
	C 1871-79 imp T	8
	C 1879 imp -86 imp T	6
Ainger Rev. Dr., Whitton Tower, Rothbury, Nthmbrld.	C 1873 imp -85	13
Barbour, G. F., Esq., Bonskeid, Pitlochrie	1871-79	9
	C 1863-64 imp -66 imp	1
Beverley, Rev. Dr. { North Bradford	C 1864-79 T	16
	Grammar School, Aberdeen	1
	Ashley Place, Cuparstone....	
	Skene Street, Aberdeen.....	C 1864 imp 66 imp T.....
	Seafield Cottage, Rubislaw...	C 1866 imp -79 T.....
	Cuparstone Rd., Hammerfield	C 1870 imp -73 imp T.....
	Bonaccord Street, Aberdeen.	C 1873 imp -76 imp T.....
Bircham, W. D., Esq., Hackford, Reepham, Norfolk	C 1876 imp -79 T.....	2
Birkett, Mr. { Seathwaite	C 1873-83 imp T	3
	1871-78 C	10
Castle Lodge, Rosthwaite, Keswick	C 1879 imp-82imp-86C	7
Bourchier, Major, Felthorpe, Norwich.....	1876-86 C	11
Caulfield, Dr., Royal Institution, Cork.....	1864-84	21
Chadburn, A. W., Esq., Brincliffe Rise, Sheffield	C 1872-86 C	15
Cherry, G. C., Esq., Denford Park, Hungerford....	1874-86	13
Culley, H., Esq., Cossey Mills, Norwich	C 1858-86 imp C	28
Dart, Mr., Chewton Priory, Bath	1867-86 C	20
Davy, Lt.-Col., Rose Ash, South Molton, Devon.....	1870-86	17
Deane, W. H., Esq., C.E., Castlemorris, Tralee	C 1877 imp-86 T	9
St. Ann's Hill, Wandsworth	C 1858 imp -65.....	7
*Dines, G., Esq. { Windlesham, Bagshot	C 1864 imp -66 imp T	1
	C 1866 imp -72 imp T	5
	C 1872 imp -76 imp T	3
	C 1876-86	11
Dunlop, W. H., Esq., Annan Hill, Kilmarnock.....	C 1871-80 T	10
Elliot, Sir Walter, Bt., F.R.S., Wolfelee, Hawick.	1866, 68-86	20
Elliott, Miss, Kirndean, New Castleton, N.B	C 1864-85	22
Enniskillen, Rt. Hon. Earl of, Florence Crt., Enniskillen	1854, 56-86 C	32
Fielden, J., Esq. { Stansfield Hall, Todmorden	1864-72, 74-84 T	19
	C 1873-86	14
Gardner, R., Esq., The Bulthy, Middletown	1885	1
Gibson, Miss, Hurstleigh, Blackwater, Hants.....	C 1875 imp -85 T	10
Grounds, A., Esq., March, Cambs.....	C 1878-84 T	7
	C 1836-86 C	51
Gunson, J., Esq. { Redmires, Sheffield	C 1872-86 C	15
	Crookes, Sheffield	C 1872-86 C
Hadden, Miss J. P., Guildown, Guildford	C 1870 imp -86.....	16
Haviland, Rev. Canon, Warbledon, Sussex	{ C 1871 imp -75 imp	{ 11
	-78 imp -85.....	
Hull, Rev. Canon, Eaglescliffe, Yarm.....	C 1866-80 T	15
Johnson, C. W., Esq., Waldronhurst, Croydon	1859-73 T	15
*Johnson, W., Esq. { Bicester	C 1853-60 imp T	7
	C 1860 imp -66 T.....	6
Mann, T., Esq., Thelveton, Norfolk	C 1883-85	3
Massie, R., Esq., Pulford Hall, Chester	C 1867-86	20
Milbank, A. S., Esq., Barningham Park, Barnard Cas.	C 1871-79	9

OBSERVERS DECEASED TO JULY, 1887.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Penny, Mr. W. D., The School House, Nairn.....	1870-72, 77-86	13
Peter, Rev. J., Old Deer Manse, Aberdeen	{ C 1863, 64 imp, 66 imp— { 78, 82 -84 T	{ 11
Playfair, Rev. D., Abercorn, Linlithgow	C 1872-79 T	8
Power, Rev. J., Altarnum, Launceston.....	1879-86 C.....	8
Purdie, T. S., Esq., Castle Cliffe, St. Andrews	1876-81	6
Rammell, G., Esq., Old Tree, Hoath, Canterbury...	1879-86.....	8
Russell, C. P., Esq., Royal Literary Institute, Bath	C 1865 imp -86 C.....	21
Sherbrooke, H., Esq., Oxton, Southwell	C 1862-86.....	25
Sidgwick, Rev. R. H., Skipton	C 1863-67 T.....	5
Stent, W. J. Esq., Downside, Warminster.....	1870-81 imp -86... C 1867-73 imp T.....	16 6
Tarbotton, M.O., Esq., C.E. { Arboretum, Nottingham { The Park, Nottingham.	C 1873 imp -86.....	13
Todd, Rev. J. U., The Priory, Dunster, Somerset...	1874-82 imp T.....	8
Twamley, C., Esq., Ryton-on-Dunsmore, Coventry	1878-86	9
Watson, H. H., Esq., The Folds, Bolton-le-Moors...	C 1831-86 C	56
Weston, Mr. W., Eastwood Colliery, Notts	C 1880-86 C	7
Williams, Mr., R. O., National School, Dolgelly....	C 1865-86 imp.....	21
Wilson, C., Esq., Shotley Park, Shotley Bridge	1883, 84 imp T.....	1
Wise, J. F. N., Esq., Rostellan Castle, Cork	1880-85 T.....	6

OBITUARY.

WE have again a long list of losses, slightly longer than even in 1886—for there are 52, including men of high scientific standing, such as Baxendell, De Chaumont, and Balfour Stewart, and members of both Houses of Parliament, *e.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 working them up. 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.

OBSERVERS DECEASED TO JULY, 1888.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Appach, R., Esq., Swattenden, Cranbrook	C 1875 imp-87	12
Balfour, Col., Balfour Castle, Kirkwall, N.B.	C 1856-87 C	32
Baxendell, J., Esq., F.R.S., Hesketh Park, Southport	C 1872-87 C	16
Bayning, The Lady, { London	C 1836-42 all imp ...	
	C 1836-42 all imp ...	
	C 1848-87 imp T	39
Buddicom, W. B., Esq., Penbeddw, Nannerch	1879-87	9
Byron, Rev. J., Killingholme, Ulceby, Lincoln	C 1866-86 imp T	20
Cadogan, C. H., Esq., Brenckburn Priory, Morpeth	C 1864-87	24
Campbell, C.G., Esq. Stonefield, Tarbert, Cantire, N.B.	C 1839-69 imp -87 ...	48

OBSERVERS DECEASED TO JULY, 1888.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Cattley, W. E., Esq., Edderton, Ross, N.B.	1882-86	5
De Chaumont, Prof. F., F.R.S., Netley, Southampton	1882-87	6
Clermont, The Rt. Hon. Lord { Flurrybridge, Armagh. Ravensdale Pk., Newry	1876-86 T	11
	1871-86 T	16
Coles, W. C., Esq., M.D., Bourton-on-the-Water...	C 1880-87	7
Cooke, Rev. R. B. { Wheldrake, York	O 1844-65 T	22
	C 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	O 1865-87	23
Fielder, H., Esq., South Street, Dorking.....	1884-86 T	3
Gandy, Capt., Skirsgill Park, Penrith	C 1883 imp-87 imp ...	3
Grant, J., Esq., C.E., Blessington Road, Lee.....	O 1865 imp-87.....	22
Greenfield, J. Esq. { Hollacombe, Paignton, Devon	C 1873-85 imp T	12
	O 1885 imp-87.....	2
Hack, T., Esq., C. E. { Kidderpore, Res., Hampstd. Campden Hill, Kensington.	1880-87	8
Harrison, C., Esq., Areley Court, Stourport	O 1881 imp-87.....	6
Harvey, H. M., Esq., Hexworthy, Launceston	O 1865 imp-68 imp T	21
	C 69-87	
Hodgetts, A., Esq., Abbot's Court, St. Bees, Carnforth	1874-86 T	13
Holland, Rev. E. W., Dunsfold Rectory, Godalming	1872 T	1
Jenyns, Rev. F G., Knebworth Rectory, Stevenage.	C 1876-87	12
Keary, H. W., Esq., Aldenham Park, Bridgnorth...	C 1884 imp-87	3
McCormack, Mr. J. Braemar Place, Aberdeen	1881-87	7
Machem, Rev. J. E. J., Llanthewy Vach, Newport, Mon.	1878-86	9
Madden, Dr. { Hatherleigh, Jacobstow	C 1870-73 T	4
	O 1875-86	12
Melhuish, W. W., Esq., Clawton, Holseworthy	O 1866T C 1870-87 imp T	18
Neame, E., Esq., Harefield, Selling, Faversham ...	O 1866 imp-87.....	11
North, A., Esq., Salcombe Hill Ho., Sidmth., Devn.	O 61-66T	5
Northwick, Rt. Hon. Lord { Burford, Tenbury	C 1847-81 83-85 T ...	38
	C 1859 imp-87 C	27
O'Grady, Rev. T., Hognaston Vicarage, Derby	O 1885 imp T	—
Perrins, J. D., Esq., Davenham Bank, Malvern....	C 1887	1
Pinder, Rev. H. S., Bratton Fleming, Barnstaple ...	C 1865-67T C 69 imp-74T	8
Pratt, Rev. E. O'Brien, Kilkeel, Co. Down	C 1875 imp-87 imp T	11
*Richards, W. H., Esq., South Parade, Penzance...	C 1859-87 T	29
Robertson, H., Esq., C.E., M.P., Palè, Corwen.....	C 1873 imp-87	14
Roper, W., Esq., South Road, Lancaster.....	C 1861-87 C	27
Rump, H. R., Esq., Wells-next-the-Sea, Norfolk ...	C 1866-76 imp 77-86..	20
Schneider, H. W., Esq., Belsfield, Bowness	C 1871-73	3
Sherwin, W., Esq., Farnborough Grange, Hants ...	C 1877-87 C	11
Smith, Rev. U., Stony Middleton, Derbyshire	C 1865 imp-87 C	22
Spedding, H. A., Esq., Mirhouse, Bassenthwaite, Keswick	C 1864-87 C	24
Stainforth, Rev. T., Bolton by Bolland, Clitheroe..	1834	1
*Stewart, Prof. Balfour, F.R.S., Kew Obs., Surrey	1860-70 C	11
Stokes, H., Esq. { Springfield, Tiverton.....	1863 imp-75	12
	1878-87 T	10
Taafe, Dr. R. P. B., Brighton.....	1875-83 imp-87... ..	12
Tucker, H., Esq., Uplyme, Lyme Regis	C 1876 imp-84 imp T	7
Westley, E. P., Esq., Spring Hill Nailsworth	C 1868-85 T	18
Weston, Rev. G. F., Crosby Ravensworth, Shap	C 1868 imp-78.....	10

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.

OBSERVERS DECEASED TO JULY, 1889.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Bartlett, J. E., Esq., Peverel Court, Aylesbury.....	C 1874 imp- 76	2
Bateman, J. F., Esq., C.E., F.R.S. [See above]	1864-88	25
Berry, Mr. { Corse House, Aberdeen	1869-76	8
Blair, Capt. of Blair, Dalry, Ayr, N.B.	C 1884-88	5
Capron, J. R., Esq., F.R.A.S., Guildown, Guildford	C 1863 imp-67 T.....	4
Clegram, W.B., Esq., C.E. { Gloucester, Twigworth	C 1880 imp-88	8
{ Frampton - on-Severn,	C 1858-62 imp T.....	4
{ Saul Lodge	C 1862 imp -88.....	26
Coke, R.G., Esq., CE { Tapton Grove, Chesterfield...	1870-78 T	9
{ Brimington Hall, Chesterfield	C 1880-88	9
Dickson, Mr., Castlemilk, Lockerbie, Dumfries.....	1883-88	6
Hartley, Rev. A. O., Steeple Ashton, Trowbridge...	1866-87 T	22
Hopkins, T., Esq., Limber Grange, Ulceby	C 1868-84 T	17
Hoskins, Dr. S. E., F.R.S., York Place, Guernsey..	1887-88	2
Howard, J. Esq., Clapham Park, Bedford	C 1875 imp-88	13
Hudson, Dr., Glenville, Co. Cork	C 1882 imp-88	6
Jones, H. M. Anketel, Esq { Drummany, Belturbet.	C 1843-81 T	39
{ Belle Vue Park, Dalkey	1875-88	14
Kirk, J., Esq., The Watton, Brecknock	C 1871-86 T	16
Law, Frank, Esq., Agnes Road, Northampton	C 1873 imp-83 T	10
	1877-87 T	11
	C 1866 imp-87 T	21
	1886-88	3

OBSERVERS DECEASED TO JULY, 1889.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
McLaren, Mr. J. B., Cardington, Bedford	C 1846-87 C	32
Male, Rev. A. S., More Rectory, Bishop's Castle ...	C 1869 imp-87 T	18
Muir, J., Esq., C.E., New River Company's Stations	1875-82	8
Muirhead, Rev. P. J., Kippen, Stirling	1884-87 T	4
Bournemouth	C 1867-68 T	2
FromeVauchurch, Dorchester	C 1869-72 T	4
Newnham, Rev. P.H. { Stonehouse, Devon	C 1873	1
{ Maker, Cornwall	C 1876-77,79-86imp T	9
{ The Chaplainery, Exeter	C 1886 imp-87 T	1
Osborne, Rev. A. Haynes, Bedford	1884-86 T	3
Procter, J. R., Esq. { Low Lights, N. Shields	C 1862 imp-88 T	26
{ Clementhorpe ,	C 1867 imp-88 T	21
Prout, Mr., Endsleigh, Milton Abbot	1880-88	9
Savill, R., Esq., Bushey, Watford	1876-85 T	10
Seager, Rev. J.O., Stevenage	C 1864-83 T	20
Sherwin, Mrs., Farnborough Grange, Hants....	1887 T	1
Triplow, Mr. T., Slade Farm, Chatteris	C 1879 imp-87 T	8
Upton, H. Esq., Aldwick, Bognor	C 1860-68, 70-76	16
Ward, Capt. J., R.N., Greenham, Newbury	C 1865 imp-87 T	22
Ward, T., Esq., Arnold House, Blackpool	1878-87 T	10
Welch, E. B. Kemp, Esq., Westbourne, Bournemouth	{ 1869-73 imp TG 75	14
Westrop, M. H., Esq., Carrigaline, Co. Cork.....	{ imp-88 imp T	
	O 1885-88	4

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 , ... Mr. Leslie	30 , ... Mr. Webster	25 , ... Mr. Ainslie
22 , ... Capt. Liddell	28 , ... Mrs. Kaye	, ... Mr. Hill
35 , ... Mr. Tabor	, ... 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.

OBSERVERS DECEASED TO JULY, 1889.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Ainslie, D., Esq., The Gart, Callander, N.B.	C 1864 imp- 89	25
Baker, J. L., Esq., Hargrave, Kimbolton	C 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, { N.B.	C 1861 imp-79, 81 imp -84 imp T	20
*Davis, T. H., Esq., Orleton, Tenbury, Worcester	C 1831-89 C	59
Edgar, Rev. Dr., Mauchline, Ayr, N.B.	C 1886 imp-88 T....	2
Falls, W. S., Esq., M.D., Bournemouth	C 1862-66	5
Farrer, Rev. M. T., Ingleborough, Clapham, Yorks	1882-88 T	7
Good, H. D., Esq., C.E., Dymchurch, Kent	C 1873 imp-90 imp T	16
Gordon, J., Esq., C.E., Leicester	C 1885-88 C	4
Higgins, H., Esq., Thinghill, Hereford	C 1876 imp-89	13
Hill, J., Esq., Britthdir, Dolgelly	C 1864-88 C	25
Hopkins, Rev. Canon, Littleport, Ely, Cambridgeshire	1879-89 T	11
Jackson, Mr. W., Market Place, Mansfield.....	C 1882 imp-90 imp T	7
Johnston, W., Esq., Williamstown, Clonee, Co. Meath	1872-88 T	17
Kaye, Mrs., Tetworth Hall, Huntingdonshire	C 1860-65 imp-88 C	28
Leslie, J., Esq., C.E., Fernielaw, Colinton, Edin- { burghshire	1849 imp-61 imp -89	39
*Liddell, Capt., R.N., Bodmin, Cornwall	C 1850-89 imp T....	39

OBSERVERS DECEASED TO JULY, 1889.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
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	C 1880-88 C	9
Mitchell, Miss, Shu-le-Crow Ho., Keswick.....	1877-89 C	13
Nicholl, G. W., Esq., The Ham, Cowbridge, S. Wales	C 1864 imp -88 C	24
Nicoll, Mr. J., The Cemetery, Arbroath, N.B.	C 1886 imp -90 imp...	3
Nutter, J., Esq., { Granchester Mill { Cambridge }	C 1866-88 C	23
Beech Ho. { Cambridge }	C 1862-89	28
Parkin, A., Esq., Sharow Bay, Ullswater	C 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 ...	C 1865-69 T	5
Row, W. N., Esq., Cove, Tiverton	C 1862-89	28
Rushmore, Mr. G. L., Tendring Hall, Stoke, Colchester	C 1867-88 T	22
Shackleton, J., Esq., Withnell Hall, Chorley.....	1875-88	14
Stocker, Rev. W. H. B., Ovington Rec , Alresford, Hants	C 1876 imp-88 C	12
Storie, Mr. J., East Linton, Haddington, N.B.	C 1856-88	33
Sturdy, D., Esq., Trigon, Wareham, Dorset	1886-87	2
Sullivan, Adml. Sir B. J., K.C.B., Tregew, Bournemouth	1881-88 T	8
Tabor, S., Esq., Fennes, Bocking, Braintree	C 1851-86 imp T	35
Turtle, L., Esq., Aghalee, Lurgan, Ireland.....	C 1868-87	20
Varty, Mrs., Manor Road, Holloway, London	1879-87 T	9
Vawser, R. Esq. { Arpley, Warrington	1871-77 C	7
Cemetery, Warrington	C 1871 imp -77 C	6
Vernon, W. F., Esq., Harefield Park, Uxbridge ...	{ C 1865-67 imp T, C 1868 imp -88	22
Wathen, W. D., Esq. Castle Hill, Fishguard	1881-88 T	8
Webster, Mr. J., Gordon Castle, Banff, N.B.	C 1860-89	30
Wildsmith, Mr., Heckfield Place, Hampshire	C 1883-88 T	6
Wood, A. H., Esq., C. E., The Hollies, Hastings, Sussex	C 1871-88 T	18

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

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.	85 ,,
Rev. Canon Philpotts	84 ,,
P. Carmichael, Esq.	82 ,,
N. Whitley, Esq.	81 ,,

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 a gauge on the ground collected 22·61 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, as the author of several papers upon Meteorology, published in the Journal of the Royal Agricultural Society and elsewhere.

OBSERVERS DECEASED TO JULY, 1891.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Alford, Rev. C., Westbury, Wells, Somerset	C 1887 imp -90 T.....	3
Ballantine, Mr. J., Old Cumnock, Ayr.....	1870-90 T	21
Barrington, R., Esq., Beech Ho., Redhill, Surrey...	C 1884 imp -90 imp T	5
Bazalgette, Sir J. W., C.E., Metropolitan Board of Works	1863-88 C	26
	Various.	
Bradley, J., Esq., Fylde Water Co., Kirkham	C 1869 imp -89 C	20
Callender, Rev. H. S., Brathay, Ambleside	C 1873-85 T	12
Carmichael, P., Esq., Arthurstone, Meigle, Perth ..	1872-90	19
Cheere, Rev. E., Papworth Hall, St. Ives, Hunts ..	1884-90 T	7
Fortescue, Col., Stevenstone, Co. Louth	1874-89 C	16
Hayward, W., Esq., Upper Clapton, Middlesex.....	1881-89 T	8
Heberden, Rev. W., Broadhembury, Honiton	C 1837-74 imp T	37
Home, D. Milne, Esq., Milne Graden, Berwick ..	C 1856-89	29
Horn, T., Esq., Crimpleshaw, Downham Market ...	C 1884 imp -89 C.....	5
Horsley, J. J., Esq., Belle Vue, Alnwick, Nthmbl'd.	1886-90 imp T	4
Howes, Rev. Prebendary, Exford, Somerset	C 1874 imp -90 T	16
Hurst, T.G., Esq., { Lauder Grange, Corbdg.-on-Tyne	1874-83 T	16
	C 1884-89 T	{ 16
Lucas, Rev. R. G., Mulbarton, Norwich	1873-89 imp T	14
May, Rev. H. T., South Petherwin, Launceston ...	C 1873 imp -90 T....	17
Merrifield, J. Esq., { Navigation School, { Plymouth	C 1869-86 T	{ 22
	C 1887-90	
Muirhead, Dr. H., Bushy Hill, Cambuslang, Lanarksh.	C 1868 imp -89 T....	21
Neill, W., Esq., Town Moor, Newcastle-on-Tyne ...	C 1868-89 C	22
Ormerod, G. W., Esq., { Brookbank } Woodway ... { Teignmouth	C 1871-78 imp T ...	{ 19
	C 1878 imp -90 T...{	
Philpotts, Rev. Canon, Porthgwidden, Truro...	1882-89	8
Phipps, P., Esq., Towcester, Northampton	C 1875-90 C	16
Rawson, Rev. A., { Bromley Common, Kent	C 1865-82 imp T ...	{ 25
	C 1883-90	
Sawyer, F. E., Esq., Buckingham Place, Brighton...	C 1869-86 imp T	17
Smith, Cecil, Esq., Lydeard Ho., Taunton, Somerset	C 1871 imp -90 imp T	16
*Spence, R., Esq., Rosella Place, N. Shields	1860-90 T	31
Stevenson, Rev. H. F., Knockan, Londonderry.....	C 1876-89 T	14
Strangways, Capt., R. N., Dawlish, Devon	C 1879-89 T	11
Waring, T., Esq., C.E., { Town Hall, { Cardiff ...	C 1866-70 imp T ...	{ 9
	1878-84 T	
Whitley, Nicholas, Esq., Penarth, Truro.....	C 1857 imp -90.....	33
Wilbraham, H., Esq., Oldhead Ho., Westport, Co. Mayo	C 1877-89 T	13
Wingfield, Col., Onslow Hall, Shrewsbury	C 1879 imp -90.....	11
Woodhouse, Rev. T., Ropley, Alresford, Hants ...	1885-89 T	5
Yeoman, J., Esq., Osmotherley, Northallerton ...	1870-89 C	20

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

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.

OBSERVERS DECEASED TO JULY, 1892.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
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 C	7
Ames, E. L., Esq., Lyme Regis, Dorset.....	C 1868-90 C	23
Back, Rev. J., Horsell Vicarage, Woking, Surrey...	C 1880-90 T	11
Banister, Rev. W., St. James' Mount, Liverpool ...	C 1877-90 T	14
Bayman, Mr. E., Holmbury, Dorking	1876-91	16
Bell, R., Esq., Chatton Vic., Belford, Northumberland	C 1890 imp -91 T.....	1
Berry, Mr. L., Water Works Offices, Rotherham ...	C 1874 imp -91 imp C	16
Bowstead, T., Esq., Edenhall, Penrith	C 1864-69 T	6
Burder, Dr. G. F., Clifton, Bristol	C 1853-91	39
Clark, Dr., Blair, Minehead, Somerset.....	C 1889-91	3
Clay, J. Travis, Esq., Rastrick, Brighouse, Yorks ..	1887-91	5
Coppin, J., Esq., Bingfield Ho. Corbridge-on-Tyne.	1874-91 T	18
Cowburn, Major T. B., Dennel Hill, Chepstow.....	C 1886 imp -91.....	5
Crossley, L. J., Esq., Moorside, Halifax	C 1871 imp -76 imp T	4
Davidson, Rev. Dr., Logie Coldstone Manse, Aberdeen	C 1870 imp -91.....	21
Davies, Mr., Dinorwic Quarries, Carnarvon	C 1882 imp -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 ...	C 1884 imp -90 C	6
Evans, Rev. Canon, The Vicarage, Rhyl, Flint.....	C 1890 imp -91 T.....	1
Fortescue, J. C. W., Esq., Stephenstown, Dundalk	1890 T	1
*Garnock, Mr. J., North Esk Reservoir, Penicuick	1860-90 C	31
Gill, H. S., Esq., { Exe Villa, Tiverton, Devon.....	1873-79 imp T	6
Goodhart, Rev. C. J. Wetherden Rec. Stowmrkt. Sufflk	C 1880-91	12
Gosset, Rev. I. H., Northam Vicarage, Bideford ...	C 1869 imp -91.....	22
Hallam, T., Esq., Albert Park, Middlesborough ...	C 1865-69 T	5
Hammond, J., Esq., Arncliffe, Skipton	C 1875-90 C	16
Hancock, J. D., Esq., Halse, Taunton	C 1881-91	11
Hartnup, J., Esq., Bidston Observatory, Birkenhead	C 1883 imp -90 C.....	7
Harcourt, E. W., Esq., Nuneham Park, Abingdon...	1886-91 C	6
Hathaway, W. H., Esq., Water Works, Banbury, Oxon	C 1887-90 C	4
Hawksworth, W., Esq., Eddington, Herne Bay, Kent	1886-90 C	5
Heathcote, J. M., Esq., Conington Castle, Huntingdon	C 1884 imp -90.....	6
James, Rev. J. B., Knowbury, Ludlow, Salop	C 1865-75	11
Kesteven, W. B., Esq., M.D., { Lansdowne Road,	C 1852-75 T	24
Knollys, J. E., Esq., Fitzhead Court, Taunton	Holloway, N.....	
Lawrence, D., Esq. { Llangibby Castle, Newport, Mon.	Chase Side, Enfield, N.	
Lenton, E. S., Esq., { Acol, Margate.....	C 1867-71 T	5
Lipscomb, R. H., Esq., { Birchington, Margate	C 1880 imp -81 T.....	1
Lucas, Rev. R. G., Mulbarton, Norfolk	C 79 imp -84, 86-90...	10
Macguire, J., Esq., Northampton	C 1875 imp -85 imp T...	9
	C 1885 imp -89 T.....	4
	C 1890 T	1
	C 1864-81 imp T	17
	C 1881 imp -90 T.....	9
	C 1876-90	15
	1880-90	11
	C 1877-90	14
	1873-90 imp	14
	C 1875-88 T	14

OBSERVERS DECEASED TO JULY, 1892.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Manning, R. J., Esq., Wells, Somerset	1880-91 T	12
Martin, J., Esq., Wainfleet, Lincolnshire	C 1888 imp -90.....	2
Mason, T., Esq., Kirkby Stephen, Westmoreland...	1870-90 C	21
Miller, Rev. H., Ashbury Vicarage, Shrivenham ..	C 1870-91	22
Parbury, A., Esq., Bondi, Shanklin, Isle of Wight...	1880-90 T	11
Paxton, Rev. W. A., Otterden, Faversham, Kent...	C 1858-86	29
Peake, R. W., Esq., Spring Grove, Isleworth	C 1868 imp -89 T	21
Rosling, A., Esq., Wray Park, Reigate, Surrey.....	1870-91	22
Sanders, R., Esq., Heale House, Littleham, Bideford	1876-91	16
Shiffner, Miss, Ketches, Newick, Lewes	C 1865-78 T	14
Slinn, W. S., Esq., Ampthill, Beds	C 1865 imp -75 T	10
Smith, Rt. Hon. W. H., Greenlands, Henley-on-Thames	C 72imp-76, 81imp90 C	13
Stanton, Genl., The Grove, Hillingdon, Middlesex..	1888-90 imp T	2
Stanway, J., Esq., Water Works, Huddersfield ...	C 1872 imp 90 C	18
Thurtell, W., Esq., Grange Road, Sutton, Surrey...	1882-90 T	9
Tripe, J. W., Esq., M. D., Richmond Road, Hackney	C 56imp-66 T78-91impT	23
Twyman, T. Esq., Renfrew Villa, Margate	C 1877 imp -91.....	14
Waller, F. A., Esq., Shannon Grove, Banagher....	C 75imp -79, 81 imp -91	14
Westcott, Mr. R., Raby Castle, Darlington	C 1875 imp -82 C.....	7
Westlake, T., Esq., Fordingbridge, Salisbury	C 1875-91	17
Wilson, Col., Eryl Arran, Bala	1887-90 C	4
Woodruff, Rev. Canon, Wistow, Huntingdon	C 1864-82, 84-90 T ..	26
Young, Col. Grant, Malvern Wells, Worcestershire	C 1883-84 T	2

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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 * pre-fixed. 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.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Perfect Yearly Records.
Abbotts, R. W., Esq., { Horninglow, Burton-on-Trent Shobnall, " " " Stapenhill, " " "	C 1868-80 T	25	
	1875-92		
	C 1881-92		
Ackland, Rev. T. S., Wold Newton, Hunmanby, York	C 1875 imp -91 T.....	16	
*Boyd, Rev. Canon, Arncliffe Vicarage, Yorks	C 1853-93 imp	40	
Burge, F. J., Esq., { Marlboro' Cottage, Hammersmith Bromsgrove Villa, , ,	1856-8, 1860-67 T }	12	
Cody, Rev. E. G., Fort Augustus	C 1869 T		
Drennan, J., Esq., { Holmston, Ayr	1889-90	2	
Eddy, Rev. C., Bramley, Basingstoke, Hants	1869-74 imp T ...	22	
Elliot, J. T. S., Esq., Wolfelee, Hawick	O 1874 imp -91 O ...		
Elliott, Mr. T. C., Melbury House Gardens, Cerne Abbas, Dorset	1883 imp -91	7	
	1890-91	2	
	C 1856-92	37	

Observers Deceased to July, 1893—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Faunce de Laune, C. de. L., Esq., Sharsted Court, Sittingbourne.....	C 1884 imp -91 C.....	7
Fraser, Rev. H. G., Beaumont College, Old Windsor	1891-92	12
Grant, Prof., F.R.S., Observatory, Glasgow	C 1856-91 C	36
Hodgson, John, Esq., M.D., Northallerton, Yorks.	1884-89 T	4
Jackson, Mrs. Rachel, Waterend, Loweswater.....	C 1868 imp -91.....	23
Keane, Sir R. F., Cappoquin, Waterford	1887-88	2
Lawson, Rev. Basil, Wythburn Parsonage, Helvellyn	C 1866 imp -92 imp T	25
Macaulay, Jasper, Esq., Leigh Hill House, Cobham	1882-92	11
Mackenzie, J. I., Esq., M.D., Belgrave, Sidmouth.	C 1865-73 T	9
Mahony, R. J., Esq., Dromore Castle, Kenmare, Co. Kerry	1875 imp -92 T.....	17
Massie, Rev. E., Nutwood, Grange, Lancashire ...	C 1873 imp -91 T.....	18
Mathison, R., Esq., Innerleithen, Peebles	C 1884-90 T	7
McKelvie, W. R., Esq., Eastern Necropolis, Dundee	C 1866-92	27
Mee, E. Dyson, Esq., Bulvan, Romsford	C 1890-93 imp T	3
Metcalfe, Miss B., Harbledown, Canterbury.....	C 1876-92 T	14
Marten, H. J., Esq., C.E., Numerous gauges along the River Severn	C 1879 imp -92 C	13
Nichols, R. C., Esq., Highley Manor, Balcombe, Sussex	C 1888 imp -92 C	4
Parfitt, E., Esq., Devon & Exeter Institution, Exeter	? 1862-92 C	31
Potchett, Rev. C., Ryhall, Rutland.	C 1865 imp -85 T	19
Scroggs, Rev. S. M., Bishopsteignton, Teignmouth.	C 1864-70 T	7
Simpson, Martin, Esq., Guisborough Road, Whitby	C 1864-91 T	28
Stanton, Miss, East Stoke, Newark	1879-86, 88-91 T ..	12
Stott, S., Esq., Woodfield, Lytham, Lancashire ...	1876-91 T	16
Symington, Capt R , Fairlawn, Market Harborough	1881-91 C	11
Tawney, A. R., Esq. { Wroxton, Banbury	C 1876 -86 imp T... {	15
*Vivian, E., Esq., Woodfield, Torquay	C 1886 imp -91 C... {	3
Wallis, J., Esq., Kettering, Northampton.....	1860-61, 1864	28
Watson, Rev. J. { Wesley Villa, Sedbergh, Yorks..	C 1863 imp -91 C... .	28
Wellesley, Lady C., Conholt Pk , Ludgershall, Wilts	C 1886 imp -88 impT {	3
Westcott, Mr. R., Raby Castle, Darlington	C 1888 imp -90 impT {	5
Whipple, G. M., Esq., Kew Observatory, Surrey..	C 1891 imp -92 T... .	14
*Whistlecraft, Mr. O., Thwaite, Mendlesham, Suffolk	1888-92	17
Wigram, J. R. Esq., Landford, Wilts.....	C 1830-68	39
	C 1866-91 C	26

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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.

Observers Deceased to July, 1894.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Ainslie, W. G., Esq., M.P., Grizedale Hall, Hawkshead, Lancs	1886-1892 T	7
Alford, H., Esq., Bryn-y-Mor, Weston-super-Mare	C 1891 imp -93 imp T	1
Blaaw, T. St. L., Esq., Beechlands, Newick, Sussex	1876-82, 1885-91 T	14
Blomfield, Rev. Leonard, Swaffham Bulbeck, Cambridge	C 1832 imp -49 T.....	17
Bogue, Mr. G., Gorhambury, St. Albans.....	C 1853-74 C	22
Boucher, J. G., Esq., Heatherden House, Cross-in-hand, Sussex	1868-90 T	23
Brooke, Miss E., Northgate House, Honley, Yorks	C 1882 imp -90 C .. .	8
Cade, T. C., Esq., Spondon, Derby	1893 T	1
Clonbrock, Rt. Hon. Lord, Clonbrock, Ahascragh, Galway	C 1874-92 C	19
Coode, E., Esq., Polapit Tamar, Launceston	1870 imp -74 imp -92 C	21
Culley, A. J., Esq., Cossey Mills, Norfolk.....	C 1886 imp -93 T.....	7
Dawson, A., Esq., Harryville, Ballymena, Antrim	C 1877-92 C	16
Denton, J. Bailey, Esq., C.E., Woodfield, Stevenage	1859, 1863-67, 1869-70 T	9
*Dyson, T., Esq., { Spring Gardens, Gainsborough Alexandra Terrace, Beverley...	C 1851-67 T} 42	
Ebury, Rt. Hon. Lord, Moor Park, Rickmansworth	C 1868 imp -93 T ..}	
Edwards, Geo., Esq., C.E., Carlton Colville, Lowestoft	1882-92 C	11
Forester, Rt. Hon. and Rev. Lord, Willey Park, Shropshire	C 1860-92	33
Gibson, Mr., Lupton, Brixham, Devon	1883-92 C	10
Graham, Dr. J., Bryckden, Waldron, Sussex	C 1865-77, C 1881-92 T	25
Gripper, F. P., Esq., Whatlington, Battle, Sussex	1888-92 T	5
Halliday, Mr. J., Scone Palace, Perth, N.B.	C 1886-92 C	7
Hambly, Mr. A., Fore Street, Bodmin	1852 imp -79 imp T	26
Harris, W. J., Esq., { Bedford Row, Worthing.... Heene, ,	C 1864-92 T	29
Hays, Rev. Prebendary, Navenby, Grantham	C 1866 imp -86 T...{	26
*Haywood, Col., C.E., Guildhall, London, E.C.	C 1887-92} 26	
Hearder, Dr. G. J., Asylum, Carmarthen	1869-92	24
Hill, J., Esq., C.E., Ennis, Clare.....	C 1857-92 C	36
Hood, Dr., Tow Law, Durham	C 1869-92 T	24
Hutchinson, A., Esq., Hagley Park, Hereford	1875-93 C	19
*Ingram, W., Esq., Belvoir Castle, Grahtham	1889-92 T	4
Jackson, Mr. W., West Melton, Rotherham.....	C 1866 imp -92.....	26
Keate, Rev. J. C., Hartley House, Basingstoke	C 1855 -93 C	39
Kebbell, Dr., Upper Brunswick Place, Brighton ...	C 1881-93	13
King, W. R., Esq., Nelholme, Ferriby, E. Yorks...	1871-93 T	23
Latter, Rev. A. S., North Mimms, Hatfield	C 1859-61 imp -67 imp T	7
Laurie, Rev. J. W., F. C. Manse, Tulliallan, N.B.	1877-92 T	16
Lees, Rev. T., Wreay Vicarage, Carlisle.....	1873 imp -75 imp 76 T	2
Lovel, J., Esq., York Road, Driffield	1889, 90 imp -92 ...	3
Lovelace, Rt. Hon. Earl of { Horsley Towers, Surrey Bendamph, Loch Torridon, N.B.	1876-92 C	17
	1888-92 C	5
	1880, 82, 84, 86-92 }	
	1886 imp -92 C ... } 16	

Observers Deceased to July, 1894—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Mackeson, H. B., Esq., Hythe, Kent	C 1865-93	29
Marshall, A., Esq., Hallsteads, Cumberland	C 1853 imp -86 imp -92 C	38
Marson, J. Esq., Hill Cliffe, Warrington	1882 imp -92.....	10
May, Rev. H. T., South Petherwin, Launceston, Cornwall.....	1881-90 T	10
Mitchell, Col., Luscar House, Dunfermline, N.B....	C 1891 imp -92 C.....	1
Moffat, J., Esq., J.P., Ballyhyland, Enniscorthy, Wexford	C 1867-92 C	26
Moore, W. C., Esq., Bamford, Hathersage, Derby	{ 1870 imp -75, 78 imp -84 T C 85 imp -86 89-93 imp T	15
Mott, Rev. H. S., Much Hadham, Ware	C 1866-81 C	16
Pell, Mrs., Hazelbeach, Hall, Northampton	1884 imp -90 imp -92 C	7
Pengelly, W., Esq., F.R.S., Lamorna, Torquay ...	C 1864-88 T	25
Reade, R., Esq., Alma House, Sydenham, Belfast..	C 1875-92 T	18
Richardson, H., Esq. { Cherry Hill, York	C 1866-80, 82-92 C ...	26
Robie, Mr. D., Western Street, Bedford	C 1880 imp -92 C.....	12
Rust, Mr. J., Eridge Castle, Tunbridge Wells	C 1869-93 T	25
Shadwell, Rev. A., Little Ilford, Essex	1862-64 T 71-3, 77-92 C	22
Smith, H. A., Esq., The Mount, Chepstow	1881-88 T	8
Smith, W. R. W., Esq., Rosmory, Holy Loch, Argyll	1879-87, 89-92 C ...	13
Soames, Rev. C., Mildenhall, Wilts	C 1883 imp -92 T ...	9
Stuart, Col., Tempsford Hall, Sandy	C 1866-80 imp -93 C	27
Swift, Rev. J. S., Thorpe Arnold, Melton Mowbray	C 1873-92	20
Twining, Dr. A. H., The Knoll, Salcombe, Devon	C 1875 imp -93 imp T	17
Varty, Miss, Manor Road, Holloway, N.	C 1890-93	4
Venable, Rev. E. B. W., Red Hills, Belturbet ...	1879-87 T	9
Watson, C., Esq., Clouds, Dunse, N.B.	C 1864-92	29
Wilkinson, Rev. Dr., Swalcliffe, Banbury	1882-90, 92	10
Woodd, C. H. L., Esq., { Roslyn, Hampstead	C 1888-90 imp	2
Oughtershaw, Yorks ...	{ C 1863-70 imp -73 imp -92 C	46
	C 1858, 1863-76, 77-78 T C 1880-82 T C 84-92 C ...	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

O B I T U A R Y.

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.

Observers Deceased to July, 1895.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		C	Perfect Yearly Records.
Armstrong, Dr. Fergus, Appleby, Westmoreland ...	C 1856 imp -94	38	
Ballingal, J. S. R., Esq., Eallabus, Islay, Argyll ...	C 1866 -94.....	29	
Bankes, J. Scott, Esq., Soughton Hall, Northop, Flint.....	1877-94	18	
Bentley, G., Esq., Upton, Slough.....	1874-94 C	21	
Biddell, M., Esq., Playford, Ipswich	1884-90 T	7	
Bowles, Rev. F. A., Singleton, Chichester	1878-92 T	15	
Bridge, Rev. S., Droxford Rectory	1874-85 T	12	
Clarke, Edwin, Esq., C.E., Cromwell House, Great Marlow	C 1880-89, 93 T .. .	11	
Collingwood, E.J., Esq., J.P., D.L., Lilburn Tower, Alnwick.....	1856-94	39	
Coulson, Mr. J., { Shotley Hall	1870-79	{ 21	
Coupland, R. C. B., Esq., Skellingthorpe Hall, Lincoln	1882-93		
Davy, Mrs. Tanner, Rose Ash, South Molton, Devon	1874-75, 77-94	20	
Devas, Mrs., Colwall, Great Malvern	1887-94	8	
De Winton, The Ven. Archdeacon, Llandrindod Wells	1876-90 T .. .	15	
Dudgeon, P., Esq., Cargen, Kirkcudbright	C 1882 imp -93.... .	11	
Eagles, Rev. C. I., Longtown Vicarage, Abergavenny	C 1859-94 C	36	
George, Dr. H., Queen Street, Horncastle	C 1873 imp -84 imp T ..	10	
Grey, The Rt. Hon. Earl, K.G., Howick, Northumberland	1874-93	20	
Hadden, Miss, The Beeches, Guildown, Guildford	C 1863-94 C .. .	32	
Hardy, W. H. Cozens, Esq., Letheringsett Hall, Norfolk	C 1870 imp -93 .. .	23	
Heathcote, Rev. Canon, Conington Rectory, Hunts	1873-94	22	
Heygate, Sir F. W., Bart., Bellarena, Londonderry	1864-65 T	2	
Holmes, R., Esq., The Parade, Arundel, Sussex	C 1864 imp -93 C .. .	29	
Hussey, E., Esq., Scotney Castle, Lamberhurst	1879-94 .. .	16	
Kingston, Mr. R. C., Brantinghamthorpe, E. Yorks	1862-65, 73-89....	17	
Knowles, G., Esq., Moorhead, Shipley, Yorks	C 1874 imp -94.....	20	
Lawton, W., Esq., { Manor House Street, { Hull Derringham, { Hull	1878, 80-85, 87-94 .. .	15	
Lewis, D. H., Esq., Ystalyfera, Glamorgan	C 1849 imp -71 imp T ..	{ 43	
Littleboy, R., Esq., Newport Pagnell, Bucks...	C 1871 imp -93 T.....		
Lloyd, Mrs., Gwernvale, Crickhowell	1882-93 T .. .	12	
„ Rev. A. R., Hengoed, Oswestry, Salop	C 1864 imp -94 C.....	30	
„ Rev. Canon Kilkishen, Co. Clare.....	C 1884 imp -94.....	10	
McCallum, J.B., Esq., C.E., Waterworks, Blackburn	C 1856-94 T .. .	39	
Marshall, John, Esq., Derwent Island, Keswick	1884-93 C .. .	10	
Morgan, H.S., Esq., { Rhedwen, Llandisilio, { South Wales	1859-68 T .. .	{ 35	
Norman, Rev. R. M., Bottesford, Leicestershire	C 1869-93 T .. .		
Orr, Rev. J. H., D.D., The Manse, Autrim	C 1888 imp -94.....	6	
Parkes, C. H., Esq., Netherfield, Weybridge	C 1864-74, 76-7, 80, 83-94 .. .	26	
	1886-94 .. .	9	

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

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		C	Perfect Yearly Records.
Paulin, T., Esq. { Winchmore Hill, Middlesex ... The Chase, Enfield, , ... Forty Hill, , " ... The Beeches, Keswick	C 1866-74 imp T	26	
	C 1874 imp -85 imp T		
	C 1885 imp -89 imp T		
	C 1890-94		
Phillips, W. H. M., Esq., Edge Hill House, Mitcheldean, Gloucestershire.....	1877-93 T	17	
Reynolds, J., Esq., Fox Hill, Frodsham, Cheshire...	C 1871 imp -86, 88-93 T	21	
Ryan, E. K., Esq., C.E., Alma, Wexford	1885-94	10	
Sandbach, H. R., Esq., Hafodunos, Abergale, North Wales	1882-94	13	
Seccombe, Dr., Terrington, Lynn, Norfolk.....	C 1876-94 T	19	
Shaw, Captain, Harbour Office, Ramsgate	C 1867	1	
Sidebottom, J., Esq., J. P., Millbrook, Hadfield, Ches.	1887-94	8	
Slatter, T. J., Esq., { The Bank, Evesham, Worcester { The Drift, , "	1880 imp -92 imp { C 1892 imp 94..... {	14	
Smith, Mrs., St. George's Lodge, Weybridge	C 1886 imp -92 T	6	
Stotherd, Gen., C.B. { Ordnance Sur. Off., S'thamptn. { Heathcote, Camberley, Surrey.	1883-85	10	
Tomes, Sir J., F.R.S., Upwood Gorse, Caterham...	C 1887 imp -94.....		
Vawdrey, W., Esq., C.E., South Staff. W. Works,	C 1870-72, 75	4	
Wainwright, B.C., Esq., Elmhurst, East Finchley..	1889-93	5	
Woodd, Basil T., Esq., Conyngham Hall, Knares- borough	C 1880 imp -94	14	
Woods, Mr. S. A., Osberton Hall, Worksop	C 1885 imp -94.	9	
Workman, Dr., Russell Street, Reading	1878-94	16	
Yool, H., Esq., { Oakfield, { Field Place, { Weybridge....	C 1866-93 T	28	
	C 1875 imp -91 T... { C 1891-94 C {	20	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

O B I T U A R Y.

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 a river 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.

Observers Deceased to July, 1896.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Adam, A. M., Esq., M.D., Bargate Lodge, Boston, Lincolnshire	C 1864-72 imp T	7
Amyot, T. E., Esq., Diss, Norfolk	C 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	{ 1874-78, 85 imp } -87 imp-89	7
*Beesley, T., Esq., F.C.S., Banbury	{ C 1851 imp -57 T, C 1860-87 imp T }	33
Black, Capt., of Kailzie, Kailzie, Peebles, N.B.	C 1889 -94	6
Bond, George, Esq., C.E., Brimington Hall, Chesterfield.....	C 1891 imp -94	3
Bond, W. M., Esq., Derrygally, Moy, Tyrone	1872-95	24
Bradley, G. M., Esq., The Hollies, Curdridge, Botley	1893-95	3
Brett, A. T., Esq., M.D., Watford House, Watford	1881-83 imp -89	8
Cadogan, A. H., Esq., Brinkburn High House, Morpeth	1888-95	8
Cameron, A., Esq., Highfield, Elgin, N.B.	1874-94 C	21
Campbell, C. D. H., Esq. { Newtown Limavady, Lond'derry Coleraine, Londonderry	{ 1879-95 T, 1879-87 T,	36
Clark, Miss M. E. { St. Leonards Road { Exeter Lyndhurst Road... }	C 1883imp-85imp-89impT 1891-94 T	8
Clarkson, H., Esq., Alverthorpe Hall, Wakefield...	1879-94 T	16
Denison, The Ven. Archdeacon, E. Brent, Somerset	1880-88	9
Devon, H. C., Esq., Cruwyshaye, Backenford, Devon	1894 T	1
Dodds, Mr. A. B., Abbey Gate, Melrose, N.B.	C 1871 imp -95 imp T	23
Dore, H. J., Esq., St. Catherine's House, Niton, Isle of Wight	1892-95 imp T	3
Foord, Rev. R. H., Foxholes, Ganton, York.....	{ C 1875 imp -84 T, C 1887-89	12
Frew, Forrest, Esq., Lyleston, Cardross, Dumbarton	C 1870 imp -95	25
Grieve, Mr. P. { Culford, Bury St. Edmunds..... Orchard Street, Bury St. Edmunds	{ C 1858 imp -79, 1890-95 imp T ...	26
Griffith, Rev. C. H., Strathfield Turgiss, Winchfield Copy Hill, Shap, Westmoreland	C 1862-96 imp C	34
Hoggarth, Mr. { Sleddale, " " .. Swindale, " " .. Tailbert Beck, " ,	C 1874 imp -91 imp T C 1880 imp -91 imp T C 1880 imp -91 imp T C 1880 imp -86 imp T	16 10 10 5
Horsman, Mrs., Kytes, Watford	C 1889 imp -94	5
Huddlestone, Col., Llynderw, Welshpool	C 1893	1
Jones, J. Harvey, Esq., Montpelier, Bristol	1893-95	13
Ley, Rev. W. Clement, Sellack Vic., Ross, Hereford	C 1862-66 T, C 1868-77	15
Mackrell, T., Esq., Barnstaple	C 1857-79	23
Mansel, Col., Smedmore, Corfe Castle, Dorset	1890-94	5
Margary, P. J., Esq., C.E., Charlton Villa, Dawlish, Devon	C 1857-68 T	12
Mayo, C. T., Esq., Corsham, Wilts	72-85 imp -94 imp T	21
McInroy, Col., The Burn, Brechin, N.B.	C 1843-95	53

Observers Deceased to July, 1896—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Mills, M. F., Esq., Tapton Grove, Chesterfield.....	1890-95	6
Monk, Mr., Moor Hall, Harlow, Essex	C 1888 imp -94 imp..	5
Munro, Mr. H., Clevelands, Lyme Regis	1891-94 C	4
Neame, E., Esq., Harefield, Selling, Faversham ...	C 1866 imp -94 C	28
Neve, A. Curteis, Esq., Hole Park, Rovenden, Kent	1888-95	8
Owen, D., Esq., Ash Hall, Cowbridge.....	C 1872 imp -95 C ..	23
Parr, Gen. { The Wakes, Selborne, Alton } Hants	C 1884 imp -91 T ... {	9
Peel, Rev. F. W., Burghwallis, Doncaster....	C 1893-94 C {	
Phillott, Rev. Canon, Hereford.....	1882-94 T	13
Robertson, Dr. J. D., The Friarage, Penrith.....	C 1888 imp -94 T....	6
Scott, S. R., Esq. { Beulah Hill, Upper Norwood...	1875, 1877.....	2
{ Sherwood, ,, ,, ...	C 1872-74 T	
{ Widmore Road, Bromley, Kent	C 1876-82 T	11
Sidney, The Hon. H. { Ingleby Manor, Middlesboro'	C 1894 T	
{ Penshurst Place, Tunbridge	1884-95	22
Slack, H. J., Esq., Ashdown Cottage, Forest Row	C 1872 imp -92 T....	20
Stopford, Hon. E. S., Borris, Co. Carlow	1890-93 imp T	3
Taylor, T., Esq., Greenside Mine, Patterdale, Westmoreland	C 1872 imp -94.....	22
Thomas, Mr. W., The Park, Wolverhampton	1882-94 C	13
Troyte, Col., Huntsham Court, Devon	C 1873 imp -95	22
Weeks, T.S., Esq., C.E. { Torquay W.Wks., Christow	1887-94	22
{ ,, ,, ,, Chudleigh	1881-94 {	
Wharton, H. T., Esq., Acol Road, West Hamp- stead	1892-95 imp T	3
Williamson, B., Esq., Old Dromore, Mallow, Cork...	C 1890-95	6
Wilson, Rev. W., Stoke Bruerne, Towcester.....	1887-95 imp	8
Wray, G. W., Esq., Leyburn, Bedale	{ C 1863-65 imp T, {	27
	C 1868 imp -94 T }	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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. But 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.

Observers Deceased to July, 1897.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Perfect Yearly Records.
Adamson, E. W., Esq., Eastdean, Eastbourne	C 1883-95 T	13	
Adie, Mrs., Rockville, Linlithgow, N.B.	1870 imp -95	25	
Ash, Rev. Drummond { Cocking, Midhurst.....	1883-87 T	9	
{ Saxby, Barton-on-Humber..	C 1890-93 T		
Ballard, E., Esq., M.D., Compton Terrace, Islington	C 1867 imp -74 T.....	7	
{ Calder Farm, Mirfield,			
Yorks	C 1858-68 T		
Balme, E.B. Wheatley, Esq. { High Close, Ambleside	C 1861-96 C	77	
Cote Wall, Mirfield,			
Yorks	1867-96 C		
Barber, J. T., Esq., Spondon, Derby	C 1872-83, 1885	13	
Battersby, Worsley, Esq., J.P., Knowle, Dunster, Somerset.....	C 1888 imp -95 T.....	7	
Benyon, R., Esq., Englefield, Reading	C 1875-96	22	
Bridges, Rev. F. H. { Bruntingthorpe, Lutterworth	1873-82 imp T	22	
{ Rivenhall, Witham, Essex...	C 1882 imp -95 T ...		
Brodie, F., Esq. { Moulsey Gore, Uckfield	C 1863-68 T	19	
{ Fernhill, Wootton Bridge, I. of W.	C 1882 imp -95 C ...		
Brundell, B.S., Esq., C.E. { Doncaster W.W. gauges.	1880-86 C	24	
{ Kirk Bramwith, Doncast'r	1880-96		
Buchanan, G., Esq., C.E., Towerfields, Keston, Kent	C 1882 imp -96.....	14	
Caldicott, Colonel, Coundon, Coventry	1870-96 C	27	
Carr-Dyer, Major, Hazelea, Kenley, Surrey	C 1894 imp -96 imp C	1	
Caswell, C. J., Esq., Louth Road, Horncastle	C 1894 imp -95 T.....	1	
Chrimes, R. Esq. { Moorgate Grove, Rotherham	{ C 1865-96	32	
{ also numerous experimental gauges	1886-93 imp -95 ...	9	
Clappison, Mr. T., Mapleton, Hull	1895-96 C	2	
Clinkard, E., Esq., Potlands, Toot Baldon, Oxon..	1893-5	3	
Compton, T. J., Esq., M.D., Heigham Hall, Norwich	C 1873-94 T	22	
Cozens-Hardy, W. H., Esq., J.P., Letheringsett Hall, Holt, Norfolk	C 1858imp-91impT {	40	
Cross, Rev. Canon { Appleby Vicarage, Lincoln ..	1888-96 imp T ...		
{ Halecote, Grange, Carnforth...	1845-96	52	
Crosthwaite, J. F., Esq., F.S.A., The Bank, Keswick	1884-95 C	12	
Cunningham, D., Esq., Dundee Harbour gauges. var.	C 1880 imp -96 imp T	15	
Dashwood, R., Esq., Geldeston, Beccles	1877-95 C	19	
Dixon, Mr. R., Paddlesworth, Hythe	1876-85 imp -94 ...	18	
Doughty, W., Esq., Byreburnfoot, Canobie, N.B...	C 1871-95 T	25	
Fawcett, T., Esq., Blencowe School, Penrith	1892-96	5	
Fenton, Dr. M. H., M.O.H., Coventry	1878-95 T	18	
Forbes, Duncan, Esq., Culloden House, Inverness..	C 1880-95 C	16	
Francis, Mrs. Clement, Quy Hall, Cambridge	1892-95 T	4	
Fraser, Dr., Pomeroy House, Totnes	C 1861imp-65 imp T		
Melton, Leicester	C 1865 imp -67T C -75		
Greetham, Oakham, Rutland	imp -94 imp T ...		
Holmes, Rev. C. A. { Asfordby, Melton, Leicester.	C 1868-70 T		
{ Thistleton, Rutland	C 1871-75 imp T ...		
		30	

Observers Deceased to July, 1897—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
James, Rev. A. { Burwarton, Bridgnorth	C 1884-96 T	15
Brown Clee Hill, Bridgnorth	C 1884 imp -86 T ...	
Jevons, G., Esq. { St. Michael's Hamlet, Liverpool	1879-83 T	16
39, Hope Street, "	C 1884-94 T	
Jodrell, Rev. H., Gisleham Rectory, Lowestoft	1862-86, 1888-89 T	27
Kirby, Rev. H. T. M., Mayfield, Hurst Green, Sussex	C 1885-96 T	12
Lyster, T. Rice, Esq., Bedford Office, Thorney, Peterborough	1893-96 C	4
Macaulay, T., Esq., Kibworth, Leicester	C 1875-94 C	20
McLellan, D., Esq., Queen's Park, Glasgow	1880-92 C	13
Messent, P. J., Esq., C.E., Pier Works, Tynemouth	C 1864-96	33
Michel, J., Esq., Forcett Park, Darlington	1877 imp -95 C.....	18
Monk-Bretton, The Rt. Hon. Lord, Conyborough Park, Lewes, Sussex	1886-92, 1894	8
Muirhead, R., Esq., Joppa, Mid Lothian, N.B.	1888-94 T	7
Muir, Mr. A., Mauchline, Ayr, N.B.	1892-95 T	4
Newton, J., Esq. C.E. { Barrington Ho., Cheshire... Coldwell, Res. Newton, Lancs	C 1868-96	39
Olperts, F. M., Esq., Mount Shannon, Sligo	1886-95 C	
Overend, Mrs., West Retford House, Retford....	C 1866 imp -95.....	29
Paget, J., Esq., J.P., Stuffynwood Hall, Mansfield	C 1890 imp -95 T.....	5
Patmore, Coventry, Esq., Heron's Ghyll, Uckfield.	1876-78 imp -96	20
Pearson, C. N., Esq., Portland Place, Reading.....	C 1872-74 imp T	2
Pochin, Rev. E. N., Barkby, Leicester	1888-96 imp T	8
Poole, Rev., H. J., Stowell, Sherborne, Dorset.....	1870-96	27
Reynolds, Rev. Dr., Cheshunt College, Waltham Cross	C 1882 imp -96 T.....	14
Richards, Westley, Esq., Ashwell Lodge, Oakham	1872-95 imp T	23
Ryves, Rev. G. T. { Buildwas	1886-91	6
Tean Vicarage, Stoke-on-Trent	1873 T	
Sellick, E., Esq., Alrewas, Lichfield	1875-95	22
Smith, Mr. A., Castletown, Carlisle.....	1880-85, 88-91, 1894-95T	12
Smith, Rev. J. W., Dinsdale, Darlington	1866-95 T	30
Stone, E. J., Esq., F.R.S., Radcliffe Obs., Oxford.	C 1865-70, 74-85, 88-96	27
Stuart, C. P., Esq., Sandymount House, Woburn..	1879-96 C	18
Warriner, Rev. G., Bloxham Grove, Banbury	1870-95 C	26
West, Rev. Prebendary, Fownhope, Hereford	1877-95 C	19
Willes, Rev. Canon { Ashby Magna, Lutterworth.. Monk Sherborne, Basingstoke	C 1869-80 imp -89 imp	19
Wingfield, Rev. Canon, Welwyn	1872-86 T	
	C 1887 imp -95 T }	23
	1872-95 T	24

NOTE.—C indicates commencement of record and also its continuation, T its termination.

O B I T U A R Y.

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	„	Mr. Cooke, of Ormskirk.
33	„	Mr. Birkbeck, of Norwich.
33	„	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.

Observers Deceased to July, 1898.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Perfect Yearly Records.
Anderson, The Rev. J. B., Dingle, Tralee, co. Kerry	1884-86, 89-94 T...	9	
Anstruther, Sir W. C., Bt., Carmichael House, Thankerton, N.B.....	1889-94	5	
Baker, The Rev. R. S., Hargrave Rec., Kimbolton...	1890-97 imp T	7	
Barclay, J. G., Esq., Leyton	1861, 63, C 65 imp } -67 imp T 78-86 } imp T	10	
Barne, Col. St. John, Sotterley Hall, Wangford, Suffolk.....	1877, 79, 81-93, } 95-97 C	18	
Bere, R., Esq., Milverton, Somerset	C 1876 imp -97 C....	21	
Bewick, T. J., Esq., C.E., Allenheads, Northum- berland	C 1852 imp -66 C.....	14	
Binyon, J. B., Esq., { Pit Farm, Cartmel	1861-63	14	
	Black Rock, Cork		
Birkbeck, W., Esq., Thorpe, Norwich	C 1870-90 T	33	
Blyth, The Rev. E. H., Saltwood Rec., Hythe....	C 1865-97 T	33	
Bousfield, The Rev. G. B. R., Portsdown Road, W.	1896-97	2	
Bradford, The Rt. Hon. the Earl of, Weston Park, Shifnal.....	1893-96 T	4	
Bridgeman, The Hon. and Rev. J. R. O., Weston, Shifnal.....	1873-97	25	
Browne, Major A. H., Callaly Castle, Whitting- ham, Northumberland	C 1864 imp -84 T ...	20	
Burges, Mrs., The Ridge, Chipping Sodbury.....	1894-97	4	
Cawdor, The Rt. Hon. the Earl of, Stackpole Court, Pembroke	1890-96 T	7	
Christy, R., Esq., Watergate, Emsworth, Hants...	C 1873-97 C	25	
Cooke, G., Esq., Aughton Springs, Ormskirk	1890-97	8	
Cowburn, Major, Dennel Hill, Chepstow	C 1862 imp -97	35	
Cruickshank, Dr. A., Rose Street, Aberdeen.....	C 1886 imp -94 T.....	8	
Currie, Col. J. R., Grey's Lodge, Torquay.....	C 1860-96 T	37	
Davies, E., Esq., Plas Dinam, Llandinam	1887-97	11	
Davies, Major-Gen. Sir W. G., K.C.S.I., The Meadows, Claygate, Esher.....	1894-97	4	
Egmont, The Rt. Hon. the Earl of, Cowdray Park, Midhurst	1895 imp -97 T.....	2	
Finlay, Mr. John, Meldon Park, Morpeth	1893-96 T	4	
Gorton, R., Esq., Cirencester	C 1871-96 T	26	
Gossett, The Rev. C. H., Langton Herring, Wey- mouth	C 1879-96 T	18	
Halliday, W. H., Esq., Glenthorne, Lynmouth, Devon	C 1878 imp -97 imp T	18	
Hames, J., Esq., Rotherby Hall, Leicester	C 1873 imp -97 C.....	24	
Heath, D. D., Esq., Kitlands, Dorking	C 1884 imp -97 C.....	13	
Holley, W. H., Esq., J.P., Oaklands, Okehampton, Devon	C 1852 imp -64 T.....	12	
Isaac, T., Esq., Maldon, Essex.....	C 1870-97 C	28	
	C 1894-97 imp T	3	

Observers Deceased to July, 1898—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.		
		DATE.	Perfect Yearly Records.
Kennion, Rev. R. W., { Acle Rectory, Norfolk	C 1865-93 T	28	
	{ Park Rd., Southboro', Tun. Wells		
Killey, P., Esq., Derby Square, Douglas, Isle of Man	C 1895 imp -96 T ...	28	
Locke, Mr. W., Ravensdale School, Newry, Ireland	C 1868 imp -96 T ...	19	
Lowry, Col., Rockdale, Dungannon, Ireland	C 1887-95	22	
Mackereth, The { Eccles, Manchester	C 1875-97 imp	33	
Rev. T. { Woodlands Ter., Windermere	C 1861-78 imp T ...	2	
Malden, H. C., Esq., Crowborough, Sussex	C 1888 imp -96 imp T		
Malleson, The Rev. F. A., The Vicarage, Broughton-	1895-96 T		
in-Furness	{ C 1872 imp -83 imp	21	
	{ C 86 imp -97 T		
*Marth, A., Esq., { Observatory, Durham	1860-62 C	30	
	{ Markree Obsrvty., Collooney, Co. Sligo		
Maxwell, Major, Glenlair, Dalbeattie, N.B.	C 1870-97 C	7	
Milward, D. A., Esq. { Tullogher, New Ross, Ireland	1891-97		
Montgomery, Gen., C.S.I., Fort Royal, Rathmullan,	C 1869-81 T	29	
Donegal	C 1882-97 T		
Murray, C. M., Esq., The Firs, Ore, Hastings	1894-97 T	4	
Neumann, H., Esq., { Winnington, Northwich	C 1874 imp -86 T.....	12	
	{ Wincham Hall, Northwich...		
Orde, Sir J. W. P. Campbell, Bt., { Bingfield, Hexham	C 1869-88 imp T ...	26	
	{ Kilmory, Lochgilphead		
Ransome, T., Esq., Hest Bank, Lancaster	C 1888 imp -96 ...		
Redmayne, G., Esq., Brathay Hall, Ambleside ...	C 1864-65 imp T ...	18	
Rigby, T., Esq., Gin Hall, Bury, Lancashire	C 1880-97 imp		
Rowcliffe, E. L., Esq., Hall Place, Cranleigh,	C 1856 imp -76 imp	27	
Guildford	79-96 T		
Ryan, E. F., Esq., Alma, Wexford	C 1873-81	9	
Seymour, The Rev. Canon, Newcastle, Co. Down..	1876-96 C	21	
Spedding, Lady Jane, Mirehouse, Keswick	1887-96 C	10	
Styring, F., Esq., Poole, Dorset	1883-96 T	14	
Swayne, Major, Glastonbury	1885-96 C	12	
Teague, H., Esq., St. Botolph's, Lincoln	1870-96 C	27	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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

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.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Awdry, Rev. W. H., Ludgershall, Andover	1875-97 T	23
Belk, W., Esq., C.E., Hartlepool.....	1870, 72, 74-97 T...	26
Bernard, Mrs. Percy, Castle Hacket, Tuam	1888-98 C	11
Bostock, Miss, Penmaen, R.S.O., Glamorganshire..	C 1890-97 T	8
Bradshaw, Admiral, C.B., The Grange, Steeple Aston, Oxford	C 1883 imp -98 C.....	15
Brown, Miss E., Further Barton, Cirencester	1882-98 C	17
Burt, F. A., Esq., Gordon Villas, Swanage	C 1892 imp -97	5
Clabon J. M., Esq., Clare Bank, Sevenoaks	1880-91 T	12
Collingwood, F. J., Esq., Glanton Pike, Northum- berland	1880-94 T	15
Colman, J. J., Esq. { Carrow House, Norwich	C 1880-98 C	19
	{ The Cliffe, Corton, Lowestoft	19
Coode, W., Esq., Trevarna, St. Austell, Cornwall..	C 1864 imp -98 C.....	34
Cowper, W. J., Esq., Newbury	1877-98 imp T	21
Deedes, Rev. Canon, Heydour Vicarage, Grantham	C 1865-75, 77-97 T...	32
De Wend-Fenton, W. F., Esq., [Aldenham Park] Bridgnorth.....	C 1884 imp -97 C.....	13
Du Port, Rev. Canon, { Mattishall, Downham	C 1863 imp -84 T ...}	35
	{ Denver Rectory	
Elliot, J. Esq., { Achumore, Assynt, Sutherland ..	C 1885-98 T	
	{ The Flatt, New Castleton, Roxburgh ..	
Foster, R., Esq., { Rye Hill, Newcastle-on-Tyne.	1880, 1882-89 T	40
	{ Clifton Road	
Fowler, Sir J., Bt., Braemore, Rossshire	1866-96 T	
Goodchild, J. E., Esq., Prospect Hill Lodge, Wal- thamstow	1869-79 T	28
Goode, W. Esq., Mulgrave Road, Sutton, Surrey...	C 1880 imp -97 C ...	
Gurney, R. H. J., Esq., Northrepps, Cromer	1869-98 T	
Hall, Col., Osmington Lodge, Weymouth, Dorset..	C 1867-90	24
Haworth, F. E., Esq., Stanley Grange, Wakefield..	1891-98 C	8
Hempson, A., Esq., Hill House, Ramsey, Harwich	1892-97 C	6
Henderson, J. M., Esq., Bell Vue, Hamworthy, Poole	C 1890-98	9
Hilson, G. Esq., Sunnyside, Jedburgh, Roxburgh..	C 1864-97 C	34
Hutchinson, Rev. Canon, Broad Chalke, Salisbury.	C 1883 imp -98 imp T	14
I'Anson, Dr. T. F., Irish Street, Whitehaven ..	C 1877-98 C	22
King, The Rev. S., Fir Hill, Droxford, Bishops Waltham, Hants	1874-85 T 1890-98	21
Kirwan, Rev. J. H., St. Johns, Torpoint, Devonport	1875-98 T	24

Observers Deceased to July, 1899—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		Perfect Yearly Records.	
Kitson, J. H., Esq., Elmet Hall, Leeds	C 1871-98	27	
Lark, F. M., Esq., Avalon, Catford Hill, Kent.....	1893-97 T	5	
La Touche, Rev. J. D., Stokesay, Craven Arms, Salop	{ C 1869 imp -73 T ... } (C 1876-98 C	25	
Lewis, Col., High Beech, Hollington, St. Leonards-on-Sea	C 1866-98 C	33	
Little, W. C., Esq., Stags Holt, March	C 1873-98	26	
Luck, R., Esq., Llanfairfechan, N. Wales	C 1864-97 imp T	33	
Lyon, A. Esq., Middlecot House, Ilsington, Newton Abbott.....	C 1866-97 T	32	
Macfie, R., Esq., { Airds House, Appin, Argyll ... Appin Ferry	{ C 1856-78 T	49	
McCurrich, J. M., Esq., C.E., The Docks, Bristol..	C 1873-98		
Marchant, W. E., Esq., Cremyll, Plymouth	1891-98	8	
Miles, Rev. C. O. { Shirehampton, Bristol	1891-98 C	8	
Morris, F. W., Esq., Brook Cottage, Little Kimble, Aylesbury	{ 1886-88 T	11	
Orr, Rev. A. { Salehurst, Hurst Green ... Cheriton, Alresford	{ 1890-98 imp T ... } (C 1878 imp -91 T ...)		
Page, R., Esq., Down Hall, Bradwell, Southminster, Essex	1896-98 T	3	
Palmer, Mr. G., Penwyllt, Brecon	1870-78 imp T ... } 1877-98	21	
Peace, A. L., Esq., C.E., Thorne, Doncaster.....	1889-98 C	10	
Piggott, F. W., Esq., Bourne Hill, Horsham.....	1883-98 C	16	
Pigott, W. G. F., Esq., Abington Pigotts, Royston	1890-98	9	
*Prince, C. L., Esq., F.R.A.S., { Uckfield, Sussex ... Crowborough, Sussex	{ C 1888 imp -98	10	
Renny, T., Esq., Pitlochry, N.B.	{ C 1842 imp -77 C ... } C 1871-98 T	35	
*Slatter, Rev. Canon J., { Streatley, Reading	{ 1890-94 T 1897-98. C 1862 imp -80 imp T }	28	
Smith, Rev. B. C., Hulcote, Woburn	C 1880 imp -98 T ... } C 1874-97 T	35	
Spencer, Rev. C. V., Wheatfield, Tetworth, Oxon.	1890-98 C	24	
Sturge, E., Esq., Highfield, Charlbury, Oxon.	C 1896-98 C	9	
Swan, R., Esq., The Quarry, Lincoln	1879-98	3	
Waller, Gerald, Esq., Brook, Lyndhurst, Hants ...	C 1896 imp -97 T	20	
Waring, Col., M.P., Waringstown, Lurgan, Ireland	C 1861-98 C	1	
Weir, H. F., Esq., Kirkhall, Ardrossan, N.B.	1876-97 T	38	
Welby-Gregory, Sir W. E., Bt., Denton Manor, Grantham	1886-98 C	22	
*Wortham, H., Esq., Royston, Herts.	C 1842 imp -98	13	
Wright, Weston, Esq., Dalby Grange, Alford, Lincolnshire	1891-98	51	
Young, W. B., Esq., The Grove, St. Leonards-on-Sea	1877-98 C	8	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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 (*née* 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,

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 fêtes 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 Société Météorologique 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 Société Royale de Médecine 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 Société Météorologique de France elected him member of Council.

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

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

In 1894 the Société Météorologique 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

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

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.

OBITUARY.

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 S. 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*.

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.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.		
		DATE.	Perfect Yearly Records.
Baldry, J. D., Esq., { Loch Vraon, Loch Broom Loch Drome, " " Braeinore House, " " Lodge, " "	C 1868-87	76	
Blackmore, R. D., Esq., Gomer House, Teddington	C 1866 imp -99	33	
Bowles, Miss, St. Helen's, Northam, Bideford	C 1890-99	9	
Cadell, J. J., Esq., { Carron Park, Larbert	C 1892 imp -99 T ...	12	
Cadell, J. J., Esq., { Craigdouffie, Banton by Bonny- bridge	C 1894 imp -99 T ...		
Carr, Rev. E. Donald, Woolstaston, Church Stret- ton, Salop	C 1865-99 C	35	
Casartelli, J., Esq., { Market Street, Manchester... Ardwick, Manchester	C 1830-53 imp T ... C 1853imp-89imp T	68	
Church, H. P., Esq., The Lawns, Southgate.....	C 1889 imp -99 C ..		
Chute, Mr. A., { Castlecote, Donamon, Roscommon Tivole Terr., Kingstown, Dublin	1871-99 imp T .. 1889-93 T	28	
Clark, Mr. W., Loch Leven Sluice, Kinross	C 1898 T	6	
Copcutt, J., Esq., C.E., Aylesbury	1880-99 C		
Courtauld, S., Esq., Bocking Place, Braintree	C 1838-99	20	
Coventry, F., Esq., { Ketton Hall, Stamford	C 1874 imp -99	50	
Dixon, T. G., Esq., { The Holmes, Ketton, Stamford Duddington, Stamford	C 1878 imp -98	25	
Cox, G. Addison, Esq., Camperdown Works, Dundee	C 1892imp-95imp T	24	
Dixon, T. G., Esq., { Nant, Prestatyn, Flint	C 1895imp-99imp T	14	
Elder, Mr. D., { Wilton Hill, Hawick	1885-99		
Farrer, The Rt. Hon. Lord, Abinger Hall, Dorking..	1874-89 imp T ...		
Field, Col., Poughill, Trelana, Bude	C 1889imp-98imp T	22	
Field, Rogers, Esq. C.E. { Squire's Mount, Hampstead The Pryors, Hampstead	C 1898 imp T		
Firth, J., Esq., { New Barnsley, Belfast	C 1865-84 imp T ...		
Gillespie, D., Esq., Mountquhanie Ho., Kilmany...	C 1884 imp -86 T ...	32	
Firth, J., Esq., { Springfield, Belfast	C 1887-96 imp T ..		
Gillespie, D., Esq., Mountquhanie Ho., Kilmany...	1897-98 C		
Firth, J., Esq., { Sawyer's Hall, Brentwood	1879-99 C	21	
Gillespie, D., Esq., Mountquhanie Ho., Kilmany...	1889-98 T	10	
Field, Rogers, Esq. C.E. { Squire's Mount, Hampstead The Pryors, Hampstead	C 1862-99 C	95	
Firth, J., Esq., { Springfield, Belfast	1875-99		
Gillespie, D., Esq., Mountquhanie Ho., Kilmany...	C 1868-99		
Firth, J., Esq., { Sawyer's Hall, Brentwood	C 1875-92 imp T ...	24	
Gillespie, D., Esq., Mountquhanie Ho., Kilmany...	C 1892 imp -99 C ...		
Firth, J., Esq., { New Barnsley, Belfast	1872-98	27	

Observers Deceased to July, 1900—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Gillespie, Genl., Brynderwen, Usk	C 1897 imp -99	2
Hildyard, H. J., Esq., Cherry Burton House, Hull	1895-99	5
Howson, J., Esq., Crow Nest, Austwick, Settle ...	C 1894 imp -99 imp T	4
Ilbert, A., Esq., Westbrook, Upwey, Dorset.....	1898	1
Ismay, T. H., Esq., Dawpool, Wirral, Cheshire ..	1887-99	13
Kennedy, J., Esq., Coleraine.....	C 1884-98	15
Kerr, Rev. Cathel, Talmine, Melness, Sutherland...	C 1897 imp -99 imp T	1
Lowe, E. J., Esq., F.R.S. { Highfield Ho., Nottinghm. Shirenewton Hall, Chep- stow	1860-81 T	30
Lowry, Mr. J., Prospect Villa, Moville	1884-99	22
McLandsborough, J., Esq., { Town Hall, Bradford... The Exchange, Bradford	1877-82 T	24
Maxton, Mr. J., Homme House, Much Marcle ..	1872-89 C	
Michel, Capt., Forcett Park, Darlington.....	1887-98	12
Middleton, R., Esq., Fitz Manor, Shrewsbury	1896-99	4
Milbank, Sir Penistone, Bart., Eartham House, Chichester	C 1866-80 T	15
Parnell, J., Esq., Hadham House, Upper Clapton..	1871-98	28
Percy, Rev. P. H., Feniton, Farnborough, Kent ...	C 1864-93 T	30
Piercy, J. Beaumont, Esq. { Leigh, Uttoxeter	C 1895 imp -98 C	3
Piercy, J. Beaumont, Esq. { Fernleigh, Market Drayt'n The Meir, Longton	C 1880 imp -85 T...)	
Piercy, J. Beaumont, Esq. { Madeley, Newcastle, Staff. Wall Grange, Leek	C 1895 -98 T	49
Reynolds, R., Esq., Woodhouse Cliff, Leeds	1882 -97 C	
Robinson, Wilson, Esq., Whinfell Hall, Cockermouth	1887 -94 C	
*Rock, J., Esq., Fairlight, Hastings	1882 -97 C	
Rogers, J. T., Esq., River Hill, Sevenoaks	1878 -98 C	21
Rutter, J. F., Esq., Dews House, Mere, Wilts....	C 1856 -99	34
Rylands, T. G., Esq., Highfields, Thelwall, Warrington	1857 imp -63 T.....	6
Severne, J. E., Esq., Wallop, Shrewsbury.....	C 1861 -99	38
Shapley, C., Esq., Cary Green, Torquay.....	1882 -99	18
Simson, J., Esq., { Cloona Castle, Hollymount, Mayo Kilrush, Hollymount, Mayo	1872-79	25
Stileman, Miss, The Friars, Winchelsea	C 1880 imp -97.....	
Sturges, Rev. H. C., { Filkins, Lechlade	C 1874-98 C	23
Symons, G. J., F.R.S., Camden Sq., London, N.W.	1885 imp -90 imp T}	
Turner, E., Esq., Southam, Warwick	1891-99	13
Watkins, H., Esq., Easton, Stamford	C 1857 imp -99 C	42
Wilkin, Rev. A., { Bootle Rectory, Cumberland ... Summerhill, Tenterden.....	1871-98 T	26
	1885-94 C	10
	C 1863-78 imp T ...)	36
	C 1878 imp -99 C ...)	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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	„ 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 observers 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.

Observers Deceased to July, 1901.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		C	Perfect Yearly Records.
Ames, H. St. V., Esq., Cote Ho., Westbury-upon-Trym	C 1872-78 T 1880-1900	28	
Barbour, J., Esq., Glendarroch, Dalry	C 1895-99 C	5	
Beaumont, Rev. Canon, Cole Orton, Ashby-de-la-Zouch	C 1891-1900	10	
Bell, Major, Thor, Birchington, Kent	C 1892-1900 T	9	
Bethune, Rev. A., Seaham Vicarage	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, Somerset	C 1864-98 T	35	
Brooks, Sir W. C., Bart., Forest of Glen Tana	1873-1900	26	
Brown, Rev. D. Dixon, Unthank Hall, Haltwhistle	C 1869 imp -1900 ..	31	
Butler, I., Esq., Laurel Bank, King's Langley, Herts	C 1895-99 T	5	
Cambridge, Colonel, Bloxworth House, Bere Regis	1876-99 T	23	
Clarke, Colonel, Thornbrough, Ryde	C 1882-99 T	18	
Cropper, J., Esq., Ellergreen, Kendal	1887-1900	14	
Crossmann, General Sir W., Cheswick, Ancroft	C 1892-99	8	
Crowley, P., Esq., Waddon House, Croydon	C 1871-1900 T	30	
Darsie, J. R., Esq., Grove Park, Liverpool	C 1864-1900 T	37	
Digan, J., Esq., { Ballina, Killaloe.....	C 1877-85 imp T ..	21	
{ Ross, O'Briensbridge.....	C 1885 imp -98 T ..	11	
Eyre, F. H. D., Esq., Mudeford, Christchurch	C 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 T	11	
{ Seething Wells, Surbiton.....	1886-1900 C	25	
Hack, R., Esq., C.E., { West Molesey.....	C 1894 imp -1900 C ..	25	
{ Putney Heath.....	1897-1900 C	1	
Hankinson, R.C., Esq., { Shirley Warren, Southmptn.	C 1862 imp -71 T ..	38	
{ Red Lodge, "	C 1872-1900	27	
Hare, S., Esq., Cleveland Parade, Darlington	C 1873 imp -1900 ..	19	
Heberden, Rev. J., Hinton Ampner, Alresford	1881-99	19	
Hedges, J. Kirby, Esq., The Castle, Wallingford	C 1863 imp -1900 ..	36	
Henderson, W. H., Esq., Nether Parkley, Linlithgow	1893-1900	8	
Hill, J. Hansford, Esq., Waldegrave House,			
Chewton Mendip	1896-1900	5	
Hoare, R., Esq., Marden Hill, Tewin, Hertford	1889-1900	12	
Laurie, J., Esq., Cadland, Southampton	1875-1900	26	
Maclean, General, Rowlands, Wimborne	C 1893 imp -99 T	6	
Montgomery, Colonel, Convoy House, Raphoe	1872-1900 T	29	
Morres, Rev. A. P., St. Nicholas, Salisbury	C 1895 -99 T	5	
Murray-Aynsley, Admiral, Hall Court, Botley	C 1884 imp -1900 ..	16	
Musgrave, Rev. Canon, Hascombe Rectory	1893-1900	8	
Nicol, Dr., Warwick House, Llandudno.....	C 1859 -97 C	39	
{ Spring Grove, Isleworth	C 1878 imp -87 imp T ..	12	
Ormerod, Miss E. A., LL.D., { Torrington House, St.	C 1887 imp -91 T ..	17	
Albans	C 1884-1900	16	
Peek, Sir C. E., Bart., Rousdon, Lyme Regis	1884-99 T	16	
Peterkin, J. Grant, Esq., Grange Hall, Forres	1893-1900 C	16	
{ Grand Sluice, Boston			
Phillips, C. G. W., Esq., C.E., { Lade Bank Engine,	1893-1900 C	16	
Leake	1893-1900 C	1	

Observers Deceased to July, 1901—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		Perfect Yearly Records.	
Pike, L. W., Esq., Furzebrook, Corfe Castle.....	1878-99 T	22	
Prichard, J. E., Esq., M.B., H.M. Prison, Horfield	C 1896-99 T	4	
Pullar, F. P., Esq., Bridge of Allan...	1900	1	
Pym, G. E., Esq., Doods, Reigate	1882-1900	19	
Ridsdale, Rev. T. M., Pyrford Vicarage.....	1894-98 T	5	
Roberts, T. D., Esq., C.E., Sudbrook, Portskewett	1890-97 C	8	
Sconce, A., Esq., Holmwood, Dorking	C 1871 imp -96 T ...	25	
Smith, B. Woold, Esq., Branch Hill Lodge, Hampstead	1876-99 T	22	
	{ Beverley Road, Hull.....		
Smith, Harold, Esq., { Ingleside, Kenley, Surrey..	C 1888-96 imp T ...	23	
	{ Ingleside, Colwyn Bay, North Wales		
Stirling, Colonel J. S., Gargunnock, Stirling.....	C 1896 imp -99 T ...		
Stonham, T., Esq., Kemsing, Sevenoaks	C 1892-99 C	8	
Taylor, T., Esq., Bocking, Braintree	C 1891 imp -1900 ...	9	
Tyacke, Dr., Westgate, Chichester	1899 C	1	
Wadge, Mr. H., Hingston Down, Callington.....	C 1854-1900	47	
Wakelin, J., Esq., Freebournes, Witham	1886-1899 C	14	
Wheeler, Rev. Canon { Whitley Vicarage, N. Shields	1894-1900	7	
	{ Hazelbury Bryan Rectory ...		
	C 1864-1877	26	
Williams, Rev. J., Widecombe Vic., Ashburton ...	{ 1888-1900 imp T ...		
	C 1869 imp -91 imp T	21	

NOTE.—C indicates commencement of record and also its continuation, T its termination.

O B I T U A R Y .

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.....	„ Mells	37 „
Col. Forde.....	„ Seaforde	34 „
Mr. Peake.....	„ Hull	34 „
Rev. Dr. Davidson	„ Logie Coldstone ...	31 „
Mr. Tyrer	„ Cheltenham.....	31 „
The Hon. G. Dalrymple...	„ St. Boswells	30 „
Sir J. H. Gilbert.....	„ Rothamsted	30 „
Dr. Jeans	„ Grantham	30 „
Canon Pinder	„ 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-

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.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		C	Precise Yearly Records.
Alexander, Rev. G. E., { Stoke Bliss, Tenbury	1873 imp -1894 T }		
	Belvedere Terrace, Tunbridge Wells.....	25	
Ball, Rev. F. J., { East Mersea Rectory.....	1897-1900		
	Ardleigh	12	
Bannerman, Sir G., Bart., East Hill, Brackley	1898-1900	11	
Bates, Rev. J. Chadwick, Castleton Moor, Rochdale	1863 imp -66 T 1880-5	9	
Biddell, W., Esq., Lavenham Hall, Suffolk	1878 imp 1880-1900 C	21	
Conroy, Mr. J., { Sch. Military Engineering, Chatham	1869-1874 T		
	Mt. Mellick, Tinnahinch, Queen's Co	28	
	Abercarn Road, Londonderry		
	Clooney Terrace, Londonderry ...		
Conway, Rev. R., { Alconbury Vicarage	1876 T.....		
	Catworth	17	
Crimp, W. Santo, Esq., Raynes Park, Wimbledon..	1887-89	3	
Crooke, Rev. C. H., Sheepstor	C imp 1892 -1900 ...	8	
Dalrymple, Hon. G. G., St. Boswell's, Elliston, N.B.	1872-1901	30	
Davidson, Rev. Dr., Logie Coldstone Manse	C 1870 imp -1901 ...	31	
Dewar, Rev. J., Arrochar	C 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	
Garret, Rev. H., { Highfield, Southampton	1878-1891 T	24	
	North Thoresby, Louth		
Gilbert, Sir J. H., F.R.S., Rothamsted, St. Albans	C 1892-1901	30	
Harrowby, Earl of, High Ashursh, Dorking	1872-1901 C	16	
	Tramore, Waterford		
Harvey, T. N., Esq., { Newtown, Waterford	1873-78 imp -		
	1879-83 imp ...		
	imp T		
	C 1885-88, 1890-91	18	
	C 1891 imp-1900 ...		
Harwood, Rev. J. T., Beverley Road, Driffield	1881-1901	21	
Hilder, W., Esq., Little Westwell, Tenterden	1890-1901	12	

Observers Deceased to July, 1902—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Hinxman, H., Esq., { Lower Woodford, Salisbury... Wood Green, Fordingbridge..	C 1862-63, 65-74 imp T } 1875-1900	37
Horner, Mrs., Mells Rectory, Frome	C 1865-1901	37
Hurtley, H., Esq., Old Malton	C 1859-1901	43
Hutton, T. O., Esq., { Merlewood, Bickley .. Southlaund, Chislehurst ..	1880-1893 imp T } C imp 1893-1900 ...	20
Impey, W., Esq., Broomfield, Chelmsford	1888-1900	13
Irvine, Mr. C. S., Lawnswood, Adel	C 1887-93 imp 1895-1900	12
Jeans, J. W., Esq., Grantham	C 1851-1880 T	30
Jones, Rev. John, Abergwesyn Vicarage	1881-1901	21
King, Rev. F., South Molton.....	1894-1900	7
Lewis, Rev. Preb., Llanrhian Vic.	C 1893 imp -90.....	7
Lightfoot, Rev. G. H., Pickering Rectory	1886-1901	16
Lloyd-Philipps, Capt. F., Penty Park, Pembroke..	1885-1900 imp	12
Mansel Pleydell, J.C., Esq. { Longthorns, Blandford Whatcombe, Blandford	1867-77 imp ... } 1871-72, 1874-1901 }	40
MacGillp, Mr. D., Gruinart School Ho., Islay	C 1872-1900	24
McCausland, C. T., Esq., Drenagh, Limavady	imp 1872-1900 C	28
Omannay, Col., Bloxham, Oxford	C 1888-1894 T	7
Peak, E., Esq., Pearson Park, Hull.....	C 1867-1900 C	34
Pinder, Rev. Canon, Greys, Henley-on-Thames ..	C imp 1871-1901	30
Pix, Rev. H., { Minterne Rectory, Cerne Abbas.. Swanage	C 1877-87 imp T ... } C 1887 imp -1901 }	24
Relton, Rev. A., Brinsop Vicarage	C imp 1894-1901	7
Robinson, J., Esq., Westwood Hall, Leek	1874	1
Scott, J. W., Esq., { Muswell Hill .. Great Stanmore	C 1872-82 imp T ... } C imp 1882-85 imp T }	28
Sing, Rev. Canon, { Greenhill, Allerton, Liverpool... Cromford, Matlock	C imp 1885-1901 C .. C 1873-79 T	8
Spence, J. F., Esq., Chirton Cottage, N. Shields ...	C 1900 T	
Strachey, Sir E., Bart., Sutton Court, Pensford ..	1895-1900 T	6
Sturt, Col., Llanvihangel Court.....	C 1887 imp -1901 C ..	14
Thornton, R., Esq., Harrow	C imp 1889-1901 C ..	12
Tibbitts, J. B. Maunsell, Esq., { Barton Seagrave, Kettering.....	1872-75, 1879 imp	4
Tighe, Lady Louisa, Inistioge, Woodstock.....	1878-1899	22
Tyler, R., Esq., { Grove House, Mansfield .. Southam Villa, Cheltenham.....	1870-76	
Warren, J., Esq., Newton Heath	1878-1901	31
Wheatley, T. E., Esq., West Bank, Ledbury	C imp 1878-1901 imp	22
Whitehead, R., Esq., { Mt. Pleasant, Framlingham Springfield Road, Gorleston	1873-1884 T	12
Williams, Rev. Preb., Llandefaelog-fach, Brecon ...	1880-98 imp T ... }	20
Wilson, C. M., Esq., Waldershaigh, Bolsterstone...	1899-1900	
Wilson, J., Esq., C.E. Shaw's Water Works, Greenock	1879-1901	23
Witchell, P., Esq., The Acre, Stroud	C imp 1881-1901	20
Younger, H. J., Esq., Benmore, Lock Eck	1868-93 C	26
	C 1892-1901	10
	1892-1901	10

NOTE.—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.....	Ryde.
Mr. W. Horton Ellis	Exeter.
Mr. J. R. Mann	Osborne.
Mr. J. Silver	White Waltham.
Mr. W. Vicary	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 Norwich	62 years.
Mr. J. Glaisher	, Croydon.....	59 ,,
Rev. A. Christopherson	, Colton, Ulverston	56 ,,
Mr. E. J. Collingwood.	, Lilburn Tower	47 ,,
Mr. J. B. Hamilton ...	, Leny, Callander	40 ,,
Mr. R. A. Iles.....	, Fairford.....	40 ,,
Ald. J. F. Roberts	, Plymouth Grove, Manchester	34, ,
Rev. G. L. Woolcombe	, Hemerdon, Plympton.....	34 ,,
Rev. S. P. Warren.....	, Laragh, Balbriggan.....	32 ,,
Mr. D. J. Kay.....	, Drum Park, Irongray.....	31 ,,
Capt. J. Paul	, Cambus Wallace	31 ,,

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.

Observers Deceased to July, 1903.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records
Balfour, Mrs., Balfour Castle, Shapinsay	1888-1902	15
Bone, Mr. T., { Portland Road, Newcastle-on-Tyne.	1880-85, 1887-88, } 1890-95 T	20
Christopherson, Rev. A., { Claremont Road, Newcastle-on-Tyne	C 1896-1902 imp C } 1882 imp-93 imp T }	13
Brunskill, Rev. J., { Threlkeld Rectory, Keswick.	C 1894-1902	18
Buchanan, Sir J., Craigend Castle, Strathblane ..	C 1888 imp-1902 imp T	13
Clark, Mrs. Bayfield, Wingfield, Trowbridge	C 1849-51 T	4
Clarke, Col. M. A., Achareidh, Nairn.....	1890-1901 C	12
Collingwood, E. J., Lilburn Tower, Ilderton.....	1856-1902	47
Cowan, Inspr.-Gen., R. N., Leigh Lodge, Worcester.	C imp 1894-1902	9
Dalrymple, Hon Mrs. G.G., Elliston, St. Boswell's, NB	1901-1902	2
Dix, F., { Dickleborough, Diss	C 1839-1874 imp T }	62
{ Essex Street, Norwich	C 1874 imp-1901 T }	

Observers Deceased to July, 1903—(continued).

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Perfect Yearly Records.
Douglas, W., Inveraray, N.B.	1894 T	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	C 1874 imp-1898 imp T	23
Glaisher, J., F.R.S., { Royal Observatory, Greenwich	1841-1873	
Blackheath	1876-1893 imp T	59
Heathfield Road, Croydon ...	C 1894-1902	
Green, T. A., { Pavement End, Grasmere	1884-1902	19
Fairfield	1890-1902 imp T ..	11
Hamilton, J. B., Leny, Callander, N.B.	1852-55 imp, 1860 } imp-1902	40
Hamond, W., Pensthorpe, Fakenham.....	1885 imp-1902 ...	17
Hardwick, W. A., Giggs Hill, Thames Ditton	1893-95 imp T, C 1896 }	7
Harrison, E., Oaklands, Watford.....	1870-94, 1896 & 1897 T	26
Haviland, A., { Bridgwater	1860 T.....	
Ridgemount, Frimley Green	1899-1900 imp ...	2
Iles, R. A., { Kemsford, Fairford.....	C 1863-1889	
Horcott, Fairford	C 1890-1902	40
Kay, Duncan James, Drum Park, Irongray	1872-1902	31
Lane, W., Hawkshead	C 1873-83 T	11
Mills, W. G., Torfrey, Par Station	1902	1
Nihill, Miss M. C., Bennington.....	1894, 1896-1902 T	8
*Osler, A. Follett, F.R.S., South Bank, Edgbaston		
Paul, Capt. John, Cambus Wallace, Biggar	1872-1902	31
Pease, Sir J. W., Bt., M.P., Hutton Hall, Guisborough	C 1874-1901 O	28
Pettigrew, A., Cardiff Castle.....	1876-1902	27
Prior, Dr. R. C. A., Halse House, near Taunton ..	1870-76 all imp 1881 imp	
Ramsden, J. E., Bankfield, Golcar, Huddersfield ..	1869-76, 1882-1901	28
Rathbone, S. G., Bassenthwaite	1898-1902	5
Roberts, Ald. J. F., Plymouth Grove, Manchester	C 1867-1902 imp T...	34
Shiers, B., Amblethorpe, Ilkley	C 1900 imp-1901 ..	1
Taylor, Frank, Ash Lawn, Heaton, Bolton	1890-1902	13
Warren, Rev. S. P., Laragh, Balbriggan	1866 imp-1901 T...	32
Watkins, J., Llandovery	C 1878 imp-1902 T	24
Watson, J. D., { Braystones, Ravenglass	1864-86 imp	
Irtside, Holm Rook	1887-91 T	27
Williams, Rev. E. T., Caldicot Hall, Portskewett.	1891-1902	11
Wood, Rev. J. Cooper, The Clive Vicarage, Wem ..	C 1887 imp-1902 ...	15
Woolcombe, Rev. G. L., { St. Sennen, Penzance ..	C 1865-1870 T	
St. Mewan, St. Austell..	1872-88 T	
Hemerdon, Plympton ...	1890-1901	34

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

NOTE.—C indicates commencement of record and also its continuation, T its termination.

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	45 "
Mr. W. Clinton Baker ...	Bayfordbury, Hertford ...	44 "
Rev. H. D. Blanchard ...	Middleton-on-the-Wolds	38 "
Dr. Franklen G. Evans ...	Llwynarthan, Mon.	38 "
Rev. Canon Burn Murdoch	Riverhead, Sevenoaks ...	38 "
Mr. T. W. Wallis	Louth	38 "
Mr. J. Watkins	Southport	37 "
Mr. H. P. Senhouse	Maryport	36 "
Mr. W. H. Tyndall	Red Hill	36 "
Mr. J. Gray	South Ronaldshay	35 "
Rev. J. Wardale	Cambridge	35 "
Dr. N. C. Hatherley	South Molton	33 "
Mr. W. Sturdy	Thornton	33 "
Mr. E. E. Dymond	Aspley Guise	30 "

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 nonagenarians 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

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	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. CLINTON 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. BERRIDGE 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. BIGGS, the head master of the Royal School in Enniskillen, 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.

ADMIRAL SIR CECIL DOMVILLE, 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. DYMOND 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. GALE, 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. HAWELL, 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. HUGHES, 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. MARSHALL, 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 MURDOCH 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

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 ROBERTS, F.R.S., was distinguished as a highly successful photographer of celestial objects, but although the nebulæ 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.

Observers Deceased to July, 1904.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Complete Yearly Records.
Baker, W. Clinton, Bayfordbury, Hertford	C 1859-1902 c	44
Barnes, R. Hawksworth, Heatherlands, Parkstone.	1882 imp-1903.....	21
Barrow, B., Clifton House, Ryde, Isle of Wight ...	C 1853 imp-55 imp, 1857-59 imp & 1860 T	4
Bell, J., Park Road, Barry, South Wales	C 1895-1902	8
Bentley, E. J., { Cazenove Rd., Stoke Newington, N. Thyra Villas, Ramsgate	C 1896 imp-98 imp, 1899-1900 imp T	5
Berridge, W. { Victoria Street, Loughborough	C 1900 imp-1903 T ...	
Biggs, Dr. R., Portora, Enniskillen, Co. Fermanagh	C 1878 imp-91 imp T	
Blanchard, Rev. H. D., Middleton on the Wolds, Yorks, E. R.	C 1891 imp-1902 T.. 1902 imp-1903 c ...	23
*Boddington, Rev. T. F., Salhouse, Norfolk.....	1864-92 imp, 1893-94 imp 1895-1903	1
Carnegie, W. C., Sarsden, Chipping Norton.....	1874-75 imp, 1880-81 imp	38
Charlton, J., { Allenheads, Northumberland..... Denton House, Brampton	1882 imp-1902 imp, 1903 1892-1902 c	22
Davidson, J., Holkham, Norfolk	1878-1885 T	11
Davies, Maj.-Gen. J. S., Lowood, Maidenhead.....	1886-1902 c	25
Dix, J. H., Hampton Lodge, Durdham Down, Bristol	C 1848 imp-86 imp 1887-96, 1898-99... 1879 imp-1902 T.. 1892-99 imp, 1901 imp-03	49
Domville, Admiral Sir W. Cecil, Bart., Stede Hill, Harriestham	1894-96 T	23
Dymond, E. E., { Highworth, Wilts..... Aspley Guise, Beds.....	C 1865 T	30
Elliot, Rev. Preb. W. { Cardington, Church Stretton Brinsop, Herefordshire.....	C 1871 imp-1900 T... 1869 imp, 1872 imp-82 T	
Elliott, Rev. Preb. W. { Bullinghope, Longhills, Church Stretton ... Caradoc Lodge, ,,,	C 1883-93 T	
Evans, Franklen G. { Pentyrch, Cardiff	C 1894-98 imp T	29
Gale, J. M., Glasgow (<i>Numerous gauges</i>)	C 1899-1902 imp. T... 1903	
Gatty, Dr. C. H., Felbridge Place, East Grinstead	C 1866-84 T	
Gray, J., Roeberry, South Ronaldshay	C 1885-1903	38
Hancock, W. E., Croome Hall, Ross	C 1859-1903 c	45
Harrison, Gen., West Hay, Wrington	C 1895 imp-1900 T ...	5
Hastings, H., The Plann, Kingarth, Bute	1868-1902 T	35
Hatherley, Dr. N. C., South Molton	1885-1902	18
Hawell, Rev. J., Ingleby Greenhow, Yorks, N.R.	1888-1903 c	16
Hopwood, J. C., Surrey Villa, Colchester	C 1889 imp-1891 imp,	
Hughes, Mrs., Seathwaite.....	1892-93 imp, 1894-97 imp 1898, 1900-1902 T...	9
	1870-1902 T	33
	C 1883 imp-1903 c ...	20
	1885-1900, 1902 ...	17
	1888-1902 c	15

* Returns usually obtained through *Norfolk Chronicle*.NOTE.—C indicates commencement of record; c its continuation, T its termination.
imp. means that the record for that year was imperfect.

OBSERVERS' DECEASED.

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Observers Deceased to July, 1904—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		Complete Yearly Records	
Joy, Rev. Canon, { Low Nook, Ambleside	C 1869 imp -1872 T...		
Long Lane Vicarage, Derby.....	1873-74 T		
Borage House, Ripon	C 1876-79 imp 1880,		
	1883-84 imp T ...	23	
Joy, Rev. Canon, { Birstwith, Ripley, Yorks	1884 imp.....		
Benenden, Kent	1888-1895 T		
The Vicarage, Maidstone.....	C 1899-1903 T		
Kelly, Dr. C., { Broadwater Road, Worthing	1881-86 imp T		
Ellesmere, Worthing..	1893-1903	16	
Lockwood, E., Kingham, Chipping Norton	1882-84 imp, 1885-		
	1902 T	20	
McAndrew, J. C., Grafham Grange, Bramley	C 1896 imp -1903...		
	1884-86 T	7	
Marshall, S. A., { Weetwood Hall, Leeds.....	C 1890-1903 c	17	
Skelwith Fold, Ambleside	1900 & 1901 c	2	
Maude, L. E., Broad Ford House, Horsmonden ..	1865 imp -1903 T ..		
Murdoch, Rev. { Riverhead Vicarage, Sevenoaks	1873imp, 1875 imp		
Canon Burn { Inverbraan, Dunkeld	1876 imp, -1892 imp,	38	
	1893-1903 c		
Newbery, F., Milton Ernest, Bedford.....	1878-1902 T	25	
Noble, Capt. W., Forest Lodge, Maresfield	C 1856-1903	48	
Overton, Rev. Canon, Gumley Rectory, Market			
Harborough	1899-1902 T	4	
Poland, Rev. F. W., Northacre, Northaw	1899-1903 c	5	
Purchas, Rev. W. H., Alstonfield Vicarage, Staffs.	1872-84imp, 1885-86imp		
	1887-94 imp, 1895-1902c	28	
Puxley, Rev. E. L., { Kessingland, Suffolk.....	C 1890 imp -1894imp T		
Steep Vicarage, Petersfield...	C 1894 imp -1900 T	9	
Roberts, Dr. Isaac, F.R.S., Maghull	C 1881-89 T	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		
Sturdy, W., { Thornton, Stony Stratford	C 1868 imp -1901 imp T		
Earlwood, Surrey	1902	33	
Turner, E. R., Clare Lodge, Ipswich	C 1890-1903	14	
Tyndall, W. H., Oxford Road, Red Hill	1866 imp, 1867 imp		
	-1903 T	36	
Vicary, W., Albert Terrace, Exeter	1860 imp -1864 T...	4	
Wallis, T. W., Louth, Lincolnshire.....	1865-1902	38	
Wardale, Rev. { Orcheston St. Mary, Wilts	C 1865 imp. -76 imp T		
John, { Datchworth Rectory, Stevenage	C 1877-97 c	35	
	C 1899-1903imp T ...		
Watkins, J. { Vale Bank, Bolton	C 1863 imp -71 imp...		
Hurst Bank, Heaton, Bolton	1871 imp -96 imp T	37	
Park Crescent, Southport	C 1896 imp -1902 T...		
Wilmot, T. J., Iveragh Lodge, Waterville, Co. Kerry	C 1893-1903 T	11	
Wright, Miss Judith, Yeldersley Hall, Derbyshire	C 1901 imp -1902 c ...	1	
Wright, T. H., Marlow Mills, Bucks	1894-1902 c	9	

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 a record. 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	39 ,,
Rev. F. W. Stow	Aysgarth	39 ,,
*Mr. T. Fenwick	Leeds	38 ,,
*Miss E. A. Dymond	Exeter.....	37 ,,
*Capt. Griffith-Boscawen	Rossett	37 ,,
*Mr. J. Gulson	Coventry	37 ,,
*Mr. R. Bushell	Neston	35 ,,
*Rev. T. H. Marsh	Cawston	34 ,,
*Mr. J. H. Arkwright.....	Hope-under-Dinmore	31 ,,
*Miss M. H. Rickman.....	Lewes	31 ,,

* Continuous records in one place.

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.....	91	years.
Mr. F. Padwick	89	"
Sir Lowthian Bell	88	"
Mr. S. W. Silver	86	"
Rev. M. A. Smelt	84	"
Mr. C. W. Curtis	81	"
Rev. R. P. Davies	81	"
Mr. T. Fenwick	81	"
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 HUNTERFORD 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.

SIR LOWTHIAN 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 DYMOND, 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.

THE REV. G. H. BILLINGTON, 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. WILLIAM HORTON ELLIS, 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

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.' "

LIEUT.-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.

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.

THE REV. MAURICE ALLEN SMELT, F.R.Met.Soc., commenced to observe rainfall in 1855 at Patrixbourne 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 Hawske 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.

LORD WYNFORD, 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.

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		C	Complete Yearly Records
Arkwright, J. H., Hampton Court, Hope-under-Dinmore	C 1873 imp-1904	31	
Baines, L. T., Bawtry Hall, Bawtry	1882-1903 T	22	
Barrington, Dr. E. E. { Enniskerry	1876 imp -87 imp		
	1888-92, 1898 T..	20	
Bateman, Rev. S., The Rectory, Yarborough	C 1900-03 T		
*Bell, Sir Lowthian, F.R.S., Rounton Grange, Northallerton	C 1896 imp -1903 T	7	
Billington, Rev. G. H., Chalbury, Wimborne	1877-81 imp, 1882-1904	27	
Blunt, Col. A., Dorchester, Oxon	1865-1903 T	39	
Branfill, Maj-Gen. B. R., Burghstead Lodge, Billericay	1883-84 imp, 1885-1903 c	20	
Bushell, R. { Hinderton, Neston	C 1888-1903 T	16	
	1869-1903 c		
	1881-1886 imp T	35	
Chinnery, W. M., Hatchford, Cobham	C 1900-1904	5	
+Curtis, C. W., Kearsney Abbey	1893-1904	12	
	C 1864-1865 T		
Davies, Rev. R. P. { St. Mary's, Hatfield	C 1866-1868T	40	
	Hatherop Rectory, Fairford		
Dymond, Miss E. A., Manston Terrace, Exeter	C 1870-1904 c		
Ellis, W. H., High Street, Exeter	1867 imp -1904	37	
Elwick, Q. M. Sergeant, Pirbright Camp	1855, 1856, 1860-78	21	
Evans, A. J. L., C.E., Pumping Station, Luton	1896-1904 c	9	
Evans, Henry { Bay of Small Isles, Jura, N.B.	1895-1904 c	10	
	Feoline, Jura, N.B.		
Farrer, O. C., Binねgar Hall, Wareham	1877-1900 imp T	24	
Fenwick, T. { Allerton Hill, Leeds	1902...		
	Hart Reservoir, Durham		
	C 1887-1903 c	17	
	1866 imp -1904 c		
	1870-1904 c	38	
	1870-1904 c		

* Returns latterly obtained through Royal Meteorological Society.

+ Earlier years obtained through Meteorological Council.

Observers Deceased to July, 1905—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Complete Yearly Record.
Green, J., Radcliffe-on-Trent, Notts	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., { Priory Row, Coventry	1867-1903 T	37	
Gulson, J., { Stoke, Coventry.....	1879-80, 1890-98 imp 1899-1902 T.	37	
Holme, Rev. E. { Tebay, Westmorland.....	1878-1882 T	24	
Holme, Rev. E. { Orton Vicarage, Westmorland...	C 1883-1901 T		
Holt, Major J. { North Tamerton, Cornwall	1882-1888 T	21	
Holt, Major J. { The Grange, Farnborough	1889-1902		
Holt, Mrs., The Grange, Farnborough.....	1903 T	1	
Hoskins, Miss, Higham, Cockermouth	1891-1904	14	
Jackson, W. F., Litton, Tideswell	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	1884-86 imp 1887- 1904	20	
Lindley, E., Eastwood Colliery, Notts	1886-1904	19	
Manly, T., Derry Castle, Killaloe.....	C 1877 imp, 1878 imp 1879-1903T	25	
Marsh, Rev. T. H., Cawston Rectory, Norfolk.....	C 1871-1904	34	
Mold, W. H., Betherston, Ashford	1876-1903 T	28	
Padwick, F., West Thorney, Sussex	C 1860-72, 1874-85...	25	
Parish, Rev. W. D., Selmeston Vicarage, Sussex ...	1896-1900 T	5	
Phillips, W. P. T., { The Grange, Woodbridge....	1880-1885 imp T ...		
Phillips, W. P. T., { Melton, Woodbridge.....	C 1885 imp-96 T ...	16	
Poole, Rev. R. B., Ilton Vicarage, Ilminster.....	1879-81 imp, 1882- 1904 imp T	24	
Preston, Rev. T. A., { The College, Marlborough ...	1864 imp-1874 ...		
Preston, Rev. T. A., { The Green, Marlborough	1875-1885 T	39	
Preston, Rev. T. A., { Thurcaston Rectory, Leicester	C 1887-1904 T		
Putt, J. B., Fleckney, nr. Market Harborough.....	C 1863-79, 1881-86, 1888-1903	39	
Pye, W., Madeley, Staffs	1895-1903 T	9	
Reid, P., The Gardens, Lucan	C 1891 imp-1903 ...	12	
Rickman, Miss M. H., Southmalling, Lewes.....	C 1868-1898 T	31	
Rowntree, J. W., Silverdale, Scalby	C 1900 imp-1904 ...	4	
Scott, Mrs., Brotherton, Johnshaven, N.B.	1891-1900, 1902-3T	12	
Shuldhams, Col., Coolkelure, Dunmanway	C 1883 imp-1902impT	18	
Silver, S. W., Letcomb Regis, Wantage.....	1877-83, 1885-1904	27	
Smelt, Rev. M. A., { Patrixbourne, Canterbury ...	1855 imp-56 T.....		
Smelt, Rev. M. A., { Slindon, Arundel	1856 imp-63 T.....		
Smelt, Rev. M. A., { Heath Lodge, Petersfield...	1857 imp-1863 imp T		
Smelt, Rev. M. A., { Medstead, Alton	1863 imp-1864 T...	46	
Smelt, Rev. M. A., { Ockbrook, Derby	1865 imp T		
Smelt, Rev. M. A., { Heath Lodge, Cheltenham ...	1867-1903 T		
Stirling, J., Muiravonside House, Stirlingshire.....	1900-1904	5	

OBSERVERS' DECEASED.

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Observers Deceased to July, 1905—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
		Complete Yearly Record	
Stow, Rev. F. W.	Ripon	1864 imp -1869 T...	
	Garden Villa, Tunbridge Wells	1867-68 T	
	Hawsker, Whitby	1869 imp -1870 T...	
	North Lighthouse, Whitby	1870-77 T	
	Hackness, Scarborough	C 1871 T	
	Harpenden, Herts	1871 imp, 1872-73 imp T	39
	Hestholme, Wensleydale .. .	C 1873 imp -1876 ...	
	Nell Bank, Walden, Aysgarth	C 1875-1886 imp T ..	
	Kidstones, Bishopton	C 1875-1881 T	
	Walden Head, Aysgarth	1875 T	
Swarbreck, C. M., Sowerby, Thirsk	Aysgarth Vicarage.....	1876-1903 T	
	1880-1904 imp T ..	24	
Tarver, Rev. J. C., Filgrave Rectory, Olney.....	C 1875-78 imp. 1879-		
	80, 1882-1901 ...	25	
Troup, Dr. F., { Auchtermuchty	C 1870-1882 T		
	Edenside House, Strathmiglo	1898-1904 imp T ...	19
Vane, The Hon. & Rev. G. H. F., The Rectory, Wem, Salop	C 1900-1904		
	1896-1902	7	
Venables, Mrs. Whyte, Red Hills, Belturbet.....	1858 imp -71 T ...		
	C 1872 -1904	46	
Ward, Henry { Oaklands, Wolverhampton	C 1884 -1889 imp T...		
	C 1889 imp -1891 imp T ..		
	C 1892-1896 T	16	
	1899-1903 T		
Wynford, Lord, Charlton House, Donhead St. Mary	C 1884 imp -1903 c ..		
	1891-1904	19	
Yeatman, Miss, Cliefden, Eltham.....		14	

Note.—C indicates commencement of record ; c its continuation ; T its termination ; imp means that the record for that year was imperfect.

OBITUARY.

WITH 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.....	45 years.
Rev. B. S. Malden	Sheldwich	38 "
*Mr. G. B. Buckton	Weycombe, Haslemere	37 "
Mr. T. Arkell	Lechlade	36 "
*Mr. H. E. Gurney	Nutwood, Reigate	36 "
*Mr. E. Chapman	Oxford	35 "
*Rev. R. Elmhirst.....	Farnham, Knaresborough...	35 "
Sir Wilfrid Lawson, Bt.	Brayton.....	33 "
*Sir Pryse Pryse, Bart...	Gogerddan	33 "
*Mr. J. King	Withington	32 "
Mr. F. Slade	Beckford	32 "
*Mr. J. A. Hempson.....	Erwarton	30 "
*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.

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

Mr. T. Arkell	95 years.
Mr. G. B. Buckton.....	88 "
Rev. H. H. D'Ombrain	87 "
Mr. G. Jevons	87 "
Mr. H. E. Gurney	84 "
Mr. F. Slade	81 "
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. BUCKTON, 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. EDWARD 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

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'OMBRAIN, 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. ELMHIRST, 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

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.

LADY VICTORIA HOWARD, 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.

SIR WILFRID LAWSON, BART., 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 Rainfall*, 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. MACDOUGALL 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

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.

NAMES AND STATIONS.	PERIOD OF OBSERVATION.	
	DATE.	Complete Yearly Records
Ainsworth, D., The Floss, Cleator	1883-1905	23
Arkell, T. { Draycott Folliatt, Swindon	C 1866-1875	36
Arthur, J., Bude	C 1879 imp-1905 c ...	24
Barlow, Rev. Canon, Lawford Rectory, Manningtree	C 1880 imp-1904 T ...	1
Borrowman, John, Hambledon, Surrey	1890-1905	16
Buckton, G. B., F.R.S., Weycombe, Haslemere ...	C 1867 imp-1904 c ...	37
Burbidge-Hamby, C. H. { Hazlewood, Derby.....	C 1885 imp-1896 T ...	17
Burbidge-Hamby, C. H. { Weston, Bath.....	C 1897 imp-1903 T ...	

Observers Deceased to July, 1906—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Complete Yearly Record.
Buxton, H. E., Fritton, Great Yarmouth	C 1892 imp-1904 c	12	
Campbell-Davys, R. { Neuadd-fawr, Llandovery....	C 1898-1900	3	
Dolecoed Hotel, Llanwrtyd Wells	1900.....		
Chapman, E., Magdalen College, Oxford	1871-1905 c	35	
Christopherson, Mrs. A., Colton House, Ulverston	1902-1905 T	4	
Copeland, Dr. R. { Royal Observatory, Edinburgh..	1889-1895 c		
Blackford			
Hill, Edinburgh	C 1896-1905 c	17	
Courtauld, Mrs., Bocking Place, Braintree	1900-1903 c	4	
Thrybergh, Rotherham	1887-1904 c		
Crabtree, W. H. { Firsby, Doncaster	1887-1904 c	18	
Doncaster Pumping Station	1887-1904 c		
Crafer, C. A., Warningcamp, Arundel	1902-1904 T	3	
Crawley, Rev. R. T., North Ockendon, Essex	1879-1904 T	26	
Curtin, W. H., Monks Road, Lincoln	1904 T	1	
D'Ombrain, Rev. H. H., Westwell, Ashford	1881-1904 T	24	
Elmhirst, Rev. R., Farnham, Knaresborough	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 c	12	
Gurney, H. E., Nutwood, Reigate.....	1869 imp-1905	36	
Hall, L. H. { Newland, Coleford	1887-1891 imp T		
Churcham, Gloucester	1892-1904	17	
Litchfield, Hants	C 1873 imp-76 imp T		
Heberden, Rev. H. { Stapleton, Bristol,.....	C 1879 imp-1890 impT	26	
Oddington, Stow-on-the-Wold	C 1891 imp-1905		
Hempson, J. A., Erwarton Hall, Suffolk	1876-1905	30	
Hollingworth, H. G., Minafon, Llanbedr, Merioneth	C 1898-1905	8	
Horton, J. W., Brayford Wharf, Lincoln	C 1880-1905 T	26	
Howard, Lady Victoria, Charlton Cottage Malmesbury	1882 - 1897, 1899-1904 c.....	22	
Jackson, W., Drove Road, Langholm	C 1896 imp-1905	9	
Jevons, G. { St. Michael's Hamlet, Liverpool.....	1879-83 T		
Hope Street, Liverpool.....	1884 - 1895 imp, 1896-1905 T	26	
King, J., Withington, Manchester	1873-1904 c	32	
Langdon, W., Midland Railway, Derby	C 1883-1902 c	20	
Lawson, Sir Wilfrid, Bart., M.P., Brayton Hall, Cumberland	1867-70, 1872-86 1890 imp-1902 1904-1905 c		33
Little, J., Thorncot, Hooe, Plymstock.....	1899-1904 T	6	
Manse of Coll, N.B.	1882 imp - 89 imp, 1892-94		
MacDougall, Rev. N. { Kilerivagh, Benbecula	C 1898-99 T	14	
Ardvasar, Skye.....	1901-1903 T		
Malden, Rev. B. S. { Pattingham, Wolverhampton	1865-69 T		
Sheldwich Vicarage, Kent ...	1872-81imp,1882-1905	38	

Observers Deceased to July, 1906—(continued).

NAMES AND STATIONS.	DATE.	PERIOD OF OBSERVATION.	
			Complete Yearly Record.
Munn, Rev. G. S., Madresfield Rectory, Gt. Malvern	1877-1904 T	28	
O'Connell, J. { Inch House, Kilkenny	1891 imp-93 imp T } 13		
	C 1893 imp -1904 T ...	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	C 1891 imp-1905 imp T	13	
Plumptre, F. H., Teignbridge House, Kingsteignton	1875-1904 T	30	
Pringle, C. S. { Foxgrove Road, Beckenham	1876 - 1880, 1888 - } 13		
	1893 imp T ...	13	
	C 1901 imp-1904 T ...	13	
Pryse, Sir Pryse, Bt. { Whitekirk, Southbourne, Hants.....	C 1872 - 1883 imp,		
	1884-1905 c	33	
	1876 - 1881 imp,		
	1882-1883		
Rawlings, E., Richmond House, Wimbledon Common	1894-1905	12	
Roxby, Rev. W., Thornford Rectory, Yeovil	1898 T	1	
Sharp, Rev. J. P., Long Stowe Rectory, Cambs.	C 1895 imp -1905 T ...	10	
Slade, F. { Cavendish Park, Barrow-in-Furness	1873-1879		
	1880-1883 imp T ...	32	
	1884-1905 T		
Smith, Clifford { The Staithes, Beccles	1889-1902		
	1903-1905	17	
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	C 1891 imp -1904 T ...	13	
Stirling, J., Garden House, Kippen, N.B.	1893-1904	12	
Stubbs, Peter { Statham Lodge, Lymm, Cheshire .. .	1877-1891 T	29	
	C 1892-1905	29	
Symons, T. M., Coryton, Devon	1860-1904	45	
Tanner, Rev. J. Selwood, Ashford, Ludlow	1884-86 imp, 1887 -1903 T	19	
Terrill, F., Boultham, Lincoln	1881-1905 imp c .. .	24	
Thurgood, H. J., East Budleigh, Devon	1902-1904 c	3	
Watters, D., Bridgend Cottage, Carron, N.B.	1900 imp -1904 T ...	4	
Whyte, Maj.-Gen. H., Lough Eske Castle, co. Donegal	1903-1905	3	
Wright, J. H., Dalby Grange, Spilsby.....	1898-1904	7	

NOTE.—C indicates commencement of record; c its continuation; T its termination; imp means that the record for that year was imperfect.

OBITUARY.
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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.

Mrs. George Clive	92 years.
Dr. Robert Barnes	90 "
Rev. W. R. M. Waugh.....	88 "
Sir Brook Kay, Bart.....	86 "
Rev. Prebendary Gowring	85 "
Rev. Canon Venables	85 "
Col. D. Ainsworth	84 "
G. J. Newbery	82 "
Rev. C. E. Plater	82 "
W. Evans.....	82 "
Dr. W. M. Burman	81 "
Rev. R. F. Follett	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.....	Ochtertyre, Perthshire	33 "
*Mr. A. J. Woodhouse	Child's Hill, N.W.	32 "
*Rev. J. G. Hale	Therfield, Herts	30 "
*Sir Brook Kay	Cheltenham	30 "

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.

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. BIGGS, 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

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

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. PAUL, 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

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.

THE 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 forgot 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.

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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 Floss, Cleator, Cumberland.
Aitken, Robert	Colmonell, Ayrshire.
Allcard, 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, C.	Truro.
*Best, Capt. Hon. J. C., R.N..	Plas-yn-Vivod, Llangollen.
*Biggs, J. H. W.	Storrs Park, Windermere.
Blair, J. E.	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.
*†BUCHAN, DR. A., F.R.S.	Edinburgh.
*BURMAN, DR. W. M.	Grange-over-Sands, Lancashire.
Chester, W.....	The Gardens, Chatsworth.
Chichester, Lt.-Col. Gerard...	Bonehill House, Tamworth.
*Clive, Mrs. George.....	Perrystone Court, Hereford.
Cochrane, Vernon	Glen Lodge, Sligo.
Cooper, G. H.	East Dereham, Norfolk.
Crawhall, George	Burton Croft, York.
CROUCHER, GEORGE	Ochtertyre, Crieff, Perthshire.
Daglish, J.	Rothley Crag, Cambo, Northumberland.
Durnford, C.	Longparish, Whitchurch.
Edwards, Mrs.	Dolserau Hall, Dolgelly.
Evans, Rev. J. J.	Cantref Rectory, Brecon.
Evans, W. ..	The Spring, Kenilworth.
Follett, Rev. R. F.	Winscombe Court, Somerset.
Fry, J. F.	Upton, Didcot, Berks.
Fryer, W. R.	Verwood Manor, Salisbury.
Gibbs, A.	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.	Pen Ithon, Newtown, Radnor.
HALE, 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*.

Observers Deceased to July 31st, 1907—(continued).

Hare, Theodore J.	Lyne Grove, Virginia Water, Surrey.
Haslam, A. Victor	Breadsall Priory, Derby.
Harvey, Rev. Canon G. T. ...	Navenby Rectory, Lincoln.
Hillman, Aubrey	Saxonbury, Lewes, Sussex.
Hodson, G., C.E.	Loughborough.
Hotchkis, Major.....	Crookston, Paisley.
Hurt, Albert F.	Alderwasley, Matlock Bath.
Hussey-Freke, A. D.	Hannington Hall, Highworth, Wilts.
Jackson, J.	Langholm, Dumfriesshire.
Jago, E.	Coldrenick, Liskeard, Cornwall.
Johnston, Miss E.	Epsom Road, Guildford.
*Jordan, C., I.S.O.	Store Yard, Hyde Park, W.
*KAY, SIR BROOK, Bart.	Battledown, Cheltenham.
Leven & Melville, The Earl of	Roehampton House, Surrey, and Glenferness
*Maclear, Admiral J.P.	Chiddingfold, Godalming.
Maxwell, W.	Donavourd, Pitlochry.
Melville, J.	Alloa, Clackmannan.
Morton, Dowager Countess of	Dalmahoy, Midlothian.
Musgrave, Rev. Canon	Hascombe Rectory, Godalming.
Newbery, G. J.	Stafford House, Broxbourne.
Newton, T. H. G.	Barrells, Henley-in-Arden.
Oelrichs, Wm.....	Princes Park, Liverpool.
Owen, Rev. H. D.	Penmynydd Vicarage, Llangefin, Anglesey.
Pascoe, J. W.....	Emberton Manor, Newport Pagnell.
*Paul, G. E.	Harlow Moor Drive, Harrogate.
*Phillott, J. M.	Observer at 62, Camden Square, N.W.
Plater, Rev. C. E.	Dymchurch Rectory, Folkestone.
Propert, Dr. W. Peregrine ...	The Manor Ho., St. David's, Pembrokeshire.
Ramsay, G. J.....	Currymire, Kilsyth.
Read, M.	The Clyffe, Corton, Lowestoft.
REYNOLDS, L. W.	Millington House, Thelwall, Cheshire.
*Rolle, The Hon. Mark	Steventon, Torrington, N. Devon.
Rowe, M.....	Belle Vue, Greystoke, Penrith.
Rowntree, J. S.	Mount Villas, York.
Rowntree, J. W.	Silverdale, Scalby, Yorks.
St. Maur, Lord Percy	Burton Hall, Loughborough.
Sewell, Col. F. R.	Brandlingill, Cockermouth.
*Sprot, Lieut.-General John ...	Riddell, Lilliesleaf, N.B.
Thomson, Miss	Stanton St. Johns, Oxford.
Trotter, J.	Coleford, Gloucestershire.
*Venables, Rev. Canon George	Burgh Castle Rectory, Great Yarmouth.
Walker, Rev. J.....	Averham Rectory, Newark.
Waugh, Rev. W. R. M.	The Observatory, Portland.
Westlake, Mrs.	Fordingbridge, Salisbury.
Watkins, Rev. J.	Willingham Rectory, Cambridge.
WOODHOUSE, A. J.	Helenslea, Child's Hill, N.W.

* See Biographical Note *ante*.

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.....	86	"
Sir John Evans	84	"
Rt. Hon. J. A. Campbell.....	83	"
Rev. J. R. Turner.....	83	"
Dr. Alfred Brown	82	"
Mr. C. O. Eaton.....	80	"
Mr. Joshua Sing.....	80	"
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.

Records of Thirty Years and upwards.

NAME	LAST PLACE OF OBSERVATION.	
*Mr John Aitken.....	Braemar.....	52 years.
*Rev. Angus Bethune	Seaham Vicarage.....	42 "
*Col. L. M. Buchanan	Edenfel, Omagh.....	42 "
*Mr. P. F. S. Amery	Druid House, Ashburton..	39 "
*Mr. Amos Mitchell.....	Wolsingham	39 "
*Col. Rt. Hon. W. S. Kenyon-Slaney, M.P.	Hatton Grange, Shifnal....	37 "
Mr. Sidney Law.....	Kingsthorpe, Northampton	37 "
*Mr. Laurence Dalgleish	Keavil, Fifeshire	36 "
*Mr. C. O. Eaton	Tolethorpe Hall, Stamford	35 "
*Mr. J. Capel Philips.....	Heath House, Stoke-on-Trent	35 "
Mr. J. Walker,	Dufftown	34 "
*Mr. T. Hutchings	Colwyn Bay.....	33 "
*Mr. A. Johnston	Stewartstown	33 "
*Mr. T. Forster Brown.....	Glyncorrwg, Glam.....	31 "
Mr. G. Henderson	Gellybank, Kinross	30 "
Mr. W. Elliott Lockhart ...	Cleghorn, Lanark.....	30 "
*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.

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 BETHUNE, 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,

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 RIGHT HON. J. A. CAMPBELL, M.P., whose long and fatal illness, latterly simultaneous with that of his younger brother, Sir

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, Hemelhempstead, 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

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-PIGOTT, 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 HODSON, 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. S. KENYON-SLANEY, 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.

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 EDWARD 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.

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Observers Deceased to August 15th, 1908.

Small capitals designate Observers with 30 years' records.

*AITKEN, JOHN	Braemar, Aberdeenshire.
AMERY, P. FABYAN S.	Druid House, Ashburton.
Awdry, Thomas.....	Fowler's Hill, Salisbury.
Becker, Rev. Anton Leopold	Ravenscar, Yorks.
Bendall, O.	Lawford, Essex.
*BETHUNE, REV. 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 MANSERGH, C.B.	Edenfel, Omagh, Co. Tyrone.
*Campbell, Rt. Hon. James A., L.L.D.	Stracathro, Brechin.
*Cherry-Garrard, Maj.-Gen. Apsley, C.B.	Lamer Park, Wheathampstead.
Cresswell, Oswald Ernest, J.P., D.L.	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.L., F.R.S.	Nash Mills, Hemel Hempstead.
EATON, C. ORMSTON	Tolethorpe Hall, Stamford
Falwasser, Ernest Bateman	Liss, Hants.
Farrah, John	Harrogate.
Giffen, Andrew	Campbeltown.
*Graham-Foster-Pigott, Thomas	Abington Pigotts, Cambs
Greaves, Charles Henry, M.D.	Stafford.
Hay, Major J. F. Dalrymple	Dunlop, Ayrshire.
HENDERSON, G.	Gellybank, Kinross.
Hogarth, William... ..	Upton Bishop, Herefordshire.
HUTCHINGS, THOMAS	Colwyn Bay.
Jackson, Dowager Lady ...	Brynderi, Abergavenny.
Johnston, A.	Anerum Bridge, Jedburgh.
JOHNSTON, A.	Stewartstown, Co. Tyrone.
Jones, William Henry	Hooton Grange, Cheshire.
*KENYON-SLANEY, COL. RT. HON. W. S., M.P.	Hatton Grange, Shifnal.

* See Biographical Note *ante*.

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.....	Beverley, Yorks.
Marsden, Rev. D. L.	Llandefaelog-fach Rectory, Brecon.
*MITCHELL, AMOS.....	Wolsingham, Co. Durham.
Morris, F. J., C.E.	Grantham,
Orr, Miss K. A.	Palermo, Killiney.
Owen, Rev. Philip Henry ...	Bickington Vicarage, Newton Abbot.
Paget, Rt. Hon. Sir Richard Horner	Cranmore Hall, Somerset.
Perkins, F. Heineken.....	Sellindge, Kent.
PHILIPS, 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	Llysdinam, Breconshire.
*WALKER, J.	Dufftown, Banffshire.
White, R. H., C.E.	Leeds and Liverpool Canal, Liverpool.
*Wilson, James, D.L.....	Currygrane, Co. Longford.
*Wilson, W. E., D.Sc., F.R.S.	Daramona, Co. Westmeath.
Wood, T. Travers.....	Swansea.

* See Biographical Note *ante*.

OBITUARY.

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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 472 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	92	"
Mr. James Batten.....	90	"
Rev. George Ridout.....	88	"
Dr. Samuel Hopkins Steel.....	87	"
Dr. Alexander Ramsay	86	"
Mr. George Washington Moon.....	85	"
Mr. J. Bartlett	84	"
Surg.-Maj. William Galt Black ...	84	"
Mr. William Henry Holmes	84	"
Mr. Robert Stewart.....	84	"
Mr. Joseph Pollard	83	"
Mr. R. Draper	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.

Records of Thirty Years and upwards.

NAME.	LAST PLACE OF OBSERVATION.	
*Mr. Robert Draper.....	Seaham Hall Gardens	46 years.
*Miss R. E. Stanton	Upfield, Stroud	42 "
*The Earl of Rosse	Birr Castle	41 "
*Rev. F. J. Young	South Milford Rectory.....	41 "
*Lady Chichester.....	Arlington Court.....	38 "
*Mr. Henry Trethewy.....	Silsoe, Beds.....	37 "
*Mr. J. W. Penfold.....	Haslemere	36 "
*Mr. J. L. Bland.....	Blandsfort, Abbeyleix.....	35 "
*Mr. R. H. Swindlehurst ...	Belmont, Bolton	34 "
*Mr. T. Mellard Reade	Blundellsands.....	33 "
*Mr. David Gillespie	Mountquhanie, Fife.....	33 "
*Dr. T. H. Hayle.....	Rochdale	33 "
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 years, having met him first in 1887, when I was engaged on a 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.

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 Rainfull*. 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 BEAVAN, 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-MAJOR 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

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. JOHN LOFTUS 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

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 *Encyclopaedia 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

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. ROBERT 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

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 HEYWOOD, 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.

MR. W. H. HOLMES, 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 Kinlochspelvie. 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.

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 Archæology, 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 Chairman of the Governors of Brentwood School. Canon Quennell was twice

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, 1909, 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 RIDOUT, 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 ROSE 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

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 MAURICE 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 archaeology 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	Winsford, Dulverton.
Wm. Paley	Ivy Bank, Dumfries.
*Andson, Rev. William.....	Ellesmere, Salop.
Ashton, Charles H.	Bramley, Guildford.
Bartlett, J.	Clonmore, Northam.
Bathe, J. Innes	Rathmullan, Co. Donegal.
Batt, Col. T. E.	The High Field, Bickley.
BATTEN, JAMES, J.P.	Colmonell, Ayrshire.
Beattie, A.	Holt, Trowbridge.
*Beaven, Albert James, J.P.	Castle O'er, Langholm.
Bell, Richard	George Square, Edinburgh.
*Black, Surgeon-Maj. Wm.	
Galt	Blandsfort, Abbey Leix, Queens Co.
*BLAND, JOHN LOFTUS, J.P.,	Gruinart, Islay.
D.L.	Arlington Court, Barnstaple.
Brown, Miss Bella	Penoyre, Brecon.
*CHICHESTER, LADY ...	The Knowle, Keighley.
Cleasby, Richard Digby, J.P.	Keswick Lodge, Norwich.
*Clough, William.....	Craigandaraich, Tighnabruaich.
Cole, Hon. Arthur Edward	
Casamajor	16, Gt. George Street, S.W.
Cousland, A. S.	Seaham Hall Gardens, Seaham.
*Deacon, George Frederick,	Newtownmountkennedy, Co. Wicklow.
L.L.D., C.E.	Whitehall Gardens, S.W.
*DRAPER, ROBERT.....	Cauldham, Doune.
Drought, Rev. Canon George	Hornby Castle, Lancs.
Meares	Himbleton Manor, Droitwich. .
*Eaton, Henry Storks ..	Mountquhanie, Fife.
Forbes, J.	Pyrton Manor, Watlington, Oxon.
Foster, Col. William Henry	Carrablagh, Co. Donegal.
Galton, Lady	
GILLESPIE, DAVID.....	
Hamersley, Edward Samuel	
*Hart, H. C.	

* See Biographical Notes *ante*.

Hawarden, Viscount.....	White Hill Chase, Liphook.
HAYLE, DR. THOMAS Hahnemann.....	Drake Street, Rochdale.
Helps, Arthur Spry	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.	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.
Metcalfe, 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.	Letchworth, Hitchin.
Priestman, John P.	Bradford, Yorks.
*Quennell, Rev. Canon Wm. Ramsay, Alexander, LL.D.	Shenfield Rectory, Essex.
*READE, THOMAS MELLARD Reynolds, Capt. Arthur Sutherland	Earlhill, Banff.
*RIDOUT, REV. GEORGE....	Blundellsands, Liverpool.
Roberts, Arthur ... ,.....	Cadenham, Hants.
Roper, William Oliver	Sandhurst, Kent.
*ROSSE, THE EARL OF, K.P., F.R.S.	Oakleigh, Court Road, Eltham.
Shoults, George Barrett	Yealand Conyers, Carnforth.
SMITH, REV. FRANCIS.....	Birr Castle, Kings County.
Smith, F. Abel	North Finchley, N.
*STANTON, MISS ROSE EMILY	Hardwicke, Stratford-on-Avon.
Steel, Samuel Hopkins, M.B.	Cole Orton Hall, Ashby-de-la-Zouch.
Stewart, Robert	Upfield, Stroud.
Swindells, R., F.R.G.S	Dyne House, Abergavenny.
SWINDELEHURST, ROBERT HENRY, C.E.	Kinlochmoidart, Inverness.
Thompson George Arthur ..	Oxford Road, Birkdale, Southport.
TRETHEWY, HENRY	Town Hall, Bolton.
Turner, Joseph	Register House, Beverley.
*Williams, Griffith.....	Silsoe, Bedfordshire.
Wilson, Mrs. C. Macro	N. Level Engine, Crowle, Doncaster.
*Wynne, William Robert Maurice.....	Beddgelert
YOUNG, REV. FREDERICK JOHN	Waldershaigh, Bolsterstone, Yorks.
	Peniarth, Towyn.
	South Milford Rectory, Yorks.

* See Biographical Notes *ante*.

OBITUARY.

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

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 Turner	92 "
Lady Baillie of Polkemmett.....	89 "
Sir John Clark of Tillypronie.....	89 "
Dr. E. Picton Phillips.....	88 "
Mr. Charles Thomas ..	88 "
Rev. George F. Tamplin.....	86 "
Mr. Frederick Crowley	85 "
Alderman George Baker.....	85 "
Mr. Frederick B. Marson.....	84 "
Sir Archibald H. Dunbar.....	83 "
Mr. W. Evans	82 "
Miss Hannah Southall	82 "
Mr. R. R. Verrall.....	82 "
Mr. R. A. Burrell.....	81 "
Mr. John Murray.....	81 "
Lord Calthorpe.....	81 "
Colonel J. Allardyce	80 "

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.

Records of 30 years and upwards.

NAME.	LAST PLACE OF OBSERVATION.	
*Dr. E. P. Phillips.....	Haverfordwest.....	61 years.
*Mr. R. R. Verrall	Falmer	48 ,,
*Rt. Hon. J. G. Talbot.....	Edenbridge	46 ,,
Rev. C. Holland.....	Lynnehinere.....	45 ,,
*Rev. R. W. Rogers.....	Cookham	45 ,,
*Mr. J. Coxon	Pocklington	43 ,,
*Mr. F. Crowley	Alton	43 ,,
*Sir J. F. Clark, Bart.	Tillypronie.....	40 ,,
Rev. G. F. Tamplin	Newport, Essex	39 ,,
*Rev. W. Besant	Buglawton	37 ,,
*Mr. T. Cozens-Hardy	Sprowston	37 ,,
*Col. R. B. Ingram.....	Steyning.....	36 ,,
*Mr C. Thomas	Stoke Bishop.....	36 ,,
*Mr. A. B. H. Story	Douglas	35 ,,
*Rev. B. W. Spilsbury	Findern	34 ,,
Mr. A. Greg	Caton	32 ,,
Mr. J. Phinister	Watten	32 ,,
*Mr. F. B. Falkiner	Ballybraek	32 ,,
*Monsignor J. Corbishley.....	Ushaw.....	31 ,,
*Mr. P. Dodds.....	Biddleston Hall.....	30 ,,
Mr. A. W. Moore.....	Douglas	30 ,,

HIS MAJESTY KING EDWARD VII., the calamity of whose death on May 6th, 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

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.

LORD CALTHORPE, who died on July 22nd, 1910, at the age of 81, 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

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 FORBES 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 JOSEPH 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

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. HUSBAND, 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.

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 landslip 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. MILES 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

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 Northumberland, 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 WILLIAM 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 PICTON PHILLIPS, one of the few survivors of those whose records appeared in *British Rainfall*, 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. *Clarence* 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—"I enclose you my crossed cheque for £1 1s. towards *British Rainfall* 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

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 Corstow House. During the last few years he carried out a series of comparisons with rain gauges of different patterns.

THE 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.

MR. ANTHONY BROWNE HERBERT 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 72. 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 *Synons's Meteorological Magazine*, and in the unfailing accuracy of his rainfall returns which appeared in *British Rainfall* 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 archaeology 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.

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 RIGHT 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 WAGSTAFFE, 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 Middleton	Dinnington Hall, Yorks.
Appach, Miss Emily	Swattenden, Cranbrook.
*Baker, George	Beaucastle, Bewdley.
Baillie, Lady	Polkemmet House, Whitburn.
Beech, William.....	North Ockenden, Romford.
BESANT, REV. WILLIAM ...	Buglawton, Congleton.

* See Biographical Note *ante*.

Brooke, Arthur.....	White House, Killybegs.
Burrell, Robert Anthony ...	Fairthorn Manor, Botley.
Burt, J. H.....	Kingston, Yeovil.
Burthaell, D. E., C.E.	Howth, Co. Dublin.
*Calthorpe, Lord.....	Elvetham Park, Winchfield.
*CLARK, SIR JOHN FORBES, BART.	Tillypronie, Aberdeenshire.
Coode, Arthur	Trevarthian, St. Austell.
*CORBISHLEY, MONSIGNOR JOSEPH	Ushaw College, Durham.
*Courtenay, Major George Henry	Southtown House, Kenton.
*COXON, JAMES	Warter, Pocklington.
COZENS-HARDY, THEOBALD	Oak Lodge, Sprowston.
Craven, Matthew Lewis.....	Horsham.
*CROWLEY, FREDERICK	Ashdell, Alton.
Curtis, Captain Constable...	Berkhamsted.
DODDS, PETER	Alwinton Hall, Biddlestone.
Duke, Robert A.	Ballymote, Sligo.
Dunbar, Sir Archibald H., Bart.....	Duffus House, Morayshire.
Egar, Samuel.....	Wryde House, Thorney.
Evans, William.....	The Spring, Kenilworth.
FALKINER, F. B.	Streamville, Ballybrack.
Fleming, M. J., C.E.	Portlaw.
Garratt, W.	Melbourne, Derby.
Godfrey, William	Bedford.
*GREG, ALBERT	Escowbeck, Caton, Lancs.
Hacker, G. H.	Henstridge, Somerset.
Hammond, James.....	Arncifice, Skipton.
Hayden, Rev. John Alderson	Dent, Yorks.
Hinchliffe, Lewis	Holmfirth, Yorks.
Hodgkinson, Thomas Ays- cough	Wookey Hole, Wells.
HOLLAND, REV. CHARLES...	Watchers, Lynchmere.
Horner, Captain John.....	Teignmouth.
*Husband, Miss Margaret Fair Anderson	Levenhall, Musselburgh.
*INGRAM, COLONEL ROBERT BETHUNE	Steyning.
Jones, William	Ednol, Kington.
King, O.	Maidenhead.
*Lee, W.	Princetown.
Lethbridge, Christopher.....	Chester Square, London.
Lethbridge, William	Okehampton.
Leverett, Stebbing, J.P.....	Saffron Walden
Liddell, Dr. Henry John Sheppard	Yelverton.

* See Biographical Note *ante*.

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*MacInnes, Miles	Rickerby, Carlisle.
Marriott, Sir Charles Hayes M.D.	Kibworth Harcourt.
Marson, Frederick Boyd.....	Highfield Park, Heckfield.
Martin, Robert	Watton, Norfolk.
*MOORE, ARTHUR WILLIAM C.V.O.	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.
ROGERS, REV. 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 WARD	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.	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 Biographical Note *ante*.

OBITUARY.

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	93	years.
Lady Caroline Duncombe	92	"
Rev. Canon R. S. Hutchings	91	"
Mr. Thomas Gibbs	90	"
Miss Sedgwick	89	"
Lord Wrottesley	87	"
Rev. Prebendary Hedgeland	86	"
Dr. John Beddoe, F.R.S.	85	"
Right Hon. Sir Francis Macnaghten, Bart.				84	"
Rev. Alan Cheales	83	"
Mr. Hugh Hamilton	83	"
Mr. B. E. C. Chambers	81	"
Mr. A. McNeill	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

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	Cambridge	... 45 "
Mr. P. P. Pennant	St. Asaph	... 45 "
*Lord Wrottesley	Wolverhampton	... 44 "
*Mr. F. F. Pearson	Arkholme	... 44 "
*Mr. H. Hamilton	Pinmore	... 41 "
*Rev. Canon R. S. Hutchings	Alderbury	... 41 "
*Mr. J. Martineau	Heckfield	... 40 "
*Rev. Preb. P. Hedgeland	Penzance	... 38 "
*Lord Dynevor	Llandilo	... 33 "
*Mr. T. W. Field	Marazion	... 31 "
*Rt. Hon. Sir F. E. Maenaghten	Dundarave	... 31 "

DR. JOHN BEDDOE, 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 *British 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

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 CAWDOR, 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. CHAMBERS, 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.

THE REV. T. W. FAIR 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.

MR. J. GARRETT, gardener to the Right Hon. Arthur J. Balfour, at Whittingham, 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.

REV. PHILIP HEDGELAND 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.

REV. B. C. LITTLEWOOD, 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.

COLONEL THE RIGHT HON. SIR 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

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. PAIN, 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 1 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.

MAJOR-GENERAL W. E. WARRAND, 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

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 JULIA LUCY WOODWARD 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. R.	Hungerdowns, Ardleigh.
Baker, Frederick	Manor Farm, Frindsbury.
Barnes, Mrs.	Heatherlands House, Parkstone.
Bateman, John	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. R.	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	Grayswood Hill, Haslemere.
Cheales, Rev. Alan	Hagworthingham.

* See Biographical Note *ante.*

Clutterbuck, Rev. Francis			
Capper	Culham, Abingdon.
Collins, Rev. John Argyle			
Welsh	Newton St. Cyres.
Courthorpe, George John	...		Whiligh.
Drummond, Admiral Edmund			
Charles, R.N.	Eskhill, Kirriemuir.
Duncombe, Lady Caroline	...		Waresley Park, Hunts.
DYNEVOR, LORD	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	...		West Rudham.
*Garrett, Mr. J.	...		Whittinghame Gardens.
Gibbs, Thomas	...		Bridge House, Wirksworth.
Graham-Foster-Pigott,			
Mrs. W.	Abington-Pigotts.
Grant, Edward	...		Lichborough Hall, Northants.
Greaves, J. A. R.	...		Morton Hall, Gainsborough.
Griffith, Rev. William			
Stewart	Ardnadrean, Donegal.
Hall, Rev. Humphrey Farran			The Elms, Monmouth.
Hall, William	Mardon, Hereford.
HAMILTON, HUGH	...		Pinmore.
Harris, W. J.	...		Halwill Manor, Beaworthy.
Harrison, Miss Mary Beatrice			West Hay, Wrington.
*HEDGELAND, REV.			
PREBENDARY PHILIP	...		St. Clare, Penzance.
Holmes, Mrs. T. B.	...		Hornsea.
HUTCHINGS, REV. CANON			
ROBERT 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	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*.

OBITUARY.

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MARTINEAU, JOHN Park Corner, Heckfield.
Nichol, W. Hengrave, Bury St. Edmunds.
*PAIN, WALTER EDWARD Cambridge.
Pearse, Charles Samuel Thornham, Ivybridge.
PEARSON, F. FENWICK Storrs Hall, Arkholme.
Peniston, Henry De Vaux Lodge, Salisbury.
*PENNANT, PHILIP PENNANT ...	Nantlys, St. Asaph.
Philbrick, Judge, K.C. Bournemouth.
Phipps, Richard 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 Thorns Hill, Sedbergh.
Simpson, Thomas	Fennymere, Ealing.
Smith, Edwin	Lovermead House, Torquay.
Spelman, William Waters ...	South Dene Lodge, Yarmouth.
SPENCER, RIGHT HON. EARL, K.G.	Althorp Park.
Steel, William Strang ...	Philiphaugh, Selkirk.
Stopford, Vice-Admiral Robert Wilbraham, R.N. ...	Shroton House, Dorset.
Thomas, J. Lewes	Cae-glas, Llandilo.
Thurgood, Mrs. H. J.	West Hill Lodge, Budleigh Salterton.
Trinder, Henry William ...	Northbrook House, Bishop's Waltham.
Twemlow-Cooke, Rev. Daniel John	South Petherton.
Vaughan, Cedric, C.E. ...	Leyfield, Millom.
*Warrand, Maj.-Gen. William Edmund	Westhorpe Hall, Southwell.
Washington, Rev. Adam ...	Bopton, Suffolk.
Watson, W.	The Gardens, Harefield Place.
*Woodward, Miss Julia Luey..	The Knoll, Clevedon.
WROTTESLEY, LORD ...	Wrottesley, Wolverhampton.
Young, E. A.	Penrhyn, Bethesda.

* See Biographical Note *ante*.

OBITUARY.

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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 31st, 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 45 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 Beanies	95 years.
Sir J. G. N. Alleyne, Bart.	92	"
Miss Grubb	92	"
Mr. W. B. Pugh	92	"
Mr. Benjamin Carver	90	"
Sir W. J. Farrer	89	"
Mr. George Neville	89	"
Rev. H. E. B. Ffolkes	88	"
Miss Elizabeth Southall	88	"
Sir J. A. Woolfryes, K.C.B.	88	"
Miss J. C. Edlmann...	86	"
Mr. William Garnett	86	"
Capt. W. A. Dobie	84	"
Mrs. Pemberton-Barnes	84	"
Rt. Hon. Lady Northwick	80	"
Rev. D. E. Norton	80	"

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

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 {	Patrington, Hull {	65 years.
		Newtown, Montgomeryshire		
*Mr. G. Nevile Stubton, Newark	50	„
*Rev. H. E. B. Ffolkes ...	Hillington	47	„
*Mr. S. W. Jenkin ...	Liskeard	47	„
*Miss Grubb ...	Clonmel	46	„
Mr. F. M. T. Jones-Balme	Ambleside	46	„
Mr. W. Miller ...	Cork	39	„
*Miss Jones ...	Kensworth, Dunstable	36	„
*Rev. W. H. Fox ...	Thixendale	35	„
Rev. Dr. J. Dunne Parker	Bennington	35	„
*Mr. J. Alexander ...	Sudbury	34	„
Mr. P. Bicknell ...	Burnham	34	„
*Rt. Hon. Lord Rendlesham	Rendlesham Hall	33	„
Mr. J. C. Little ...	Ewes, Langholm	33	„
*Rev. C. Wigan Harvey ...	Throcking	32	„
*Mr. A. C. Bamlett ...	Sowerby, Thirsk	31	„
*Sir W. J. Farrer ...	Sandhurst Lodge	31	„
*Prof. W. A. Barnes ...	Moynalty	30	„
*Mr. T. Coulthard ...	Malham Tarn, Settle	30	„

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.

MAJOR WILLIAM TOWERS ALCOCK-BECK, 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.

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. WILLIAM 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

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 SUSANNAH GRUBB, 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. SILVANUS WILLIAM 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 NEIL 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,

and nearly thirty years ago he used frequently to accompany me on the steam yacht *Medusa* 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.

REV. WILLIAM 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. WILLIAM MILLER, 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. GEORGE NEVILE, 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 may have been in other respects, this long persistence in faithful

recording has added a solid fact to knowledge the value of which time can never diminish.

THE RIGHT HON. LADY NORTHWICK 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 REV. JAMES DUNNE PARKER was born on January 10th, 1835, at Ballyvalley, 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. WILLIAM BUCKLEY PUGH, 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.

LORD 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

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 ELIZABETH 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.

MAJOR-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 ROBERT WYNNE, 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

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.

*Alcock-Beck, W.	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	Moatlands, Paddock Wood, Kent.
BICKNELL, PERCY	Lincoln Hatch, Burnham, Bucks.
Bracher, Edwin	The Limes, Mere, Wilts.
Browne, S.	Glencoe, Roche, Cornwall.
Bruce, Thomas Rae	Old Garroch, Dalry, Kirkcudbright.
Burney, W.	Mickleton, Middleton-in-Teesdale.
Campbell, Major-Gen. William Maxwell (late R.E.)	Henmead Hall, Cuckfield.
Carver, Benjamin	Polefield House, Prestwich.
Cole, Rev. Edward Maule	Wetwang, York.
COULTHARD, T.	Malham Tarn, Settle.
Craik, J. Watson	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.	Rutland Terrace, Stamford.
Elliot, George Stanley	Metropolitan Asylum, 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	Low Moor, Clitheroe.
*GRUBB, MISS SUSANNAH	Glenam, Clonmel.
*HARVEY, REV. CHARLES WIGAN	Throcking Rectory, Herts.
Heberden, Rev. Charles Lewis	Desborough, Market Harborough

Observers deceased to June 30th, 1912—(continued).

Hill, George M. Wansbeck	...	Foxrock, Dublin.
Holcroft, Rev. Thomas Austen	...	Bolney Vicarage, Sussex.
Inglefield, G. A.	...	Tidworth House Gardens, Andover.
Ingram, Mrs. Fanny	...	Steyning, Sussex.
Jarrett, Miss Emily Elizabeth	..	Camerton Court, Bath.
*JENKIN, SILVANUS W., C.E.	...	Dean Terrace, Liskeard.
*JONES, MISS S. GRACE	...	Kensworth, Dunstable.
JONES-BALME, FRANK M. T.	...	High Close, Ambleside.
Last, William Isaac, A.M.I.C.E.	...	Victoria and Albert Museum, South Kensington.
Lee, Anthony	...	Bendamph Gardens, Ross-shire.
Leonard, Rev. Arthur Allen	...	Beaminster, Dorset.
Linton, John, J.P., D.L.	...	Stirtloe House, Buckden, Hunts.
LITTLE, J. C.	...	Burnfoot, Ewes, Langholm.
Lloyd, Rev. John Augustus	...	Knowle, Godalming.
*Mackichan, Rev. P. N.	...	Stronshira, Inveraray.
*MacPherson, Rev. Dr. W. M.	...	Monymusk, Aberdeenshire.
Marriott, Rev. Charles	...	Cherington.
*MILLER, WILLIAM	...	Fernhurst Avenue, Cork.
*NEVILLE, GEORGE	...	Stubton, Newark.
Nice, A. S.	...	Carlton Hall, Newmarket.
*Northwick, Rt. Hon. Lady	...	Northwick Park, Blockley.
Norton, Rev. David Evans	...	Maperton Rectory, Somerset.
*PARKER, REV. JAMES DUNNE, LL.D.	...	Bennington House, Herts.
Pemberton-Barnes, Mrs.	...	Havering-atte-Bower, Essex.
Pennington, Col. William A.	...	Lake House, Netley Abbey.
Phipps, H.	...	Heath End, Milford, Surrey.
Pigott, Rev. Edmund Vincent	...	Welborne, Norfolk.
*PUGH, WILLIAM BUCKLEY	...	Patrington, Hull.
*RENDLESHAM, RT. HON. LORD	...	Rendlesham Hall, Woodbridge.
Rice, Mrs.	...	Danefield, Eastry.
St. John of Bletso, Rt. Hon. Lord		Melchbourne Park, Beds.
Sanger, Charles	...	Burcote, Weybridge.
Smith, 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	...	Calcot Place, Reading.
Tiarks, Henry Frederick	...	Foxbury, Chislehurst.
Willson, Major-Gen. Sir Mildmay Willson, K.C.B.	...	Rauceby Hall, Sleaford.
Woolfryes, Sir John Andrews, K.C.B., C.M.G., M.D.	...	Woodbury House, Wells.
*Wynne, Ven. Archdeacon G. R.		Limerick.
Wynne, Wyndham H.	...	Glendalough, Co. Wicklow.
Yorke, John Reginald	...	Forthampton Court, Tewkesbury.

OBITUARY.

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	95 years.
Mr. E. Turton	93 "
Mr. H. I. Dixon	92 "
Mr. James Barton, C.E.	87 "
Mr. Peter Campbell	87 "
Rev. Canon R. S. C. Blacker	86 "
Mr. Alfred Brothers	86 "
Mrs. Cope	85 "
Rev. H. A. Daniel	84 "
Dr. T. F. Jamieson	84 "
Rev. Canon W. Tate, D.D.	84 "
Lord Macnaghten	83 "
Rev. J. T. Pearse	83 "
Dr. J. W. Walker	83 "
Rev. T. W. Carr	82 "
Mr. J. H. Lancashire	82 "
Surgeon-Gen. S. B. Roe, C.B.	82 "
The Marquis of Sligo	82 "
Mr. William Becher	81 "
Rt. Rev. W. E. Meade, D.D., Bishop of Cork	81 "

OBITUARY.

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Observers deceased in 1912-1913, of 80 years of age or more—(continued).

Mrs. Dix	81	years.
Mr. Thomas Hodgkin, D.C.L., Litt.D.	...				81	"
Mr. L. M. Jackson	81	"
Mr. James Whitaker	81	"
Rev. F. T. W. Wintle	81	"
Mr. John Nicholl	80	"
Mr. H. J. Younger	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.

Records 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.	...	38	"
*Mrs. John Tayleur	Buntingdale Hall, Market Drayton	...	38	"
*Mr. Michael Molohan	Ballyvaskin, Miltown Malbay	...	38	"
*Mr. James Barton, C.E.	Farndreg, Dundalk	...	38	"
*Mr. Frederick Taylor	Fir Tor, Dorking	...	37	"
*Rev. F. T. W. Wintle	Bere Ferrers, Devon	...	37	"
*Mr. Wm. Holbrow	Derreen, Kenmare	...	35	"
*Dr. J. W. Walker	Spilsby, Lincs.	...	34	"
Rt. Rev. W. E. Meade, D.D.	The Palace, Cork	...	31	"
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

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 CARR, 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

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 electro-plate 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

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. HENKEL, 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 HODGKIN, 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

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. JOSIAH 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 11s. 0d. for expenses etc. of the year. Wishing you for the valued organization increasing support."

MR. J. E. LONGFIELD, 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 EDWARD MEADE, 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 Ardtrea, 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 MOLOHAN, 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 Flockburgh 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

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 ROE, 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 FIFTH 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. S. 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

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, 1913.

Small capitals designate Observers with 30 years' records.

Andrews, J.	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.	Langley Park, Norwich.
Becher, William	Castle Hyde, Fermoy.
Blacker, Rev. Canon Robert Shapland Carew	Woodbrook, Enniscorthy.
Blathwayt, Rev. Calvert	...		Braddon Rectory, Towcester.
Bott, Miss Caroline	Hanbury Hall, Staffs.
Brand, Hon. Charles	Littledene, Glynde, Sussex.
*Brothers, Alfred	Clare Cottage, Handforth.
Burke, Miss Rachel Edith	...		Bulmer Lodge, Sudbury.
Cameron, Ewen	Rutherford House, West Linton.

Observers deceased to July 31st, 1913—(continued).

Campbell, Peter	Lignwood, Scone.
*Carr, Rev. Thomas William	Long Rede, Barming, Maidstone.
*Chambers, Charles P.	Orchard Head, Broughton-in-Furness.
Conway, Rev. R.	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.	Hampton Lodge, Durdham Down, Clifton.
*Dixon, Henry Isaac, J.P.	Stuniperlow Hall, Sheffield.
Doxon, Mr. S. H.	Millbrook, Hollingworth, Manchester.
Drummond, Andrew Cecil	Cadland, Hants.
*Godfrey, Robert, C.E.	Alne, York.
Harrowby, Dowager Countess of			High Ashurst, Dorking.
*Henkel, F. W.	Walthamstow, London.
*Hodgkin, Dr. Thomas, D.C.L.	Barmoor Castle, Beal.
HOLBROW, WILLIAM	Derreen, Kenmare.
HONY, REV. CHARLES WILLIAM, M.A.	Woodborough Rectory, Wilts.
Jackson, Laurence Morris	South Park, Bodiam.
Jacques, Rev. William Baldwin..			Orlingbury Hall, Wellingborough.
Jamieson, Dr. T. F.	Avonbank, Ellon.
*Jones, Owen	Blaenau Festiniog, Merioneth.
Karslake, Lewis, J.P.	Redlap House, Dartmouth.
KING, H. J.	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.	Kilcoleman, Enniskean.
Longworth, Dr. Stephen George..			Melton Asylum, Woodbridge.
MacBeath, D.	Netherswell Manor Gardens, Stow-on-the-Wold.
McIlriach, Duncan	Bunawe, Tarbert, Loch Fyne.
Mackay, Rev. George S.	U. F. Manse, Doune.
Macnaghten, The Lord	Dundarave, Bushmills.
*MEADE, RT. 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	Crescent Avenue, Whitby.
NICHOLL, JOHN	The Hemnalls, Epping.
Owen, H. G.	Land Wick, Southminster.
Pearse, Rev. John Thomas, M.A.			Edells, Markbeach.
Pole, Edwin C.	Neath, Glamorgan.
Priestley, William	Offord D'Arcy, Huntingdon.

Observers deceased to July 31st, 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	...	Cloverhill, Co. Cavan.
Schofield, J. W.	...	Waterworks, Huddersfield.
*Sligo, 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.	...	Staffordshire Potteries W.W.
Stileman, Frank, C.E.	...	Eastbourne Waterworks Co.
*Stilwell, Henry, J.P.	...	Steepleton Manor, Dorchester.
Stott, John	...	Springfield Lodge, Haslingden.
TATE, ALFRED	...	Downside, Leatherhead.
Tate, Rev. Canon William, D.D.		Stradbroke Vicarage, Suffolk.
TAYLOR, MRS. JOHN	...	Buntingdale, Market Drayton.
TAYLOR, FREDERICK	...	Fir Tor, Dorking.
Thorp, H. B.	...	Maplederwell, Hants.
Todd, Rev. James Utten		Alcombe, Somerset.
*Tripp, Charles Upton, M.A.		Altarnon, Launceston.
Turton, E.	...	Collingham, Newark.
WALKER, DR. JOHN WEST		Spilsby, Lincs.
Watters, James	...	Gearhameen, Co. Kerry.
Whitaker, James	...	Hampton Hall, Salop.
Williams, Louis H.	...	Edenderry, Kings County.
WINTLE, REV. FREDERICK THOMAS WILLIAM, M.A.	...	Bere Ferrers Rectory, Dorset.
Woakes, Dr. Edward	...	Belvoir House, Fareham.
Woodward, J.	...	Ardgillan Gardens, Balbriggan.
Wright, Mrs.	...	Bolton Hall, Clitheroe.
Younger, Henry Johnston, J.P., D.L.	...	Benmore, Argyll.

* See Biographical Note *ante*.

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

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.	90	years.
Mr. F. J. Mitchell, F.G.S., F.S.A.	...	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.	...	86	"	
Mr. Charles Ashby	...	85	"	
Major-General G. W. Hanson	...	83	"	
Mr. Charles Jones, C.E., F.S.I.	...	83	"	
Colonel C. H. France-Hayhurst	...	82	"	
Mr. William Lucas	...	82	"	
Mr. E. B. Marten	...	82	"	
Mr. Frederick Turner	...	82	"	
Mr. W. D. Howard	...	81	"	
Mr. Thomas Lester	...	81	"	
Mr. R. D. Marshall	...	81	"	
Mr. John Dale	...	80	"	
Mr. Henry Kirwan, J.P.	...	80	"	
Mrs. James Kitson	...	80	"	
Mr. H. S. Poole	...	80	"	
Colonel John Stewart, R.A., C.I.E.	...	80	"	

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

Records 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	...	Cowfold, Horsham	...	47	"
Mr. Henry Kirwan	...	Tuam, Co. Galway	...	47	"
Col. C. H. France-Hayhurst	...	Bostock Hall, Cheshire	...	43	"
Mr. R. N. Hooper	...	Stanshaws Court, Chipping Sodbury	...	42	"

Records of Thirty years and upwards—(continued).

Mr. Thomas Colquhoun	...	Rockfort, Buncrana	...	39 years.
Mr. Charles Jones	...	Ealing, Middlesex	...	38 "
Mr. J. Milne	...	Archiestown, Morayshire	..	36 "
Rev. Robert Thomas	...	Cabourne, Lincs.	...	36 "
Rev. Preb. J. J. G. Every	...	Castle Hill, Bodmin	...	35 "
Mr. John Dale	...	The Park, Macclesfield	...	34 "
Mr. Thomas Lester	...	Firbank, Penrith	...	34 "
Mr. E. B. Marten	...	Pedmore, Stourbridge	...	34 "
Mr. T. H. Baker	...	Brown Street, Salisbury	...	33 "
Mr. George Galpin	...	Clarendon Court, Bourne-		
		mouth	...	33 "
The Lady Knightley of				
Fawsley	...	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.

THE DUKE OF ARGYLL, K.G., K.T., who died on May 2nd, 1914, at the age of 69, filled many public positions of the highest importance, and inherited much of the wide interest in intellectual and artistic pursuits of his father, the Eighth 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 innumerable 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

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, 1913 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

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. JOHN DALE, 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 34 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 CHARLES HOSKEN FRANCE-HAYHURST, 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 1883 to 1892 he commanded the 1st Cheshire Militia, and had been honorary

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. RICHARD HAYWARD, who died at his residence, Chitterne House, Salisbury Plain, on October 17th, 1913, 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 I 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. CHARLES GILBERT HEATHCOTE, 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. WILLIAM DILLWORTH HOWARD, 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

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 Irish 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

Women's Emigration Association and Editor of *The Imperial Colonist*. Lady Knightley died on the 2nd October, 1913.

MR. WILLIAM 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 *in 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.

"I 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.

"I 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, Llanfrechfa 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

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. ROBERT TRAILL OMOND, 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. Omund 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 Omund'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. Omund 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.

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 WILLIAM 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, 1913, 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. S.

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, 1913.

Observers deceased to June 30th, 1914.

Small capitals designate Observers with 30 years' records.

Ainslie, Charles Alexander, J.P.	Swinton Bank, Peebles.
Alford, T.	Hagley Park Gardens, Hereford.
Anderson, Rev. J.	Alvie Manse, Aviemore.
Anstruther, Miss L. S.	Hope Lodge, Moffat.
*Argyll, The Duke of, K.G., K.T., G.C.V.O., G.C.M.G.	Inveraray Castle, Argyll.
Ashby, Charles	Cambria House, Staines.
*BAKER, T. H.	Brown Street, Salisbury.
*Ball, Sir Robert Stawell, D.Sc., LL.D., F.R.S.	Cambridge.
Barwell, Rev. Canon Arthur Henry Sanxay	Bletchingley House, Surrey.
Bennett, W.	Rangemore Gardens, Burton-on-Trent.
*Bevir, Harry	Wootton Bassett, Swindon.
Bigg-Wither, Col. A. C. ...	Tilthams, Godalming.
Bloomfield, Rev. Edwin Newson	Guestling Rectory, Hastings.

* See Biographical Note *ante*.

Observers deceased to June 30th, 1914—(continued).

Bosanquet, Adm. George Stanley	Bitchet Wood, Sevenoaks.
Bradshaw, Lieut.-Col. Oswald Mosley	Lansdown House, Merrow, Guildford. Broomlands, Kelso.
Brunton, James	Rutherford House, West Linton.
Cameron, Miss	Stackpole Court, Pembroke.
Cawdor, Rt. Hon. Earl, P.C., D.L.	Rockfort, Buncrana.
COLQUHOUN, THOMAS, J.P. ...	Stockwood, Luton.
Crawley, Francis	The Park, Macclesfield.
*DALE, JOHN	Hill Place, Bishops Waltham.
Daubeney, Major Walter Augustus	French Park, Co. Roscommon.
De Freyne, The Lord	Birstwith, Leeds.
Dixon, Caleb S., C.E.	Farnham Castle Gardens, Surrey.
Dowding, H.	Doonside, Ayr.
Dunlop, William Hamilton ...	Evercreech Vicarage, Bath.
Dyne, Rev. William Tylden, M.A.	
EVERY, REV. PREB. JOHN JAMES GLENROSS	Castle Hill, Bodmin.
Field, Miss Grace	Hampstead, London.
Filgate, T. F.	Lissrenny, Ardee.
Ford, Alfred	Gawthorpe Hall, Burnley.
FORD, S.	Cowfold, Horsham.
Fowler, Rev. James	Templeton Rectory, Tiverton.
*FRANCE-HAYHURST, COL. CHARLES HOSKEN	Bostock Hall, Cheshire.
GALPIN, GEORGE	Clarendon Court, Bournemouth.
Glanville, Miss Mary Agneta ...	Langham Hill, Ivybridge.
Gray, Rev. Robert Daniel Horace	Selham Rectory, Sussex.
Hanson, Major-General George William	High Field, Tiverton.
Harrison, Capt. Jasper Nicolls, late R.M.L.I.	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.	Courts Hill, Haslemere, Surrey.
Kidston, Capt. Archibald Glen...	Gwernyfed, Breconshire.
*KIRWAN, HENRY, J.P.	Tuam, Co. Galway.
Kitson, Mrs. James	May Lodge, Scarborough.
*KNIGHTLEY OF FAWSLEY, THE LADY	Fawsley Park, Daventry.
LESTER, THOMAS	Fir Bank, Penrith.
Lloyd, Herbert	Pontardawe, Glamorgan.

Observers deceased to June 30th, 1914—(continued).

Lovejoy, H. F. ...	Northgate House, Totnes.
*LUCAS, WILLIAM ...	The Firs, Hitchin.
Lyon, S. ...	Cricket St. Thomas, Chard.
Malcolm, George ...	Fernie-knowe, Fort William.
Marshall, Reginald Dykes	Castlerigg Manor, Keswick.
MARTEN, EDWARD BINDON	Pedmore, Stourbridge.
Martin, Thomas ...	Lee Moor, Devon.
Mellor, W. M. F. ...	Rooklands, Torquay.
MILNE, J. ...	Archiestown, Morayshire.
*MITCHELL, FRANK JOHNSTONE	Llanfrechfa Grange, Monmouth.
Morton, Alex. ...	Cullen House Gardens, Banffshire.
Moss, John Snow ...	Wintershill Hall, Bishops Waltham.
Newbery, Henry Christian, M.A.	Haverhill Vicarage, Suffolk.
*Omond, Robert Traill, LL.D., F.R.S.E. ...	Church Hill, Edinburgh.
Otter, Robert Henry, M.A., J.P.	Queenwood, Chertsey.
*Parsons, Dr. Henry Franklin	Park Hill Rise, Croydon.
Perkins, Joseph ...	Westbury Gardens, Petersfield.
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, Iddesleigh, Devon.
Southeby, Rev. Henry Willes, M.A.	Bengeo, Hertford.
*Stewart, Colonel John, R.A., C.I.E.	Ardvorlich, Perthshire.
Strange, John Thomas ...	Firlands, Sulhamstead, Berks.
*Suter, Miss L. A. ...	Hunmanby, Yorks.
*Sutton, Martin John, J.P. ...	Earley, Reading.
THOMAS, REV. ROBERT ...	Cabourne Vicarage, Lincs.
Turner, Frederick ...	Parkside, Ipswich.
Vincent, H. B. ...	Royal Victoria Hotel, Swanage.
Vincent, Sir William, Bart, M.A.	D'Abernon Chase, Surrey.
Ward, Mrs. Henry ...	Rodbaston, Penkridge.
Warwick, G. ...	Facombe Manor Gardens, Andover.
Whish, George Henry Martin ...	Kensington, London.
Whiting, Richard M. ...	Credenhill, Hereford.
Williams, Morgan Bransby, D.L.	Killay House, Swansea.
Wilson, John ...	Thornton Hall Gardens, Lanarkshire.
Winn, Rev. William Henry, M.A.	Dunsfold Rectory, Godalming.
Wyndham, Henry, C.E. ...	Thornton Heath, Surrey.

OBITUARY.

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 "	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	.. 82 "
Rev. John Dickinson	.. 85 "	Mr. R. F. Birch 80 "
Mr. A. T. Miller	.. 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	54 years	Mr. R. F. Sturge	45 years
Mr. E. Sharman	54 "	Sir James Rankin, Bart.	..	42 "
Rt. Hon. Lord Courtown	49 "	Mr. S. Alexander	41 "
Mr. E. T. Dowson	49 "	Col. W. B. Bryan	41 "
Rev. W. L. W. Eyre	48 "	Mr. Peter Murdoch	41 "
Mr. D. Doncaster	45 "	Rt. Hon. Lord Jersey	39 "

Record of Thirty years and upwards—(continued).

Mr. W. Fisher	38 years	Mr. Philip Wright	32 years
Mr. E. Simpson	38 "	Mr. C. W. Lane	31 "
Mr. F. Griffith	35 "	Rev. W. T. Tyrwhitt-Drake	31 "
Rt. Hon. Lord Merthyr	35 "	Mr. W. Piffe Brown	30 "
Mr. E. Rosling	34 "	Miss D. Prater	30 "
Rev. Preb. W. Selwyn	34 "		

MR. HENRY BELL, 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. JOHN 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. WILLIAM PIFFE BROWN, who was born in Gloucester seventy-eight years ago, spent his life in that city, where he practised as a

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.

COLONEL WILLIAM BOOTH 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 1903, and Honorary Colonel of the 17th Battalion of the County of London Regiment. He was always much interested in our work.

CAPTAIN JOHN CALDER, 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

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. CHARLES EDWARD CHRIMES, 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 a 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 EARL OF 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

British Rainfall, and signed every annual return down to 1913. 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. EDWARD 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 35 years. Some of the most important of these dealt with the indications of the Redier mercurial barograph.

THE REV. WILLIAM LEIGH WILLIAMSON EYRE, Rector of Swarraton, Alresford, who died on October 25th, 1914, at the age of 73, 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. WILLIAM FISHER, 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.

Having served some time on the Belvoir Castle Estate 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.

THE REV. JOHN HART died on May 31st, 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

of observations at Aberlady in the event of his successor failing to keep up his old record at the manse.

MR. ARTHUR FRANCIS JONES, 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. CHARLES WILLIAM LANE died at Kettering 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

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.

LORD MERTHYR, 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

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. RODGER, 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 ROFE, 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.

THE 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

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. EDWARD SHARMAN, J.P., of Croyley 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. JOHN SMYTH, 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.

OBITUARY.

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Observers Deceased to June 30th, 1915.

Small Capitals designate Observers with 30 years records.

ALEXANDER, SAMUEL	The Shrubbery, Felixstowe.
Barclay, Frederick John	Surbiton, Surrey.
Bell, Mrs. Charles Lothian	Linthorpe, Middlesbrough.
*Bell, Henry	West Kirby, Cheshire.
Bell, William, M.R.C.S., J.P.	Rutland House, New Brighton.
Bell, W., C.E.	Aberfeldy.
Belper, Lord	Kingston Hall, Derby.
Billiter, Miss Mary	Dunsfold, Godalming.
Birch, Richard Frederick	Maes Elwy, St. Asaph.
*Bisset, John, J.P.	Thornhill, Insch.
Bloomfield, Col. Alfred	Glemham Grove, Saxmundham.
Bradford, Rt. Hon. Earl of	Weston Park, Staffs.
*BROWN, WILLIAM PIFFE	Belgrave Road, Gloucester.
Bruce, Miss Isabella	The Old Garrach, Dalry.
*BRYAN, COL. W. BOOTH, 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.	Sutton, Surrey.
Chambers, Harcourt Augustine F.	Herongate House, Brentwood.
*Chrimes, Charles Edward	Selwood, Rotherham.
Coats, John	Kildonan, Eigg.
Cooke-Yarborough, George Bryon	Campsmonth, Doncaster.
Coombes, J.	Englefield Gardens, Reading.
*COURTOWN, RT. HON. EARL OF	Courtown House, Gorey.
Croft, Charles	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	French Park, Co. Roscommon.
Dickinson, Rev. John	Broomhill, Tiverton.
DONCASTER, D.	Broomhall Park, Sheffield.
*DOWSON, EDWARD THEODORE, J.P.	The Old House, Geldeston.
Edlmann, Miss Adine Josephine	Chislehurst.
*EYRE, REV. W. LEIGH W.	Swarraton Rectory, Alresford.
Farrington, Thomas Booth, C.E.	Plas Madoc, Llandudno.
Fisher, Rev. Canon Frederic H.	Church Croft, Hemel Hempstead.
*FISHER, WILLIAM.	Wentworth Castle, Barnsley.
Foster, Bernard Le Neve, J.P.	Dormans Park, Surrey.
Freear, H. M.	Crawley Mill Farm, Woburn.
Freeman, Rev. William Henry	Whitwell House, High Wycombe.
Gilbey, Sir Walter, Bart.	Elsenham Hall, Essex.
Gordon, Alexander Duncan	Woodlands, Chalfont St. Giles.
*Gower, Erasmus, J.P.	Castle Malgwyn, Pembroke.
GRIFFITH, FREDERICK, C.E.	Leicester Corporation Waterworks.
Hall, B. C.	Southchurch Road, Southend-on-Sea.
Harington, The Dowager Lady	Whitbourne Court, Herefordshire.
Harman, Lt.-Col. Ramsay	Wootton Hill, Milton.
Harrison, Frederic James	Maer Hall, Staffordshire.
*Hart, Rev. John	Aberlady Manse, Haddington.
Heygate, Dowager Lady	Bellarena, Londonderry.
Hill, William, F.R.G.S.	The Maples, Hitchin.
Jacques, Rev. Canon Kinton	Brindle Rectory, Lanes.

* See Biographical Note ante.

Observers deceased to June 30th, 1915—(continued).

JERSEY, EARL OF, G.C.B., G.C.M.G.	..	Middleton Park, Bicester.
Johnson, J.	Lama House, Hayling Island.
*Jones, Arthur Francis	Cranleigh Common, Guildford.
Kershaw, Prof. Milton	Royal Agricultural College, Cirencester.
Knight, F. A.	Wintrath, Winscombe.
*LANE, CHARLES WILLIAM	George Street, Kettering.
Lanyon, Alfred	Tolvean, Redruth.
Leachman, Albert Warren, M.D.	Fairley, Petersfield.
Lillingston, Capt. William George	Ulverscroft, Leicester.
Marshall, George	Junipers, Hardres, Kent.
*MERTHYR, LORD	Aberdare.
Metcalfe, Miss	Harbledown, Canterbury.
Miles, Sir Henry, Bart.	Leigh Court, Bristol.
Miller, Arthur Thomas	Emlyn House, Leatherhead.
Miller, Capt. Ernest Cyril	Merlewood, Grange-over-Sands.
MURDOCH, PETER	Glendrishaig, Ayr.
Pawle, Frederick Charles	Northcote, Reigate.
PRATER, MISS DOROTHEA J. G.	Farnborough, Banbury.
*RANKIN, SIR JAMES, BT., J.P., D.L.	Bryngwyn, Hereford.
Robertson, W. P.	Sewardstone Lodge, Chingford.
*Rodger, A. M.	The Museum, Perth.
*Rofe, Henry, C.E.	London.
ROSLING, EDWARD	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	Marelands, Bentley, Hants.
*SELWYN, REV. PREB. WILLIAM.	Quarry House, Hereford.
*SHARMAN, EDWARD, J.P.	Croyland Abbey, Wellingborough.
SIMPSON, EDWARD	Walton, Wakefield.
*SMYTH, JOHN, M.A., C.E.	Milltown, Banbridge.
Spry, John Samuel	St. Mawes, Falmouth.
Squire, W. W., C.E.	Bristol.
Strong, Col. Charles Isham	Thorpe Hall, Peterborough.
STURGE, ROBERT FOWLER	Pembroke Road, Clifton, Bristol.
Sumner, Frank, C.E.	London.
Sykes, M. H.	Stockton-on-Tees.
Tempest, John Hicks	Bradenham House, High Wycombe.
Thomas, Robert Edmund Skeyring	Wormington Grange, Glos.
Thompson, George Rodie, J.P., D.L.	Lynwood, Ascot.
Townshend, Rev. Canon H. W., M.A.	Skibbereen Rectory, Co. Cork.
Travers, Major John Amory, J.P.	Tortington House, Arundel.
Travers, P.	Fofanny Reservoir, Newry.
TYRWHITT-DRAKE, REV. W. T.	Great Gaddesden Vicarage, Herts.
Vachell, Charles Tanfield, M.D.	Park Place, Cardiff.
WRIGHT, PHILIP, J.P.	Mellington Hall, Montgomery.
Yourdi, George Nicholas, C.E.	Birmingham Corporation Waterworks

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 ...	94 years	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 ...	83 "
Col. M. F. Ward ...	90 "	Rt. Hon. Sir H. E. Roscoe, F.R.S. ...	83 "
Mr. Henry Padwick, J.P. ...	87 "	Dr. R. H. Scott, F.R.S. ...	83 "
Mrs. Susanna Wilson ...	87 "	Mr. W. H. Wheeler ...	83 "
Mr. S. Robinson, J.P., D.L. ...	86 "	Capt. W. Enderby, J.P. ...	82 "
Col. S. Malthus, C.B. ...	85 "	Mr. Henry Haes ...	82 "
Mrs. F. A. Scott ...	85 "	Rev. Canon A. Atkinson ...	81 "
Rev. Canon J. H. Carr ...	84 "		

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 ...	58 years	Mr. T. Edwards ...	39 years
Mr. Stephen Robinson ...	50 "	Mr. R. M. Barrington ...	38 "
Col. J. A. Macdonald ...	46 "	Rev. H. M. Langdale ...	35 "
Mr. W. C. Punnett ...	45 "	Mr. J. Metson ...	35 "
Miss H. E. G. Wingfield ...	45 "	Mr. Henry Padwick ...	35 "
Mr. R. Lewis Lloyd ...	44 "	Rev. C. T. Salisbury ...	35 "
Mr. E. E. Glyde ...	*43 "	Mr. W. W. Kettlewell ...	34 "
Mr. Wm. I'Anson ...	43 "	Mr. T. P. Newman ...	34 "
Mr. G. G. Phillips ...	43 "	Mr. R. J. W. Purdy ...	32 "
Mr. W. H. Wheeler ...	42 "	Mr. J. C. Gill ...	31 "
Mr. G. S. Wilson ...	42 "	Rev. W. F. Rose ...	31 "
Mr. Henry Horncastle ...	40 "		

* Mr. E. E. Glyde observed for 5 more years in Canada

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. RICHARD MANLiffe 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. FREDERICK GASTER, 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 JORDAN, 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

OBITUARY.

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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 23 years.

DR. ROBERT 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 SOUTHALL, 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. I 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 WAINWRIGHT, of Barnstaple was for many years the Secretary of the North Devon Athenæum 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

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.

COLONEL MICHAEL FOSTER WARD 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 1863, 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	The Close, Fairford.
Atkinson, Rev. Canon Arthur	...	Northop, Flints.
Bache, Rev. Kentish	Walford Vicarage, Herefordshire.

Observers Deceased to June 30th, 1916—(continued).

*BARRINGTON, RICHARD MANLIFFE	Fassaroe, Bray.
Bartley, Capt. Stanhope Cole	Shovelstrode, Sussex.
Benzie, Simpson	Cowes, I. of Wight.
Bower, Thomas, C.E.	West Hartlepool.
Bowstead, Charles James	Hyde Grange, Chalford.
Calvert, Frank	Ashton Park, Preston.
Carr, Rev. Canon James Haslewood	Canterbury.
Casella, Charles Frederick	London.
Chambers, G. F.	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.	Hendon.
Dyack, William, C.E.	Aberdeen.
EDWARDS, T.	Royal Gardens, Windsor.
Enderby, Capt. William, D.L., J.P.	Munderfield Harold.
Esdaile, Rev. William	Burley, Ringwood.
Farmiloe, Edgar	Arkwright Road, Hampstead.
Fletcher, Ralph, J.P.	Crow Howe, Ambleside.
Gale, Thomas	Teddington.
Garnett, Thomas	Oakwood, Bingley.
Garnons-Williams, Lt.-Col. Richard D.	Waunderwen, Hay.
*Gaster, Frederick	Whitstable.
GILL, JOHN CHARLES, C.E.	Peterborough.
Gillet, Rev. Hugh Hodgson	Thornbury House, Glos.
GLYDE, EDWIN EDSALL	Tavistock.
Hadow, Rev. George Randolph	Wylie Rectory, Wilts.
Haes, Henry	Caterham Valley.
Harper, Peter	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	Horsell, Woking.
I'ANSON, WILLIAM, C.E.	Saltburn by-the-Sea.
*Jordan, James Brown	Hayfield, Hythe.
Ker, Ronald Scott	Glenreasdale Mains, Argyll.
KETTLEWELL, WILLIAM WILDMAN	Harptree Court, Somerset.
LANGDALE, REV. H. MARMADUKE	Compton House, Petersfield.
LLOYD, ROBERT LEWIS, J.P., D.L.	Somerset Place, Bath.
MACDONALD, COL. J. ANDREW, C.B.	Betley Hall, Crewe.
McHardy, David, J.P.	Cranford House, Aberdeen.
Malthus, Col. Sydenham, C.B.	Dalton Hill, Albury.
Meade, Thomas de Courcy, C.E.	City Surveyor, Manchester.
METSON, J.	Anchor Brewery, Mile End.
Miller, Thomas Horrocks	Singleton Park, Lanes.

* See Biographical Note *ante*.

Observers Deceased to June 30th, 1916--(continued).

Mitchell, George	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.	Littlebourne House, Dover.
PHILLIPS, GEORGE GRIFFITH	Tickhill, Yorkshire.
Pritchard, J. B.	Galltfaenan, Trefnant.
PUNNETT, WILLIAM CORNWALL	Beech Hurst, Tonbridge.
PURDY, ROBERT JOHN WOODS	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.
ROSE, REV. WILLIAM FRANCIS, M.A.	Hutton, Weston-Super-Mare.
SALSBURY, REV. CIAS. THELWAL...	Tredunnoc, Mon.
Sandwich, The Earl of	Hinchinbrooke, Hunts.
Saville, Robert William Smith, C.E.	Darwen, Lanes.
Scott, Col. Charles E. Southouse	Draycott House, Worcester.
Scott, Mrs. Frances Augusta	Pembroke Lodge, Bray.
Scott, Mason T.	Brunstock, Carlisle.
*SCOTT, ROBERT HENRY, D.Sc., F.R.S.	London.
Sedgwick, Roger B.	Froyle, Hants.
Severne, Mrs. Florence	Wallop, Shrewsbury.
Shepherd-Cross, Major Herbert	Hamels Park, Buntingford.
Simeon, Sir Edmund Charles, Bt.	Swainston, Isle of Wight.
Simpson, Mrs. Florence Thomasina	Harrogate.
*SOUTHALL, HENRY	The Graig, Ross-on-Wye.
Southall, John Tertius	Parkfields, Ross-on-Wye.
Stanton, Miss Emily R.	Upfield, Stroud.
Thomas, Robert Edmund Skyring	Wormington Grange, Glos.
*Wainwright, Thomas	Barnstaple.
Walker, W. A.	Higham, Kent.
*Ward, Col. Michael Foster	Upton Park, Slough.
WHEELER, WILLIAM HENRY, C.E.	Boston, Lincs.
Wilson, Countenay Freeman	Bitterne, Hants.
Wilson, Mrs. Susanna	Calder Mount, Garstang.
WILSON, G. S.	Broughton Grange, Cockermouth.
WINGFIELD, MISS H. E. GRACE	Market Overton.
Woodhouse, Rev. Thomas Edward	Whitwell, Oakham.
Woodrow, John	Coats Observatory, Paisley.

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	60 years	Mr. E. Mawley (75)	44 years
Mr. W. R. Nash (82)	57 ,,"	Mr. Baldwin Latham (81)	41 ,,"
Rev. Preb. Dimond-Churchward (80)	52 ,,"	Mr. W. Marriott (68)	39 ,,"
Mr. G. Pile	51 ,,"	Rev. S. G. Gillum (81)	36 ,,"
Rev. C. B. Mount (90)	50 ,,"	Rev. J. C. Ross (74)	36 ,,"
Mr. H. E. Hippisley (78)	48 ,,"	Dr. H. M. Page	35 ,,"
Mr. J. Joss	47 ,,"	Rev. O. Pickard-Cambridge	32 ,,"
Mr. R. Gordon	45 ,,"	(88)	31 ,,"
		Mr. W. B. Butler (60)	

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.

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. ELLIS, F.R.S. (*Met. Mag.*, January, 1917), MR. BALDWIN LATHAM (*Met. Mag.*, June, 1917), and MR. EDWARD MAWLEY (*Met. Mag.*, October, 1916), and to these we must add MR. WILLIAM MARRIOTT (*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. BIRD, who was killed in action at the age of 23, 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. BUTLER, 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.

LIEUTENANT H. S. HAWORTH, 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. COLIN LIVINGSTONE, 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

assisted in the preliminary work of establishing the Observatory in 1883, 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. NASH, 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 aptitude 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.

THE REV. O. PICKARD-CAMBRIDGE, 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.

THE REV. J. C. Ross, of Wadworth Hall, Doncaster, kept a continuous record of rainfall for 36 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 3.30 p.m. and 6.30 p.m. in London, a record of which we have found no other trace.

MR. GEORGE SEARLE, 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. WALBANK, of Ussworth 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 *Symons's Meteorological Magazine* for 1909, Vol. 44, pp. 127-128.

Mr. W. W. WILLMOTT, 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	Cragside, Rothbury.
*Binnie, Sir Alexander Richardson (78)	London.
*†Bird, Lieut. Rex W. (23)	Midsomer Norton.
Bowman, Sir William Paget, Bt. (71)	Joldwynds, Holmbury St. Mary.
Bullock, P. Clouston (54)	Pendean, Midhurst.
Burne, Col. Sambrooke T. H., v.d. (63)	Loynton Hall, Staffs.
*BUTLER, WILLIAM BOWTON (60) ..	Old Southgate.
Cann-Lippincott, Robert Cann (76) ..	Over Court, Bristol.
Carson, David Simpson	Kilmalcolm, Renfrewshire.
Cherrill, Nelson King (71)	Haslemere.
Cobb, Miss Charlotte Elizabeth (84) ..	Hamilton Terrace, N.W.
Cook, Miss Fanny	The Hall, Nutley.
Cooper, Rev. Robert Jermyn (86) ..	Robin Hood's Bay, Yorks.
Cresswell, A.	Edgbaston, Birmingham.
Cruddas, Rev. William Sandwith ..	Withiel Rectory, Cornwall.
David, Martin Sinclair	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.
Edlmann, Charles Clement (79) ..	Bognor.
*Ellis, William, F.R.S. (89)	Blackheath.
Eves, W. J.	Aberdovey, Merioneth.
Fryar, J. W.	Eastwood, Notts.
Gee, John (83)	Salford House, Welford.
GILLUM, REV. SIDNEY GEORGE (81) ..	Vernham Dean, Exmouth.
Goodall-Copestake, Walter, M.R.C.S. (80)	Duffield Road, Derby.
GORDON, R., C.E. ¹	Lower Pitkerrie, Ross-shire.
Gundry, Sir William (72)	North Lodge, Potters Bar.
Guy, J. W.	Prestbury, Cheltenham
Harrington, J. P.	Broadfield, Port Glasgow.
*†Haworth, 2nd-Lt. Harold Stanley (36)	Stanley Grange, Wakefield.
Henderson, J.	Loan, Inverness-shire.
HRIFFISLEY, HENRY EDWARD (78) ..	Ston Easton, Somerset.

* See Biographical Note, ante.

† Killed in action.

Observers Deceased to June 30th, 1917—(continued).

Izat, Capt. George, R.N. (69)	..	Halberton, Tiverton.
Jeffrey, J.	..	The Gardens, St. Mary's Isle.
Joad, Mrs. Laura Catherine	..	Patching, Sussex.
Jones, Oliver Henry (70)	..	Fonmon Castle, Glam.
Joss, J.	..	Cruchie, Huntly.
Kemm, Dr. Frederick St. John (64)	..	Worle, Somerset.
*LATHAM, BALDWIN, C.E. (81)	..	Park Hill House, Croydon.
*Livingstone, Colin (89)	..	Ardtraigh, Fort William.
MacDougall, Allan	..	Sotterley Hall Gardens, Beccles.
*MARRIOTT, WILLIAM (68)	..	Dulwich.
Marten, Edward Dimmack, C.E.	..	Cheltenham.
Martin, N. H., F.R.S.E. (69)	..	Newcastle-on-Tyne.
*MAWLEY, EDWARD, V.M.H. (75)	..	Rosebank, Berkhamsted.
Merivale, John Herman (67)	..	Acklington, Northumberland.
Miller, Lt.-Col. J. F., I.S.C.	..	Pershore, Worcs.
Miller, Dr. N. H. J.	..	Rothamsted, Herts.
Moore, J. W.	..	Sidlesham, Sussex.
MOUNT, REV. CHARLES BRIDGES (90)	..	Bath.
*NASH, WILLIAM RICHARDSON (82)	..	The Mount, Carke-in-Cartmel.
Neame, Sidney (50)	..	Harefield, Selling.
Nelson, Thomas Arthur (40)	..	Achnacloich, Argyll.
†Nicholson, Lawrence J.	..	Gateshead, Newcastle-on-Tyne.
PAGE, 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	..	Hartley, Cranbrook.
Pope, Mrs. Emily Frances (79)	..	Edwins Hall, Woodham Ferrers.
Roberts, Dr. F. E.	..	Hayling Island.
Robins, Mrs.	..	West Hill, Leamington.
ROBSON, J. W.	..	Dalton, Huddersfield.
Rogers, Henry (87)	..	Preston, Brighton.
*ROSS, REV. JAMES COULMAN (74)	..	Wadhurst Hall, Doncaster.
Rudd, Charles Dunell (72)	..	Ardnamurchan, Argyll.
Scott, D. M.	..	Saltecoats, Ayr.
Scott, Mason Thompson	..	Brunstock House, Carlisle.
*Searle, George (56)	..	Edith Road, West Kensington.
Simpson, David Goudie (78)	..	Bromley, Kent.
†Smyth, Capt. W. H.	..	Milltown, Banbridge.
Spencer, Rev. Abraham (72)	..	Accrington.
Sykes, Frank (60)	..	Borrobol, Kinbrace.
Tapp, Arthur March (90)	..	Shortlands, Kent.
Taylor, Frederick James (83)	..	Newport Pagnell
Teignmouth, Lord (73)	..	Ballyduff, Co. Kilkenny.
Thompson, George Stafford (85)	..	New Building, Thirsk.
*Walbank, H. W.	..	Usworth, Co. Durham.
Weaver, J.	..	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.	..	Meopham, Kent.

**EIGHTH ANNUAL REPORT OF THE DIRECTOR TO
THE TRUSTEES OF THE BRITISH RAINFALL
ORGANIZATION.**

Adopted at the Meeting of Trustees held at 62, Camden Square, London,
on July 31st, 1918.

The Late D. S. Salter.—I have to record, with much regret, the death from wounds of Sec. Lieut. Donald S. Salter, R.G.A., on March 22nd, 1918. He had been for nearly ten years a member of the staff and had developed remarkable powers as a cartographer and map draughtsman. It is sufficient to turn over the volumes of our publications since that for 1906 to see how the quality of the map-work, which is an essential in the treatment of rainfall distribution, improved as its quantity increased from year to year. This is mainly due to the devotion with which Donald Salter applied himself to all branches of his difficult and highly technical work. He had got it to go so smoothly that it was only when he joined the Army that we realized how heavy the burden of this department had become and how difficult it was to improvise methods for carrying on the reduced amount of map-work which appears in the later volumes. A notice of the life and work of Donald Salter will be found in *Symons's Meteorological Magazine* for April, 1918, p. 25, and it only remains for me here to express my sense of the loss to the British Rainfall Organization and to rainfall research caused by the death of such a capable and promising assistant.

The Staff and the War.—On the day when Sec. Lieut. D. S. Salter received his fatal wound, March 21st, 1918, the other member of our staff at the front, Corporal H. E. Carter, R.E., who was also doing his

OBITUARY.

THE 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 age 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 in 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 Thirty 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 S. 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 93, 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 on 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. JOHN EDWARD CULLUM was for forty years the Superintendent 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

his retirement, in 1915, he went to Oxford, where he resided until his death, at the age of 67, on January 11th, 1918.

MR. CHARLES HAWKSLEY, the eminent water engineer, 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 EMILIUS LAURIE, BART., died at the great age of 94 on 1th 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 Maxwelton 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 SAMUEL HENRY MILLER, 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-

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. EDWIN 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 departments, pursued in his home at Feldemore, Holmbury St. Mary, the rural pursuits which naturally lead to an interest in weather, and his records have for many years had a place in our tables.

Observers deceased to June 30th, 1918.

Small Capitals designate Observers with records of 30 years and upwards.

AMES, FREDERICK (81)	Hawford Lodge, Worcester.
Ames, Mrs. Charlotte Henrietta	Westbury-on-Trim, Bristol.
Armstrong, John H. M.	Greystones, Co. Wicklow.
ASHBURNER, REV. JOHN (71)	Blawith, Ulverston.
Atkinson, Rev. G. B.	Swanington, Norfolk.
Bailie, Maj.-Gen. Thomas Maubourgh (73)	Caldecott House, Abingdon.
†Barne, Major Miles, D.S.O. (45)	Sotterley Hall, Beccles.
Bayne, Dr. Wm. Thirlwall (79)	Broadclyst, Exeter.
Beadle, Clayton (49)	Sidcup, Kent.
Bear, William Edwin (77)	Magham Down, Hailsham.
Blackburn, William, C.E.	Metropolitan W. Board, London.
Blake, Col. A. M., C.B. (66)	East Close, Christchurch.
Blanchard, G. W.	Tortworth, Glos.
Bowles, Arthur H.	Woodbridge.
Brassey, Albert (73)	Heythrop, Chipping Norton.
Bridgeman, Brig.-Gen. Hon. Francis C. (71)	Beech Hill, Reading.
†Brooke, Maj. William John, K.S.L.I. (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)	Clonbrock, co. Galway.
Cottesloe, Lord (88)	Swanbourne House, Winslow.
Crace-Calvert, George Alfred, M.B. (47)	Llanbedr Hall, Ruthin.
Creswick, Sir Nathaniel, K.C.B., V.D. (86)	Norton, Sheffield.
*Cullum, John Edward (67)	Valencia Observatory, co. Kerry.
†Davey, A. H. P., C.E.	Water Works, Guernsey.
Davis, Miss Mary (68)	Greys Green, Henley.
Dixon, Mrs. Agnes Margaret	Great Roke, Witney.
DREWITT, JOHN (82)	Patching, Worthing.
Duckworth, Rev. William Arthur (89)	Orchardleigh, Frome.

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. P.	..	Coltishall, Norfolk.
Forester, Lord (75)	..	Willey Park, Salop.
Furlong, Robert O'Brien, C.B. (74)	..	Bournemouth.
GILL, REV. J.	..	Holne, Ashburton.
Gill, T. C.	..	Silverdale, Ilkley.
Glen, Dr. James Henry	..	Wychwood House, Charlbury.
GRAVES, A. E.	..	Rockenham, Waterford.
HARE, MRS. MATILDA JANE	..	Court Grange, Newton Abbot.
HARRISON, MISS E.	..	Mickley, Ripon.
HARRIS-ST. JOHN, CHAS. EDWARD (74)	..	West Court, Finchampstead.
*Hawksley, Charles, C.E. (78)	..	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.	..	Little Richorn, Dalbeattie.
Knight, Rev. John Geo. Bury (77)	..	Boldon, co. Durham.
*LAURIE, REV. SIR J. R. L. EMILIUS, B.T. (94)	..	Maxwelton House, Dumfries-shire.
Macalister, Daniel, C.E. (62)	..	Greenock.
McMillan, J.	..	Glenhead of Trool, Kirkcudbright.
MacVarish, D.	..	Rhu, Arisaig, Inverness-shire.
MARTINEAU, MISS M. C. (87)	..	Letchworth, Herts.
*MILLER, SAMUEL HENRY, (94)	..	Deal.
Moffat, Mrs. H. E.	..	Ballyhyland, Enniscorthy.
Money, Rev. Granville Erskine (73)	..	Byfleet, Surrey.
Naylor, Miss Frances (60)	..	Leighton Hall, Welshpool.
Pilsworth, W. T.	..	Thomastown, co. Kilkenny.
Powell, Miss Joan	..	Munslow, Salop.
Prothero, Francis Egerton	..	The Hall, Dunster, Somerset.
†Roper, Capt. William Edward (25)	..	Yealand Conyers, Lancs.
Rothena, Dr. F.	..	Beeston, Notts.
*†Salter, Sec.-Lieut. Donald Sowerby (28)	..	62, Camden Square, London.
Shorter, Arthur (91)	..	Park House, Hampton Wick.
Singleton, Rev. Canon J.	..	Southwell, Notts.
Smith, Bertram (41)	..	Broomlands, Beattcock.
Smith, Urban Armstrong, C.E. (72)	..	Hatfield, Herts.
Spillet, J.	..	St. Thomas Hill, Canterbury.
STEPHENS, SAMUEL HANNAM (77)	..	Gillingham, Dorset.
Stewart, Charles Frederick, D.L. (72)	..	Horn Head, Dunfanaghy.
Suffield, T.	..	Terrington, Yorks.
*Symons, William Henry, M.D., D.P.H. (62)	..	Combe Park, Bath.
Tighe, Capt. Edward Kenrick Bunbury (55)	..	Woodstock, co. Kilkenny.
†Troyte, Lt.-Col. Hugh Acland (48)	..	Huntsham Court, Bampton.
Turner, Henry, C.E. (76)	..	Folkestone.
†Wallace, 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.	..	St. Agnes, Cornwall.
Wildy, Arthur (66)	..	Shord Hill, Kenley.
Williams, D. P.	..	St. David's, Pembrokeshire.
WILSON, JOHN (94)	..	Lorton, Cockermouth.
WOODS, JOHN WILLIAM (80)	..	Chilgrove, Chichester.
Worthington, Albert Octavius (74)	..	Maple Hayes, Lichfield.
Wrigley, Oswald Osmond (81)	..	Wansfell, Windermere.

* See Biographical Note, ante.

† Killed in action.

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 interest 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 nonagenarians.

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. Fawssett	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

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. GEORGE BUNYARD 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. COWELL, 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. WALTER 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

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. GEORGE HENRY HILL, 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 30 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.-GEN. SIR J. HILLS-JOHNES, 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 seige 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.

MR. A. S. LESLIE MELVILLE, 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. As 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 :—

“I 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.”

COL. CHARLES McINROY, 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. DANIEL 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 23rd, 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 Cawnpore 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

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.

LORD RHONDDA, more familiar in our pages as Mr. D. 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 Govern-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 WALTER SIDGREAVES, s.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. He 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

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. Mr. 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 30th, 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)	The Chain, Abergavenny.
Balston, W. E.	Barvin Park, Potters Bar.
Basing, Lord (59)	Hoddington House, Hants.
Bazley, Sir Thomas Sebastian, Bt. (90)	Kilmorie, Torquay.
BERNERS, CHARLES HUGH (77)	Woolverstone Park, Ipswich.
Berry, Miss	Keymer, Sussex.
Briggs, W.	Tordarroch, Pitlochrie.
*Bunyard, George, V.M.H. (78)	Maidstone.
Burgess, J. F. B.	Tenby.
BUTTON, EUSTACE, J.P. (90)	Clevedon, Somerset.
Buxton, Mrs. Mary Rosalind	Fritton Hall, Suffolk.
Caldicott, R. B.	Kingswood, Coventry.
Calvert, Dr. George Alfred Crace (48)	Llanbedr Hall, Ruthin.
Campbell, R. S.	Achnashie, Rosneath.
Cane, Rev. Alfred Grainger (74)	Great Paxton, St. Neots.
Carr, Mrs. Elizabeth (90)	Wolstanton Rectory, Shrewsbury.
Carr-Gomm, Francis Culling, J.P., D.L. (85)	Farnham Royal, Bucks.
Carter, Mrs. (90)	Maugersbury, Stow-on-the-Wold.
CARY, REV. OFFLEY HENRY (83)	Trusham Rectory, South Devon.
Clark, Godfrey L.	Tal-y-garn, Glamorgan.
Clark-Neill, James	Curling Hall, Largs.
Collen, Daniel (80)	Rowden Hill, Chippenham.
*COWELL, REV. CAN. MAURICE BYLES (85)	Ash Bocking, Suffolk.
*Curtis, Richard Henry (73)	Warlingham.
Davies, C.	Gwern-y-Arglwyd, Radnorshire.
Day, Dr. F. W. Langston	Baldock, Herts.
*de Watteville, Walter, M.D. (60)	Kingussie.
Dixon, N. E.	Oundle, Northants.
DORRIEN-SMITH, 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.
FAWSSETT, 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	Lindfield, Sussex.
Hall, William	Swerford, Oxon.

Observers deceased to June 30th, 1919—(continued).

Hamilton-Buchanan, John (58)	..	Leny, Callander.
Hibbert, Mrs.	..	Landcross, Bideford.
*HILL, GEORGE HENRY, C.E. (92)	..	Manchester.
*Hills-Johnes, Lt.-Gen. Sir James, v.c., G.C.B. (85)	..	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	..	The Thorne, Bacup.
Hume, Rev. Francis Glynne (74)	..	Oakley Rectory, Basingstoke.
Innes, John	..	Charlwood, Surrey.
Jepson, A. J.	..	Fringford, Oxon.
Johnson, John	..	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, D.L., J.P.	..	Castlerigg Manor, Keswick.
Martin, John Byng (75)	..	Culmore, Myroe, Co. Derry.
MAW, CHARLES TRENTHAM (54)	..	Limpsfield, Surrey.
Mulligan, J. W., M.D.	..	Millbank, Banbridge.
Nicholson, C. S.	..	Avenue Road, Highgate, N. 6.
*O'CONNELL, DANIEL J.P., D.L. (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	..	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.
RINTOUL, LT. COL. DAVID, V.D. (56)	..	Clifton College, Bristol.
Rust, Robert	..	Wearhead, Co. Durham.
Sainty, Christopher, C.E.	..	Slough.
Scriven, Miss Emma K. (77)	..	Combe Down, Bath.
SELBY, BEAUCHAMP PRIDEAUX J.P. (77)	..	Pawston, Northumberland.
SHARMAN, NATHANIEL PEARCE (91)	..	Swanspool, Wellingborough.
*SIDGREAVES, REV. WALTER, S.J.	..	Stonyhurst College, Lancs.
Smith, W.	..	Bessbrook, Co. Armagh.
SMITHSON, T. SPENCER	..	Leicester.
Spencer, Frederick, J.P., D.L. (81)	..	Oakhill, Bath.
Tremlett, James Dyer (82)	..	Dalethorpe, Dedham.
*WATSON, JAMES, C.E. (75)	..	Bradford, Yorks.
Watson, T. Carrick	..	Plumtree Hall, Milnthorpe.
White, Edgar (41)	..	Gortmore, Waterford.
White, Ernest Albert (66)	..	Coolleagrean, Waterford.
Williams, G. J.	..	Burnham, Bucks.
WINTON, EDWIN WILLIAM (90)	..	Speldhurst, Tunbridge Wells.

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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 obesrvations 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	38 years
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.

MR. J. MACKAY 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 HOPKINSON, 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 Society*, 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

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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

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, BART., 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.

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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
*BACKHOUSE, THOMAS WILLIAM (78) .	West Hendon House, Sunderland
Bailey, Major George James.....	Invergloy, Inverness-shire
*Bartholomew, John George (60)....	Edinburgh
BARTHOLOMEW, WILLIAM HAMMOND (89)	Leeds
Beacom, J.	Belleek, co. Fermanagh
*Bernard, John Mackay, B.Sc., F.R.S.E. (63)	Dunsinnan, Perth
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, PROF. ADRIAN JOHN, F.R.S. (68)	Northfield, Birmingham
Brown, Miss Clara (59)	Esthwaite Lodge, Hawkshead
BRUNNER, RT. HON. SIR JOHN T., BT., P.C., M.P., D.L. (78)	Chertsey
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
Colvile, Ed. Leigh Mansel (63).....	Kempsey, Bournemouth
Copland, Montague Bigg (74).....	Preston
*CORDEN, GEORGE (80).....	Croydon
Crewdson, Rev. Canon George (80) ..	Cambridge
†Cuthbert, Capt. J. H.	Beaufort Castle, Hexham
Dartrey, Rt. Hon. The Earl of (78) ..	Dartrey, co. Monaghan
Dell, J. C.	Kennington, Ashford, Kent
Deverell, William Henry (84)	Bossington House, Stockbridge
Dobson, 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.....	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 Francis Greaves (79)	Aldwincle, Northants.
Hollis, James (74)	Waldegrave House, Chewton Mendip
*HOPKINSON, JOHN, F.L.S., F.G.S. (74)	Weetwood, Watford
Hughes, T. L., C.E.	Wigan
*Jones, John Robert Gethin (59)	Llandudno

* See Biographical Note *ante.* † Killed in action.

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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, B.T. (70)	Leonardslee, Horsham
Machin, H. V., M.A., J.P. (61)	Gateford Hill, Worksop
Mainwaring, Col. Chas. Salusbury (75)	Galltaenan, Denbighshire
Marling, Sir William Henry, B.T. (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. (90)	Bank House, Wisbech
Pepys, Capt. Arthur (73)	Knowle House, Budleigh Salterton
Picot, W. J.	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, B.T., D.L., J.P. (77)	Rayners, Penn, Bucks.
Selkirk, Rt. Hon, 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, E.	Carlton, Upper Largo, Fifeshire
Thompson, Rev. John Edward	Childswyckham, Glos.
Trelawney, John Salusbury	Harewood, Buckfastleigh
Tucker, A.	Bramford 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*.

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.

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Mr. HENRY CLAY, 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. HAWKSFORD, 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

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. EDMUND JAMES MILLS, 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 Ross-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.

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.....	Skelwith Bridge, Ambleside
Addams-Williams, Rev. A. W. (57).....	Panteg Rectory, Mon.
Allen, James Dredge (97).....	Pilton, Shepton Mallet
Bere, Charles (62).....	Old Halls, Milverton
Boddington, Rev. Edward Henry.....	Honington, Shipton-on-Stour
Boyd, John.....	Ford, Argyll
Bradshaw, William (84).....	Carisbrook House, Nottingham
Burman, Dr. Frederick James	Wath-upon-Dearne, Yorks
Burton, W. C. V.	Carrigaholt Castle, Co. Clare
*CLARKE, DR. HENRY (72).....	Wakefield
*CLAY, HENRY (95).....	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.	Calder Bridge, Garstang
Dean, Edmund (66)	Markbeech, Kent
Du Pré, 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*.

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.	Crowlands, Peterborough
HARRISON, G.	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. EMILY 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.	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.	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-BOUGHTON, MISS FRANCES (90)	The Abbey House, Shrewsbury
Rutson, Henry (89)	Newby Wiske, Northallerton
Shepherd, Sheringham 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.	Aishott, Bridgwater, Som.
Woodhouse, Alfred Edward Clayton (62)	Kilve, Somerset
Woods, Miss Lucy Katherine	Chilgrove, near Chichester
Woolacombe, 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*.

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. Dalgleish, 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. Dalgleish.....	57 years	Miss E. S. Lomer.....	37 years
Mr. W. C. Stunt.....	55 "	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.....	41 "	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

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

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.

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

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. JOSEPH 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. DAVID JONES, of Rhosyperfedd, 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,

Malham Tarn, in the Craven district of Yorkshire, which records, with characteristic modesty, he preferred to have printed under the name of his gardener. Of immense wealth, Mr. Morrison was, although he preferred that few should know it, one of the most munificent benefactors of learning and science of the day, but his generosity was never reckless, every gift being carefully thought out and wisely directed. Incidentally, he was one of the largest contributors to the funds of the British Rainfall Organization in the working of which he was always greatly interested.

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.

Dr. GEORGE WALKER WALKER, F.R.S., whose death, at the early age of 47, robbed the scientific world of a brilliant and original worker, was primarily a mathematician and physicist, ranking as fourth Wrangler in 1897 and Smith's Prizeman in 1899. He acted from 1903 to 1908 as lecturer on physics at Glasgow University, and was later appointed in charge of the newly organized observatory at Eskdalemuir, Dumfriesshire, built for the National Physical Laboratory. At Eskdalemuir, Walker's work was principally on magnetism and seismology. He carried out the transfer of the observatory to the Meteorological Office in 1910, and was responsible for the invaluable meteorological observations. Ill-health compelled him to resign in 1912. His most notable work was the magnetic survey of the British Isles carried out for the Royal Society. In 1913 he published *Modern Seismology*, a standard work on the subject.

Observers deceased to June 30th, 1922.

Small Capitals denote Observers with Records of Thirty Years and upwards.

Acocks, Herbert Francis, <i>C.E.</i> (59)	Ashtead, Surrey.
ASPINALL, REV. GEORGE EDWARD, <i>J.P.</i> (79)	South Owram, Halifax.
Bagshawe, Rev. Wm. A. E. Vale (75)	Quarndon, Derby.
Baker, Hugh Meredith (64)	Ealing, W.
Balkwill, William (77)	South Huish, Kingsbridge.
Bankes, Ralph Vincent, <i>K.C.</i>	St. George's Square, S.W.
BEAUCHAMP, EDMUND BEAUCHAMP (89)	Trevince, Redruth.
*Beck, Frank Reginald, <i>M.V.O.</i>	Sandringham.
†Begg, Rev. John Smith (46)	Kirkwall.
Bell, Reginald (73)	The Hall, Thirsk.
Bennett, W. O.	Bawdsey, Woodbridge.
Bonny, J. H.	Southport.
Bridger, F.	Penshurst Place, Tonbridge.
†Bruce, Dr. William Spiers, <i>L.L.D., F.R.S.E.</i>	Edinburgh.

* Killed in Action.

† See Biographical Note *ante.*

OBITUARY.

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Observers deceased to June 30th, 1922.—(con.).

†Bryce, Viscount, <i>O.M., P.C., F.R.S.</i> (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 EDWARD (85).....	Villa Carey, Guernsey.
†CHRISTIE, SIR WILLIAM H. M., <i>K.C.B., D.Sc., F.R.S.</i> (77).	Royal Observatory, Greenwich.
Cleeve, Major-General W. F., <i>C.B.</i> (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, <i>D.L.</i> (85)	Bankston Grange, Alloa.
Day, Frederick	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, <i>C.B.E., D.Sc.</i> (55)	University College, Reading.
Dods, Rev. George	Barr, Girvan.
DUCIE, EARL OF, <i>F.R.S.</i> (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, <i>J.P.</i> (81)	Kippington Grange, Sevenoaks.
Frith, J.	Huddersfield.
Gosling, Robert Cunliffe, <i>J.P.</i> (53)	Hassobury, Bishops Stortford.
Grieve, Miss Marion Fisher (90)	Skelfhill, Hawick.
†Grubb, Joseph Henry (82).....	Bruce Villa, Clonmel.
Hall, Josiah (71)	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.	Cragside Gardens, Rothbury.
Hutton, John (74)	Sowber Gate, Northallerton.
Inglis, D.	Drumlarig, Dumfries.
Irvine, Alexander Forbes (41)	Drum Castle, Aberdeenshire.
Johnson, Mrs. E. A.	Scarisbrick, Ormskirk.
†JONES, DAVID	Bwlch 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.
LESLIE-MELVILLE, ARTHUR HENRY, <i>O.B.E.</i> (80).	D'Isney Place, Lincoln.

† See Biographical Note *ante*.

Observers deceased to June 30th, 1922.—(con.).

Lidbetter, R. M. (77)	Cockermouth.
Lloyd, Col. R. O., <i>C.B., D.L., J.P.</i> (72)	Trefiggarne Hall, Pembrokeshire.
LOMER, MISS ELLEN SARAH (78)	Merrow, Guildford.
M'Connell, John Wanklyn (67)	Colmonell, Ayrshire.
MacIntosh, Charles (83)	Inver, Dunkeld.
MacMahon, J.	Pallasgreen, Co. Limerick.
Martin, John G.	Cutroach, Wigtonshire.
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, <i>C.E.</i>	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.	Stow, Midlothian.
Reade, William M.	Knotty Ash, Liverpool.
Richards, W. J.	Stamford, Lincolnshire.
Roberts, T. J. S.	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.	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 VAUSE (77).	St. Peters, Broadstairs.
Soames, Rev. Henry Aldwin (64)	Bromley, Kent.
Steventon, P. C. (29)	Torquay.
†STUNT, WALTER CHARLES (80)	Ospringe, Faversham.
Sturge, Dr. Caroline (61)	Winscombe, Somerset.
THOMPSON, REV. JOSEPH HUGILL	Warkleigh, Devon.
THOMSON, JOHN (87)	Woodperry, Oxon.
Thomson, William, <i>C.E.</i> (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, <i>F.R.S.</i> (47)	Eskdalemuir Observatory.
WELCH, WILLIAM (76)	Cranleigh, Surrey.
Welsh, William (70)	Owslebury House, Winchester.
Wenn, T. H.	Downham Market, Norfolk.
WHITAKER, BENJAMIN INGHAM, <i>J.P.</i> (84)	Hesley Hall, Nottinghamshire.
WHITAKER, WILLIAM HENRY, <i>D.L., J.P.</i> (88)	Totterton Hall, Shropshire.
Whitehead, Miss M. L.	Deighton Grove, York.
Widnell, Edward Herbert (62)	Royston, Wimborne.
Wilson, John (74)	Hillesdon, Leek.
WORSLEY, REV. PENNYMAN RALPH	Little Ponton Rectory, Grantham.

† See Biographical Note *ante*.

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. MORTYN 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. 639.

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. Salter 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

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

* *Vide* Bibliography, page xxi.

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 snow-beds 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

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 GUNDRY 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	Victoria 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 Chiltington.
Busby, J.	Rotherfield Park Gardens, Hants.
Campbell, Rev. James A.	Manse of Fetlar, Shetland.
Coghill, C. P.	Frankville, Athboy, Co. Meath.

* *Nature*, Jan. 6th, 1923, p. 24.

† See Biographical Note *ante*.

Observers deceased to June 30th, 1923.—(con.).

Coombs, Dr. Carey P.	Castle Carey, Bath.
†CROSS, ROBERT T.	Lyngate Cottage, Worstead, Norwich.
Davis, Mrs.	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.	Lawns Wood Cemetery, Adel, Leeds.
Edmonds, C. W.	Draycott, Fairford, Glos.
†ELLIS, REV. THE HON. WM. CHAS. (88) ...	Bothalhaugh, Morpeth.
†Elwes, Henry John, F.R.S. (76)	Colesborne Park, Gloucester.
Elmslie, Leslie Cruickshank (70)	Eltermere, Elterwater, Ambleside.
†ESDAILE, CHARLES E. J.	Cothelestone House, Taunton.
Forde, Major W. G., D.L. (64)	Seaford, 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.
†GUNDRY, JOHN	St. Ann's Cottage, Staines.
Hartley, R. J., C.E.	Gibbet Hill, Halifax.
HARVEY, PREBENDARY F. CLYDE (78)	Hailsham Vicarage, Sussex.
†HEBERDEN, WILLIAM BULLER, C.B. (84)	Elmfield House, Exeter.
Henderson, H. M.	Lynhales, Kington.
HONEYBALL, Col. JAMES FREDERICK, V.D., (74).	Newgardens, Teynham, Kent.
Hood, William Walker (65)....	Tredean, Chepstow, Monmouth.
Hooper, John Kinnersley (72)	Little Tangley, Wonersh.
Hosegood, T.	Warden Road, Minehead.
Johnston, J., C.E.	Waterworks Office, Brighton.
KENNEDY, JAMES (78)	Doonholm, Ayr.
Knight, William Duncan (77)	Rapkyns, Horsham.
Lowes, John Burkhill	Allan's Green, Bardon Mill.
Lucas, Herbert (80)	Bosworth House, Huntingdon.
Macdonald, J. R. Moreton	Largie Castle, Argyll.
Mackenzie, Alexander (66)	Fasnacyle, 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.
†Salter, 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.

† See Biographical Note *ante*.

Observers deceased to June 30th, 1923.—(con.).

Stonham, Harry	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)	Rouceby Hall, Sleaford.
WOOD, MILES ASTMAN, F.R.C.S.	Orchardleigh, Ledbury, Hereford.
†Wragge, 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.

† See Biographical Note *ante*.

BIBLIOGRAPHY.**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. XLIII, 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.J. R. Met. Soc.*, Vol. XLVII, No. 198.
 The Volumetric Determination of Rainfall. 1923. International Navigation Congress.

JOINT PAPERS.*Dr. H. R. Mill and Carle Salter.*

- Frequency and Grouping of "Wet Days" in London. 1911. *Q.J. R. Met. Soc.*, Vol. XXXVII, No. 160.
 Isometric Rainfall Maps of the British Isles. 1915. *Q.J. R. Met. Soc.*, Vol. XLI, No. 173.

R. 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.J. R. Met. Soc.*, Vol. XLIX, No. 208.

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 BURD, 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 Hall, 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.

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 a member 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. SIR 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 : "I 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.

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.

SIR 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 Kilmarnock, 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

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.....	Hylands, Kendal.
Barratt, Mrs. James.....	Holywath, Coniston.
Bates, Sydney Eggers, J.P. (72).....	Manydown Park, Basingstoke.

† See Biographical note ante.

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Bendixon, Mrs. Harold (54)	Willian, Hertfordshire.
Benton, Philip (73)	Sutton Veny, Warminster.
†BOLTON, C. PERCEVAL, C.E.	Brook Lodge, Waterford.
Boyson, Miss Annie Heisch (74).....	Clapham Common, London.
Bridge, T.	Mayfield, Ashbourne.
Brook, Edward J.	Hoddam Castle, Dumfriesshire.
†BURD, REV. PERCY (92)	Kemerton Lodge, Cheltenham.
†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.
†CAMPBELL, JAMES (71)	Arbroath.
Chalmers, Lawrence Edmann	Farrants, Bickley, Kent.
CLUTTERBUCK, REAR-ADMIRAL WM. ROBERT, R.N. (78).	Long Wittemham, Berks.
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.
†Dechevrens, Rev. R. P. Marc, S.J. (79) .	St. Louis Observatory, Jersey.
†DIXON, 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., C.B., C.I.E. (79).	Dingley Hall, Market Harborough.
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.
Hatchard, 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.	Southwich 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.	Birkdale, Southport.
Jackson, J.	Haslemere, Surrey.
Johnston, Henry W.	Dunros, Strathtay, 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.

† See Biographical note ante.

Mead-Briggs, T. H.	Dawlish, Devon.
Miller-Stirling, Commr. G. H., O.B.E., R.N. (71).	Campsie Glen, Stirlingshire.
Mills, Joseph Truman (88).....	Stockgrove, Leighton Buzzard.
Montgomery, Col. Cas	Rathmullan, Co. Donegal.
Ovens, WALTER (80)	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.....	Crarae, Argyllshire.
†Rambaut, Dr. Arthur Alcock, F.R.S. (64)	Radcliffe Observatory, Oxford.
Read, A. W.	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.
†SHAW, SIR ALEXANDER WILLIAM (76)....	Derravoher, Limerick.
Shorrock, James Cheetham.....	King's Langley, Hertfordshire.
Somerset, The Duke of (77)	Maiden Bradley, Bath.
Spilsbury, Mrs. Benjamin Ward	Findern, Derbyshire.
Steen, P. T.	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.
†TABOR, HENRY SAMUEL (86).....	Fennes, Bocking, Essex.
Tidswell, Robert Ingham (77)	Haresfield Court, Glos.
Tompsett, John (89).....	Merefild 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.....	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.

† See Biographical note ante.

OBITUARY.

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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 :—

Name.	Last Place of Observation.	No. of Years 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
Philip H. Palmer, C.E.	Hastings	35
Mrs. Anne Sanderson	Cloverhill, Co. Cavan	35
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

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.

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 are 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 :—

Name.	Last place of Observation.	No. of Years' 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., F.R.Met.Soc.	St. Mary Bourne, Hants ..	58
Miss Francis J. Sparks, F.R.Met.Soc.	Crewkerne, Somerset	57
Miss Mary E. Gill	Tiverton, Devon	53
G. F. Lyndon, J.P.	Moseley, Warwick	52
Col. Richard Henry Ainsworth, D.L.	Smithills Hall, Bolton	51
Alfred Osten Walker	Ulcombe, Maidstone	50
Mrs. Mary Wilkin, F.R.Met.Soc.	Tenterden, Kent	46
John Coster Chillingworth	Southminster, Essex	43
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	Balquhidder, 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 CLAY 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. ELLIS MACE had more than 62 years' observations to his credit

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.

Areas of the different Rainfall Zones over the British Isles.

	Greater than 150 in. area											Total
	Less than 20 in.	In. 20-25	In. 25-30	In. 30-40	In. 40-50	In. 50-60	In. 60-80	In. 80-100	In. 100-150	In. 150 in.		
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	105	110	15	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	8,540	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 :—

Name.	Last place of Observation.	No. of Years' Record.
Lieut.-Col. Henry Mellish, D.L., C.B., J.P.	Hodsock Priory, Worksop	52
R. W. Clutton	Reigate, Surrey	46
C. Wright	Streatham 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 MELLISH, 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

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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 *résumé* 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.

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Year.	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920
0	% 91	% 111	% 89	% 92	% 122	% 81	% 115	% 90	% 109	% 113	% 105
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	..	1035	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.

Name.	Last place of observation.	No. of years' record.
A. B. Collingwood, J.P.	Ilderton, Northumberland ..	70
Mrs. J. Coxon	Pocklington, Yorks. ..	61
John Campbell	Mickleover, Derby ..	57
C. Atkinson, C. E.	Brigg, Lincs. ..	55
W. H. Plowright	Swaffham, Norfolk ..	49
W. D. W. Griffith	Trefnant, Denbigh ..	45
Sir J. T. Dillwyn-Llewelyn, Bart.	Gorseinon, Glam. ..	44
H. Neale	Bognor, Sussex ..	44
G. P. Hope	Torquay, S. Devon ..	41
Alex. Crossman	Harrow Weald, Middlesex ..	40
Rev. J. B. Orme	Arundel, Sussex ..	39
W. B. Parsons	Cambridge ..	39
E. H. Cannon	Rathmines, Co. Dublin ..	37
Mrs. Heywood Thompson	Penrith, Cumberland ..	37
J. G. Winning	Hawick, Roxburgh ..	37
J. Ernest Grubb	Carrick-on-Suir, Co. Waterford ..	34
G. E. Wilson	Kidderminster, Worcestershire ..	34
Col. H. Jones Williams	Tal-y-bont, Brecon ..	33
J. E. Townsend	Bury St. Edmunds, Suffolk ..	31

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 per cent.; (2) to show that the formula for computing wind pressures on buildings gave results which were too high by about 40 per cent.; 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 "honorarium" 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.

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*.

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.

INQUIRIES—OBITUARY.

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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.

Name.		Last place of observation.	No. of years' records.
Hon. A. J. Peckover	...	Wisbech, Cambs.	69
Miss Dowson	...	Geldeston, Norfolk	62
Canon J. T. Harding	...	Rochfield, Monmouth	49
Miss Foster	...	Lostwithiel, Cornwall	46
Miss Pasley	...	Botley, Hants.	45
C. R. Rivington	...	Appleby, Westmorland	38
W. C. Welch	...	Hampson-in-Ellel, Lancs.	37
Lt.-Col. J. H. Hamersley	...	Budleigh Salterton, Devon	36
Dr. J. W. Smith	...	Ryton-on-Tyne, Durham	35
J. Sandercock	...	Devonport, Cornwall	34
Mrs. T. Mason	...	Kirkby Stephen, Westmorland	34
W. Haynes	...	Reading, Berks...	32
P. Smith	...	Great Clacton, Essex	30
W. L. Horn	...	North Walsham, Norfolk	30
W. E. Austen	...	Reading, Berks....	30

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, *viz.*, 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.

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Name.	Last place of observation.	No. of years' records.
J. S. Amery	Ashburton, Devon	60
A. H. Buston	Chatteris, Cambs.	56
J. Moffatt	Nutfield Priory Gardens, Surrey	50
J. Riley	Ledbury, Hereford	47
F. Wilkin	Wadhurst, Sussex	47
J. Horsley	Stretham, Cambs.	46
Dr. T. Cambert Hall	Dilwyn, Hereford	42
Lt.-Col. M. Morgan	Mountain Ash, Glam.	41
A. Malden	Burgess Hill, Sussex	38
G. Weller	Amersham, Bucks.	37
H. A. Wadworth	Brinton Court, Hereford	37
Miss Arkwright	Grange-over-Sand, Lancashire	35
C. Barran	Totnes, Devon	35
Canon J. A. Lawrence	Dilham, Norfolk	35
Very Rev. R. S. Craig	Tullamore, King's County	33
N. W. Wortley	Uppingham, Rutland	31
J. A. Campbell	Kilmelfort, Argyll	30
Miss Hames	Crowborough, Sussex	30
Capt. F. J. Mackenzie-Grieve ..	Bishop's Waltham, Hants. ..	30

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, Wigton, 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.

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Name.	Last place of observation.	No. of years' records.
G. W. Everard	Stratford-on-Avon, Warwick ..	54
H. F. Hills	Earls Colne, Essex	52
H. F. Fryer	Chatteris, Cambs	49
A. W. Preston	Norwich, Norfolk	48
B. S. Ogle	Steeple Aston, Oxon.	46
Miss C. A. Prater	Farnborough, Warwick	46
Miss E. E. Duncombe	St. Neots, Hunts	43
T. A. Hill	Plumtree, Notts.	40
R. C. Coode	Launceston, Devon	38
J. S. Ineson	Ventnor, Isle of Wight	38
Rev. J. B. Plumptre	Danbury Rectory, Essex	35
J. Masson	Heathfield, Sussex	34
Rev. J. Peck	Virginia Water, Surrey	34
W. H. Rogers	Goldington, Beds.	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.

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.

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Name.	Last place of observation.	No. of years' records.
Major T. L. K. Edge	Strelley Hall, Notts.	51
The Hon. F. G. Wynn	Llanwrda, Carnarvon	50
Dr. J. S. Cowley	Upton-on-Severn, Worcester	47
A. G. Copeman, Esq.	Little Dunham, Norfolk	42
Miss M. A. Burke	Sudbury, Suffolk	41
Major W. J. Hamilton	Castle Hamilton, Co. Cavan	39
Rev. J. Cross	Sturminster Newton, Dorset	35
J. C. Yorke, Esq.	Langton, Dwrbach, Pembroke	35
A. Young, Esq.	Loughborough, Leicester	33
F. Morgan, Esq.	Talgarth, Brecon	32
G. F. Slade, Esq.	Wallingford, Berks.	30
W. L. Stanton, Esq.	Maisey Hampton, Glos.	30

The Hon. F. G. Wynn forwarded seven records from the neighbourhood of Glynnlivon 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.

Name.	Last place of observation.	No. of years' records.
G. Eames, Esq. ..	Midhurst, Sussex ..	64
S. H. Bickham, Esq. ..	Ledbury, Herefordshire ..	53
Rev. W. A. H. Thorold ..	West Liss, Hampshire ..	44
T. Woodham Mott, Esq., ..	Much Hadham, Hertfordshire ..	43
Col. W. Sidebottom ..	Harewood Lodge, Cheshire ..	40
Capt. J. E. Acland ..	Dorchester, Dorset ..	36
Rev. A. G. Jones ..	Burton House, Hereford ..	36
Rt. Hon. L. Hardy ..	Hythe, Kent ..	34
Rev. J. S. Pratt ..	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 ..	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.

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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 1st 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.

Name.		Last place of observation.	No. of years' records.
W. H. Myers, Esq.	..	Bishops Waltham, Hants.	50
S. Nutter, Esq.	..	Cambridge	44
Rev. W. E. Stewart	..	Scalby, Yorkshire	44
Rev. B. P. Oakes	..	Bury St. Edmunds, Suffolk	43
W. Deedes, Esq.	..	Shrewsbury, Salop	40
H. W. Green, Esq.	..	Devizes, Wilts.	40
Rev. Canon E. Hill	..	Bury St. Edmunds, Suffolk	38
E. J. Turton, Esq.	..	Horkstow, Yorkshire	38
J. R. Picard, Esq.	..	Kirby Lonsdale, Westmorland	36
Major C. G. Brodie, M.C.	..	Fernhill, Isle of Wight	33
Miss M. Greenwood	..	Bedale, Yorkshire	33
G. A. Tyacke, Esq.	..	Chichester, Sussex	33
Archdeacon T. N. Leeke	..	Exeter, Devon	32
D. W. Freshfield, Esq., D.C.L.	..	Forest Row, Sussex	30
F. Smallpiece, Esq.	..	Guildford, Surrey	30

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.

Name.		Last place of observation.	No. of years' records.
Miss E. C. Abraham	..	Garston, Liverpool	44
W. Evans, Esq., C.E.	..	Beverley, Yorkshire	41
C. Smyth, Esq.	..	Little Houghton, Northamptonshire.	40
R. de M. Pratt, Esq.	..	Lyneham, Oxfordshire	37
J. H. Spackman, Esq., J.P.	..	Newbury, Berkshire	36
F. Walkinshaw, Esq.	..	Basingstoke, Hampshire	34
H. D. Foster, Esq.	..	Bodmin, Cornwall	33
Rev. W. Farrer	..	Maidenhead, Berkshire	32
E. E. Moore, Esq., M.D.	..	Teignmouth, Devon	32

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.

Name.	Last place of observation.	No. of years' records.
Ven. Archdeacon Hornby ..	St. Michael's-on-Wye, Lancashire..	59
Rev. W. Brewster ..	Shrewsbury, Shropshire ..	56
J. M. Sturgess ..	Penshurst, Kent ..	45
Lady Jenkyns ..	Botley, Hampshire ..	45
F. Ranson ..	Hitchin, Hertfordshire ..	44
R. Rhodes ..	Kendal, Westmorland ..	44
Rev. H. I. Kilner ..	Bury St. Edmunds, Suffolk ..	38
E. H. Perkins, F.R. Met. Soc...	Llanyssul, Cardiganshire ..	38
Dr. L. M. Bowen-Jones ..	Carmarthen, Carmarthenshire ..	37
A. C. G. Heygate ..	Milford-on-Sea, Hampshire ..	36
R. Bentley ..	Slough, Berkshire ..	36
T. S. Matthews ..	Sporle, Norfolk ..	35
P. T. Gardener ..	Conington, Cambridgeshire ..	35
G. G. Wordsworth ..	Rydal, Westmorland ..	34
Rev. Canon W. Morgan ..	Bethesda, Carnarvonshire ..	34
F. J. Kitson ..	Leeds, Yorkshire ..	34
A. Mackenzie ..	Ardclach, Nairn ..	33
P. D. Williams ..	St. Keverne, Cornwall ..	32
H. D. Badcock ..	Ottery St. Mary, Devonshire ..	32
W. J. Griffith ..	Nantlle, Carnarvonshire ..	32
H. W. Clinton Baker ..	Hertford, Hertfordshire ..	31
G. B. Kershaw ..	Wrotham Heath, Kent ..	31
R. Long ..	Shefford, Bedfordshire ..	31
J. Walker Tyacke ..	Helston, Cornwall ..	30

connection with Water Bills of Hastings, North Devon, North Cotswolds 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 1st 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.

Name.	Last place of observation.	No. of years' records.
Major C. A. Markham ..	Flore, Northamptonshire ..	61
J. Hunter, Esq. ..	Belper (Quarry Bank), Derbyshire ..	60
Lt.-Col. W. A. Bentley ..	Broadford (Hurdlestow), Clare ..	51
Lord Strachie	Pensford (Sutton Court), Somersetshire.	49
J. Brocklebank, Esq. ..	Carlton-le-Moorland, Lincolnshire ..	43
Dr. A. Palmer	Mortimer (Wokefield Park) Berkshire.	41
E. W. Knatchbull, Esq. ..	Bradford-on-Avon (Winsley Manor, Wiltshire.	39
A. R. White, Esq. ..	Mere (Charnage), Wiltshire ..	39
Miss H. M. Hutton	Dursley (The Manor), Gloucestershire.	37
C. W. Nix, Esq. ..	Worth (Worth Lodge), Sussex ..	35
H. Lee Dykes, Esq. ..	Strathaven (East Overton House), Lanark.	32
E. H. Thornhill, Esq. ..	Boxworth (Manor House), Cambridgeshire.	32
Miss E. Hedges	Wallingford Castle, Berkshire ..	31
F. W. Clark, Esq. ..	Mull (Ulva), Argyll	30
W. Roberts Ovens, Esq. ..	Galashiels (The Peel, Clovenfords), Selkirk.	30
Sir George Sheddell	East Cowes (Spring Hill), Hampshire.	30

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 Archæological 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.

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.

Name.	Last place of observation.	No. of 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	51
Mr. G. J. Warren . . .	Balcombe (The Gables), Sussex	47
J. McDougal Field, Esq. . .	Edinburgh (City Observatory) ..	40
E. Pirie-Gordon, Esq... . .	Crickhowell (Gwernvale), Breconshire	39
R. Matheson, Esq. . . .	Kinlochewe (Greenhill), Ross and Cromarty	38
Sir C. G. E. Welby, Bt., C.B... .	Denton Manor, Lincolnshire ..	38
Jas. McMillan, Esq. . . .	Lanarkshire County W.W. ..	37
J. A. Gardiner, Esq. . . .	Campbeltown (South Park) ..	35
Major R. B. Turton . . .	Kildale Hall, Yorkshire ..	35
Rev. Canon A. Wilson . . .	Dunmanway (The Rectory), Co. Cork	34
W. Hales, Esq. . . .	Chelsea (Physic Garden) ..	33
K. H. Power, Esq. . . .	Chobham (Sandpit), Surrey ..	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), Northumberland	30

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.

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 used 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.

Name.	Last place of observation.	No. of Years' records.
F. D. Wise, Esq. ...	Ripon (The Red House), Yorks.	68
R. H. Major, Esq. ...	Slough (Langley), Bucks. ...	67
C. L. Brook, Esq. ...	Meltham (Harewood Lo.), Yorks.	58
Capt. E. R. Taylor ...	Balbriggan (Ardgillan) Co. Dublin	47
B. T. Rowswell, Esq. ...	Channel Islands	45
J. Laughton, Esq., J.P. ...	Edinburgh (Corstorphine), Midlothian	42
A. Hoare, Esq. ...	Forest Row (Charlwood Farm), Sussex	40
H. W. Peal, Esq. ...	Ealing (Carlton Rd.), Middlesex ...	38
E. W. Reynolds, Esq. ...	Thelwall (The Clough), Cheshire ...	35
J. H. Scrutton, Esq. ...	Daglingworth Manor, Glos. ...	34
Rev. E. C. Bennett ...	Lazonby Rectory, Cumberland ...	31
T. N. Christie, Esq. ...	Whanbryde (Blackhill Ho.), Moray	31
W. Liddell, Esq. ...	Shapinsay (Balfour Castle), Orkney	31
J. J. Fairbairn, Esq. ...	St. Boswells (The Fens), Roxburghshire	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.

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 Llanelli 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 1st 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

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.

Name	Last place of observation.	No. of Years' records.
J. Baxendell, Esq. ..	Southport, Lancs. ..	66
A. Pearse Jenkin, Esq. ..	Redruth (Trewirgie), Cornwall ..	60
Mr. C. Webster ..	Fochabers (Gordon Castle), Moray ..	59
T. J. Waddington, Esq. ..	Hafod, Cardigan	47
Miss M. R. Macmillan ..	Moniaive, Dumfries	45
C. E. M. Pinney, Esq. ..	Kinson (Elmbrook), Hants. ..	45
Dr. A. Thomas ..	Aberystwyth, Cardigan	44
W. M. Christy, Esq. ..	Watergate House, Sussex ..	42
W. Vaux Graham, Esq., C.E. ..	Westminster, S.W.1	41
Col. G. Chrystie ..	Farnham (Short Heath Lo.), Surrey	40
J. W. Melles, Esq., D.L., J.P. ..	Grueline, Isle of Mull	40
A. W. Shadick, Esq. ..	Clacton-on-Sea	39
E. Knight, Esq. ..	Keswick Old Hall, Norfolk ..	39
Hon. L. de Yarburgh Bateson ..	York (Heslington)	38
T. E. Clough, Esq. ..	Earlestown, Lancs.	37
Walter Phillips, Esq. ..	Earnieside, Kinross	36
Dr. C. C. Vigurs ..	Newquay, Cornwall	36
Professor Sir Thomas Hudson Beare, D.L. ..	Edinburgh University	35
A. Macintosh, Esq., J.P. ..	Melvich, Sutherland	35
J. Marsh, Esq. ..	Winterbourne (Kendleshire), Glos. ..	34
G. Cresswell, Esq. ..	(Ocle Court), Hereford	33
John Hart, Esq. ..	Mains of Cowie, Kincardine	32
E. Armitage, Esq., J.P. ..	Stroud (Berrimans), Glos. ..	31
Gen. Sir Robert Gordon Gilmour, Bart. ..	Liberton, Edinburgh	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

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. Macmillan, who died in November 1939, had for more than 45 years regularly forwarded copies of the rainfall 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, L.I.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.

especially the authorities of water undertakings. These Observers forward copies of their observations voluntarily for preservation by the British Rainfall Organization of the Meteorological Office as national records, and for use not only in the preparation of the annual volumes of *British Rainfall* but also for purposes of study and research. To these voluntary observers the Organization desires to acknowledge its indebtedness for their assistance and goodwill.

INVESTIGATIONS. Limitations of space permit of a notice only of some of the more important investigations carried out during the three years. The following papers have been published in the *Quarterly Journal of the Royal Meteorological Society*: (a) "Variations in Annual, Seasonal and Monthly Rainfall over the British Isles, 1870-1939," and (b) "Rainfall over the British Isles during the Decade 1930-1939," by Dr. J. Glasspoole. (This latter paper brings up to date an article by the same author on "The Rainfall over the British Isles of each of the 11 Decades during the period 1820-1929," published in the above Journal in July, 1933); (c) "Snow-cover in the British Isles in January and February of the Severe Winters 1940, 1941 and 1942," by Miss L. F. Lewis, and (d) "Notable Falls of Rain during the intervals

of a few days in Great Britain," by Mr. E. L. Hawke.

New averages for many stations were computed, including several in Surrey and Sussex by the late Mr. H. P. Cornish of Keswick, and these are included in the General Table (Part II). Statistics showing the General Monthly and Annual rainfall over Northern Ireland have been prepared back to 1930 for comparison with the values included in this volume. A comparison has been made of rainfall 1906-40 with that for the standard period 1881-1915. Consideration has been given to the frequency of occurrence of days with specified amounts of rainfall.

INQUIRIES. A large number of inquiries regarding rainfall in various parts of the country has been dealt with.

INSPECTIONS. Owing to war conditions prevailing during these three years, it was not possible to carry out many inspections.

OBITUARY. During the three years ending June 30, 1943, reports were received of the deaths of 177 observers who have contributed to volumes of *British Rainfall*. Of this number, 56 kept records for 30 years or more—Mr. E. Griffiths of Bishop's Castle, Shropshire, for 62 years.

entirely on the returns contributed by private persons, by public local authorities and especially the authorities of water undertakings. These observers forward copies of their observations voluntarily for preservation by the British Rainfall Organization of the Meteorological Office as national records, and for use not only in the preparation of the annual volumes of *British Rainfall* but also for purposes of study and research. To these voluntary observers the Organization desires to acknowledge its indebtedness for their assistance and goodwill.

INVESTIGATIONS. Limitations of space permit of a notice only of some of the more important investigations carried out during the three years. The following papers have been published in the Journal of the Royal Meteorological Society : (a) "Water Resources of Loch Quoich" by Capt. W. N. McClean, and (b) "The Rainfall of the Wrexham District" by S. E. Ashmore. For the Water Engineer's Handbook and Directory for 1945 Dr. J. Glasspoole contributed an article "Rainfall over Britain and Northern Ireland, 1940-1944". Mr. J. H. Willis published "Weatherwise" which includes monthly and annual totals of rainfall recorded at South-

down Lodge for 1913-1942. Mr. L. C. W. Bonacina prepared an article on "Snowfall in the British Isles during the decade 1936-1945."

New averages for many stations have been computed, including several for Cumberland and Westmorland by Mr. H. P. Cornish of Keswick. In connexion with the Inland Water Survey, work was carried out involving the revision of average values and existing isohyets over many parts of the country.

INQUIRIES. An unusually large number of inquiries regarding rainfall of different parts of the country was dealt with.

INSPECTIONS. These remained virtually suspended, but a few stations were visited by staff from the Meteorological Offices of London and Edinburgh to clear up matters which could not be settled by correspondence.

OBITUARY. During the three years ending June 30, 1946, reports were received of the deaths of 180 observers who have contributed to the volumes of *British Rainfall*. Of this number 42 kept records for 30 years or more ; Mr. C. Browett of Ryton on Dunsmore, Warwick, maintained a record for 50 years.

the compilation of this volume would not be possible.

INVESTIGATIONS. Work upon a Climatological Atlas of the British Isles was completed. It is proposed to publish the atlas in seven sections—one of which will deal with rainfall, snow and thunder—and also in a single bound volume. A paper "Orographic Rain in the British Isles" by C. K. M. Douglas and J. Glasspoole was presented to the Royal Meteorological Society. Dr. Glasspoole also prepared a paper on "The Reliability of Rainfall" for the Institution of Water Engineers. Investigations involving the determination of general average rainfall in many parts of Great Britain were carried out in connection with proposed improvements in water supply, the provision of supplies to new satellite towns and for various other projects. Dr. C. E. P. Brooks and Dr. J. Glasspoole were elected members of the Hydrological Commission of the International Meteorological Organization.

INSPECTIONS. Inspections remained virtually suspended but several stations were visited by staff from the Meteorological Offices in London and Edinburgh to clear up matters which could not be settled by correspondence. A few stations in districts inaccessible to the staffs of these offices were inspected by meteorological personnel from R.A.F. stations.

INQUIRIES. Many inquiries regarding rainfall in various parts of the country were dealt with. These inquiries covered a wide range. They included the supply of records defining the rainfall experienced during specified periods in particular localities, the supply of estimates of average annual and monthly rainfall over specified areas, advice on the provision of equipment and the best exposure for the rain-gauges. Among the information supplied, reference may be made to the provision of maps of average annual rainfall for publication by the Ministry of

Town and Country Planning; rainfall maps covering Wiltshire, Somerset, Gloucester and the Cotswolds for the Ministry of Health; data for the Ministry of Supply in connection with radar research; to the Ministry of Food regarding loss of food stocks by storm damage; the Ministry of Works for an investigation into loss of building time through rain and frost; statistics, maps and reports to numerous County and Borough Councils, Water authorities and River Catchment Boards.

Information has been supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland have been furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied monthly to the Metropolitan Water Board and the Thames Conservancy and a comprehensive annual report to the former body. The regular monthly issue of rainfall maps and data to numerous Catchment and Conservancy Boards was continued.

The Meteorological Office in Edinburgh provided information in connection with various projects of the North of Scotland Hydro-Electric Board and also dealt with inquiries from a large number of public authorities and water engineers. Information was furnished monthly, *inter alia*, to the Registrar General for Scotland, the Scottish Departments of Agriculture and Health, the Scottish Seaweed Research Association and the Galloway Water Power Company.

OBITUARY. During the twelve months ending 30th June, 1947, reports were received of the deaths of 52 observers who had contributed to volumes of *British Rainfall*. Of these, 17 kept rainfall records, or were associated with relatives who kept records, for 30 years or more. A list of these is given below. In most cases records were maintained throughout by the same observer.

OBITUARY

Name	Last place of observation	No. of years' records
Sir John Eldon Bankes	Northop, Flintshire	70
The Mackinnon of Mackinnon	Drumduan, Morayshire	70
E. Ranson, Esq.	Sudbury, Suffolk	56
Sir Nicholas Bacon	Raveningham Hall, Norfolk	49
S. B. Rake, Esq.	Fordingbridge, Hampshire	42
A. Lander, Esq.	Canterbury, Kent	41
Miss C. S. Fry	Upton, Berkshire	38
F. K. Hawes, Esq.	Lowthorpe, Yorkshire	38
Dr. G. F. Barbour	Bonskeid, Perthshire	36
Rev. Canon H. Milnes-Walker	Malmesbury, Wiltshire	35
J. A. Devenish, Esq.	Totnes, Devon	35
Rev. B. W. Bradford	West Adderbury, Oxon	34
D. Campbell Hardie, Esq.	Coldstream, Berwickshire	34
D. McMichael, Esq., J.P.	Alvechurch, Worcester	34
F. E. Whiting, Esq.	Credenhill, Hereford	34
Miss E. Brooke	Ewhurst, Surrey	31
Miss L. M. Brown	Torquay, Devon	31

Sir John Eldon Bankes, a former Lord Justice of Appeal, who died on the last day of 1946, had taken a personal interest in the rainfall record at Soughton Hall, Northop, for 70 years. The record actually began 83 years ago, in 1865.

The Mackinnon of Mackinnon died early in 1947 in his 99th year. He had maintained a rainfall record at his seat Drumduan, near Forres, in Morayshire for 70 years and,

whenever possible, took the measurements personally. The 1946 return, received shortly before his death, was made out in his own hand.

These two outstanding examples of 70 years' continuous observation have only been exceeded in our annals by the record of the late Sir John Moore who died in 1937. Sir John was a regular meteorological observer in Dublin over a period of more than 72 years.

OBITUARY

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Name	Last place of observation	No. of years' records
John D. Walker, Esq.	Ruddington, Nottingham	75
A. T. Iles, Esq.	Fairford, Gloucestershire	57
E. W. Arkell, Esq.	Chipping Norton, Oxfordshire	52
A. A. Howard, Esq.	Meldreth, Cambridgeshire	43
Alfred T. Loram, Esq.	Aylesbeare, Devon	43
W. B. Yates, Esq.	Cilcen Hall, Flintshire	43
G. Berry Hamlin, Esq.	Patcham, Sussex	40
A. Ashford, Esq.	Chiseldon, Wiltshire	40
A. A. H. Wykeham, Esq.	Brightstone, Hampshire	39
Mrs. M. Mackenzie	Dunvegan, Isle of Skye	38
Miss V. J. Martineau	Heckfield, Hampshire	38
H. Satchell, Esq.	Hoarwithy, Herefordshire	38
H. W. Hart, Esq.	Bishop's Stortford, Hertfordshire	37
Dr. George Davidson	Torphins, Aberdeenshire	32
Rev. Dr. S. P. Duval	Lymminster, Sussex	31
Major C. F. Randolph	Curdridge, Hampshire	30
John Tracey, Esq.	Bicknoller, Somerset	30

General for Scotland, the Galloway Water Power Company and the Scottish Tourist Board.

OBITUARY. During the twelve months ending 30th June, 1948, reports were received of the deaths of 56 observers who had contributed to volumes of *British Rainfall*. Of these, 17 kept rainfall records, or were associated with relatives who kept records, for 30 years or more. A list of these is given above. In most cases records were maintained throughout by the same observer.

The death of Mr. John D. Walker of Ruddington near Nottingham, at the age of 91, removes from the ranks of rainfall observers an enthusiast who broke all previous records by maintaining continuous observations over no less than three quarters of a century. Mr. Walker personally wrote out his rainfall return for 1947 and sent it to the Meteorological Office less than a fortnight before his death. His records from 1873 to 1919 were sent to the British Rainfall Organization, and from 1920 onwards to the Meteorological Office, so that the 75 years observations are preserved for posterity.

Mr. A. T. Iles had kept a rainfall record for 57 years when he died at the age of 83 on 21st July, 1947. The record at Fairford was started by his father in January 1863.

Thus father and son between them kept an unbroken record for 84 years.

Mr. E. W. Arkell who died on 18th January, 1948 kept a record for 52 years. He made his first rainfall observations at Upton Wold in 1896 and continued at Chipping Norton until shortly before his death.

Mr. A. A. Howard maintained a rainfall record at Meldreth in Cambridgeshire from 1904 until his death in November 1947. The record is being continued by his son, Mr. A. T. Howard.

Mr. Alfred T. Loram kept a rainfall record at Aylesbeare near Exeter for 43 years. The record has been continued since his death in November 1947 by Mr. W. T. Slader.

Mr. W. B. Yates kept a record at Cilcen Hall, Flintshire, from 1904 until shortly before his death in April 1947. The record is being continued by Mrs. Yates.

Mr. G. Berry Hamlin commenced observations in Sussex in 1906. Apart from a lapse due to ill-health in 1932-33 the records were continued until his death in January 1948. From 1941 he maintained full climatological reports, summaries of which were published in the *Monthly Weather Report*.

Mrs. M. Mackenzie personally carried on the record at Dunvegan, Isle of Skye, for 38 years until October 1946 when, owing to ill-health, she was no longer able to take the readings. She died on 24th August 1947.

OBITUARY

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furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lea Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to consulting engineers, local authorities and numerous Catchment and Conservancy Boards was continued and extended.

The Office in Edinburgh reported that there was no diminution in the demand by planning and development bodies for rainfall data in connexion with water supply problems. A

good deal of information was also supplied through Edinburgh to the Scottish Departments of Agriculture and Health, the Registrar General for Scotland and to a large number of private inquirers.

OBITUARY. During the twelve months ending 30th June 1949 reports were received of the deaths of 61 observers who had contributed to volumes of *British Rainfall*. Of these, 23 kept rainfall records, or were associated with relatives who 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.

Name	Last place of observation	No. of years' records
John Dover, Esq., M.A., F.R.Met.S. . .	Totland Bay, Isle of Wight	60
Samuel F. Hurnard, Esq.	Lexden, Essex	60
Oswald H. Latter, Esq.	Godalming, Surrey	58
Albert Wilson, Esq., F.R.Met.S.	Carnforth, Lancashire	57
Dr. G. Ainsley Johnston	Ambleside, Westmorland	54
Dr. W. R. Grove	St. Ives, Huntingdonshire	47
J. Woodhead, Esq.	Slaithwaite, Yorkshire	45
William Garnett, Esq.	Backwell, Somerset	43
The Dowager Mrs. Maclachlan of Maclachlan	Castle Lachlan, Argyll	41
M. A. Bolton, Esq.	Oakamoor, Staffordshire	38
R. Elmhirst, Esq.	Millport, Bute	38
Right Hon. Viscount Ullswater, G.C.B. . .	Campsie Ashe, Suffolk	37
Mr. H. G. Harrison	Edinburgh, Midlothian	37
Egerton Macdona, Esq.	West Kirby, Cheshire	36
Miss B. G. Rogers	Buckland Brewer, Devon	35
Miss G. E. Price-Davies	Horsted Keynes, Sussex	34
G. M. Mathews, Esq., C.B.E.	Winchester, Hampshire	34
B. E. Dunbar Kilburn, Esq., F.R.Met.S. . .	Woodstock, Oxfordshire	34
H. Constantine, Esq.	Bournemouth, Hampshire	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	Kippen House, Perthshire	30

Mr. John Dover kept rainfall records at his home, Totland Bay, Isle of Wight, for 60 years. Since 1904 he had maintained a full climatological station and summaries of these observations were regularly published in the *Monthly Weather Report*. For many years Mr. Dover produced valuable annual reports containing comprehensive summaries of his observations with descriptive matter and long-period averages. He decided to give up his

meteorological work owing to advancing years only a few months before his death in November 1948.

Mr. Samuel F. Hurnard, who died on 13th January 1949, made a noteworthy contribution to British meteorology by maintaining an unbroken record of rainfall at Lexden, near Colchester, over a period of 60 years. Mr. Hurnard was a valued correspondent of the Meteorological Office and a contributor

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to the press. Some time ago he wrote : "The observations have been an interesting pastime, the value and enjoyment of which deepen with the passing of decades of years. There are always surprises in store for the rainfall recorder."

Mr. Oswald Hawkins Latter died on 11th October 1948 in his 85th year. He had been senior science master at Charterhouse from 1890 to 1926. On going to Charterhouse he set up a rain-gauge and other instruments in his garden and personally maintained these records up to the day of his death, a period of 58 years. In addition to a keen interest in meteorology, Mr. Latter was regarded as an expert in entomology and biology.

Mr. Albert Wilson became interested in weather recording in 1872 when, at the age of 9, he started to measure rainfall under the supervision of his father. He sent records for publication in *British Rainfall* from 1892 until his death at the age of 86 in May 1949 ; the observations were made first at Bradford and subsequently at Ilkley, Garstang, Sedbergh, Tyngroes (Caernarvon) and finally at Carnforth. With his brother, Mr. Sydney Wilson, he set up several monthly gauges on mountain sites at the turn of the century and maintained some of these records for 25 years. Mr. Wilson, a fellow of the Royal Meteorological Society and of the Linnean Society, was a keen botanist and author of *The Flora of Westmorland*, *The Altitudinal Range of British Plants*, and a number of papers on botanical and meteorological subjects.

Dr. G. Ainslie Johnston set up a rain-gauge at Ambleside in February 1895 and made regular daily readings there until his death on 4th June 1949. He thus maintained a homogeneous series of observations over a period of 54 years. The records have been incorporated in the annual volumes of *British Rainfall*.

The Right Hon. Viscount Ullswater, G.C.B., one of the outstanding Speakers of the House of Commons, who died on 27th March 1949, aged 93, was much interested in rainfall

recording. Since 1912 he had caused an annual return of the observations at Campsea Ashe, near Woodbridge, Suffolk, to be sent for use in compiling the annual volumes of *British Rainfall*.

Mr. B. E. Dunbar-Kilburn was a valued correspondent and observer for 34 years. His records of rainfall duration at Sandford St. Martin, near Woodstock, have, for many years, provided useful data for the preparation of Section 6 of *British Rainfall*.

Rev. Father James Peter Rowland, who was Director of Stonyhurst College, near Blackburn from 1932 to 1947, died on Boxing Day 1948 at the age of 73. Before becoming Director he worked in the observatory for many years under his predecessor, Father O'Connor. Besides making detailed climatological observations over a period of 30 years, he had been actively engaged in meteorological research and had specialized in seismology.

Mr. William Dunbar died on 19th December 1948 at the age of 59. He had been Burgh Surveyor and Water Engineer of Kilmarnock which appointment he resigned on account of ill health a year before his death. Mr. Dunbar was deeply interested in meteorology and maintained a climatological station at his home in Kilmarnock. He also rendered valuable help in the collection of rainfall records in Ayrshire. From 1937 until his death he was a member of the Advisory Committee of the Meteorological Office, Edinburgh and in 1938-39 he served as President of the Scottish Section of the Institution of Water Engineers. He was also a past Vice-President of the Scottish Branch of the Royal Meteorological Society.

Mr. G. M. Mathews commenced recording rainfall at Foulis Court, Hampshire, in 1915. In 1929 he moved to Winchester and resumed observations there. During the second world war, Mr. Mathews was away on work for the Australian Government. In his absence the rainfall record was kept going by his neighbour, the late Major-General Sir Edward Broadbent.

BRITISH RAINFALL, 1949

PART I

1 The Work of the British Rainfall Organization

Hugh Robert Mill, D.Sc., LL.D.

DR. HUGH ROBERT MILL, meteorologist and geographer, died at his home at Dormans Park, near East Grinstead, on 5th April, 1950. He was in his 89th year.

In a distinguished career Dr. Mill had been chemist and physicist to the Scottish Marine Station at Granton on the Firth of Forth, lecturer in physiography at the Heriot-Watt College in Edinburgh, a University Extension lecturer, and librarian to the Royal Geographical Society. He is best remembered, however, for his work as Director of the British Rainfall Organization.

It was on 1st January, 1901 that Dr. Mill joined H. Sowerby Wallis who was then carrying on the work begun in 1860 by his colleague, G. J. Symons, who had died in the previous spring. Symons had built up an organisation for the systematic observation of rainfall by voluntary observers on a scale unparalleled in any other country. In 1903, when Wallis retired, Mill assumed full responsibility for the direction of the British Rainfall Organization. He strengthened and developed the system and, by his inspiration and forthright methods, secured the enthusiastic co-operation of his small staff and the goodwill of several thousand observers who constituted the B.R.O., as it came to be called. He resolved to make scientific research the main aim of all branches of rainfall work and introduced the use of maps for the more

accurate computation of rainfall distribution than is possible by statistics alone.

He became the recognised authority on British rainfall and was frequently consulted by Government departments and various public bodies. Between 1903 and 1916 Mill contributed chapters on rainfall to the Water Supply Memoirs of the Geological Survey and, utilising the mass of accumulated data, produced authoritative maps of average annual rainfall for 13 counties in England, the whole of Wales and the Isle of Man. In 1906 he became rainfall expert to the Metropolitan Water Board and instituted the series of detailed monthly reports to the Board on the rainfall of the Thames Valley.

Much of his original work is contained in the annual volumes of *British Rainfall* and the monthly numbers of *Symons's Meteorological Magazine*, familiarly known as the "Met. Mag.", which he edited from 1901 until his retirement in 1919 when the Organization was incorporated in the Meteorological Office.

Mill became a fellow of the Royal Meteorological Society in 1893. He was Honorary Secretary from 1902 to 1906 and occupied the Presidential Chair in 1907 and 1908. He received the highest award of the Society, the Symons Memorial Medal, in 1918. At the first meeting of the Society in its Centenary Year, 1950, it was announced that a new award, the Hugh Robert Mill medal and prize,

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was to be instituted to commemorate his outstanding contributions to meteorology and that the first award was to be made to Dr. Mill himself. Unfortunately he died before the presentation could take place.

He was the recipient of many other honours. These included the Makdougal-Brisbane medal of the Royal Society of Edinburgh (1894), the Victoria medal of the Royal Geographical Society (1915), the gold medal of the Royal Scottish Geographical Society (1923) and the Cullum medal of the American Geographical Society (1930). He was made a Commander of the Norwegian Order of St. Olav in 1932.

Throughout his life Dr. Mill was interested in polar exploration and was credited with knowing more about those regions than anyone else, although he himself never visited either of them. Nansen, Andree, Shackleton, Amundsen, Scott, Peary, Wilkins, Byrd and Mawson were all among his friends.

It is no exaggeration to say that Mill was a genius in his powers of exposition, and all his writings bear the stamp of literary style. Probably his best known works are "The Realm of Nature", a standard text-book on physical geography which was first published in 1891 and ran into several editions, "The Siege of the South Pole", "The Life of Sir Ernest Shackleton" and his "Record of the Royal Geographical Society 1830-1930" prepared for the Centenary of that Society.

Dr. Mill's eyesight was already failing so long ago as 1914. In his latter years he fought a grim battle against the approach of blindness. In spite of this physical handicap he maintained a hopeful outlook and, to the end of his long life, persisted in writing his

personal letters aided by a mechanical framework laid across the paper. That his mentality and memory remained undimmed is evident in a letter to the writer of this appreciation less than two months before his death. Referring to the award of the Mill medal he wrote: "I heard of the proposal several months ago and was equally surprised and gratified by it . . . You are the only remaining member of the B.R.O. staff who can remember the work done by that little group at 62 Camden Square before the first World War . . . I have stood the season that should have been winter quite well but dread a wintry spell . . .".

Dr. Mill delighted his many friends each year with his original Christmas cards, which, in more spacious and leisurely days, often combined both beauty and wit. The verses on his 1949 card not inaptly sum up his philosophy of life.

"This is the fiftieth and belike the last
Up-rising signal on our Yule-tide mast
To hail the shifting feet of friends afloat
And dip in memory of the friends who passed.

The Sun that lavished largesse when on high
Now lurks impoverished low in Winter's sky
Withdrawn but to prepare a better Spring
And vault to Summer's height as June goes by."

He was twice married. First, in 1889, to Frances, daughter of Dr. F. R. MacDonald of Inveraray, who died in 1929. In 1937 he married Alfreda, daughter of Frederick Dransfield of Darton, Yorks, who survives him. In his writings he not infrequently acknowledged the help he received from both these ladies.

H. E. CARTER.

"BRITISH RAINFALL." The present publication is in the same form as that for 1948 and retains the main features of pre-war volumes, thus enabling comparison to be made between conditions in 1949 and

those in earlier years. This comparison is facilitated by continuing to number the principal tables according to their sequence in the various sections. Thus in Section 8 they are numbered 8A, 8B, etc. The series

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and the Institute of Brewing for a paper on the season's barley crop.

Reports with maps on the rainfall of various areas were prepared for the Ministry of Health Water Supply Survey, and the probable annual rainfall over a catchment area in Pembrokeshire was computed for the Welsh Board of Health for use in promoting a Parliamentary Bill.

Other inquiries were dealt with from the Ministries of Food and of Fuel and Power, the Meteorological Service of the Irish Republic, many County and Borough Councils, various Water authorities and River Catchment Boards, the Universities of Durham, Reading and London, the Inland Water Survey, the Geological Survey, the War Damage Commission, etc.

Evidence was given in Courts of Law in a variety of cases involving weather conditions and much information furnished in connexion with rainfall insurance policies.

Information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lea Conservancies. A comprehensive

annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to consulting engineers, local authorities and numerous Catchment and Conservancy Boards was continued and extended.

The Office in Edinburgh dealt with numerous inquiries from Water Supply authorities and their consultants, emphasis being on the intensity and duration of rainfall. Advice was given to the Scottish Departments of Agriculture and Health, county planning authorities, the Hydro-Electric Board and the Agricultural Research departments of the Scottish Universities. Data were also supplied to the Registrar-General for Scotland and to various industrial inquirers.

OBITUARY. During the twelve months ending 30th June, 1950 reports were received of the deaths of 46 observers who had contributed to volumes of *British Rainfall*. Of these, 12 kept rainfall records, or were associated with relatives who 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.

The death of Dr. H. R. Mill, one time Director of the British Rainfall Organization, was a severe loss to geographical and meteorological science. An appreciation of Dr. Mill appears on page 1 of this volume.

Mr. William Melvill Coode, who died on

Name		Last place of observation	No. of years' records
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	43
Rev. C. D. Ash	Pulborough, Sussex	43
Sir Henry B. Robertson	Llannderfel, Merionethshire	42
R. W. Pretor-Pinney, Esq.	Somerton, Somerset	41
R. W. Langford, Esq.	Frilford Heath, Berkshire	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	30

October 26, 1949, in his eighty-fourth year, was one of the few rainfall observers whose interest in weather recording extended over more than half a century. From 1898 Mr. Coode carried on without a break the rainfall record which his father commenced at Trevarna, St. Austell, in 1864. The records have been included in the annual volumes of *British Rainfall* for more than eighty years. This long homogenous record was selected for use in many investigations, e.g. the percentage of average annual rainfall falling in the driest and wettest groups of consecutive months of varying length.

Mr. Arthur Eastwood, who died on October 7, 1949, was in his ninetieth year. In 1901 Mr. Eastwood set up a rain-gauge at Leigh Court, Angersleigh, and maintained records there continuously until June, 1946, when he moved to Trull, two miles nearer Taunton. He continued to record daily rainfall measurements and personally wrote out and sent copies of the observations to the Meteorological Office to within a month of his death.

Sir Henry Hoare sent an annual return of his rainfall observations at Stourhead, Wiltshire, for inclusion in *British Rainfall* from 1903 to 1948. The record is being continued by Mr. H. P. R. Hoare.

Mr. Charles T. Musgrave maintained a rainfall record for 44 years up to his death in 1949, continuing an earlier record commenced at Hascombe Rectory by the Rev. Cannon Musgrave in 1893. Miss F. C. Musgrave who is continuing to record the rainfall at her home, Olivers, Hascombe, nearby wrote: "My brother Charles was a very keen observer of the weather. It was a great hobby in his old age—he was 86."

The Reverend C. D. Ash sent rainfall returns from Saxton, Yorkshire, from 1906 to 1926 when he moved to Pulborough, Sussex, where he kept a record until shortly before his death on December 20, 1949.

Sir Henry Robertson set up a rain-gauge at his home at Palé, near Llandderfel, Merioneth, in 1906 and continued the observations for 42 years. His son, Mr. Henry Robertson,

now sends records from Crogen, about a mile and a half north-east of Palé.

Mr. R. W. Pretor-Pinney sent his first rainfall return from Somerton in 1908. He continued to send each year until 1949. He died on May 29, 1950, in his eighty-third year.

Mr. R. W. Langford, who also died on May 29, 1950, began his long record of rainfall at Abingdon in 1910. He moved a mile-and-a-half north-west to Frilford Heath in 1935 and continued to send returns of his observations until his death. Continuity is being maintained by Mr. R. A. Langford who keeps a record in the adjoining garden.

Mr. A. B. Sinclair was a keen observer and kept detailed notes of the weather at Penrith for a period of 36 years. The rainfall record is being continued by Mrs. Sinclair.

Mr. Arthur Charles Marsh died at Bournemouth on April 22, 1950. He was a Fellow of the Royal Meteorological Society from 1920 and Meteorologist to the Bournemouth Corporation from 1937. After his return from the 1914–18 war he was appointed as deputy to his father-in-law, the late Charles Dales, who was Bournemouth's first official observer. With the passing of the years they reversed positions and from 1937 Mr. Marsh became observer and Mr. Dales his deputy. A summary of the Bournemouth climatological observations is regularly published in the *Monthly Weather Report*.

Sir Norman Lamont of Knockdow, Argyll, sent returns for publication in *British Rainfall* from 1920. He was the authority for records both at Toward and Invercholain in which he took a keen interest. By his death on September 4, 1949 (following goring by a bull on his estate of Palmiste, Trinidad), Argyll has lost one of its most distinguished lairds. Sir Norman was a member of various historical and kindred societies and some of his speeches and writings on colonial affairs were published as "Problems of the Antilles" and "Problems of Trinidad". He was joint-author of a catalogue of Trinidad moths, the outcome of a life-long interest in entomology.

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Mr. C. H. Archer of Wootton Courtenay, and in the neighbourhood of Blanchland for use by the Sunderland and South Shields Water Company.

INQUIRIES. Inquiries regarding rainfall in various parts of the country covered a very wide field. As in previous years they included many requests for records defining the rainfall experienced during specified periods in particular localities, the supply of estimates of the average annual and monthly rainfall over specified areas, advice on the provision of equipment and the best exposure for rain-gauges.

Information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and

numerous River and Conservancy Boards was continued and extended.

The Office in Edinburgh dealt with numerous inquiries from legal and insurance firms and water supply authorities. Advice was given to the Scottish Departments of Agriculture and Health, County Planning Authorities and the Hydro-Electric Board. Data were also supplied to the Registrar-General for Scotland and to various industrial concerns.

OBITUARY. During the twelve months ending 30th June, 1951, reports were received of the deaths of 55 observers who had contributed to volumes of *British Rainfall*. Of these, 15 kept rainfall records for 30 years or more. A list of these is given below.

Miss P. C. Harrison maintained a record for close on 50 years, from 1901 to September 1912 at Horam Manor, between Eastbourne and Tunbridge Wells, and from October 1912 to June 1950 nearby at Horam (Coxlow).

Major J. Shipley Ellis forwarded returns of his daily observations from January 1903 until December 1949 when failing eyesight brought the long record maintained at Abbeyfields, Peterborough, to an end. He reported at the end of 1949 that he had "derived very much

Name	Last place of observation	No. of years' records
Miss P. C. Harrison	Horam, Sussex	49
Major J. Shipley Ellis, J.P.	Peterborough, Northamptonshire	47
C. J. P. Cave, Esq., M.A., J.P.	Petersfield, Hampshire	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	40
R. J. Cragghill, Esq.	Kendal, Westmorland	39
Rev. Canon H. J. E. Burrell	Trumpington Road, Cambridge	36
B. A. Bray, Esq.	Shere, Surrey	36
C. G. D. Hoare, Esq., M.A.	Uckfield, Sussex	35
F. Hudleston, Esq., M.Inst.C.E.	Penrith, Cumberland	35
Alban Coore, Esq.	Scruton Hall, Yorkshire	31
Major W. H. Shoolbred-Wilkin	Membury, Devonshire	30
G. Coleman, Esq.	Ystradgynlais, Brecknockshire	30

pleasure from the practice " and had supplied details of the rainfall frequently to the local press.

Capt. C. J. P. Cave, M.A., maintained a rainfall record at Petersfield from May 1905 until he died in December 1950, and also contributed evaporation and duration of rainfall records to *British Rainfall*. He was the last surviving Trustee of the *British Rainfall Organization* (see *British Rainfall*, 1918, p.21). He had wide interests in meteorology, including upper air research, thunderstorm research and cloud studies (see *Quart. J. R. Met. Soc.*, April, 1931, p.334).

Mr. Charles T. Musgrave forwarded records from Hascombe, near Godalming, from 1906 to 1948 in continuation of observations made at the Rectory since 1893 by the Reverend Canon Musgrave. The record has been continued by Miss F. C. Musgrave.

Mr. E. H. Cubberley sent rainfall records from Moor Hall, Bidford-on-Avon from 1907 until 1949. He was interested in many aspects of meteorology.

Mr. A. Hampton Brown was on the staff of the Royal Meteorological Society from 1896 until he retired from his post as Assistant Secretary at the end of 1935. He maintained rainfall records at his home at Chelsea from 1907 to 1935 and climatological observations at Farnham until his death in November 1950.

Mr. R. J. Craghill commenced observing at Cartmel Fell Schoolhouse in 1909 in continuation of a record previously kept at the Vicarage. When he retired and moved to Kendal in 1931 records were continued there until 1947. Rainfall records have now been

maintained at Kendal by various observers certainly back to 1800.

The Rev. Canon H. J. E. Burrell forwarded returns from Balsham Rectory, Cambridge, from 1912 to 1933 and from Trumpington Road, Cambridge, from 1934 to 1948.

Mr. C. G. D. Hoare, M.A., made returns of rainfall from 1914 from Lawrence House, St. Anne's-on-Sea, until he took up residence in Lawrence House, Uckfield, in 1933. After a lapse of a few months, records for Uckfield were received regularly until he died at the end of 1949. The latter record is being continued by the gardener.

Mr. Ferdinand Hudleston, M.Inst.C.E., sent in a complete series of monthly totals for 1916 to 1923 from Hutton John, Penrith, thereafter contributing daily values regularly each year until he died at the beginning of 1951. Of recent years the records were actually made by his son, Mr. N. Hudleston of the River Eden Catchment Board. Mr. F. Hudleston carried out experiments on the exposures of rain-gauges from 1926 to 1932, the complete summary being included in *British Rainfall*, 1933, pp. 274-293, together with a diagram of the turf-wall he introduced. He interested himself in local affairs and wrote a treatise on "The Floods of the Lake District in 1935" published by the River Derwent Catchment Board. It is interesting to know that the rainfall record is still being continued at Hutton John, with its famous Peel-Tower and clipped yews.

Mr. Alban Coore forwarded returns from 1929 to 1949 from Scruton Hall, near Northallerton, in continuation of the record maintained there by his father, the Rev. Alfred T. Coore, since 1903.

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and Mr. A. Bleasdale on the Hydrological Research Group of the Institution of Water Engineers.

The Hugh Robert Mill Medal and prize for 1952 of the Royal Meteorological Society was awarded to Dr. J. Glasspoole for his outstanding contributions to the science of meteorology with particular reference to rainfall.

INSPECTIONS. During the year rain-gauges were included in the inspection of about 165 climatological stations. In addition about 140 rainfall stations were inspected. The main groups were those of the Edinburgh Water Works, Fannich Orrin (Hydro-Electric Board), Daer Water Scheme (Lanarkshire), Bradford Waterworks, Bristol Waterworks, Sunderland and South Shields Waterworks and a number of gauges in which the Yorkshire Ouse River Board has a special interest.

Additional sites for rain-gauges were also selected in the area of the Yorkshire Ouse River Board and in the Upper Tees under Great Dun Fell for the Nature Conservancy.

INQUIRIES. Inquiries regarding rainfall in various parts of the country covered a very wide field. As in previous years they included many requests for records defining the rainfall experienced during specified periods in particular localities, the supply of estimates of the average annual and monthly rainfall over specified areas, advice on the provision of

equipment and the best exposure for rain-gauges.

Information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and numerous River and Conservancy Boards was continued and extended.

The Office in Edinburgh dealt with numerous inquiries from legal and insurance firms and water supply authorities. Advice was given to the Scottish Departments of Agriculture and Health, County Planning Authorities and the Hydro-Electric Board. Data were also supplied to the Registrar-General for Scotland and to various industrial concerns.

OBITUARY. During the twelve months ending June 30, 1952, reports were received of the deaths of 37 observers who had contributed to volumes of *British Rainfall*. Of these, 10 kept rainfall records for 30 years or 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	50
Mr. John Taylor	Guildford, Surrey	49
Mr. John A. Druce	Goudhurst, Kent	45
Sir Charles Leyshon Dilwyn-Venables-Llewelyn, Bt., C.B.	Llys dinam, Brecknockshire	43
Dr. A. Bulleid	Midsomer Norton, Somerset	41
Mr. F. E. T. Jones Balme	Rydal, Westmorland	39
Miss L. Sibley	St. Neots, Huntingdonshire	38
Dr. W. C. Whitworth	St. Agnes, Cornwall	34
Mr. E. W. Finch	Purley, Surrey	33
Mr. P. M. Horsfall	Sleights, Yorkshire	30

Capt. W. Elwin Napier contributed annual returns from Worth, near Sandwich, commencing in 1901. Initially the record was credited in *British Rainfall* to Sandwich (Word). It is being continued by Mrs. M. Napier.

Mr. John Taylor forwarded returns from West Hill House, Dartford, from 1902 until 1933, when on the death of the owner he moved to Guildford, continuing a record there until his death in July 1951.

Mr. John A. Druce commenced rainfall readings at Gore Court, Goudhurst, in 1904 and these were continued, with a short break in 1916 and 1917, until his death in April 1951 at the age of 93.

Sir Charles Leyshon Dilwyn-Venables-Llewelyn, Bart., C.B., arranged for records to be forwarded from Llysdinam, Newbridge-on-Wye, from 1908, the late Mrs. Lester Venables having forwarded earlier returns from there for the years 1882 to 1907. The record is being continued by Lady Venables-Llewelyn.

Dr. A. Bulleid sent returns from Midsomer Norton from 1911 until he died in his 89th year in December, 1951, and "quite at the last he arranged for the record, in which he was so keen, to be continued".

Mr. F. E. T. Jones Balme kept a record at Rydal (High Close) from 1912 to 1950. This record was commenced in 1859 by Mr. E. B. W. Balme and forwarded later by Mr. F. M. T. Jones Balme. It is being continued by Mrs. Jones Balme.

Miss L. Sibley commenced observing at St. Neots in 1914 and supplied in 1931 the earlier records. From then until her death in December 1951 regular monthly returns were forwarded to the Meteorological Office. A record at St. Neots is being continued by Mr. W. P. Bond-Smith.

Dr. W. C. Whitworth supplied returns from St. Agnes from 1917 to 1950, initially through the Cornwall Rainfall Association. The record is being continued by his son Dr. Henry Whitworth, M.B., B.S.

Mr. E. W. Finch forwarded returns from Purley from 1915 to 1938, from Yeovil in 1940 and from Purley from 1943 to 1950.

Mr. P. M. Horsfall sent records from The Hall, Sleights, near Whitby, from 1921 to 1950. The record is being continued by Mr. George Gibson at the Hall Cottage, the gauge having been left to him. For the 30 years, reading the gauge had been part of his duties.

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of (1) Hydrological Measurements, (2) Estimation of Yield (Overground), (3) Estimation of Yield (Underground) and (4) Some Observations on Pumping Tests carried out on Chalk Wells.

A start was made with the preparation of rainfall averages for the period 1916-50.

RIVER BOARDS. A study has been made of the representative distribution of rainfall stations, which might be expected to remain permanent, for each of the 32 River Boards covering England and Wales. Recommendations have been prepared for some 20 areas and communicated to a number of the engineers concerned. Mention should be made of the Yorkshire Ouse River Board area where substantial progress has been made in securing representative readings for localities hitherto but poorly covered. About half the River Boards have been supplied with rainfall maps and data month by month.

INSPECTIONS. During the year rain-gauges were included in the inspection of about 150 climatological stations. In addition it was only possible to inspect about 40 rainfall stations. These were distributed near the Black Mountains of Brecknockshire, in Lanarkshire and Dumfriesshire and around Kinlochleven.

INQUIRIES. As in previous years inquiries regarding rainfall in various parts of the country covered a very wide field. They

included many requests for records defining the rainfall experienced during specified periods in particular localities, the supply of estimates of the average annual and monthly rainfall over specified areas, advice on the provision of equipment and the best exposure for rain-gauges.

Information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and numerous River and Conservancy Boards was extended.

The Office in Edinburgh dealt with numerous inquiries from legal and insurance firms and water supply authorities. Advice was given to the Scottish Departments of Agriculture and Health, County Planning Authorities and the Hydro-Electric Board. Data were also supplied to the Registrar-General for Scotland 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	Scotney Castle, Kent	55
Sir Frederick Berryman	Shepton Mallet, Somerset	51
Mr. J. Arnold Whitchurch	Great Barford, Bedfordshire	50
Dr. T. Edmondston Saxby, O.B.E.	Baltasound, Shetland Islands	45
Mr. M. J. Lipscomb	Bath, Somerset	45
Mr. V. B. Longhurst	Guildford, Surrey	44
Rev. T. R. Price, M.A.	Lewisham, London	42
Mr. Theodore Gibbins	Neath, Glamorgan	41
Mr. A. Y. Barker	Pateley Bridge, Yorkshire	38
Mr. A. Pettipher	Buckinghamshire	36
Mr. A. T. Miller	Swanley, Kent	31

OBITUARY. During the twelve months ending June 30, 1953, reports were received of the deaths of 53 observers who had contributed to volumes of *British Rainfall*. Of these, 12 kept rainfall records for 30 years or more. A list of these is given on page 3.

Mr. H. H. Harding contributed rainfall returns from 1892 to 1906 from Fishponds, Bristol, and from Frampton Cotterell from 1907 until his death at the age of 83 in March 1953. Climatological returns were forwarded from 1942. Mr. Harding stopped observing in 1950, but the observations have been continued by his son Mr. A. G. Harding. Mr. H. H. Harding was senior Fellow of the Royal Meteorological Society.

Mr. E. W. Hussey assisted his father, Mr. Edward Hussey, in rainfall observing at Scotney Castle (to the east of Tunbridge Wells) from 1873 until 1897, and then took over responsibility until failing health forced him to discontinue. Until his death in October 1952 he maintained his interest in the record which it is hoped will be continued by Mr. Christopher Hussey.

Sir Frederick Berryman, who died in December 1952, had forwarded rainfall records from Shepton Mallet from 1901 to 1951. The record has been continued by his daughter Miss F. A. Berryman, who states that the exposure of the gauge has not been altered since it was inspected by the Meteorological Office in 1917.

Mr. J. Arnold Whitchurch commenced forwarding rainfall records from Great Barford House, St. Neots, in 1903 and continued until shortly before his death in February 1953.

Dr. T. Edmondston Saxby commenced to take climatological observations at Balta-sound in 1904, sending returns first to the Scottish Meteorological Society and then to the Meteorological Office. The maintenance

of so continuous a record by one engaged in medical practice must have been difficult. In spite of failing health Dr. Saxby contributed full climatological observations until the middle of 1950 and some of them up to a few months before his death in October 1952.

Mr. M. J. Lipscombe who died in February 1953, sent returns from Bath, from Monkton Combe for the years 1907 to 1936, and from Bathwick Hill for the years 1937 to 1951.

Mr. Vernon B. Longhurst forwarded returns from Woking from 1908 to 1940 and from Guildford from 1941 to 1951. He died suddenly in January 1952.

The Rev. T. R. Price forwarded returns from Lilbourne Vicarage, to the east of Rugby, 1907 to 1913; from Westcombe Park, near Greenwich, 1917 to 1934, and then from Catford Hill, Lewisham, until 1952, apart from a break in 1944 owing to war damage when the record was also destroyed. The record is being continued at Lewisham by Miss D. Norton.

Mr. Theodore Gibbins commenced rainfall records at Glynnfelin, Neath, in 1911, and forwarded returns regularly until 1951.

Mr. A. Y. Barker sent returns regularly from Kettleshulme, near Whaley Bridge, from 1915 to 1935; from Ravensgill Lodge, Pateley Bridge until 1939 and then from Low Laithe, also near Pateley Bridge, until October 1952.

Mr. A. Pettipher supplied records for Abingdon for the years 1903 to 1909 and for Buckingham from 1924 until his death in November 1952. The return is being continued by Mr. Ralph Davis at Sandpit Farm, Buckingham.

Mr. A. T. Miller commenced records at Wested Farm in 1921 and in 1927 forwarded a return also from Keston Court Farm. The returns since 1951 have been received from A. T. Miller (Swanley) Ltd.

INSPECTIONS. During the year rain-gauges were included in the inspection of about 150 climatological stations. In addition it was possible to inspect about 200 rainfall stations (of which the Meteorological Office, Edinburgh, inspected about 50) distributed in the neighbourhood of London; over the gathering grounds providing water supply to Blackburn, Blackpool, Bolton, Harrogate, Keighley, Wakefield and the Staffordshire Potteries; as well as in Lanarkshire, Renfrewshire and the Loch Turret and Dee (Aberdeenshire) Valleys.

INQUIRIES. As in previous years inquiries regarding rainfall in various parts of the country covered a very wide field. They included many requests for records defining the rainfall experienced during specified periods in particular localities, the supply of estimates of the average annual and monthly rainfall over specified areas, advice on the provision of equipment and the best exposure for rain-gauges.

Information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive

annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and numerous River and Conservancy Boards was continued.

The Meteorological Office, Edinburgh, dealt with numerous inquiries from legal and insurance firms and from the North of Scotland Hydro-Electric Board, Forestry Commission and the Departments of Health and Agriculture. Regular reports were supplied to the Registrar-General for Scotland, the North of Scotland Hydro-Electric Board, South-east Scotland Electricity Board, the *Inverness Courier* and other authorities interested in rainfall.

OBITUARY. During the twelve months ending June 30, 1954, reports were received of the deaths of 44 observers who had contributed to volumes of *British Rainfall*. Of these, 11 kept rainfall records for 30 years or more. A list of these is given below.

Mr. Joseph H. Welch sent returns regularly from Londonderry, starting in 1903 and continuing up to the time of his death early in 1953.

Mr. C. H. Scott, who died in July 1953, commenced forwarding rainfall records from Hollanden House, Hildenborough, in 1905 and continued until 1952.

The death of Major R. M. Ker in October

Name			Last place of observation		No. of years' records
Mr. Joseph H. Welch	Dunruadh, Londonderry	..	50
Mr. C. H. Scott	Hildenborough, Kent	..	48
Major R. M. Ker	Milngavie, Stirlingshire	..	45
Mr. A. O. Scrivener	Boston, Lincolnshire	..	44
Mr. W. A. Roberts	Bridport, Dorset	..	43
Mr. N. C. Armitage	Claygate, Surrey	..	43
Mr. H. I. Bond	Dorchester, Dorset	..	40
Sir Harold Clayton, Bart.			Brixham, Devonshire	..	35
Major W. S. R. Cox	Bridstow, Herefordshire	..	34
Miss D. P. Foster	Liskeard, Cornwall	..	31
Mr. E. R. Sykes	Dorchester, Dorset	..	30

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1953, ended a very long family association in rainfall recording. Major Ker's grandfather began his records in 1853 at Auchindraith, Hamilton, and was one of the contributors to *British Rainfall* 1860. There was a break in the recordings in 1877 until the late Major Ker resumed the returns—at Dougalston, Milngavie—in 1907. In 1928 the late Major Ker acquired Eastertoun whence he sent records until his death in 1953. His statistics of the rainfall at Dougalston and Eastertoun were kept with meticulous care, and he was always ready to discuss his findings with others and to pass on his data to anyone interested.

Mr. A. O. Scrivener contributed returns from Boston, taken at Bargate End 1908 to 1938 and then at Sibsey Road until 1951. He had recorded the large fall of 4.98 inches for August 8, 1931.

Mr. W. A. Roberts supplied records for Great Bromley, Essex, from 1910 to 1946, and then from Bridport until his death in March 1953. The record is being continued by Mr. H. G. T. Morrison.

Mr. N. C. Armitage sent returns regularly from Claygate, Surrey, from 1910 until 1952.

Mr. H. I. Bond sent records from Weybridge, 1914 to 1939, from Windsor, 1939 to 1949, and from Dorchester until his death in

November 1953. The record is being continued by Miss M. H. G. Bond, whose family contributed returns from Corfe Castle, Dorset, from 1914 to 1942.

Sir Harold Clayton, Bart., forwarded returns from Brixham from 1917 until his death in 1951, and also from Harleyford Manor, near Marlow, from 1934 to 1945.

Major W. S. R. Cox, who died in February 1954, had forwarded returns from Bridstow, near Ross-on-Wye, from 1920 until shortly before his death. He was keenly interested in the Boy Scout movement from its start, in the Ross Golf Club, in the South Herefordshire Lawn Tennis Club, and was the vicar's warden at Bridstow for 43 years.

Miss D. P. Foster sent returns from Liskeard, Cornwall, from 1922 until her death in April 1953, when her sister, Miss W. P. Foster, who had shared the interest in rainfall observing, continued the record. Records for earlier years were credited to their father, Col. L. C. Foster, and it is interesting to note that in 1933 Miss D. P. Foster stated that she had "kept the record continuously since August 1895". Miss Foster had recorded the only entry exceeding 4 inches in a day for Cornwall—4.53 inches on October 5, 1929.

Mr. E. R. Sykes, who died in 1954, sent returns from Dorchester from 1924 to 1953.

available. The number of river-gauging stations has continued to increase and for the fourth volume estimates of the general monthly rainfall for some 80 areas were prepared.

RIVER BOARDS. Work has continued in collaboration with the River Boards in 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 rainfall stations published in *British Rainfall* has always been considered of great importance. During the war few inspections were possible 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 County Council, Middlesex County Council, Southend Waterworks, Lee Conservancy, East Surrey Water Company, Woking U.D.C., and Middle Level Commissioners. In addition, 9 stations were inspected in the area of the N.W. Sussex Joint Water Board, and 8 sites selected for additional rain-gauges to be maintained by the Staffordshire Potteries Water Board.

The Meteorological Office in Edinburgh carried out inspections of some 165 rainfall stations in Scotland, while the rain-gauges were included in the inspection of about 150 climatological stations in Great Britain and Northern Ireland.

INQUIRIES. As in previous years inquiries regarding rainfall in various parts of the country covered a very wide field. They included many requests for records defining the rainfall experienced during specified periods in specified localities, the supply of estimates of the average annual and monthly rainfall for given areas, advice on the provision of equipment and the best exposure for rain-gauges. Information was supplied in connection with water supply, drainage and hydro-electric schemes, including that for areas in the Loch Turret area, Perthshire; in Glen Usinish above Loch Corodale in the Outer Hebrides; for the Corporation Waterworks of Cardiff and Liverpool; for the Thames Valley above Day's Weir; the River Lune above Lancaster during December 1954 when flooding occurred.

In particular, information was also supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular

Name		Last place of observation	No. of years' records
Mr. H. R. Coventry	Chippenham, Wiltshire	50
Mr. W. G. Rutter	Pulham St. Mary, Norfolk	49
Mr. William Berry	Newport, Fifeshire	49
Earl of Mar and Kellie	Alloa House, Clackmannanshire	47
Mr. F. C. Hornsey	Wood Green, Middlesex	43
Mr. J. E. Gladstone	Braunton, Devon	42
Major A. A. Dorrien-Smith, D.S.O.	Tresco Abbey, Scilly	37
Rev. M. de Courcy-Ireland	Cambridge	35

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monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and numerous River Boards was continued.

The Meteorological Office, Edinburgh, dealt with numerous inquiries from legal and insurance firms and from the Press. The less routine inquiries covered a wide variety of subjects such as water supply, drainage, agriculture, location of industries, road repair and building work.

OBITUARY. During the twelve months ending June 30, 1955, reports were received of the deaths of 42 observers who had contributed to volumes of *British Rainfall*. Of these, 8 kept rainfall records for 35 years or more. A list of these is given on page 4.

Mr. H. R. Coventry contributed returns for half a century from 1903 until a month before his death in June, 1953.

Mr. W. G. Rutter also commenced recording in 1903 and in 1913 he set up a second station at Ditchingham, which was later continued by his son.

Mr. William Berry sent records from Tayfield, Newport, in the north of Fifeshire from May 1905. Until his death on April 18, 1954, Mr. Berry attended personally to all correspondence about the records. The readings are being continued at Tayfield by his son, Dr.

John Berry of the Edinburgh Office of the Nature Conservancy.

The Earl of Mar and Kellie, who died on June 3, 1955, began recordings at Alloa House in 1908. The Earl took a personal interest in the returns and raised with the Meteorological Office several points concerning the rainfall of the Alloa district.

Mr. F. C. Hornsey observed at Wood Green from 1907 until he retired in 1951 at the age of 82 years, having worked with Messrs. Negretti and Zambra, Instrument Makers, for over 50 years.

Mr. J. E. Gladstone forwarded readings from Llandaff, near Cardiff, from 1908 to 1934 and the record was continued there until 1947. Mr. Gladstone moved to Braunton, Devon, where readings were made from 1937 until 1952.

Major A. A. Dorrien-Smith, D.S.O., who died in May, 1955, at the age of 79, had sent readings from Tresco Abbey since 1918, records from his family having been received since 1870 and published in *British Rainfall* since 1885.

The Rev. M. de Courcy-Ireland contributed returns from Abington Pigotts Hall, to the south of Cambridge, from 1920 to 1947 and from the nearby Litlington Vicarage from 1927 to 1946. He also forwarded records from Cambridge from 1948 to 1954.

BRITISH RAINFALL 1955

Lee. The rain-gauges were included in the inspection of about 120 climatological stations in Great Britain and Northern Ireland.

INQUIRIES. As in previous years inquiries regarding rainfall in various parts of the country covered a very wide field. They included many requests for records defining the rainfall experienced during specified periods in specified localities, the supply of estimates of the average annual and monthly rainfall for given areas, advice on the provision of equipment and the best exposure for rain-gauges. Information was supplied in connection with water supply, drainage and hydro-electric schemes, including estimates of average annual rainfall in connection with additional water-supply schemes for the County Councils of Dumfriesshire, West Lothian, Inverness-shire, Sutherland, Renfrewshire, Angus and Montgomeryshire; for Newport (Mon), Cardiff, Bridgwater, Liverpool, Chesterfield, Oldham, Barnoldswick and Kilmarnock; and for the Stirlingshire and Falkirk Water Board, the Tees Valley Water Board, and the Bolsover and Clowne Water Board.

As in previous years, information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine* while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board

and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers, local authorities and numerous River Boards was continued.

The Meteorological Office, Edinburgh, dealt with numerous inquiries from legal and insurance firms and from the Press. The less routine inquiries covered a wide variety of subjects such as water supply, drainage, erosion, agriculture, forestry, horticulture, road construction and industrial problems.

OBITUARY. During the twelve months ending June 30, 1956, reports were received of the deaths of 42 observers who had contributed to volumes of *British Rainfall*. Of these, 8 kept rainfall records for 35 years or more. A list of these is given below.

Mr. Percy Clough supplied rainfall returns from Keighley (The Knowle) from 1910.

Mr. W. V. Bloom maintained a rainfall station at Fordham from 1903 until his death in May 1955 at the age of 87. The returns are being continued by the family.

Mr. David H. Owen maintained records of the weather at Birmingham (Sparkhill) from 1892; he forwarded rainfall returns to the Meteorological Office from 1905 and climatological returns from 1907. His death in November 1955, at the age of 84, brought to a sudden close a long and enthusiastic devotion to meteorology.

Name		Last place of observation	No. of years' records
Mr. Percy Clough	Keighley, Yorkshire ..	56
Mr. W. V. Bloom	Fordham, Cambridgeshire ..	52
Mr. David H. Owen	Sparkhill, Birmingham ..	51
Rev. Sir Paget Bowman, Bt.	Colehill, Dorset ..	48
Mr. Roger C. Mallock	Hook, Hampshire ..	47
Mr. J. A. Jones	Cray, Brecknockshire ..	46
Mr. R. Roberts	Llanafan, Cardiganshire ..	45
Mr. H. W. Apperley	Morecambe, Lancashire ..	36

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Rev. Sir Paget Bowman, Bt., was vicar of Newington, near Sittingbourne, Kent, 1907-11, and of Woodside, South Norwood, 1911-19, and Rector of Shere, Surrey, from 1919 until 1950, when he resigned. A continuous rainfall record was maintained at these places and continued at Joldwynds, Colehill, from 1950-55.

Mr. Roger C. Mallock forwarded returns from Cockington Court, Torquay, 1901 to 1913, and from Nately Hatch, near Basingstoke from 1923 to February 1956.

Mr. J. A. Jones read a rain-gauge monthly at Cray, between the Carmarthenshire Black Mountain and the Brecon Beacons, from

1910 to 1955 and forwarded readings to the Meteorological Office.

Mr. R. Roberts read a rain-gauge monthly at isolated farms to the east of Aberystwyth—at Towy-Fechan, near Strata-Florida, from 1911 to 1923, at Yspytty Ystwyth from 1923 to 1933 and from Blaen ddol, near Llanafan, from 1933 to 1955.

Mr. Harry William Apperley, F.R.Met.S., commenced observing in Wilshire, near Blackburn, in 1920 and continued sending in returns when he moved to Bare, north of Morecambe, in 1939. He became known to a wide public through his contributions to various local newspapers.

different parts of the country to provide information relevant to water-supply inquiries.

RIVER BOARDS. Liaison with river boards in establishing a representative distribution of rain-gauges in each of the 32 areas has been maintained, while the regular monthly supply of rainfall maps and data to many boards continues. In a few cases data have been supplied for special investigations, some of which have been discussed, in correspondence or through personal visits, with river board engineers.

INSPECTIONS. During the twelve months ending June 30, 1957, the rainfall inspector visited about 150 stations. This is a much smaller number than had been planned, because of the absence of the rainfall inspector for about six of the twelve months on other duties or on sick leave, which meant the cancellation of a large number of provisionally arranged inspections. Stations visited were mainly in north-west England, including the Lake District, and in central and South Wales, the west Midlands and southern England. Arrangements for inspections were made by a number of engineers serving water-supply undertakings including the Manchester Corporation Waterworks, the Metropolitan Water Board, the Irwell Valley Water Board, and the Herts and Essex Water Company; similar valuable assistance was rendered by the engineers of the Mersey and Wye River Boards.

The Meteorological Office in Edinburgh carried out inspections of some 106 stations in Scotland. Many of those inspected were in the northern and north-western counties and fairly large groups inspected were around Loch Sloy, Glen Lochay and Glen Moriston. Rain-gauges were included in the inspection of about 121 climatological stations in Great Britain and Northern Ireland.

INQUIRIES. As in previous years inquiries regarding rainfall in various parts of the country covered a very wide field. They included many requests for information about

the rainfall experienced during specified periods in specified localities, the supply of monthly and annual average rainfall for given areas, and advice on the provision of equipment and the best exposure for rain-gauges. Information was supplied in connection with water supply, drainage and hydro-electric schemes, including estimates of average annual rainfall in connection with additional water-supply schemes for the County Councils of Dumfriesshire, Caithness, Caernarvonshire and Northumberland, and for Liverpool, Oldham, Torquay, Londonderry, Birkenhead, Bristol, Sunderland and South Shields, Wrexham and East Denbighshire, South Essex and the Tees Valley.

As in previous years, information was supplied monthly for publication in *Water and Water Engineering* and the *Meteorological Magazine*, while monthly reports on the rainfall of Great Britain and Northern Ireland were furnished to the British Waterworks Association and to certain Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and the Thames and Lee Conservancies. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers and local authorities was continued.

The Meteorological Office, Edinburgh, dealt with numerous inquiries from legal and insurance firms and from the Press. The non-routine inquiries covered a wide variety of subjects such as water supply, drainage, erosion, agriculture, forestry, horticulture, road and bridge construction and industrial problems.

The exchange of information with the Director of the Meteorological Service of the Irish Republic was continued.

OBITUARY. During the twelve months ending June 30, 1957, reports were received of the deaths of 22 observers who had contributed to volumes of *British Rainfall*.

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Of these, 6 kept rainfall records for 35 years or more. A list of these is given below.

Sir John Stirling-Maxwell, Bt., sent rainfall records from his home at Pollock, Renfrewshire, for 45 years, his observations having commenced in 1912. He died on May 30, 1956.

The Rev. I. F. Carr-Gregg, M.A., forwarded returns from Hurstpierpoint from 1891 to 1898, and from Astley Vicarage, Nuneaton, for most of the period from 1917 until his death early in 1956.

Mr. E. W. Poore maintained a rainfall record at his home, Dockens, near Fordingbridge, Hampshire, for 41 years, from 1916 until 1956. He died on January 30, 1957.

Mr. W. Maurice Wright, M.A., J.P., sent records from Wold Newton Manor for 40 years from 1917 until his death on October 17, 1957. Throughout this period he contributed monthly weather notes to the local press. His brother, Mr. Parsons Wright, is continuing this valuable, long rainfall record.

Mr. A. Cozens-Hardy, who died in 1957, maintained for 40 years, from 1915 until 1954, the rainfall record started by his family at Oak Lodge, Sproxton, in 1872.

Captain M. Murray Buchanan began rainfall observations at Leny, near Callander, Perthshire, in 1919, and kept them for 37 years. He died in December, 1956.

DR. J. GLASSPOOLE. At the end of 1957 Dr. J. Glasspoole retired from his post in the Meteorological Office after nearly 38 years' service. Dr. Glasspoole started his career in the British Rainfall Organization under Dr. H. R. Mill in 1916, before the organization was taken over by the Meteorological Office. He had thus been closely associated with rainfall work for more than 40 years, and his retirement brought to an end the last remaining personal link with the British Rainfall Organization in its earlier form, when it was a private body.

Towards the end of his career, Dr. Glasspoole was awarded two significant honours: in March 1957 he was elected an Honorary Member of the Institution of Water Engineers, as reported, with an account of his work, in the Journal of the Institution for May 1957; and in June 1957 he was appointed a Companion of the Imperial Service Order for long and meritorious service in the Meteorological Office. A further appreciation of Dr. Glasspoole's work was published after his retire-

ment in the *Meteorological Magazine* for April, 1958.

OBITUARY. During the twelve months ending June 30, 1958, reports were received of the deaths of 23 observers who had contributed to volumes of *British Rainfall*. Of these, the following four kept rainfall records for 35 years or more.

Miss E. S. Dunlop contributed rainfall records from Shieldhill, Biggar, from 1908 to 1940 and from Huntfield, Biggar, from 1941 until her death early in 1958.

Major A. C. F. Luttrell maintained a rainfall record at Edington Manor, Bridgwater, from 1920 until his death in January, 1957.

Mr. G. A. Goodchild sent rainfall records from Great Yeldham, Essex, for 46 years, from 1912 to 1957. He died in February, 1958, but his daughter is continuing this long and valuable record.

Mrs. E. L. Burt began rainfall observations at Braintree, Essex, in 1923 and kept them for 35 years. She died in April, 1958.

SNOW SURVEY OF GREAT BRITAIN. A report on the Snow Survey of Great Britain appeared in *British Rainfall* for the first time in the volume for 1957. A similar report for the season 1957–1958 is published in Part III of the present volume. The basic information from which the Survey is prepared is obtained from Monthly reports made throughout the season, voluntary observers giving daily records of snowfall and snow cover within sight of their observing stations. Advance copies of this Survey were sent to these contributing observers at the end of 1958. Additional snow data are also obtained from returns made by voluntary climatological stations and official Meteorological office stations.

SURFACE WATER YEAR BOOK. The Meteorological Office has continued to make its contributions to the *Surface Water Year Book*, prepared by the Surface Water Survey of the Ministry of Housing and Local Government. The Year Book contains flow data for a steadily increasing number of river-gauging stations, a number approaching 200 in the late 1950's and planned to reach about 400 within a few years. Estimates of monthly and annual areal rainfall are prepared for as many as possible of the corresponding drainage areas, though there are still some areas for which the rainfall data are inadequate for the estimation of areal values.

INQUIRIES. Inquiries regarding rainfall in various parts of the country, dealt with by Headquarters or by the Meteorological Office, Edinburgh, followed the customary pattern and covered the very wide fields indicated in earlier volumes of *British Rainfall*. In particular, in connection with schemes for new or augmented sources of water supply information about rainfall was supplied to the responsible authorities for parts of the Mersey Basin, Derbyshire, and Ross and Cromarty,

and in the valleys of the Shin, Tay, Forth, Neath and Colne.

Information was supplied for publication in *Water and Water Engineering* and in the *Meteorological Magazine* while monthly reports of rainfall in Great Britain and Northern Ireland were supplied to the British Waterworks Association and to various Government Departments. Detailed reports were supplied each month to the Metropolitan Water Board and to the Lee Conservancy and tables of data were supplied to the Thames Conservancy. A comprehensive annual report was also prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers and local authorities continued.

The exchange of information with the Director of Meteorological Services of the Irish Republic continued.

OBITUARY. During the twelve months ending 30th June, 1959 reports were received of the death of 48 observers who had contributed to *British Rainfall* over many years. Of these the following five observers kept rainfall records for 35 years or more.

R. Thurts, Esq. maintained a rainfall record at The Avenue, Lewes, Sussex, from 1921 until April, 1958. His son-in-law is carrying on this record.

Mrs. R. B. Turton of Kildale Hall, Yorkshire contributed records to *British Rainfall* for 48 years from 1910. G. L. Horton, Esq. is continuing the record.

E. W. Darby, Esq. sent rainfall records from the Croft, Carhampton, Somerset for 50 years from 1907 to 1957. He died in 1959.

Cecil Holman, Esq. began rainfall observations at Hatfield Longdon, Exeter, in 1921 and kept them until 1958.

Hugh P. Youngman, Esq. recorded the rainfall at Red House, Charsfield, Suffolk for 52 years from 1906. This long record is being maintained.

SNOW SURVEYS OF GREAT BRITAIN

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increasingly on a river basin or drainage area basis, in harmony with other general developments in the hydrological field.

SNOW SURVEY OF GREAT BRITAIN. A report on the Snow Survey of Great Britain appeared in *British Rainfall* for the first time in the volume for 1957. A similar report for the seasons 1958–59, and 1959–60 is published in Part III of the present volume. The basic information from which the Survey is prepared is obtained from monthly reports, made throughout the season, by voluntary observers who record daily the snowfall and snow-cover seen from their observing stations. All co-operating observers receive copies of this survey. Additional snow data are also obtained from returns made by voluntary climatological stations and official Meteorological Office stations.

SURFACE WATER YEAR BOOK. The Meteorological Office has continued to make its contributions to the *Surface Water Year Book*, prepared by the Surface Water Survey of the Ministry of Housing and Local Government. The *Year Book* for 1959–60 contains flow data for 205 areas; rainfall estimates were supplied for 169 of these areas. Estimates of monthly and annual areal rainfall were also supplied for the 1960–61 *Year Book*.

In addition, comprehensive reports on rainfall and evaporation were supplied for a number of hydrometric areas for which the Surface Water Survey are preparing special hydrological surveys.

INQUIRIES. Inquiries regarding rainfall in various parts of the country dealt with by the Meteorological Headquarters at Bracknell, by the Meteorological Office Edinburgh and

by the Meteorological Office Belfast, largely followed the customary pattern and covered the very wide fields indicated in previous volumes of *British Rainfall*. It was natural, however, in view of the remarkable juxtaposition of weather contrasts, especially for England and Wales, in 1959 and 1960, that with regard to data for 1959 there was an unusual preponderance of inquiries concerned in some way with water deficiencies, including soil-moisture deficits, in various parts of the country; whilst for 1960, the emphasis was on the disposal of surplus water and, from the end of September onwards, on very serious flood problems in some areas. Enhanced interest both in water conservation and in river flood-warning systems has continued since this two-year period.

The Belfast Office has been responsible, since its inception in June 1960, for dealing with all climatological and hydrological inquiries in respect of Northern Ireland.

Information was supplied for publication in *Water and Water Engineering* while monthly reports of rainfall in Great Britain and Northern Ireland were supplied to the British Waterworks Association, and to various Government Departments. Information was also supplied for publication in the *Meteorological Magazine* up to the end of 1959. The Metropolitan Water Board and the Thames Conservancy were supplied with detailed reports every month while a comprehensive annual report was prepared for the Metropolitan Water Board. The regular monthly issue of rainfall maps and data to industrial firms, Government Departments, consulting engineers and local authorities continued.

The exchange of information with the Director of Meteorological Services of the 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
J. C. P. White, Esq.

Leigh (Brick House)
Abbotsbury (East Cottage)

Essex
Dorset

1916–59
1898–1959

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 (Ffrwdgreh)	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 in this first supplement to *British Rainfall* of acknowledging once again its indebtedness to the many private observers and other authorities who voluntarily make their rainfall records available to the Office. Without this co-operation the work of the hydrometeorological branch would not continue on the present scale.

The number of rainfall records received by the Office showed a gratifying increase during the five years, from

about 6,000 in 1961 to rather more than 6,500 in 1965. In most areas of the British Isles the records gained exceeded those lost and there were notable net gains in Northern Ireland, the Midlands and eastern Scotland. Small net losses occurred in west Scotland and south-east England. Inevitably some records were lost because of the deaths of observers, and it is with regret that the deaths are announced of the following observers who 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, Westbourne House	Northants	1906–61	56
G. Mannerling	Buckland	Kent	1910–65	56
A. J. Walker	Thirby	Yorks, N. Riding	1913–63	51
Miss M. D. de Winten	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 } Woodthorpe	47
"			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 } Kippen	38
E. A. Sparks	Langton Herring	Dorset	1927–64 }	
"	Dorchester, South Court Avenue	"	1927–46 }	
"	Langton Herring	"	1946–61 }	37
			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

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 undoubtedly 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.

Cover photograph

Miss Mary Rope, rainfall observer at 218185 Upper Abbey, Suffolk, died in January 1982 having been a co-operating rainfall observer continuously since 1909. Upper Abbey was her third rainfall station. In the 1980 New Year's Honours List she was awarded the British Empire Medal for her services to rainfall observing, and was the first rainfall observer to be so honoured. The cover photograph was taken at that time and is reproduced by courtesy of the *East Anglian Daily Times*, Ipswich.