

Page	400,	line	18	from	top,	for	“C. J. Wilkinson,”	read	“C. S. Wilkinson.”
”	401,	”	23	”	bottom,	for	“Wialdra Reedy Creek,”	read	“Wialdra or Reedy Creek.”
”	402,	”	17, 18	”	top,	for	“Hapdash,”	read	“Slapdash.”
”	402,	”	21	”	”	for	“occurs,”	read	“occurring.”
”	402,	”	4	”	bottom,	for	“40 ft. more,”	read	“40 feet or more.”
”	403,	”	13	”	top,	“descending order,”	means	“the order in which they occur in descending the river.”	
”	407,	”	7	”	bottom,	for	“greensand,”	read	“gemsand.”

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OBITUARY.

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REV. JAMES CLIFTON WARD, F.G.S.

THE announcement of the death of the subject of this notice must have been to most of his many friends a shock wholly unexpected, both on account of the early age at which he passed away, and the very brief illness which preceded his decease.

After a weakly boyhood, he entered the Royal School of Mines as a student in 1861, and gained the Edward Forbes Medal and prize of books in 1864. In the following year he joined the Geological Survey, and was sent down to Yorkshire. He worked there on the Millstone-grit and Lower Coal-measures in the neighbourhoods of Sheffield, Penistone, Huddersfield, Halifax, and Leeds. Though Ward was never of robust appearance, he had obviously increased both in height and breadth since leaving the School of Mines, when seen by the present writer in 1868; so well had the laborious but healthy work of the Survey agreed with him. While in Yorkshire he always preferred Millstone-grit to Coal-measure work, and his paper read before the Geological Society in 1869 marks the scene of his last labours in that county. It is “On Beds of supposed Rothliegende Age near Knaresborough;” and in it he proves the Millstone-grit affinities of the beds in question, known as the Plumpton Grits.

In 1869 he was transferred to Keswick, and the change from a colliery district to a locality not only devoid of coal-pits, but one in which wild Nature puts forth all her charms, was in the highest degree pleasing to him. At Keswick his activity became two-fold. His Survey work and its results are now represented by his Geological Survey Memoir on “The Geology of the Northern Part of the English Lake District” (published in 1876), and by numerous maps and sections. He also contributed many papers to the Geological Society, and to various periodicals, bearing on the structure of the Lake Country. Of these may be mentioned, in the first place, two on its glaciation, entitled: “The Origin of some of the Lake Basins of Cumberland,” Q.J.G.S. 1874; and, “The Glaciation of the Southern Part of the Lake District, etc.,” Q.J.G.S. 1875. In both papers the origin of the lakes is discussed, and (as regards the English Lake Country) the original investigations of the author confirm the views so long held by Professor A. C. Ramsay. These papers are illustrated by sheets of sections of the highest interest and

value, and, to make the work more complete, the results of a series of soundings carefully taken on most of the lakes by this indefatigable worker are also given.

In the years 1875 and 1876, and more recently, microscopical examination of the rocks of the Lake District occupied much of his time. Of papers on this subject I may here note one "On the Granitic, Granitoid, and Associated Metamorphic Rocks of the Lake District," the first part of which appeared in the *Q.J.G.S.* for 1875, and the second in the volume of the same periodical for 1876. Another paper is entitled, "Notes on the Comparative Microscopic Rock-Structure of some Ancient and Modern Volcanic Rocks," and may be seen in the *Q.J.G.S.* for 1875. Among his latest contributions to geological literature may be mentioned "Notes on the Geology of the Isle of Man," which appeared in the Number of this *MAGAZINE* for January last. Of course the papers hitherto noticed are but typical samples of his work, and not an exhaustive list of his productions.

But the most characteristic side of his untiring energy, and perhaps its most important one, was the zeal with which he worked for the diffusion of scientific knowledge while in Cumberland. Before leaving Yorkshire he had written a small elementary book on Physics, and one of the first-fruits of his educational activity at Keswick was a similar work on Geology, composed of nine lectures delivered in the first place before a school audience, and secondly before the Keswick Literary Society. Being simple, clear, and free from unnecessary technicalities, his lectures soon became popular, and the lecturer himself acquired influence.

But as the originator and main support of the "Cumberland Association for the Advancement of Literature and Science," and of most of the local societies connected with it, he accomplished a work which it may be hoped will not now be suffered to languish, but will remain a lasting monument of his beneficent activity. A glance at the outer cover of the *Transactions of the Cumberland Association* (Part iv. was published at the beginning of this year), shows the date at which each of the associated societies was founded, and discloses the fact that only one of them—Whitehaven—existed before Ward's appearance in the county. The dates of the others vary from Keswick, 1869, to Silloth, the latest, 1879.

He married at the beginning of the year 1877, and very shortly after left the Lake Country to do field-work in the lone, bare district of Bewcastle, on the Lower Carboniferous rocks, wintering, however, in Keswick as before. But on finishing the Bewcastle work he made preparations for entering the Church, and was licensed to the curacy of St. John's, Keswick, in December, 1878. He was as successful in his new duties as he had been as a geological surveyor, and was appointed at the beginning of this year to the vicarage of Rydal, which, to a man of his tastes, must have seemed preferable to the most dignified and lucrative post in a locality inferior in natural charms and poetical associations; even apart from its nearness to Keswick. But he was scarcely established in his new home when a

brief illness, which only at the last seemed dangerous, caused his departure, at the age of thirty-seven years, for "the land of the leal," leaving behind a widow and two children.

His sweet and genial disposition, and the absence in him of the least approach to the temper of the dogmatist, caused him to number among his friends men of every shade of speculative opinion. It was this amiability, in addition to his ability as a lecturer, and the single-mindedness of his desire for the spread of knowledge, which made him so successful in connexion with the Cumberland Association, when the simple fact of his not being a Cumbrian by birth would have been fatal to any merely active and zealous man. For the Cumbrians, like their Scottish neighbours, have no urgent need to pray,—“Lord! gie us a gude conceit o’ oursels;” and would certainly have resented any approach to a “gude conceit” of himself in any stranger taking upon himself a prominent position as a reformer in their county. His success, therefore, in that capacity, is perhaps the most remarkable achievement adorning the short but admirable life of James Clifton Ward.—T. V. H.

PROF. D. T. ANSTED, M.A., F.R.S., F.G.S., ETC.

BORN 1814; DIED 1880.

By the death of Prof. Ansted, geological science has lost one of its cultivators, both in its scientific aspect, and also in its practical bearings.

Born in 1814, he was educated at a private school in London and afterwards at Cambridge, where he took high Mathematical honours as a Wrangler in 1836, and attained his M.A. in 1839. For some time he was a Fellow of Jesus College. In 1840 he became the Professor of Geology at King’s College, London, and in 1845, Lecturer on Geology at Addiscombe, and Professor of Geology at the College of Civil Engineers, Putney. About this period (1844), he accepted the post of Vice-Secretary of the Geological Society of London, and Editor of the Quarterly Journal of the Society. In 1868 he was appointed Examiner in Physical Geography to the Science and Art Department.

Since 1848 he has been chiefly occupied as a Consulting Mining Engineer. Prof. Ansted has written numerous works on Geology and Physical Géography, as well as contributing to most of the leading scientific journals of the day.

HENRY LUDLAM, F.G.S.—We have also to notice with deep regret the death (on June 23rd) of our friend Mr. Henry Ludlam, F.G.S., who specially devoted himself to the study of Mineralogy, and whose private collection is the finest in London both in foreign and British species. It includes both the Turner and Nevill Collections, as well as the choicest minerals from many other well-known Cabinets.

WE regret to notice the death of Mr. W. H. HOLLOWAY, F.G.S., of the Geological Survey of England and Wales. Mr. Holloway joined the Survey in 1869, and received his training in field-work from Prof. Judd, on the Liassic and Oolitic district described in the Memoir on the Geology of Rutland. Since this time he has been continuously employed in mapping these rocks and overlying Drift deposits in Lincolnshire and Nottinghamshire, particularly in the neighbourhood of Grantham and Sleaford, where his work was carried on in great detail and with every attention to minute accuracy. Mr. Holloway was a Member of the Geologists’ Association, and was one of the directors at the excursion made to Grantham and Nottingham, at Easter, 1876.