Yours sincerely
James W. Davis

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rivers as the Jökulsá, but it would be strange if glaciers, twelve miles *wide*, did not produce such results by mere surface erosion. The wonder is they bring so little. But of this the probable explanation is the gentle fall—which I have ascertained to be about 100 feet per mile of progress in the case of the Breithamerkr—and the few uncovered ridges or peaks from which material may fall upon the ice.

FREDK. W. W. HOWELL.

10, HANDSWORTH WOOD ROAD, BIRMINGHAM,
July 14th, 1893.

OBITUARY.

JAMES WILLIAM DAVIS, F.L.S., F.G.S., F.S.A.

BORN APRIL 15, 1846. DIED JULY 21, 1893.

IT is with deep regret that we announce the death of Mr. James Wm. Davis, of Chevinedge, Halifax, at the comparatively early age of 47. A Yorkshireman of fine physique and robust constitution, endowed with apparently unlimited energy, the sad news of his loss has come as an unexpected shock to his large circle of friends both at home and abroad. His more intimate acquaintances were aware that a slight injury to a blood-vessel in the brain caused his retirement from active life for a few weeks last autumn; and they further learned with sorrow that a recurrence of the same malady last March necessitated a still longer period of rest at the little village of Grassington, in North Yorkshire. His letters, however, were cheerful, only marred by some feebleness in the handwriting, and when he returned to his seaside residence at Bridlington about the end of June, there were hopeful signs of speedy recovery. Mr. Davis' eagerness to fulfil his municipal duties at Halifax, however, led to an unwise visit to the town of which he was for the third time Mayor. The fatigue and unwonted excitement produced almost complete paralysis, and his wife, family, and friends had soon to mourn over his decease, which took place early in the morning of July 21st.

Descended from a Gloucestershire family, Mr. Davis was born at Leeds on April 15th, 1846. He was educated at the local Grammar School, and at an early age entered the cloth-dyeing business of his father. He and a brother soon became partners in the firm, which transferred its business to Greetland, near Halifax, and for the remainder of his life Mr. Davis took the leading share of its management. In 1876 he built his fine residence, Chevinedge, on a wooded ridge of Carboniferous Sandstone overlooking Greetland, and there are few geologists of note in Britain who have not enjoyed the hospitality of that modern English home.

Though deeply absorbed in his own business and in certain collateral undertakings—though taking a prominent position in every educational, municipal, and political movement in his own town and district, and elected Mayor of Halifax no less than three years in succession—Mr. Davis found time not only to become a well-known and valued patron of Art and Science, but also to rise

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to a high position as an investigator in Geology, Palæontology, and Archæology. Scientific work was, indeed, his solace and recreation. From his earliest boyhood, he was imbued with an ardent liking for the pursuit of Natural History; and in company with his friend and former neighbour, Mr. Percy Sladen, he was long occupied with practical work in Comparative Anatomy to enable him to carry on his future researches in interpreting fossil vertebrata. Only last winter, when Mr. Davis penned a long letter of woes to the writer of this notice, detailing how the whole of a new extension of his business premises had been burned down in one night, he concluded with the remark that all worries were just to be buried for two hours by the peaceful contemplation of *Acanthodes*—a Carboniferous fish on which he was writing a memoir for the Royal Dublin Society. Provided with what he termed a "prime Havana" and surrounded by piles of books and fossil fishes, Mr. Davis always found himself indeed in perfect peace and enjoyment.

From his earliest youth Mr. Davis had been connected with the Yorkshire Scientific Societies, and he first entered a wider sphere in 1873 by becoming a Fellow of the Geological Society of London and a member of the British Association. In 1875 he received the Fellowship of the Linnean Society, and also later that of the Society of Antiquaries. In 1891 he became a member of the Council of the Geological Society. Since 1876 he had been Honorary Secretary of the Geological and Polytechnic Society of the West Riding of Yorkshire, and brought the Proceedings, which he edited, to a high standard of value. In 1888 he organized the jubilee meeting of that Society, and subsequently wrote a volume detailing the history of its fifty years' work. He had occupied the Presidential chair of many local societies, was an active member of the Yorkshire Naturalists' Union, and an elected Governor of the Yorkshire College. He rarely missed the meetings of the British Association, where his keen business capacity was highly valued in the committees; and the circle of friends who had the privilege of being his guests at Chevinedge during the Leeds meeting in 1890, will never forget his qualities as a host on that occasion. In scientific journalism, too, Mr. Davis undertook no inconsiderable share of work. He was one of the directors of the "Westminster Review," and, if the London "Sun" can be trusted on a subject that has hitherto remained obscure, he was one of the promoters and chief supporters of Messrs. Macmillan's monthly, "Natural Science," a journal that has already attained a prominent position as a critical review of current matters in Geology and Biology.

In original research, as shown by the list of papers appended, Mr. Davis made many important contributions to knowledge of the Geology of Yorkshire; and in 1878, he co-operated with Mr. F. A. Lees, the Botanist, in a volume on "West Yorkshire: its Geology and Botany." He was also Secretary of the British Association Committee for the exploration of the Raygill Fissure, and took considerable part in many archæological investigations in the county, In Geology and Palæontology, however, Mr. Davis will longest be

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remembered by his numerous contributions to Fossil Ichthyology. The fish-remains discovered in the Yorkshire coal-field early attracted his attention and excited his interest; and after making the acquaintance of the late Earl of Enniskillen and Sir Philip Egerton at the Belfast Meeting of the British Association in 1874, he began the study of extinct fishes in earnest. He visited Florence Court and Oulton Park, where he was always a welcome guest, to study the great Enniskillen and Egerton Collections, subsequently acquired by the British Museum. He also travelled extensively abroad, and the present writer will always treasure the most pleasant recollections of several journeys in the company of Mr. Davis to the museums of Holland, Belgium, France, Germany, Austria, Hungary, Italy, Denmark, Sweden, and Russia. He made copious notes and drawings of fossil fishes in all these museums, and many of them were afterwards utilized in his publications. His first researches on the Carboniferous fish-remains soon extended to the fossils of later formations, notably those of the Lias and the Chalk; and since 1883 he had published a series of large memoirs in the Transactions of the Royal Dublin Society.

Mr. Davis' work in Fossil Ichthyology bears many indications of the difficulties under which it was produced. The investigations, it must be admitted, were not always thorough; and the results are not always so concisely and accurately expressed, with such evidence of a fulness of knowledge of the subject as a trained professional specialist would desire. We are happy to say, however, British science is still far from being under the control of a narrow professional monopoly, and long may this freedom remain. Mr. Davis has, even under the most difficult circumstances, been one of the largest contributors to our knowledge of fossil fishes during the last 20 years. His larger memoirs are exquisitely illustrated, as are also several of the smaller ones; and where he has fallen into errors he has done much for progress by rousing up other workers to correct them.

While investigating the fishes of the Yorkshire Coal-field, he made a very large collection in a more systematic manner than had previously been attempted; and Mr. Davis' writings contain more information concerning the remains of the sharks of the Coal-measures than is to be found elsewhere. His memoir on "The Fossil Fishes of the Carboniferous Limestone Series of Great Britain" (1883) is the only extended, illustrated account of the Elasmobranch teeth and spines of the Lower Carboniferous Rocks, and is based chiefly on the Enniskillen Collection. His subsequent memoir on the Cretaceous Fishes of the Lebanon contains a wealth of new matter, and marks a very valuable advance, notwithstanding all unfavourable criticisms that have been passed upon it. His further writings on the Cretaceo-Tertiary fishes of New Zealand and on the Cretaceous fishes of Scandinavia are pioneer monographs, dealing almost exclusively with untouched materials. Finally, Mr. Davis' latest work on the fish-remains of the British Coal-Measures, of which only one part has been issued, promised to bring together

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a great mass of material that had too long been neglected, and it is a distinct loss to Palæontology that the author's untimely end should have abruptly terminated the publication. We understand that the second part of this memoir, on the Acanthodians, is so near completion that it may be published posthumously.

A notice of the life and scientific work of Mr. Davis would, however, be very incomplete if we merely referred to his official responsibilities and his original researches. No one could come in contact with him for long without absorbing some slight proportion of his enthusiasm, his indomitable energy, and determination; and for at least 20 years he has probably had more influence than anyone else on the advance of scientific research in his native county. Many naturalists now occupying a conspicuous position in their respective lines of study owe their first kindly encouragement to him; many others have been incited to redoubled energy by personal intercourse with him. As the highly esteemed friend of most of the leading geologists both in Britain and on the adjoining Continent, and numbering in his large circle of acquaintances men distinguished in every sphere, Mr. Davis was a trusted adviser in many matters where only one with his great experience of the world could be of service. None, indeed, but those who have thus known him, can appreciate the loss which the scientific community has sustained by his decease.

Finally, we must add a word concerning Mr. Davis' liveliness of disposition, which kept him in the best of humour even in the midst of troubles and difficulties. Whether the worry were great or small, he could invariably lose all remembrance of it at will and apparently enjoy life as if nothing unfortunate had happened. The writer has a vivid recollection of being roused up in the middle of the night on one occasion at a remote railway station in Finland, when Mr. Davis was trying to explain to a clamorous crowd of officials that he had no ticket, but plenty of British paper money, which he would change at the end of the journey. After long discussion in a medley of languages, he induced the conductor to feel the weight of his "effects," which he suggested would be equal in value to the ticket, and the train was then allowed to proceed. Immediately afterwards, in the best of good humour, he pulled out from his portmanteau a small Swedish toy bought for one of his children, and playing with it, he remarked that it was well the inquisitive officer had not estimated the value by inspection. He resumed his slumbers, and as soon as an appropriate place was reached, borrowed from the same conductor enough Russian money to pay for breakfast. He never despaired, never regarded trouble too seriously—he was a friend whose companionship was truly cheering. A.S.W.

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