

large new Plesiosauroid from Kansas, discovered by Wm. E. Webb, of Topeka, which possessed deeply biconcave vertebrae, and ankylosed neural arches, with the zygapophyses directed after the manner usual among vertebrates. The former was thus shown to belong to the true *Sauropterygia*, and not to the *Streptosauria*, of which *Elasmosaurus* was the type. Several distal caudals were ankylosed, without chevron bones, and of depressed form, while the proximal caudals had ankylosed diapophyses and distinct chevron bones. The form was regarded as new, and called *Polycotylus latipinnis*, from the great relative stoutness of the paddle.—He also gave an account of the discovery, by Dr. Samuel Lockwood, of Keyport, of a fragment of a large Dinosaur, in the clay which immediately underlies the Clay-marls below the Lower Greensand bed in Monmouth County, New Jersey. The fossil represented the extremities of the tibia and fibula, with astragalo-calcaneum ankylosed to the former, in length about sixteen inches; distal width fourteen. The confluence of the first series of tarsal bones with each other, and with the tibia, he regarded as a most interesting peculiarity, and one only met with elsewhere in the reptile *Compsognathus* and in birds. He therefore referred the animal to the order *Symphypoda*, near to *Compsognathus* Wagn. The extremity of the fibula was free from, and received into a cavity of the astragalo-calcaneum, and demonstrated what the speaker had already asserted, that the fibula of *Iguanodon* and *Hadrosaurus* had been inverted by their describers. The medullary cavity was filled with open cancellous tissue. The species, which was one half larger than the type specimen of *Hadrosaurus Foulkii*, he named *Ornithotarsus immanis*.

OBITUARY.

JOHN WILLIAM SALTER, A.L.S., F.G.S. Born December 15, 1820. Died August 2, 1869.—This eminent Palæontologist, after an education at a private boarding-school, was, in April, 1835, by his own wish, bound apprentice to the well-known James De Carle Sowerby, with whom he hoped to pursue the study of Natural History (especially Entomology) for which he had, from childhood, an ardent love. He has been known to pull his companions (Wm. and J. Sowerby) out of bed on a cold winter's morning to wade through the snow after some insect, the habitat of which he had just heard of; or, at other times, knee-deep in the long hay-grass to a favourite pond after water-insects. About this time (1836-7) he wrote his first paper "On the Habits of Insects," read at the "Camden Literary Society."

With Mr. Sowerby he was engaged in drawing and engraving the plates of "Sowerby's Mineral Conchology," then in progress towards completion; Supplement to "Sowerby's English Botany;" "London's Encyclopædia of Plants;" "Murchison's Silurian System." The figures for these and many other scientific works, engraved by Mr. Salter at this time, being all drawn from the actual specimens, he

was, naturally, training his eye to that perfect knowledge of fossil forms which, in later years, rendered him so distinguished and keen a Palæontologist.

In 1842 he visited Cambridge, where he remained for a short time to assist Professor Sedgwick in arranging the fossils of the Woodwardian Museum. It is not uninteresting here to note, that the first and the last independent work of his life was at the Cambridge Museum in connection with Sedgwick, who continued to be to Salter, up to the last, what, indeed, he has been to so many others, a staunch and generous friend.

In that and the three following years he made several short trips into Wales, and did his first field-geology under Sedgwick's teaching, whom he always referred to as "the Master."

In 1846 he married Sally, second daughter of Mr. J. De Carle Sowerby, with whom he had learnt that art of which in the illustrations to so many scientific works he has left testimony showing not only the ability of the master but the aptitude of the pupil.

In the same year, at the age of 26, he entered upon the Geological Survey, and for eight years served as chief assistant to the Palæontologist, Prof. Edward Forbes. Writing to his friend Dr. Grindrod, of Malvern, Salter says,¹ "From 1846, to the time of Forbes's removal to Edinburgh in 1854, I shared with him the arrangement, description, and cataloguing of the public fossil collections of the Survey, took part in the field-work, and in all other duties shared the work with him and had his full approval."

On the retirement of Edward Forbes it was found expedient to separate the Lectureship on Natural History from the office of Palæontologist. Prof. T. H. Huxley was accordingly appointed to the former post (with the title of "Naturalist"), and Mr. Salter to the latter office.

"The duties of Palæontologist to the Survey consisted of Field-duty in connection with the work of the Local Directors and Surveyors; the arrangement of the materials collected, and their naming, comparison, and collocation in the cases; the selection of duplicates; and correspondence with Naturalists and Geologists at home and abroad."² Such is the account Mr. Salter gives of the work he was called upon to fulfil.

In consequence of the increasing extent of the labours of the Geological Surveyors, the examination of the Irish fossils was, in 1856, handed over to Mr. W. Hellier Baily, and, in the following year Mr. Robert Etheridge, having been appointed to the Geological Survey, took charge of the fossils of the Secondary and Tertiary formations of Britain, thus leaving Mr. Salter free to devote his whole energies to his favourite work—the fossils of the palæozoic formations.

¹ The letter we refer to is dated "Leicester House, Malvern. Nov. 14, 1868," and is addressed to Dr. Grindrod and W. Mathews, Esq., M.A., F.G.S., and appears to have been intended for publication, with a view to soliciting a pension from Government, which, owing to his retiring at the end of 17 years' service (in 1863) he was not entitled to claim.—EDRR.

² Extract from the same letter.

During his period of office Mr. Salter prepared three Decades, with 10 plates each (8vo. size), on the Trilobites in the collection at Jermyn Street, and, in conjunction with Prof. Huxley, a Monograph on the genus *Pterygotus*, illustrated with sixteen folio plates. He also completed a Decade on the *Echini*, commenced by Prof. Forbes; and supplied a part of the palæontology to Prof. Phillip's Memoir on Malvern.

The Palæontological portion of Prof. Ramsay's Memoir on North Wales was also written by Mr. Salter.

One result of the combination of the "Geological Survey of the United Kingdom" with the "Museum of Practical Geology" and the "Royal School of Mines," has been not only to require from the officer holding the position of Palæontologist a large amount of routine work in examining and naming specimens and preparing lists of fossils of most prodigious length in connexion with the Survey, but the duties of a Curator in arranging and naming the fossils exhibited in the Museum, and, added to all this, a series of demonstrations have to be given annually to the pupils of the School of Mines, on fossils characteristic of the various strata, with their range and distribution in time and space.

More than thirty papers by Mr. Salter, on various geological topics, are to be found in the Journal of the Geological Society; he also wrote in the "Annals and Magazine of Natural History," the GEOLOGICAL MAGAZINE, &c.

Four parts of a Memoir on British Trilobites, illustrated by thirty 4to. plates, and 216 pages of text, have been published by the Palæontographical Society.

In Murchison's "Siluria," and Lyell's Manual, Mr. Salter's services, with both pen or pencil, are apparent and acknowledged. Mr. Salter has also contributed to Sedgwick's Memoirs, 1844 to 1847; Sharpe's Memoirs (Geol. Proceedings); Reports of the British Association, 1844-1868 (Sections).

In the published account of the Arctic voyages of Beechey, Omaney, and Penny, the description and correlation of the fossils was made by him. Mr. Salter has described fossils from the Himalayas, Australia, China, South Africa, Canada, Oregon, etc., etc.

A list of sixty separate papers by Mr. Salter is given in Bigsby's *Thesaurus Siluricus*, in the preparation of which he was also engaged.

He projected, and, conjointly with Mr. Henry Woodward, prepared a Tabular view of British Fossil Crustacea, showing their range in time, which was engraved and published by Mr. J. W. Lowry, in 1865, and, but for the great expense attending the engraving, several other groups were also intended to be tabulated.

In 1865, Mr. Salter received the "Wollaston Donation Fund" from the Geological Society, in recognition of his valuable services to Palæontology, and especially for his Monograph on Trilobites, then in course of publication by the Palæontographical Society.

After his retirement from the office of Palæontologist to the Geological Survey in 1863, he was engaged at various times in arranging and naming the Palæozoic Invertebrata of the Manchester,

Leicester, Leeds, Worcester, Malvern, Taunton, and Cambridge Museum collections; he also executed numerous plates and woodcuts. A catalogue (illustrated by himself) of the Cambrian and Silurian fossils in the Woodwardian Museum was one of the last tasks which he undertook, and which remains uncompleted, as does his Monograph on the Trilobites.

It is difficult to say what combination of official conditions could have been found better suited to him than those in which he was placed. He often pictured the happiness of a post in the British Museum; but it is doubtful, had he realized his hope, whether his health would have improved. Those who knew him well, will remember how cheerful and light-hearted he was at times; he was, in many ways, remarkably like a child, fond of boyish athletic sports, a lover of Nature, fond of wild-flowers, and domestic pet animals, which he encouraged his children to keep. Anon he would be fretful and irritable, often without any reasonable cause, proving that the chronic ill-health of which he complained was certainly mental.

His staunch friends, Murchison and Sedgwick, helped him right manfully throughout, and he had many friends in the West of England and in Scotland, who gladly welcomed him to their homes, and cordially sympathized with him. But though he spoke cheerfully and hopefully after resigning his post at Jermyn-street, we have his written testimony that he regretted the step he had taken.

No one, however, who will fairly weigh the amount of valuable work done by Mr. Salter, and the large contributions he has made to our knowledge of the palæozoic rocks and the early life-forms which they contain, will deny that a man of such ability deserved some recognition in the way of pension from Government; and it is sincerely to be hoped that Mrs. Salter, with her seven children, may at least be granted some small share of the Royal bounty, as some acknowledgment of the services rendered to science by her husband.

Mr. Salter is buried in Highgate Cemetery, the resting-place of several of his fellow-workers in science.

JAMES HUNT, Ph.D., F.S.A., F.R.S.L., etc.—We regret to have to record the death, on the 29th August, at the early age of thirty-six, of James Hunt, Ph.D., F.S.A., F.R.S.L., founder of the Anthropological Society of London, and its first President, an office he held during five years. Soon after the foundation of the Society in 1863, the deceased, with that spirit of enterprise which distinguished him, established the *Anthropological Review*, of which he was proprietor and Editor from its commencement to the current number. Whatever may be the future of Anthropology in England, the name of James Hunt will long be remembered as one of the most active and disinterested workers in that branch of science of which he was passionately fond, and in the pursuit of which he died.

ERRATUM.—In the Obituary of Mr. J. BEETE JUKES last month, p. 431, the name of Mr. A. SELWYN, his associate in the Survey of North Wales, was accidentally omitted.—EDIT.