

JOHN PHILLIPS

BORN DECEMBER 25, 1800: DIED APRIL 24, 1874

THE daily press has already spread the sad tidings from Oxford that Prof. Phillip met with an accident which suddenly cut short his life while in good health and such full vigour that we still expected work from him. A few days ago he was here amongst us in London, bearing himself with form as erect and step as elastic as if the last ten years had but further mellowed though in no way lessened his energy. Now we learn that a stumble over a door-mat, on leaving a friend's rooms in All Souls, followed by a heavy fall, has deprived Oxford of one of her brightest ornaments, and men of science of a genial friend.

Another bond is broken which linked together by a living presence the geologists of to-day with those who watched the infancy of the science which, in place of wild phantasies of the imagination as to the origin of our planet, substituted a patient and careful investigation of its structure, as far as observation was possible. From the time when William Smith in 1792-3 surveyed the ground between High Littleton and Bath for the Somersetshire Coal Canal, and proved an unvarying sequence in the strata of England, and their identification by their fossil contents, every "cosmogomy" and "theory of the earth" was doomed. Fact henceforth took the place of fancy.

Among the earliest of those trained in the new school was young John Phillips. Born at Marden, in Wiltshire, on Christmas-day (N.S.) 1800, he lost his father when he was but seven years old, and his mother dying soon after, his training fell into the hands of his mother's brother, the renowned William Smith, "Father of English Geology."

We have never heard that there was anything to be recorded of his father beyond that he was the youngest son in a Welsh family, settled for many generations on their own property at Blaen-y-ddol, in Caermarthenshire, who was destined for the Church, but became an officer of the Excise, and that he married the sister of William Smith. Mr. F. Galton, a few weeks ago, read a paper at the Royal Institution, in which he gave statistics about eminent scientific men, showing the number of cases in which the greatness was due to the father, and the number of cases in which it was due to the mother. Whether Prof. Phillips was included we do not know, but he most certainly was an instance in which the influence of the mother preponderated. The mould of the features were distinctly those of the Smith family, and the likeness between Prof. Phillips and the busts and pictures of William Smith has often been remarked. His habit of thought was so much due to the direct training of his uncle that we cannot trace how much of it was hereditary. No particular school could have much influenced him, for he passed through four schools before he was ten, and then for a short time went to the excellent old school at Holt Spa, in Wiltshire. It is said that Latin, French, and Mathematics were his favourite studies, and the enjoyment of Latin authors seems to have grown on him, for in the writings of no other geologist will be found so many quotations from the Latin classics. The Rev. Benjamin Richardson, Rector of Farley Hungerford, near Bath, was one of his earliest instructors in natural history. Very little, indeed, is known of Mr. Richardson; he had the reputation of being in his time the best naturalist in the west of England, and the obituary notices at the time of his death mention that he was a member of Christ Church, Oxford. One fact about him which has an historical interest is certain, and that is that it was his hand which, from the dictation of William Smith, "first reduced to writing at the house of the Rev. Joseph Townsend, Pultenay Street, Bath, 1799" the table of "the order of

the strata and their imbedded organic remains in the vicinity of Bath." The original document is in the keeping of the Geological Society, and is regarded as a memorial of the first step towards the examination of strata on a definite plan, the first step in the science of geology as contrasted with cosmogony. During the year that young Phillips spent at the pleasant rectory of Farley, he heard continually of the importance attached to the discoveries of his uncle and of the results which, in the estimation of Richardson and Townsend, were to flow from it. Under Mr. Richardson's direction he spent a large portion of his time in searching for fossils through the valleys around Farley, and in making drawings of the fossils he found and of the recent forms that were most nearly allied to them in Mr. Richardson's extensive collections. Prof. Phillips always spoke with pleasure of his recollections of Mr. Richardson, and attributed to him both his early taste for natural history and the ready use of his pencil, which so often not only reproduced faithfully a geological section but artistically included the foliage and background recording the pleasant accompaniments of the work which principally engaged his attention. Mr. Richardson though a kind was not a flattering guide to the young man, for a frequent remark on being shown the drawing of a fossil was, "Very good John, now put that in the fire and try and do even better."

At the end of the happy year at Farley, young Phillips went to live with his uncle in London, to share with him his labour, his hopes, and his disappointments. William Smith had then just removed to Buckingham Street, after the fire in Craven Street, which had so disarranged his work. Here, however, he rearranged his collection of fossils, the first collection in which fossils were placed in their stratigraphical sequence. Made first at Cottage Crescent, Bath, removed to Trim Street, then to Craven Street, and Buckingham Street, this historical collection finally found a resting-place in the British Museum. Each separate stratum recognised by Smith had one or more shelves sloping to represent the dip as he knew them in the typical ground of the Dunkerton Valley, near Bath, where he first studied them. This was the collection from which young Phillips first derived his ideas of a geological museum for teaching purposes, and which he saw so often referred to by his uncle in explaining to his many visitors his new ideas, when urging upon them the national importance of his discovery as regarded agriculture and mining. William Smith was then working at his map of England, and to this his best energies were given and all his money devoted. In the "Memoirs" of his uncle, published in 1844, Prof. Phillips has described all the delays and trials that attended the production of this, the first geological map of England ever produced. The indomitable courage shown by Mr. Smith in the face of every discouragement could not fail to impress young Phillips with the importance of his uncle's work, and to win respect for him. How he was attached to him, and how he valued his teaching, is apparent in many places in his writings. In the preface to the "Memoirs" he speaks of himself as "an orphan who benefited by his goodness, a pupil who was trained up under his care." The map was issued in 1815, and Mr. Smith's professional engagements rapidly increased, requiring him to visit all parts of the county. He conceived the plan of producing county geological maps on a scale considerably larger than that of the map of England, and on almost every journey his nephew was his glad companion, "haud passibus æquis;" and according to an established custom on all such tours, was employed in sketching parts of the road and recording on maps the geological features of the country. In 1821, the map of Yorkshire, in four sheets, was published, which were prepared and coloured by his own hands. Throughout the "Memoirs" we have indications of the way in which he worked under his uncle's direction. Here is one which

gives an insight into the way in which he gained his intimate knowledge of the strata of the country. "The whole of the remainder of 1821 was devoted to long and laborious wanderings. Two lines of operation were drawn through the country which required to be surveyed. On one of these Mr. Smith moved with the due deliberation of a commander-in-chief; the other was traversed by his more active subaltern, who afterwards found the means to cross from his own parallel to report progress at head-quarters." In this way 2,000 miles were traversed in six months, and he thus learned to rely on his own judgment. His work delighted him. "Innumerable rambles," he says, "led up every glen and across every hill, now sketching waterfalls, anon tracing the boundaries of rocks or marking the direction of diluvial detritus." As greater accuracy in tracing the boundary of different strata was thus acquired, the successive issues of the map of England were modified. The lines of these alterations were mostly traced by Mr. Phillips himself, and thus it was that differences appeared in maps which apparently belonged to the same "edition."

At length, in 1824, Mr. Smith was asked to deliver a course of lectures on his geological work at the newly-formed Yorkshire Philosophical Society. For this "new maps were coloured, new sections drawn, and even the distant cabinet of Mr. Richardson at Farley was laid under contribution, to supply illustrations for these discourses." Lectures at Hull, Scarborough, and Sheffield soon followed. The share that Mr. Phillips took in the preparation of these lectures brought him under the notice of the executive of the Yorkshire Philosophical Society; he was offered the curatorship of the new museum, and accepted it. This was one of the important events of his life. His work no longer came before the public in his uncle's name, he had an individuality of his own, "and commenced to make his own reputation." I was delighted to find in the prosecution of this duty innumerable proofs of the truth of Mr. Smith's views respecting the distribution of organic fossils, and saw very clearly that many of the strata in the north-eastern part of Yorkshire might be confidently identified with well-known formations in the south of England. Soon after (in 1826) he read before the Society the first paper he wrote. His subject was: The Direction of the Diluvial Currents of Yorkshire, and it was thought worthy of being reprinted in the "Philosophical Magazine." From this time his pen was ever active. His early geological papers were on Yorkshire, and with that county his name is indissolubly connected. In addition to the curatorship of the museum he was appointed one of the secretaries of the Society, and delivered courses of lectures, and in 1829 he published his illustrations of the Geology of Yorkshire.

It was not till 1834 that Mr. Phillips communicated a paper to the Geological Society, and in the same year he published his "Guide to Geology," was appointed Professor of Geology in King's College, London, and was elected a Fellow of the Royal Society. His recommendature to election into the Society is of sufficient interest to be printed, and is as follows:—

"John Phillips, Esq., of York, Fellow of the Geological Society of London and Secretary of the Yorkshire Philosophical Society, a gentleman well versed in geology, meteorology, and various branches of natural science, and author of "Illustrations of the Geology of Yorkshire," being desirous of becoming a Fellow of the Royal Society, whose names are hereunto subscribed do, from our personal knowledge, recommend him, as highly deserving of the honour he solicits, and likely to prove a valuable and useful member.

"Rod. I. Murchison, Wm. Buckland, G. B. Gresnough, William Clift, Edw. Turner, Adam Sedgwick, John Taylor, H. T. De la Beche, C. Daubeny, John Edw. Gray, Geo. Peacock, John Lindley, B. Powell.

"Elected April 10, 1834."

Not only was he associated in work with the "father" of Geological Science, from which such valuable practical results have flowed, but he was one of the band who, in his own words, "stood anxious but hopeful by the cradle of the British Association." It is well known how through his activity the first meeting at York was a success in September 1831, and how till 1863 he was the courteous assistant-secretary of the Society.

Among other posts Prof. Phillips has filled are the Chair of Geology at Dublin, to which he was appointed in 1844; the Presidency of the Geological Society in 1859-60; Rede Lecturer in Cambridge in 1860; and the Presidency of the British Association in 1866. The Chair at Oxford he has held since 1853.

He not only helped to lay the foundations of English Geology, he has been to the last an active worker and an industrious writer. Besides more than sixty papers communicated to Societies' proceedings and to magazines, he was largely a contributor to the "Penny Encyclopædia," the "Encyclopædia Britannica," and the "Encyclopædia Metropolitana."

In 1841 was published his "Palæozoic Fossils of Cornwall, Devon, and West Somerset, after he had examined the country in company with Mr. William Sandars.

In 1842 he began an examination of the Malvern district, and having settled his data at Malvern, Abberley, and Woolhope, he extended his observations to May Hill, Fortworth, and Usk. The work was given to the world in 1848 as one of the Memoirs of the Geological Survey. "The Rivers, Mountains, and Sea-coast of Yorkshire" appeared in 1853, and his Essay in the "Oxford Essays," in 1855.

His contribution to the Palæontographical Society on the Belemnitidæ, and his "Geology of the Thames Valley," are well known; and he has also written many smaller works which we have not space to notice.

For many years he has been Keeper of the Museum at Oxford, and his lectures have had such a reputation for being popular that they have been largely attended by ladies. The Professor had also given much time to meteorology and astronomy, and had made many observations in his own observatory. He was an honorary M.A. and D.C.L. of Oxford, and LL.D. of Cambridge and Dublin.

NOTES

DR. LYON PLAYFAIR, C.B., has given notice that, on the House of Commons going into committee on the Education Estimates, he will call attention to the deficient ministerial responsibility under which the Votes for Education, Science, and Art are administered, and will move for a Select Committee to consider how such ministerial responsibility may be better secured. We believe that Dr. Lyon Playfair's views are strictly in accordance with those of the best scientific men of the country, namely, that the only satisfactory way of dealing with the subject will be by the appointment of a Minister for Education, Science, and Art.

THE 15th or 16th of June has been fixed for the inauguration of the physical laboratory, the gift of the Duke of Devonshire to the University of Cambridge.

THE following is a list of candidates selected and recommended by the Council of the Royal Society for election as Fellows:—Isaac Lowthian Bell, F.C.S.; W. T. Blanford, F.G.S.; Henry Bowman Brady, F.L.S.; Dr. Thomas Lauder Brunton, Sc.D.; Prof. W. Kingdon Clifford, M.A.; Augustus Wollaston Franks, MA.; Prof. Olaus Henrici, Ph.D.; Prescott G. Hewett, F.R.C.S.; John Eliot Howard, F.L.S.; Sir Henry Sumner Maine, LL.D.; Edmund James Mills, D.Sc.; Rev. Stephen Joseph Perry, F.R.A.S.; Dr. Henry Wyldbore Rumsey; Alfred R. C. Selwyn, F.G.S.; Major Charles William Wilson, R.E.