OBITUARY.

SIR CHARLES LYELL, BART.,

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On Monday, 22nd February, at his residence in Harley Street, and in his seventy-eighth year, Sir Charles Lyell passed peacefully from amongst us, after a long life of scientific labour, to his honoured rest.

To the outside world it may seem strange that the death of a man who was neither statesman, soldier, nor public orator, should arouse our sympathies so strongly, or that he should be so highly esteemed all over the world; but geologists know well what Lyell has done for them since he published the first volume of "The Principles of Geology" in 1830.

It is in the character of historian and philosophical exponent of geological thought that Lyell has achieved so much for our science; nor can we fail to remember that those clear and advanced views, for which he became so justly celebrated, were advocated by him forty-five years ago, at a time when scientific thought was still greatly trammelled by a strong religious bias, and men did not dare to openly avow their belief in geological discoveries nor accept the only deductions which could be drawn from them.

It was no small service which Lyell rendered to us when he publicly maintained that, in reasoning on geological data, it was impossible to restrict geologists to the limits of the Mosaic cosmogony, or to adopt for the past ages of geological time the chronology of Archdeacon Ussher.

Born at Kinnordy, his father's seat near Kerriemuir, in Forfarshire, on the 14th of November, 1797, Lyell received his early education at a private school at Midhurst, and completed it at Exeter College, Oxford, where he took his Bachelor's degree in 1819, obtaining a second-class in Classical honours in the Easter Term. On leaving the University, he studied for the Bar, but never practised that profession, his tastes having been led by Dr. Buckland's lectures to the study of Geology as a science. In 1824 he was elected an Honorary Secretary of the Geological Society of London, of which he was one of the earliest Fellows. On the opening of King's College, London, a few years later, he was appointed its first Professor of Geology. He had already contributed some important papers to the "Transactions" of the Geological Society, including one "On a Recent Formation of Freshwater Limestone in Forfarshire, and on some Recent Deposits of Freshwater Marl, with a comparison of recent with ancient Freshwater Formations, and an Appendix on *Gyrogonites*, or Seed Vessel of Chara;" also one "On the Strata of the Plastic Clay Formation exhibited in the Cliffs between Christchurch Head,

Hampshire, and Studland Bay, Dorsetshire;" another "On the Freshwater Strata of Hordwell Cliff, Beacon Cliff, and Barton Cliff, Hampshire;" and an elaborate paper on the "Belgian Tertiaries." In 1827 he contributed to the *Quarterly* a review of Mr. Poulett Scrope's "Geology of Central France" (the perusal of which is said first to have stimulated him to prepare and publish "The Principles of Geology" on which his reputation as a philosophical writer mainly rests). These lesser works all showed a power of observation and of generalization which prepared the learned world for some greater and more important treatise from his pen, which should deal, not with local details, but with the general principles of the science. Nor were they disappointed when his *magnum opus*, "The Principles of Geology," appeared in three successive instalments, published respectively in 1830, 1832, and 1833. The work, subsequently enlarged into two volumes, has passed through numerous editions, and is still in as much demand as ever among students of the science. The work was subsequently divided into two parts, which have been published as distinct books — viz. "The Principles of Geology, or the Modern Changes of the Earth and its Inhabitants, as illustrative of Geology," and secondly, "The Elements of Geology, or the Ancient Changes of the Earth and its Inhabitants, as illustrated by its Geological Monuments." The substance of the last-named work has also been published under the title of "The Manual of Elementary Geology," a French translation of which was issued under the auspices of the famous Arago.

Already, some time previous to the publication of this work, Mr. Lyell had been chosen a Vice-President of the Geological Society; and in 1828 he had undertaken a journey into the volcanic regions of Central France, visiting Auvergne, Cantal, and Velay, and continuing his journey to Italy and Sicily. He published the results of this expedition in the "Edinburgh Philosophical Transactions," and also in the "Annales des Sciences Naturelles."

It was, however, the publication of his "Principles of Geology" that gave him that established reputation which he ever since continued to enjoy. "Which of us," asked Prof. Huxley, in his Anniversary Address to the Geological Society in 1869, "has not thumbed every page of the 'Principles of Geology'?" And he adds, "I think that he who writes fairly the history of his own progress in geological thought will not easily be able to separate his debt to Hutton from his obligations to Lyell." This cordial testimony of a fellow-labourer in the cause of scientific enlightenment exactly indicates Sir Charles Lyell's place in the history of that task. He was a man of singularly open mind, one of those who stand above their contemporaries and hail the dawn of new truths upon the world. His own works mark the progress of his own as well as of the public opinion on the great problems raised by scientific discovery, and he remained to the end of his life always ready for the reception of new facts, and for the corresponding modifications of opinion.

Sir Charles Lyell married, in 1832, Mary Elizabeth, eldest daughter of the late Mr. Leonard Horner, but was left a widower in 1873.

Sir Charles Lyell had travelled and seen much. Thus in early manhood he

explored many parts of Norway, Sweden, Belgium, Switzerland, Germany, and Spain, including the volcanic regions of Catalonia. In 1836 he visited the Danish Islands of Seeland and Monen, to examine their Cretaceous and Tertiary strata. In 1841 he was induced to cross the Atlantic, partly in order to deliver a course of lectures on his favourite science at Boston, and partly in order to make observations on the structure and formation of the Transatlantic Continent. He remained in the United States for a year, travelling over the Northern and Central States, and extending his journey as far southward as Carolina, and northward to Canada and Nova Scotia, his exploration ranging from the basin of the St. Lawrence to the mouths of the Mississippi. On returning from this journey, he published his "Travels in North America," a work of considerable interest to other persons besides geologists, and showing that he could extend his observations to the stratification of society around him as well as that of the earth beneath his feet. He paid a second visit to America in 1845, when he closely examined the geological formation of the Southern States and the coasts that border on the Atlantic and the Gulf of Mexico, and more especially the great sunken area of New Madrid, which had been devastated by an earthquake 30 or 40 years previously. Upon reaching England, he published his "Second Visit to the United States," a companion to his former work. For his other scientific papers we must refer our readers to the "Proceedings" of the Geological Society, 1846–49, and its "Transactions."

Late in life, about 10 or 12 years ago, Sir Charles Lyell published another very important work on "The Antiquity of Man," summarizing and discussing all the important facts accumulated up to that time in favour of the high antiquity of the human race, viewed from the standpoints of the archæologist, the geologist, and the philologist.

Numerous honours were conferred on Lyell in recognition of his services to Science. As far back as 1836 he was elected to the Presidential Chair of the Geological Society, to which he was re-elected in 1850. He received from Her Majesty the honour of knighthood in 1848, and in 1855 the honorary degree of D.C.L. of the University of Oxford was conferred upon him. He had been for many years a Fellow of the Royal Society, and in 1833 received one of the Royal Society's Gold Medals for his "Principles of Geology." In 1858 the Royal Society conferred upon him the highest honour at their disposal—the Copley Medal; and in 1864–5 he filled the Presidential Chair of the British Association for the Advancement of Science. He received the Wollaston Gold Medal from the Geological Society of London in 1865 (his continued official connexion with which had precluded his receiving it earlier). He was raised in 1864, on the recommendation of the then Prime Minister, Lord Palmerston, to a Baronetcy, which now becomes extinct by his decease. He was a Deputy-Lieutenant for his native county of Forfarshire.

Sir Charles Lyell has been so long and so honourably known among the scientific teachers of the time, that though he had arrived at his seventy-eighth year, and the period of his chief intellectual and physical activity had long passed away, probably even the younger men of the present generation will feel that science is poorer by his loss.

At the meeting of the Geological Society of London, held in the Society's room, Burlington House, Piccadilly, on Wednesday last (February 24th), the President, John Evans, Esq., F.R.S., before commencing the business of the meeting, alluded to the great loss which all present had sustained. He little expected, when speaking on the last occasion, at the Anniversary Meeting, of the services which Sir Charles Lyell had rendered to science for the previous fifty years, that he should have on the present occasion to announce and lament his irreparable loss. Sir Charles Lyell had been a true philosopher and a sincere friend. He had lived to see the extension of science which he had so eagerly desired realized. In future times, wherever the name of Lyell would be known, it would be as that of the greatest, the most philosophical, the most enlightened geologist of Great Britain or Europe.

In accordance with the wish of the Council of the Royal Society, Sir Charles Lyell will rest beside his old friend and fellow-labourer in science, Sir John Herschel, in Westminster Abbey.