

circulation only), Sir Antonio Brady pays a just tribute of respect to the genius and ability of his first instructor in the art of preserving fossil bones, and acknowledges that he was indebted to Mr. William Davies, F.G.S., of the British Museum, for the preservation of most of the larger specimens in his collection.

Some idea may be formed of the enormous riches of this deposit when we find that an amateur, in his leisure hours, was able to amass nearly one thousand specimens of Mammalia from a single locality, comprising: *Felis spelæa*, *Canis vulpes*, *Ursus*, sp., *Elephas primigenius*, *E. antiquus*, *Rhinoceros leptorhinus*, *R. megarhinus*, *R. tichorhinus*, *Equus fossilis*, *Megaceros Hibernicus*, *Cervus elaphus*, *C.* sp., *Bison priscus*, *Bos primigenius*, *Hippopotamus*, sp. To this interesting series of fossil remains of the old fauna of the Thames Valley, we may add that the subsequent researches of Prof. Boyd Dawkins, F.R.S., and R. W. Cheadle, Esq. F.G.S., have added the "Musk-Ox," *Ovibos moschatus*, and the labours of F. C. J. Spurrell, Esq., F.G.S., the "Lemming." We have thus presented to us in this area the conjunction of Northern and Southern forms of land-animals as marvellous as that which modern London exhibits to-day, in its assemblage of specimens of the genus *Homo*, from every clime. For with the *Hippopotamus*, the *Rhinoceros*, and the Lion from the south, we have also in abundance the *Cyrena fluminalis*, a shell now characteristic of the Valley of the Nile and the rivers of India and China: whilst from the north, the "Musk-Ox," the Reindeer, the Elk,¹ and the Lemming advance to meet them.

To Sir Antonio Brady, then, we are indebted for a most valuable collection of Pleistocene Mammalia, now happily preserved in the British Museum of Natural History, Cromwell Road. Nor must we omit to mention that he strove by his presence, as a resident at Stratford, and by his constant acts of kindness and hospitality to the workmen, and by the *largesse* which he freely gave, to rescue from destruction these interesting relics of a pre-historic age, which now help to swell the magnificent series of our National Museum.—H. W.—("Nature," Dec. 22, 1881.)

CHARLES MOORE, F.G.S.

BORN AT ILMINSTER, 1814; DIED AT BATH, DEC. 1881.

THERE are some men who are induced by example and the influence of others to become geologists; there are a few men who are to the manner born. Charles Moore was one of those self-taught naturalists, who, if not born a "hammerer," took to it from boyhood. In the quarries of the Upper White Lias, near Ilminster, at which place Charles Moore was born, there are found large numbers of oblong oval nodules which, with the ready assimilation characteristic of boyhood, were found excellent for bowling along the road. He was, as a schoolboy, one day amusing himself thus with two nodules in the road, when, in striking together violently, one of the nodules split open and, to his surprise, revealed a fossil fish inside. His curiosity was instantly aroused as to how such an

¹ There is evidence of the true Elk (*Alces palmatus*) from the somewhat later deposits of Walthamstow, Essex. (See *Geol. Mag.* 1869, pp. 385-388.)

organism could have got into such an unlikely place as the middle of a hard round stone. He sought out a book on geology, and read it with avidity, and the keen interest thus first awakened never flagged even to the end. From this early date Charles Moore became a collector of fossils, and an accumulator of geological facts, and before he removed from Ilminster to Bath he had already formed a considerable collection, and become thoroughly acquainted with the geology of the district in which he lived. Brought up to the business of a Bookseller, he was for some time engaged at the Grand Pump Room Library, Bath. He subsequently married the only daughter of Mr. Deare, of Widcombe, and from that time he relinquished business and devoted his whole life and energy to geological investigations, and to the service of the City of Bath, of which he was an Alderman. Those who can recall the meeting of the British Association at Bath, in 1864, will doubtless remember Mr. Charles Moore's paper "On the Geology of the South-West of England,"¹ in which he described the "Rhætic Beds," a group of strata which had before escaped the notice of geologists in this country. These beds, situated intermediate between the Lias and the Trias, so largely developed in the Rhætic Alps, are but thinly represented in this country; they are nevertheless of the highest palæontological interest. Mr. Moore described the contents of three cartloads of detritus of Rhætic Beds which had been washed into a fissure of Carboniferous Limestone at Holwell, near Frome, Somerset. From this he exhibited twenty-nine teeth of one of the oldest known Mammals (*Microlestes Moorei*, Owen, see Pal. Soc. vol. xxiv. 1870. Mon. British Mesozoic Mammals, p. 6, pl. i. figs. 1-13), three only having been previously found in so old a stratum (viz. *Microlestes antiquus*, Plieninger, from the Rhætic bone bed at Diegerloch, Wurtemberg). Mr. Moore also showed relics of nine genera of reptiles and fifteen genera of fishes, most of which were new to this country. He produced before the meeting 70,000 teeth of *Lophodus*, alone, as the result of this labour, and he stated that the hand picking, under a lens, of this three cartloads of clay had probably yielded him one million organic remains.

Those present will recall the amusing and interesting description he gave of those wonderful nodules from the Upper Lias containing remains of Insects, Crustaceans, Fishes, Reptiles, and Plants; and how he riveted the attention of his audience by affirming that he could say with certainty that one contained the tail of a *Pachycormus*, that a second contained a head of a similar fish, a third a perfect fish, another a Cuttle-fish with its cuttle-bone and ink-bag. Then, hammer in hand, Mr. Moore proceeded to open them *seriatim*, when to the great amusement and delight of the section, the fish previously indicated, and the Cuttle-fish with its dried ink-bag well preserved, were duly discovered and exhibited. Numbers of fossil fishes and perfect specimens of *Ichthyosauri* and *Teleosauri* were also exhibited, all collected by Mr. Moore himself.

Mr. Moore's contributions to science are very numerous, they

¹ See GEOL. MAG. 1864, p. 235.

amount to over thirty memoirs, most of which are to be found in the Quarterly Journal of the Geological Society, the Annual Volumes of Reports of the British Association, the Transactions of the Bath Literary and Philosophical Association, and other local Societies of which he was a member, and in the volumes of the *GEOL. MAG.*

But the chief memorial of his life-long labours is to be seen in that charming Museum of the fossils of his native county, arranged and preserved with so much care by Mr. Moore's own hands, in the Literary Institution at Bath.

Much as its treasures may be coveted by English and foreign savans, it is to be hoped that his fellow-townsmen will readily subscribe more than its estimated value (whatever that may be), in order to enjoy the gratification of seeing still in their midst one of the most beautiful and interesting *local* collections to be found in all England.

It is to be regretted that Mr. Moore's unexpected death has prevented our gaining a fuller knowledge of the early years of this eminently hard-working geologist. In his life-time he did much to induce others to take up the science, and he was himself a bright example of what may be accomplished with quite ordinary opportunities for self-improvement, with delicate health, a very small income, but indomitable energy and an earnest love of science.—H.W.

EDWARD WILLIAM BINNEY, F.R.S., F.G.S.

BORN 1812; DIED 1881.

WAS born at Morton, in Nottinghamshire, in 1812, and died in Manchester, on the 19th of December, 1881. He was articled to a solicitor in Chesterfield, and after spending a short time in London, finally settled in Manchester in 1836. He was a tall, strong, and robust man, fond of science for its own sake, and seemed to have been formed by nature for a naturalist and geologist. About two years after his residence here, he, with a few other scientific friends, founded the Manchester Geological Society—the late Lord Francis Egerton, M.P., F.G.S., being the first President, and Messrs. E. W. Binney and J. F. Bateman, the first Hon. Secretaries. He afterwards occupied the President's Chair in 1857–59, again in 1865–67, and on the 25th of October, 1881, was chairman at the last Council Meeting of the Society. Mr. Binney was elected a Fellow of the Royal Society in 1856, and of the London Geological Society in 1853, and at the time of his death was President of the Literary and Philosophical Society of Manchester. Mr. Binney's industry is evidenced by the number of his scientific papers and notes, of which about 100 have been read or printed. They include reports and contributions to the various Geological Societies, British Association, *Philosophical Magazine*, etc. For the *Palæontographical Society*, of which he was a Vice-President, he contributed a monograph on the "Structure of Fossil Plants found in the Carboniferous Strata," of which four parts were issued between the years 1868 and 1875; the text for its completion is in a forward state, and it is expected will shortly be published.—J. E. F.