intense and infectious enthusiasm; with a mind original, singularly active, and well stored; with a judgment trained by wide experience in travel and observation, and in the management of men; accustomed to refined and exact scientific inquiry, he was a great acquisition to Columbia College, and could not but become, as he did, an important factor in its orderly expansion. He was always loyally devoted to the best interests of the school with which he connected himself. His influence was strongly felt in the enlargement and enrichment of its courses of study, in the formation and extension of its scope. His counsel was wise, and he had the confidence and the profound esteem of his colleagues. His pupils held him in most affectionate regard, and many of them he inspired with an enduring love of learning and research. In his large, unique and admirably arranged collections, he was incomparable. His especial field as a teacher was in the higher regions of his science, and with advanced students. He was rarely qualified by nature and accomplishment to be, as he was, a great university professor.

Very truly yours,

J. H. VAN AMRINGE.

NO. IV.

Letter from Professor EDWARD ORTON, the present State Geologist of Ohio, especially with reference to Dr. NEWBERRY'S connection with the earlier Ohio Survey:

COLUMBUS, O., February 17, 1893.

MY DEAR PROFESSOR KEMP—I am glad to join with the members of the New York Academy of Science in paying a tribute of affection and respect to the memory of Dr. Newberry. I knew him well, and was closely associated with him for a number of years in a work which lay near his heart, viz.: the Geological Survey of Ohio.

A geological survey of Ohio was begun under favorable auspices in 1837, but it was brought to an abrupt termination in 1839, mainly because of the financial condition of the State at that time.

From this date forward, all the friends of the science in the State looked to a resumption of the work of the Survey, and many efforts to bring about such a result were made which proved fruitless. It was left to Dr. Newberry to draft a bill in 1869, which was passed by the Legislature, providing for a geological and natural history survey of the State. Governor Hayes appointed Dr. Newberry Chief of the Survey. In July of that year he entered upon the work. He brought to it the results of years of study in almost every section of the State, but particularly in the coal fields. He attacked the problems of correlation with enthusiasm and success. By the end of the season a good beginning had been made. The "Cliff Limestone" of the first survey had been resolved into its four

components, and the Lower Helderberg limestone, which, up to this time, had never been identified in the State, was found to cover a far wider area than any other single element of the group. A geological map of the State was completed, and detailed examination of counties was in progress in all the districts into which the State was divided.

This was, perhaps, Dr. Newberry's happiest year in connection with the Ohio Survey. Before the end of 1870, a difference of view as to the prosecution of the work had developed within the organization of the Survey, and legislative inquiries followed such differences. In all these questions and controversies Dr. Newberry always carried his side when he was on the ground. If he had had only the work of the Survey on his hands, he could have had his own way with it, but as he sometimes reminded the Legislature, "the absent are always wrong."

In spite of such interruptions he followed out his original plans in their essential features. The two volumes of palæontology of the Survey were his special pride, and remain as honorable monuments of his scientific acumen and his learning. His treatment of the Devonian fishes of Ohio constitutes the opening chapter of one of the most remarkable revelations of palæontology.

My relations to Dr. Newberry during these years were most cordial and intimate. He was prompt and generous in his recognition of the good work of any subordinate. His criticisms were kindly but penetrating and helpful. I have never known a man whose conceptions were clearer and higher as to the value of the increase of knowledge, *per se*, irrespective of the obtrusion of personality into the questions involved. "The truths that we discover, the advances that we make," he would say, "are certain to remain, to become a part of the established knowledge of men, but the worker himself cannot long escape oblivion, at the best."

Dr. Newberry labored faithfully in his own field, and made splendid contributions to science. The *work*, we are sure, will remain as a permanent addition to knowledge; the memory of the *worker*, the genial friend, the inspiring companion, the broad-minded student of nature, we hereby pledge each other, to keep fresh and green during the hours that remain of our own little day.

I am, my dear Professor,

Faithfully yours,

EDWARD ORTON.

NO. V.

Letter from SIR ARCHIBALD GEIKIE, Director General of the Geological Survey of Great Britain :