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H. B. W.

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## ALEXANDER AGASSIZ,

FOR. MEMB. ROY. SOC.

BORN DECEMBER 17, 1835. DIED MARCH 28, 1910.

WE regret to record the death of this distinguished naturalist on March 28 at the age of 74, when returning from Europe to the United States on board the s.s. "Adriatic".

Born at Neuchâtel, Switzerland, December 17, 1835, son of the celebrated Professor Louis Agassiz,[1] he accompanied his father in 1846 to the United States, where the elder Agassiz had been appointed Professor of Zoology and Geology in the University of Cambridge, Massachusetts. Educated at Harvard, where he took his B.Sc. degree at the age of 22, and of which University in 1878 he was elected a Fellow, Alexander Agassiz served for a short time on the United States Geological Survey. Turning his attention shortly afterwards to mining, he speedily proved so successful that, having acquired property in the Lake Superior region, he rapidly amassed a very large fortune in copper-mines.

The possession of independent means early enabled him to devote his time and studies to natural history pursuits. At first he assisted his father as Curator of Comparative Zoology at Harvard, and after his father's death he acted as Curator for eleven years. As his wealth increased he became a great benefactor to this Museum, not only by purchasing books and specimens, but by gifts of money up to £100,000. Commencing with the study of marine ichthyology, he subsequently devoted himself to, and became one of the highest authorities on, the Echinodermata, so that, on the return of H.M.S. "Challenger", he was asked to undertake the report on the Echinoderms collected during the voyage.

But the work for which Alexander Agassiz will be chiefly

[1] See obituary of Professor L. Agassiz (1807–73), GEOL. MAG., 1874, pp. 47–8.

remembered was that which, during nearly forty years, he carried on at his own expense in connexion with oceanography. The United States Government, with the greatest liberality and consideration for the interests of science, allowed him from time to time the use of their surveying vessels, the Captains of which were instructed to place themselves virtually under the orders of Agassiz himself. The naturalist, aided by a staff selected and paid by himself, carried on soundings and dredgings in every part of the globe, special attention being devoted to the study of coral reefs. Beginning in 1877 with the study of the Gulf of Mexico, the Caribbean Sea, and the Atlantic coast of America, Agassiz continued his work in 1880 by investigating the surface fauna of the Gulf Stream. Besides working out the details derived from the study of collections made during these voyages, the results of which were published in connexion with the Harvard Museum of Comparative Zoology, Agassiz wrote a well-illustrated account of his work, *The Three Voyages of the "Blake"*, in two volumes.

In 1891 Agassiz transferred his attention to the western shores of the United States and Central America, investigating the seas around the Sandwich Islands, and paying special attention to the coral reefs there, between 1892 and 1894. His explorations were extended during 1895–6 to the Great Barrier Reef of Australia, and in 1897–8 to the Fiji Islands. In 1899 and 1900 he was able to undertake a cruise among the various groups of coral islands lying between San Francisco and Japan. In 1901–2 Agassiz commenced his study of the Indian Ocean, paying especial attention to the Maldive Islands and their surroundings; and, in order to complete the examination of portions of the Pacific that he had not already visited, he devoted the years 1904–5 to a cruise among the important island-groups of the eastern half of the Pacific Ocean.

The intervals between his several voyages were occupied by Agassiz in the study of his enormous collections and the preparation of memoirs dealing with the results obtained. These were issued, regardless of expense as to their illustration, in the publications of the Boston Society's Museum of Comparative Zoology. No fewer than thirty volumes of memoirs and fifty-three volumes of bulletins are devoted to the results obtained from the study of these collections by Agassiz and the various specialists who assisted him. His own favourite place of work was Paris, where rooms were always allotted to him in the Museum of Natural History, and he had the fullest access to scientific libraries.

Of the value and importance of the results of these voyages it is impossible to speak too highly. Perhaps the most striking of the conclusions arrived at by him are those relating to great movements which have taken place in the bed of the Pacific in comparatively recent geological times. This is evidenced by the numerous upraised coral reefs which, following Dana, he described; in many of these the limestone rock, now at elevations of 1000 feet and upwards, has been more or less completely converted into dolomite.

It is not necessary, in face of the above statement of facts, to add that Agassiz was a man of indomitable energy. He thought as little

of crossing the Atlantic as we do of crossing the Thames, and death met him at last while still "on the move".

In early life Alexander Agassiz exhibited something of the dogmatic habit of mind that distinguished his illustrious father; but, mellowed by age and constant intercourse with other men, he became in after life strikingly open-minded and ready to listen to arguments, even those that told against his most cherished convictions. Those who were privileged to enjoy his friendship in his later life knew him as a man of ardent enthusiasm, restless energy, and charming bonhomie, but also as one patient in discussion, and always ready to listen to facts and reasonings from whatever quarter they came. His generosity was unbounded, and he was ever willing to place his abundant materials at the service of young men who were qualified and desirous to engage in their study.

In every scientific circle of Europe, as well as in those of America, Alexander Agassiz was well known, and in all of them his loss will be deeply mourned. In France he received the Légion d'Honneur, and in Germany the Order of Merit. In this country he was since 1874 a Foreign Member of the Zoological Society, and for many years a Foreign Member of the Royal Society. Only last year the Royal Geographical Society awarded him the Victoria Research Medal, and we may fitly conclude this notice with the verdict of the President in announcing the award—a verdict in the justice of which all must agree—"He has done more for oceanographical research than any other single individual." [1]

## MISCELLANEOUS.

Provence Fossil Invertebrates.—The Geological Department of the British Museum has recently acquired a further selection of the rarer Mesozoic species from the collection of Mr. A. Michalet, member of the Geological Society of France. We understand that Mr. Michalet's cabinets have become so overcrowded that he would be glad to dispose of his duplicates to any British colleagues who may desire them at a merely nominal price. His address is Allée des Platanes, Quartier de la Barre, Toulon (Var).

The Mammoth Cave, Western Australia.—In the *Records of the Western Australian Museum and Art Gallery* (vol. i, pt. i, 1910, edited by Mr. Bernard H. Woodward), there is an account of various mammalian remains obtained from this cave, and described by Mr. L. Glauert. The specimens include *Phascolomys Hacketti*, sp. nov., *Phascolarctus cinereus* (Goldf.), and *Sthenurus occidentalis*, sp. nov., which are figured.

Geologists' Association.—A most useful Classified Index to the Contents of the Proceedings of the Geologists' Association, vols. i–xx, has been compiled by Mr. G. W. Young and Mr. William Wright. It is issued as pt. vii of vol. xxi at the price of 1*s.* 6*d.*, and comprises (1) List of Papers and Lectures, under names of Authors, (2) Subject Index to Papers, (3) Index to Localities of Excursions, and (4) Chronological List of the Longer Excursions.

[1] Taken chiefly from Professor J. W. Judd's notice in *Nature*, April 7, 1910, p. 163.