

In addition to his numerous papers on palæobotany, Saporta has left such works as “Le monde des plantes avant l'apparition de l'homme,”¹ “Origine paléontologique des arbres cultivés ou utilisés par l'homme,”² and, in collaboration with Professor Marion, “L'évolution du règne végétal”³; these form fitting memorials of his wide knowledge as a palæobotanist, and of his zealous advocacy of the importance of fossil forms to the student of plant evolution. By some readers Saporta is perhaps best known as the too eager upholder of the claims of certain structureless casts and impressions to be included among fossil algæ. The valuable contributions to this subject by Nathorst have clearly shown how little weight must be attached to any speculations as to the development of plant life based on Saporta's “Algues fossiles”⁴ or his “Organismes problématiques.”⁵

As a contributor to Tertiary and Mesozoic Botany, Saporta's name will always be associated with that of Heer and Ettingshausen; and the younger generation of workers in this branch of palæontology may well look upon him as a worthy pupil of Adolphe Brongniart, whose philosophic spirit and scientific handling of facts are reflected in the writings of his younger countryman. The writer of a recent obituary notice in a French scientific journal has thus happily expressed Saporta's unflinching industry: “A des travaux considérables succédaient des entreprises plus considérables encore, et l'on oubliait l'âge en voyant l'œuvre s'augmenter et les horizons s'étendre toujours.” A. C. S.

THE REV. NORMAN GLASS.

BORN DECEMBER 4TH, 1832.

DIED DECEMBER 2ND, 1893.

THE death of the Rev. Norman Glass on the 2nd December, 1893, at his residence, 26, Lower King Street, Blackpool, has, we regret to say, hitherto escaped the attention of geologists. From local sources we learn that Mr. Glass was educated at the Western Congregational College, Plymouth, where, after distinguishing himself in logic and rhetoric, he entered upon a ministerial career, holding, in rotation, pastorates at Cardiff, London, Basingstoke, Rothwell, Wolverhampton, and Bilston. Soon after obtaining his last appointment he was obliged to retire from the ministry on account of failing health. He then removed to Manchester, and for a time occupied the post of Curator at the Queen's Park Museum.

From an early period Mr. Glass was keenly devoted to geology, and appears to have been on friendly terms with both Murchison and Owen, the former recognizing him as the discoverer of a patch of Silurian rocks (Wenlock Limestone) rising up through the Old Red Sandstone at Pen-y-lan, near Cardiff. He was also fortunate in finding in the Upper Chalk of Charlton, Kent, a new

¹ Paris, 1879.

² Paris, 1888.

³ Paris, 1881–1885 (3 vols.)

⁴ A propos des algues fossiles, 1882.

⁵ Les organismes problématiques des anciennes mers, 1884.

genus of echinoid, which the late Dr. S. P. Woodward described and figured under the name of *Echinothuria floris* ("Geologist," 1863, pl. xviii, fig. B, pp. 327–330). But it was in his association with the late Dr. Thomas Davidson that Mr. Glass will be more particularly remembered by palæontologists. He had devised a method whereby the delicate calcareous internal structures of many of the Palæozoic Brachiopod shells could be exposed for examination, and although this was effected by a somewhat simple process through the agency of a knife, hydrochloric acid, and running water, it required the greatest patience, and no small amount of skill, before satisfactory results could be attained. These investigations naturally led to most important discoveries, and required Davidson to amend much of his earlier work. In the following terms Davidson thus alludes to the valuable assistance rendered him by Mr. Glass: "Prominent in this difficult study [the spiral-bearing Brachiopoda] has been the Rev. Norman Glass, to whose indefatigable perseverance and consummate skill I am indebted for the possibility of laying before my readers a large amount of positive and most valuable information. I can find no words sufficiently expressive to convey the gratitude I feel towards him for the unrelaxing energy he has displayed during upwards of three years in this difficult kind of investigation" [quotation from Davidson's Monograph]. Some forms of spiral-bearing Brachiopods had previously been subjected to development by Young and Neilson of Glasgow, Zugmayer of Vienna, and Whitfield of America, but the success attained by Mr. Glass seems to have eclipsed that of all others in this special branch of palæontological work. His specimens were generously presented to Dr. Davidson, who elaborately figured and described them in his great monograph on the "British Fossil Brachiopoda," published by the Palæontographical Society between 1880 and 1884, subsequently bequeathing them to the British Museum, where they are now exhibited among the type specimens of the "Davidson Collection."

As a further proof of his appreciation of these signal services to his subject, Davidson founded the generic name of *Glassia* to include such forms as *Atrypa obovata*, J. de C. Sowerby, the spiral structure of which, after exposure by Mr. Glass, was proved to be essentially different from that of any previously known genus.

In 1882 the Council of the Geological Society of London awarded him a moiety of the "Lyell Donation Fund" for "valuable aid and services rendered in elucidating the history and internal structure of the British and foreign Brachiopoda." Mr. Glass has contributed the following papers to geological science:—

- (1) Silurian Strata near Cardiff. *Geologist*, 1861, vol. iv, p. 168.
- (2) On the Development of the Spirals and their Connections in the Palæozoic Brachiopoda, in Davidson's "Monograph of British Fossil Brachiopoda," *Palæontographical Society*, 1882, vol. v, pp. 86–91.
- (3) On a new form of Spiral in *Spirifera glabra*. *GEOLOGICAL MAGAZINE*, 1890, pp. 461–463.
- (4) On *Athyris leviuscula*, Sow., sp., with the full disclosure of its loop, etc. *Ibid.* 1891, pp. 495–498.
- (5) The Rocks on the Blackpool Coast. *Blackpool Times* (undated).
- (6) The Local Geology of Blackpool. *Ibid.* 1893.

R. B. N.