compensate the effect, that at any point of the luminous brushes darkness could be restored; and this was found to be the case when the stretched part of the glass strip was superposed. On the other hand, either pair of the quadrants could be brightened by placing the length of the glass corresponding with their direction and bringing the *compressed* side into action. The effects are still more marked when a selenite is used, but disappear entirely on inserting a quartz plate until the analyser is somewhat rotated.

In one case I have met with appearances quite the reverse of those described by Rutley in the case of perlitic cracks. One of these surrounds a crystal to the extent of about $\frac{2}{3}$, and *within* this the field is dark, while the line of the crack is fringed with light due to pressure in the glass surrounding the pearl. Connected with this encircling crack, although, owing to the thickness of the section, the connection is not very definitely traceable, is a long straight crack extending both ways from the crystal. At the extreme points of this the brushes reappear, and when the crack is parallel to the principal plane of either of the Nicols prisms, they are quite brilliant. We have here evidently the expression of the rending force which at this point was not able actually to separate the particles of the glass, but only to produce the strain which results in depolarization.

The connection which Mr. Rutley suggests between strain and crystallization is, I think, scarcely available here, as the glass is compressed, and the phenomena seem to me rather to point to a higher coefficient of expansion by heat for the obsidian glass than for felspar and magnetite producing in the former, since it was fitted, so to speak, to the crystal at a high temperature, a strain similar to that of an iron tire shrunk on the woodwork of a wheel. If any data of the expansions of the substances involved are known it would be easy to test this, but I do not know where to find any.

Birmingham. Thos. H. Waller.

POSIDONOMYA BECHERI.[1]

Sir,—I have just seen in your interesting article in the last Number of the Geological Magazine, "On the Discovery of Trilobites in the Culm Shales of Devonshire," a reference (on p. 540) to the occurrence of *Posidonomya Becheri* in the rocks at Budle, Northumberland. Please allow me to point out that this shell was found there by Sir Roderick Murchison and others, many years ago (see p. 291, Siluria, 4th edition), and the late Mr. G. Tate, of Alnwick, has noticed its presence here along with many well-known Carboniferous limestone fossils, *eg. Griffithides, Bellerophon, Unio, Euomphalus, Chonetes, Hardrensis*, etc. (Trans. Ber. Nat. Club. vol. v. p. 73, 1863). I never heard till now that any one regarded these beds as "Tuedian." They are underlain and entirely surrounded by beds of the ordinary Carboniferous Limestone type, and there is no Tuedian within many miles of them. If the *Posidonomya Becheri* is characteristic of genuine Tuedian, why is it not shown to occur

[1] See *ante*, pp. 73-76.

abundantly in Northumberland in all the beds which everybody admits to be Tuedian or Lower Carboniferous? Almost all the Carboniferous Limestone of North Northumberland is the representative of Phillips's Yoredale Series, and I have no doubt the Budle Beds are much nearer to the top than the bottom of the Carboniferous Limestone Series. In Ireland the *Posidonomya* is a characteristic fossil of certain black shales lying above the Carboniferous Limestone, which were at one time regarded as Coal-measures, but which are probably the representatives of the Yoredale Beds of England (see Jukes's Manual, 3rd edition, pp. 591-2). I hope soon to show that the Tuedian Beds and the Calciferous Sandstone of Scotland represent in time not only the Lower Limestone Shale, but the greater part of the Carboniferous Limestone also.

20, Cumberland Street, W. Gunn.
Edinburgh, *Dec.* 20, 1884.

OBITUARY.

DR. THOMAS WRIGHT, F.R.S., F.R.S.E., F.G.S.

Dr. Thomas Wright was born in Paisley, Renfrewshire, N. B., November 9th, 1809. He was educated at the Paisley Grammar School, and before he completed its curriculum, was articled to his brother-in-law, a surgeon and general practitioner, where he acquired an elementary knowledge of the Natural Sciences, and showed an early predilection for biological studies.

Before the expiration of his articles his brother-in-law removed to a practice in Ayrshire, which occasioned an interruption to his course of study, and temporarily disarranged his pursuits. After a futile attempt to enter into a manufactory, for which his scientific tastes rendered him quite unfit, he rejoined his brother-in-law, and having completed his articles, prepared himself for entering the medical classes of the University of Glasgow. But acting upon the advice of his friends, he proceeded to Ireland, and enrolled himself as an anatomical student in the Royal College of Surgeons, Dublin, where he rapidly acquired an extensive knowledge of anatomy, and became an accomplished physiologist and pathologist. Later on he was induced to study under Messrs. Kirby and Ellis, and soon became their Assistant-demonstrator. On leaving Dublin he received the highest credentials from those gentlemen, and was offered the post of Demonstrator of their School, with the promise of the Chair of Anatomy and Physiology if he remained.

During the preceding winter, however, Dr. Wright had suffered much from a dissecting wound which quite unfitted him for anatomical work, and compelled him to decline the offer so handsomely made by Mr. Ellis. On recovering his health, he passed the College of Surgeons, London, in 1832. and graduated as M.D., at St. Andrew's University in 1846. Soon after passing the College he settled in Cheltenham, where his life has since been spent in the active practice of his profession. He was for fifteen years Surgeon to the Cheltenham