

of the fossils would correlate the beds in question with similar plant-bearing strata in the upper Old Red Sandstone of the south of Ireland and of Berwickshire. In Ireland, however, along with the *Adiantites (Cyclopteris) Hibernica*, and various other plants, there occurs a large fresh-water shell—the *Anodon Jukesii*—with plates of *Cocosteus*, and scales of *Glyptolepis*, *Asterolepis*, and *Bothriolepis*. Farther search may possibly detect some of these in the Old Red Sandstone of Westmoreland, but the existence of plants is probably of itself sufficient to refer the fossiliferous beds to the age of the upper Old Red, thus confirming a determination which formerly rested on stratigraphical evidence alone.

IV. *Notice of Slimonia Acuminata, from the Silurian of the Pentland Hills.* By JOHN HENDERSON.

On one of my visits to the Silurian district of the Pentland Hills, in the beginning of last summer, I was fortunate enough to discover several fragments of a large crustacean, which I submitted to the inspection of Mr Page, who pronounced them to be undoubted fragments of *Slimonia acuminata*; they consist of a telson or tail-plate, $4\frac{1}{2}$ inches in length by nearly two inches in breadth, showing the seriatures running down both sides, from the top to very near the point; also the anal plate of probably the same individual, along with some fragments of body rings, showing the sculpturings. The genus *Slimonia*, as most of you will be aware, belongs to the family Eurypteridæ, and was detached from *Pterygotus* and erected into a new genus by our president, Mr Page. It differs from *Pterygotus* by having no prehensile claws; also in the shape of the carapace, and other well-known characters. The first notice we have of this large and interesting crustacean occurring in these beds is by Messrs Salter and Geikie, in the "Memoir of the Geological Survey Sheet, No. 32," where they describe a fragment found by their collector, Mr Gibbs, as the serrate base of one of the great swimming feet. This, they say, is all that occurred to their collector's diligent search, but is invaluable as connecting the beds with those of Lesmahagow. One very remarkable circumstance connected with this specimen of theirs, is the finding of it in a bed associated with abundance of *Leptena transversalis*, *Strophomena applanata*, *Phacops Stokesii*, and a number of other forms that are seldom known to appear above the Wenlock—in fact, 900 feet, according to their own calculation, below what they consider the "Old Red Sandstone," whereas in Lesmahagow, the only other district in which it has been found, it is associated with an upper Ludlow form of *Lingula*, along with *Pterygotus* and *Eurypterus*, well-known upper Ludlow forms.

In the Pentland district, that is, confining myself to a few feet above or below the beds where I found these specimens, namely, about 12 feet below the junction of the Old Red Sandstone, occur numerous molluscs and crustacea, very few of which can be identified with known forms. One well-known Brachiopod, however, *Spirifer crassa*, which has a wide range and a common Ludlow form, I found in the same thin bed with *Slimonia* and another Ludlow fossil. *Entomis tuberosa* occurs in abundance in the same beds; but *Lingula lata*, an exclusive Ludlow form, was found last year by Mr Brown in a bed some distance below where I found the *Slimonia*, which is a strong indication of the position of the beds; but as this subject will be more fully treated in a joint paper by Mr Brown and myself, I deem it right to leave it until better arranged and more accumulated facts are laid before the Society.

Thursday, 17th January 1867.

Mr MAURICE LOTHIAN in the Chair.

Lecture on "Geological Time," in the Museum of Science and Art. By ARCHIBALD GEIKIE, F.G.S., F.R.S.E.

Thursday, 7th February 1867.

Mr DAVID PAGE, President, in the Chair.

The following Communications were read:—

- I. *On the Past, Present, and Future of the Scotch and Welsh Mineral Oil Trades.* By ANDREW TAYLOR.

(Abstract).

Mr TAYLOR briefly sketched the early history of the distillation of carbonaceous minerals at a low red heat, noticing the first attempts both as scientific experiments and commercially. The experiments of Dr Clayton in 1728–29, as well as those of Dr Watson, Bishop of Landalf, shortly afterwards, were the first in the one direction; whilst the products obtained by an iron-worker, Becher, and others of his contemporaries in the same century, were practical results of this manufacture. It was not, however, till the commencement of the present century, when, contemporaneous with the introduction of steam and gas lighting, the importance of the manufacture was recognised, and workers