The next system, in descending order, is the DEVONIAN, which in North-eastern America is unconformable to the Carboniferous, and contains a totally different series of plants. Dr. Dawson has observed and catalogued about 82 species from these rocks in New Brunswick, and only ten of them can be identified, but doubtfully, with Carboniferous forms; perhaps the Lower Coal Formation may be regarded as in some degree a transition group distinguishable from the Devonian Flora below and the Carboniferous above. The whole Devonian Flora appears to be one; for though only two of the Upper Devonian species can with certainty be referred to the Lower Devonian, yet these are two of its characteristic species.

The *Lower Helderberg Formation* is the only part of the UPPER SILURIAN GROUP that has hitherto afforded land-plants, and at only one locality, Gaspé, and here there appears to be a gradual passage from the Upper Silurian Limestones into the Lower Devonian Sandstones; these plant-remains are the markings of the rhizomes of *Psilophyton*, and leaf-like impressions doubtfully referred to the Lower Devonian *Cordaites angustifolia*.

Dr. Dawson notices the fact that the earliest known traces of land-plants occur in rocks of a similar horizon, both in Britain and America; he regards many of the so-called fucoids of the Lower Silurian Rocks of Canada as merely worm-burrows, trails of crustaceans or molluscs, shrinkage cracks, or concretions, some few, however, are undoubtedly algæ; he has been unable to discover in any of the Lower Silurian forms the structure of land-plants, not even in the Potsdam Sandstone, which containing littoral deposits would thus seem to indicate a paucity in the land-vegetation of the period. He also states that though he has not at present succeeded in recognising any determinate forms in the graphitic matter of the Laurentian rocks, which presents the appearance of comminuted remains of algæ, yet he entertains the hope of doing so.

CORRESPONDENCE.

ON THE NORTH STAFFORDSHIRE COAL-FIELD.

To the Editors of the GEOLOGICAL MAGAZINE.

SIR,—In the paper which Mr. Molyneux read before the Geological Section of the last meeting of the British Association in Birmingham, he referred to a bed of greyish shales, lying a few feet above the Gin Mine Coal and belonging to the upper part of the low or thick measures of the North Staffordshire Coal-field. These shales, he justly remarks, surpass the Bog Mine in the number and variety of their organic contents. As you were informed by himself, Mr. Ward, of Longton, had previously found beds of true marine shells in these measures. But the shales referred by Mr. Molyneux, as being sunk through, last June and July, were first noticed by a young man in this town of the name of Amison, who obtained from them, not only the fossils named in the above paper, but several others. Among the rest was a very large *Nautilus*;

the broadest part of the outer whorl would be some three inches across. In the upper part of the fossil bed he found two species of *Lingula*. Lower down, two species, at least, of *Chonetes*; some four species of *Goniatites*; one species of *Inoceramus*? one *Pecten*; *Posidonia*, one species; *Productus*, one species; *Spirifer Urii*; *Nucula* or *Ctenodonta*, two if not three species; *Aviculopecten*, at least two species; *Axinus carbonarius*; *Strophomena? Pleurotomaria*, *Orthoceras*, and *Anthracosia*. In the same shales I found a solitary fish-tooth. Mr. Ward thinks it is a *Cladodus* tooth—but if so, the base of it is flatter and much broader than any teeth of this fish that I have seen.

But what increases the interest and importance of these beds of marine shells, is the fact that a considerable number of the species obtained from them are identical with those I obtained a few years ago, from a bed of shale in the Farewell Rock series of the South Wales Coal-basin. The bed in question crops out in the Llanelly valley, a mile or so beneath the town of Brynmawr, and appears to occupy a position midway between the lowest seam of coal, and the Carboniferous Limestone. Thus the fossils which in Wales are found considerably below the lowest bed of coal, are, in North Staffordshire, found high up in the lower thick measures. I am informed by gentlemen practically acquainted with the district, that the lowest seam of coal in this field is at least eight hundred yards below the bed containing the above fossils. Tho natural inference is—that either the species of shells which I have obtained from the two localities of Staffordshire and Wales, had an immense range in time—or else that the Coal-measures of North Staffordshire extend much lower in the series of Carboniferous rocks than do those of Wales. In either case the facts are both instructive and interesting.

In closing this brief notice, I may just remark, that about forty yards *beneath* the beds referred to by Mr. Molyneux, Mr. Amison was fortunate enough to detect another bed containing marine shells, but in less numbers than the upper bed, both with regard to species and individuals. What is most important, is that all the species which we obtained from the lower bed are different from those obtained from the upper one, and appear to have been a great deal worn before deposited. Among those we found was a very small *Nautilus*, two species of *Nucula?* one *Naticosa*, and one that looks like a very broad and short *Anthracosia*, and a small *Goniatites*.

Yours truly, S. Lucas.

Longton: *Oct.* 4, 1865.

ANECDOTE OF STEPHENSON.

To the Editor of the Geological Magazine.

Sir,—As I communicated the anecdote of the late Mr. George Stephenson sometime before I observed or paid any attention to the rocks of Charnwood Forest, would you allow me to make a correction by stating that, though it was formerly customary among miners to apply the term granite to all the igneous rocks of Leicestershire, the