

enough to procure a complete *Cheirurus gelasinus*,—a species of which Sir Roderick figures from this deposit a detached head, and which, though I find no trace of it in his "Silurian System," is described by M'Coy as a not rare trilobite in the Silurian rocks of Kildare. It is a circumstance not unworthy of notice, that the Scottish Silurian fossils are more completely identical with those of the Irish than with those of the English group. They are *Celts*, if I may so speak, rather of the old Scoto-Irish than of the old Welsh type. I have said that to the south of Girvan these trilobite shales are rich in graptolites and orthoceratites. The graptolites are usually of that double fringed section (*diprion*), with an axis in the centre, to which the typical *Graptolithus foliaceus* belongs; the only exceptional species, so far as I know, being *Graptolithus tenuis*, a member of that single fringed section (*monoprion*) represented by the typical *Graptolithus Ludenses*. Associated with these, but rarely, we sometimes find a large dark-colored lingula, probably the *Lingula ovata* of M'Coy, also a Kildare species; and *Orbicula crassa*, a finely stratified shell, bearing usually the same dark hue, as if both organisms had been covered by an epidermis, which had alone survived when their shelly substance had been absorbed in the rock. The orthoceratites of the deposit exist in a peculiar state of keeping. They have been converted, with the filling of all their chambers, into a pure chocolate-colored lime; whilst the gray shale in which they lie is so little calcareous as to remain impassive under the strongest acids. Many of them seem to have been broken across ere they were committed to the rock, and exist as detached though very entire fragments, consisting of from six to ten chambers a-piece. It is stated by Sir Roderick Murchison, that one of the largest of the Girvan orthoceratites being of a kind unknown to him, he referred it to M. Barrande, then on a visit to our country, who recognized it as a Bohemian spe-