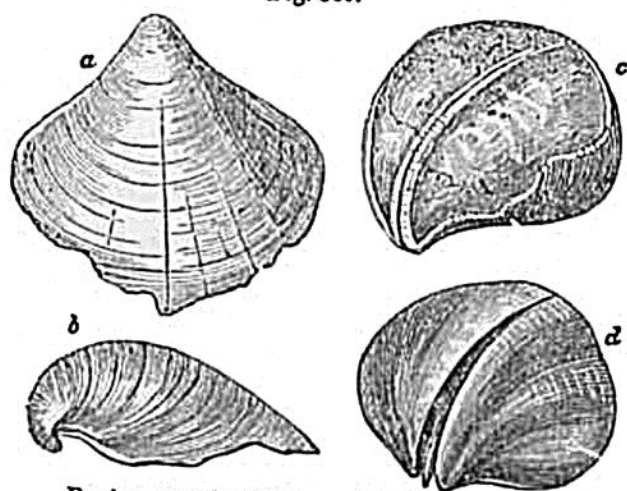


Ramsay and Mr. Aveline, who observed that in the Longmynd Hills the Caradoc sandstone rested unconformably on the Lower Silurian, and that the latter or "Llandeilo flags," together with some still older rocks, must have constituted an island in the Caradoc sea. Professor E. Forbes at the same time observed that the island was probably high and steep land rising from a deep sea, and that the Caradoc fossils, some of them of littoral aspect, as *Littorina* and *Turritella*, were deposited round the margin of that ancient land. It was also remarked that while the sandstone and conglomerate of this upper Caradoc* reposed unconformably on the Llandeilo beds, it at the same time graduated upwards, as Sir R. Murchison had stated, into the Wenlock Shale.

Subsequently Professor Sedgwick and Mr. M'Coy, pursuing their investigations independently of the Survey in North Wales, became convinced† that the Caradoc beds of May Hill and the Malverns, constituting the Upper Caradoc, already mentioned, were full of Upper Silurian fossils; and that the strata of Caradoc sandstone at Horderly and other places east of Caer Caradoc belonged to the Bala group (or equivalent of the Llandeilo), being distinguished by Lower Silurian species. This opinion was finally substantiated by Mr. Salter and Mr. Aveline, in 1853, by an appeal to parts of Shropshire where "the Caradoc" had been originally studied by Sir R. Murchison, and where they found the Upper Caradoc unconformable on the lower, and filled with a series of very distinct fossils.‡

In the restricted sense, therefore, in which it is now understood, the Caradoc Sandstone comprises a series of beds of passage from the Lower to the Upper Silurian group. It is everywhere characterized by species of *Pentamerus* and *Atrypa* unknown in the overlying Wenlock or Ludlow beds, but which descend into the strata of the Llandeilo group. *Pentamerus lævis* (fig. 589), and *P. oblongus* may be particularly mentioned

Fig. 589.



Pentamerus lævis, Sow. Caradoc Sandstone.

Perhaps the young of *Pentamerus oblongus*.

- a, b. Views of the shell itself, from figures in Murchison's Sil. Syst.
 c. Cast with portion of shell remaining, and with the hollow of the central septum filled with spar.
 d. Internal cast of a valve, the space once occupied by the septum being represented by a hollow in which is seen a cast of the chamber within the septum.

* Quart. Geol. Journ. vol. iv. p. 297.

† Geol. Quart. Journ. 1852.

‡ Geol. Quart. Journ. vol. x. p. 62.