

strata are well displayed in the picturesque valley of Woolhope in Herefordshire, which lies upon a worn quâ-quâ-versal dome of Upper Silurian strata, rising in the midst of the surrounding Old Red Sandstone. They are seen likewise to the northwest, at Presteign, Nash Scar, and Old Radnor in Radnorshire, and to the east and south, in the Malvern Hills (where they include a great thickness of shale below the limestone), and May Hill in Gloucestershire. Among the common fossils of these strata may be mentioned *Illænus* (*Bumastus*) *barriensis*, *Homalonotus delphinocephalus*, *Phacops caudatus*, *Encrinurus punctatus*, *Acidaspis Brightii*, *Atrypa reticularis*, *Orthis calligramma*, *Strophomena imbrex*, *S. euglypha*, *Leptæna transversalis*, *Rhynchonella borealis*, *R. Wilsoni*, *Euomphalus sculptus*, *Orthoceras annulatum*.

It is a feature of the older Palæozoic limestones to occur in a very lenticular form, swelling in some places to a great thickness and rapidly dying out, to reappear again perhaps some miles away with increased proportions. This local character is well exhibited by the Woolhope limestone. Where it disappears, the shales underneath and intercalated with it join on continuously to the overlying Wenlock shale, and no line for the Woolhope sub-group can then be satisfactorily drawn. The same discontinuity is strikingly traceable in the Wenlock limestone to be immediately referred to.

(b) *Wenlock Shale*.—This sub-group consists of gray and black shales, traceable from the banks of the Severn near Coalbrook Dale across Radnorshire to near Carmarthen—a distance of about 90 miles. The same strata reappear in the protrusions of Upper Silurian rocks which rise out of the Old Red Sandstone plains of Gloucestershire, Herefordshire, and Monmouthshire. In the Malvern Hills, they are estimated by Prof. Phillips to reach a thickness of 640 feet, but toward the north they thicken out to more than 2000 feet. On the whole, the fossils are identical with those of the overlying limestone. The corals, however, so abundant in that rock, are here comparatively rare. The brachiopods (*Lingula*, *Leptæna*, *Orthis*, *Strophomena*, *Atrypa*, *Rhynchonella*, *Spirifer*) are generally of small size—*Orthis biloba*, *O. hybrida*, and the large flat *O. rustica* being characteristic.⁸⁵

⁸⁵ As an example of the small size but extraordinary abundance of brachiopods in this formation reference may be made to the fact that a cartload of the shale from Buildwas was found by careful washing to contain no fewer than 4300 specimens of one species (*Orthis biloba*), besides a much greater bulk of