

pis) ludensis was discovered in 1859. This is the earliest trace of vertebrate life yet detected in Britain. It is interesting to note that this fish does not stand low in the scale of organization, but has affinities with our modern sturgeon.

(b) *Aymestry Limestone*—a dark gray, somewhat earthy, concretionary limestone in beds from 1 to 5 feet thick. Where at its thickest (from 30 to 40 feet) it forms a conspicuous feature, rising above the soft and denuded Lower Ludlow shales. Owing to the easily removable nature of some fullers'-earth on which it lies, it has here and there been dislocated by large landslips. It is still more inconstant than the Wenlock limestone. Though well developed at Aymestry in Herefordshire, it soon dies away into bands of calcareous nodules, which finally disappear, and the lower and upper divisions of the Ludlow group then come together. The organic remains at present known are for the most part identical with Wenlock forms. It is evident that the organisms which flourished so abundantly in the clear water wherein the Wenlock limestone was accumulated, continued to live outside the area of deposit of the Lower Ludlow rock, and reappeared in that area with the return of the conditions for their existence during the deposition of the Aymestry limestone. The most characteristic fossil of the latter rock is the *Pentamerus Knightii*; other common forms are *Rhynchonella Wiltoni*, *Lingula Lewisii*, *Strophomena euglypha*, *Atrypa reticularis*, *Bellerophon dilatatus*, *Pterinea Sowerbyi*, with many of the same shells, corals, and trilobites found in the Wenlock limestone. Indeed, as Murchison has pointed out, except in the less number of species and the occurrence of some of the shells more characteristic of the Upper Ludlow zone, there is not much palæontological distinction between the two limestones.<sup>87</sup>

(c) *Upper Ludlow Rock*.—In the original Silurian district described by Murchison, the Aymestry limestone is covered by a calcareous shelly band full of *Rhynchonella navicula*, sometimes 30 or 40 feet thick. This layer is succeeded by gray sandy shale or mudstone, often weathering into concretions, as in the Lower Ludlow zone, and assuming externally the same rusty-brown or grayish olive-green hue. Its harder beds are quarried for building stone; but the general character of the deposit, like that of the argillaceous portions of the Upper Silurian formations as a whole, in the typical district of Siluria, is soft, incoherent, and crumbling, easily de-

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<sup>87</sup> "Siluria," p. 130.