

and shales (with *Pleurodictyum problematicum*).¹⁴⁵ In Brittany also, Devonian strata are found, including representatives of the Famennian groups with Cypridinas and Goniatites, shales and limestones with Eifelian cephalopods, *Pleurodictyum problematicum* and *Spirifer cultrijugatus*, and a series of graywackes, sandstones, and shales with *Chonetes sarcinulata*, *Phacops latifrons*, etc.¹⁴⁶ In this region lies the limestone of Erbray (Loire Inférieure) so fully described by Barrois who, from its abundant corals, numerous brachiopods and gasteropods, and its trilobites of the genera *Calymene*, *Phacops*, *Dalmanites*, *Proëtus*, *Harpes*, *Bronteus* and *Cheirurus*, places it in the Gedinnian group at the base of the Lower Devonian series, and compares it with the Hercynian limestones of the Harz.¹⁴⁷ In the remarkable oasis of ancient rocks which has been already referred to as forming a conspicuous feature among the younger formations of Languedoc representatives of the three great divisions of the Devonian system have recently been worked out by F. Frech.¹⁴⁸ Again, the central Silurian zone of the Pyrenees is flanked on the north and south by bands of Devonian rocks (with broad-winged spirifers and other characteristic fossils), which have been greatly disturbed and altered. In the Asturias, according to Barrois, a mass of strata about 3280 feet thick contains representatives of the three divisions of the Devonian series, and has yielded an abundant fauna, numbering upward of 180 species, among which the corals and brachiopods are specially abundant.¹⁴⁹

Throughout central Europe there occurs, in many parts of the Devonian areas, evidence of contemporaneous volcanic action in the form of intercalated beds of diabase, diabase-tuff, schalstein, etc. These rocks are conspicuous in the "greenstone" tract of the Harz, in Nassau, Saxony, Westphalia, and the Fichtelgebirge. Here and there, the tuff-bands are crowded with organic remains. It is also deserving of remark that over considerable areas (Ardennes, Harz, Sudeten-Gebirge, etc.) the Devonian sedimentary formations have assumed a more or less schistose character, and

¹⁴⁵ Oehlert, Bull. Soc. Geol. France, xvii. 1889, p. 742.

¹⁴⁶ Barrois, Ann. Soc. Geol. Nord, iv. xvi.

¹⁴⁷ "Faune du Calcaire d'Erbray," Mem. Soc. Geol. Nord, iii. 1889.

¹⁴⁸ Zeitsch. Deutsch. Geol. Ges. xxxix. 1887, p. 402.

¹⁴⁹ "Recherches sur les Terrains anciens des Asturias," etc., Mem. Soc. Geol. Nord, ii.