Where the red marl and sandstone formation is fully developed, it may be arranged, as before stated, under three divisions: the lower, which corresponds with the *rothe-todte-liegende*, consisting of fragments of different rocks cemented by sand or marl, and of beds of imperfect porphyry; this occurs below magnesian limestone: the middle beds, consisting chiefly of sandstone, called by the French *grès rouge* and *grès des Vosges:* and the upper, consisting of marl and variegated sandstone, in which beds of rock-salt and gypsum occur; this corresponds with the *grès bigarré* and *marnes irrisées* of the French. In England the three divisions of this formation rarely if ever, occur together, accompanied with magnesian limestone; but it should appear, from the situation of these different beds on the Continent, that the place of magnesian limestone is between the lower and the middle division; for the magnesian limestone or *zechstein*, rests on the conglomerate beds of red sandstone.

In the third number of the *Annales des Mines*, 1827, there is a very full account by M. Elie de Beaumont, of the different arenaceous strata that separate the coal strata from lias limestone, along the feet of the Vosges mountains on the eastern side of France. This account throws considerable light on a part of geology hitherto obscured by the conflicting opinions of former observers, and assimilates the red sandstone of France and Germany with the different divisions of the same formation in England. The Vosges monntains are composed of granite and transition rocks, and at their feet, there are several coal-fields: the coal strata, and also the lower declivities of the granite, are in part, covered unconformably, by nearly horizontal strata of red sandstone; and this is covered by lias limestone. We have here, on a larger scale, an exact correspondence with the geology of the Charnwood Forest district, where the granite and slate rocks are bordered by coal strata, and are both partly covered by horizontal strata of red marl and sandstone; and this again is covered by lias limestone. The red sandstone of the Vosges is, however more developed; the lowest part consists of conglomerate and porphyroidal beds: these cover the coal strata; they agree in their mineral characters, precisely, with the conglomerates in the English red sandstone, particularly those of Devonshire, and are described by M. Beaumont as being the true *rothe-todte-liegende.* Above this occurs a considerable thickness of strata of red sandstone, which passes by gradation into the conglomerate; this is the proper *grès rouge:* it is designated by M. Beaumont *grès des Vosges;* it approaches in its character nearer to the *grès bigarré* than to the lower beds. The variegated sandstone, or *grès bigarré*, covers the *grès des Vosges;* but there appears to have been a considerable degradation of the surface of the *grès des Vosges*, and also a disturbance of the beds by subsidence or faults, before it was covered by the *grès bigarré*, or variegated sandstone: nevertheless they are evidently members of the same formation.