

contortions, &c. of the beds, and the mode of working them, from Pl. 25 to 27.*

Proceeding still further along the northern border of the same transition chain, against which all these deposits of coal repose, we find the more recent formations (probably of the tertiary class) intruding upon it, and concealing the coal till we cross the Rhine near Bonn. On the right bank of that river these again recede to the north, and in this direction we again find an extensive coal-field proceeding along the small river Ruhr a little above its junction with the Rhine: on the south the beds of this coal-field describe the segment of a circle, cropping out against alternations of limestone, shale, and what is called *grauwacké* (our old red sandstone probably), which separate them from the regular transition slate: on the north they are bounded by the overlying and more recent deposits. An account and plans of this district may be found in *Villefosse*, tom. 2. page 424. & plate 24.

A little on the south of the same district of transition rocks, whose northern border we have been hitherto pursuing, limited coal-fields occur in the country between the Moselle and Rhine; 1. between Sarrebruck and Sarre Louis on the river Sarre, and (secondly) near Waldmohr on the banks of the Glane, extending to its confluence with the Nahe: the beds of the former coal-field are described as ranging south-west and north-east, and dipping north-west; they are covered with red sandstone, and also surrounded by the same formation on the points to which they rise, appearing therefore to repose upon it; but these appearances are very vaguely described; “sur ces grès rouges semblent quelquefois s'appuyer les couches de houille;” they are probably deceptive. A careful examination of the country between this coal-field and the northern transition chain, is necessary to ascertain its true relations. *Villefosse*, tom. 2. p. 447. & Pl. 27. may be consulted on this district.

Pursuing the line of Northern Germany, a tract containing

* The series of beds between the coal-measures and the transition chains on the south, exactly corresponds with those occurring in England. The following list is extracted from *Omalius d'Halloy*, with the English equivalents annexed.

Coal strata.....	the same.
Shale and grit	Millstone grit and shale.
Limestone alternating with slate-clay ..	Carboniferous limestone.
Red and variegated grits alternating with slate-clay.....	} Old red sandstone.
Yellow granular quartz	
Grit and breccia	} Transition slate.
Clay-slate	

The organic remains and metalliferous deposits of the limestone underlying the coal, exactly coincide with those of England.