

land chains, coal has been discovered at Brora; but from the slight description incidentally given of this tract in the memoir of Mr. Bald (3 vol. Trans. Wern. Soc.), before referred to, it may be conjectured that this does not belong to the principal coal-formation, but to those beds which occasionally occur in more recent formations, being perhaps of the same æra with the coal of the Cleaveland district in Yorkshire.

In the north-east of Ireland we may trace the prolongations of the two great primitive and transition chains which traverse Scotland, and are interrupted on its south-west border by the channel between the two islands; the mica-slate of the former chain appearing to cross* from Cantire to Cushendal in the north-east angle of Antrim, and (after a partial concealment by the overlying of the great basaltic area) to range along the northern counties of Donegal, &c.; while the greywacké of the latter, crossing from Portpatrick to Donaghadee, extends thence towards the centre of the island. The formations of the great central valley of Scotland here likewise intervene, and among them the coal-measures, which may be seen emerging from beneath the overlying basalt at Fairhead on the north-east, and again just beyond the south-west of the basaltic area at Coal Island and Dungannon; but other parts of Ireland present far more important coal districts. Indeed the island may generally be described (with the exception of the north-east basaltic area) as being almost surrounded with a series of primitive and transition groups, including a great central area entirely occupied by the old red sandstone, carboniferous lime, and coal-measures. The structure of these districts very closely corresponds with the tracts of the same formation in England.†

* This connection between the two countries is more fully pointed out and illustrated by a map in the introduction to Dr. Berger's memoir on the north-eastern counties of Ireland, Geol. Trans. vol. 3. drawn up by the present writer.

† The following summary of the Irish coal-fields is extracted from Mr. Griffiths' admirable report on the Leinster coal-district. Mr. Weaver's excellent memoir on the south-east of Ireland (Geo. Trans. vol. iii) should also be consulted, as affording much important information concerning the first of the coal-districts here mentioned.

‘If we except the Leinster district, my knowledge of the coal districts of Ireland is as yet very limited. And, though each in its turn will form the subject of a separate report, I think it right to draw attention to them in this place, by giving such general information as I possess, respecting their situation and circumstances. Coal has been discovered in more or less quantity in seventeen counties* of Ireland; but I believe the island

* The counties are, Antrim near Ballycastle; Donegal north of Mount Charles; Tyrone in the Ulster coal district, and at Drumquin; Fermanagh, north continuation of the Connaught coal district, and at Petigoe; Monaghan near Carrickmacross; Cavan near Belturbet; Leitrim and Ros-