

Kinahan,²¹² it consists in Limerick of the following subdivisions:

Upper (Burren) Limestone	}	Bedded limestone	240 ft.
		Cherty zone	20
Upper (Calp) Limestone	}	Limestones and shales	1000
		Cherty zone	40
Lower Limestone	}	Fenestella limestone	1900
		Lower cherty zone	20
		Lower shaly limestones	280
Lower Limestone Shales			100
			3600

The chert (phtanite) bands which form such marked horizons among these limestones are counterparts of others found abundantly in the Carboniferous Limestone of England and Scotland. Portions of the limestone have a dolomitic character, and sometimes are oolitic. Great sheets of porphyrite, basalt, and tuff, representing volcanic eruptions of contemporaneous date, are interpolated in the Carboniferous Limestone of Limerick.²¹³ As the limestone is traced northward, it shows a similar change to that which takes place in the north of England, becoming more and more split up with sandstone, shale, and coal-seams.²¹⁴

2. MILLSTONE GRIT.—This name is given to a group of sandstones and grits, with shales and clays, which runs persistently through the centre of the Carboniferous system from South Wales into the middle of Scotland. In South Wales, it has a depth of 400 to 1000 feet; in the Bristol coal-field, of about 1200 feet. Traced northward it is found to be intercalated with shales, fire-clays, and thin coals, and, like the lower members of the Carboniferous system, to swell out to enormous dimensions in the Pennine region. In North Staffordshire, according to Mr. Hull, it attains a thickness of 4000 feet, which in Lancashire increases to 5500 feet. These massive accumulations of sediment were deposited on the north side of a barrier of more ancient Palæozoic rocks, which, during all the earlier part of the Carboniferous period, seems to have extended across central England, and which was not submerged until part of the Coal-measures had been laid down. North of the area of maximum deposit, the Millstone Grit thins away to not more than 400 or 500 feet. It continues a comparatively insignificant formation in Scotland, attaining its greatest thickness in Lanarkshire

²¹² "Geology of Ireland," p. 72.

²¹³ Presidential Address, Quart. Journ. Geol. Soc. 1892, p. 145

²¹⁴ Hull's "Physical Geology and Geography of Ireland," 2d edit. 1891, p. 49.