

and in South Wales skirt the Bristol Channel, and stretch into the interior in Pembrokeshire, Glamorganshire, and Monmouthshire; while in the north they border North Wales, and form a broad backbone of country that reaches from the borders of Scotland down to North Staffordshire and Derbyshire. Other patches, here and there, rise from below the Secondary strata into the heart of England. (*See Map.*)

The general physical structure of England, from the coast of Wales to the Thames, will be easily understood by a reference to fig. 57, p. 304, and to the following descriptions; and this structure is eminently typical, explaining, as it does, the physical geology of the greater part of England south of the Staffordshire and Derbyshire hills.

The Lower Silurian rocks of Wales (No. 1) consist chiefly of slaty and solid gritty strata, accompanied by, and interbedded with, numerous felspathic lavas and beds of volcanic ashes, marked +; and mingled with these there are numerous bosses and dykes of feldstone, quartz-porphry, greenstone (diorite), and the like. These last, by their superior hardness, give a mountainous character to the whole of North Wales, from Merionethshire to the Menai Straits. In part of north Pembrokeshire also, in a less degree, igneous rocks are largely intermingled with the Lower Silurian strata, and these, by help of denudation, now form a very hilly country.

Without again entering into details, it is here sufficient to state that the Cambrian and Lower Silurian epoch was ended in the British area by disturbance and contortion of the strata, and their upheaval into land. This disturbance necessarily gave rise to long-continued denudations of this early English land, both by ordinary