

fact exactly parallel to the introduction of serpentine among the crystallised metamorphic limestone of Skye (noticed by Macculloch). In Radnorshire, Mr. Murchison observed the ramification of serpentinous strings through limestone which was otherwise altered in contact with a felspathic trap ; and in this and other places, anthracitic coatings and nests, and crystals of copper and iron pyrites, complicate the effects. In one place, a serpentinous rock of this kind is 20 or 30 feet wide. If therefore, in conformity with so many and such strong analogies, we admit the inference that the crystalline primary limestones have acquired this character by the action of heat, it must follow that this heat was of a very general, if not universal, application below the primary strata, for there is, perhaps, no considerable district known where the gneiss and mica schist systems are devoid of such crystalline limestone, and the occurrence of it is not specially connected with the local appearance of igneous rocks. This important inference will, however, be invested with a higher degree of probability if it be also found, as a matter of fact, that the other strata with which this limestone is associated show independent signs of having been subjected to a general heat.

*Alteration of the Chemical Nature of Rocks.*

One of the most popular of all the proofs of the pyrogenous origin of basalt and greenstone, is the effect they produce on coal and bituminous shales, for by their action the coal is often turned to coke, and the dark shales assume a very light colour. These effects are almost too common in Scotland and the North of England to deserve especial notice. Thus the Kylloe dyke, which crosses the Tweed below Lennel, has converted the coal-seams intersected by it into a sort of cinder, the bituminous matter having been entirely dissipated. (*Milne on the Geology of Berwickshire.*) Several of the dykes in the collieries of Newcastle and Durham (as the dyke