of jasper or other minerals, and the whole indurated considerably, the general title applicable to the whole series of rocks thus composed is Grauwacke,—which varies in fineness of grain from what emulates clay slate to a conglomerate with quartz pebbles half an inch in diameter. Examples may be found in Ben Ledi,—the Lammermuir,—the Cavan district,—in Snowdon,—and in the Salopian border of Wales. In colour and hardness the grauwacke rocks vary through as great a range as the clay slates.

With these, which compose in every country by far the greater portion of the system of argillaceous slaty rocks, are associated limestones of dark colour, concretionary texture, and laminated structure (Bala, Coniston), and quartzose grits and conglomerates which may with some inconvenience be called grauwacke (Haymond Hill, Shrewsbury).

The fragmentary character of these coarse grauwacke grits is merely an extreme case of the appearance of these rocks, which universally impress upon the beholder a notion of their derivative origin from the waste of older argillaceous and siliceous rocks.

Structures.—Amongst these rocks the evidence of successive deposition is sometimes most clear and decisive, especially amongst the arenaceous and calcareous compounds; in other cases, particularly among the thick masses of uniformly fine grained clay slate, very obscure. Yet, in no case, have our personal investigations among the slates of Wales or Cumbria been unsuccessful in verifying the statements of Sedgwick, and detecting certain though not obvious proofs of consecutive depositions among all the complication introduced by later agencies.

As a general rule it may be stated that *lamination* prevails most in the rocks of finest grain; *beds* are most distinct and continuous among the coarser grauwackes; but the *laminæ* observed in slate rocks are not always, nor indeed frequently, the effect of intermitting subsidence of the particles from water; for, in almost all clay slates, the predominant lamination and fissility arise from a