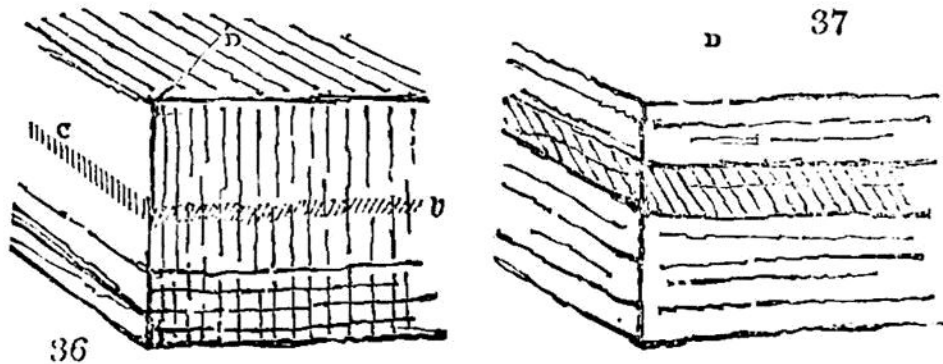


change of molecular arrangement by influences acting since the deposition of the rock. To illustrate this let the subjoined diagrams represent portions of clay slate and grauwacke slate, alike in all respects of structure, except the nature and direction of the lamination, D being in each a plane of stratification. In grauwacke slate (No. 37.) the laminæ of deposition show on all the vertical planes, being all parallel or nearly so to the plane of stratification; in clay slate laminæ of deposition are not seen,



other laminæ, viz. those of cleavage, induced by some process since the deposition of the rock, cross the planes of stratification (seldom at right angles), so that the stone may be split by wedges almost indefinitely into thin plates, nearly in a vertical direction. In some cases, as shown in the lower part of No. 36., the laminæ of deposition remain in clay slate; and instances occur in grauwacke slates where one or more fine grained bands have the cleavage structure, and other coarser bands have not. But the most obvious and constant marks of interrupted deposition from water traceable across cleavage planes are stripes of *colour* different from the mass, or thin *bands* of harder matter, or layers of coarser ingredients. The most perfectly cleavable slate rock, though it be almost a crystal in respect of its regular structure, shows in the quarry indubitable marks of stratified deposition; and where fine grained and coarse grained slate rocks alternate, a very common circumstance about Snowdon, the fact is perfectly obvious.

*Cleavage* must be viewed as a structure imposed on the rock by agencies subsequent to its accumulation as