

sinking into valleys. The rocks and their contents form one subject of study; the history of their present scenery forms another.

The branch of geological inquiry which deals with the evolution of the existing contours of the dry land is termed Physiographical Geology. To be able to pursue it profitably, some acquaintance with all the other branches of the science is requisite. Hence its consideration has been reserved for this final division of the present work; but only a rapid summary can be attempted here.

At the outset one or two fundamental facts may be stated. It is evident that the materials of the greater part of the dry land have been laid down upon the floor of the sea. That they now not only rise above the sea-level, but sweep upward into the crests of lofty mountains, can only be explained by displacement. Thus the land owes its existence mainly to upheaval of the terrestrial crust, though it may have been to some extent increased and diminished by other causes (*ante*, pp. 479, 494). The same sedimentary materials which demonstrate the fact of displacement, afford an indication of its nature and amount. Having been laid down in wide sheets on the sea-bottom, they must have been originally, on the whole, level or at least only gently inclined. Any serious departure from this original position must therefore be the effect of displacement, so that stratification forms a kind of datum-line from which such effects may be measured.

Further, it is not less apparent that sedimentary rocks, besides having suffered from disturbance of the crust, have undergone extensive denudation. Even in tracts where they remain horizontal, they have been carved into wide valleys. Their detached outliers stand out upon the plains