

tions of the Caradoc and Bala rocks." This much-disturbed district Professor Sedgwick, after several years devoted to its study, has attempted to reconstruct, the following being a brief summary of his arguments. The region consists of:—

I. Beds of mudstone and sandstone, deposited in an ancient sea, apparently without the calcareous matter necessary to the existence of shells and corals, and with numerous traces of organic forms of Silurian age—these were the elements of the Skiddaw slates.

II. Plutonic rocks were, for many ages, poured out among the aqueous sedimentary deposits; the beds were broken up and re-cemented—plutonic silt and other finely comminuted matter were deposited along with the igneous rocks: the process was again and again repeated, till a deep sea was filled up with a formation many thousands of feet thick by the materials forming the middle Cambrian rocks.

III. A period of comparative repose followed. Beds of shells and bands of coral were formed upon the more ancient rocks, interrupted with beds of sand and mud; processes many times repeated: and thus, in a long succession of ages, were the deposits of the upper series completed.

IV. Towards the end of the period, mountain-masses and eruptive rocks were pushed up through the older deposits. After many revolutions, all the divisions of the slate-series were upheaved and contorted by movements which did not affect the newer formations.

V. The conglomerates of the Old Red Sandstone were now spread out by the beating of an ancient surf, continued through many ages, against the upheaved and broken slates.

VI. Another period of comparative repose followed: the coral-reefs of the mountain limestone, and the whole carboniferous series, were formed, but not without any oscillations between the land and sea-levels.

VII. An age of disruption and violence succeeded, marked by the discordant position of the rocks, and by the conglomerate of the New Red Sandstone. At the beginning of this period the great north and south "Craven fault," which rent off the eastern calcareous mountains from the old slates, was formed. Soon afterwards the disruption of the great "Pennine fault," which ranges from the foot of Stanmore to the coast of North Cumberland, occurred, lifting up the terrace of Cross Fell above the plain of the Eden. About the same time some of the north and south fissures, which now form the valleys leading into Morecambe Bay, may have been formed.

VIII. The more tranquil period of the New Red Sandstone