

ranean movement was varied by uprisings here and there, and notably by the outburst at successive periods of a great group of active submarine volcanoes over Wales, the Lake district, and the south of Ireland ; but at the close of the Silurian period a vast series of disturbances took place, as the consequence of which the first rough outlines of the European continent were blocked out. The floor of the sea was raised into long ridges of land, among which were some on the site of the Alps, the Spanish peninsula, and the hills of the west and north of Britain. The thick mass of marine sediment was crumpled up, and here and there even converted into hard crystalline rock. Large enclosed basins, gradually cut off from the sea, like the modern Caspian and Sea of Aral, extended from beyond the west of Ireland across to Scandinavia and even into the west of Russia. These lakes abounded in bone-covered fishes of strange and now long-extinct types, while the land around was clothed with a club-moss and reed-like vegetation—*Psilophyton*, *Sigillaria*, *Calamite*, etc.—the oldest terrestrial flora of which any abundant records have yet been found in Europe. The sea, dotted with numerous islands, appears to have covered most of the heart of the continent.

A curious fact deserves to be noticed here. During the convulsions by which the sediments of the Silurian sea-floor were crumpled up, crystallised, and elevated into land, the area of Russia seems to have remained nearly unaffected. Not only so, but the same immunity from violent disturbance has prevailed over that vast territory during all subsequent geological periods. The Ural Mountains on the east have again and again served as a line of relief, and have been from time to time ridged up anew. The German domains on the west have likewise suffered extreme convulsion. But the wide intervening plateau of Russia has