

formed. In the case of a *subsiding* coast, the effect of wave-action would be to destroy resisting cliffs and obstacles as the sea advanced inland, and thus to give origin to a submarine plain. Sir Andrew Ramsay and Mr. Davison had described in general terms the "abrasive" work of the breakers, and shown how as the level of land became degraded by subaerial forces of denudation, the margin next the sea arrived at its base-level of erosion, and sank as a denuded plain below the advancing sea. Such a plain was called by Ramsay a *plain of submarine denudation*. Von Richthofen adopted the term "abrasion," and used the expression a "plain of abrasion" to signify more particularly a submarine platform whose surface had been abraded during subsidence of the land by the destructive action of marine breakers and currents. Sir Archibald Geikie, on the other hand, thinks that submarine platforms have owed their degradation of level essentially to subaerial agents of erosion, and that they represent land surfaces which had arrived at the base level of erosion before they were submerged, the action of the waves merely completing the process of levelling. De Lapparent, Penck, and many other geologists similarly explain the origin of plains of denudation by subaerial erosion.

Recent maps of Oceanography show at a glance that submarine platforms sometimes extend for many square miles as a marginal belt around continents or islands, and geographers find it very difficult to determine the precise conditions to which these "peneplains" owe their existence in the various regions. Several German and Austrian geographers, following Richthofen's methods, have conducted special investigations on this subject during recent years (Fischer in 1885 and 1887, Krümmel 1889, Philippson 1892, Penck 1894).

The old idea, favoured by De Maillet, Buffon, Cuvier, and others, that marine currents played an important part in the configuration of the globe, has been proved fallacious. Marine currents lose their strength as they come into the shallow areas near the coast; they increase in strength where they pass through narrow channels, especially where, as in the Straits of Gibraltar and the Bosphorus, they sweep between two seas. The origin of the deeper furrows and basins in the floor of the ocean can in very few cases be explained by submarine erosion. As a rule, they represent either continental valleys that have been submerged or troughs formed by crust-movements.