

whether Palæozoic or Secondary, cannot be other than imperfect. Any one system, as shown on the geologic map, is but a thing of shreds and patches. Here it occurs as a continuous belt, — there as a detached basin, — yonder as an insulated outlier; and it is only on these shreds and patches that the geography of each system can be traced, when we can trace it at all. The field of the map in each instance resembles one of those dilapidated frescoes of Pompeii, in which by much the greater part of the plaster has fallen from the wall, and we can trace but broken fragments of the picture on the detached bits that remain. The geologic geographer finds himself in the circumstances of the cod-fishing skipper, who, in going one day, when crossing the Atlantic, to consult his charts, found them reduced to detached tatters, and came on deck in a paroxysm of consternation, to tell his crew that they might put about ship when they pleased, for the rats had eaten Newfoundland.

With the dawn of the Tertiary ages the fragments greatly extend, and tolerably adequate notions of the arrangements of land and water over wide areas may be formed.* The reader

*One of the most ingenious pieces of geologic geography to be anywhere met with in the literature of the science, may be found in Mr. Charles Maclaren's well-known "Sketch of the Geology of Fife and the Lothians." It occurs as part of a theory of the diluvial phenomena of "Crag and Tail," and appeals with equal effect to the reason and imagination of the reader. "If there has been a good deal of denudation on the east side of Scotland," says Mr. Maclaren, "there has been much more on the west. The absence of sand-banks on the west coast; the greater depth of the ocean there; the numerous and profound indentations of the land, in the shape of bays, estuaries, and lakes; the rocky islands, which had once been parts of the mainland; the removal of so large a part of the red sandstone of Ross and Sutherland, which had once covered a hundred miles of the western coast to the depth of two or three thousand feet, and is now reduced to a few isolated cones, — all these facts, with the familiar examples of Crag and Tail, indicate that the surface of Scotland has been swept by powerful denuding currents coming