

and in the Gulf of Cape Breton, off the Côte des Landes, France, in such relations to submarine currents as to favor the hypothesis that these channels are unfilled portions of the coastal plain kept open by currents which prevent deposition along the line of these gorges. What seems to be to some writers an unanswerable confirmation of this view is the well marked gorge traversing the delta of the Rhone in Lake Geneva and that of the Rhine in Lake Constance. In the case of these lakes it is impossible to assume since the modern deltas began to form that the rivers flowing through the lakes have by uplift of the lake bottom been enabled to dissect their deltas; it is more reasonable to suppose that the configuration of the outer part of the delta in each case is due to causes now in action. Forel notes that the amount of sediment carried out over the bottom at the mouths of these rivers is too great, and that the process has been carried on for too long a time to permit any antecedent topography to remain. In his opinion these "sub-lacustrine ravines" are the result of erosion now going on and prove the existence of currents in the bottom of the lakes. He attributes the excavation to the lower temperatures of the river water charged with mud as compared with the temperature of the lakes. In the case of the Congo submarine channel, Buchanan has noted the occurrence of a lower, inflowing salt current in the river preventing in its course the deposition of sediment. Suess claims that in this case it is not so much that the canyon has been excavated as that the sediments have been laid down either side of it, thus building up the continental shelf and leaving a gorge in the path of the inward moving, bottom current of sea water.¹

It must be admitted that in the case of the submarine Hudson gorge no facts have heretofore been observed on the neighboring land which demand in postglacial times so high an elevation of the coast as does the gorge itself when regarded as a true river-cut gorge. The depth of the bed rock in the Hudson river between New York city and the Highlands would be, if known, a much

¹For literature on the subject consult Suess, *La Face de la Terre*, v.2, 1900, p.853-56, with references to papers by Lindenkohl, J. D. Dana, G. Davidson, F. A. Forel, Eberhard Graf Zeppelin, Duparc, Delebecque and others.