

direction, was ascertained by Charpentier, from its composition, to have been derived from *n*, one of the highest points on the left side of the Rhone valley, far above Martigny. From this spot it must have gone all round by *F*, which is the only outlet to the deep valley, so as to have performed a journey of no less than 150 miles!

*General Transportation of Erratics in Switzerland due to
Glaciers and not to floating Ice.*

It is evident that the above described restriction of certain fragments of peculiar lithological character to that bank of the Rhone where the parent rocks are alone met with, and the linear arrangement of the blocks in corresponding order on the opposite side of the great plain of Switzerland, are facts, which harmonise singularly well with the theory of glaciers, while they are wholly irreconcilable with that of floating ice. Against the latter hypothesis, all the arguments which Charpentier originally brought forward in opposition to the first popular doctrine of a grand débacle, or sudden flood, rushing down from the Alps to the Jura, might be revived. Had there ever been such a rush of muddy water, said he, the blocks carried down the basins of the principal Swiss rivers, such as the Rhone, Aar, Reuss, and Limmat, would all have been mingled confusedly together instead of having each remained in separate and distinct areas as they do and should do according to the glacial hypothesis.

M. Morlot presented me in 1857 with an unpublished map of Switzerland in which he had embodied the results of his own observations, and those of MM. Guyot, Escher, and others, marking out by distinct colours the limits of the ice-transported detritus proper to each of the great river-basins. The arrangement of the drift and erratics thus depicted accords perfectly well with Charpentier's views, and