

on the rocks of Scandinavia; to ascertain, from personal exploration, how far the glaciation of the Norwegian coasts and fjords could be traced to the action of land-ice or of floating bergs; to trace, if possible, the connection between the ancient ice-work and the work of living glaciers; and, generally, to seek for any facts that might help to throw light upon the history of the glacial period in the British Isles. Having only a few weeks at our disposal, we were far from aiming at original discovery in Norwegian geology. The main features of the disposition of the snow-fields and glaciers had already been given in the masterly sketch by Principal Forbes—a work which was of inestimable value to us.¹ More detailed descriptions of parts of the glaciation of Norway had been published by Scandinavian geologists—Esmark,² Hörbye,³

¹ *Norway and its Glaciers*, 8vo, 1853. Mr. Chambers also has referred to the striated rocks in different parts of Norway in his *Tracings of the North of Europe*, 1850.

² Esmark. *Edin. New Phil. Journal*, vol. ii. p. 116 *et seq.* (1826). In this paper the former presence of land ice over large areas from which it is now absent, and its powerful influence as a geological agent of abrasion, are, for the first time, distinctly recognised. The illustrations are taken from the south of Norway.

³ Hörbye. "Observations sur les phénomènes d'érosion en Norvège"—*Programme de l'Université de Christiania pour 1857*. The author gives a careful *résumé* of all the observations made by himself and others upon the direction of the striæ on the rocks of Norway, and adds a number of maps, one of which shows the outward radiation of the striæ from the central mountain mass of Scandinavia. Yet he commits himself to no theory as to the nature of the agent by which the striæ were produced. In a concluding section upon the glacial theory, he says:—"Il est vrai sans doute qu'en général la direction des stries est parallèle à l'avancement des glaciers actuels; mais je ne vois pas que cette circonstance puisse suffisamment démontrer que les stries ont été gravées par les glaciers." "Je me joins à cette conclusion, que les sulcatures du Nord se présentent comme des