

of the rock-fissures inevitably produced, and through which steam and volatilized minerals would rise at a high temperature. The courses of these floods appear to have been principally to the east, towards the plains of Italy, and in a northerly direction, where now is the bed of the Rhine.*

There are evident indications of another deluge, which had washed over Lapland and Norway, but especially Sweden, in a direction from north or north-east, to the south, spreading its stony burden over vast districts of Denmark, Poland, and the north of Germany, as far as the 51st degree of latitude; and presenting the polished surfaces of rocks, marked with fine linear scratches, larger grooves, and even furrows, evidently produced by the passage of immense masses of rock over them.† Similar proofs and those upon a grand scale, of a flood, or rather of several floods, exist in North America. These were variously local, yet extensive and powerful to an amazing degree, and having, in like manner, a direction from northerly points to the southward.‡ Those torrents

* Venetz and De Charpentier; in Jameson's Philos. Journ. Vol. XXI. p. 210, and XXII. p. 27, Agassiz; in the same Journal, XXIV. pp. 176, and 364.

† De la Beche's Geol. Man. third ed. p. 189. Poggendorf, in Jameson's Journal, Vol. XXIII. p. 69.

‡ "That a transient deluge, like that described in the Scriptures, could have produced, and brought into its present situation, all the diluvium which is now spread over the surface of this continent, will not (it seems to me) be admitted for a moment by any impartial observer. It has obviously been the result of different agencies and of different epochs; the result of causes sometimes operating feebly and slowly, and at other times violently and powerfully. But the conclusion to which I have been irresistibly forced, by an examination of this stratum in Massachusetts, is, that *all the diluvium which had been previously accumulated by various agencies, has been modified by a powerful deluge, sweeping from the north and north-west, over every part of the State, not excepting its highest mountains*: and since that deluge, none but alluvial agencies have been operating to change the surface." Prof. Hitchcock's Geology of Massachusetts; p. 148. Amherst, 1835.