

Masses of ice having fallen towards the upper part of this valley, and accumulated there, raised a dike sufficiently compact and strong to block up the course of the Dranse. The waters of this river, rapid and pent up in certain parts of its course, as are all those of the high Alps, accumulated above this barrier of ice, and formed a lake which attained, at its maximum, 130 metres of mean breadth, from 3000 to 4000 metres of length, and 36 of mean depth, and consequently a volume of water estimated at about 29,000,000 cubic metres. Although, by means of operations conducted with equal skill and courage, about the third part of this volume was let off without danger, the remaining part having suddenly broken through the barrier of ice, was precipitated with an almost unexampled impetuosity of 11 metres in the second, into the Vallée de Bagne. In the first part of its course, and in the space of half an hour which the mass of water took in traversing a league, it carried away trees, dwellings, enormous masses of debris, and rocks *already separated from their mass*, as M. Escher, expressly says; it covered all the broad parts of the valley with rubbish, pebbles and sand, and carried the remainder of the substances which it had swept away, as well to the extremity of the valley, towards Martigny, as into the bed of the Rhone. The mass of water took an hour and a half in rushing from the glacier to Martigny. The same event took place from the same cause, and with nearly similar results, in 1595.

Torrents may therefore scoop out ravines in certain formations, and produce effects which appear considerable, because we judge of them by comparison with our