

1. *Action of Torrents.*

*Torrents* have a true degrading and *scooping* action upon the earth's surface, but, by the necessary consequence of the sense which we attach to the word, this action cannot be exercised upon spaces of great extent, for a torrent is a water-course which has a great declivity. Now, on account of the little height which the most elevated summits of the globe have in comparison with the extent of its surface, this action cannot be very extensive; it can only, therefore, produce short and narrow ravines. This action, as all who have visited high mountain chains may have seen, is only often local and instantaneous; it presents no remarkable effect but upon the heaps of debris which cover the declivities of the mountains, and on broken rocks, partially disintegrated by other causes, and lastly on moveable deposits. The results of this action contribute to confine it within narrower limits still, by heaping up at the mouths of torrents in the valleys or plains, the debris carried down by these torrents. The elevation of the soil, which necessarily follows from the accumulation of these debris, diminishes with the declivity, the rapidity, and consequently the power of these water-courses.

Great masses of water moving rapidly, have a marked transporting power. Striking examples of this power have but too often been seen in Holland, by the breaking down of the dikes, and in Alpine mountains, in consequence of extraordinary rains during tempests, or from the rupture of some of the natural barriers of lakes. In these latter times (in 1818), the Vallée de Bagne experienced the terrible effects of this devastating power.