victim, so to speak, of sudden inundations. It swells to such a volume that, unable to make its way with sufficient swiftness between the hills enclosing it above its point of confluence with the Rhone, the waters of the torrent flow back in the river-bed, force it to re-ascend with them, and cause the mill-wheels erected on the bank of the Rhone to revolve in a contrary direction. These accidental and unforeseen floods give rise to the most disastrous inundations, which commit terrible havoc in the surrounding country.

In those rivers where they are of inferior magnitude, the floods are, nevertheless, recognized by the change they effect in the colour of their waters. Hence an interesting observation was made on the Seine. The waters of the Marne and the Seine, which unite in the vicinity of Charenton, possess different shades of colour, which are easily distinguishable under the Pont-Neuf, at the extremity of the Ile de la Cité. If there has been rain in Burgundy, but none in Champagne, the yellowish waters of the Seine present a perceptible line of demarcation between them and those of the Marne.

The high water of the Seine and the Loire, in their mid-course, rises from twenty to twenty-two feet; the rise of the Rhine is not nearly so great. These differences are wholly due to the nature of the tributaries which feed them.

The floods of the Rhone, sometimes so disastrous, are caused in the main by the pluvial waters descending from the two valleys of the Côte-d'Or and the Jura, which form the basin of the Saone. The rapid liquefaction of the glaciers of Switzerland occasionally produces, in the spring, the most terrible inundations in the basin of the Rhone. The awful scourge of waters which desolated Morayshire in 1829 was the result of a long season of wet weather, so that the porous and spongy soil had become thoroughly saturated and water-logged; and being unable to absorb the rain, accumulated it in various channels, which swelled and overflowed in a most extraordinary manner.*

* [Sir J. Herschell, "Physical Geography," p. 170.]