

face of the country. Lavas which originally covered the floors of valleys, as the ground around them is lowered, are at last turned into high tablelands, and are still further cut through and separated into detached portions, according to the multiplication and deepening of the ravines and valleys by which they are traversed. To realise the ancient continuity of these venerable lava-sheets, we must in imagination fill up the valleys, and thus restore the slope or plain over which the molten rock originally flowed.

As all the scoriæ and craters are gone, the only way of detecting an eruptive centre in the volcanic products of this epoch is to find the point of common origin for several streams, such points being often marked by large isolated patches of lava (culots).

Desmarest arrives at the important conclusion that the lavas of his second epoch were erupted before the excavation of the present valleys out of the original plain over which the streams of basalt were poured. The volcanic events of which they are the memorials must thus go back to a remote antiquity, for the erosion of valleys is obviously an exceedingly slow process. But these lavas are evidently much younger than the horizontal sedimentary strata and the granite which these strata overlie, both of these groups of rock being also trenched by the valleys.

The third and most ancient epoch is denoted by a series of lavas, which, instead of overlying the sedimentary strata, underlie them or are interstratified with them. These sediments are now recognized as the deposits of one of the old Tertiary lakes of Europe. Their layers are full of land-plants, land and fresh-