

occupying positions often independent of the present lines of drainage. To restore in imagination the geographical outline of Picardy, to which rivers charged with so much homogeneous loam, and running at such heights, may once have belonged, is now impossible.

In the valley of the Rhine, as I before observed, the main body of the loess, instead of having been formed at successively lower and lower levels as in the case of the basin of the Somme, was deposited in a wide and deep preexisting basin, or strath, bounded by lofty mountain chains, such as the Black Forest, Vosges, and Odenwald. In some places the loam accumulated to such a depth as first to fill the valley and then to spread over the adjoining table-lands, as in the case of the Lower Eifel, where it encircled some of the modern volcanic cones of loose pumice and ashes. In these instances it does not appear to me that the volcanoes were in eruption during the time of the deposition of the loess, as some geologists have supposed. The interstratification of loam and volcanic ejectamenta was probably occasioned by the fluviatile mud having gradually enveloped the cones of loose scorixæ after they were completely formed. I am the more inclined to embrace this view after having seen the junction of granite and loess on the steep slopes of some of the mountains bounding the great plain of the Rhine on its right bank in the Berg-strasse. Thus between Darmstadt and Heidelberg perpendicular sections are seen of loess 200 feet thick, at various heights above the river, some of them at elevations of 800 feet and upwards. In one of these may be seen, resting on the hill side of Melibocus in the Odenwald, the usual yellow loam free from pebbles at its contact with a steep slope of granite, but divided into horizontal layers for a short distance from the line of junction. In these layers, which abut against the granite, a mixture of mica and of unrounded grains of quartz and felspar occur, evidently