

average result nearly the same in all countries. Thus, the loam which fills to a great depth the wide Valley of the Saone, which is bounded on the west side by an escarpment of inferior oolite, and by the chain of the Jura on the east, is very like the loess found in the continuation of the same great basin after the junction of the Rhone, by which a large supply of Alpine mud has been added and intermixed.

In the higher parts of the basin of the Danube, loess of the same character as that of the Rhine, and which I believe to be chiefly of Alpine origin, attains a far greater elevation above the sea than any deposits of Rhenish loess; but the loam which, according to Mr. Stur, fills valleys on the north slope of the Carpathians almost up to the watershed between Galicia and Hungary, may be derived from a distinct source.

*Oscillations of Level required to explain the Accumulation
and Denudation of the Loess.*

A theory, therefore, which attempts to account for the position of the loess cannot be satisfactory unless it be equally applicable to the basins of the Rhine and Danube. So far as relates to the source of so much homogeneous loam, there are many large tributaries of the Danube which, during the glacial period, may have carried an ample supply of moraine-mud from the Alps to that river; and in regard to grand oscillations in the level of the land, it is obvious that the same movements, both downward and upward, of the great mountain-chain would be attended with analogous effects, whether the great rivers flowed northwards or eastwards. In each case fine loam would be accumulated during subsidence, and removed during the upheaval of the land. Changes, therefore, of level, analogous to those on which we have been led to speculate when endeavouring to solve the various problems presented by the glacial phenomena, are