

atmosphere. The fresh surfaces in turn decompose, and the cycle of chemical transformation and denudation goes on until a land area acquires the particular aspect of erosion which the eye has learned to associate with certain characters of rock, and conditions of altitude, of meteorology, and of drainage. The final phases of the work of denudation would be to reduce a land surface to sea-level unless other circumstances conspired to prevent complete degradation of the land.

Highly characteristic forms of weathering may be produced in cases where certain portions of a sheet of rock are more soluble than others, and become a more easy prey to the processes of disintegration. Heim has described the scenic effects due to the weathering of the different kinds of rock-material exposed in many of the mountain plateaux of the Alps. Irregular, boldly-hewn outlines and sharp aiguilles are characteristic forms in the crystalline masses composed of coarse-grained granitoid rocks at the higher altitudes of the Alps; the finely-serrated ridges with steep slopes and grassy hollows are characteristic of the softer shales and clays, while the limestone and dolomite mountains present alternating terraces and prominent escarpments capped by picturesque summit forms; in some cases, wide summit-plateaux have been rendered almost impassable by the innumerable petty pinnacles and ravines into which the rock has been weathered. Such summit-plateaux are known as "Karrenfelder."

The precise origin of the "Karrenfelder" has long been a matter of discussion. Among the earlier Alpine authors, Scheuchzer and De Saussure attributed these limestone wastes to the erosive action of occasional floods. Hirzel, who in 1829 introduced the term of "Karren," attributed them to combined mechanical and chemical weathering acting upon perpendicular limestone strata at a certain height above sea-level. Among recent authors, Von Richthofen, Heim, Mojsisovics, and many others explained the jagged and channeled character of these high plateaux as in the main a chemical effect, due to the action of rain-water containing carbonic acid gas in solution, upon the lime carbonate of the rock. Favre, on the other hand, associated the particular effect with the mechanical operations of glacial water.

Mojsisovics has described characteristic "Karrenfelder" in Carniola like those in other limestone groups of the Alps, and has also observed funnel-shaped depressions on the surface of