

level. The forces of erosion work incessantly and according to stereotyped methods, but cease their activity at sea level, hence tend to wear down the lands to a gently sloping surface, rising inland with recession from the shore line. The longer these agents are permitted to work at this task, without interruption from the other set of forces, the larger the proportion of the whole task which will be accomplished. The streams will progressively cut their valleys down to this slope, or grade, after which the work consists mainly in valley widening, bringing a steadily greater amount of the region down to the new level, with a constantly diminishing portion remaining at the old. During the progress of the work a varied topography will be produced, depending on a host of minor factors, rock arrangement and rock resistance being the two most important. The weak rocks will yield most quickly, and many of the streams will adjust themselves to these weak rock belts. The more resistant rocks will persist longer at the old levels, hence tending to become stream divides. The weak belts may be owing to weak rocks or to structural lines of weakness. The rock dip is a most important matter in determining the character of the valleys and uplands. Where it is gentle, flat topped divides and a tendency to radial valleys result. Where it is steep, parallel valleys and sharp backed ridges are produced.

Given sufficient time, the resistant rocks slowly reach the lower level, and the surface becomes comparatively smooth, the interstream areas having low, gentle slopes, with perhaps here and there a low hill or ridge of extraresistant material. Beginning as a plain, the district reappears as a plain, though less smooth than before. Such an erosion surface is known as a peneplain.

If now this process of wear is interrupted at any stage by an oscillation which changes the relative level of land and sea, the grade of the streams is altered, and the whole erosion process must recommence its work with reference to this new grade. If the movement be an upward one, the streams at once commence the task of cutting down the region to this new level, leaving their old task in the condition in which the beginning upward movement found it. Such portion of the region as had been worn down to grade, will carry this evidence of graded