the soil upon it. In a highly inclined plane, the imperfect support of the centre of gravity is the sole cause of the loss of earth; in a less inclined plane the diminution of soil is usually caused by water, which produces this effect in a greater or less degree, according to the difference of inclination. In both these modes, by which a removal of soil is produced, the effect may be modified by a difference in the condition of the loose earth, as not only its stability as to situation, but also its resistance to the power of water, vary according to the size, figure, and cohesion of the parts, as well as their adhesion to the surface of the rock. Sandy loose soils, for example, are more liable to transposition than marly or loamy ones; and these, again, are more easily moved than such as are clayey and adhesive.

Whatever be the nature of the soil, a small degree of inclination in the solid rock is sufficient to favour its denudation by the removal of the former; and the inclinations of the surfaces of rocks having a covering of earth and vegetation, are in reality much less considerable than we usually suppose them to be, judging merely by the eye. The celebrated Humboldt has published observations on this subject. According to his measurements, a slop of even fifteen degrees appears steep, and a declivity of thirty-seven degrees is so abrupt, that if it be covered with a dense sward, it can scarcely be climbed. The inclination of the pastures of the Alps seldom exceeds an angle of ten or fifteen degrees, and a slope of twenty degrees is pretty steep. At an inclination of forty degrees, the surface of the rock is sometimes covered with earth bearing a sward, but at a greater inclination the rocks are usually destitute of soil and vegetation.