

Cliffs are slowly disintegrated, the surface of arid plains is loosened, and the fine débris is blown away by the wind.

Effects of wind.—The geological work directly due to the air itself is mainly performed by wind.⁸ A dried surface of rock or soil, when exposed to wind, has the finer disintegrated particles blown away as dust or sand. This process, which takes place familiarly before our eyes on every street and roadway, over cultivated ground, as well as on surfaces with which man has not interfered, is most marked in dry climates. Aridity indeed is its main cause. Mr. Flinders Petrie, the able Egyptian archeologist and explorer, has brought forward evidence of the abrading influence of the wind upon mud-brick walls and other buildings, and he estimates that in some parts of the Nile delta about eight feet of soil has been swept away by the wind during the last 2600 years, or nearly four inches in a century.⁹ Many old fortifications in Northern China have been laid bare to the very foundations by the removal of the surrounding soil through long-continued action of wind.¹⁰ In the dry plateaus of North America, too, though no human memorials serve there as measures, extensive denudation from the same cause is in progress.

It is not merely that the wind blows away what has already been loosened and pulverized. The grains of dust and sand are themselves employed to rub down the surfaces over which they are driven. The nature and potency of the erosion done by sand-grains in rapid motion is well illustrated by the artificial sand-blast, in which a spray of fine

⁸ The general geological effects of wind are discussed by F. Czerny, *Petermann's Mittheil. Ergänzungsheft*, No. 48. *Nature*, xv. p. 231.

⁹ *Proc. Roy. Geograph. Soc.* 1889, p. 648.

¹⁰ Richthofen's "China," Berlin, 1877, i. p. 97.