

the land and carried into the sea. This is an appreciable and measurable quantity. There may be room for discussion as to the way in which the waste is to be apportioned to the different forces that have produced it, but the total amount of sea-borne detritus must be accepted as a fact about which, when properly verified, no further question can possibly arise. In this manner the subject is at once disencumbered of difficulty in fixing the relative importance of rain, rivers, frost, glaciers, etc., considered as denuding agents. We have simply to deal with the sum-total of results achieved by all these forces acting severally and conjointly. Thus considered, this subject casts a new light on the origin of existing land-surfaces, and affords some fresh data for approximating to a measure of past geological time.

Of the mineral substances received by the sea from the land, by much the larger portion is brought down by streams; a relatively small amount is washed off by the waves of the sea itself. It is the former, or stream-borne part, which is at present to be considered. The quantity of mineral matter carried every year into the ocean by the rivers of a continent represents the amount by which the general surface of that continent is annually lowered. Much has been written of the vastness of the yearly tribute of silt borne to the ocean by such streams as the Ganges and Mississippi; but "the mere consideration of the number of cubic feet of detritus annually removed from any tract of land by its rivers does not produce so striking an impression upon the mind as the statement of how much the mean surface-level of the district in question would be reduced by such a removal."³¹² This method of inquiry is so obvious and instructive that it probably received attention from early

³¹² Tylor, *Phil. Mag.* 4th series, v. p.268, 1850.