general level reduced in one year. For it is clear that if a river carries so many millions of cubic feet of sediment every year into the sea, the area drained by it must have lost that quantity of solid material, and if we could restore the sediment so as to spread it over the basin, the layer so laid down would represent the fraction of a foot by which the surface of the basin had been lowered during a year.

It has been already shown that the material removed from the land by streams is twofold—one portion is chemically dissolved, the other is mechanically suspended in the water or pushed along the bottom. Properly to estimate the loss sustained by the surface of a drainage-basin, we ought to know the amount of mineral matter removed in each of these conditions, and also the volume of water discharged, from measurements and estimates made at different seasons and extending over a succession of years. These data have not yet been fully collected from any river, though some of them have been ascertained with approximate accuracy, as in the Mississippi Survey of Messrs. Humphreys and Abbot, and the Danube Survey of the International Commission. As a rule, more attention has been shown to the amount of mechanically suspended matter than to that of the other ingredients. It will be borne in mind, therefore, that the following estimates, in so far as they are based upon only one portion of the waste of the land—that carried in mechanical suspension—are understatements of the truth.[316]

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[316] Geologists are largely indebted to Mr. Mellard Reade for the attention which he has given to the important part played by chemical solution in the general denudation of the land. From the data collected by him he infers, as the proportion of solids in solution in the water of the Mississippi is $\frac{1}{3615}$ by weight, about 150 millions of tons of dissolved mineral must be carried by this river annually into the sea. In the River Plate the proportion is $\frac{1}{6448}$, in the St. Lawrence $\frac{1}{6230}$, in the Amazon $\frac{1}{16990}$. Presidential Address, Liverpool Geol. Soc. 1884.