ization of many materials which could not otherwise be brought to the organisms which need them.

It has been calculated by Murray[1] that the total yearly run off of all the rivers of the earth is about 6500 cubic miles, carrying nearly 5,000,000,000 tons of dissolved mineral matter and prodigious quantities of sediment. The average composition of such water has been estimated as follows: —

	Parts per Million
Potassium as K_2O	2.40
Sodium as Na_2O	7.10
Lithium as Li_2O	0.20
Calcium as CaO	43.20
Magnesium as MgO	14.70
Manganese as Mn_3O_4	1.20
Iron as FeO	2.80
Aluminium as Al_2O_3	3.10
Silicon as SiO_2	16.40
Carbonic acid as CO_2	46
Phosphorus as P_2O_5	0.30
Nitric acid as N_2O_5	3.80
Sulphuric acid as SO_3	8
Chlorine as Cl	3.70
Ammonia as NH_3	0.07
Total mineral matter	152.97

It is, of course, almost exclusively to these constant accessions that the ocean owes its salinity, which in the course of time has reached well-nigh inconceivable magnitude. The common salt alone in the oceans of all

[1] Russell, "Rivers of North America," p. 80.