shown by the late Professor Rogers that all springs contain an appreciable proportion of common salt besides other ingredients in solution. This being the case, and rivers being fed by springs that rise in rocks, in addition to the water drained from the surface, it is obvious that all rivers must contain various proportions of substances soluble in the rocks, and, indeed, it is known that even small quantities of silica may be dissolved in pure distilled water.

The Thames is a good type of what may be done in this way by a moderate-sized river, draining a country which, to a great extent, is composed of calcareous rocks. It rises at the Seven Springs, near the western edge of, and therefore not far from the highest part of the Oolitic tableland of the Cotswold Hills, and flows eastward through all the Oolitic strata, composed mostly of thick formations of limestone, calcareous sand, and masses of clay, which often contain shelly bands and scattered fossil shells. Then, bending to the south-east, below Oxford, it crosses the Lower Greensand, the Gault, the Upper Greensand, all calcareous, and the Chalk, the last of which may be roughly stated as consisting of nearly pure limestone: then through the London Clay and other strata belonging to the great Eocene formations of the London basin, which are nearly all more or less calcareous. The Thames may therefore be expected to contain substances of various kinds in solution in large quantities; and to those derived from the rocks must be added, all the impurities from the drainage of the villages and towns that line its banks between the Seven Springs and London.

At Teddington, on a rough average for the year, 1,337 cubic feet of water (equal to 8,343 gallons) pass seaward per second: and, upon analysis, it was