

found that about twenty-two and a half grains of various matters, chiefly bicarbonate of lime, occur in solution in each gallon, thus giving 187,717 grains per second passing seaward. This is equal to nearly 96,540 lbs. per hour, 2,316,960 lbs. per day, or 377,540 tons a year: and this amount is chiefly dissolved *out of the bulk of the solid rocks and surface soils of the country*, aided by sewage matter derived from the drainage of towns, and mineral and animal manures used in agriculture, the whole passing out to sea in an invisible form, known only to the analytical chemist. What proportion of this is exclusively derived from substances contained in the rocks I am unable to say, but Professor Prestwich in his Presidential Address to the Geological Society in 1872 mentions that, according to different estimates, the average daily discharge of the Thames at Kingston has been variously estimated by Mr. Beardmore at 1,145 millions, and by Mr. Harrison at 1,353 millions of gallons.

‘Taking,’ says Professor Prestwich, ‘the mean daily discharge at Kingston at 1,250 million gallons, and the salts in solution at 19 grains per gallon, the mean quantity of dissolved mineral matter there carried down by the Thames every twenty-four hours is equal to 3,364,286 lbs. or 1,502 tons, which is equal to 548,230 tons in a year. Of this daily quantity, about two-thirds, or say 1,000 tons, consist of carbonate of lime, and 238 tons of sulphate of lime; while limited proportions of carbonate of magnesia, sulphates of soda and potash, silica, and traces of iron, alumina, and phosphates constitute the rest. . . . Therefore’ (with some minor eliminations) ‘the quantity of carbonate of lime carried away from the area of the Thames basin above Kingston (2,072 square miles) is equal to 797 tons