mately equal degree of fineness. I will now add to each flask one pint of pure water at the ordinary temperature and set them aside for about half an hour. The salts I have selected are 1st, Nitrate of Ammonia, a proximate form taken by much of the decaying animal matter on the earth's surface. This salt will be found to dissolve with extreme readiness,—2nd, Common Salt, or Chloride of Sodium, which exists in vast stratified deposits on every continent and is brought to the surface by natural agencies, such as mineral springs, or artificially by pumped wells (as in the St. Clair Flats, at Goderich, Seaforth, etc.), or by mining as at Cracow and elsewhere. This salt forms the most universal condiment and anti-putrescent agent in the preservation of human food, and as a consequence is present in all sewage, forming a most important clue to the identification of sewage and the tracing of its course where it enters rivers or lakes. Although quite soluble, this salt dissolves only to about one-sixth the amount of the last named. 3rd. Epsom Salts, or Sulphate of Magnesia, and 4th. Glauber's Salt, or Sulphate of Soda, two substances which are very extensively found in mineral waters, and, in fact, give their cathartic properties to most medicinal springs and wells. Epsom Salts dissolves to about the same extent as common salt, while Glauber's Salt has only half this degree of solubility. 5th. Washing Soda, or Carbonate of Soda, and 6th. Bi-carbonate of soda, or Baking Soda, which occur—especially the latter—in many effervescing mineral waters, as in the Vichy and Apollinaris waters, although they are of very much greater importance as manufactured salts. Washing Soda is practically of equal solubility with Glauber's Salt, while bi-carbonate of soda is much less soluble. The solubility of these six salts is seen to be inversely in the order in which I have named them.

As illustrations of naturally occurring salts which are difficult of solution, and yet dissolve to an appreciable extent in natural waters, I can select no better examples than gypsum and chalk, the sulphate and carbonate of lime. Five hundred parts of water are required to dissolve one part of gypsum at the ordinary temperature, so that if a gallon of water fully saturated with gypsum were evaporated to dryness the residual gypsum would weigh only 140 grains, or less than one-third of an ounce. Yet this salt occurring in natural hard waters in very much less amount than is needed to saturate them, is a most