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THE EFFECT OF GELATIN ON THE SOLUBILITY OF THALLOUS SALTS IN WATER

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The solubilities of thallous salts were determined in various concentrations of solutions of iso-electric gelatin by saturating the gelatin solution with the salt at 40°C., filtering, and analyzing the solution for thallium and nitrogen content. From these analyses the concentrations of gelatin, water and salt were calculated.

The salts used were thallous chloride, sulfate and thiocyanate. In every case the solubility of the salt was increased by increasing the concentration of gelatin, the relative amount of change depending on the anion of the salt used. The relative change of solubility was least for the sulfate and greatest for the thiocyanate. The order of effect agreed with the Hofmeister series of anions.

Four possible explanations were suggested: (1) adsorption of the salt by gelatin; (2) a decrease in the activity coefficients of the ions due to the presence of the gelatin; (3) the presence of "bound water" having a solvent power greater than that of ordinary water or (4) the solvent power of the gelatin itself.

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ELECTROKINETIC POTENTIALS AT LIQUID SURFACES

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Aqueous solutions of potassium chloride were allowed to flow through air. The solutions were from 10^{-1} N. to 10^{-7} N. The hydrostatic pressure was from 17 to 22 cm. of solution. The flow was vertical and laminar, through a circular aperture in a thin platinum disc on to a second platinum disc. The diameter of the aperture was 0.05 cm. The discs served as electrodes. The potential difference was measured with a vacuum tube potentiometer. The floating grid method was used, so the potential difference was measured with essentially no current flow. The values obtained