

not be attained with another solvent. It is no exaggeration to say that except atmospheric oxygen and carbonic acid, nearly all the food of living organisms is water borne, and all material in its passage into the body, through the body, and out of the body nearly always employs the same vehicle. Certainly no other form of transport would be so efficient and so economical.

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If, therefore, aqueous solutions are, apparently of necessity, the very basis of the life processes, the state of substances when in this condition, and also when in contact with water, is of vital importance. Here two properties of water, the dielectric constant and the surface tension, exert a cardinal influence.

Among the phenomena of solution those which are related to electrolytic dissociation, as suggested by the hypothesis of Arrhenius, have deservedly received a great deal of attention since the secure establishment of the new science of physical chemistry in the eighties of the last century. In the course of time the belief that in aqueous solution the molecules of all acids, bases, and salts are more or less split into particles which bear