The main milestones of the pseudolattice theory of ionic liquids are summarized, with particular attention to the so called Bahe-Varela pseudolattice theory of ionic solutions. In this formalism, the ions are assumed to occupy the nodes of a statistical lattice whose structure is determined by their valence type. The thermodynamic properties of electrolyte solutions are seen to be accurately predicted in this structural model, provided ion-ion electrostatic interactions and short-range dispersive interionic forces are taken into account, together with interactions of the ions with the dielectric constant gradient in the solvent in their neighbourhood. Recent applications of this formalism to room temperature ionic liquids are analyzed, and new developments in this field such as a theory of the surface tension of concentrated ionic solutions or a pseudolattice transport formalism are discussed.