The 70th Birthday of Ing. Ivo Proks, DrSc.

On June 16th 1996 we will celebrate the 70th birthday of Ing. *Ivo Proks,* DrSc., the outstanding Slovak personality in physical chemistry, especially in thermodynamics, and one of the founders of the Institute of Inorganic Chemistry of the Slovak Academy of Sciences.

Born in Brno, Czech Republic, Dr. Proks graduated at the Faculty of Chemical Engineering of the Technical University in Brno. In 1953 he joined the newly established Laboratory of Inorganic Chemistry of the Slovak Academy of Sciences in Bratislava which later became the Institute of Inorganic Chemistry, where he is actively working up to now. In 1962 he obtained the PhD. degree and in 1984 the degree Doctor of Sciences.

The scientific activity of Dr. Proks was directed towards the theoretical and experimental study of thermodynamics and kinetics of processes in the systems important for ceramic, cement, and glass technologies. Among the theoretical works the most important one is the generalization of the van Laar equation for the description of the reaction equilibrium according to the scheme $A(s) = B(s) + C(g)$, as well as the study of the presence of solid solution and the crystals or grains geometry of solids coexisting at equilibrium in the condensed phases. He also worked out the general method of calculation of the excess thermodynamic quantities in binary systems based on the phase equilibria and calorimetric measurements of the enthalpic changes in these systems. During long years the working team led by Dr. Proks was involved in the enthalpic analysis of the technologically important oxide system CaO—MgO—Al_2O_3—SiO_2. This research consists of the determination of enthalpy of fusion and the enthalpy of incongruent decomposition of compounds, the enthalpy of crystallization of eutectic mixtures, the heat of mixing in the liquid phase and the determination of specific heat capacity in dependence on temperature. The enthalpic analysis of the subsystems of the system CaO—MgO—Al_2O_3—SiO_2 becomes the basis of their thermodynamic analysis, which besides the determination of the mixing enthalpy involves also the calculation of the activity of components, the mixing Gibbs energy, and the mixing entropy of the investigated systems.

Dr. Proks participated substantially also in the development of the tensimetric method of the measurement of the equilibrium state in heterogeneous solid—gas systems, especially those containing water vapour. This method enables to determine the equilibrium conditions and the number of freedom degrees in systems under investigation. Using this method it was proved that at the dehydration of some hydrates the divariant equilibrium and the formation of solid solutions take place. In recent years Dr. Proks is involved also in the study of the equilibrium in molten salt systems in which a compound with dystectic melting point is formed.

Theoretical works of Dr. Proks dealing with the problems of kinetics involved the determination of the mechanisms of chemical reactions, the grain or pore growth, as well as the study of the diffusion at the heat decomposition of carbonates. The substantial part of the research activity of Dr. Proks was the development of new calorimetric and thermal methods. The method of "double calorimetry" (drop and solution calorimetry of the only sample), developed under his leadership, enabled to perform enthalpic balances of the high-temperature processes (in the range of 1200—1650 °C) in the glass-forming systems. This method is well suitable also for the determination of *e.g.* the temperature dependence of the specific heat capacity as well as of the theoretical heat consumption at the melting of industrial glasses.

Dr. Proks gained the international acknowledgement for theoretical works on the effect of heating rate on the characteristic parameters of the differential thermal analysis curves and for the development of a new thermal method – the periodic thermal analysis of approximately microgram samples in weight.

Dr. Proks was also a stimulating teacher of many younger colleagues and postgraduate students. During the period 1958—1983 he participated in the education at the Department of Ceramics, Glass, and Cement of the Faculty of Chemical Technology of the Slovak Technical University in Bratislava, where he lectured the physical chemistry of silicates. He is the chairman of the Committee for the Doctor of Science dissertations in the field of silicate technology and he was the long-termed co-editor and the member of the Editorial Board of the journal *Chemical Papers*. At present he is the honourable member of the Editorial Board of this journal.

Besides the appreciations for the research and pedagogical activity Dr. Proks gained also acknowledgement for the organization of the Czechoslovak research in the field of silicates and for his enthusiastic work in the field of the history of science. For approximately 30 years he was the member of the Editorial Board of the journal *Vesmír*, which is devoted to the popularization of science.

The Golden Medal of Dionýz Ilkovič, the Golden Medal of Dionýz Štúr, the Silver Medal of the Slovak Technical University in Bratislava, the Silver Medal of František Štolba of the Chemical Technical University in Prague, the honorary memberships of the Slovak Chemical Society and of the Slovak Society for Science and Technical History at the Slovak Academy of Sciences were the appreciations of Dr. Proks' scientific and pedagogical activity.

On behalf of the friends and colleagues of Dr. Proks we wish him all the best – good health, lot of success and a deep satisfaction in his next scientific work and personal life.

K. Adamkovičová and *V. Daněk*