

IN MEMORIAM LÁSZLÓ ERDEY



It is always distressing to lose someone close to us. But when somebody departs this life with the tragic suddenness of László Erdely, this is staggering beyond distress.

László Erdely has completed his 60th year a few days before his death. He seemed to enjoy good health, and was full of zest, ambition and new plans. In recognition of his outstanding work, a great honour was conferred to him on the occasion of this anniversary. Everybody celebrated him, and rejoiced in his happiness. We, his coworkers, wished to offer our congratulations on the pages of this journal. And now, on these very pages his obituary must be written instead of felicitations.

László Erdely was born in Szeged on February 12, 1910. He pursued his studies at the Faculty of Liberal Arts, Péter Pázmány University of Budapest. In 1933, he took his degree of secondary school teacher in physics and chemistry. In 1938, the University awarded him a Ph.D. degree in electrochemistry with a "summa cum laude" distinction. He did not detach himself from the university. Though occupying for 15 years full-time posts as analyst in various institutions, he remained in part-time job on the educational staff of the university. In 1950, he was appointed professor to the Chair of General Chemistry of the Technical University of Budapest, and was Head of the Institute until his death on February 21, 1970.

In 1951, László Erdey was elected as corresponding member, and in 1955 as full member of the Hungarian Academy of Sciences.

He was member of the Governing Body of the Section of Chemical Sciences, of the Physico-Chemical, Radio-Chemical, Spectroscopic and Nomenclature Committees of the Hungarian Academy of Sciences, of the Scientific Council of the Technical University of Budapest, of the Analytical Committee of IUPAC, of the ICTA, and was member of the editorial board of *Talanta*, *Journal of Radioanalytical Chemistry*, *Acta Chimica Hungarica*, *Periodica Polytechnica*, etc. He was an honorary member of the French Association of Industrial Chemists and of the Czechoslovak Chemical Society.

László Erdey was Chairman of the Committee of Inorganic and Analytical Chemistry of the Hungarian Academy of Sciences, and of the Analytical Section of the Hungarian Chemical Society. He was one of the initiators of the foundation of the *Journal of Thermal Analysis*, and up to his death was Chairman of its Editorial Advisory Board.

László Erdey cooperated as scientific consultant with several research institutes and industrial enterprises.

Twice the highest Hungarian scientific honour, the Kossuth Prize was conferred on him, and three times he was awarded the Order of Labour of the Hungarian People's Republic.

His scientific achievements in the field of analytical chemistry raise a monument to the memory of his outstanding personality in Hungary and all over the world. He has written three books under the titles "Qualitative Analysis", "Volumetric Analysis" and "Gravimetric Analysis", and about 500 scientific communications are hallmarked with his name. The theme of these communications covered almost every field of analytical chemistry, involving volumetric analysis with conventional and instrumental end-point detection, gravimetric analysis, separation methods of analysis, polarography, organic chemical analysis, flame photometry, electro-analysis, gas chromatography, microanalysis, electron microscopy, catalytic analysis, radiochemical analysis, emission and absorption spectroscopy and thermal analysis.

If there were themes among these which he favoured to the others, these were probably the development of a new volumetric analytical method, ascorbinometry, the discovery of the indicators Variamin Blue and lucigenine and the research on their structure and action mechanism, the systematic, critical investigation of the methods of gravimetric analysis, and the foundation of a novel high-temperature acid-base theory.

For this immense, ramifying research work, he headed a large, well qualified, inventive research staff. Besides being a great scientist, he was an excellent organizer, and an outstanding teacher. He chose his co-workers with a sharp eye and unerring discernment, and treated everybody individually. If necessary, he directed patiently each step of a person on his staff, while unlimited independence was granted to those, who were ripe for it. He never impeded individual initiatives in research.

Here, I would like to discuss that part of his work and list those publications, which deal with thermal analysis.

The interest of László Erdey for thermal analysis was awakened by irregularities in the composition of analytical precipitates, produced by the conditions of precipitation. This problem was investigated by him over long years with firm consistency, among others, by the methods of thermal analysis. The results of research in this field have been published in his book "Gravimetric Analysis" cited above.

In the beginning, he used differential thermoanalytical and thermogravimetric methods for studying this scope of problems. However, possibilities provided by the two methods proved soon to be insufficient, and new ways had to be found. In collaboration with two of his co-workers, he developed in 1954 the derivative thermogravimetric method, and one year later the derivatographic method. The working out of these methods was followed in yearly periods by publications and patents, reporting the advances achieved in the field of derivatography. In this development, a novel multi-plate sample holder, derivative dilatometry, the combination of derivatography with derivative dilatometry, and later with thermogas analysis, represent the most important phases. Accessorily, this research gave rise to the development of the gravimetric distillation study of liquids and the derivative sedimentation method.

The development of methods was but one of the aims. The further objective was to use these methods as research tools in the systematic research program started by him on the investigation of the composition and crystal structure of analytical precipitates and metal complexes, on the thermal properties of inorganic and organic compounds, on the composition of clay minerals and rocks, and on the kinetics and mechanism of high-temperature decomposition reactions.

His inquisitive mind was always captivated by new, unknown fields, and he urged also his co-workers to attain new goals. This explains the fact that his publications, involving such various fields as pharmaceutical chemistry, plastics, mineral coals, wood chemistry or biochemistry, all contain findings of importance. He led with a steady hand the individual groups of his co-workers having different spheres of interest even in research fields dealing with subjects alien to the analyst, as for example the thermal analysis of the sclerotic aorta, of electrical insulating layers or of the luminescent layer of TV screens.

The commemoration of László Erdey would be incomplete without mentioning his educational work. He taught generations of chemical and mechanical engineers for almost forty years. He liked young people, and preserved his youthful spirit. This explains the great care with which he prepared his captivating university lectures which were always up-to-date, and the indefatigable shaping of the pedagogical methods of their theoretical and practical teaching.

This difficult, manysided work, rich in success, slowly undermined his health, and unnoticed, exhausted his vitality. This very life-work will keep alive most lastingly his memory.

F. PAULIK

Thermoanalytical publications of L. Erdey

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Patents issued

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The patents are filed in the United States of America, in Great Britain, in France and in the German Federal Republic.