

Preface

PROFESSOR MENACHEM STEINBERG ON THE OCCASION OF HIS SIXTY-FIFTH BIRTHDAY

Prof. Menachem Steinberg was born in Jerusalem, Israel, in 1930. He obtained his primary education during the Second World War and his secondary education in the period when Israel was fighting for its independence. His academic study started after he was freed from military service. He studied chemistry at the Hebrew University and received his M.Sc. degree in 1975 and Ph.D. degree in 1959, working on reactions in the solid state, under the supervision of the late Prof. Abraham Glasner of the Department of Inorganic and Analytical Chemistry.

His Ph.D. thesis was on the thermal decomposition of oxy salts of lanthanides. He spent a post-doctoral research period with Prof. F. S. Stone at the University of Bristol, UK, studying adsorption on solid surfaces by gas chromatographic techniques.

His early years greatly influenced his actions as a scientist and from the time he was a student Menachem put much energy into the teaching of chemistry in Israel. In the fifties, simultaneously with his Ph.D. work, he taught chemistry for several years in one of the principal prestigious high schools in Jerusalem. Many of his pupils in those days were influenced by him and chose natural sciences as their academic subject and are now among the leading scientists in Israel.

In 1960 he joined the staff of the Department of Inorganic and Analytical Chemistry at the Hebrew University. Many of the achievements of this department in research and education are due to his ideas and activities. At this department he has been deeply involved in the building and developing of courses for undergraduate and graduate students, in Inorganic, Analytical and solid state Chemistry. He has been lecturing, conducting seminars and supervising research of undergraduate and graduate students. For many years he gave the course on General Chemistry in which he linked the philosophy and beauty of chemistry with the precision of chemistry as a physical science. His principal course to graduate students for many years has been on the physical chemistry of surfaces and catalysis, the major subject of his research work.

In the sixties, when Tel-Aviv University and Ben-Gurion University in Beer-Sheva were opened, he was invited by their founders to help in the creation of their chemistry schools. In 1972, when many young immigrants arrived in Israel, he was one of the founders at the Hebrew University of the School for Overseas Students, where first-year students could study in their mother languages and at the same time were studying Hebrew, in this way making their integration at the University easy. He was Dean of Natural Sciences of this school during the first four years. At the same time he was appointed to

serve in the Committee for Ph.D. students of the Senate and in 1976 became the Chairperson of this Committee.

In 1976 he became the Head of the Institute of Chemistry, a position he held for four years. In the following years he served as an active member in different committees in the Faculty of Science. He chaired the Committee of the Harman Library of Natural Sciences. From 1985 to date he has been serving as the representative of Israel in the Committee dealing with the teaching of Chemistry in the IUPAC. In 1992-6 he served as the Director of the School of Pre-Academic Studies of the Hebrew University. During the last four years he has been the director of the laboratory for first-year students of chemistry. Due to his enthusiasm during this period the laboratory has been completely modernized and is now ready to face the twenty-first century. The laboratory syllabus has been changed and in spite of the general budget cut at the university, new computerized instruments were purchased for the benefit of the students.

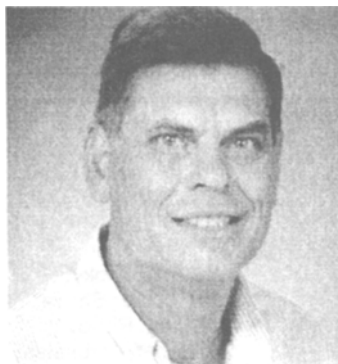
Outside the University Menachem contributed much time to the progress of scientific life in Israel and took part in the activities of several scientific organizations. For many years he was a member of the Editorial Board of the Israel Journal of Chemistry and was a Guest Editor of several special issues. He took part in the organization of several national and international conferences in Israel. For many years he was active in the Israel Chemical Society, for which he was the Secretary in the period 1962-1965. In 1980 he was one of the founders of the Israel Group of Thermal Analysis (affiliated with ICTAC) and became the first President of this group. In the period 1982-1985 he served as our Councillor in ICTAC Council and later he was the Chairman of the 9th International Congress on Thermal Analysis which took place in Jerusalem in 1988.

Menachem's scientific contribution is in the field of physical chemistry of surfaces of catalysts and semiconductor catalysts, mainly rare earth oxides (pure and doped by different cations) and their preparation. In this connection he also studied the thermal dehydration and decomposition of several oxy-salts, such as formates, oxalates, azides and perchlorates. Other surfaces that Menachem studied include oxides of calcium, aluminum, silicon, chromium, nickel, zinc, cadmium, nickel ferrite and lead molybdate. The surface chemical properties of the different oxides were studied by the adsorption of gases such as oxygen, hydrogen, carbon monoxide, nitrogen oxides, ethylene, etc. In these studies he has elaborated methods, such as gas adsorption and chromatography. ESR and IR spectroscopy and also thermal analysis methods such as TG, DTA, EGA, and I shall mainly mention his important contribution to thermomagnetic methods. I wish also to mention here his work in collaboration with the Israel police which resulted in the preparation of a field kit for bullet hole identification.

I met Menachem during my first year as a student of chemistry at the Hebrew University in 1954. He was always willing to help freshmen, giving advice and explaining things which were not clear. Since that year we became good friends and I am grateful to him for the many discussions we had on different scientific and educational subjects and on the techniques one should apply in lecturing to students. Menachem is a library lover and from him I learn about the appearance of new text books and the publication of important scientific papers. Our scientific collaboration in the study of surface chemistry of clay mineral started in 1980, when I joined the Institute of Chemistry at the Hebrew University. Until now we have studied the adsorption of quadrivalent cerium by kaolinite (together with Miss F. Laufer) with the purpose of using this clay as a catalyst in different reactions and the surface properties of sepiolite and palygorskite (together with Dr. U. Shuali) in order to understand the adsorption properties of these special clays, the different acidic and basic sites and the catalytic influence in different reactions. We have many programs and hope to continue this collaboration.

In all his scientific career Menachem has been accompanied by his charming wife Hana, who herself was occupied in education and was a school teacher. Now she is an artist, making different artistic objects but mainly sculptures which are admired by all the Steinbergs' friends. The Steinbergs' interests are multitudinous. In spite of being busy, they both find the time once a week to go for a walk in the city of Jerusalem, as they are members of a group in the Ben-Zwi Institute for the study of the history and archaeology of this city. They are active members in the organization of the Friends of the Israel Museum, and are permanent visitors in the theatre and in symphonic concerts. When Hana invites Menachem's colleagues and friends for a party, we all enjoy here home-made food, cookies, drinks, etc. and the special atmosphere which is saturated with culture and art. On the occasion of his sixty-fifth birthday, the Editorial Board of the Journal of Thermal Analysis has decided to dedicate a special issue in recognition of his distinguished contribution to thermal analysis of surfaces and catalysts. I am grateful to the authors who contributed papers for this special issue. Although the papers were invited, each nevertheless was reviewed by two or three specialists. I am grateful to all referees and especially to those who were kind enough to review more than one paper. I am also grateful to Mr. Leslie Weisenbaum, Secretary of the Department of Inorganic Chemistry of the Hebrew University, who carried out most of the secretarial work connected with this special issue.

We wish Prof. Menachem Steinberg continuing success in his endeavours and very many more years of activity in thermal analysis of surfaces and catalysts.



Shmuel Yariv

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Acknowledgements

The following colleagues acted as referees for the Special Issue. Their careful and prompt consideration is gratefully acknowledged.

Z. Aizenshtat, Jerusalem
A. Banin, Rehovot
Y. Barnholtz, Jerusalem
L. Ben-Dor, Jerusalem
A. Danil de Namor, Guildford, Surrey
Y. Deutsch, Jerusalem
I. Felner, Jerusalem J. Flynn, Bethesda
M. Gaft, Tel Aviv
Z. Gerstel, Bet-Dagan
J. Greenberg, Jerusalem
E. Gutman, Beer Sheva
L. Heller-Kallai, Jerusalem
F. Herbstein, Haifa
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