

IN MEMORIAM

ERICH HÜCKEL

1896—1980

While this issue of *Croatica Chemica Acta* was in preparation the sad news that Erich Hückel passed away reached us. It is, therefore, more than appropriate to dedicate the Proceedings of the International Symposium on Aromaticity which was held in Dubrovnik on September 3—5, 1979 to his memory.

Erich Hückel was born in Charlottenburg on August 8, 1896 as one of the three sons of Dr. med. Armand Hückel. After graduating from high school in Göttingen he began to study physics and mathematics in 1914. The war interrupted his studies until 1919 and it was two years later that, working under Debye, he received his doctorate based on the thesis »Die Zerstreung von Röntgenstrahlen durch anisotrope Flüssigkeiten«. For a short period he continued working in Göttingen with Hilbert and Max Born and then moved to ETH in Zürich where he remained Debye's assistant until 1928. In 1925 he married the daughter of the colloid chemist and Nobel Prize winner, Zsigmondy. Between 1928 and 1930 he was working as a Rockefeller Fellow with Donnan in London, Dirac in Cambridge and Niels Bohr in Copenhagen. A subsequent fellowship enabled Hückel to collaborate with Heisenberg and Hund in Leipzig and it was there that his classical work on the theory of unsaturated and aromatic compounds began. After becoming Dozent for chemical physics in Leipzig he accepted in 1937 an associate professorship in Marburg. His long deserved promotion to full professor reached him in 1961, one year before his retirement.

Erich Hückel was the recipient of the Otto Hahn Prize for Chemistry and Physics, was a member of the Leopoldina Academy and a honorary fellow of the Chemical Society besides holding many other formal honors.

In 1977 the Sanibel Symposium in Florida was dedicated by scientists from more than 25 countries to the great trio in theoretical chemistry, Hückel, Heitler and Hund.

Hückel was not a very prolific scholar. During his lifetime he published about 50 papers on different subjects, 18 of them on quantum chemistry, in addition to a beautiful autobiography entitled »Erich Hückel, ein Gelehrtenleben. Ernst und Satire« (Verlag Chemie, Weinheim 1975). The following of his scientific achievements can be considered as milestones in chemistry: the Debye-Hückel theory of strong electrolytes (P. Debye and E. Hückel, *Z. Phys.* **24** (1923) 185, 305), the theory of the double bond (*Z. Phys.* **60** (1930) 423), the theory of planar aromatic systems (*Z. Phys.* **70** (1931) 204; **72** (1931) 310), the $4n + 2$ rule (*Z. Phys.* **76** (1932) 628). For fifty years the Hückel molecular orbital theory (HMO) has been the most widely used quantum chemical model

XVI

of π -electron delocalization. As perhaps the first modern quantum chemist he was far ahead of his time. His contemporaries considered the solution of the Schrödinger equation for H_2 the prime goal of theoretical chemistry while organic chemists hardly noticed Hückel's papers probably because they appeared in a physics journal. It is therefore not surprising that he had only a few students, but his work inspired many, theoreticians and experimentalists alike. His theory stimulated equally the development of mathematical chemistry (the development of graph spectral theory) and experimental organic chemistry (Woodward-Hoffman rules of pericyclic reactions). Today Hückel's MO is being taught in undergraduate chemistry courses and its extended version (EHMO) became the standard tool of every mechanistically minded organic chemist. We are mourning that one of the founders of modern chemistry is no longer with us. Erich Hückel died on the 16th of February 1980 at the age of 83.

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